

UNIT 146

MACKERRICHER STATE PARK

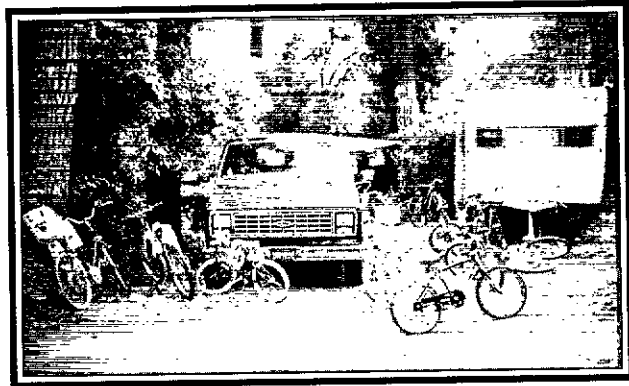
GENERAL PLAN

June 1995



MacKerricher State Park

General Plan



June, 1995

State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION



DEPARTMENT OF PARKS AND RECREATION

STATE PARK AND RECREATION COMMISSION

P.O. BOX 942896, SACRAMENTO, CA 94296-0001



LIBRARY COPY

Return to
DEVELOPMENT DIVISION
Room 905

Resolution 20-95
adopted by the
CALIFORNIA STATE PARK AND RECREATION COMMISSION
at its regular meeting in Fort Brag on
June 21, 1995

WHEREAS, the Director of the Department of Parks and Recreation has presented to this Commission for approval the proposed MacKerricher State Park General Plan; and

WHEREAS, this reflects long-range development plans to provide for optimum use and enjoyment of the unit as well as the protection of its quality;

NOW, THEREFORE, BE IT RESOLVED that the State Park and Recreation Commission approves the Department of Parks and Recreation's MacKerricher State Park General Plan (Preliminary) dated November 1994, subject to such environmental changes as the Director of Parks and Recreation shall determine advisable and necessary to implement the provisions and objectives of said plan.

DEPARTMENT OF PARKS AND RECREATION

STATE PARK AND RECREATION COMMISSION

P.O. BOX 942896, SACRAMENTO, CA 94296-0001



Resolution 21-95
adopted by the
CALIFORNIA STATE PARK AND RECREATION COMMISSION
at its regular meeting in Fort Bragg on
June 21, 1995

WHEREAS, the Department of Parks and Recreation has proposed a 1285-acre Natural Preserve be established within MacKerricher State Park to provide for recognition and protection of the unit's important natural resources; and

WHEREAS, the proposed Natural Preserve encompasses extensive wetland/riparian areas, a rare coastal dune ecosystem, and the only remaining coastal fen in California; and

WHEREAS, the proposed Natural Preserve contains eight rare natural communities and eight special plant species, including the federal and state listed as endangered and/or threatened Howell's spineflower and Menzie's wallflower;

NOW, THEREFORE, BE IT RESOLVED pursuant to Section 5019.50 of the Public Resources Code and after proceeding in accordance with the Administrative Procedures Act contained in Section 11370 et seq. of the Government Code, that the State Park and Recreation Commission hereby classifies 1285 acres in MacKerricher State Park as a Natural Preserve and names the unit **INGLENOOK FEN - TEN MILE DUNES NATURAL PRESERVE**.

MacKerricher State Park General Plan

Approved by the State Parks and Recreation Commission
June, 1995

Pete B. Wilson
Governor

Douglas P. Wheeler
Secretary for Resources

Donald W. Murphy
Director of Parks and Recreation

State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
P.O. Box 942896
Sacramento, CA 94296-0001



CALIFORNIA STATE PARKS

MacKERRICHER STATE PARK

Fitful ocean –

*It's sometimes spitting forth great dunes,
But elsewhere swallowing the shoreline,
Sending waves to nuzzle fondly,
But then pound the land in fury.
Sighing shadows over us,
Frigid, gray, and opaque damp,
Then, suddenly it's blinding bright.
The breaker crash and salty smell
Always filling up the air –
Our senses drawn in fascination –
The eternal liquid heartbeat.*

Joyful people –

*There're families both large and small
From babes in arms to grandparents,
And also single ones or twosomes
With their coolers and camp gear.
The rovers balanced on two wheels
Challenging the road that calls,
While others exercise their lawn chairs
Set up for a pleasing view.
We breathe the scent of misty air,
And contemplate the fluid ceaseless
Moody writhing of the sea.*

MacKerricher –

*There is much of value here,
Sometimes riding on the wind,
Sometimes lying still and green,
Or the small or sole remainder
Of a once great population.
Few of us will find these wonders,
But we have our private joys –
We love the fury
And the quiet,
The warm sparkle,
The cool gray.
The things we do
And need not do
In this precious
Time away.*

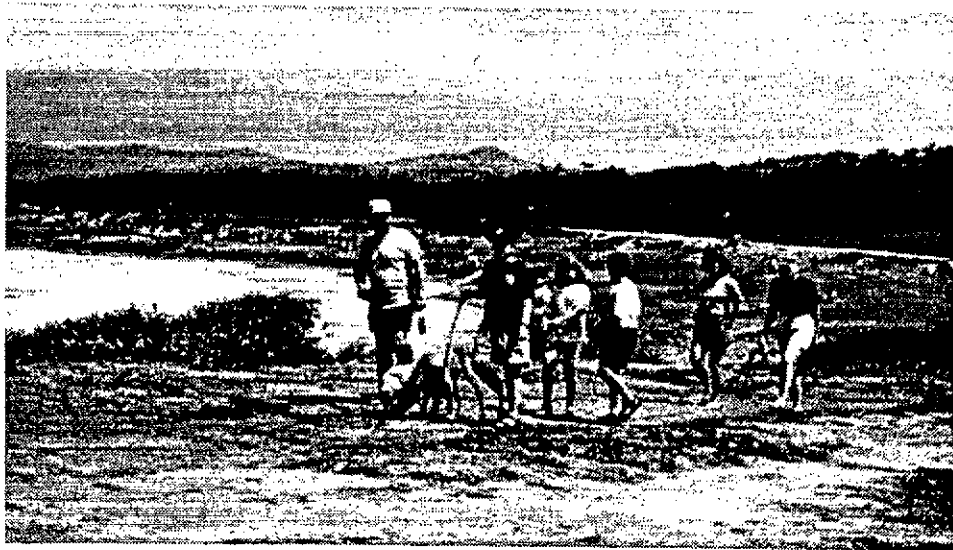


TABLE OF CONTENTS

<u>ELEMENT</u>	<u>PAGE</u>
SUMMARY OF PROPOSALS	3
Resource Management Proposals	3
Land Use Proposals	5
Facilities Proposals	5
Interpretive Proposals	7
Concessions Proposals	7
Operations Proposals	7
 INTRODUCTION	 11
The Park and Its Setting	11
Recreation Demand	13
The General Plan	15
The Public	18
Visitors with Disabilities	19
Spirit of Place	20
 RESOURCE ELEMENT	 23
Resource Summary and Evaluation	23
Natural and Cultural Resources of the State Park	26
Natural Resources: Ecological Units	26
Marine EU	27
Coastal Beach EU	32
Coastal Dune EU	33
Coastal Prairie EU	36
Coastal Bluff EU	37
Coastal Terrace EU	37
Coastal Forest EU	39
Riparian/Wetland EU	41
Coastal Lagoon EU	44
Cultural Resources	46
Resource Policy Formation	52
Classification	52
Subclassification	53
Declaration of Purpose	54
Zone of Primary Interest	55
Resource Management Policy	56
Resource Management Directives – Park-wide	56
Natural Resources: Unit-wide Directives	56
Geological Processes	56
Plant Life	59
Animal Life	63
Cultural Resources Directives	65
Prehistoric Resources	65
Historic Resources	66
Native American Activities in the Park	67
Esthetics and Recreation	68

<u>ELEMENT</u>	<u>PAGE</u>
RESOURCE ELEMENT (continued)	
Resource Management Zones	69
Developing Resource Management Zone Policy	69
RMZ Descriptions and Directives	74
Marine RMZ	74
Coastal Beach RMZ	76
Coastal Dune RMZ	77
Coastal Bluff RMZ	79
Coastal Terrace RMZ	81
Coastal Forest RMZ	82
Riparian/Wetland RMZs (unit-wide)	83
Inglenook Fen RMZ	85
Lake Cleone RMZ	88
Coastal Lagoon RMZs (Pudding Creek and Virgin Creek)	91
LAND USE ELEMENT	97
Land Use Regulations	97
The Park and Its Surroundings	98
Park Infrastructure	99
Land Use Planning for MacKerricher State Park	104
Land Use Analysis: Applying the Planning Parameters	111
Park Trails	111
The Haul Road	111
The Equestrian Trail	113
Park Center Trails	113
The Laguna Point Boardwalk	114
The Lake Cleone Boardwalk	114
The Park Areas.	115
Pudding Creek	115
South MacKerricher Coastal Trail Access	120
Coastal Bluffs	121
Coastal Terrace	122
Virgin Creek	122
Laguna Point	124
The Main Park Entrance	125
Staff Administrative Area	125
Campgrounds	126
Lake Cleone	127
The Area Around Lake Cleone.	128
North MacKerricher Coastal Trail Access	129
Sand Dunes	130
Inglenook Fen	131
Coastal Prairies	132
The Wetland/Riparian System on Inglenook Creek	133
Ten Mile Beach	133
Ten Mile River	134
The Land Use Plan	136
General Land Use Goals	136
Land Use Concept	138
Land Use Map	139
Appropriate Additions	144

<u>ELEMENT</u>	<u>PAGE</u>
FACILITIES ELEMENT	
Park-wide Circulation	147
Park Roads	147
Parking and Site Accessibility	147
Park Trails	152
Trail Access for Visitors with Disabilities	153
The Haul Road/Coastal Trail	153
Equestrian Trail	153
Park Center Trails	155
Boardwalks	157
Laguna Point Boardwalk	157
Lake Cleone Boardwalk	157
Proposed Sand Dune Boardwalk	157
Facilities Proposals for the Park Areas	158
Proposals for the Southern Section of the Park	158
Pudding Creek Facilities	158
South MacKerricher Coastal Trail Access Facilities	159
Coastal Bluffs and Coastal Terrace Facilities	161
Virgin Creek Proposals	161
Facilities Proposals for the Main Area of the Park	162
Laguna Point Facilities	162
Central Park Area Development Plan	162
Facilities Proposals for the Main Park Entrance	163
Administrative Area Facilities	164
Facilities Proposals for the Campgrounds	164
Facilities Proposals for Lake Cleone and the Surrounding Area	165
Interpretive Center	166
Campfire Center	166
Facilities Proposals for the Northern Section of the Park	167
North MacKerricher Coastal Trail Access Facilities	167
Proposals for the Sand Dune Area	167
Proposals for Inglenook Fen	167
Proposals for the Coastal Prairies	168
Proposals for Ten Mile Beach	168
Ten Mile River Facilities Proposals	168
Environmental Education Program	169
Park Utilities: Facilities Proposals	169
General Design Criteria for Park Facilities	170
Visitor Capacity	172
General Plan Implementation	173
INTERPRETIVE ELEMENT	
Interpretive Themes	179
The Unifying Interpretive Theme	180
Primary Themes	180
Secondary Themes	184
Existing and Proposed Interpretive Facilities and Activities	187
Interpretive Facilities	187
Interpretive Activities	187
Interpretive Concessions	188
Interpretive Associations	188
Interpretive Collections	188
Interpretive Recommendations	188

<u>ELEMENT</u>	<u>PAGE</u>
CONCESSIONS ELEMENT	193
General Definition	193
Purpose and Compatibility	193
General Concessions Policies	193
Limitations	194
Existing and Proposed Concessions	194
 OPERATIONS ELEMENT	 197
Organization	197
General Sector and Unit Operations	197
Operations Facilities	197
Existing Operations Responsibilities	197
Operations Proposals Relating to Recommendations in this General Plan	202
Proposed Operations Facilities	202
Administration	203
Resource Management	203
Visitor Services	205
Maintenance Services	205
Coordination with Other Agencies	206
Volunteers	206
Special Events	206
Operational Impacts of General Plan Implementation	207
 ENVIRONMENTAL IMPACT ELEMENT	 211
Project Description	211
Description of the Environmental Setting	211
Air Quality	211
Traffic	211
Significant Environmental Effects of the Proposed Project	212
Mitigation Measures	212
Environmental Effects that Cannot be Avoided if the Project is Implemented	212
Alternatives to the Proposed Project	212
Relationship Between Local Short-term Uses of the Environment and the Maintenance and Enhancement of Long-term Productivity	213
Significant Irreversible Environmental Changes if the Project is Implemented	214
Growth-inducing Impact of the Proposed Project	214
Effects Found Not to be Significant	214
 APPENDICES	
Appendix A: Resource Sensitivities and Constraints	217
Appendix B: Resource Element Maps	222
Appendix C: Tables Showing the Special Plant and Animal Species of MacKerricher State Park	241
Appendix D: Comparison of Crime Statistics for MacKerricher State Park and Van Damme State Park	247
Appendix E: MacKerricher State Park General Plan Newsletters	249

<u>ELEMENT</u>	<u>PAGE</u>
MAPS	
Map 1: Vicinity Map.	10
Map 2: Park Ownership	12
Map 3: Ecological Units	28
Map 4: Physical Constraints (appears in Appendix B)	222
Map 5: Special Plants and Rare Natural Communities (in Appendix B)	226
Map 6: Sensitive Wildlife, Aquatic Life, and Habitats (in Appendix B)	230
Map 7: Cultural Resource Sensitivities (in Appendix B)	234
Map 8: Resource Management Zones	70
Map 9: Adjacent Land Uses	100
Map 10: Allowable Use Intensities	106
Map 11: Park Areas and Existing Conditions	116
Map 12: Land Use Plan	140
Map 13: Proposed Facilities – The General Plan Map.	148
Map 14: Proposed Inglenook Fen-Ten Mile Dunes Natural Preserve	239
TABLES	
Table 1: MacKerricher State Park Annual Visitation	14
Table 2: MacKerricher State Park Existing and Proposed Facilities	171
Table 3: MacKerricher State Park Visitor Capacities	172
Table 4: MacKerricher State Park General Plan Implementation	174
Table A-1: Constraints Due to Soil Types and Geological Hazards	217
Table A-2: Constraints Posed by Rare Plants and Natural Communities	218
Table A-3: Constraints Posed by Wildlife, Aquatic Life, and Habitats	219
Table C-1: Special Plant Species and Rare Natural Communities (in Appendix C)	242
Table C-2: Special Animal Species (in Appendix C)	244
Table D: Comparison of Crime Statistics, 1986-1990, MacKerricher State Park and Van Damme State Park	247
FIGURES	
Figure 1: Proposed Park Center Trails.	154
Figure 2: Laguna Point Boardwalk – Recommendation for Alteration.	156
Figure 3: Proposed Concept: South MacKerricher Coastal Trail Access	160

Summary of Proposals



Many families with children camp at MacKerricher State Park.

SUMMARY OF PROPOSALS

This general plan, prepared by the California Department of Parks and Recreation, contains the department's management proposals for MacKerricher State Park. The plan deals with the unit's natural, cultural, esthetic, and recreational resources, land uses, facilities development, interpretation of park resources, concessions operation, general operation, and coordination with other public or private entities.

This summary provides a quick reference to plan proposals. The reader should refer to the separate elements of the plan for details.

RESOURCE MANAGEMENT PROPOSALS

NATURAL RESOURCES

NATURAL PRESERVE

- Subclassify the dunes, fen, and Ten Mile Beach as the Inglebrook Fen-Ten Mile Dunes Natural Preserve.

PROPOSED RESOURCE MANAGEMENT PLANS

- Soil Erosion Management Program
- Beach Erosion and Sea Cliff Retreat Monitoring Program
- Vegetation Restoration and Management Plan, including:
 - Prescribed Fire Management Plan
 - Coastal Terrace/Laguna Point Vegetation Management Study
 - Coastal Forest/Campground Vegetation Management Plan
 - Coastal Prairie Restoration Study
- Special Animal Species Management programs, including red-legged frog survey
- Tidal/Subtidal Ecological Monitoring Program
- Inglebrook Fen Resource Management Plan
- Dune Resource Management Plan
- Lake Cleone Resource Management Plan
- Unit Wildfire Management Plan
- Coastal Lagoon Management Plan
- Archeological Site Management Plan

GEOLOGICAL RESOURCES

- Consult a registered geologist on the siting and design of permanent structures and perform detailed site and soil investigations before construction.
- Build permanent new structures at least 25 feet above the mean high tide line.
- Avoid areas prone to liquefaction for structures with high visitor use, or make these structures able to withstand liquefaction.
- Avoid landslide areas for new construction, or specially modify these structures to withstand landslides.
- Prepare and implement a unit-wide soil erosion program; correct existing and potential problems

- by means that are unobtrusive as possible and that fit naturally into the environment.
- Establish a monitoring program to document beach, bluff, and dune changes.

VEGETATION RESOURCES

- Manage vegetation toward a natural condition to restore and perpetuate natural communities.
- Survey for special plants before site-specific development.
- Landscape only with indigenous species.
- Reduce exotic plants within the park.
- Prohibit livestock grazing in the park.

WILDLIFE RESOURCES

- Protect and perpetuate native wildlife species and their habitats.
- Manage threatened, endangered, and candidate wildlife species for their perpetuation in accordance with state and federal laws.
- Regulate wildlife populations using methods that are based on the principles of ecosystem management.
- Consult a department resource ecologist prior to wildlife releases in the park.
- Protect and perpetuate western snowy plover habitat.
- Protect stranded marine mammals.
- Improve and protect anadromous streams for coho salmon and steelhead trout.
- Protect and perpetuate the coastal lagoons at Pudding Creek and Virgin Creek for tidewater goby populations and habitat.
- Limit recreational use of Virgin Creek Beach to protect shorebird habitat.

MARINE RESOURCES

- Petition the State Lands Commission for a lease to the rest of the subtidal lands for 1000 feet seaward from the park.
- Protect intertidal marine resources.

PROPOSALS FOR SPECIFIC NATURAL COMMUNITIES

- Keep development in the dunes in harmony with natural dune dynamics.
- Assess the feasibility of eradication or control of European beachgrass and its replacement with native species in areas remote from human habitation .
- Remove the materials associated with the dune stabilization project.
- Determine the pre-European condition of the vegetation on the coastal terrace.
- Limit access to the fen to its perimeter via a well-planned trail.
- Monitor water quality in Sandhill Lake and develop and implement a plan for its restoration, if fen resources become degraded.
- Obtain permits before opening coastal lagoons.

PROPOSALS REGARDING COOPERATION WITH OTHER ENTITIES FOR RESOURCE MANAGEMENT

- Work with private landowners and other governmental agencies to insure a regional approach to preservation of the park's natural processes.

- Review all proposed work on Highway 1 in the vicinity of the park.
- Allow no collecting of any park resources for commercial purposes.
- Prohibit access to or across the park's land or waters if offshore oil drilling occurs in the future.
- Cooperate in developing regional non-structural solutions to coastal erosion problems.
- Work with local jurisdictions and adjacent landowners in making decisions concerning the fen watershed.

CULTURAL RESOURCES

- Do not develop upon known archeological sites without review by a state archeologist.
- Monitor coastal archeological sites for erosion.
- Avoid damage to historic fabric when performing work on the haul road or trestle.
- Allow and monitor Native American gathering in the park.
- Establish procedures to ensure that only Native American groups that historically used the area gather materials within the park.
- Provide access to the park for authorized Native Americans for no fee.

RESOURCE PROPOSALS REGARDING PARK FACILITIES

- Minimize effects on natural, cultural, and scenic resources when performing trail construction in the park.
- Continue Operations' use of the barn for storage.
- Protect and rehabilitate the natural dynamics of watercourse processes and assure that trail circulation shall be compatible with these dynamics.
- Do not use structures that impede watercourses or impose unnatural fluvial processes.
- Design and construct trails and roads through wetlands to prevent adverse impacts on wetlands.

LAND USE PROPOSALS

- Protect sensitive park resources by limiting or controlling circulation.
- Minimize impacts of human activity on resources by focusing them onto protected areas.
- Develop a safe and efficient circulation system for the park.
- Control vandalism and crime in the park.
- Increase access and facilities for disabled visitors.
- Consider addition of properties from willing sellers that will enhance park management and operation as they become available.

FACILITIES PROPOSALS

- Before finalizing major facilities designs for any part of an area where the development would impact other existing or proposed facilities, complete an area development plan for the entire area.
- Perform a park-wide trail study; create a park center trail system; print a trail brochure.
- Improve the trestle with a surface and railings.
- Improve the haul road and the park's equestrian trail so they will better serve visitors as the coastal trail through the entire length of the park.
- Improve the parking lot at Pudding Creek and add a restroom and fire rings.

- Enlarge and surface the South MacKerricher Coastal Trail Access parking lot and add a restroom, picnic facilities, equestrian staging area, and facilities enabling access for disabled visitors.
- Remove volunteer trails from the terrace, bluffs, and other sensitive landscapes and focus use onto surfaces able to withstand traffic.
- Improve the blufftop trail from Pudding Creek to Laguna Point.
- Create haul road rest stops and bluff overlooks accessible to all park visitors from the haul road.
- Add an emergency call box at Virgin Creek Beach.
- Construct additional parking, picnic facilities, and a restroom at Laguna Point.
- Create access for disabled visitors from the Laguna Point parking lot to the haul road and the beach.
- Make Laguna Point boardwalk improvements as necessary.
- Work closely with the county to explore options for alleviating speeding and crime near the main park entrance; measures might include speed bumps and stop signs on Mill Creek Drive within the park, possible gates or kiosks at campground entrances, and fencing campgrounds where necessary.
- Move the existing park office building to the administrative area; also provide a larger park office there if needed in the future.
- Add or enlarge storage facilities in the administrative area when necessary.
- Construct a new entrance road to the administrative area off of Mill Creek Drive.
- Screen the administrative complex from the park entrance area with native vegetation.
- Create a group camp at Camp Cleone that can serve family campers when no groups are present.
- Construct a new entrance road for Camp Cleone opposite the Pinewood Campground entrance.
- When Camp Cleone begins to be used as a group campground, move the hike-in/bike-in camp to Pinewood Campground.
- Adapt a campsite for a camp host at Camp Cleone.
- Add hook-ups on one loop at Pinewood Campground.
- Relocate the existing camp host to Pinewood Campground; eventually have a host in the west loop and another in the east loop.
- Add up to 50 campsites or a group camp if property is added south of Surfwood Campground.
- Convert the north loop of Surfwood Campground to day use if more family camping is added to the south.
- Adapt a campsite for a camp host at Surfwood Campground.
- Construct a park interpretive center.
- Construct a new campfire center.
- Consider construction of permanent facilities for an environmental education program in the future if the demand and an appropriate site exist.
- Construct a trail bypass to replace the lost section of haul road on the berm at Lake Cleone.
- Add picnic tables and a fishing dock accessible to visitors with disabilities at Lake Cleone.
- Improve the restroom at Lake Cleone for visitors with disabilities.
- Complete the Lake Cleone boardwalk and make it accessible to visitors with disabilities.
- Add an underground sewage storage tank to serve the park center area.
- Improve access to the beach and haul road at the North MacKerricher Coastal Trail Access, add a restroom on park property, work with the county to pave the parking area and solve existing drainage and erosion problems.
- Build a dune boardwalk to bypass the washouts on the haul road north of Ward Avenue.

- When access to park land becomes available at Ten Mile River, work with a willing landowner to furnish parking; add sanitary facilities, interpretation, and regulatory signage at the parking area; use interpretation and barriers to protect wetlands and other sensitive resources.

INTERPRETIVE PROPOSALS

- Add interpretive programs as staffing and volunteers allow.
- Add haul road rest stops interpretation.
- Provide a self-guiding automobile tour.
- Provide interpretation as appropriate to support environmental education at the park.
- Add more Pudding Creek Beach interpretation and orientation.
- Add more interpretation and orientation at the South MacKerricher Coastal Trail Access point.
- Add more Laguna Point interpretation and orientation.
- Provide exhibits for the new park interpretive center.
- Enact interpretive programs at the new campfire center.
- Add more interpretation at Lake Cleone.
- Furnish interpretation and orientation at the North MacKerricher Coastal Trail Access parking area.
- Provide dune boardwalk interpretation.
- Provide Ten Mile River resource interpretation.

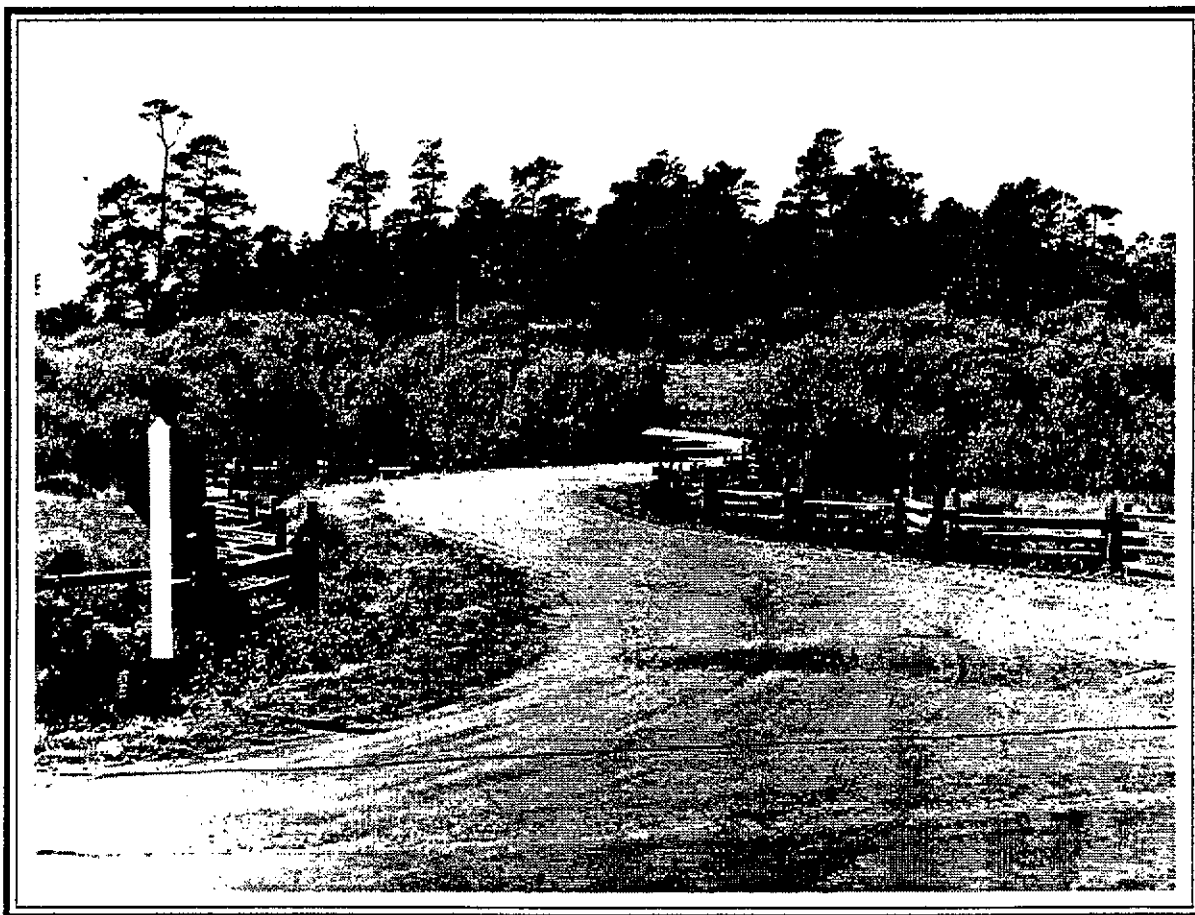
CONCESSIONS PROPOSALS

- Continue existing concessions and reevaluate each as contracts expire.
- Consider additional concessions on a case-by-case basis.

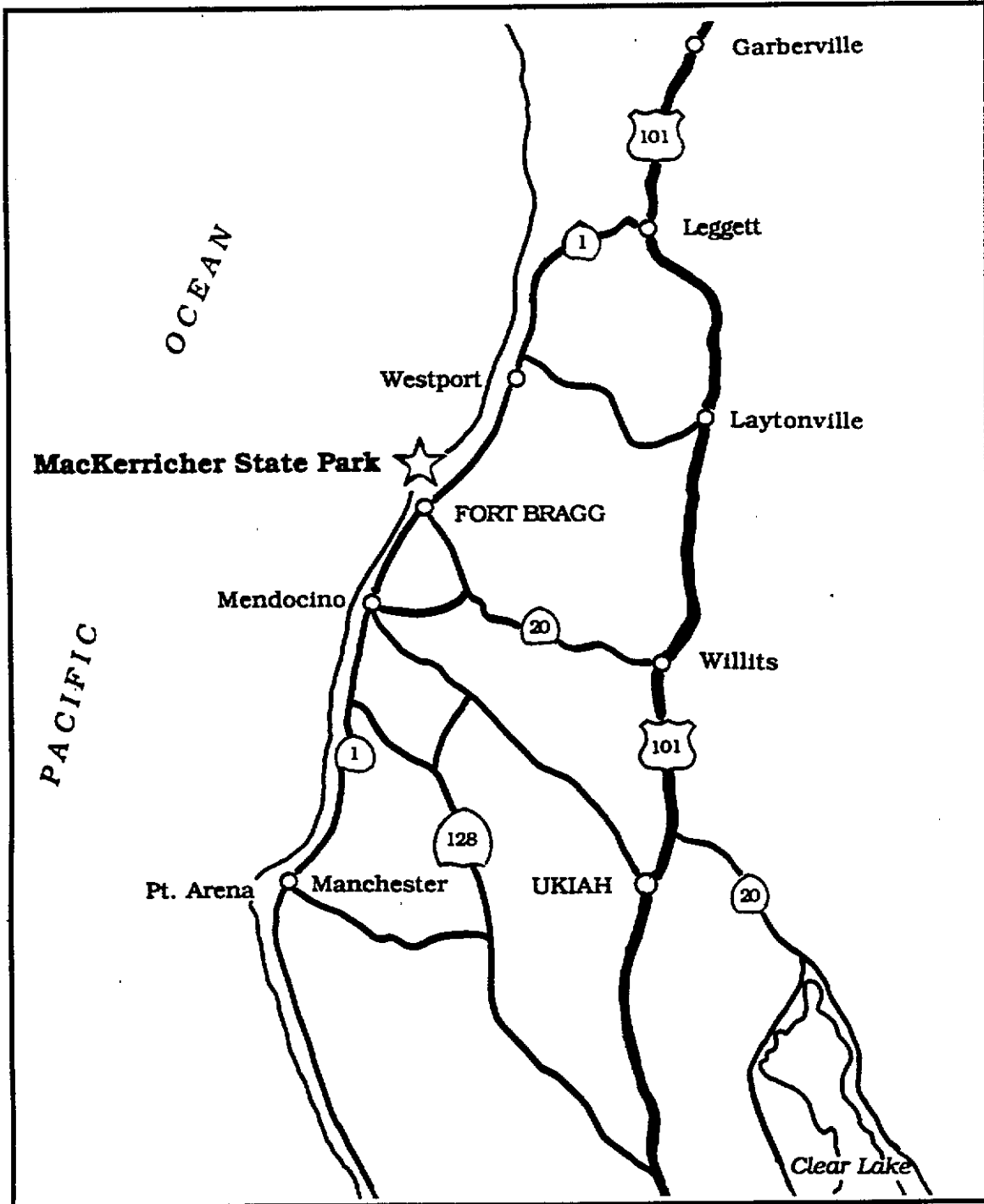
OPERATIONS PROPOSALS

- Provide adequate staff for all operational functions related to new facilities.
- Provide high quality maintenance services.
- Maintain some staff housing at the state park.
- Coordinate with other agencies for project planning and development; work with county and city staff to assure compatible development adjacent to the park.
- Continue to work with other agencies for mutual assistance.
- Protect and perpetuate park resources.
- Control commercial harvesting of marine resources.
- Prevent recreational activities from becoming a nuisance or harming park resources.
- Provide adequate public safety and law enforcement.
- Consider alternative operational actions to alleviate nighttime crime and vandalism in the park.
- Provide public safety for aquatic recreation.
- Control dogs within the park.
- Prevent trespassing.
- Encourage the growth of volunteerism at MacKerricher State Park.
- Provide more camp host assistance to campers.
- Continue to encourage special events consistent with resource protection.

Introduction



The park entrance road from Highway 1, taken during the 1950s.



**MacKERRICHER STATE PARK
GENERAL PLAN**

Map No. 1
Vicinity Map

INTRODUCTION



NORTH
Scale: 1" = 10 miles

INTRODUCTION

THE PARK AND ITS SETTING

MacKerricher State Park is one of California's largest and finest coastal parks. It contains many varied natural communities including extensive dunes, unique wetland habitats, and an undisturbed marine environment typical of the Northern California coast. Important scientific resources in the park range from several sensitive and rare plants to Inglenook Fen, the only coastal fen in California. In addition, MacKerricher's cultural resources chronicle Native American activities in the area dating back more than 2,000 years.

MacKerricher State Park is on one of the few flat terraces on the rugged Mendocino County coastline. Along much of the Mendocino coast, the mountains meet the sea abruptly, and the ocean is cold and sometimes rough. Summer fogs often spill over the ridges into the valleys to the east. Road building has been inhibited by the rough terrain, numerous rivers, and forests.

Logging and mills have been the area's basic industries, with fishing second in economic importance. However, tourism is becoming increasingly important. The region attracts visitors for fishing and hunting and for the scenic beauty of the coastline.

LOCATION AND SIZE

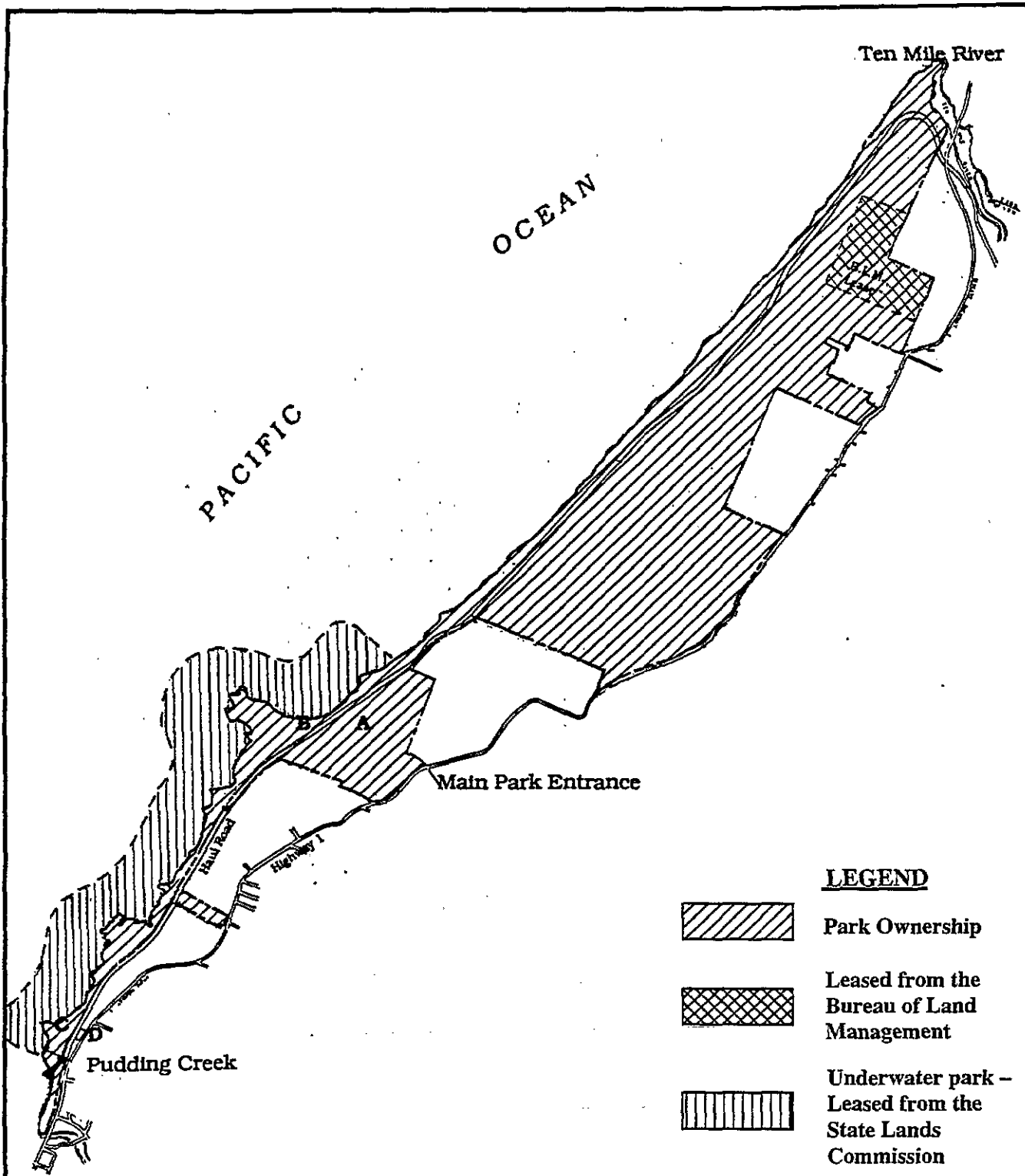
MacKerricher State Park encompasses 1,725 acres of land west of Highway 1. In addition, the department leases 454 acres of tidal and submerged lands from the State Lands Commission for an underwater park. A 120-acre tract of dune land leased from the Federal Bureau of Land Management (BLM) is also included within the park. The park's southern boundary follows the north bank of Pudding Creek and joins the northern city limits of Fort Bragg. Much of the land between the ocean and Highway 1 from there to Ten Mile River eight miles north is in park ownership. This includes more than ten miles of ocean shoreline.

LANDSCAPE FEATURES




The southern half of MacKerricher State Park contains wide stretches of coastal terrace terminating at the ocean in steep, low, rocky bluffs. Scattered along this stretch are beaches, both large and small, much favored by recreationists. In the middle zone of the park, coastal forest becomes more pronounced and frames 30-acre freshwater Lake Cleone. This lake is separated from the ocean by a sandy beach and an artificial berm upon which a logging haul road once ran. The northern part of the park is characterized by four miles of uninterrupted beach backed by several hundred acres of sand dunes. The dunes nearly surround two large wetland areas, one of which is the 100-acre fen complex.

PARK FACILITIES AND USE AREAS

The park's main public use area is in its central section near Lake Cleone and Laguna Point, where almost all of its developed facilities are located. Around the lake, there are three campgrounds containing 142 family campsites, eleven walk-in campsites, and a small hike-and bike-in facility.



LEGEND

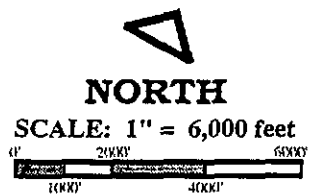
-  Park Ownership
-  Leased from the Bureau of Land Management
-  Underwater park - Leased from the State Lands Commission



**MackERRICHER STATE PARK
GENERAL PLAN**

Map No. 2
Park Ownership

INTRODUCTION



Developed day use facilities are nearby, with a parking lot, picnic tables, and a restroom on the north and west shores of Lake Cleone (A), and a larger lot, boardwalk and outdoor shower at Laguna Point (B). There is also an unsurfaced parking lot at the Pudding Creek Beach area (C) and another located 1/2 mile north of Pudding Creek for access to the haul road (D). See Map No. 2 for these locations.

RECREATION DEMAND

Mendocino county's relatively unspoiled character is inviting, especially for sightseeing and coastal-dependent recreational activities. Motels and campgrounds are full all summer.

VISITOR ACTIVITIES

People come to MacKerricher State Park for camping, picnicking, freshwater and surf fishing, beachcombing, nature observation, walking on the park's boardwalks, riding horseback, and hiking, biking, or jogging on the haul road.

POPULATION TRENDS

The *1993 Official Population Projections* by the California Department of Finance (DOF) forecasts a 44% increase in the county's population, from 81,000 in 1990 to 116,700 by 2020. Because Mendocino County residents take advantage of the area's recreational opportunities, this will create a greater future demand for recreational facilities. The DOF also projects that the combined populations of the nine San Francisco Bay Area counties will increase 39% to 9.7 million. This growth can also be expected to create an additional demand for development of recreational facilities on the Mendocino coast.

CONSTRAINTS

Access to the park is provided by Highway 1, which parallels the coast. The county Local Coastal Plan states "...it is the intent of the Legislature that State Highway Route 1 in rural areas of the coastal zone remain a scenic two-lane road". (Sec. 30254) Many visitors to the coast come from Highway 101 via Highway 128 along the Navarro River or over Highway 20 through the mountains to Fort Bragg. Both of these are winding mountain roads. These routes constrain the amount and ease of travel to and on the coast.

The *State Route 1 Capacity and Development Potential Study*, prepared by the county in 1990 projects increasing future use and consequent lower levels of service for all segments of Highway 1 in the county. Because of the restrictive language in the Coastal Act, the study proposes only minimal improvements, such as installation of slow vehicle turnouts, passing and left-turn lanes, and signals at selected intersections (in Fort Bragg). It also calls for improved transit service along this corridor.

Another constraint on the growth of development for any purpose in the county is the lack of available water. As it relates to MacKerricher State Park, this problem will be discussed under utilities in the Land Use and Facilities elements.

VISITATION

MacKerricher State Park is enjoyed by more than a half million people each year. Though during recent years park visitation has fluctuated up and down, it is the most heavily

used of the Mendocino coast state parks.

Roughly 80% of the park's documented visitation is day use. However, this recorded figure is probably low because day users can gain access to the park by many unsupervised routes. On a peak day, there are few places in the central and southern parts of the park where people are not evident.

Visitation is heaviest during the summer months, but continues throughout the entire year. During peak visitation periods in an average year, the park's campsites are completely full. This includes most weekends until Thanksgiving and the presidents' holiday weekend in February, if the weather is favorable.

TABLE 1
MacKERRICHER STATE PARK ANNUAL VISITATION

(Source: Department of Parks and Recreation Statistics*)

<u>Year</u>	<u>Day Use</u>	<u>Camping</u>	<u>Visitation</u>
1986	478,997	107,101	586,098
1987	609,682	113,904	723,586
1988	546,247	113,878	660,125
1989	598,900	107,855	706,755
1990	549,222	113,803	663,025
1991	474,209	112,251	586,460
1992	642,205	114,491	756,696
1993	662,092	96,367	758,459

* Figures do not include visitors accessing the park from points where no count is made.

Note: Low visitation during 1991 could have been due to the national economic climate, as well as sharply higher park fees. The low camping figure for 1993 was due to closure of the restrooms and showers for rehabilitation.

To be sure they will have campsites, visitors should get reservations. However, many would-be campers simply show up at the park, and turnaways are high. Potential campers turned away from the park's contact station during an average summer month typically number over 1,000. Operations staff estimate that perhaps ten times this many each month may be unable to obtain reservations by phone because all the park's campsites have already been reserved.

Camping is also available at other nearby locations. Two private campgrounds are adjacent to the park's east boundary in the Cleone area. They have a total of 52 recreational vehicle campsites and areas for tent and group camping. The nearest state park is Russian Gulch State Park, roughly eight miles south, with 30 campsites, a bike- and hike-in campground, a horse camp, and a group camp. Approximately ten miles to the north is Westport Union Landing State Park, which has 100 primitive campsites. Jackson State Forest, which is southeast and slightly inland, provides additional camping opportunities.

Clearly, MacKerricher State Park is already operating at capacity during much of the year. And, even if more facilities were added at the park, demand would no doubt continue to exceed the park's ability to supply recreational opportunities.

THE GENERAL PLAN

PURPOSE AND NEED

The general plan is meant to guide the management of the park for the next ten to twenty years. It sets forth goals for park management and use and also identifies and analyzes the relative importance of the park's many resources, providing guidelines as to how they should be preserved and managed. The document also portrays the patterns and intensities of desirable uses and the nature and location of proposed development.

The general plan acts as a guide for future phasing of capital outlay projects and park land additions (see the Land Use and Facilities elements). In times when department funding is low, so that development and acquisition are restricted, priorities contained in the plan can aid in providing guidance for park maintenance and for defensive planning.

Much of MacKerricher State Park, notably its entire northern half, has been acquired since 1970. In the areas of the park that came into state ownership before 1970 and where development has occurred, there are problems that need rectifying. The general plan will deal with the future management of the newer areas of the park, as well as addressing existing problems.

FORMAT AND CONTENT

The general plan is made up of the following elements:

- **The Resource Element** evaluates the natural and cultural resources of the park and sets management directives for protection, restoration, and use of these resources.
- **The Land Use Element** describes current land uses, defines planning issues, and outlines land use goals. It determines land use intensities and land use patterns to establish directions for future park management and use that will best fulfill the goals of the park.
- **The Facilities Element** proposes future development to enhance public enjoyment of the park's resources and other values. It also establishes specific design criteria for proposed development to protect the park's esthetic values and to provide for the welfare and safety of park visitors.
- **The Interpretive Element** proposes facilities and programs and for public education and interpretation of the park's natural and cultural resources and, when necessary, information about park regulations.
- **The Concessions Element** contains a summary of the department's policies for providing appropriate goods or services to the public through concessions contracts and describes existing concessions at MacKerricher State Park.
- **The Operations Element** describes current and projected operational and maintenance activities and goals for the park.
- **The Environmental Impact Element** provides the environmental impact assessment required by the California Environmental Quality Act (CEQA). The entire general plan constitutes the Environmental Impact Report.

PARK AND PLANNING GOALS

The following general goals have been created to guide general planning for the park. See the Land Use Element, page 136, for a more detailed statement of goals and actions the department can take to achieve them.

Goal concerning resources: Protect the park's significant natural and cultural resources.

Goal concerning circulation: Develop a safe and efficient circulation system.

Goals concerning major issues identified by the public: Control vandalism and crime; provide facilities needed to support recreational use in harmony with resource protection; increase access, especially for persons with disabilities.

Goal concerning interpretation: Increase orientation and interpretation.

Goal concerning visitor welfare: Provide facilities that promote the safety and well-being of the visiting public.

THE PLANNING TEAM

Interdisciplinary teams were created to work on the general plans for the Mendocino Coast state parks. The MacKerricher team consisted of the Mendocino Sector Parks Superintendent, Mendocino Sector staff, and department landscape architects, resource ecologists, historians, and archeologists, a state park interpreter, and an environmental review specialist from the Northern Service Center. Landscape architects with expertise in park planning and design served as project manager and team lead. The core team was supplemented as necessary by persons with expertise in concessions management, real estate and property acquisition, law, geology, and forestry. The department contracted with Humboldt State University to obtain important underwater resource information.

THE PLANNING PROCESS

Inventory work for the Mendocino Coast state parks' general plans began in 1990. Over the next 12 months, members of the planning team conducted field reviews, research, and interviews to compile an information base of existing data. In the summer of 1990, a visitor survey was distributed to state park visitors on the Mendocino coast, which provided the planning team with detailed information about visitor preferences. Work to gather specific information relating to MacKerricher State Park, surrounding land uses, recreation demand and deficiencies, visitor use patterns, socio-economic resources, and the desires and requirements of other planning and regulatory agencies started in 1991.

In December, 1991, the MacKerricher planning team conducted a public workshop in Fort Bragg. The first step in the general plan public involvement process, the workshop served to inform the public of the nature of the park's resources and of the planning process. Its other equally important purpose was to learn what those attending considered to be significant issues to be addressed in the general plan.

All the ideas gathered from the visitor surveys, the first public workshop, letters, telephone calls, data from previous planning documents, and ideas generated by park staff on the planning team were taken into consideration in developing alternative proposals presented

at a second general plan public workshop in June, 1992. At this workshop, the public had an opportunity to express their preferences regarding alternative proposals developed by the planning team.

A third general plan public meeting occurred in January, 1993, to present the single plan derived from the alternative proposals. The public again presented their comments, and these have been taken into account in the preparation of this document.

The park's Operations staff conducted a meeting in Fort Bragg in June, 1994, regarding management problems caused by a road bypassing the park's contact station. Local residents expressed resistance to closure of the road as a means for solving these problems.

CONSULTATION AND COORDINATION WITH OTHERS

The planning team coordinated with a number of sources during the preparation of the general plan. It maintained liaison with other departmental divisions regarding acquisition of property for the park, new resource information, and possible grant funding for improvements proposed in the plan. It also maintained contact with private individuals and public agencies for review of plan proposals because plans and policies of other public agencies in Mendocino County, as well as some state and federal agencies, influence management and planning decisions for MacKerricher State Park.

FEDERAL AGENCIES

The department is required to comply with a number of conditions contained in the 1983 lease for the 120 acres of dune land owned by the Bureau of Land Management. Among these are to periodically submit a compliance report to the BLM.

The planning team was also in contact with the regional offices of the U.S. Fish and Wildlife Service during the plan's preparation.

PARK AND RECREATION AGENCIES

The department made contacts with the Mendocino County and Fort Bragg City park districts and also spoke with the staff from the U.S. Forest Service and the managers of the Jackson State Forest. This revealed that MacKerricher State Park provides recreational opportunities to the public not currently available through any of these other agencies. Chief among these is the ability to furnish camping and day use close to the ocean, as well as several miles of coastal trail providing a bicycle and pedestrian alternative to busy Highway 1.

REGIONAL PLANNING AGENCIES

California Coastal Commission policies are regarded as important constraints to help guide future considerations affecting the coastline and the coastal lands within the viewshed of Highway 1. Generally, the commission's policies support resource and scenic protection, recreational use, and access as a priority for shoreline areas and rarely are in conflict with State Park System policies.

As this general plan is implemented, additional consultation with the Coastal Commission, as well as the California Regional Water Quality Control Board and the California Department of Fish and Game, may be necessary to ensure compliance with environmental quality regulations and laws.

LOCAL PLANNING AGENCIES

The Mendocino County Planning Department coordinates the application of the policies of the Coastal Element of the County General Plan (Local Coastal Plan). The LCP establishes policies for protection of public access and use of the coastline and preservation of coastal resources, as well as guidelines for planning and development of facilities on the coast. The policies will serve as constraints on coastal land use and development as the county assumes permit authority for development from the State Coastal Commission.

Additionally, the City of Fort Bragg has also prepared a local coastal plan. This LCP refers to the portion of MacKerricher State Park that is adjacent to the city limits. It stresses the need for preservation of rare plant species and habitats, especially wetland habitat. It encourages continuation of the use of Pudding Creek as a recreational resource and emphasizes the importance of "lower cost visitor recreational facilities for persons of low and moderate income" in the Fort Bragg vicinity.

Recommendations made in this general plan conform with local coastal plan policies of both the county and the city in nearly every instance. Where general plan policies conflict, they will have to be resolved through the LCP amendment process prior to implementation of the specific proposals.

TRANSPORTATION AGENCIES

Roads in and adjacent to the park are maintained by the California State Department of Transportation (Caltrans) and the Mendocino County Department of Public Works.

The transit systems with park-serving potential are the Mendocino Transit Authority and also a private company, the Mendocino Stage.

THE PUBLIC**PUBLIC COMMENT**

The planning effort that led to this preliminary general plan has relied heavily on public comment. The public from whom ideas and concerns were gathered consisted of respondents to the visitor survey, people who attended the public workshops, those who wrote or telephoned with their ideas, and members of interest groups concerned with the state park's development and management. The planning team also conducted a search of past correspondence on file with the department concerning issues needing resolution at MacKerricher State Park. From these sources, the planning team developed a general plan mailing list of over 500 names. This represented a diverse public that occasionally expressed preferences that were directly contradictory.

Various sectors of the public were intent on protecting the park's resource values. Some had a broad interest (i.e., wildlife), while others were more focused on a specific issue (i.e., the diminishing numbers of western snowy plovers). A large number of visitor survey respondents indicated that they engaged in nature observation. In some cases, there were conflicts about exactly what constituted a resource worth preserving (e.g., is an artificial freshwater lake a "natural" resource?).

The visitor surveys revealed that many of the people visiting MacKerricher State Park liked improved facilities. Survey comments indicated tremendous appreciation of the park's

hot showers. Respondents made frequent comments about how much they enjoyed the haul road and the boardwalks on Laguna Point and around Lake Cleone.

On the other hand, many survey respondents had grievances regarding the high levels of crime and vandalism in the park. This park is used largely by families, many with small children.

Local residents who attended the public meetings had less to say about developed facilities. Exceptions were the haul road, which they use and appreciate, an interpretive center, which they are anxious to see built, and the boardwalks and trails, which they want to be more accessible to disabled visitors. They were united on the issue of access. They asked for more points of access, especially in the park's northern area. In addition, they expressed a strong desire for continued free and unrestricted access to the park.

Resolution of these and other conflicts will be achieved through implementation of the proposals in this general plan. The planning team has attempted to create consensus on issues whenever possible. However, sometimes the opinions of the public were at odds. Also, other constraints with bearing upon the department have had to be taken into account. In these instances, it has been incumbent upon department staff to create solutions, through design and other means, as well as the application of their professional expertise, to evaluate comments received and constraints needing consideration.

All public comments received during the CEQA review period have been considered and incorporated where appropriate, and all letters and CEQA responses appear in Appendix E.

VISITORS WITH DISABILITIES

The Department of Parks and Recreation's standards guiding design of facilities for persons with disabilities adhere to the current provisions of Title 24 of the California Building Code and are contained in the department's document, "Access to Parks". The standards recognize four levels of accessibility in state parks. Level 4 designates facilities and sites "Intended for independent use by the majority of people with disabilities" and "implies access by a continuous and integrated path of travel to all support facilities...." Levels 3 through 1 each designate greater degrees of difficulty for access, with Level 1 being "highly challenging or even inaccessible for persons with some disabilities...."

The needs of disabled visitors have already been taken into account in many of the existing facilities at MacKerricher State Park. The boardwalk on Laguna Point is accessible, and there is a campsite adapted for use by disabled persons. Restrooms and shower facilities are available for visitors with disabilities.

One of the goals of this general plan is to increase access for visitors with disabilities, especially to the haul road. Better access onto the haul road from the South and the North MacKerricher Coastal Trail Access points will help in achieving this goal. In fact, the haul road can potentially extend Level 4 access into nearly every ecological zone in the park. Other facilities, such as the dune boardwalk, will provide all visitors, including visitors with disabilities, with recreational experiences that have been previously unavailable at MacKerricher. In addition, proposed special services to visitors with disabilities, such as possible shuttle service on the haul road or use of beach-going wheelchairs, will be among the recommendations made in this plan.

Although this general plan will not present detailed designs, the needs of disabled, as well

as elderly, visitors will be considered in future site design and recreational programming, taking into account the department's constraints regarding costs. Improvements recommended in the general plan include ramps for access, specially surfaced trails, modified campsites, picnic tables, and restrooms, and designated parking sites close to facilities. Public transit vehicles which now or in the future serve the park should be equipped to accommodate wheelchairs.

SPIRIT OF PLACE

Spirit of place refers to qualities that make a place memorable – that create impressions we take away with us. Tangible features we see, hear, smell, and feel all imprint our senses whether we are aware of it or not. Together, they make up the intangible spirit that we recall.

Each person brings his or her own expectations and preferences to a place, with senses focused upon particular aspects of the surroundings, so each takes away his or her private version of the spirit of the place. However, we as park planners must assume that some elements of the park experience are shared and universal. This allows us to assess the spirit of place of the state parks with which we deal and to strive to enhance aspects of those places that will most enrich a spirit conducive to a high quality park experience.

MacKerricher State Park is long and narrow, flanked by the ocean for its entire length. Because of this, all of the park is influenced by the sea and the restless, moisture-laden air it engenders. The ocean is visible from many parts of the park. Sea smells fill our lungs. Wind or fog often confound our senses, and winter storms can be intense. On the other hand, the park embraces a wide variety of landforms and vegetation types, each with its own particular potential for inspiring feelings and memories. People are plentiful in some parts of the park's landscape during the busy season, while they are few in others.

Consequently, the park actually has many spirits of place. Design criteria for developments proposed in the Facilities Element are intended to assure that park improvements will respect and foster the spirit of place of each of the many varied areas within the park.

Resource Element



Erysimum menziesii
(State listed Endangered)
growing in the sand dunes
at MacKerricher State Park.



RESOURCE ELEMENT

The Resource Element for MacKerricher State Park identifies specific resources along with their values, sensitivities, and physical constraints. The Resource Element also sets forth long-range management objectives for natural, cultural, and scenic resources and identifies specific actions or limitations required to achieve these objectives. Department guidelines for acceptable levels of use and development are then established with respect to these values, sensitivities, and constraints. Through development of a Resource Element, the department complies with Division V, Chapter 1, Section 5002.2 of the Public Resources Code and Title 14, Chapter 1, Section 4332, of the California Code of Regulations.

RESOURCE SUMMARY AND EVALUATION

The following resource information is a summary and evaluation of data obtained from 1989 through 1992. First, the element describes natural resources, both abiotic and biotic, from a regional and a unit-specific perspective. Then, the park is broken into more specific geographically-based sections called ecological units, which are described individually in more detail. Following this, the element presents general cultural resource information, with more detail provided in the cultural resources section following the ecological unit descriptions.

Evaluation of the information presented in the summary involves assessing relationships between and among ecosystem components, including physical, biological, and social conditions, as well as assessing the significance and sensitivities of the park's natural and cultural resources. Ecological units and cultural resource sensitivities are intended to serve as working models for assessing the impacts of management actions within and outside of State Park System units.

REGIONAL AND UNIT CHARACTERISTICS

Characteristic climatic features of the Mendocino coast are moderate temperatures with small daily and seasonal fluctuations, frequent dense fogs, and northwesterly winds. The average annual precipitation for the park area is about 40 inches, and ranges from 20 to more than 80 inches. Half of this precipitation falls between December and February. Summer rain is uncommon, but summer fog drip is a significant source of moisture. Water quality for the North Coast region is generally high, with low amounts of total dissolved solids, chlorides, and sodium. The mean monthly temperatures for nearby Fort Bragg range from a low of 47.6°F in January to a high of 57.7°F in September. A persistent moderate wind (15 to 30 mph) occurs during the summer months and, in combination with the fog, provides many visitors with cool, damp relief from the hot, dry interior of California. Air quality on the Mendocino coast is excellent.

Microclimatic variation is a significant component of the environment at MacKerricher State Park, greatly influencing vegetation distribution and composition. Microclimatic features of importance include salt spray, persistent winds along the immediate coast, and topographic effects, especially aspect. Microclimate is particularly influential in the Ten Mile Dunes/Inglenook Fen complex portion of the park. In the dune environment, one of the most influential microclimatic factors is solar radiation. For example, on a clear sunny day the air temperature may be 87°F, but the temperature three inches above the sand may be 91°F, and it may be as high as 122°F one inch above the sand.

MacKerricher State Park is in the coastal zone of the northern Coast Ranges Geomorphic Province. The coastal zone is comprised of gently sloping, nearly flat terraces on the west backed by steep, heavily wooded ridges on the east. Both ridgeline and terrace have been dissected by coastal rivers or streams that have cut steep valleys along their courses westward out of the mountains toward the sea.

The oldest rocks in the region are the sandstone, shale, conglomerate, and volcanic rocks of the Late Cretaceous to early Tertiary age (75 to 35 million years ago) Franciscan Complex. This formation lies east of the San Andreas fault zone and extends along the coast from the Point Arena area to north of Cape Mendocino. Along the coastal margin, the Franciscan Complex rocks have been cut by wave action into a series of nearly level erosional terraces. Remnants of these gently seaward-sloping sand and alluvium-mantled erosional terraces rise from the ocean's edge in a series of step-like platforms, increasing in age and elevation to the east.

At Laguna Point, low, wave-cut rock cliffs and sandy pocket beaches found to the south shift abruptly from a west-northwesterly orientation to a gently rising north-northeasterly oriented coastline, receptive to sand driven shoreward by prevailing northwesterly winds. Although dunes occur discontinuously throughout the unit, the dunescape that characterizes much of the unit begins in the vicinity of Laguna Point and stretches north in a broad, continuous sheet to the mouth of Ten Mile River.

Coastal erosion is primarily from wave action along prominent bedding planes, joints, and fractures in the Franciscan Complex rocks. Wave energy works upon these zones of weakness, gradually widening them to form surge channels and sea caves in the cliffs. As breaking waves and surge continuously pluck at soft and weakened rocks, sea caves and channels collapse, and the connection with the mainland is finally lost, leaving rock stacks isolated from shore. The shoreline of the southern portion of the park is characterized by rocky headlands, wave-cut benches, and offshore rocks.

Although no major faults are known to exist in the park, the active San Andreas fault zone lies approximately 10 miles offshore and is the most probable source of earthquake shaking in the park. During the 8.3 Richter magnitude earthquake centered on the San Andreas fault in Marin County in 1906, structural damage ranged from relatively minor in the town of Mendocino to severe in Fort Bragg, immediately south of the park. Although the population of the entire area has grown substantially since 1906 and the standards for construction have improved, a magnitude 8+ earthquake centered along this segment of the San Andreas fault still has the potential to cause significant damage.

Although most of the Mendocino coast is underlain by sandstone and shale of the Franciscan Complex, the soils of the region are derived mainly from unconsolidated marine deposits or alluvium. The variability of the soils is best explained by the dynamic geologic history of the area. Uplift of marine sedimentary formations, sea level changes, a large complex of active faults, climatic changes, and differences in vegetative cover have resulted in localized differences in soil forming factors (parent material, relief, climate, biota, and time). The more common soils are prairie-like with dark color, high organic content, and low pH.

Coastal Mendocino County is renowned for its rich natural and cultural heritage. Biologically, the Mendocino coast is an area of remarkable diversity, the site of several unique and sensitive ecosystems. Although the settlement and exploitation of the area by Euroamericans resulted in significant impacts to the original coniferous forests and river systems, the Mendocino coast still retains some vestiges of wildness. Its rugged coastline, with a backdrop of coniferous forests provides for high quality scenic and water-related recreation. The natural

attributes and the historic features of the Mendocino coast area have statewide as well as national significance and draw many visitors to the area.

The park stretches almost nine miles along the northern Mendocino County coast from immediately north of the town of Fort Bragg to the mouth of Ten Mile River. The small town of Cleone is located at the main entrance to the park. The relatively flat, low topography has been significantly affected by the forces of the sea, with an elevation range of sea level to 120 feet at the northern end of the park. This large and diverse park can be considered in two sections, north and south.

The northern portion, extending south from Ten Mile River to Lake Cleone in the central area of the park, contains 5-1/2 miles of sandy shoreline backed by low bluffs and coastal dunes. The extensive dune system known as the Ten Mile Dunes lies on top of the oldest marine terrace in the area. The dunes vary in size and are made up of five lobes reaching inland from Ten Mile Beach.

The southern portion of the park is a relatively flat, open marine terrace gradually sloping up from Pudding Creek at the southern boundary toward Lake Cleone and Laguna Point, a major headland jutting out from the coastline. The shoreline consists primarily of rocky bluffs interspersed with small pocket beaches. Major beach areas are at Lake Cleone, and at the mouths of Virgin Creek and Pudding Creek, the latter delineating the southern boundary of the park. Approximately half of the area is forested, with the open areas closer to the ocean covered with grass and scrub vegetation. The developed area of the park around Lake Cleone is wooded terrace with campgrounds north and south of the lake.

Marine and tidal environments are particularly rich and diverse features of the Mendocino coastline and MacKerricher State Park. Both the sandy beach and rocky shore have a wide range of marine habitats. Laguna Point is a well-known treasure house of intertidal life.

Moderately sized streams, some with seasonal lagoons at their mouths, are a common natural feature of the area. The freshwater aquatic resources of the park are numerous and varied. MacKerricher State Park falls within the North Coastal Ichthyofaunal Region. Park boundaries include portions of several coastal streams and lagoons, two natural lakes (one artificially maintained), a fen, and coastal brackish and freshwater wetlands. Riparian woodlands and lagoon environments, with their diversity of plant and animal life, are important natural ecosystems, greatly reduced throughout the state due to human development.

Plant communities in the park consist of coastal strand vegetation on the beaches, unique dune swale vegetation complexes in the dunes, grasslands and coastal scrub vegetation on the ocean-ward portions of the coastal terrace, Bishop pine and beach pine forest around Lake Cleone and the near vicinity, and riparian vegetation associated with numerous streams and other wetland communities, including the unusual and biologically significant Inglenook Fen. Ten special plant species have been found in the park, and fifteen other special species may occur there. Several plant communities found in the park are listed as rare natural communities by the Department of Fish and Game Natural Diversity Data Base (NDDDB). Habitat is present for several sensitive animal species. These species will be discussed in the individual ecological unit descriptions.

There are no large areas in coastal Mendocino County that have not been logged. Yet, little evidence of nineteenth century logging activities once pervasive on the Mendocino Coast persists in the park. A wharf, apron chute, and shipping yard were built near Lake Cleone around 1882, although only a few rings embedded in the rocks at Laguna Point remain. A sawmill was located a couple of miles east near Cleone town site. There is no indication that

Lake Cleone was ever used as a mill pond.

Many Native American archeological sites have been recorded in the park indicating human use of the area over the past 2,000 years. The vast majority are located very near the shoreline and are susceptible to coastal erosion and disturbance by humans.

Recreational activities in MacKerricher State Park are concentrated near the ocean and around Lake Cleone. These activities include walking, running, and bicycling on the haul road, wading and playing in the ocean, surf fishing, scuba and skin diving (particularly around Laguna Point), sea kayaking, boating, and trout fishing at Lake Cleone, nature study, camping, picnicking, horseback riding, bird watching, and sightseeing. Whale watching from November through May, and tidepooling and beachcombing are especially popular activities. Although there are many parks and other public access to natural areas in this region, day use at the park is substantial. There is relatively heavy local year-round day use, particularly at Pudding Creek beach, Laguna Point, and along the haul road.

The region and the state park are known for outstanding scenery. Although ocean vistas are generally not available from the part of State Highway 1 adjacent to the park, views from within the park are spectacular. The northern portion of the park offers sweeping views of huge sand dunes and flat beaches stretching into the distance, while the southern half hosts views of a rugged coastline with pocket beaches nestled in rocky, wave-battered cliffs, open marine terraces with long shoreline views, and the coniferous forest and coastal mountains to the east.

The northern part of the park, including the Ten Mile Dunes, Ten Mile Beach, and the Inglenook Fen complex, are significant biologically, culturally, and esthetically. Several special plant species and rare natural communities, habitat for sensitive and unique animals, particularly newly identified and endemic species of insects and arthropods found in the fen, numerous archeological sites, and the scenery make this an area of special consideration.

MacKerricher State Park is part of the Clem Miller State Seashore, a designation conferred upon "relatively spacious coastline areas possessing outstanding scenic or natural character and significant recreational, historical, archeological or geological values" by the State Park and Recreation Commission. MacKerricher is listed as part of the State Water Resources Control Board (SWRCB) system of Areas of Special Biological Significance (ASBS), a program of the federal Environmental Protection Agency. The park is also included in the Inventory of California Natural Areas, 1975-1982, a listing of biologically significant areas deserving protection compiled by the California Natural Areas Coordinating Council.

NATURAL AND CULTURAL RESOURCES OF THE STATE PARK

NATURAL RESOURCES: ECOLOGICAL UNITS

Nine ecological units (EUs) have been delineated at MacKerricher State Park (see Map 3). Ecological units constitute ecosystems for which boundaries were drawn based mainly on analysis of vegetation, land forms, and hydrological processes and apply to all of the park, not just undisturbed native systems. The park contains nine EUs. The Marine EU abuts the entire coastline, while the Riparian Areas and Wetlands EU includes Inglenook Creek, the Inglenook Fen complex, and Lake Cleone, The Coastal Beach EU, the Coastal Dune EU, and the Coastal Prairie EU are found primarily in the northern half of the park, while the Coastal Bluff EU, the Coastal Terrace EU, the Coastal Lagoon EU, and the Coastal Forest EU occur mainly in the southern half. Descriptions and locations of primary features, and discussions of the sensitivities, importance, influences, and impacts in each ecological unit are presented below.

Refer to Maps 3 through 7 for an orientation to the locations and extent of these ecological units and the sensitive resources and constraining conditions within each. Maps 4 through 7 can be found in Appendix B. An asterisk (*) in the text of this document denotes a resource of special interest. Tables C-1 and C-2 give more information on these special interest resources. Table C-1 lists the special plant species, those species of special management concern, and rare natural communities found in MacKerricher State Park. Table C-2 lists the sensitive animal species and those of special management concern that have been or may possibly be observed within or from the park. Tables C-1 and C-2 appear in Appendix C.

MARINE ECOLOGICAL UNIT

The Marine Ecological Unit encompasses the nearshore and underwater areas adjacent to the terrestrial boundaries of MacKerricher State Park. Generally running seaward 1,000 feet and parallel to the ordinary high water mark, a portion of this property is leased from the State Lands Commission for use as an underwater park. Extending from Pudding Creek to about one-half mile north of Lake Cleone, the leased property covers 454 acres. The marine environment at the park, including all the natural, cultural, recreational, and esthetic resources found within this zone, is a rich and diverse ecosystem.

The marine environment at MacKerricher State Park falls under the jurisdiction of the State Lands Commission, while the Department of Fish and Game has jurisdiction over the living marine resources, both plant and animal. Although the Department of Parks and Recreation has no fee title ownership, certain jurisdiction is granted by the terms of the lease. Additionally, the Department of Parks and Recreation has authority to enforce certain statutes within 1000 feet of the terrestrial boundary of the park according to PRC 5003.05 which states:

Rules and regulations adopted pursuant to Section 5003 shall also apply on any granted or ungranted tidelands or submerged lands abutting property of the Department and used for recreational purposes by members of the general public in conjunction with their use of the Department's property between the boundary of the lands under the jurisdiction of the Department and a line running parallel to and 1,000 feet seaward of the ordinary high water mark, so long as the rule or regulation being applied is not inconsistent with any rule or regulation of any other public agency which is applicable to those tide or submerged lands.

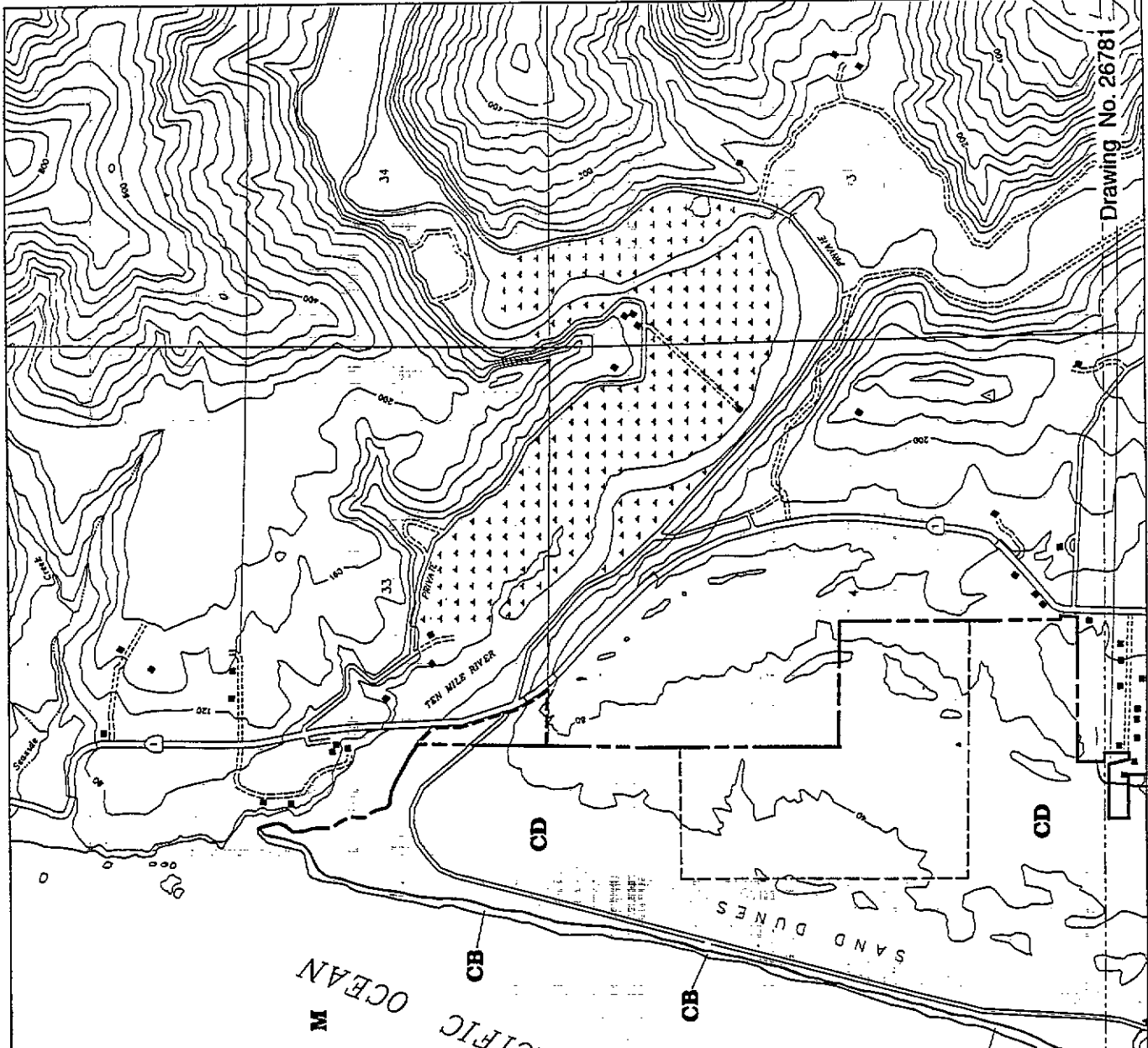
The Marine EU north of Laguna Point to the northern boundary of the park consists of a wide, sandy, dune-backed beach. The subtidal environment appears to be depositional, with the energy regime being high and favoring sand deposition.

Coarse sand predominates intertidally, as indicated by the lack of bull kelp and the apparent lack of red sea urchins. In such a physically controlled environment, this low species diversity is expected. Species adapted to sand habitats have been observed in this portion of the Marine EU, including razor clam, Dungeness crab, Pacific sanddab, speckled sanddab, sand sole, and starry flounder.

The Marine EU in the southern part of MacKerricher State Park is significantly different. It is characterized by a rocky shoreline; offshore rocks, sea stacks, wave-cut benches, points, and steep bluffs with a few pocket beaches make up the coast from the southern boundary to Laguna Point. The bluffs are composed of rocks of the Franciscan Complex, and a rocky bottom is indicated by the presence of bull kelp.

The rocky bottom biotic assemblage, including red sea urchin and red abalone, is probably typical of the Mendocino coast. Associated with much sand transport in the park, rock-dwelling species that tolerate sand (psammophilic saxicolous species) are probably common. Laguna Point is surrounded by wave-cut benches and has a rich intertidal flora and fauna with a variety and degree of development that are exceptional. Although most of the area north of

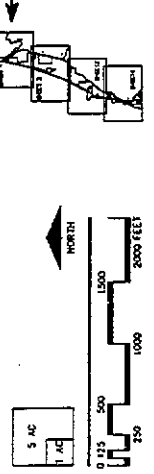
**MACKERRICHER STATE PARK
GENERAL PLAN**
Map No. 3
Ecological Units
Northern Section of the Park
RESOURCE ELEMENT



Drawing No. 26781

LEGEND

- M MARINE EU
- CB COASTAL BEACH EU
- CD COASTAL DUNE EU
- RW RIPARIAN/WETLANDS EU
- CP COASTAL PRAIRIE EU
- CF COASTAL FOREST EU
- CT COASTAL TERRACE EU
- CBL COASTAL BLUFF EU
- CL COASTAL LAGOON EU
- STATE PARK BOUNDARY
- PRIMARY HIGHWAY
- PAVED ROAD
- UNPAVED ROADS
- TRAILS
- INTERMITTENT STREAMS
- PERENNIAL STREAMS
- CALTRANS GRANT-FUNDED ADDITION 9/55 E.Y.
- B.L.H. LEASE



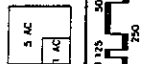
MATCH LINE TO SHEET TWO

**MACKERRICHER STATE PARK
GENERAL PLAN**
Map No. 3
Ecological Units
North Central Section of the Park
RESOURCE ELEMENT

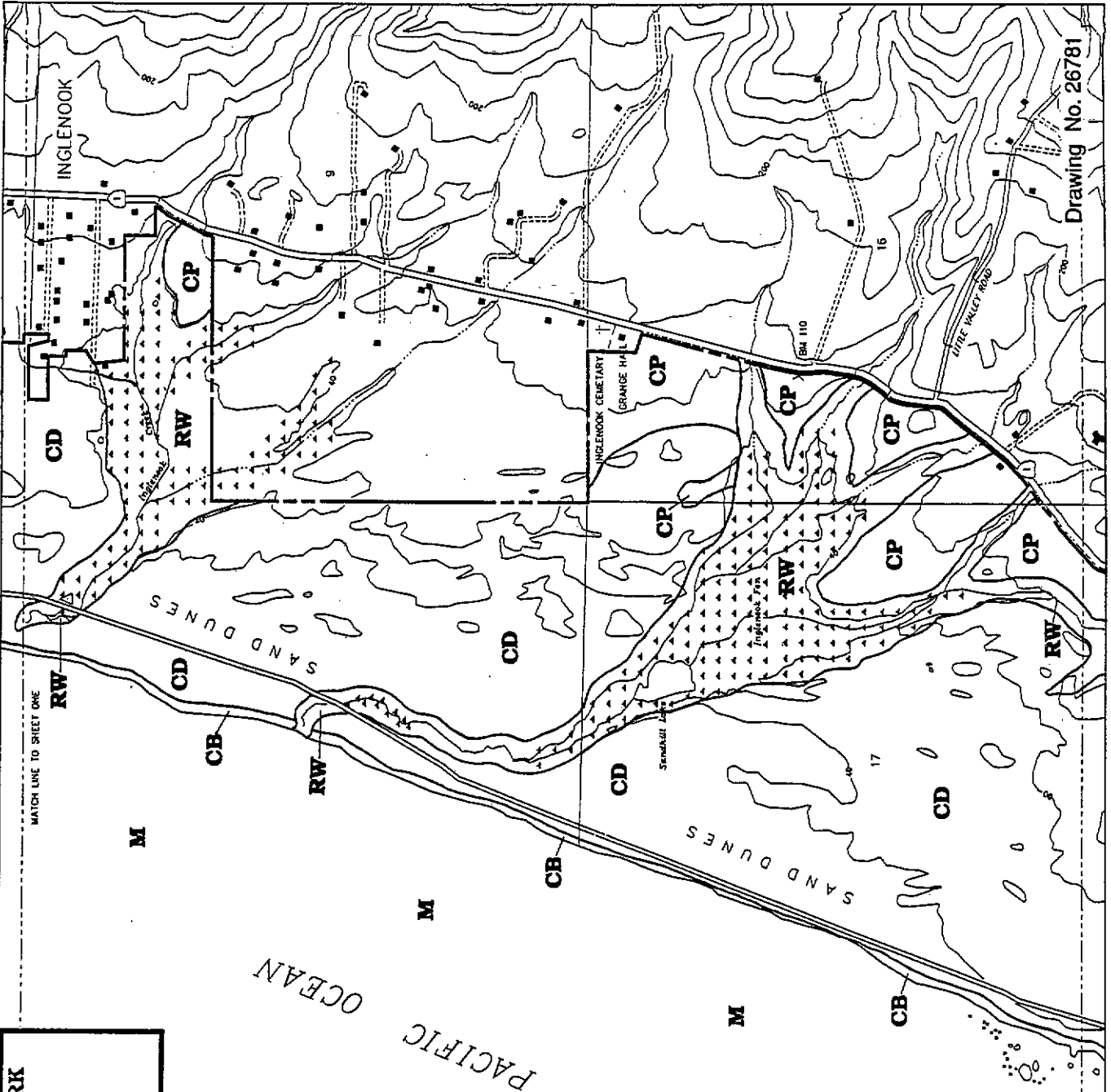
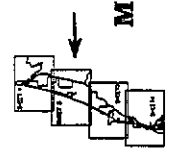


LEGEND

- M** MARINE EU
- CB** COASTAL BEACH EU
- CD** COASTAL DUNE EU
- RW** RIPARIAN/WETLANDS EU
- CP** COASTAL PRAIRIE EU
- CF** COASTAL FOREST EU
- CT** COASTAL TERRACE EU
- CBL** COASTAL BLUFF EU
- CL** COASTAL LAGOON EU
- STATE PARK BOUNDARY
- PRIMARY HIGHWAY
- PAVED ROAD
- UNPAVED ROADS
- TRAILS
- INTERMITTENT STREAMS
- PERENNIAL STREAMS
- EXISTING BUILDINGS



MAP SHEET LIST

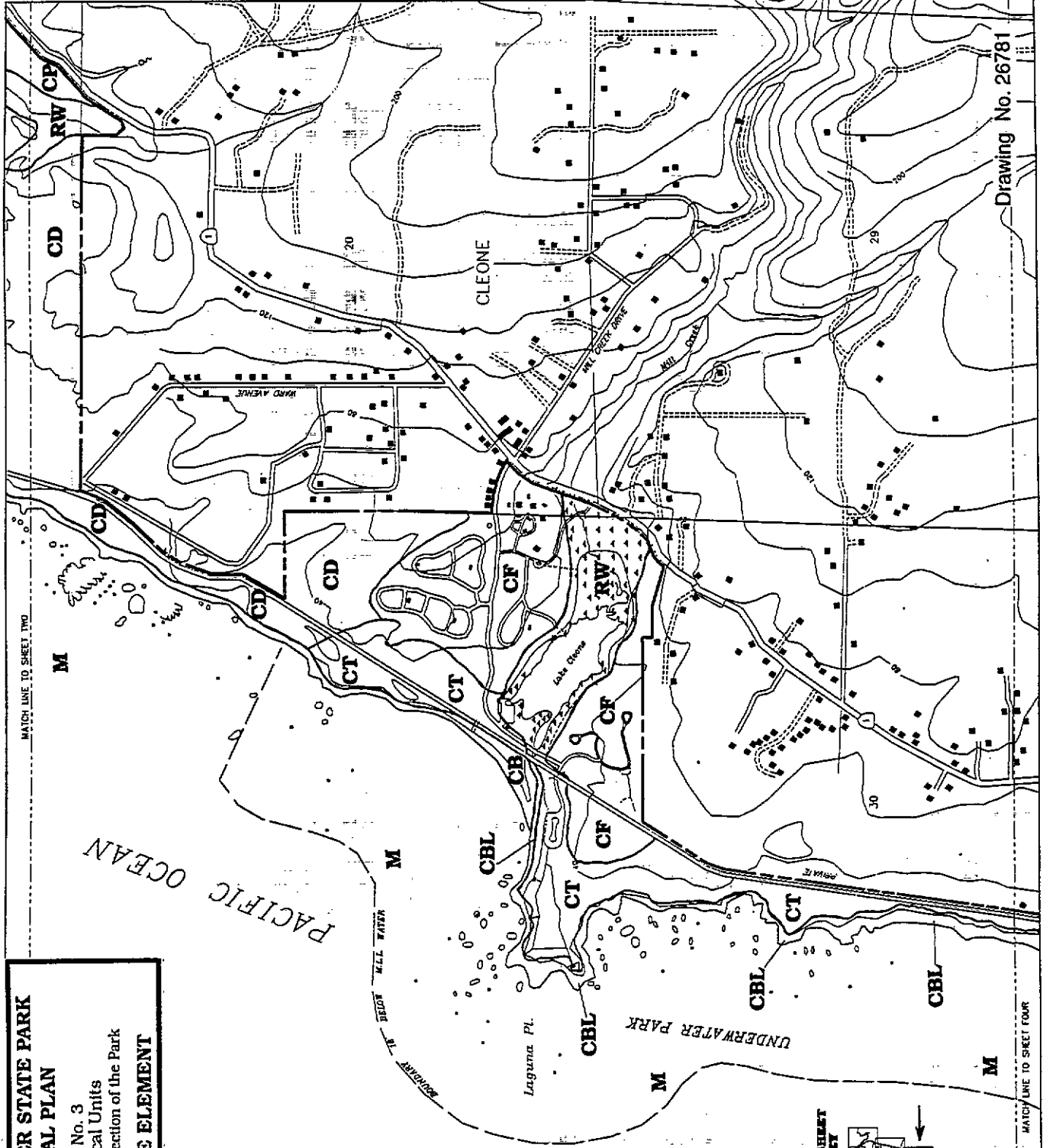
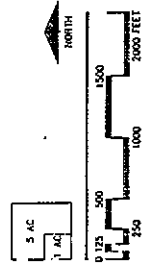
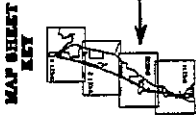


Mackerricher State Park
GENERAL PLAN
 Map No. 3
 Ecological Units
 South Central Section of the Park
RESOURCE ELEMENT



LEGEND

- M MARINE EU
- CB COASTAL BEACH EU
- CD COASTAL DUNE EU
- RW RIPARIAN/WETLANDS EU
- CP COASTAL PRAIRIE EU
- CF COASTAL FOREST EU
- CT COASTAL TERRACE EU
- CBL COASTAL BLUFF EU
- CL COASTAL LAGOON EU
- STATE PARK BOUNDARY
- PRIMARY HIGHWAY
- PAVED ROAD
- UNPAVED ROADS
- TRAILS
- INTERMITTENT STREAMS
- PERENNIAL STREAMS
- EXISTING BUILDINGS
- UNDERWATER PARK BOUNDARY



Drawing No. 26781

**MACKERRICHER STATE PARK
GENERAL PLAN**

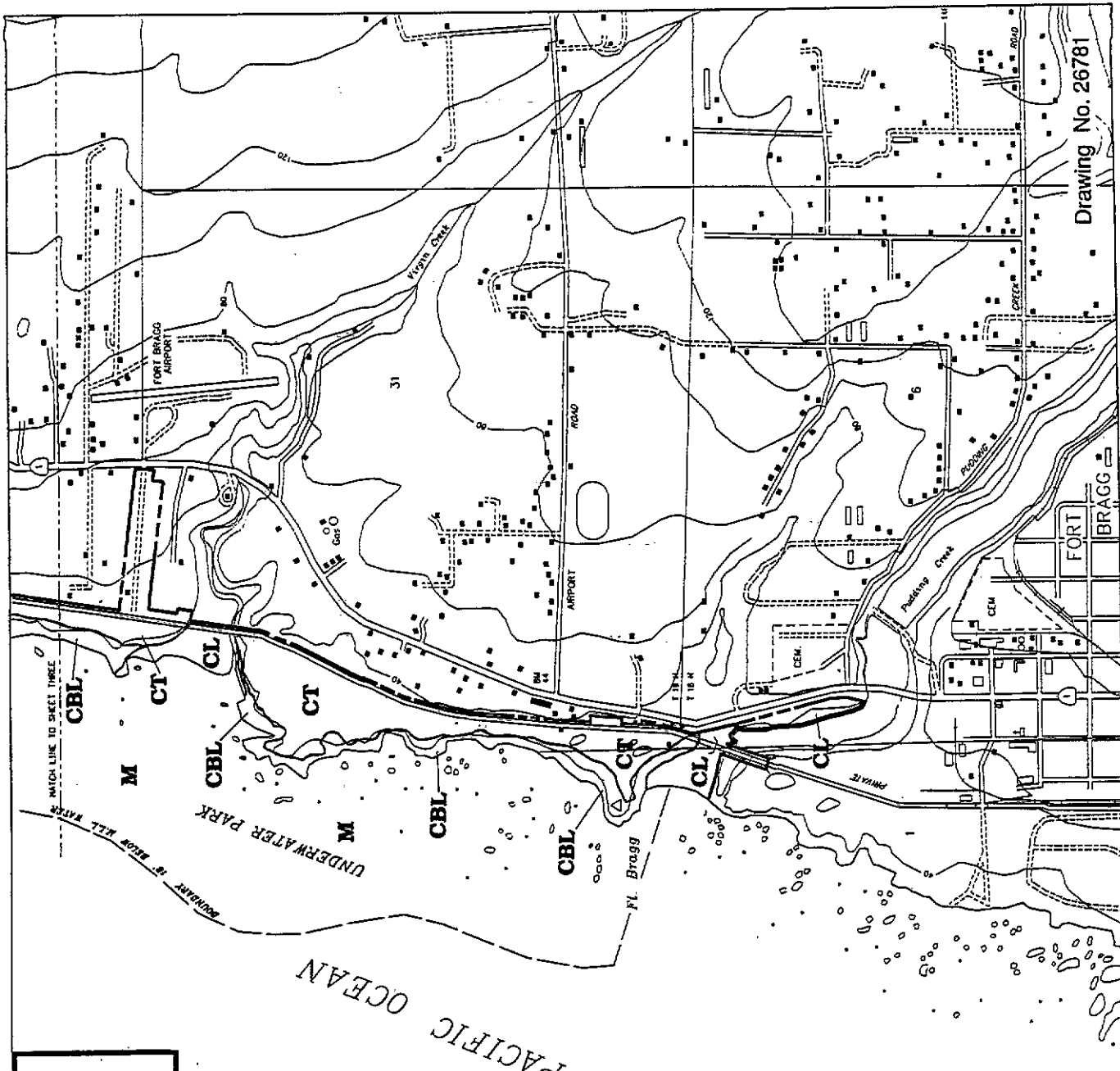
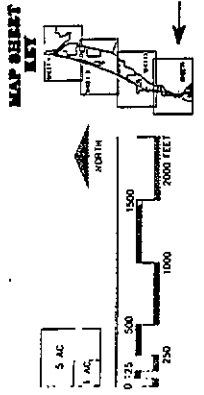
Map No. 3
Ecological Units
Southern Section of the Park

RESOURCE ELEMENT



LEGEND

- M MARINE EU
- CB COASTAL BEACH EU
- CD COASTAL DUNE EU
- RW RIPARIAN/WETLANDS EU
- CP COASTAL PRAIRIE EU
- CF COASTAL FOREST EU
- CT COASTAL TERRACE EU
- CBL COASTAL BLUFF EU
- CL COASTAL LAGOON EU
- STATE PARK BOUNDARY
- PRIMARY HIGHWAY
- PAVED ROAD
- UNPAVED ROADS
- TRAILS
- INTERMITTENT STREAMS
- PERENNIAL STREAMS
- EXISTING BUILDINGS
- UNDERWATER PARK BOUNDARY



Laguna Point is sandy bottom, some rocky bottom with significant resources does occur.

Many wildlife species utilize the resources of the Marine EU, several of them special or sensitive species (*). Offshore rocks provide resting, roosting, and nesting habitat for shorebirds and gulls. California brown pelicans* are commonly seen offshore flying low over the waves looking for fish or resting on offshore rocks. Tufted puffins* and the marbled murrelets* have both been observed offshore of Laguna Point. Common loons*, double-crested cormorants*, and western grebes* have been observed in the bay. The offshore rocks are used by these species as resting and roosting habitat. Particularly visible is the harbor seal rookery/haulout on the offshore rocks adjacent to Laguna Point. As many as 50 to 60 harbor seals are regularly seen occupying most surfaces of the rocks. Harbor seals and California sea lions are frequently seen near to shore, and California grey whales* are often seen offshore.

This EU receives heavy recreational use. Laguna Point is well-known as a prime tidepooling area with easy access where many visitors come to study intertidal organisms. Tidepool life has been severely depleted in the past by collecting, primarily by organized school groups. Although more protection and interpretation has been provided, the impacts continue and increased management is needed. The underwater park designation protects the marine geology but does not provide protection for the marine life.

Fishing is a popular activity in this EU and occurs in many forms. Sport fishing includes pole fishing for redtail surfperch and rockfish, trolling for salmon, netting surf smelt and night smelt in years with heavy runs, and shore-picking and free-diving for red abalone. A commercial fishery exists for red sea urchin. The Department of Fish and Game maintains a study site for this species off Laguna Point. Commercial collection of sea palms and urchins can take large numbers. Native American collection of intertidal life has been a traditional use, but increased tourist presence has discouraged Native American use of MacKerricher State Park for this purpose.

Other recreational activities in the Marine EU include beachcombing, bird watching, and sightseeing. Opportunities exist for interpretation of both the intertidal and the subtidal environments to increase the understanding of the diving and nondiving public of geological, biotic, and cultural resources of the Marine EU. It should be noted that the safety of underwater recreation in this park has been questioned due to surf and current conditions.

COASTAL BEACH ECOLOGICAL UNIT

The Coastal Beach EU is a narrow, linear ecological unit extending only a short distance inland from the waveslope. It consists of the park coastline from Laguna Point north to Ten Mile River, including the coastal strand from the upper edge of the supralittoral/wave splash zone up to the foredunes or the base of the coastal bluffs. The sandy beach, rocky shore in some places, and the low coastal bluffs that make up this EU are strongly influenced by the sea. Salt spray, mist, fog, high winds, blowing and drifting sand, and beached seaweed are all determining factors in the ecology of this EU. Rain water percolates rapidly through the sand leaving the surface relatively dry and creating drought conditions along with the saline condition.

The shoreline wave-cut bench, wave deposited seaweed and debris (wrack), and beach sand provide habitat for marine invertebrates which, in turn, provide forage for shorebirds. Beach qualities change seasonally depending upon ocean currents and weather patterns. Beaches with thick sand deposits favor interstitial invertebrates which provide food for shorebirds, and a shoreline with less sand provides better conditions for shellfish such as abalone.

Environmental stresses are greatest nearest the supralittoral zone where higher plants are absent, micro algae communities inhabit the moist sand, and sand dwelling invertebrates thrive. Deteriorating marine algae/wrack on the beach provides nutrients and moist habitat for marine crustaceans such as beach-hoppers (*Orchestoidea californiana*), isopod "eel bugs" (*Alloniscus perconvexus*) and terrestrial insects such as sand flies and their maggots which, in turn, provide forage for swallows and skunks.

The terrestrial plant community found in this EU is coastal strand. Plants in this community have adapted to the physiological stresses of windy and highly saline conditions with perennial growth and prostrate, succulent, and deep-rooted growth forms. Common plants on the MacKerricher beaches include sand verbena (*Abronia latifolia*), sea rocket (*Cakile maritima*), rushes (*Juncus* spp.), beach morning-glory (*Calystegia soldanella*), and American dunegrass (*Elymus mollis*). European beachgrass (*Ammophila arenaria*) is an invasive exotic and has been spreading from Ten Mile River south along the beach and into the dunes.

The wildlife habitat in this EU consists of sandy beach and sparse coastal strand vegetation. Several sensitive species find habitat resources in the coastal strand or have been seen in or from this EU. California brown pelicans*, American peregrine falcons*, and ospreys* have been observed foraging from the beach, as have double-crested cormorants*, California gulls*, Caspian terns*, and long-billed curlews*. Western snowy plovers* have used beach and dune areas at MacKerricher State Park for resting and nesting habitat. This species is particularly sensitive to disturbance.

The Coastal Beach EU offers unobstructed views of the shoreline and ocean. Opportunities to experience the ocean, waves, and beach in solitude attract visitors to the long stretches of relatively undisturbed beach in the northern portion of the park. Walking along the beach or biking along the haul road are popular activities. However, heavy visitor use can disturb wildlife at the beach and decrease its value as wildlife habitat. Dogs off the leash are particularly disruptive to shorebird feeding and resting behavior, a significant factor when the birds are on migration.

Other recreational activities include beachcombing, bird watching, nature study, surf fishing (particularly in the Laguna Point area), and picnicking.

COASTAL DUNE ECOLOGICAL UNIT

The extensive dune area known as Ten Mile Dunes covers more than 1,400 acres and is a major scenic attraction and a prominent feature of MacKerricher State Park. The sweeping vista of tall dunes marching inland from the ocean is a visual opportunity found in few other places in the state.

The Coastal Dunes EU lies adjacent to and just inland from the coastal strand and west of State Highway 1 from Laguna Point north to Ten Mile River. This EU, which makes up most of the northern half of the park, consists of dunes, dune swales (vegetated depressions between the dunes), and several freshwater seeps. The dunes lie on top of the oldest marine terrace (100,000 years old) in the area and consist of five lobes extending inland from the relatively smooth Ten Mile Beach. Inglenook Creek flows seaward between the north and middle large lobes, and the Inglenook Fen/Sandhill Lake complex lies between the middle and south lobes.

The Ten Mile Dunes are a series of transverse dunes and associated precipitation ridges. Transverse dunes are formed by unidirectional winds of moderate velocity that move only light sand. Steep-sided dune features known as precipitation ridges form where moving sand driven by strong unidirectional winds are stopped by a relatively uniform mass of vegetation,

such as coastal forest. These ridges build to the windward side of the obstruction and, after reaching a certain height, spill over the steep, leeward face into the vegetation below. Dune advance and invasion of adjacent vegetation are initiated in this manner.

The U.S. Department of Agriculture Soil Conservation Service (USDA-SCS) soil survey for Mendocino County classified the Ten Mile Dunes as duneland, a mapping unit with no soil profile development. These dunes are composed of gray, medium and coarse sands largely formed from graywacke, and are somewhat alkaline (pH 8.1). This alkalinity is a result of low activity of soil development processes, such as leaching and the buildup of organic matter. Permeability is very rapid, and water-holding capacity and cation exchange capacity are very low. Runoff is minimal, with excessive drainage that is mostly subterranean.

The dunes present an imposing environmental challenge. There are microclimatic variabilities among the foredunes, dune tops, hinddunes, and swales. Temperatures in the dunes three inches above and at the dune surface are significantly higher than the air temperature. Temperature decreases beneath the dune surface. Except for the dune swales, there is an absence of fresh water, even in heavy rains, because water quickly percolates down through the sand and out of reach of most plants. High wind and blowing sand are further physiological challenges for any life form on the dunes.

Dune plants are highly specialized, primarily due to lack of water. They must be very resistant to desiccation and capable of holding and using available water. Many plants are practically leafless, with a waxy covering to inhibit water loss and thick, long tap roots or bulbous roots. These root systems are adapted to store energy and moisture through the dry part of the year. Most dune plants have low nutrient requirements because dune sands are low in fertility, as well as water. Dune plants help to stabilize the dunes and may help them to grow by slowing the wind so that it drops its load, which allows sand to build up around the plants.

The dunes are mostly vegetated with northern foredunes and northern foredune grassland communities. Microclimatic variabilities determine the distribution of the various dune plants that make up these communities. Northern foredune grassland is found on the primary foredune, and the northern foredunes community occurs on hinddunes. Common native species of the former community include American beachgrass, beach bur (*Ambrosia chamissonis*), sand verbena, and dune sage (*Artemisia pycnocephala*). Other species present include non-native European beachgrass and sea rocket. The foredunes at the north end of the Ten Mile Dunes are primarily built by European beachgrass, with native vegetation forming clumps or hummocks between these stands of grass. The northern foredunes community is dominated by Douglas' bluegrass (*Poa douglasii*) and dune sage. Dune swales are vegetated with thickets of dune willow (*Salix piperi*) and Hooker's willow (*Salix hookeriana*), thick mats of bog rush (*Juncus effusus*) and slough sedge (*Carex obnupta*), and some elements of north coastal scrub on well-stabilized sites, including coyote brush (*Baccharis pilularis*) and dune sage.

Both northern foredunes and northern foredune grassland are recognized as rare natural communities by the California Department of Fish and Game Natural Diversity Data Base (NDDDB). Three special species, Howell's spineflower (*Chorizanthe howellii*)*, northcoast phacelia (*Phacelia insularis* var. *continentis*) and Menzies' wallflower (*Erysimum menziesii* ssp. *menziesii*)*, are found in the Ten Mile Dunes and also occur on sandy sites near Lake Cleone.

Study of the dunes at Mackerricher has found this system to be rich in wildlife habitat. Small mammals, jackrabbits, and their predators, gray foxes and bobcats, occur in the dunes, along with a wide variety (approximately 250 species) of arthropods. Many kinds of highly adapted spiders and insects, such as globose dune beetles* use the dunes year round, and

several species that have been found may be newly described species.

Aggressive non-native plants have invaded the dunes. In the southern end of the Coastal Dune EU, seafig creates a monoculture, crowding out the native dune flora and building up enough weight on hillsides to cause slides. European beachgrass, another plant introduced specifically to stabilize shifting sands, is spreading south from the Ten Mile River area along the beach and into the dunes. Growing in dense stands, this aggressive exotic displaces native vegetation and changes the topography and ecology of the dunes, forming dunes that are taller and which run parallel to the coast as opposed to the shorter, perpendicular dunes formed by native vegetation. These changes, combined with disturbance by humans and dogs, have had a detrimental effect on the foraging, resting, and nesting habitat of western snowy plovers*.

The western snowy plover* was federally listed as a threatened species in March, 1993. This designation provides for protection of this bird and its habitat through federal law. This small shorebird has nested along Ten Mile Beach and in the dunes in the past, but few nesting attempts have been observed in recent years. Disturbance and possibly increased predation by ravens are factors. However, the barrier between the flightless chicks and the ocean formed by the dense growth of European beachgrass is thought to be a significant impact, causing failure of nesting birds to successfully rear young.

The many archeological sites in the dunes, primarily shell middens, indicate a long history of human use. These sites often coincide with habitat for Howell's spineflower*, Menzies' wallflower*, and nesting habitat for the western snowy plover*, factors which must be considered when excavation is planned. Past human activity by Native Americans has had little impact on the dunes, but today's uses have had a far different result.

The size and mobility of the dunes may have been unnaturally increased by the greater input of sand into the system from upcoast logging activities in the late 1800s. The dunes may have somewhat stabilized after logging activities decreased, but were remobilized by the arrival of off-highway vehicle (OHV) activities on the dunes in the 1950s and 1960s before the property became part of the state park. OHV use (OHV trespass has been a problem in the past) and other disturbances including uncontrolled foot traffic are the major factors in accelerated dune movement, an important issue for MacKerricher's Ten Mile Dunes.

Undisturbed dunes are in equilibrium with the wind and moisture as indicated by the ripples on the surface. When the surface is disturbed, the protective outer crust of larger sand grains is disrupted and the equilibrium is destroyed. This leads to destabilization and problems with dune movement, particularly when roads and adjacent property are in the path of movement. Now protected from OHV use, much of the dune area appears to be restabilizing.

An experimental dune stabilization project at the park tested several methods of dune stabilization and revegetation with native dune species. It found that certain treatments were more successful than others. Mechanical stabilization techniques all showed promise, but no one technique was best in all situations. Each site must be analyzed to determine the most appropriate technique for that site. In general, the greatest stabilization occurred with straw mulch anchored by plastic netting followed by grass seeding, although decomposition of the netting is a disadvantage. The results of the project were reported in the Resource Management Project Status and Completion Reports (1986-87) located at State Park Headquarters in Sacramento. A follow-up project is needed to remove the materials used for this project.

Study of the MacKerricher dune system has revealed that each dune and dune swale is unique with its own features and history. Dunes well-stabilized with native flora and fauna are less likely to move than bare dunes. Non-native species, such as European beachgrass, can stabilize dunes but negatively impact the dune system by replacing native flora. This creates

conditions less favorable for native fauna and alters natural dune morphology. The fragility of the dunes should be of significant concern in determining their use. Further study is needed to determine what, if any, forms of human impact can be allowed on the dunes without damaging and destabilizing them.

Coastal dune recreational access is an issue at MacKerricher State Park. There has been heavy recreational use of this EU just north of Lake Cleone. The haul road, built by logging interests in the early 1900s, runs the length of Ten Mile Beach and the dunes, providing a route for walkers and bicyclists. The road is deteriorating, washed out in places near and just north of Lake Cleone, and its preservation is an issue that will be addressed in the policy section of this element.

COASTAL PRAIRIE ECOLOGICAL UNIT

The Coastal Prairie EU is composed of grasslands found landward of Inglenook Fen and located between the drainages that feed the fen and Sandhill Lake. It is surrounded by the Coastal Dune EU on the north and south and bounded by State Highway 1 on the east.

According to the USDA-SCS soil survey, two soil mapping units are found in this EU. Sirdak loamy sand is a very deep, somewhat excessively drained soil that occupies stabilized sand dunes. Permeability is rapid, available water capacity is low, and surface runoff is slow to medium. Tropaquepts soils are very deep, very poorly drained soils found in shallow depressions or along drainageways. Surface runoff is ponded to medium, but permeability and available water capacity are too variable to be rated. From December through April, Tropaquepts are continuously saturated, which restricts the rooting depth of many plant species. Sirdak loamy sand has been identified by the USDA-SCS to have moderate constraints for roads, buildings, campgrounds, picnic areas, and trails because of slope and/or blowing soil. Although unrated, Tropaquepts are unsuited for any development due to the presence of sensitive wetland resources and other hydric considerations.

The coastal terrace prairie, a rare natural community, as defined by the California Department of Fish and Game NDDB, occurs in the Coastal Prairie EU and is characterized by California oatgrass (*Danthonia californica*), Douglas' iris (*Iris douglasiana*), California poppy (*Eschscholzia californica*), and sea pink (*Armeria maritima* ssp. *californica*).

Here, moisture limits plant distribution, and zones of vegetation coincide with the drainage pattern of the area along a vertical gradient from high to low elevation. Subsurface water flow may be important in low areas, and condensation of fog, which is greater on larger plants, may be important in the summer. The ability of the soil to retain water against evaporation and drainage increases with an increase in organic matter and plant cover and decreases with increasing slope. Slough sedge and common rush occur in areas where moisture is available all year. Non-native velvet grass (*Holcus lanatus*) shades out other species in areas where it gets enough moisture. Bracken fern (*Pteridium aquilinum*) occurs in areas too xeric for slough sedge and where it is able to shade out velvet grass.

An increase in the abundance of native grasses, particularly California oat grass, indicates that the area is gradually recovering from the effects of grazing. The presence of exotic cotoneaster (*Cotoneaster franchetii*) and montbretia (*Crocasmia crocosmiflora*) indicate the area just south of the Inglenook Grange (east of the fen) was once used to dump garden debris.

The wildlife in this EU is similar to the community noted for the Coastal Terrace EU and includes small herbivorous/granivorous birds, mammals, and their predators. The northern harrier* is a sensitive bird of prey that has been observed hunting in the prairie and fen areas. The prairie, dune, and fen/wetland areas provide important wildlife habitat resources.

Views seaward from the prairie are somewhat enclosed by the higher dunes. Views east are more extensive and include second growth redwood forests and nearby Coast Range hills. Recreational use in this EU is low, and there is no formal circulation. However, the sensitivity of the natural resources in the prairie and adjacent Inglebrook Fen are important parameters in determining levels of acceptable use.

COASTAL BLUFF ECOLOGICAL UNIT

The Coastal Bluff EU encompasses the southern coastline of the park from Laguna Point south to Pudding Creek, and extends from the supralittoral zone to the tops of the coastal bluffs. This portion of the coastline is characteristic of the rugged Mendocino coast, with small pocket beaches at the base of nearly vertical sea cliffs, wave-cut benches, and rocky sea stacks. The substrate is primarily composed of exposed bedrock materials, with the few areas of developed soil restricted to protected sites that are less steep. This terrestrial ecosystem is subject to the same environmental stresses as the coastal beach, primarily severe wind and salt spray conditions, and the inhabitants are similarly adapted.

The bluff faces vary from bare precipices to a mosaic of herbaceous plants and dwarf shrubs interspersed with significant areas of bare ground and rock face. This vegetation type is northern coastal bluff scrub, a rare natural community. Plant species common to this community include sea fig (*Carpobrotus aequilaterus*, an introduced and highly invasive species), seaside daisy (*Erigeron glaucus*), powdery live-forever (*Dudleya farinosa*), and wild buckwheat (*Eriogonum latifolium*). Two special plant species grow in this EU, the Mendocino coast Indian paintbrush (*Castilleja mendocinensis*)*, and Point Reyes ceanothus (*Ceanothus gloriosus* var. *gloriosus*)*.

Although appearing inhospitable for wildlife, coastal scrub provides resources for several species. Birds commonly seen foraging along the bluffs include seed-eaters, such as American goldfinches, savannah sparrows, house finches, and song sparrows. This habitat is important for western harvest mice and western fence lizards, both prey for common garter snakes. Many of the same sensitive species mentioned in the Coastal Beach EU summary may be seen in or from the Coastal Bluff EU. Bank swallows* have been reported to nest in holes in the bluffs.

The Coastal Bluff EU has been subject to moderate human-caused disturbance. Steep, high bluffs are relatively undisturbed, but where the slope allows access, visitors have caused localized and severe vegetation trampling and have developed a network of trails that serve to increase the rate of natural coastal bluff erosion. Erosion caused by both coastal bluff retreat and visitor use threaten natural resources, including the Mendocino coast Indian paintbrush*, as well as several archeological sites found on the bluffs and a historic railbed.

The scenic qualities of this EU are excellent, and photography is a popular pastime due to the unobstructed views of coastal panoramas. Other common visitor activities include sightseeing, hiking, bird watching, tidepooling, and nature study, and the bluffs provide an ideal vantage point to observe whales as they pass by the unit.

COASTAL TERRACE ECOLOGICAL UNIT

The Coastal Terrace EU at MacKerricher State Park occupies the terrace benches adjacent to and inland from the coastal bluffs from Laguna Point south to Pudding Creek, accounting for most of the landforms west of the haul road and State Highway 1. Marine terraces, frequently dissected by moderate-sized streams (gulches), are characteristic landforms on the coast of Mendocino County. These broad, gently sloping coastal areas constitute the most recent terrestrial portion of the series of wave-cut terraces formed in this area by Pleistocene

sea level changes and uplifting. The elevations at the top of the marine terraces range from a few to 40 feet above sea level within the park.

Semi-consolidated marine terraces are geologic deposits of major importance as ground water sources. Because of the relative thinness of terrace deposits, their limited east-west extent, and their consequent lack of storage capacity, fractured bedrock is the principle water source in this area. Ground water is the principle source for domestic water supplies and for irrigation in coastal Mendocino County, although occasional diversions of surface waters from minor streams exist. Ground water quality for the region is recognized as very good to excellent, characteristically a sodium-chloride bicarbonate water with relatively low dissolved solids. However, the terrace aquifers of this EU are in contact with the ocean and are susceptible to salt water intrusion.

The USDA-SCS soil survey has identified four soil mapping units in this EU. Heeser sandy loam, Cabrillo-Heeser complex, and Tropaquepts have formed in marine sediments, while Sirdak loamy sand has formed in stabilized sand dunes. All of these soils are very deep, but have widely variable hydrologic characteristics. Most of the EU is covered with Heeser and Cabrillo-Heeser complex soils, which have a moderate to high water capacity and very slow to slow runoff.

According to the USDA-SCS, except for Tropaquepts, these terrace soils have slight to moderate constraints for roads, buildings, campgrounds, and picnic areas because of slope. Constraints for trail construction are rated as slight for most of the terrace area, although there are specific problem areas on steeper sections and on bluff edges where blowing soil and landslides can occur. Tropaquepts are not rated, but are unsuitable for any development due to sensitive wetland resources and other hydric considerations.

The plant communities found in the Coastal Terrace EU include northern coastal scrub, limited native coastal terrace prairie, non-native grasslands, and freshwater seep. A few twisted, large cypress trees mark the edge of a homesite at Pudding Creek. Non-native grasslands dominate the marine terraces and have replaced native coastal prairie in most areas as a result of past livestock grazing and pasture modifications. Common non-native species include velvet grass, hairgrass (*Aira caryophyllea*), flax (*Linum angustifolium*), rattlesnake grass (*Briza maxima*), and plantain (*Plantago lanceolata*). Stands of native bunch grasses are becoming reestablished on the seaward side of coastal terraces.

Northern coastal scrub typically occurs on shallow, rocky soils in scattered locations along the coastal terrace. With a generally low growing aspect becoming more prostrate toward the coast, this community intergrades with northern coastal bluff scrub, coastal terrace prairie, and non-native grassland. North of Laguna Point, this community intergrades with the coastal dune community. In some areas, it is a serial stage in the primary dune and terrace succession of the Mendocino coastal dunes, gradually being replaced by the coastal terrace/north coastal prairie, and eventually by coastal redwood forest. Northern coastal scrub is dominated by coyote brush, Douglas' iris, cow parsnip (*Heracleum lanatum*), bush lupine (*Lupinus arboreus*), and bracken fern.

Rare natural communities found in this EU are coastal terrace prairie and freshwater seep. Characteristic species of the coastal terrace prairie were discussed in the text for the Coastal Prairie EU. The freshwater seep community is typically found in depressions or low places on the coastal terrace where the water table is close to the surface. Common species of this community include sedges (*Carex* spp.) and rushes (*Juncus* spp.).

Sensitive plant species in the Coastal Terrace EU include Mendocino coast Indian paintbrush*, Point Reyes ceanothus*, Howell's spineflower*, northcoast phacelia*, and

Menzies' wallflower (*Erysimum menziesii* ssp. *menziesii*)*.

Past use has had a significant impact on the Lake Cleone area. The extent of coastal terrace prairie in presettlement times is not known at present. Aerial photos from the 1940s show that grasslands were more extensive than they now are. It is suspected that at least a portion of the grassland area was used for grazing dairy cattle. Currently, beach pine is actively invading these grasslands.

A variety of non-native plant species have invaded native plant communities in the park, especially in the grasslands. At the north end of this EU, west of Pinewood Campground and north of Lake Cleone, sea fig is aggressively taking over sandy areas that support sensitive plants. Himalaya berry (*Rubus procerus*), a potentially invasive plant, has become established at a number of locations south of Laguna Point, primarily adjacent to the haul road. Non-indigenous Monterey cypress were planted in the Laguna Point parking lot and in the grassland area near the campgrounds. Removal of Monterey cypress has been suggested to allow native vegetation to proliferate. Tansy ragwort (*Senecio jacobaea*) and various thistle species are particularly invasive plants that have a potential to expand their populations in the grassland areas of this EU. Control of tansy ragwort is required by county agricultural officials because of its toxicity to livestock. Non-native trees, such as Monterey pine (*Pinus radiata*) planted for wind protection on the marine terrace, obscure ocean vistas.

The wildlife habitat of the Coastal Terrace EU consists of perennial and annual grassland habitat as described by the Wildlife Habitats Relationship (WHR) system. Although many species utilize grasslands, particularly for forage, some species need additional features for breeding, resting, and escape cover. Coastal terrace is rich in small and large herbivorous/granivorous birds and mammals, such as white-crowned sparrows, mourning doves, western meadowlarks, Botta's pocket gophers, and black-tailed deer. These species provide prey for northern harriers*, black-shouldered kites*, and American kestrels during the day, and barn owls and coyotes after dark. Other sensitive species that have been observed in this EU include American peregrine falcons*, burrowing owls*, short-eared owls*, and the sharp-shinned hawks*.

Ticks are a management concern on the marine terraces. A significant incidence of Lyme disease has been reported in Mendocino County. The western black-legged tick (*Ixodes pacificus*), native to the area, is a known vector of this potentially debilitating disease. Ticks are particularly numerous in non-native grasslands.

This EU has notable esthetic features. Coastal terrace affords a scenic overview of the coastline and ocean, especially at Laguna Point. Laguna Point is also a major whale watching site. Grasslands on the terrace are also known for their outstanding wildflower displays.

The terrace just north of Lake Cleone experiences high visitor use by hikers and equestrians. Many are from a horseback riding concession that uses a trail paralleling Mill Creek Drive into the park. The high degree of use has had impacts on rare plants, such as Howell's spineflower*. Walkers on the haul road have complained of horse dung, an esthetic impact. Heavy visitor use also threatens several archeological sites that occur on the terrace.

COASTAL FOREST ECOLOGICAL UNIT

The Coastal Forest EU consists of the forested area around Lake Cleone. The campgrounds and most of the other developments in the park are located in this EU.

Two soil mapping units have been identified by the USDA-SCS in this EU, Sirdak loamy sand and Tregoning-Cleone complex. Sirdak loamy sand is a very deep, somewhat excessively

drained soil derived from stabilized dune parent material. It exhibits a rapid permeability, and available water capacity is low. This soil has moderate constraints for roads, buildings, campgrounds, trails, and picnic areas due to slope and/or blowing soil. There is a possibility of septic tank absorption field failure due to the poor filtration of the substratum. The primary limitation for the establishment of plants is dryness of surface layers, especially during summer.

The Tregoning-Cleone complex is composed of moderately deep, poorly drained Tregoning soils and very deep, somewhat poorly drained Cleone soils. Permeability of Tregoning soil is very slow in the underlying hardpan and rapid in the substratum. Available water capacity is very low to low. For Cleone soils, available water capacity is moderate, and permeability is moderately rapid to rapid below the top layer of soil. The main soil constraints for development on the Tregoning-Cleone complex are poor filtration capacity and the seasonally saturated condition of Tregoning soils. These constraints are considered severe for development of campgrounds and picnic areas and moderate for building trails. In the vicinity of Surfwood Campground, a permanent high water table is indicated by the presence of wet site plant species and observations by district employees during pit toilet construction.

The plant communities that make up this EU are northern Bishop pine forest and beach pine forest, both rare natural communities. There is a gradation between these forests and adjacent coastal grasslands, with an increase in canopy closure, tree height, and tree density as the distance from the ocean increases.

Northern Bishop pine forest is the dominant community in this EU and consists primarily of mature Bishop pine (*Pinus muricata*), tanoak (*Lithocarpus densiflora*), and beach pine (*Pinus contorta* ssp. *contorta*), with scattered grand fir (*Abies grandis*) and Douglas fir (*Pseudotsuga menziesii*). Wax myrtle (*Myrica californica*), salal (*Gaultheria shallon*), twinberry (*Lonicera involucrata*), California blackberry (*Rubus vitifolius*), bracken fern, reedgrass (*Calamagrostis nutkaensis*), and false solomon seal (*Smilacina stellata*) are the most common components of the understory. Open areas display wildflowers seasonally, including Douglas' iris and Pacific starflower (*Trientalis latifolia*). Bishop pine is restricted to the California coast in small, scattered populations.

Beach pine forest occurs on the western edge of the EU between coastal grasslands and the more interior Bishop pine forest. Beach pine is a mostly shade intolerant species that is able to tolerate wind and salt spray better than other species, including Bishop pine. The canopy is dominated by beach pine, with some Bishop pine and tanoak. Common understory species include slough sedge, sword fern (*Polystichum munitum*), bracken fern, California blackberry, and false lily-of-the-valley (*Maianthemum dilatatum*). Like Bishop pine, beach pine is restricted to the northern California coast in small scattered populations, although it is locally abundant from north of Fort Bragg to Point Arena.

The pine forest has been migrating westward since before acquisition of this property by the department. Newly colonized areas include the western portion of Surfwood Campground and Laguna Point. Construction of the haul road across the mouth of the lagoon (now Lake Cleone) cut off the sand supply and decreased wind velocity to the dune system where Surfwood Campground is now located, accelerating the succession from dune to coastal forest.

A federally-listed endangered species, Howell's spineflower*, has been found on a recently stabilized dune finger that intrudes into the forest at Surfwood Campground.

Exotic species in this EU include Monterey pine in the campground area north of Lake Cleone and Monterey cypress in the riparian zone of Mill Creek and in scattered locations of the seaward part of the EU. As they have become old and senescent and have possibly fallen

victim to root rot from soil saturation, the trees in the campground may drop limbs or fall, creating a hazard to visitors. A program has begun to eradicate non-native trees and to promote natural regeneration of the canopy by native coastal pine forest. Although there is value in having the campgrounds and facilities located in areas protected from cool ocean breezes by trees, tree losses may be accelerated by such use. Many of the trees have fallen, have been removed for public safety, or have been pruned to the point where they have lost their natural characteristics. Although average reproduction has been noted in the forest, due to visitor impact, additional screen planting and management is needed to assure maximum survival.

Other exotic species of concern include English ivy (*Hedera helix*), Scotch broom (*Cytisus scoparius*), and toothed coast (Australian) fireweed (*Erechtites prenanthoides*). Most of these are found adjacent to campground loops or in disturbed openings in the forest.

The habitat found in this EU is closed-cone pine-cypress habitat (WHR). Animals that utilize this habitat include black-tailed deer, raccoons, spotted and striped skunks, weasels, grey foxes, grey squirrels, ringtails, and Stellar's jays. Sensitive species that can be expected to use this habitat are sharp-shinned hawks*, Cooper's hawks*, and rarely observed goshawks*. The brown-headed cowbird*, a nest parasite noted as common in wooded areas of the park, could threaten the survival of certain songbirds.

The Coastal Forest EU offers enclosed forest views of relatively old pines towering over the campsites. Recreational use consists primarily of camping; Surfwood (south of Lake Cleone), and Pinewood and Cleone (north of the lake) campgrounds are very popular and receive the highest visitor use of all the campgrounds in the northern districts of the State Park System.

Archeological sites are located in this EU north and south of Lake Cleone.

RIPARIAN/WETLAND ECOLOGICAL UNIT

The Riparian/Wetland EU consists of the coastal portions of watersheds in State Park System ownership. The park contains small areas near the mouths of Ten Mile River and Inglenook Creek, the Fen Creek/Sandhill Lake/Inglenook Fen complex, and the Lake Cleone/Mill Creek complex. (These latter two wetland complexes will be discussed separately in more detail.) These are significant areas because conditions at the mouth of a coastal stream can influence the number and distribution of aquatic organisms upstream, and upstream disturbances can impact conditions at all points downstream.

According to the USDA-SCS, Tropaquepts is the only soil mapping unit found in this EU. Tropaquepts are very deep and very poorly drained soils formed from marine sediment parent material. They are typically associated with riparian area, and are located along drainageways or in shallow depressions. They are continuously saturated with water from December through April, restricting the rooting depth of many plant species. Although not rated by USDA-SCS, Tropaquepts are unsuited for any development due to sensitive wetland resources and other hydric considerations.

Along the southern Mendocino County coast, unconsolidated alluvium and river channel deposits are of major importance as ground water sources, as well as prominent features of riparian and wetland habitats. Deep alluvial deposits provide a reliable water source. On a regional basis, surface water quality for the Mendocino coast is high. Dissolved minerals are predominantly calcium-bicarbonates and have a very low percent of sodium, low total dissolved solids, and low chlorides. Surface waters are moderately soft, but high hardness values are often observed during periods of low flow. Within MacKerricher State Park, deep alluvial deposits are not extensive and may not be reliable water sources. In addition, areas

with alluvial deposits typically underlie sensitive riparian areas that depend on both surface and subsurface water. Inglenook Fen, for example, is significantly affected by the quality and quantity of water entering the hydrologic system, and subsurface water is a major contributor to the fen, particularly during the summer.

Streams in this EU are typical of others on the north coast, exhibiting strong seasonal fluctuations in discharge, mainly in response to heavy winter rain. Peak flows occur in January and February, followed by a decline in March and a low flow period usually beginning in late May. Localized flooding is common in most of these watersheds, especially near their mouths, where strong winds and high tides may exacerbate flooding. All of these streams are affected by some degree of upstream use, including timber harvesting, agriculture, and residential development.

Hydric soil conditions, common in this EU, severely restrict uses due to flooding, wetness, and shrink-swell potential. Areas of high water table are most pronounced on Fen and Inglenook Creeks, where dunes have impeded seaward flows, creating freshwater marsh and fen communities.

The plant communities that occur in this EU include north coast riparian scrub, red alder riparian forest, coastal freshwater riparian marsh, coastal brackish marsh, and the fen. All of these are considered rare natural communities.

Riparian vegetation provides critical wildlife habitat. Its acreage statewide has been greatly reduced due to agricultural uses and flood control efforts. Therefore, many of its more specialized/adapted inhabitants are sensitive species struggling for survival. Coho salmon* and steelhead trout (considered a depleted resource by DFG) along with red-legged frogs*, foothill yellow-legged frogs*, and western pond turtles* are sensitive aquatic species that utilize this EU. Other sensitive species that may be observed in this EU include great egrets*, great blue herons*, black-crowned night herons*, and northern harriers*. Brown-headed cowbirds* may be of management concern in this EU.

Sandhill Lake/ Inglenook Fen/ Fen Creek Complex: The Fen Complex is an area of great biological significance. It is the southernmost of a series of fens extending from Alaska south to this area and is the only known remaining coastal fen in California. The fen is an ecological intermediate between a bog and a marsh. It contains a unique assemblage of plants and insects, with northern or high montane affinities. Although the fen may be only 3,000 to 4,000 years old, the community may be a relict of Pleistocene times. Formed by advancing sand dunes blocking the acid drainage waters from upland coniferous forests, the fen is made up of four hydrologically and vegetatively distinct areas: the open water of small Sandhill Lake, the fringing freshwater marsh, the fen proper, and the fen-carr, a unique wet forest type.

Sandhill Lake is a lentic (still, with a slow renewal rate) ecosystem dominated by pond lily (*Nuphar polysepalum*). The small band of freshwater marsh around the perimeter of the lake is vegetated by fringing emergent plants such as cattail (*Typha latifolia*), tule (*Scirpus acutus*), and horsetail (*Equisetum hyemale* var. *affine*), which stabilizes dunes by a gradual creeping process facilitated by rhizomes.

The fen proper is vegetated by almost pure *Carex* ssp. Spike rush (*Eleocharis acicularis*) tussocks occur in the western end and near the open water, while the central and eastern portions are floristically richer. Topographic diversity is created by tussocks of sedge species (particularly reedgrass) and by the buildup of material around the bases of Labrador tea (*Ledum glandulosum* ssp. *columbianum*) and wax myrtle (*Myrica californica*) bushes. Woody shrub or tree species, rather than herbaceous species, dominate in the fen-carr, which has a water table generally at or below the soil surface (no standing water). The fen-carr is best

developed along the base of the dunes with an overstory of red alder (*Alnus rubra*), Labrador tea, wax myrtle, and willows (*Salix* spp.), and an understory of skunk cabbage (*Lysichiton americanum*) and honeysuckle (*Lonicera involucrata* var. *ledebourii*).

Two special species are found in the fen complex, the swamp harebell (*Campanula californica*)* and the fringed false hellebore (*Veratrum fimbriatum*)*. This is the only known locality in California below 3,000 feet where the bog bean (*Menyanthes trifoliata*) grows. Several other noteworthy plants occur here, including the oblong-leafed sundew (*Drosera rotundifolia*).

Wildlife habitat is diverse. The stable, cold temperature condition in the fen may make it a refuge for organisms that would normally live in more northern latitudes. There is an abundance of organic debris probably well colonized by fungi and bacteria. Several unique niches and newly identified species occur in the fen.

A wide variety of species, primarily arthropods (75%, or 748 species) have been identified. Approximately 30 of these species are rare or endemic. Both the fen and the surrounding dunes have apparent endemic species, and the distributional limits of a number of species occur in the area. About 20 boreal species have their known southernmost records here; about 15 coastal and/or dune species have their northernmost records here; and about five species have distinct alpine distributions. Each dune swale has distinct plant and animal species. Several species have obligatory dune/fen/prairie interrelationships. All of these attributes combine to create a complex ecological system that requires protection in its entirety.

Only Inglewood Fen remains in California to represent this rare biotic community. It should be preserved intact for its floristic richness, the completeness of its vegetation zonation, and its unique nature. At this time, recreational use of the area is limited due to lack of formalized circulation. Any use of this fragile area for research and educational/interpretive purposes must be limited and strictly controlled.

Lake Cleone/Mill Creek Complex: This area includes 30-acre Lake Cleone, riparian vegetation surrounding the lake, and the Mill Creek drainage. Lake Cleone was originally a small coastal lagoon and was probably affected by tidal conditions at certain times of the year, creating brackish conditions. It was artificially impounded by construction of the haul road berm across its mouth. Gates at its outlet serve to partially control the water level. The haul road drain consists of a small culvert under the road which sometimes backs up, causing flooding in the Lake Cleone parking lot and at the sewer lift station. The drain can be closed, however, to prevent sea water from entering the lake. At this time, the haul road berm, which functions as a dam or levee, is being rapidly destroyed by coastal erosion.

The principal drainage in this EU is Mill Creek, which supplies almost all of the inflow to Lake Cleone. It has a watershed of about 2,000 acres, with substantial residential development, some minor agricultural use, and timber harvesting outside the park boundaries. Inside the park, most of the facilities are located in this drainage, including maintenance facilities, staff residences, offices, campgrounds, and a day use area.

Lake Cleone is the park's water supply. Fed by Mill Creek, the lake is gradually silting in. At present, the water quality is often diminished by upstream nutrient loading and decay of aquatic vegetation, possibly increased by additional nutrients from horse stables upstream. The water is treated, and all sewage is pumped south to Fort Bragg. A possible alternative location for a water intake is on the creek east of Highway 1.

Coastal freshwater marsh, a rare natural community, occurs along the perimeter of Lake Cleone and consists of sedges and cattails. Bordering the marsh vegetation, especially at the

upper end of the lake, are plant communities dominated by dense thickets of red alder and willow, which extend east along Mill Creek to the park's boundary. Immediately adjacent to coastal freshwater marsh, but with less standing water, is a freshwater swamp community. This vegetation type intergrades with red alder riparian forest, which occurs on moist soils but lacks permanent standing water. Both communities are considered rare by the NDDB.

Wax myrtle, twinberry, salal, and California blackberry are found on the south side of the lake. Lush growth of the exotic, English ivy (*Hedera helix*), can also be found this side of the lake. The lake is weedy, with the native coontail (*Ceratophyllum demersum*) and non-native parrot's feather (*Myriophyllum brasiliense*) reducing the lake surface for recreational activities. Although copper sulfate has been used for weed control in the lake in the past, macrophytes are currently overgrowing.

Lake Cleone provides resting habitat for migratory waterfowl, as well as for shorebirds, in the fall and winter. A flock of whistling swans has often been seen at the lake in December. Sensitive species that utilize the lake are red-legged frogs*, buffleheads*, and the frequently seen ospreys*. Caspian terns and river otters also use the lake. Brown-headed cowbirds* may be a cause for concern in this riparian area because they lay eggs in the nests of other birds.

Exotic species include many species of non-native fish and an amphibian that have been introduced into the freshwater lake. These are the golden shiner, bluegill, green sunfish, largemouth bass, black bullhead, brown bullhead, and bullfrog. Domestic waterfowl flock around the lake and foul the grass and picnic tables.

The primary recreational activity is fishing for non-native fish. Lake Cleone is the only lake easily accessible on the north coast of Mendocino County. It is popular locally, as well as with families camping in the park. The California Department of Fish and Game has planted catchable trout on a regular basis but believes that the shallow depth of the lake (now about 11 feet), increased temperature, and the abundant growth of aquatic plants will soon no longer support planted trout. A casual boat launch ramp facilitates the use of small sail boats and motor driven boats. A boardwalk around the lake affords an opportunity for nature study. Picnic tables are provided on the shore, though they are often dirty from the domestic fowl.

Archeological sites have been mapped north and south of Lake Cleone.

The north, east, and south shorelines of Lake Cleone have been kept in a natural setting without any visible facilities, making the lake an important esthetic resource.

COASTAL LAGOON ECOLOGICAL UNIT

The Coastal Lagoon EU consists of the mouths of Pudding Creek, on the southern boundary of MacKerricher State Park, and Virgin Creek, the next creek to the north. The outlets to these creeks can close during months of low stream flow, forming lagoons of low salinity. Consequently, the ecology of these lagoon areas varies with the time of year, weather patterns, and other factors.

Typical of north coast streams, Pudding and Virgin Creeks exhibit strong seasonal fluctuations in discharge, mainly in response to heavy winter rain. Peak flows occur in January and February, followed by a decline in March and a low flow period, usually beginning in late May. The watershed of Pudding Creek is over 11,000 acres, compared to about 1,900 acres for Virgin Creek. As a consequence of lower average flows, a lagoon forms earlier in the season at the mouth of Virgin Creek than at the mouth of Pudding Creek. Water quality may be affected by residential use and timber harvesting in the Pudding Creek watershed. In the Virgin Creek basin, agricultural use, residential development, and some timber harvesting

may create negative water quality impacts.

The mouth of Pudding Creek is delineated as coastal beach by the USDA-SCS soil survey. This soil mapping unit consists of sandy, gravelly, or cobbly coastal shores. Although too limited in size to be mapped by SCS, the mouth of Virgin Creek can be classified as coastal beach. Both of these areas support sparse coastal strand vegetation, due in part to the effects of tidal and wave action.

The coastal strand community in this EU is primarily composed of sea rocket, sand verbena, and beach morning-glory. Although sparsely vegetated, the coastal strand community provides particularly good wildlife habitat. This EU furnishes migratory corridors for anadromous fishes. The tidewater goby* has been found in the lagoons. A candidate for federal listing as an endangered species, this small fish is disappearing statewide. Less than 40 populations are believed to remain. The lagoons and beaches are also particularly good habitat for shorebirds.

Virgin Creek Beach is an especially good resource for shorebirds and provides a variety of resting and roosting habitats. The lagoon and its surrounding vegetation, the freshwater outlet, the sand beach and bluffs, and offshore rocks with growing algae combine with the somewhat protected location of the beach to furnish an abundance of insects, marine invertebrates, and other food items for birds. The fall migration of shorebirds can begin as early as July. Because the beach is somewhat protected, it gets much use during the winter. The western snowy plover*, a sensitive shorebird federally listed as a Threatened species, has regularly been observed foraging everywhere on the beach and resting or roosting at its northern end in depressions in the sand.

Both Pudding Creek Beach and Virgin Creek Beach receive heavy visitor use. Pudding Creek is adjacent to the northern end of the town of Fort Bragg, and this popular beach spot is easily accessible with undeveloped parking provided. Access to Virgin Creek Beach is along the haul road. Visitors once could drive on the haul road from Pudding Creek to Laguna Point. Parking was allowed along the road at Virgin Creek Beach, popular for surf boarding and surf fishing because it is wide and flat and had drive-to circulation. Driving on the haul road was discontinued in 1992.

Problems associated with the haul road access to Virgin Creek Beach include loose dogs and trash on the beach due to a lack of trash receptacles and restrooms. The heavy visitor use and loose dogs negatively impact shorebirds' use of the beach, particularly during the fall migration when they need to be able to efficiently rest and forage, refueling for their journey. A decrease in the use of the beach by native bird species has been observed. This is especially true of western snowy plovers*, a species of special concern. As of March, 1993, both the bird and its habitats are protected by federal law. (Western snowy plovers may stay still, "hiding" in a spot, and have been caught by dogs.)

The field across the haul road from Virgin Creek beach and a pond to the north are important bird habitat. They provide good birding opportunities, as well as habitat for burrowing owls.

The view from the highway and parking area at Pudding Creek consists primarily of the wooden trestle over which the haul road runs. Once on the beach and beyond the bridge, however, the scene encompasses a cove surrounded by rocky headlands and an expansive view of the ocean. A 25-acre development including home lots, apartments, store sites, and light industrial uses has been proposed for the bluffs overlooking Pudding Creek. If completed and not sufficiently set back from the edge of the bluff, this development could have a significant impact on the visual/esthetic and the recreational resources at Pudding Creek. The biological

resources and the hydrological/drainage capabilities of the area could also be impacted.

The view east from the mouth of Virgin Creek includes a small pocket beach surrounded by low bluffs and a grassy coastal terrace. These are bounded, in turn, by a coastal forest of beach and Bishop pine with sparse residential development. As it is now, it is picturesque. However, further residential development would have serious detrimental consequences for the visual resources in this area.

Archeological sites have been found north of Pudding Creek and on the headland to the south outside the state park boundary. Archeological sites have also been mapped outside of the park on the south side and on the north bank of Virgin Creek.

CULTURAL RESOURCES

CULTURAL BACKGROUND

Human presence on the Mendocino Coast extends back perhaps 11,000 years, but only for the past 3,000 years is the archeological record relatively well defined. During the latter period, archeological finds indicate that an earlier (possibly Yukian speaking) population was gradually replaced in southern Mendocino County (south of MacKerricher State Park) by Pomo peoples who made periodic visits to the coast from their interior homelands. From MacKerricher northward to the King Range, the Coast Yuki evidently inhabited the country year-round. The quest for marine foods and resources was of particular importance to these people.

At the time of European contact, the Coast Yuki were in control of the territory around MacKerricher State Park. The Coast Yuki were divided into 11 village groups with more or less defined territories extending along the coast. The groups in the MacKerricher area were the Lalim-ontilka near Cleone, the Lilhuyak-ontilka at Inglenook Beach, and the Metkuyak-ontilka at the mouth of Ten Mile River. The territories of these villages involved a section of coast, as well as the land extending inland to the border of Coast Yuki territory. At Lake Cleone (Lalim), both the Lalim-ontilka and the Northern Pomo of Sherwood Valley were living in close proximity.

For the most part, the Coast Yuki tried to maintain peaceable relations with all their neighbors. The makeup of the village group was fairly fluid with people gathering together at times, but also scattering in small family groups to seek out certain resources. Property ownership was not rigidly adhered to, and people from one group would frequently go to the territory of others if the hunting or collecting was better there. Although it was necessary to request permission of the other groups, this was routinely given, allowing each group to readily exploit the various primary areas for certain types of foods.

Each group was led by a head-man, and there was a ceremonial house (*hepin*) at its main village. The *hepin* or assembly house also doubled as the sweat house, there being no separate structure for this. Two other types of structures were commonly used by the Coast Yuki: the *hen* or regular dwelling house, and the *isten* or summer brush hut.

The economy was focused on a variety of marine terrestrial species. The Coast Yuki gathered seaweed, mussels, surf fish, and acorns, and hunted elk, deer, sea lions, and seals. They conducted trade with neighboring groups for other goods. They commonly used bows and arrows, spears, and harpoons in hunting and fishing, as well as slings.

For cutting and splitting trees, the Coast Yuki used a stone maul and elk horn wedges of the type used by the Yurok on Trinidad Bay and the Lower Klamath River. Other similarities

to the northwest coast are found in the use of iris for cordage to make nets, and in the wearing of buckskin skirts by the women.

Little is known of traditional Coast Yuki religious beliefs. Boys (but not girls) were confined in the *hepin* for repeated five-day periods while they received ethical and religious instruction from the older men. Those older boys or young men who wished to become religious initiates or shamans underwent further and far more rigorous training in the woods. Shamans provided medical care, but religious ceremonies seem to have been organized by knowledgeable older men.

The first contact of the Coast Yuki with non-native peoples probably occurred after 1812 and involved Aleutian sea-otter hunters, who traveled along the coast from the Russian-American settlement of Fort Ross in search of fur-bearing sea mammals. Later expeditions involved Russian officials who explored the coastal area. American and Hudson's Bay Company hunters also traveled along the coast, most notably in 1833, but these people were primarily interested in beaver pelts. When they did not find them, they moved on.

With Russian departure from Fort Ross in 1841, California's Mexican government encouraged permanent settlement in the Mendocino area by making land grants available to its citizens.

Two ranchos were established on the coast to the south of the current park. Though the northernmost, William Richardson's 1844 Albion Rancho, was located some ten miles to the south, its presence created an indirect impact to the area by making it more accessible to other settlers.

By 1851, a handful of fur trappers and disappointed gold seekers had found their way to the coast and began to settle around Big River, just north of Richardson's grant. During the winter of 1850-51, the brig *Frolic*, bound for San Francisco with a cargo of Chinese goods, was wrecked near Point Cabrillo. The salvage crew sent from San Francisco found these early settlers already established. Though they had little success in retrieving the ship's cargo, they brought back reports of the rich timber resources available along the Mendocino Coast.

As a result of these reports, in 1852 a sawmill was built near the mouth of Big River, hastening the influx of American settlers. That same year, John Simpson and Robert White started a ranch on the north side of Russian Gulch. These two men were instrumental in the creation of the Mendocino Indian Reservation. White acted as an unofficial agent for Thomas Henley, Superintendent of Indian Affairs in California. In 1855, Henley presented White with a petition signed by 52 settlers, complaining of Indian depredations and threatening vigilante reprisals unless government action was taken immediately. As a result of this petition, a government survey party was dispatched to the area to find a suitable location for a reservation. Simpson and White served as guides and translators for the group, which selected an area extending northward from the Noyo River to a point one mile north of Ten Mile River and running from the coast to the mountains. This 25,000-acre tract included all of what is now MacKerricher State Park.

The intent of the reservation was to concentrate the native populations in one area, where they would be less vulnerable to attacks by whites and could be taught farming and simple trades. By 1856, houses, blacksmith and carpenter shops, and a smokehouse had been built, and 3,000 Indians were reported residing on the reservation. Grains and root crops were cultivated at the reservation's farming stations, and the Indians were encouraged to continue gathering their traditional foods, particularly fish.

More houses and a hospital were built in 1857. In June of that year, the military post of

Fort Bragg was established a mile and a half north of the Noyo River. This site would later become the core of the city of Fort Bragg. The post was named in honor of Lieutenant-Colonel Braxton Bragg, who had distinguished himself in the Mexican War and who would later serve as a general in the army of the Confederacy.

The troops stationed at the fort were assigned with keeping the peace in the area surrounding the reservation. This generally involved protecting the Indians from the neighboring settlers (who were prone to indiscriminate murder in retaliation for the loss of livestock) rather than protecting the settlers from Indian depredations. The presence of the military had little effect on the seemingly endless skirmishes that took place between the settlers and the native peoples during the late 1850s and early 1860. The post was vacated in 1864, two years before the reservation itself was abandoned.

Despite some successful initial efforts in relocating the native population there, the Mendocino Indian Reservation soon fell prey to bureaucratic inefficiency and corruption. In 1858, Superintendent Henley was accused of graft. The charges against him included profiteering on supplies, misappropriation of funds to pay unauthorized white laborers, and allowing a private sawmill to be built at the mouth of the Noyo River, thereby disrupting the salmon fishery. Henley was removed from office in June, 1859. In response to the scandal, appropriations for the reservation were cut. Meanwhile, many Indians recently driven from their homes in northern Mendocino and southern Humboldt counties had arrived at Fort Bragg, expecting support and assistance. The reservation, never self-sufficient, became a place of privation and disease, and many Indians were forcibly driven by the Army to the reservation at Round Valley.

The construction of the sawmill at the mouth of the Noyo River was counterproductive to the reservation's goal of isolating the Indians from the settlers to reduce conflict. The mill drew settlers, laborers, and merchants to the area. Consequently, instances of liquor sales, venereal disease, and exploitation of Indian labor rose. The settlers agitated for the reservation lands to be returned to the public domain, where the lands could be purchased from the government.

The reservation's lack of success led to its abandonment in 1866. The land was surveyed by the General Land Office in 1869, making it available for public sale. Many of those who took up claims had been reservation employees who never left but simply claimed the government's improvements as their own. E. J. Whipple, who served as sub-agent at the reservation's Ten Mile Station, gained title to more than 250 acres. Duncan MacKerricher and Harvey Beall, both former employees, also claimed sizable tracts.

Duncan MacKerricher and his wife, nee Jessie McArthur, were Canadians of Scottish descent who emigrated to California in 1864. MacKerricher worked at Caspar for two years, and then moved to the reservation, where he operated a dairy. He eventually consolidated nearly 1,000 acres into his Laguna Ranch, where he raised cattle, hogs, and draft horses. He allowed the local Indians to continue their traditional use his land, including the beach, and hired them to work at the ranch. At least one Native American family collected mussels at MacKerricher Beach until the 1970s. MacKerricher's holdings eventually became the core of the state park.

In addition to his stock raising activities, MacKerricher also promoted the creation and development of the town of Cleone. In 1882, he began selling town lots. Simultaneously, he entered into a contract with lumber entrepreneurs Alexander Jefferson and Samuel Kennedy, giving them the right to build a wharf, an apron chute, and a shipping yard on his property. This shipping point served two sawmills, one established in 1883 on Laguna Creek, to the east of the townsite, and the other built on the south fork of Ten Mile River around the same time. By

1884, the village of Cleone boasted two saloons, two hotels, and a general store. Though the shipping point provided its economic base, most of the town's 25 residents were farmers and stockmen.

In 1885, the apron chute and wharf washed away in winter storms and were replaced by a wire chute and a new wharf. That same year, the Little Valley Lumber Company incorporated and purchased the Laguna Creek Mill. Two of its principal stockholders were Henry Jarvis and James Nichols, who had a store in the town of Mendocino. The lumber company's two mills were capable of producing 60,000 board feet per day. In addition, the company produced and shipped railroad ties, pilings, and tanbark.

To transport the lumber from the Laguna Creek Mill to the chute, a two-and-one-half-mile-long tramway was built in 1887 through the town of Cleone to the wharf. The track was laid at an incline, and gravity ran the cars from the mill to the landing. Horses were used to return the cars to the mill.

In 1902, the Little Valley Lumber Company was purchased by the Union Lumber Company, which was then buying a number of smaller operations, on its way to becoming the largest lumber manufacturer in the county. In 1904, dwindling timber supplies led to the closure of the Laguna Creek Mill. The tramway was abandoned, and the Union Lumber company began to concentrate its logging operations on Ten Mile River. Although lumber was no longer shipped from the Cleone chute, ties and tanbark were still loaded through the 1910s, and perhaps until the early 1930s.

In order to transport the timber resources on Ten Mile River to its mill in Fort Bragg, in 1916, the Union Lumber Company completed a railroad from the mill to the river. In 1945, the rails were removed, the roadbed was paved, and trucks were used to transport the logs. This continued until the mid-1980s, when parts of the haul road washed out.

With the closure of the Laguna Creek Mill, the village of Cleone became a more pastoral setting. By 1913, the town had been reduced to a store, a blacksmith shop, and about six houses.

Duncan MacKerricher continued to run his ranch until 1908, when he moved to Fort Bragg at the urging of his children. He died in 1926, his wife Jessie having died in 1923. The ranch property, greatly reduced over the years by sales to lumber companies and private individuals, remained in the family until 1949, when daughter Evelyn MacKerricher Cotton and other heirs sold a 205-acre parcel to the state for use as a state park. This tract included Lake Cleone and Cleone Beach and became the core around which the rest of the park grew. Acquisition has been ongoing since that time, and the park now includes over nine miles of ocean frontage. Ten Mile Beach, the mouth of Ten Mile River, the Ten Mile Dunes, Inglenook Fen, and Sand Hill Lake are all now included in the park's boundaries.

The park opened to the public on a limited basis in 1951. It opened officially in 1953, with completion of a 20-site campground and day use facilities. Camping facilities were expanded to 70 units in 1957. The State Park Commission officially classified the unit a state park in 1963.

ARCHEOLOGICAL RESOURCES

Thirty-one Native American archeological sites, including one with a historic component, have been recorded in MacKerricher State Park. In addition, one historic site and one prehistoric artifact isolate have been recorded. Twenty-seven of the sites are located within 300 meters of the coastline, and the remaining four sites are within 750 meters of the coast.

Three primary Native American site types have been identified at MacKerricher State Park. The most numerous by far are shell middens (28), followed by superficial shell scatters (two), and a single lithic site that contains neither shell nor midden. Most of the sites are near the littoral edge of the marine terrace; 11 are actually on the edge of the coastal bluffs, seven are on the terrace inland of the bluff edge, and 13 are entirely within sand dunes or sandy deposits. Typically, the sites on the bluff terrace also have sandy soils even though they may be situated in coastal scrub and coastal prairie vegetation communities and not part of the main dune field. These circumstances provide a poor environment for site preservation.

The distribution of Native American sites at MacKerricher State Park can be organized into clusters that are located in the vicinity of, or can be described with reference to, named geographic features. As expected, many of these site concentrations are near the mouths of creeks, where there is access to potable water, as well as the varied resources of both riparian and littoral biotic communities. The site clusters are outlined as follows:

Ten Mile Dunes - 11 sites

Inglennook Creek: MEN-428, MEN-1107, MEN-2014, MEN-2015

Ten Mile River: MEN-429, MEN-2016, MEN-2230/H

Sandhill Lake: MEN-425/26, MEN-427

Between Mill Creek & Sandhill Lake: MEN-2017, MEN-2018

Lake Cleone/Mill Creek - 7 sites

MEN-419, MEN-421, MEN-422, MEN-825, MEN-827, MEN-2290,
MEN-2357

Laguna Point - 4 sites

MEN-826, MEN-828, MEN-829, MEN-830

Between Mill and Virgin Creeks - 4 sites

MEN-416, MEN-417, MEN-418, MEN-835

Virgin Creek - 2 sites

MEN-412, MEN-415

Pudding Creek - 3 sites

MEN-1839, MEN-2013, MEN-2291

Excavations at ten sites that were damaged or threatened by bluff and dune erosion have led to development of a regional chronology based on three periods of settlement, beginning at A.D. 80 and ending in 1866, the demise of the Mendocino Reservation. The sites represent a wide range of settlement types, from major year-round villages to short-term campsites. They have yielded rich and distinctive artifact inventories, well-preserved subsistence remains, and intact features, such as house floors, storage pits, baking pits, and tool caches.

Two of the sites (MEN-825 and MEN-1839) have been associated with ethnographic Pomo settlements. One site (MEN-2230/H) contains flaked glass tools, trade beads, and ceramics, in addition to traditional materials, and has provided much new information about adaptation during the reservation period at Fort Bragg. Site MEN-422, on the bluffs at Ward Avenue Beach, although primarily a prehistoric food processing site, also shows some evidence of camping episodes during the reservation period, circa 1856. Additionally, human remains have been identified at four sites (MEN-412, MEN-425/26, MEN-1107, and MEN-2016). One isolated artifact (MEN-ISO-17), a Gunther projectile point, was found near Lake Cleone. None of these sites show any evidence of Native American use since the closing of the Mendocino Reservation.

In summary, the Native American sites at MacKerricher State Park represent a relatively intact series of settlement systems in an area used with varying intensity over the past 2,000 years. The resources represent Pomoan and Coast Yuki occupation and are significant in their demonstrated potential to answer research questions relating to chronology, resource utilization, settlement dynamics, and acculturation processes. However, erosion by natural forces and the impacts of heavy visitor use will continue to threaten most of the sites in the park.

HISTORIC RESOURCES

Historic resources at MacKerricher State Park are few. The primary structures and remnants have to do with the transport of timber over the land that is now within the park.

In addition to the historic Pomo sites mentioned above, a historic archeological site (MEN-2358H) has been identified on the south side of Lake Cleone. The site consists of burnt ceramics, glass, and metal, and is probably a refuse dump. In addition, prehistoric site MEN-828 also contains buried features associated with the historic Cleone lumberyard and wharf.

There are some remains of the railroad built by the Union Lumber Company in 1916 to transport logs. Old railbed can be seen underlying the haul road north of Ward Avenue where both have been eroded by the ocean.

The railroad ran across two trestles, one west of Lake Cleone and the other spanning Pudding Creek. The trestle at the lake burned and was replaced by an earth berm. The one at Pudding Creek still exists today.

In 1945, the rails were removed from the railroad, and the haul road was built on top of it. When several sections of the haul road were washed out north of Ward Avenue in the early 1980s, the Georgia-Pacific Company, which then owned the haul road, stopped using it.

After 1986, the department maintained and operated the haul road through an agreement with Georgia-Pacific. The agreement terminated in the spring of 1992. The department acquired the northern portion of the haul road and the Pudding Creek trestle in the summer of 1992 and the rest of the haul road within the park in early 1994.

North of Ward Avenue, the haul road runs along the edge of the dunes. Farther north, it drops to the level of the beach. At the northern end of the park near Ten Mile River, it turns east and then south to parallel the south side of the river. There, it joins an active haul road still operated by Georgia-Pacific. Except where it has been washed out north of Ward Avenue and west of Lake Cleone, the haul road, though deteriorated, is surfaced and remains usable.

Other historic resources of note in the park include a barn in the prairie east of Inglenook Fen. Dating from before 1880, it was razed and rebuilt in the 1960s. The reconstruction employed new framing, but the original siding was retained. In the 1970s, the structure received a new metal roof. It is currently used by the park staff for storing firewood. Additionally, apple trees planted when the ranch was active still bloom at the MacKerricher ranch house site in the park's staff residence area. Last, some fragments remain of the timber loading operation on Laguna Point.

RESOURCE POLICY FORMATION

Development of natural and cultural resource management policies is a multi-step process that includes:

1. Application of a classification to a unit of the State Park System that provides a general framework for the management of resources;
2. A Declaration of Purpose that more specifically defines the purpose of the unit, its prime resources, and the broadest goals of management;
3. Delineation of a zone of primary interest that describes the area where environmental changes outside the unit might impact unit resources and values; and
4. Formation of resource management policies designed to achieve specific objectives developed during an evaluation of resource conditions and general policy direction.

CLASSIFICATION

Classification establishes park management and public use direction and affords certain protection under the California Public Resources Code (PRC 5019.50 et seq.), Resource Management Directives for the California Department of Parks and Recreation, and other provisions. An inventory of the unit's scenic, natural, and cultural features must be submitted by the department to the California State Park and Recreation Commission for its consideration prior to classification action (PRC 5002.1).

State acquisition of the property owned to date began in 1949, and 1,725 acres of land are currently within MacKerricher State Park. The department leases an additional 454 acres offshore from the State Lands Commission, which constitute the underwater portion of the park, and 120 acres of dune from the Bureau of Land Management. MacKerricher State Park was classified as a state park and named by the State Park and Recreation Commission in 1963. The park is also included within the Clem Miller State Seashore.

The objectives and directives in this Resource Element are designed to assist the department in achieving the goals outlined in the Public Resources Code definition of state parks and state seashores. Public Resources Code Section 5019.53 defines a state park as follows:

State parks consist of relatively spacious areas of outstanding scenic or natural character, oftentimes also containing significant historical, archaeological, geological, or other values. The purpose of state parks shall be to preserve outstanding natural, scenic, or cultural values, indigenous aquatic and terrestrial fauna and flora, and the most significant examples of such ecological regions of California...

Each state park shall be managed as a composite whole in order to restore, protect, and maintain its native environmental complexes to the extent compatible with the primary purpose for which the park was established.

Improvements undertaken within state parks shall be for the purpose of making the area available for public enjoyment and education in a manner consistent with the preservation of natural, scenic, cultural, and ecological values for present and future generations. Improvements may be undertaken to provide for recreational activities including, but not limited to, camping, picnicking, sightseeing, nature study, hiking, and horseback riding, so long as such improvements involve no major modification of lands, forests, or waters. Improvements which do not directly enhance the public's enjoyment of the natural, scenic, cultural, or ecologic values of the resource, which are attractions in themselves, or which are otherwise available within a reasonable distance outside the park, shall not be undertaken within state parks.

State seashore designation was given to a portion of the Mendocino coast in 1978. As

defined in the Public Resources Code Section 5001.6, the Clem Miller State Seashore consists of lands extending from the mouth of the Eel River to Pudding Creek at Fort Bragg, specifically including MacKerricher State Park.

The Public Resources Code, Section 5019.62, defines state seashores as follows:

State seashores consist of relatively spacious coastline areas with frontage on the ocean, or on bays open to the ocean, including water areas seasonally connected to the ocean, possessing outstanding scenic or natural character and significant recreational, historical, archaeological, or geological values. State seashores may include underwater areas within them, but may not be established solely in the underwater environment.

The purpose of state seashores shall be to preserve outstanding natural, scenic, cultural, ecological, and recreational values of the California coastline as an ecological region and to make possible the enjoyment of coastline and related recreational activities which are consistent with the preservation of the principal values and which contribute to the public enjoyment, appreciation, and understanding of those values.

Improvements undertaken within state seashores shall be for the purpose of making the areas available for public enjoyment, recreation and education in a manner consistent with the perpetuation of their natural, scenic, cultural, ecological, and recreational value. Improvements which do not directly enhance the public enjoyment of the natural, scenic, cultural, ecological, or recreational values of the seashore, or which are attractions in themselves, shall not be undertaken.

SUBCLASSIFICATION

The Public Resources Code establishes several categories of units that may be included within the boundaries of another unit of the State Park System. These categories include state wilderness, natural preserve, and cultural preserve. The general plan process establishes a mechanism for further determination of values that may warrant inclusion in one or more of these subclassifications. A suitable area has been identified for natural preserve classification in the park and is addressed below and in the Land Use Element of the general plan. The natural preserve category, as defined by the Public Resources Code, is included here for clarification of the department's objective in establishing such areas.

The Public Resources Code, Section 5019.71, defines natural preserves as follows:

Natural preserves consist of distinct areas of outstanding natural or scientific significance established within the boundaries of other state park system units. The purpose of natural preserves shall be to preserve such features as rare or endangered plant and animal species and their supporting ecosystem, representative examples of plant and animal communities existing in California prior to the impact of civilization, geologic features illustrative of geologic processes, significant fossil occurrences or geological features of cultural or economic interest, or topographical features illustrative of representative or unique biogeographical patterns. Areas set aside as natural preserves shall be of sufficient size to allow, where possible, the dynamics of ecological interaction to continue without interference, and provide, in all cases, a practicable management unit. Habitat manipulation shall be permitted only in those areas found by scientific analysis to require manipulation to preserve the species or associations which constitute the basis for the establishment of the natural preserve.

This general plan directs that 1,285 acres of land within MacKerricher State Park be classified as the Inglenook Fen-Ten Mile Dunes Natural Preserve to recognize the regional and statewide significance of the outstanding natural values of the Inglenook Fen complex and the Ten Mile Dunes. A map of the natural preserve appears in Appendix B.

This classification establishes certain protection for resources and guides the department in the management, operation, and public use of the unit. Directives in this Resource Element are designed to assist the department in achieving goals outlined in the Public Resources Code

definitions of state parks, state seashores, and natural preserves.

Natural preserve designation provides guidance and acts as a control upon the department by assuring that future plans will respect the degree of resource sensitivity identified within the preserve. This designation is also an aid in setting priority for field staff who will develop and implement the various resource management plans proposed in a general plan. Those resource management plans relating to the natural preserve will receive consideration for higher priority based on the relatively greater significance of the resources. Natural preserve status also aids the department when dealing with possible threats to park resources from outside the park. It is a testament that there is support throughout the department for the special protection needed for resources within the preserve.

The many sensitive resources within the natural preserve at MacKerricher State Park will require a variety of management strategies. Different areas will experience different levels of public use, ranging from extremely low and controlled use in the fen to a relatively higher level at Ten Mile Beach. Public access in the foredunes will need careful regulation, as these dunes are the most likely to be disrupted by uncontrolled equestrian or pedestrian use. They are also the least protected from wind blast and wave action and encompass important nesting areas for western snowy plovers.

Most other parts of the dunes can be less controlled and remain undesignated for public use, as there is only a low level of foot traffic. There will be few formal designated access points and pathways. However, it is recognized that some especially fragile resource areas may require barriers to protect threatened features.

Designation of this area as a natural preserve simply supports the already existing authority of the District Superintendent to apply needed management measures, such as occasional fencing of an area, regardless of the preserve status.

DECLARATION OF PURPOSE

A Declaration of Purpose is required by the Public Resources Code, Section 5002.2(b), "setting forth specific long-range management objectives ... consistent with the unit's classification.

The Declaration of Purpose defines the purpose of the unit in the context of the State Park System and the broadest goals of management. It includes identification of prime resources, a broad statement of management goals consistent with unit classification, and a general statement of appropriate recreational opportunities.

The impetus and purpose for acquisition of MacKerricher State Park were to preserve beach access to an important segment of the scenic Mendocino coastline. The natural features include diverse marine environments, ocean frontage embracing sandy beaches and coastal bluffs, the extensive Ten Mile Dunes, marine terrace, and wetland areas including the unique Inglenook Fen, each with habitat for a variety of wildlife species. Cultural features include many prehistoric and some historic archeological sites. Scenic and recreational opportunities are associated with the natural and cultural features. The Declaration of Purpose for MacKerricher State Park shall be as follows:

The purpose of MacKerricher State Park is to make available to the people for their inspiration, enlightenment, and enjoyment, in an essentially natural condition, the outstanding scenic features and natural values, including the coastline embracing offshore environs; the stretches of sandy and rocky beach; the headland bluffs; the Ten Mile Dunes; the marine terraces; the wetland habitats including Lake Cleone and the unique Inglenook Fen; the geology and plant and animal life; the significant archeological and historical resources; and the scientific values therein.

The Department shall define and execute a program of management to perpetuate the unit's declared values, and provide recreational facilities and interpretation that make these values available in a manner consistent with their perpetuation.

ZONE OF PRIMARY INTEREST

The Zone of Primary Interest is a declaration of the department's concern for any environmental changes outside the unit that could jeopardize or degrade State Park System values.

At MacKerricher State Park, the department is concerned about numerous off-site influences. These include proposed offshore oil drilling, water diversions or contamination, particularly in the Inglenook Fen watershed, forest management and agricultural or residential development impacts within the park watersheds, and alignment and width changes to State Highway 1.

REGIONAL COOPERATION AND LANDSCAPE ECOLOGY

Fundamental to achieving the goals of conserving biological diversity is recognition of the importance of the habitats surrounding the unit and the fact that natural ecosystems interact and change in response to their surroundings. Ecosystem processes and elements range across unit boundaries. Therefore, State Park System units must be seen not as isolated reserves, but as integral parts of complex economic, social, and ecological systems and relationships encompassed by the greater geographic region.

The department recognizes the desirability of its involvement in the planning for lands outside unit boundaries, when possible, to protect significant natural, cultural, scientific, and recreational values. Principles developed by the emerging discipline of landscape ecology help to deal with the complexity of managing natural processes across a landscape of different ownerships, each with its particular set of management objectives. Protecting whole watersheds, preserving migration corridors, and preventing habitat fragmentation or isolation are some of the goals accommodated by this broader view.

Management activities that reflect this regional framework include cooperative planning and management with adjacent land management agencies and interest groups. Providing landscape linkages and wildlife corridors between separate protected natural areas may also be approached through easements and leases. If lands of habitat importance adjacent to or near the park or if lands within unit watersheds should become available for purchase, the Department should consider the factors discussed above when determining the suitability of the property for State Park System purposes.

The Department will work with appropriate government agencies such as the Department of Fish and Game, Department of Forestry and Fire Protection, U.S. Fish and Wildlife Service, private landowners, and other organizations to insure that preserves, wildlife habitat, and natural processes of mutual interest are effectively managed at a regional level. Cooperative agreements, memoranda of understanding, and other instruments should be used, when possible.

Recommendations and priorities for appropriate land additions to the park will be discussed in the Land Use Element.

RESOURCE MANAGEMENT POLICY

A declaration of resource management policy setting forth the precise actions and limitations needed to achieve the objectives established in the declaration of purpose is required in the Resource Element pursuant to Section 5002.2(b) of the Public Resources Code. This section of the general plan identifies specific directives that collectively constitute the "Resource Management Policy" for MacKerricher State Park.

Resource management in the State Park System is governed by laws contained in the Public Resources Code, by federal laws, by regulations in the California Administrative Code, by directives approved by the department's director, and by policies approved by the State Park and Recreation Commission. Specific departmental policy detailed in the department's Resource Management Directives amplify the legal codes and provide clear management guidelines.

An aim of a general plan is to apply the guidelines listed above to a specific unit of the State Park System. This plan includes broad or unit-wide direction regarding natural resources, embodied in General Directives, and more specific, geographically based direction for natural resources in the form of Resource Management Zone Directives.

RESOURCE MANAGEMENT DIRECTIVES — PARK-WIDE

Presented first are directives that are broad or unit-wide in their application or that have a regional perspective. Policies pertaining to physical features are followed by those regarding biological resources, cultural resources, and esthetics and recreation, respectively. Directives specific to a particular geographic area within the unit are found in the section following this one, which is entitled Resource Management Zone Directives.

NATURAL RESOURCES - UNIT-WIDE DIRECTIVES

GEOLOGICAL PROCESSES

Seismicity

Northern Mendocino County is an area of potentially high seismic activity. The most probable source of earthquake shaking is the San Andreas fault zone, ten miles offshore of MacKerricher State Park. The San Andreas fault is capable of generating a Richter magnitude 8.3 earthquake.

Directive: A registered geologist should be consulted on the siting and design of permanent structures, and detailed site investigations and soil testing shall be required before the construction of all major public projects.

Tsunami Inundation

Tsunamis are large sea waves that originate directly or indirectly from earthquakes, submarine volcanic eruptions, or large submarine landslides. Available tsunami statistics do not directly cite Mendocino County. However, the park lies between Crescent City in Del Norte County, where wave height and tsunami damage in California generally has been greatest regardless of point of origin, and San Francisco, where wave height due to tsunami can be expected to reach eight feet at least once every 100 years.

All areas of the exposed coast lying below 25 feet above mean sea level would be subject to tsunami inundation that could damage park structures and injure park staff and visitors.

Because the forces involved with tsunami inundation are so great, the only positive means of protection is to avoid areas subject to tsunamis.

Directive: All new permanent structures in coastal areas shall be constructed approximately 25 feet or more above mean sea level, avoiding areas which could be inundated by tsunami run-up. If structures are built in areas of possible tsunami inundation, these structures will be considered expendable and will not be protected from destruction by natural forces.

Liquefaction and Differential Settlement

Liquefaction involves significant reduction of strength in a buried layer of water-saturated silt or sand that results in a temporary quicksand-like condition and ground failure. Differential settlement is the uneven settling of the ground surface as materials of different types respond differently to loading. This process may be the result of local liquefaction or differential compaction of alluvium during construction or earthquake shaking. Buildings with foundations in such layers may settle unevenly, sink, or overturn.

Low-lying coastal areas underlain by beach, lagoon, or wetland soils probably contain the structurally weak materials and high water tables necessary for liquefaction and differential settlement to occur.

Directive: Structures with high visitor use should not be built in areas subject to liquefaction and differential settlement, or they should be designed to withstand potential liquefaction.

Landslides

A number of small, generally shallow slides exist along road cuts, in steep valleys and stream canyons, and along the steep-cliffed erosion-prone coastal headlands. Most of the slides are in weathered bedrock, colluvial material, or in the more erosive terrace deposits. The intersections of stream channels with sea cliffs are also common localities for landslides.

Damage due to landslides can be reduced or prevented by 1) avoidance, selective removal, or stabilization of landslides in areas of proposed development and 2) regulation of construction practices to include proper techniques for drainage control in all areas of construction such as road cuts and foot trails on steep slopes. In all cases, the first and critical step is to recognize the presence of pre-existing earth failures.

Directive: Generally, new buildings, roads, pipelines, water tanks, and septic tanks, should not be constructed on landslides or in areas recognized as having high potential for slope failure. If facilities must be constructed in landslide areas, a site-specific geologic report shall be prepared early in the project planning process in order to evaluate the geologic conditions that would affect the proposed facility. This study shall be used to propose special modifications to the facility to lessen the potential impact from landslides.

Soil Erosion

Certain areas at MacKerricher State Park are experiencing ongoing erosion problems. As modifications to natural systems are introduced and as visitor use increases, erosion accelerates and causes resource damage. Some existing visitor use facilities, such as trails and roads,

were constructed without adequately considering or implementing methods for preventing erosion. Another source of erosion are volunteer trails created by uncontrolled visitor use.

Trails descending the bluffs or crossing the dunes, parts of the horse trail, and irrigation water channeled onto state park property west of Ward Avenue are examples of erosion problems that exist throughout the park. It may be necessary to manage areas most severely eroded. Soil erosion considerations should be included in future plans for development and use. Beach sand erosion and seacliff retreat are addressed specifically in the Monitoring Erosion and Sand Loss (page 76) and the Shoreline Protective Devices directives (page 80).

Directive: The department shall minimize human-caused, unnatural, or destructive erosion at MacKerricher State Park by taking a unit-wide perspective. The department shall prepare and implement a soil erosion program to protect and manage soil resources. Erosion problem areas shall be identified and monitored, criteria for evaluation of erosion problems will be developed, and priorities for corrective action shall be determined.

When a unit-wide approach has been planned, existing erosion problems and eroded areas shall be corrected, and erosion shall be controlled and prevented by means that are consistent with the purposes of the park and with department policies and that are as unobtrusive as possible and fit naturally into the environment, with the objective of restoring the natural condition. Eroded areas shall be restored to natural contours, if possible, and revegetated with appropriate native plant species when necessary.

Pacific Coast Highway/State Highway 1

The Pacific Coast Highway (State Highway 1) is in physical and visual proximity to MacKerricher State Park. Department of Transportation (Caltrans) projects to stabilize or remove landslides or modify the highway by widening or adding pullouts can affect state park resources. Because engineered procedures traditionally chosen by Caltrans typically focus on the safety of the traveling public more than on preserving natural and cultural resources, Caltrans projects can have significant impacts on park resources.

Directive: To assure sensitivity to park resources and that proposed work is environmentally sound, the department shall review all proposed repair, maintenance, or development plans for those sections of State Highway 1 that are adjacent to or in physical or visual proximity to park resources.

Geologic Specimen Collection

Collecting onshore coastal rock specimens for extrapolating petroleum-bearing potential and reservoir characteristics of offshore geologic formations or for other mineral exploitation schemes may constitute commercial collection for the production of profit and is prohibited by Title XIV, Div. 3, Chapter 6, Sec. 4610.2 of the California Administrative Code.

Directive: The department shall not allow the collection of geologic specimens for potential commercial purposes.

PLANT LIFE**Vegetation Management**

Preservation and perpetuation of representative examples of natural plant communities are statewide goals for the department. Also, a central goal of natural area management in the State Park System is to restore, protect, and maintain native ecosystems and indigenous flora and fauna.

Plant communities at MacKerricher State Park have been impacted over the last 150 years by logging, residential and industrial development, agricultural development, livestock grazing, alteration of the fire regime, artificial plantings, and invasion by non-native species. These impacts have caused a shift in species composition, changes in the structure of plant communities, and a change in the pattern of communities at a landscape level. The changes, in turn, have generally had detrimental ecological effects on natural floral and faunal diversity, wildlife populations, hydrologic processes, nutrient cycling, and microclimate.

Directive: The primary objective of vegetation management in MacKerricher State Park shall be to manage toward a natural condition with a minimum of disruption to natural processes. In order to perpetuate the natural diversity of native flora and fauna, a secondary objective shall be to restore and perpetuate native communities to the condition that would currently exist had they not been disrupted by Euroamerican influence.

In order to achieve these objectives, the department shall develop and implement a Vegetation Restoration and Management Plan for the state park. The plan should include at least the following features:

1. Identified management units (these may correspond to Resource Management Zones and may include more than one plant community).
2. An evaluation of current conditions, disturbance factors, and successional patterns.
3. An estimate of pre-Euroamerican era conditions.
4. Site-specific and quantifiable vegetation goals for each management unit.
5. Analysis of landscape level patterns (the interaction of topography, drainage/watersheds, plant communities, and land ownership and use in the local area and region outside the park boundaries) and their implications for wildlife habitat in the park and on adjacent lands.
6. An evaluation and prioritization of restoration opportunities for all management units based on the rarity, present condition, level of threat, and feasibility of restoration for each of the management unit's plant communities.
7. Establishment of management actions for each management unit that consider management needs, treatment cost, appropriate technology and techniques, and alternatives. An assessment of the need for interpretation of the vegetation management actions to the public, including appropriate public education tools, if necessary.

8. A monitoring and evaluation program that quantifies management effects and serves to guide adjustments to the plan.

The unit-wide Vegetation Restoration and Management Plan shall have specific components which will be discussed later in the Resource Management Policy and Resource Management Zone Policies sections of the Resource Element. These components include the Prescribed Fire Management Plan, the Coastal Terrace/Laguna Point Vegetation Management Study, the Coastal Forest/Campground Vegetation Management Plan, and the Coastal Prairie Restoration Study. (The Ingle-nook Fen Resource Management Plan, the Dune Resource Management Plan, and the Lake Cleone Resource Management Plan encompass more than vegetation management and are therefore intended as separate plans that will coordinate with the unit-wide Vegetation Restoration and Management Plan.) All components of the Vegetation Restoration and Management Plan need not be completed before specific projects in individual management units are implemented; however, applicable components for each management unit must be completed prior to commencing work.

Special Plants

Special plants are listed annually on the California Department of Fish and Game's Special Plant List. Those species listed by the U.S. Fish and Wildlife Service, the California Department of Fish and Game, and the California Native Plant Society (CNPS) as rare, threatened, or endangered are a subset of the Special Plant List. Species that are proposed for listing by the federal government and state candidates for listing are legally protected as if they were listed. Species listed by CNPS on their lists 1A and 1B meet the criteria for state listing and are protected as such. Other species locally sensitive and important to the management of State Park System units are also considered special by the department.

Special plants can be inadvertently destroyed by facility development, maintenance programs, visitor use, or other activities, especially when the exact population locations, habitat requirements, and tolerances are not known.

Populations of 15 special plant species occur in MacKerricher State Park (Table C-1, Appendix C). Due to limited botanical exploration of the park, yet unknown populations of these plants could still be found. Several other special plant species known from the Mendocino coast could also potentially occur in MacKerricher State Park.

Directive: Special plants within MacKerricher State Park shall be protected and managed for their perpetuation in accordance with state law (PRC, Division 2, Chapter 10, Section 1900). Plant species listed as rare, threatened, or endangered under state law or as endangered or threatened under federal law shall be a high management priority. Any proposed activity that would potentially affect plants listed by the state shall require formal consultation with the California Department of Fish and Game as specified in the California Endangered Species Act (CESA).

Populations of all special plant species found within the park shall be mapped. Management plans shall be developed for all state- and federally-listed plant species. These plans, which are implemented at the district level, should include regular monitoring of the threats,

impacts, and population trends to determine management needs and evaluation of the effectiveness of conservation activities.

Programs or projects shall be planned and designed so that special plants will not be adversely affected. Prior to any site-specific development, heavy use activities, or prescribed burns, additional surveys for special plants shall be made during the appropriate flowering seasons in the areas that will be impacted.

Landscaping Plant Materials

Non-native species can detract from the natural appearance of the park, escape into the wild, and displace native species.

Directive: Landscaping in developed areas shall consist of species indigenous to the area. Non-native species, used because no indigenous species are suitable for the purpose or location, or that are used for interpretive reasons, shall be species incapable of naturalizing and spreading into other areas of the park and species not requiring a permanent irrigation system.

Natural vegetation in campgrounds and other high visitor use areas shall be managed to mimic native vegetation patterns consistent with safety and esthetic objectives and State Park System values.

Exotic Plants

Many exotic species have become naturalized in the park and are successfully competing with native species. Perpetuation of native plant communities is dependent on control and removal of exotic invaders. European beachgrass and sea fig are present in the park and are a significant threat because they are highly invasive, can displace native species rapidly, and can change the topography and ecology of natural areas, such as the dunes. Other exotic plants in the park that require attention to prevent them from spreading include Monterey cypress, Monterey pine, cotoneaster, and English ivy.

Directive: The department shall pursue a long-range objective of reducing exotic plants established in the park. The highest priority for control efforts shall be given to those species most invasive and conspicuous in the park.

Livestock Grazing

The State Park System (SPS) policy and philosophy, and enabling legislation, mandate that SPS units be managed by the department for the primary purposes of preserving scenic, natural, and cultural resources, and providing the public access and recreational opportunities to enjoy and gain an appreciation for these resource values. While livestock grazing may be an appropriate use of private land and of public lands managed for multiple commodity and recreational uses, it is generally incompatible with SPS management objectives of preservation and public recreation. The Public Resources Code prohibits the commercial exploitation of resources in units of the State Park System.

Directive: Livestock grazing shall be prohibited in MacKerricher State Park.

Prescribed Fire

Native Americans burned oceanside terraces along the Mendocino coast in order to enhance hunting conditions and to promote the reproduction of food plants. These fires were set in the fall when coastal camps were abandoned and burned primarily on terraces and occasionally into the redwood forests higher on the slopes. Terraces were probably open perennial grasslands and pine savannahs, with lesser coverages of coastal scrub communities than what currently occurs. Lightning-caused ignitions are now extremely rare along the coastal strip and historically were probably similarly infrequent. Prescribed fire is a management tool that allows modern managers to approach conditions present under prehistoric Native American management that shaped both the evolution of individual species and the pattern of vegetation across the landscape.

Directive: The use of prescribed fire should be considered for ecosystem management in the park. If prescribed fire is deemed necessary, a park-wide Prescribed Fire Management Plan that details an ongoing program of prescribed fire use shall be prepared consistent with the Vegetation Restoration and Management Plan. The plan should identify, as nearly as possible, the pre-Euroamerican fire regime by estimating timing, frequency, intensity, and extent of these fires for each plant community in the park.

The plan for prescribed fire use shall be consistent with the department's prescribed fire management policies and contain program objectives, guidelines and treatment constraints, specific burn plans, and provisions for monitoring and evaluation. Particular care shall be taken to minimize deleterious effects on the park's natural, cultural, and scenic resources. Artificial modifications and processes shall be minimized. A program of prescribed fire shall not preclude in any way the necessity for wildfire prevention and suppression.

Fire Suppression and Prevention

Wildfire can be a threat to human life and property and can also severely damage State Park System resources. Because conventional fire control facilities and procedures often cause longer lasting damage to resources than does fire itself, the development of standards and procedures applicable to this park is necessary.

Directive: A Wildfire Management Plan that addresses wildfire prevention, presuppression, and suppression shall be developed by the department in cooperation with the responsible fire control agencies. This plan shall include prevention measures; criteria, standards, and location of fire access roads and fire protection facilities; visitor evacuation routes; and acceptable fire suppression procedures.

The plan shall be consistent with primary park resource values and major park objectives. Department standards require a minimum disturbance of soil and primary emphasis on avoiding esthetic impacts in the location, construction, and maintenance of fire roads and fuelbreaks. Suppression methods shall be those that cause the least resource damage commensurate with effective control.

ANIMAL LIFE**Wildlife Management**

Animal life is an important part of natural ecosystems and adds interest and variety to the park experience. MacKerricher State Park encompasses valuable wildlife habitat used by many species. Protection and perpetuation of natural wildlife populations are major management objectives in the park. Habitat features of significant value such as nest sites and wildlife corridors need to be considered in any park planning.

Directive: The department shall protect and perpetuate native wildlife species and their habitats and shall avoid significant imbalances caused by human influences. Natural habitats altered by human influence since 1800 A.D. should be restored as nearly as possible to conditions that would exist had natural processes not been disrupted.

Special Animals

Special animal species are defined as those species listed on the Department of Fish and Game Natural Diversity Data Base Special Animals List. Species listed by state and federal agencies as threatened, endangered, of special concern, and fully protected, and species under investigation as candidates for listing are included on this list. Other species, locally sensitive and important to the management of park units are also considered special by the department.

For example, bats are considered sensitive species due to habitat loss throughout the state. Bats and bat colonies are often associated with buildings (historic, administrative, and maintenance structures). Normal maintenance procedures, including active bat eradication programs, may have detrimental impacts upon their habitat. Though buildings are not natural habitat, the resource importance of bats is so great that they should not be discouraged from using DPR structures. Although there is little or no bat roosting habitat in MacKerricher State Park at this time, construction of potential bat habitat could take place within the life of the general plan, and the needs of these sensitive species should be considered.

Numerous special animal species occur or possibly occur within MacKerricher State Park (Table C-2, Appendix C). They are a primary resource management concern and require careful consideration when land management decisions are made.

Directive: Threatened, endangered, and candidate wildlife species in the park shall be a high management priority. These species shall be protected and managed for their perpetuation in accordance with state and federal law.

Specific management programs shall be developed, when appropriate, for animal species that are threatened or endangered and for other special animal species. Management shall focus on the identification and protection of critical habitat. Specific habitat management guidelines may be incorporated into the vegetation management plan for the park. Population characteristics of special animal species shall be monitored in the park.

Observations of these species, active reproductive areas, and other important habitat resources for these species should be documented. Information on location of special species shall not be generally available to the public. Programs or projects undertaken in the park shall

be planned and designed so that sensitive wildlife will not be adversely affected.

Wildlife Requiring Special Management Consideration

Some wildlife species, both native and exotic, can affect natural population dynamics of other wildlife populations or cause public safety concerns, requiring special management. Feral or domestic ducks and geese, dogs, cats, and horses are unnatural in the ecosystem and affect native wildlife through disturbance, predation, and competition for resources. A park visitor's experience can be disturbed by the sight or intimidating action of a stray or uncontrolled dog.

Brown-headed cowbirds are a management concern due to their habit of nest parasitism, which threatens native songbird species. Although not currently a problem in MacKerricher State Park, this species is spreading due to habitat changes throughout California and could be more common on the Mendocino coast in the future. Other native vertebrate species of concern are the skunks and raccoons that frequent the campground areas.

Ticks are invertebrate species of management concern on the Mendocino coast. Ticks are found in grassy or brushy areas, waiting to be brushed off onto warm-blooded hosts, including park visitors. Mendocino County is an endemic area for Rocky Mountain spotted fever, tularemia, and other tick-borne diseases. Up to four percent of the western black-legged ticks (*Ixodes pacificus*) in Mendocino County may harbor the Lyme disease organism and, therefore, pose a potential threat to visitor health.

Directive: When it is necessary to regulate animal populations, methods that are based on principles of ecosystem management, consistent with the general policies of the department, and that avoid disturbance to other natural values of the park shall be used. When control, removal, or other management actions are required, a specific management plan shall be developed which considers the biology and behavior of the species, the legal aspects, and the need for interpretive/educational elements (public relations work). Information on location, health hazards, avoidance measures, and Lyme disease symptoms could be made available to the public through signs or other means.

Releasing Wildlife

Animals that have been removed from the wild because of injury or have been subjected to unauthorized removal (such as the "rescue" of "abandoned" deer fawns), or animals which have been kept as pets, are often treated by groups or individuals with the intent of releasing the "rehabilitated" animal back into nature. Also, animals are occasionally captured and transported by well-intentioned persons from sites where habitat is being destroyed by development. Unfortunately, releasing these animals into established biological systems can disrupt natural processes and destroy stable ecosystems.

Directive: Wildlife should not be released into units of the State Park System unless the particular individual is known to have originated in the specific unit or unless there has been a determination of no detrimental impact. A department resource ecologist should be consulted prior to any release.

Western Snowy Plover

The western snowy plover (*Charadrius alexandrinus nivosus*), a threatened species on the federal endangered species list and a California species of special concern, occurs on the Mendocino coast. A decrease in the abundance of western snowy plovers was detected in the 1940s. During statewide surveys in the late 1970s, the birds were absent from 33 of 53 coastal segments in which breeding had been recorded prior to 1970.

These small shorebirds nest on flat, barren to sparsely-vegetated sand beaches from Baja California to northern Washington and in isolated saline sinks in the interior. Limiting factors for western snowy plovers include a decreased amount of nesting habitat, a degraded quality of habitat, an increased level of human activity, and a high level of predation. Colonization of beaches and dunes by aggressive European beachgrass as at MacKerricher State Park has resulted in dense vegetative cover. Visitor use, by both human foot and vehicle traffic, and uncontrolled domestic dogs are expected to increase in most publicly-owned areas where western snowy plover use has been documented. Dogs disturb other shorebirds as well as western snowy plovers and may destroy nests and young.

The bird was federally listed as threatened as of March, 1993. The petition for listing it on the California threatened and endangered species list has been initiated. As mandated by federal law for protection of the species, the department must consider the welfare of western snowy plovers in its management of State Park System lands. Surveys, habitat improvement efforts, and habitat protection, such as the closure of areas or beaches with possible nesting habitat, must now be seriously considered. If deemed warranted and necessary, access will be limited seasonally to beach areas below high tide line, leaving the sensitive areas of soft sand preferred for nesting undisturbed. Information on ground-nesting seabirds and shorebirds, snowy plovers in particular, and cautions against disturbing nesting birds should be posted.

Directive: The department shall protect and perpetuate western snowy plovers and their foraging and nesting habitat. The department shall survey appropriate areas for western snowy plover forage use and nest sites and assess the effects of European beachgrass and visitor disturbance on habitat. If deemed necessary, closures and habitat restoration efforts shall be initiated. Vehicle trespass and dog leash laws shall be strictly enforced. The western snowy plover is a listed species; the bird and its habitat are protected by federal law, so the department shall consult with the Department of Fish and Game and the U.S. Fish and Wildlife Service on the best management practices for the species' habitats within MacKerricher State Park.

CULTURAL RESOURCES DIRECTIVES

PREHISTORIC RESOURCES

Archeological Sites

Preservation, protection, and interpretation of archeological sites are statewide goals for management of cultural resources under the department's stewardship. Management of Native American sites is governed by state statutes and department policies and directives.

Thirty-one Native American archeological sites and one Euroamerican historical site have been located at MacKerricher State Park. The prehistoric sites consist of single component and stratified shell middens that represent Pomo and Coast Yuki occupation over

a 2,000-year period. These resources have demonstrated significance in research relating to cultural adaptations and processes in a heretofore poorly known area of the Mendocino Coast.

Archeological sites at MacKerricher State Park often coincide with habitat for special species, a factor which must be considered when any excavation is planned.

Directive: The department's objective is to preserve and protect the archeological sites within the unit. To this end, and in consultation with a department archeologist, a management plan shall be developed to guide preservation, research, and interpretation of the sites.

The plan shall focus particularly on sites threatened by erosion or other negative impacts. It shall incorporate allowances for research-oriented excavation as an important tool in increasing knowledge of ancient adaptations, as well as increasing the effectiveness of long-term management. Included in the plan will be a consideration of the level of threat, feasibility of preservation, available technology, cost factors, estimate of success, and other alternatives. Should preservation be deemed infeasible, the department shall develop and implement a data recovery program that includes research, excavation, curation, and interpretation of the archeological resources.

Any management plan for the archeological sites, whether planning for preservation or data recovery/excavation, shall consider impacts on special species, particularly Howell's spineflower habitat near Lake Cleone, Menzies' wallflower, and western snowy plover nesting habitat. No excavation shall be undertaken on the archeological sites at MacKerricher State Park without the prior review by and consent of a department resource ecologist.

Directive: No development involving ground disturbing activity shall be undertaken on the known prehistoric sites at MacKerricher State Park without prior review by and consent of a department archeologist.

Directive: The coastal erosion monitoring plan developed at MacKerricher State Park shall include prehistoric archeological sites as specific focus areas. Results of this program shall be incorporated on a continuing basis into the archeological management plan.

HISTORIC RESOURCES

The Haul Road and the Pudding Creek Trestle

The haul road and the Pudding Creek trestle are the visible remnants of a way of livelihood that has all but disappeared on the Mendocino coast. In some places where the haul road has been eroded, it is possible to see both the ties of the railroad and the pavement that lies on top of them. In improving and maintaining these for recreational use, it is important not to destroy existing historic fabric.

Directive: All restoration, improvement, and maintenance of the haul road and the trestle must be accomplished without damage to historic resources, except where visitor safety would be compromised.

The Barn

The barn contains a mixture of original and modern fabric. Except for the incongruous metal roof, its exterior retains the appearance of the historic structure. It serves a function (wood storage) that benefits visitors to the park and is not a negative impact on the fen watershed, in which it is located.

Directive: While the barn remains structurally sound so that it can continue to serve its current purpose, it should be retained. When the roof needs to be replaced, it should be replaced with materials matching those from the historic period.

NATIVE AMERICAN ACTIVITIES IN THE PARK

Native American Collecting

For untold generations, the littoral resources of this area were harvested by Coast Yuki groups within whose territory they lay. These same resources were also available by permission to neighboring Pomo and Cahto people, who traveled to the area to fish and to gather seaweed, shellfish, and other foods. These activities have persisted to the present day among local Native American communities, although coastal areas available to them have become increasingly restricted. Although MacKerricher State Park was a traditional native foods collection area in the past and may become important again in the future, at the current time large numbers of tourists discourage use of the area by Native Americans for this purpose.

Perpetuation of food gathering traditions is an element of their heritage and present culture that many local Native Americans value highly. Dried seafoods play a central role in religious ceremonies and are reported to provide important dietary supplements for some traditional individuals. Consequently, local native communities have shown considerable interest in perpetuating the harvest of seafoods along the Mendocino coast.

The department's Native California Indian Gathering Policy (1985) recognizes the value of such traditions, specifying its obligation to "foster cultural continuity by permitting certain traditional ethnic groups to use traditional resources in units of the State Park System." This policy also recognizes the department's role in interpreting such traditions and mandates that "management policies covering gathering will regularly be incorporated in general plans."

Directive: The department shall support local Native Americans who are members of tribal groups and organizations that have historically used the area in continuing traditional gathering practices and related activities. These practices and activities must not be destructive to the natural and cultural resources of the unit and must be appropriate to the unit's purposes. The department may establish procedures to ensure that recognition under this directive is given specifically to members of groups that have historically used the area if interest in use of this area returns.

Directive: To ensure that gathering does not threaten plant and algae populations, collection of these resources will be monitored by department resource ecologists. No commercial harvesting of these or any other resources shall be permitted.

Directive: For purposes of traditional gathering, authorized Native Americans and their families shall be allowed access to the unit for no fee and shall

be allowed to gather traditional resources consistent with department policies on gathering in State Park System units.

Directive: The department will work with local tribal groups and organizations to interpret traditional gathering and related activities at the park, to ensure the preservation of the park's resources, and to clarify Department of Fish and Game codes that apply to intertidal resources.

ESTHETICS AND RECREATION

Scenic Preservation

The scenic qualities of the Mendocino coast are well known. It is the visual quality and the accessibility of the area that draw visitors, as well as new residents. The diverse landscape of this part of the coast offers visitors a variety of scenic experiences from the ocean to the land, from wide open views of the sea, coastline, and dunes to the wooded hills of California's Coast Range. Negative visual impacts include residential/rural development and heavy industrial uses adjacent to the park. As the area around MacKerricher State Park rapidly develops with both residential and commercial uses, it is becoming increasingly important to protect the park's scenic resources.

Coastal visual resources are currently protected by policies contained in the Mendocino County Local Coastal Program (LCP). Obstruction of coastal views from public areas and from State Highway 1 is specifically prohibited. Highway 1 is in close proximity to the park, and visitors traveling on the highway represent the great majority of those who enjoy the park's esthetic resources.

The park's scenic resources may be protected in a variety of ways. Development can be integrated into the environment through the use of appropriate siting techniques, scale, materials, and colors. Major park facilities can be located in areas close to the park's periphery and where most accessible by motor vehicles, at the same time preserving ocean views from Highway 1, as called for in the Mendocino County LCP. Land use or facility development that significantly impairs or detracts from views available to motorists passing by the park should not be permitted. Signs should be kept to a minimum and strategically located.

Directive: The department's objective is to protect the scenic resources of MacKerricher State Park from all unnecessary degrading intrusions, both within the park and within its viewshed.

Trail Development

Hiking trails are the primary means for visitors to experience park's undeveloped areas. They are a critical component of any development plan. Unless well planned and maintained, they may constitute a significant environmental impact in terms of esthetics, altered surface drainage, and damage to vegetation and cultural sites. In addition, trails may bring visitors to areas with sensitive plant and/or wildlife populations, which require special protection.

Directive: New trail construction shall minimize effects on natural, cultural, and scenic resources. Proposed trail routes shall be reviewed by a department resource ecologist and a department archeologist to evaluate impacts and shall be approved by the District Superintendent. All unauthorized existing trails shall be abandoned and restored to natural contours and conditions.

RESOURCE MANAGEMENT ZONES

The development of Resource Management Zones (RMZs) for MacKerricher State Park was achieved through an analysis of natural conditions, cultural features, and current human use patterns for each of the park's ecological units and cultural resource sensitivity areas. Of particular importance were physical constraints, including geologic hazards, soil limitations, and areas of flood and tsunami inundation (Map 4), special plants and rare natural communities (Map 5), special animals and habitats (Map 6), and areas of cultural resource sensitivity (Map 7). These maps all appear in Appendix B.

DEVELOPING RESOURCE MANAGEMENT ZONE POLICY

It is the goal of the Resource Element to provide geographically specific guidance for the management of natural and cultural resources. The following describes the decision-making process used to achieve this goal.

Development of policies begins with evaluation of the ecological units and cultural information presented in the Resource Summary that began on page 23. Evaluation of natural and cultural features helps decide the resource management approach most appropriate for a given area. Resources in the State Park System are generally managed under one of four approaches briefly described below:

1. **Natural Process Management:** Nature is recognized as a dynamic system with a complex of processes and interactions. Under this approach, natural processes are allowed to occur with minimal interference. Where they have been altered or interrupted by human influence, attempts are made to restore processes to a natural condition.
2. **Cultural Area Management:** This type of management is appropriate in areas of historical or archeological significance, where cultural features are given highest priority. Historic zones and historic landscape scenes and settings are managed under this approach.
3. **Recreation Enhancement:** Management to enhance visitor appreciation of natural and cultural resources in areas devoted to recreational pursuits calls for unique resource management approaches. For instance, management of natural vegetation in campgrounds may be based on ecological knowledge, but vegetation would be controlled to enhance visitor safety and facility maintenance.
4. **Special Protection:** Giving management priority to a specific element or condition is sometimes required or suggested by legislation earmarking acquisition funding by unit classification, by declaration of purpose, or by federal, state, or local laws. Archeological site or scenic viewshed protection, rare species or rare habitat management, and management for a specific successional stage (e.g. at Kruse Rhododendron State Reserve) are all examples of special protection.

After an approach, or a blend of approaches, has been decided, geographically-based resource management zones (RMZs) are delineated. These are founded primarily on ecological units and cultural sensitivity areas. Specific resource management objectives and policies are then developed for each RMZ. More than one management approach can apply to a single geographic area. In situations where management approaches may conflict, resolving conflicts and identifying priorities can be guided by the intent of the unit's classification and the declaration of purpose, as well as by professional judgment. The final RMZ may consist of subdivisions of ecological units, so that geographically-based conflicts between approaches can be resolved. Alternatively, an RMZ may include two or more ecological units with similar management approaches and objectives. Resource management approaches are not land-use designations. Rather, they are philosophies or strategies that guide development of resource management objectives and policies and provide a basis for recommendations made in the

**Mackerricher State Park
GENERAL PLAN**

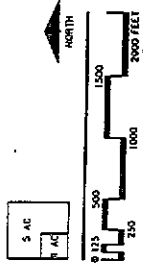
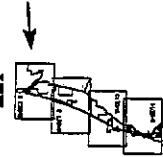
Map No. 8
Resource Management Zones
Northern Section of the Park
RESOURCE ELEMENT



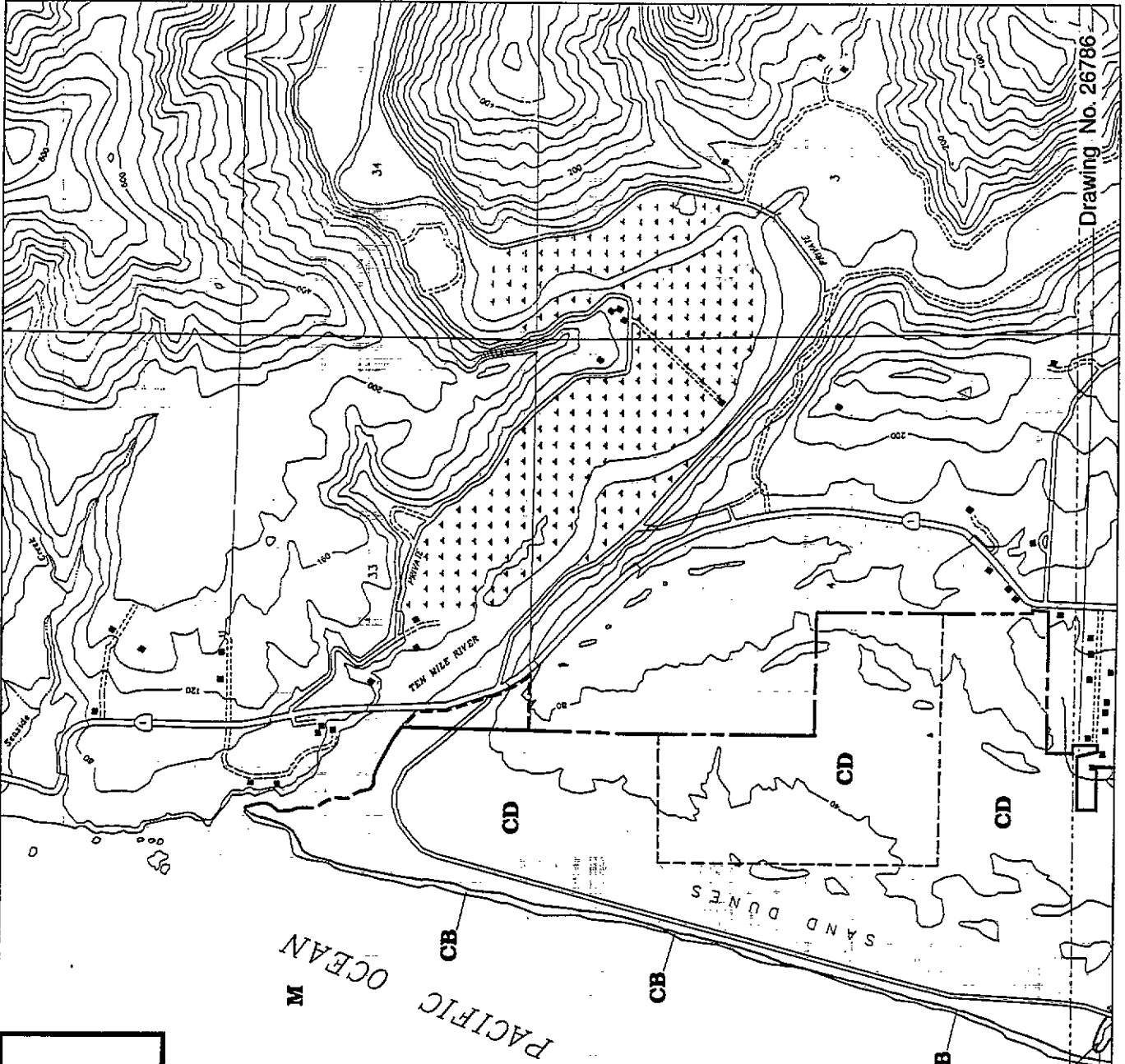
LEGEND

- M MARINE RMZ
- CB COASTAL BEACH RMZ
- CD COASTAL DUNE RMZ
- RW RIPARIAN/WETLANDS RMZ
- CP COASTAL PRAIRIE RMZ
- CF COASTAL FOREST RMZ
- CT COASTAL TERRACE RMZ
- CBL COASTAL BLUFF RMZ
- CL COASTAL LAGOON RMZ
- IF INGLENOOK FEN RMZ
- LC LAKE CLEONE RMZ
- STATE PARK BOUNDARY
- PRIMARY HIGHWAY
- PAVED ROAD
- UNPAVED ROADS
- TRAILS
- INTERMITTENT STREAMS
- PERENNIAL STREAMS
- CALIFORNIA GRANT-FUNDED ADDITION 94/95 F.Y.
- B.L.K. LEASE

**MAP SHEET
KEY**



MATCH LINE TO SHEET TWO



MackERRICHER STATE PARK
GENERAL PLAN
 Map No. 8
 Resource Management Zones
 North Central Section of the Park
RESOURCE ELEMENT



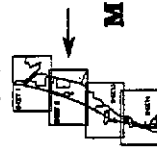
LEGEND

- M MARINE RMZ
- CB COASTAL BEACH RMZ
- CD COASTAL DUNE RMZ
- RW RIPARIAN/WETLANDS RMZ
- CP COASTAL PRAIRIE RMZ
- CF COASTAL FOREST RMZ
- CT COASTAL TERRACE RMZ
- CBL COASTAL BLUFF RMZ
- CL COASTAL LAGOON RMZ
- IF INGLENOOK FEN RMZ
- LC LAKE CLEONE RMZ

- STATE PARK BOUNDARY
- PRIMARY HIGHWAY
- PAVED ROAD
- UNPAVED ROADS
- TRAILS
- INTERMITTENT STREAMS
- PERENNIAL STREAMS
- EXISTING BUILDINGS

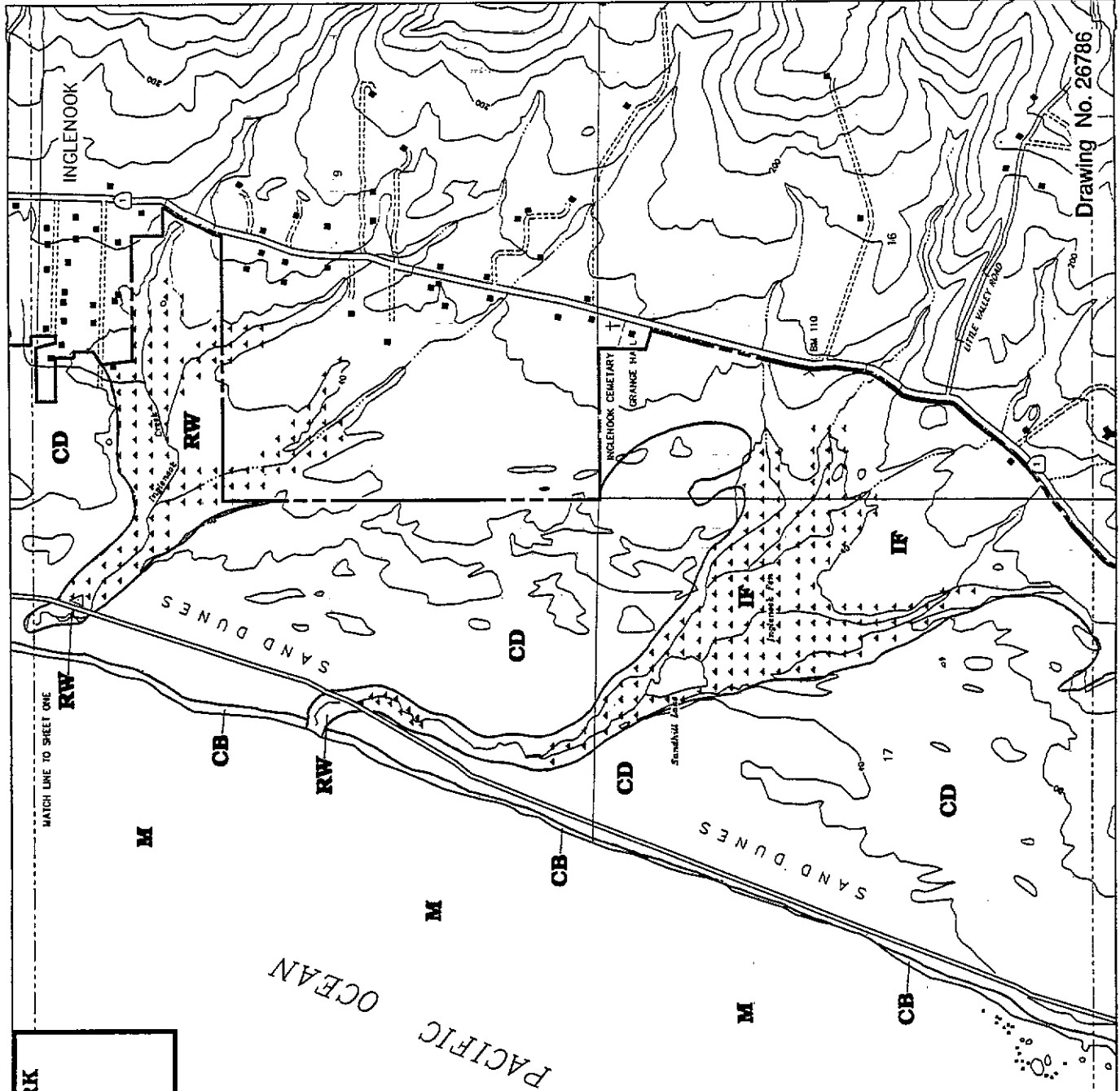


MAP SHEET KEY



MATCH LINE TO SHEET THREE

Drawing No. 26786

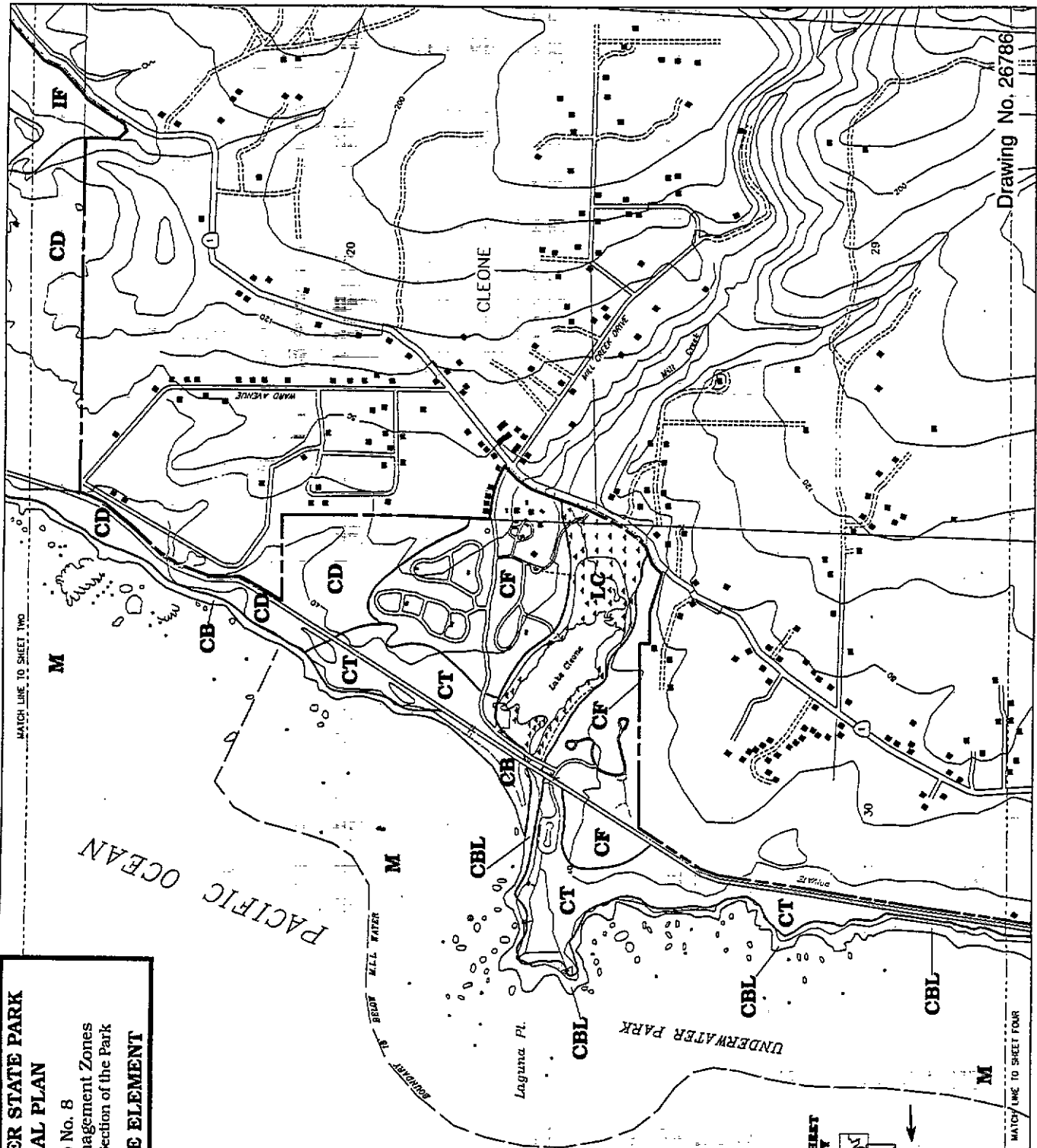
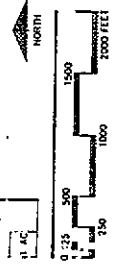
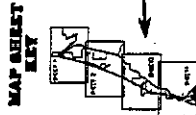


MACKERRICHER STATE PARK
GENERAL PLAN
 Map No. 8
 Resource Management Zones
 South Central Section of the Park
RESOURCE ELEMENT



LEGEND

- M MARINE RMZ
- CB COASTAL BEACH RMZ
- CD COASTAL DUNE RMZ
- RW RIPARIAN/WETLANDS RMZ
- CP COASTAL PRAIRIE RMZ
- CF COASTAL FOREST RMZ
- CT COASTAL TERRACE RMZ
- CBL COASTAL BLUFF RMZ
- CL COASTAL LAGOON RMZ
- IF INGLENDOK FEN RMZ
- LC LAKE CLEONE RMZ
- STATE PARK BOUNDARY
- PRIMARY HIGHWAY
- PAVED ROAD
- UNPAVED ROADS
- TRAILS
- INTERMITTENT STREAMS
- PERENNIAL STREAMS
- EXISTING BUILDINGS
- UNDERWATER PARK BOUNDARY



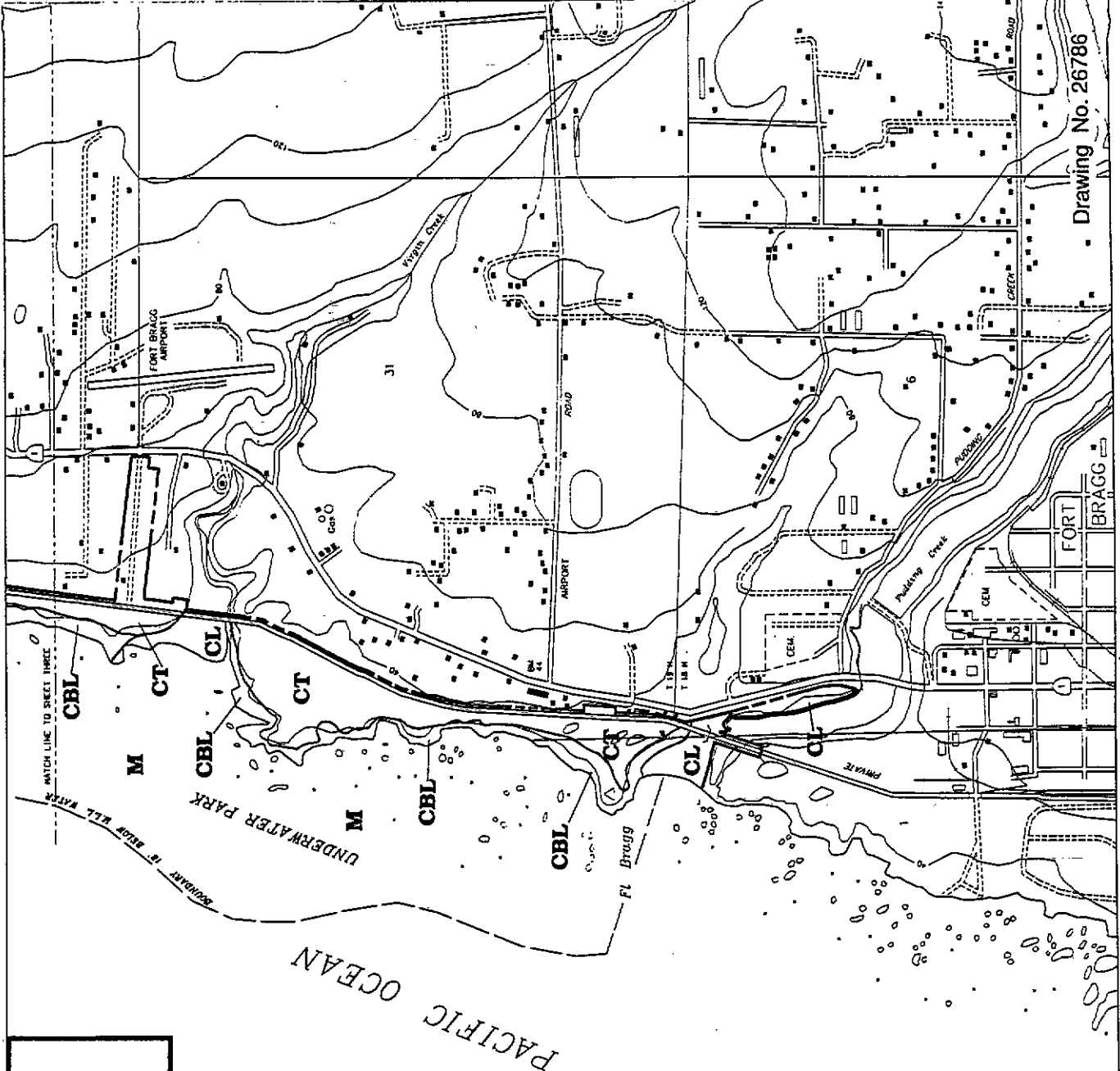
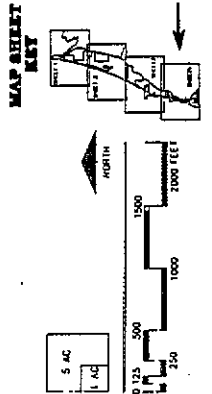
Drawing No. 26786

MACKERRICHER STATE PARK
GENERAL PLAN
 Map No. 8
 Resource Management Zones
 Southern Section of the Park
RESOURCE ELEMENT



LEGEND

- M MARINE RMZ
- CB COASTAL BEACH RMZ
- CD COASTAL DUNE RMZ
- RW RIPARIAN/WETLANDS RMZ
- CP COASTAL PRAIRIE RMZ
- CF COASTAL FOREST RMZ
- CT COASTAL TERRACE RMZ
- CBL COASTAL BLUFF RMZ
- CL COASTAL LAGOON RMZ
- IF INGLENOOK FEN RMZ
- LC LAKE CLEONE RMZ
- STATE PARK BOUNDARY
- PRIMARY HIGHWAY
- PAVED ROAD
- UNPAVED ROADS
- TRAILS
- INTERMITTENT STREAMS
- PERENNIAL STREAMS
- EXISTING BUILDINGS
- UNDERWATER PARK BOUNDARY



Land Use Element.

The next step in the process is to establish specific objectives for resource management for each RMZ. Directives are then designed to achieve resource management objectives.

The final result of the process to designate RMZs for all areas within the unit. Each RMZ has an identified management approach or a combination of approaches, ranked resource management objectives, and, when necessary, directives designed to meet specified objectives. Both the objectives and the policies for the RMZs are intended to guide the department in achieving the broader goals of the State Park System. Objectives and directives with broad, unit-wide or regional application were previously presented under the heading, "Resource Management Directives — Park-wide".

RESOURCE MANAGEMENT ZONE DESCRIPTIONS AND DIRECTIVES

Presented below are the individual RMZs developed for MacKerricher State Park. Each RMZ constitutes a distinct geographic area (see Map 8). Included below for each RMZ is a brief summary of the management approach and a ranked list of resource management objectives. Where needed, specific policies have been developed to achieve stated objectives.

MARINE RMZ

This RMZ includes all portions of the park from the high tide limit seaward. This area should be managed under the principles of natural process management. However, there is some conflict between this and the management of certain marine organisms under the jurisdiction of the Department of Fish and Game. Sport and commercial harvest of various marine organisms has and continues to alter natural conditions.

The Department of Parks and Recreation has authority to enforce certain statutes according to PRC 5003.05 which states:

Rules and regulations adopted pursuant to Section 5003 shall also apply on any granted or ungranted tidelands or submerged lands abutting property of the Department and used for recreational purposes by members of the general public in conjunction with their use of the Department's property between the boundary of the lands under the jurisdiction of the Department and a line running parallel to and 1,000 feet waterward of the ordinary high water mark, so long as the rule or regulation being applied is not inconsistent with any rule or regulation of any other public agency which is applicable to those tide or submerged lands.

Resource Management Objectives:

1. Preserve and protect ecosystem processes and elements;
2. Give high management priority to sensitive species and habitat protection;
3. Pursue development of an agreement with the Department of Fish and Game to limit abalone, urchin, and kelp harvest in the underwater portion of the park;
4. Protect the park from offshore development influences.

Offshore Petroleum Development

The federal government has placed a moratorium on petroleum development off the northern California coast until the year 2001. However, oil development along the Mendocino coast is a possibility during the life of this general plan. Petroleum development would result in the construction of offshore platforms and would also require substantial onshore development for support facilities during all phases of oil exploration, development, and production.

Onshore Impacts: If petroleum reserves were to be developed, the onshore support facilities might include marine supply terminals, petroleum refineries, pipelines, and construction yards. Traffic on local highways would increase and local airports would become helicopter support bases for air supply to the petroleum platforms, creating a visual and acoustic distraction within adjacent State Park System units. Highly lighted and visible platforms would affect open ocean vistas.

Marine Impacts: Sea conditions are usually rough and winds tend to be onshore on the Mendocino coast, making oil recovery an improbability and clean up activities extremely difficult in the event of a spill. Rocky headlands, offshore rock sea stacks used by seabirds as rookeries, and pocket beaches would be nearly impossible to clean. Local fisheries might also be impacted by a spill.

Directive: If petroleum reserves are developed along the Mendocino coast the department shall implement the following:

1. Prohibit access to or across lands and waters within its jurisdiction for the purpose of any activity associated with offshore oil development having the potential to damage or impair State Park System values and resources. This prohibition shall apply to all oil companies and companies associated with oil exploration, development, production, or transportation. The department shall work with other state and county agencies to insure that DPR ownerships are protected and, if damaged, a restoration program instituted.
2. Cooperate with other responsible agencies to develop a regional oil development response plan to delineate issues and management concerns in coastal Mendocino County. The department shall be involved in the development and operation of an oil spill response network.
3. Initiate an ecological monitoring program in tidal and subtidal areas in order to establish baseline information and develop criteria to assure replacement of natural and/or cultural resources that may be damaged or lost due to oil development impacts.

Submerged Subtidal Lands Lease

Underwater resources offshore at MacKerricher State Park are of statewide significance, including diverse habitats associated with tidepools, rock sea stacks, and varied underwater topography. Biologically, this area is valuable due to the diversity of habitats and marine invertebrates. Recognition of this unique marine area and additional protection from commercial and sport harvest are considered necessary to help assure perpetuation of the resource.

Underwater additions to units are established in areas of unique biological resources or to promote recreational diving experiences. MacKerricher State Park includes 454 acres offshore stretching from Pudding Creek to north of Lake Cleone designated as an underwater addition of "tide and submerged lands leased to the Department of Parks and Recreation for marine reserve purposes." To include the rest of the tide and submerged lands adjacent to the park would require the lease of the designated area from the State Lands Commission.

Directive: The department shall petition the State Lands Commission for a lease of the remainder of the subtidal lands adjacent to MacKerricher State Park and extending 1,000 feet seaward. Once the lease is acquired, the area shall be managed to perpetuate significant natural values.

Protection of Intertidal Life

A diverse marine ecosystem exists adjacent to MacKerricher State Park. Heavy visitor use of the intertidal marine resources at the park could adversely affect the offshore underwater environment.

Directive: The intertidal marine resources of MacKerricher State Park shall be considered an important resource and protected as such. Marine ecosystem management should include protection of intertidal ecosystems (particularly tidepool habitats), and enforcement of applicable regulations concerning extraction of marine resources, stressing informing the public of existing state laws.

Recreational uses in the underwater environment at the park shall be consistent with its classification and shall not have a significant adverse impact on marine intertidal resources. If public use of the park results in a significant adverse impact on marine intertidal resources, these areas may be closed temporarily in order to implement rehabilitation efforts.

COASTAL BEACH RMZ

The Coastal Beach RMZ is the sandy strand shoreline in the northern half of the park extending from Laguna Point to Ten Mile River. This RMZ is used most intensively in the Lake Cleone area where there is easiest access, abundant parking, and where the highest concentration of visitors occurs. Access is also available at Ward Avenue with limited parking. The remainder of the area is regularly used by beach walkers and offers a chance for solitude and contemplation.

Resource Management Objectives:

1. Minimize development impact on scenic values;
2. Protect the unit from offshore development influences;
3. Maintain natural processes at river and creek mouths.

Monitoring Erosion and Sand Loss

Beach erosion and sea cliff retreat have been recognized as serious threats to archeological sites, facilities, and visitor use of State Park System coastal units. Better baseline information on erosion rates is needed to plan for resource management, appropriate land use, and visitor safety.

Directive: A monitoring program shall be established to document: 1) sea cliff retreat, 2) landslides, 3) beach elevation, 4) beach width, and 5) dune migration. The program should include comparison of historical and recent aerial photographs, ground photos with explanations, and installation of permanent monuments. It should be coordinated with any data collection efforts by the U.S. Geological Survey, U.S. Army Corps of Engineers, and the California Department of Boating and Waterways. If excessive or unnatural erosion is detected through monitoring, the Department of Parks and Recreation shall approach the problem as specified in the Shoreline Protective Devices directive (see page 80).

Stranded Marine Mammals

MacKerricher State Park provides habitat for both harbor seals and California sea lions. Occasionally, these marine mammals become stranded or beached for a variety of often unknown reasons. They could be sick or injured animals, abandoned or orphaned pups, or animals merely resting on the beach. During the spring months, females may pup, or give birth, on the beach. During the winter, animals may be found on the beaches during or after storms. If left alone, most of the animals are gone within a day. However, well-meaning visitors can become concerned about the welfare of an animal and may take inappropriate actions which could result in endangering the animal and/or themselves.

Any recovery efforts should be coordinated with the assistance of the National Marine Fisheries Service by contacting the Stranding Coordinator. The Marine Mammal Center, a non-profit organization licensed to rescue marine mammals from San Luis Obispo to the Oregon border, can be contacted for further intervention. Standard signs quoting federal regulations protecting marine mammals are available from the National Marine Fisheries Service.

Directive: If a marine mammal is found on the beach and an injury is not readily apparent, the animal shall not be touched. It shall be watched and protected from harassment for 24 hours. If public contact is considered a problem, the site can be signed. If a visitor brings an animal to the park office, the visitor shall be instructed in the proper procedures, and the animal shall be returned to the site from which it has been removed, and watched.

All stranded marine mammals, particularly if the animal is a whale or a dolphin, is obviously injured, or does not leave within a reasonable amount of time, should be reported to the National Marine Fisheries Service. Because not all situations are alike, the approach toward a stranded marine mammal shall depend on the discretion of the park ranger.

COASTAL DUNE RMZ

The Coastal Dune RMZ consists of the Ten Mile Dunes inland of and adjacent to the Coastal Beach RMZ and encompasses the majority of the northern half of the park.

Resource Management Objectives:

1. Restore natural vegetation and geologic processes to dune systems wherever possible;
2. Preserve and protect sensitive species and critical habitat;
3. Develop recreational access consistent with natural processes.

Sand Dunes

The coastal dune landscape at MacKerricher State Park is largely due to the serendipitous combination of the southerly littoral drift of sand and a northeastwardly oriented, gently rising coastline receptive to sand driven shoreward by northwesterly winds.

Dunes are an ephemeral geomorphic feature, attuned to natural changes but less so to human influences. Sand dunes form a zone sensitive to disturbance and rapid instability whether vegetated or not. Development in conflict with natural dynamic processes, overuse,

and displacement of native vegetation by non-native species can quickly degrade dune habitat. Physical, biotic, and human factors interact with great complexity in the coastal zone. Understanding each of these factors in order to assess which can or should be controlled by management requires ecological and historical surveys of trends and patterns of site development. If ever-increasing demands of coastal development and recreation are to be balanced with conservation of dune form and biotic diversity, study of dune environment response to human influences will be necessary. Preventing future resource impairment is dependent upon establishing comprehensive baseline research and monitoring work.

Directive: The department shall develop an ongoing program of ecological and historical surveys of trends and patterns of site development. These studies and analyses shall make up a Dune Resource Management Plan. This plan shall be used as the flexible management tool required to effectively respond to natural change within the dynamic dune system and to balance human use with biotic diversity and conservation of geomorphic form. These surveys should include:

1. Large-scale baseline topographic surveys against which all management work and change can be noted;
2. Dune vegetation survey maps to pinpoint areas of change, deterioration or evident imbalance and to assess the effectiveness of revegetation and dune stabilization projects;
3. Periodic mapping and census of special plant populations;
4. A geomorphic survey to clearly identify all features of the dune system, areas of deterioration or imbalance, and the relative stability of the system as a whole over time;
5. Historical research to establish past changes in the coastline, site topography, and use; and
6. A current use survey to assess human use patterns and needs, necessary access points, development of foot trails, and the relative importance of various types of use.

The foredunes, those dunes closest to the beach, are active landforms that should be considered temporary features. The typically barren appearance of foredunes frequently leads to the assumption that they are resistant to human influences. Unfortunately, the natural balance of the dune system can be destroyed by passage of off-road vehicles or excessive foot/equestrian traffic along unofficial trails. This type of uncontrolled or unmonitored access can cause wind-funnel erosion along trails, loss of fragile sand-trapping and stabilizing vegetation, and loss of animal habitat. It may also contribute to increased erosion by surf action and can permanently remove sand from the beach by causing dunes to migrate inland (downwind). In addition to the depletion of beaches, the effect of migrating sand on human activities may be hazardous and expensive to control.

Directive: Trail development and access management to prevent or reduce erosion of dunes and to protect native plant and animal habitat shall be a high priority. Educational and recreational features such as nature trails, view points, and horse trails shall be created as an alternative to free-range use of the dune area.

Local erosion followed by dune regeneration is a natural dynamic process in the dune environment. Therefore, management of the dune system is never likely to be static. As the

balance of the natural system shifts in response to weather events and human influences, paths will need to be realigned and different areas will require stabilization in the form of planting and protective fencing, rather than developing and attempting to move permanent but expensive and inflexible pathways and structures.

Directive: The department shall develop access points and trails using techniques and materials that are in harmony with the natural dynamics of the dune system and fit as naturally and unobtrusively as possible into the dune environment. If inflexible structures must be used, they will be considered expendable and will not be protected against natural forces.

European Beachgrass

There has been tremendous spread of European beachgrass in MacKerricher State Park. From an area of concentration near Ten Mile River, where it forms an almost solid turf for nearly a mile, it is expanding southward along the foredunes in clumps and patches. This highly invasive exotic plant has largely destroyed the original dune forms and native dune vegetation and has completely disrupted the unique and sensitive ecology of the dunes. European beachgrass may be a significant factor in the decreased use of the park for nesting by western snowy plovers, a special status species whose habitat is protected by department management objectives. As a highly disruptive force in the ecology of the sensitive Natural Preserve portion of the park, European beachgrass should be controlled as soon as possible. Management activities shall concentrate in the foredunes where the conflict with sensitive species is the greatest, and shall investigate revegetation with native dune vegetation that will not conflict with the nesting needs of western snowy plovers for paths to the beach.

Directive: The department shall assess the feasibility and effectiveness of eradicating or controlling European beachgrass and replacing it with native species to stabilize and enhance biotic diversity and the geomorphic integrity of the dune-scape. Any management plan developed for European beachgrass shall consider adjacent local property owners and their concerns with dune mobilization and encroachment.

Dune Stabilization Project Completion

The dune stabilization project at MacKerricher State Park was initiated in 1985 with a contract to the California Conservation Corps (CCC). Information on dune stabilization methodology was gained from the project. A combination of treatments and sand fences helped stabilize the dune adjacent to Inglenook Fen. The results of the treatments were summarized in the Resource Management Status and Completion Reports of 1986/87. However, labor costs exceeded those specified in the agreement and the CCC did not entirely complete the project. Fencing and associated materials remain in the dunes, and open spaces were left in the protective sand fence barriers.

Directive: The department shall remove materials remaining after this dune stabilization project and any future projects in the dunes.

COASTAL BLUFF RMZ

The Coastal Bluff RMZ consists of the shoreline in the southern half of the park. This is a rocky shoreline interspersed with small pocket beaches that is subject to dynamic erosional change, caused both by natural (due to the sea) and introduced (due to the visitors) factors.

Special plant species, plant communities, and archeological sites are all impacted by visitor trampling.

Resource Management Objectives:

1. Preserve and protect ecosystem processes and elements;
2. Protect special species and their habitats;
3. Protect the unit from offshore development influences;
4. Protect archeological sites;
5. Develop recreational access that allows for natural geologic and ecosystem processes to occur.

Sea Cliff Retreat

Sea cliff retreat is an ongoing natural process that should be considered when designing and placing facilities near bluff edges. The average rate of cliff retreat is difficult to determine because of the variations in the rates of erosion of different types of rock.

Directive: A zone of exclusion shall be established to include the base, face, and top of all bluffs and cliffs extending inland to a plane formed by a 45-degree angle from the horizontal at the base of the cliff or bluff. No new permanent structures shall be constructed within this zone. A zone within which stability must be demonstrated shall be established in the park to extend inland from the zone of exclusion to the intersection of the ground surface with a plane inclined 20 degrees from the horizontal from the toe of cliff or bluff.

Shoreline Protective Devices

Other than continuing erosion of the haul road, there are currently no known threats to public or private developments by beach or bluff erosion occurring at MacKerricher State Park. However, as the coastline continues to change and erode, beach segments could someday be suggested for protection by riprap, revetments, seawalls, or other structures to protect public or private developments. Structural protective measures are not consistent with the general objectives for resource management within the State Park System.

Directive: The department shall cooperate in developing regional, non-structural solutions to coastal erosion problems and shall undertake structural protective measures only if bioengineering or other non-structural measures (i.e. relocation of a facility, or setback, redesign, or beach replenishment) are not feasible. If a protective structure is constructed (riprap, rock revetment, seawall, etc.), the structure shall not:

1. significantly reduce or restrict beach access;
2. significantly affect shoreline processes and sand supply;
3. significantly increase erosion on adjacent properties;
4. cause harmful impacts on vegetation, wildlife, or fish habitat;
5. be placed farther than necessary from the development requiring protection; or
6. create a significant visual intrusion.

COASTAL TERRACE RMZ

The Coastal Terrace RMZ is found primarily in the southern half of the park landward of the coastal beach and bluffs and west of the haul road. Coastal prairie areas adjacent to Inglenook Fen in the northern part of the park are also part of this RMZ. The Coastal Terrace RMZ also includes a small parcel extending from Highway 1 to the haul road west of the Fort Bragg Airport, as well as Laguna Point and the flat area north of Lake Cleone and west of Pinewood Campground.

Although the home of several sensitive native plant species, as well as a freshwater seep and north coastal scrub, both rare natural communities, this RMZ is dominated by exotic plant species, from non-native grassland to Monterey cypress trees in the Laguna Point parking area and the carpet of seafig northwest of Lake Cleone. Restoration of the native plant community is the primary resource management goal for this area. Restoration efforts should not endanger special plant populations or archeological sites. Prescribed fire may be a useful tool for restoring and maintaining a native grassland.

This RMZ withstands high recreational use in the Laguna Point and Lake Cleone areas. A boardwalk helps to delineate trails on a portion of Laguna Point, while the horseback riding concession impacts the terrace north of Lake Cleone.

Resource Management Objectives:

1. Preserve, protect, and restore ecosystem processes and elements;
2. Protect special species and their habitats, especially fresh water seeps;
3. Protect archeological sites;
4. Protect the open space/feel of the terraces;
5. Develop recreational access compatible with the above objectives;
6. Remove non-native tree species where appropriate.

Coastal Terrace Vegetation Management

A number of documented human uses have altered natural processes and, subsequently, vegetation composition at Laguna Point and the area west and north of Lake Cleone. For 40 years, Laguna Point was used as a loading and shipping port for lumber milled in the area. Some of the coastal terrace grasslands in the Lake Cleone area were under agricultural production for several decades in the late 1800s. The haul road, built in 1914-1916, has affected sand deposition, dune movement, and dune stabilization in this area.

All of these uses have contributed to disruption of natural processes and may have affected the dynamic balance between forest and grassland ecosystems. Currently, beach pine forest north and south of Lake Cleone is expanding westward into the coastal prairies, which may be a return toward the pristine condition or an invasion into a new location.

Directive: The department shall conduct a study to determine the pre-Euroamerican conditions and vegetation of Laguna Point and the adjacent area around Lake Cleone. Information collected in this study will be incorporated into the park-wide Vegetation Restoration and Management Plan. This study shall include pollen and phytolith analysis in conjunction with soil morphology studies in order to determine the pre-Euroamerican state of the vegetation. In the development of the coastal terrace/Lake Cleone portion of the plan, the California Department of Fish and Game Endangered Plant Specialist

or the Northern District Plant Ecologist will be consulted, particularly regarding protection of Howell's spineflower (*Chorizanthe howellii**).

COASTAL FOREST RMZ

The Coastal Forest RMZ occurs on the marine terrace north and south of Lake Cleone, west of State Highway 1, and east of the Coastal Terrace RMZ. The majority of visitor use at MacKerricher State Park is concentrated in this RMZ, mainly in the campground areas north and south of the lake and the administrative area near the park entrance and adjacent to the highway. Although it is dominated by northern Bishop pine forest, a rare natural community, and there is a special plant species located here, the primary management goal for this RMZ is recreational enhancement.

Large trees in the campgrounds pose a significant safety issue. As the forest matures and trees reach large size, the combination of tall stature, evergreen foliage, tree diseases, induced shallow rooting, sandy soil, seasonal soil saturation, and openings in the canopy caused by installation and operation of visitor use and administrative facilities make the trees susceptible to failure, particularly during winter storms.

Other recreation/vegetation issues in this RMZ include numerous volunteer trails from the campgrounds to the dunes and beach and the apparent succession/recolonization and westward expansion of the forest across the coastal terrace west of the campgrounds and north of Lake Cleone, both of particular concern due to impacts on *Chorizanthe howellii* habitat.

Careful management of natural resources and recreational development is necessary in this RMZ to maximize the visitor experience, visitor safety, and resource protection.

Resource Management Objectives:

1. Enhance visitor appreciation and enjoyment of park natural resources (esthetically and interpretively) through appropriate visitor facility design, development, and management and through interpretation of resources;
2. Avoid impacts of development on the viability of Bishop and beach pine forests;
3. Protect the sensitive species *Chorizanthe howellii* and its habitat;
4. Remove non-native or non-indigenous vegetation: Monterey cypress, Monterey pine, coast redwood, English ivy, scotch broom, and Australian fireweed; at Laguna Point, remove Monterey cypress as native replacements reach equivalent size;
5. Minimize the general campground facility and vegetation deterioration brought on by visitor use and vandalism;
6. Maintain an acceptable level of safety for visitors and employees;
7. Maintain a stable native forest community free from dramatic natural disturbances.

Campground Vegetation Management

Within the past two decades, the Bishop pine/beach pine forest in and around the campgrounds and the administrative area has begun to deteriorate due to shallow soil, human traffic and vandalism, disease and insect impacts, and regular severe storms. Many large trees have been uprooted or broken or removed due to safety concerns.

Directive: The department shall develop and implement a vegetation management plan for this RMZ which will identify site problems, long term management objectives, and campsite modifications.

RIPARIAN/WETLAND RMZs (PARK-WIDE)

The Riparian/Wetland RMZs consist of those resource management zones that contain riparian and/or wetland habitats and include, from north to south, the immediate watersheds of Inglenook Creek, the Fen Creek-Inglenook Fen-Sandhill Lake complex, and Lake Cleone. These watersheds correspond respectively to the Riparian/Wetland, Inglenook Fen, and Lake Cleone RMZs. The Inglenook Fen complex and Lake Cleone have several interrelated issues which require specific directives and will be discussed separately following the general riparian/wetland discussion.

MacKerricher State Park includes the lower reaches of several streams that are an important portion of the riparian corridor for stream dynamics and for fish habitat. The Inglenook Creek watershed is surrounded by the dunes and receives very little use. Activities in these zones should be guided by principles of natural process management. Maintenance activities for streamside roads should not reduce or degrade aquatic habitat. The following directives apply to all riparian RMZs.

Resource Management Objectives:

1. Preserve and protect riparian ecosystem processes, allowing natural fluvial processes to occur whenever possible and protecting natural development of riparian vegetation;
2. Protect sensitive species and their habitat;
3. Protect riparian ecosystem from deleterious upstream influences.

Riparian Zone Geomorphology

Natural rivers and streams have an equilibrium in which the components of the fluvial system including watershed, length, slope, width, floodplain, channel depth, and bed form evolve in relationship with each other. Equilibrium is expressed in the natural patterns and dimensions that result from a stream's or river's ability to effectively transport the full amount of water and sediment supplied by its watershed. The equilibrium derived from the proper relationship of these components to one another determines the character of the watercourse and results in a diversity of stream bank and floodplain vegetation and habitat necessary for aquatic and terrestrial riparian life.

Directive: Wherever a watercourse is not in equilibrium, the proper relationship of one fluvial component to another shall be determined and rehabilitated whenever possible. So that natural dynamic processes shall be protected and/or rehabilitated, if a watercourse or floodplain must be modified for any reason, the natural fluvial components of the system shall be determined and incorporated into the proposed project whenever possible.

Trail access in the riparian corridor where developed and maintained shall be compatible with natural resource values and shall not disrupt or interfere with the natural dynamics of the watercourse.

Permanent engineered structures are in conflict with the flexibility demanded by the dynamic processes of rivers and streams. These structures inevitably require protective measures that are inconsistent with the general objectives for resource management in the State Park System.

Directive: Flood control measures taken by the department shall not include structures or devices that impede the natural periodic inundation of

the riparian corridor or that impose unnatural fluvial processes. The construction of new structures and/or permanent facilities shall be avoided in the riparian corridor.

Wetland Soil Constraints

Water interacting with soil texture has a strong influence on soil strength. Water weakens the bond between soil particles and makes it easier for them to shift and compact under a load. Human, animal, and wheel traffic damage wetland soils by destroying vegetation and compacting the soil into a sodden mass that resists revegetation when dry. When wetland soils lose vegetative cover and dry, they are susceptible to wind erosion.

Directive: All trails and roadways through wetlands areas should be avoided. If avoidance is not possible, trails and roadways through wetland areas shall be designed and constructed to allow access over, but not on, structurally weak wetland soils.

Anadromous Fish

Coho salmon resources in Mendocino County coastal streams have been identified as having unique genetic attributes and are considered a pure strain, uncontaminated by hatchery stocks. Many of the coho salmon runs in the area occur in small, short stream systems, and are referred to as short-run coho. These are recognized as unique within the state. Small streams can quickly be altered or impacted by inappropriate land uses.

Anadromous streams such as Ten Mile River, Virgin Creek, and Pudding Creek typically support populations of steelhead rainbow trout and coho salmon. The Salmon, Steelhead Trout and Anadromous Fisheries Program Act of 1988 (Section 6900 et sub. of the Fish and Game Code) recognizes the drastic decline of salmon and steelhead trout populations over the past forty years, primarily as a result of lost stream habitat on many streams in the state.

In summary, the Act recognizes that reliance upon hatchery production is at the maximum percentage that it should occupy within the state. Further, when both natural and hatchery production are feasible, preference shall be given to natural production. Two legislative declarations within the Act are that current natural production of salmon and steelhead trout in the state shall double by the end of this century and that existing natural salmon and steelhead trout habitats shall not be diminished further without offsetting the impacts of the lost habitats. The Act identifies improving natural production of salmon and steelhead through improvement of stream and streambank conditions or changes in streamflow operations, without an effect on land ownership or land use practices. These conditions generally are applicable to all streams within the park.

The American Fisheries Society's 1991 list of depleted Pacific salmon, steelhead, and sea-run cutthroat from California, Oregon, Washington, and Idaho identifies threats to the various stocks on the Pacific coast in the mainland United States. A stock consists of fish that spawn in a particular river system, or a portion of it, at a particular season, and that do not interbreed to any substantial degree with any group spawning in a different place, or in the same place at a different season. This list includes a stock of coho salmon identified as "California small coastal streams north of San Francisco Bay" and given status B, "at moderate risk of extinction". Individual streams were not identified because of inadequate information. However, it is likely that individual streams contain additional unique stocks. Identified threats to these stocks or threatened destruction, modification, or curtailment of habitat and range, including mainstream passage and flow problems, may be present.

Directive: The department acknowledges the sensitivity of anadromous salmonids and shall follow the goals of the Salmon and Steelhead Trout Anadromous Fisheries Program Act to improve and protect conditions in anadromous streams for coho salmon and steelhead trout. Anadromous streams within MacKerricher State Park shall be managed cooperatively to improve or protect the natural production of coho salmon and steelhead trout.

Red-legged Frogs

There are two subspecies of red-legged frogs in California, the California red-legged frog, *Rana aurora draytonii*, and the northern red-legged frog, *R. a. aurora*. The historic distribution of the California red-legged frog covered most of southern California, including the western edge of the deserts. The frog was also found in the Central Valley and the coastal area, including the Coast Ranges from San Diego to Mendocino County. The distribution of the northern red-legged frog within California includes coastal portions of Del Norte, Humboldt, Mendocino, and possibly Sonoma counties. The area along the coast between the Marin-Sonoma county line and the Mendocino-Humboldt county line is a zone of overlap for the two subspecies. The park is in this area, and red-legged frogs have been found within the park.

California red-legged frogs are a species of special concern, as their populations in southern California and in the Central Valley are virtually gone. Their major populations are in the Coast Ranges and in healthy coastal wetlands. The distribution of the two subspecies of red-legged frogs within the zone of overlap is not well understood. It is possible that the distribution of the two subspecies may be associated with the movement of land masses along the two sides of the San Andreas Fault in this region. The two subspecies are thought to be reproductively isolated because the northern red-legged frog calls underwater, while the California red-legged frog calls above water. Management of the wetland and riverine habitats at MacKerricher may influence habitat available for either subspecies of red-legged frog.

Directive: The Department's objective is to protect the biotic diversity and integrity of the habitats within MacKerricher State Park. Toward this end, the park shall be surveyed to determine if red-legged frogs are present. Habitat used by any frogs found will be documented and mapped.

INGLENOOK FEN RMZ

The Inglebrook Fen RMZ consists of the tributaries and immediate watersheds of the Fen Creek/Inglebrook Fen/Sandhill Lake complex and the patches of coastal prairie lying between the forks of Fen Creek. The fen is a community floristically classified as intermediate between a bog and a marsh undergoing succession towards a bog (fen-carr) with characteristic and unusual soils, hydrology, flora, and fauna. The open water of the lake, the fen, the intervening coastal prairie areas, and the surrounding dunes and dune swales interact in a complex ecology. Inglebrook Fen is the best example of this unique community in California, and because of its floristic richness, completeness of its zonation, its fragility, and because it is the southernmost example of this community, the emphasis in this RMZ is on special protection.

Resource Management Objectives:

1. Preserve and protect wetlands and open water habitats;
2. Allow natural fluvial processes to occur;
3. Give high management priority to sensitive wetlands and aquatic species.

Inglenook Fen Study and Management Plan

Adequate management of the unique ecological resources of Inglenook Fen can only be achieved with adequate knowledge of the system. A systematic study of the resources and their sensitivities should be conducted, including soils analyses, hydrologic cycle, biomass, energy flow data, and natural mosquito control. A resource management program should be based on continued ecological research and monitoring.

Directive: The department shall initiate research in Inglenook Fen focused on preparing an adequate management plan. Additional research by educational institutions and other scientific organizations shall be encouraged. The department shall design and implement the Inglenook Fen Resource Management Plan for the preservation and protection of the fen. Because the ecology of the fen is closely linked with the ecology of the dunes, the Inglenook Fen Resource Management Plan will be integrated and coordinated with the Dune Resource Management Plan.

Inglenook Fen Protection

Previous studies of the fen have found that it is sensitive to disturbance, and visitor access needs to be restricted. Scientific and educational use of the fen will need to be coordinated carefully and controlled. The fragility of each ecosystem, the fen, grassland areas, and the dunes, must be carefully considered in the resource management program.

Directive: Access to the fen shall be limited to its perimeter. Entering the fen area shall be limited to groups accompanied by an interpretive ranger. Planning for access to the grassland areas and particularly to the dunes shall consider the protection of the fen in addition to the protection of these resources.

Inglenook Fen Watershed

Succession of the high-diversity fen towards a low-diversity bog (fen-carr) can be greatly accelerated by human-caused disturbances in the watershed. Soils in the upper watershed have a high erosion hazard potential. Sediment loads above natural geologic rates as are caused by soil erosion during and after human construction activities, a diminished water supply, and destabilization of the dunes by destruction of dune vegetation all threaten the fen. The Coastal Element of the Mendocino County General Plan (LCP) adopted in 1985 contains land use designations and policies for protection of important ecological values, including those within the Inglenook Fen watershed. Most of the watershed upslope of the highway is designated range or forest land, with maximum dwelling densities of one per 160 acres. Additional policies are included to protect riparian and other environmentally sensitive areas. In order to protect the fen-dune ecosystem, land use must be controlled in the watershed and activities must be controlled on the dunes.

Directive: The department shall continue to work with local jurisdictions and adjacent property owners to ensure long-term protection of the fen ecosystem through appropriate land use. Some environmentally sensitive areas within the watershed may be appropriate additions to the state park if land use controls are not providing adequate protection of the fen wetlands.

Water Quality and Water Quantity

Inglenook Fen acts as a nutrient sink. About 70% of the water entering the fen enters directly from the watershed's groundwater aquifer. Most soils in the watershed have severe physical limitations for septic tank filter fields, as well as limitations tied directly to nutrient loads in the ground and surface waters entering the fen. Most nitrogen entering from the watershed is tied up in the fen's soil and vegetation. Since fen species will not tolerate high phosphate, hydrogen sulfide, or nitrate levels, slight increases in nutrient loads would drastically alter the fen vegetation. Decreased flow into the fen would also have a detrimental effect on it, decreasing both species diversity and community stability.

Directive: The department shall monitor the water quality of Sandhill Lake and its associated streams. If the integrity of the fen resources are threatened by deleterious nutrient levels or other water quality or quantity problems, the department shall develop and implement a plan for their restoration, preservation, and protection.

Coastal Prairie Restoration

The coastal terrace prairie, a rare natural plant community, occupies upland areas between the drainages that feed Inglenook Fen and Sandhill Lake to the west. The hydrology of these prairie areas is closely linked with adjacent riparian areas. Past uses of these areas, including grazing and dumping of garden debris, has created a shift toward a non-native species composition. In some locations non-natives, such as velvet grass, are predominant.

Directive: The department shall initiate a study of the coastal terrace prairies in this RMZ to determine pre-Euroamerican conditions including composition, distribution, and Native American burning practices. This study may include detailed soil investigation and pollen and phytolith studies to help determine past vegetation. Information collected in this study will be incorporated into the park-wide Vegetation Restoration and Management Plan. Management of these prairies should address the need for removal of large non-native shrubs and trees, the use of prescribed fire as a management tool, and the restoration to a more native species composition if determined feasible. Because the ecology of coastal terrace prairies in this RMZ is closely linked to the ecology of the Inglenook Fen complex, the management of these areas needs to be integrated with the Inglenook Fen Resource Management Plan.

Natural Preserve Subclassification

Significant natural resources exist in the Inglenook Fen complex, an ecosystem found nowhere else in the state. The Ten Mile Dunes system is also an area of significant natural, cultural, and scenic resources. As such, these resources warrant special protection.

Directive: The department shall request the State Park and Recreation Commission to subclassify the Inglenook Fen complex, including as much of its watershed as is currently owned by the department and any future acquisitions, the prairie grasslands, and the Ten Mile Dunes system from the northern edge of the campgrounds to the bank of the Ten Mile River, as the Inglenook Fen-Ten Mile Dunes Natural Preserve.

See Map 12 and Appendix B for the boundaries of the 1285-acre natural preserve.

LAKE CLEONE RMZ

The Lake Cleone RMZ consists of the lake itself and the area of riparian vegetation that surrounds the lake and its inlet, Mill Creek. Historical maps depict the lake as a lagoon that was apparently breached occasionally by storms. The natural outlet and hydrology have been altered by the construction of the haul road berm, which is currently being actively eroded by coastal processes.

Lake Cleone is a significant freshwater lake resource on the northern Mendocino coast. Its popularity locally as a fishery for hatchery-reared rainbow trout and as a boating and picnic site have made recreational activities historically an important management consideration in this RMZ. The natural appearance of the shoreline contributes to the lake's popularity with park visitors.

Actions taken to enhance recreational opportunities should be sensitive to the dynamics of the ecosystem that encompasses them. Freshwater marsh vegetation (a rare natural community) and riparian habitat surrounding the lake are valuable wildlife habitats. Of critical concern are the native populations of Howell's spineflower and northcoast phacelia, as well as an archeological site, that are being severely impacted by current recreation activities. Exotic flora and fauna are also of management concern.

Resource Management Objectives:

1. Balance the needs for a park water supply, a popular recreation resource, a scenic resource, and protection of important natural and cultural resources;
2. Maintain Lake Cleone as a safe source of potable water until the drinking water intake can be moved elsewhere or until a reasonable alternate source of water can be found;
3. Give management priority to native and sensitive wetland and aquatic species;
4. Preserve and protect archeological resources;
5. Preserve and protect scenic resources; and
6. Provide for recreational access compatible with species and habitat protection.

Management of Lake Cleone and Preservation of the Haul Road

The fate of Lake Cleone is a complex issue involving the physical realities of this site on the Mendocino coast. The ecological and economic implications of protection of an artificial freshwater lake or restoration of the lake to its natural state as a coastal lagoon/estuary need to be considered and evaluated.

Physical Realities: Coastal retreat is continuing along the park's shoreline, evidenced by the erosion of sections of the haul road north of Lake Cleone. Laguna Point is an obstacle to longshore currents, and prevailing northwest winds drive waves onto the narrow, northwest-facing beach. In addition, wave refraction around Laguna Point focuses the erosive powers of wind and waves on the narrow pocket beach between Lake Cleone and the ocean. This increases the exposure of the shoreline to erosion, increasing the rate of coastal retreat.

Preservation of Lake Cleone: Preservation of Lake Cleone as an artificial freshwater lake is expensive. Retention of the haul road berm to keep Lake Cleone a fresh water supply would require a commitment to some form of hard engineered protective device to buttress the shoreline. Design of the structure would require a climatic study to assess erosional forces, including information on winter waves. The structure would require continual maintenance.

Due to its present degraded condition, Lake Cleone would have to be dredged. Mainte-

nance dredging would be required at periodic intervals. Before initial dredging, a local ground water assessment would be needed to define the salt water/fresh water interface and to avoid causing saltwater intrusion. A dredging plan would be needed defining the dredging depth, toxicity, and volume of material to be removed, identifying a dredge spoil disposal site, and addressing any restoration or mitigation required. Appropriate federal, state, and county permits would be necessary. An alternate source of fresh water would have to be found during the period of the dredging.

Recreation on Lake Cleone should be assessed, and guidelines should be developed for appropriate recreational activities on a small drinking water reservoir, for visitor access to the lake, and for operation of the artificial recreational fishery now managed primarily by DFG. With protection from inappropriate recreational uses, the drinking water source and artificial recreational site could be retained.

Restoration of a Coastal Wetland/Lagoon: Restoration of Lake Cleone to a coastal lagoon would also be a complex task to accomplish, although the cost of maintenance for the system would be less in the long run. An alternate source of water for the park would have to be developed. Review of regional ground water information, if available, would be necessary, or a study of surface and ground water resources might need to be initiated. An offsite water source, either diversion or well, might require land purchase, pipeline construction, or easements.

At this time, the haul road berm is actively eroding. Restoration could be accomplished by simply letting nature take its course. Erosion of the haul road berm could lead to the decrease of freshwater aquatic habitat and an increase in estuarine habitat. The nature of the wetland resources would change to a more brackish water condition as the freshwater wetland was exposed to tidal action.

Alternatively, the haul road berm could be actively removed according to a restoration plan, a more controlled and preferable option. Data would be required on geophysical subsurface topography to determine the depth to bedrock, on the local and regional ground water, and on the prehistoric/historic wetland configuration. A wetland delineation would be needed to assess the present wetland resources at the site and to look at the changes in the extent and configuration of the restored wetland. This information would be necessary to develop a wetland restoration plan, which would serve as a guide for the rehabilitation of the wetland over a period of several years. Dredging and all the same permits might be required for restoration as for protection of Lake Cleone.

Alternate access routes to Surfwood Campground would have to be investigated. Either a bridge could be built and maintained for the present access route, or possible routes south of the lake from State Highway 1 could be explored. These could involve land acquisition or easements. Effects on present recreation and visitor use would also need assessment. With restoration, this wetland ecosystem would be returned to a more natural, native state, the exotic fish and amphibians could be removed, and natural pickleweed marsh, rare and important along the northern Mendocino coast, could be restored. This would enhance wildlife habitat in general, shorebird habitat in particular, and could provide additional habitat for red-legged frogs* and tidewater gobies* and improved access for anadromous fish such as steelhead trout* and coho salmon*, all sensitive species.

Within the classification of state park, the role of DPR as a land manager or steward is to allow natural processes to occur. Following are excerpts from the Public Resources Code and the Department's Resource Management Directives that focus the approach to this problem:

Each state park shall be managed as a composite whole in order to restore, protect, and

maintain its native environmental complexes to the extent compatible with the primary purpose for which the park was established... Improvements which do not directly enhance the public's enjoyment of the natural, scenic, cultural, or ecological values of the resource, which are attractions in themselves, or which are otherwise available to the public within a reasonable distance outside the park, shall not be undertaken within state parks. (Public Resources Code, 5019.53)

(5) Development in state parks is to be located and designed to protect and enhance enjoyment of the primary resources. In state parks, the primary purpose for development is to place visitors in an optimal relationship with the resources, for the recreational enjoyment and understanding of those resources. In state parks, resources may not be managed or manipulated to enhance recreational experiences. (Resource Management Directives, 1811.1)

(43) The Department will continually strive to avoid degrading park system values by diversion of waters, by the alteration of stream regimens, or by allowing pollution to occur. (Resource Management Directives, 1831.4)

(26) It is an objective of the Department to identify the total framework of environmental and ecological factors influencing the lands of the State Park System, including those arising from human activities, and to promulgate and apply resource management techniques required to negate deleterious human influences, and to achieve the environmental objectives established for the system. (Resource Management Directives, 1831)

(74) In state parks and state reserves, recreational facilities may be operated to enable the public to see, use, enjoy, and understand the primary resources in accordance with the resource element for the unit. The primary resources may not be modified, manipulated, or impaired, to create or enhance recreational opportunities. (Resource Management Directives, 1832.4)

In addition, the Department has developed a Coastal Erosion Policy signed by the Director in October of 1984 which states that:

... In recognition of California's eroding coastline, new structures and facilities located in areas known to be subject to ocean wave erosion, seacliff retreat, or unstable bluffs shall be expendable or movable. Structural protection and re-protection of developments shall be allowed only when the cost of protection is commensurate with the value (physical and intrinsic) of the development to be protected, and when it can be shown that the protection will not negatively affect the beach or the near-shore environment.

In recognition of these Department policies and objectives, assessment of the propriety of protection of the haul road berm and an artificial reservoir is the first consideration. Second is the decision of whether or not to follow stated policy or forego policy for practical and economic reasons.

Directive: A decision on the future management of Lake Cleone must be guided by in depth analyses of the many facets of the situation. Information on options must be gathered and used to reach a decision and to develop a Resource Management Plan for the area. The pros and cons of each option must be explored and, at a minimum, the information must include:

1. **Resources - the ecological impacts of both options must be determined. Analysis should include:**
 - Geophysical testing, such as soil borings, and ground water analyses,
 - Effects on hydrological regimes,
 - Effects on aquatic and wetland resources,
 - Effects on vegetation communities,
 - Effects on sensitive plant and animal species.

2. **Economics - cost-benefits analyses should be conducted for both options including:**
 - **Short- and long-term costs associated with each option,**
 - **Discussion of possible funding sources.**
3. **Recreation impacts on/changes in visitor use should be examined for each option including:**
 - **Water-oriented recreation activities,**
 - **Day use levels,**
 - **Visitor access.**

Only by gathering sufficient significant information can an enlightened decision be made. The Department should develop a resource management plan for Lake Cleone. The Lake Cleone Resource Management Plan should include short-term (for the next five years) and long-term goals for the area. Consideration should be given to restoring natural processes, providing for public access and accommodations (day use and campgrounds), protecting sensitive plant, animal, and cultural resources, and providing a water supply for park use.

COASTAL LAGOON RMZs - PUDDING CREEK AND VIRGIN CREEK

The Coastal Lagoon RMZs consist of the outlet of Pudding Creek and the surrounding beach and the outlet of Virgin Creek and the surrounding beach. The surrounding beaches are the floodplains of the creeks, encompassing the areas where the creeks' mouths have moved back and forth across the beaches. The Lagoon RMZ represents a critical portion of the watercourse for stream dynamics and for fish habitat. As the point at which fresh water meets the sea, these areas are characteristically biologically rich and provide important foraging resources for shorebirds. The primary management goal of these ecologically important areas should be natural process management.

Resource Management Objectives:

1. Preserve and protect coastal streams, sensitive wetlands, and open water ecosystem processes;
2. Protect special species and their habitats and support restoring anadromous fisheries;
3. Allow natural fluvial processes and lagoon formation to occur;
4. Protect coastal stream ecosystems from deleterious upstream influences.

Artificial Manipulations of River Mouths

Coastal lagoons have periodically been artificially opened for a variety of reasons, including protection of facilities. Presently, the Coastal Commission requires a permit to open lagoons, and the Department of Fish and Game requires a Streambed Alteration Agreement prior to opening any creek mouth. Often, little concern has been given to aquatic and wetland resources affected by these openings. Coastal lagoons provide valuable rearing habitat for salmonid juveniles and smolts. Seasonally large lagoons are essentially freshwater. Draining them can affect the quality of surrounding wetland areas and their dependent plant, invertebrate, fish, and wildlife populations for considerable distances from the mouth. Opening lagoons may also reduce groundwater levels, leading to saltwater intrusion, threatening water quality in nearby wells. Considering the decrease in coastal lagoon resources statewide, the value of the coastal lagoon resources can exceed the value of the facility being protected.

Directive: The integrity and biotic diversity of the valuable resources associated with coastal lagoons shall be protected. Any request to artificially

open coastal lagoons, where the department has jurisdiction, shall be denied until appropriate permits have been obtained. If facilities are threatened by coastal erosion or wave action from natural lagoon openings, the facilities shall be relocated or redesigned. If lagoons must be opened on an interim basis, a management plan shall be developed that will address how and under what conditions a lagoon can be opened and establish protocol, monitoring, and mitigation for the opening process.

Tidewater Goby

Tidewater gobies are small fish, rarely exceeding two inches in total length. They occur only in California coastal lagoons and river mouths that are seasonally tidal and have sandy bottoms. Tidewater gobies are burrow nesters in sandy substrate and can handle freshwater to hypersaline conditions and cool to warm temperatures. Individual populations of tidewater gobies are understood to be genetically unique and, once lost, may not be easily restored. The larvae can withstand full-strength seawater, so there is some evidence that gobies can disperse to uninhabited coastal lagoons through ocean currents. However, no goby population that has been lost is known to have been reestablished through this mechanism. Distance along the coast would play a major role in successful dispersal to uninhabited areas.

Because of the serious decline of the number of tidewater goby populations statewide, this species is a Category 2 candidate species for federal listing. Nearly half of the known tidewater goby populations in the state have disappeared, primarily as a result of destruction or alteration of coastal lagoons, or contamination or reduction of inflowing freshwater sources. Less than 40 populations are believed to remain.

Only four populations of gobies are presently known in Mendocino County. Of these four, one is entirely within DPR ownership at the Lake Davis Complex in Manchester State Park. The other three are all partially owned by the department and occur in MacKerricher State Park at Pudding and Virgin creeks and at Ten Mile River. These tidewater goby populations are relatively isolated, and the elimination of any of them would present problems in obtaining a local source for reintroductions.

The nearest tidewater goby population south of the park populations is located about 30 miles from Pudding Creek at Manchester State Park's Lake Davis Complex. The nearest tidewater goby population to the north of the park populations is in Humboldt Bay, approximately 90 miles upcoast from the Ten Mile River site.

Directive: The coastal lagoons of Pudding Creek and Virgin Creek shall be preserved and protected in order to perpetuate the tidewater goby population and its habitat or potential habitat at MacKerricher State Park. Land use practices in and water diversion from the watersheds draining into these lagoons should be consistent with the maintenance of tidewater goby habitat.

Virgin Creek Beach

Virgin Creek Beach is endowed with a creek freshwater source, lagoon and surrounding wetland vegetation, a sandy beach backed by bluffs, offshore rocks with marine algae and invertebrates, seabird roosting sites on offshore rocks, and an aspect that is relatively protected in winter. These all combine to produce a significant wildlife habitat resource that attracts many shorebirds. This area is used by shorebirds for forage and resting habitat and has been important during the shorebird migration, which can begin as early as July. Western

snowy plovers, a sensitive species, have been regularly observed in past years utilizing Virgin Creek Beach. A decrease in use of the beach by this species has been observed in the last five years.

With past use of the haul road by public vehicle traffic, Virgin Creek Beach had experienced increased recreational use. Although access was ostensibly provided for surf fishing, the beach had become popular for surf boarding, partly because vehicle access meant that surf boarders didn't have to carry their equipment far from their cars. Other beach-oriented recreation increased, as well, including horseback riding. People let dogs off the leash to run, and the dogs chased birds. Even though the haul road is now closed to motorized traffic, the beach continues to be a popular recreational destination.

This increased recreational use disturbs wildlife. A safe, undisturbed area in which to forage and rest is particularly important for shorebirds during migration and may play a significant role in their survival during this physically stressful period. Bicycle and foot traffic on the haul road appear to be less significant disturbance factors than vehicle access resulting in heavy beach use and free-running dogs.

Directive: **The significant wildlife habitat resources of Virgin Creek Beach shall be protected. Protection of habitat for the western snowy plover*, a federally listed Threatened species, and the perpetuation of the use of this area by a variety of shorebirds shall be a primary management goal. Human influence in the form of increased recreational use has altered the pattern of use of this beach by wildlife. In order to restore the area to its natural condition, recreational use shall be limited in a manner consistent with the protection of western snowy plover habitat through a combination of limited access (time of day to provide some undisturbed daylight hours, time of year to protect habitat during the migration period, or keeping the haul road closed to motorized vehicles), as well as signing, interpretation, and regulation enforcement.**



Land Use Element



Lake Cleone and its surroundings from the air. Clockwise from the lower lefthand corner are MacKerricher Beach, the haul road berm, the park road, the Lake Cleone parking lot, the slope north of the lake, the freshwater marsh east of the lake, Surfwood Campground, and the park road underpass beneath the haul road berm providing access to Laguna Point.



LAND USE ELEMENT

The Land Use Element examines current land uses in and around the park and proposes a future land use plan. The land use plan determines the appropriate balance between the department's dual missions that mandate protecting and preserving resources and also providing for visitor enjoyment and appreciation of these resources. It sets appropriate levels of land use and provides the basis for proposed facilities development.

LAND USE REGULATIONS

ZONING

All land within Mendocino County is subject to land use regulations. Land in the unincorporated areas of the county is regulated by a land use zoning ordinance created by the county Board of Supervisors and administered by the county Planning Commission. The land uses permitted under this ordinance range from agricultural to urban.

The land within MacKerricher State Park is zoned open space. Open space lands are those considered not suitable for development or most valuable in their undeveloped natural state.

COASTAL ELEMENT OF THE COUNTY GENERAL PLAN

The current general plan for Mendocino County was adopted by the Board of Supervisors in 1981. All of the park, as well as the land adjacent to the park, is within the coastal zone and, therefore, under the purview of the California Coastal Act. The Coastal Element of the General Plan (Local Coastal Plan), which guides land use in the coastal zone, was approved by the Board of Supervisors and the Coastal Commission in 1985. The LCP contains many policies that affect the state park's general planning effort. Future development and use in MacKerricher State Park must conform to the existing policies of the county LCP unless the policies are amended.

The policies of the LCP are designed to ensure that development in the coastal zone is consistent with protection of the coast's scenic and natural resources. Access to the shoreline is also a key mandate of the Coastal Act, which gives priority to recreational use and encourages providing support facilities, especially those available to the public at a low cost. In general, the county LCP recognizes the importance of MacKerricher State Park as a major provider of public coastal access and recreation.

More specifically, the LCP requires the Department of Parks and Recreation to develop a comprehensive land use plan and management program prior to any additional development or relinquishment of park lands. When approved, this general plan will fulfill that requirement. Specific policies in the LCP require the department to undertake certain actions regarding resource protection and to provide access to the state park. These policies will be examined later in this element.

CITY OF FORT BRAGG LOCAL COASTAL PLAN

The Fort Bragg LCP and its 1986 amendment define land uses and policies for city lands adjacent to MacKerricher State Park. The city plan recognizes the values of wetland areas, rare plants, and habitats on city land. It establishes zoning for city lands adjoining the park boundary, including zones that permit coastal-dependent industrial uses. See the section below on Adjacent Land Uses for more detail. It also encourages the Department of Parks and Recreation to increase recreational access to park land and to provide low cost visitor and recreational facilities.

When the term, LCP, appears in this general plan, it will refer to the Mendocino County Local Coastal Plan. Citations from the Fort Bragg LCP will be specifically identified as such.

THE PARK AND ITS SURROUNDINGS

PARK OWNERSHIP

The park's boundaries, easements, and encumbrances are shown on the Land Ownership Record, Drawing No. 13459, available at Department of Parks and Recreation Headquarters in Sacramento.

ADJACENT LAND USES

EXISTING ADJACENT LAND USES

MacKerricher State Park is bounded on its west side by the Pacific Ocean. Its southern end adjoins the city of Fort Bragg, where there are various uses next to the park boundary, including residences, some stores and other commercial uses, motels, and a gravel works. See Map No. 9, Adjacent Land Uses.

Fort Bragg has annexed land north of Pudding Creek in recent years, and development can be expected to become more intense along the park's boundary in this area. The city's local coastal plan indicates that most permitted use categories adjacent to the park will be under an umbrella combining district, "scenic corridor". Highway Visitor Commercial-Scenic Corridor (HVC-SC), mainly motels, will continue to be allowed on much of the land between the haul road and Highway 1. The rest of the city land between the haul road and the highway is classified Light Industry-Scenic Corridor (IL-SC) and Heavy Industry-Scenic Corridor (IH-SC).

Moving north, adjacent uses generally become less dense, forming a spectrum from rural residential to large ranches (range land). Mendocino County zoning permits rural residential lots of various sizes adjacent to the park, mostly from one acre to five acres in size. Some of the community of Cleone is zoned RV (rural village) to maintain a mix of uses. Visitor-serving uses adjacent to the park include two private campgrounds. East and south of the fen is a large tract zoned as range land, which permits a minimum size of 160 acres per parcel to be used for grazing or raising crops.

ADJACENT LAND USE CONCERNS

Problems related to adjacent land uses have to do with scenic and resource impacts and circulation into the state park from points not adapted to that purpose.

Scenic impacts are most apparent from the coastal terrace looking east. Between Pudding Creek and Laguna Point, motels, homes, and heavy industrial uses next to the park's eastern boundary and the coastal trail are negative visual impacts. At Pudding Creek, the highway is above the parking area and easily visible. As development on adjacent properties continues to occur, some parts of the park will be more and more influenced by visual impacts from neighboring land.

In other parts of the park, impacts on park resources are occurring. Sediments and chemical impurities dump into Lake Cleone from the land to the east. Land uses there include a trailer court on a septic system and a stable at the corner of Highway 1 and Mill Creek Drive. Farther north, water coming onto park property from the east might also be capable of affecting Inglenook Fen. Studies need to be conducted to determine whether or not this is occurring.

The park is long, and formal points from which visitor access is available are limited. Therefore, numerous volunteer trails extend onto park land, many of which cross private property. Getting to the beach from Highway 1 at the north end of the unit, for example, now requires trespassing over private land.

PARK INFRASTRUCTURE**CIRCULATION AND ACCESS****HIGHWAY 1**

The Mendocino County Local Coastal Plan recommends that Highway 1 remain a scenic route with two lanes wherever possible. Caltrans' standard for the highway in the vicinity of the park is a two-lane conventional highway with 12-foot lanes and four-foot shoulders. However, highway traffic is heavy and frequently congested in the park area, especially south of Cleone. The State Route 1 Capacity and Development Potential Study performed by Mendocino County indicated an average traffic volume during 1988 in Fort Bragg of 21,200 vehicles per day with a summer peak season traffic volume of 26,000 vehicles per day. The study recommended adding approximately one mile of center left-turn lanes between Fort Bragg and the MacKerricher State Park entrance, including one at the park entrance.

ACCESS TO THE PARK

The park is geographically divided into discrete areas, each served by a point from which circulation into the park is available. Highway 1, which is outside the park, furnishes the only vehicular circulation from one point of access to another. Within the park, these areas are connected by an informal corridor consisting of the coastal trail on the haul road and a nearby horse trail.

The official park entrance is off of Highway 1 in the vicinity of Lake Cleone and is the only point that provides substantial vehicular circulation inside the park boundary. It serves the administrative area, the campgrounds, Lake Cleone, and Laguna Point. Other access points are at Pudding Creek, the South MacKerricher Coastal Trail Access, the Virgin Creek Access, and the North MacKerricher Coastal Trail Access. People also park and illegally trespass to get to state park land near Ten Mile River.

PARKING

Vehicular parking areas of various sizes and levels of development are located at each point where formal circulation into the park is available. See the sections on existing conditions for each point of access describing the parking areas and any problems associated with them.

UTILITIES**SEWAGE**

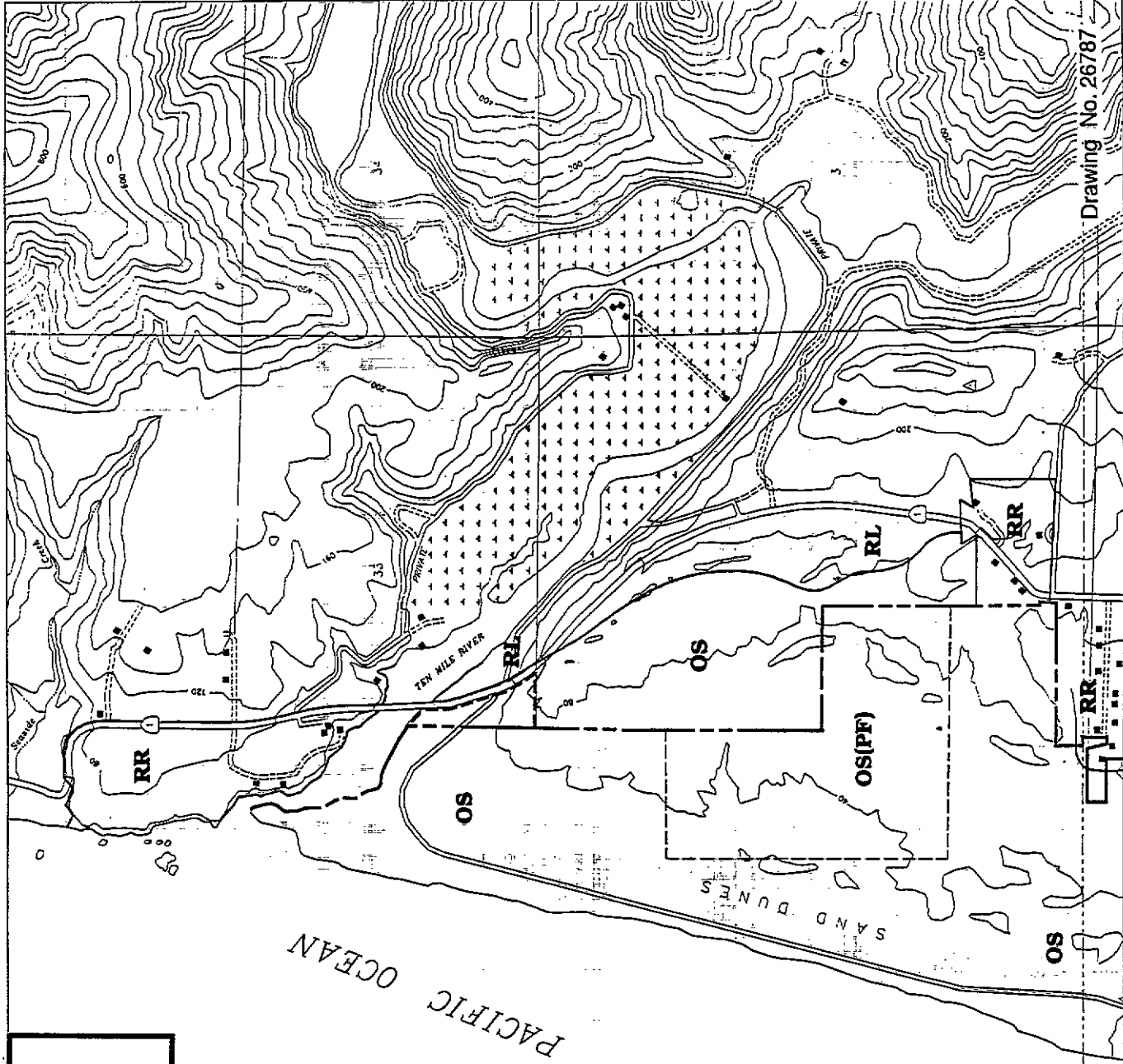
The park purchased a capacity of 50,000 gallons of sewage per day from Fort Bragg in 1972. The department owns a sewer line that runs south on the west side of the haul road to a point between the South MacKerricher Coastal Trail Access and Pudding Creek. There, it runs east on an easement to the west side of the highway and continues south to join the city's system at the city pump station at Pudding Creek. The city sewer line continues south from the pump station within an easement on park property. Department records indicate capacity flows of 50,000 gallons a day from the park have occurred on an average of 17 days per month during July and August.

WATER

Lake Cleone, fed by Mill Creek, is the park's water source. The lake is subject to pollution from Highway 1 and other sources and possible saltwater intrusion from the ocean. Treating the water requires the use of chemicals, some of which leave an unpleasant taste and odor.

**Mackerricher State Park
GENERAL PLAN**

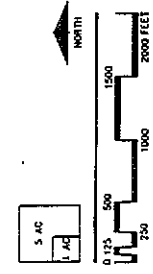
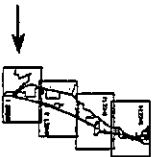
Map No. 9
Adjacent Land Uses
Northern Section of the Park
LAND USE ELEMENT



Drawing No. 26787

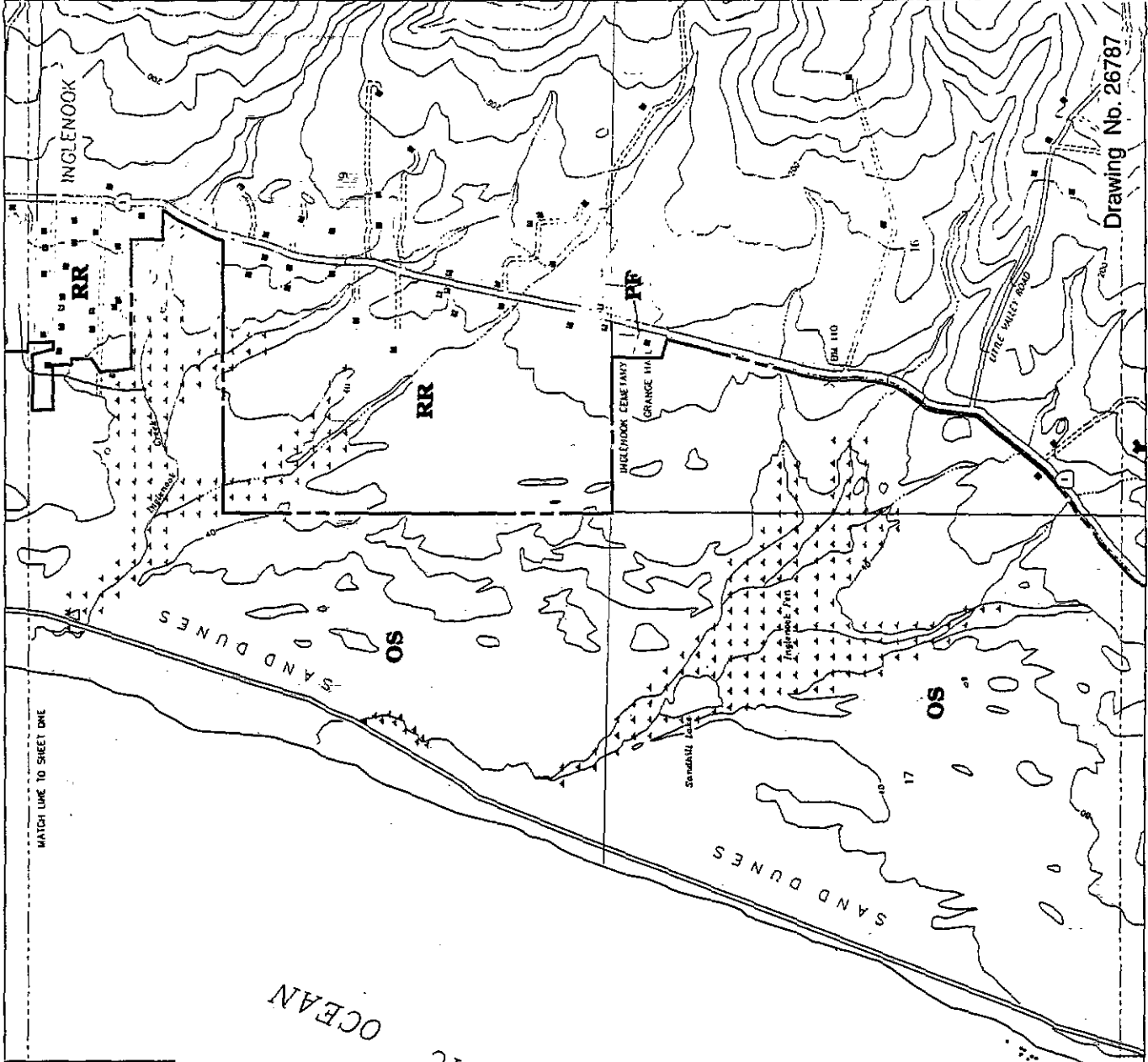
LEGEND

- OS OPEN SPACE
- OS(PF) BLA: NOT CONTROLLED BY COASTAL ACT
- RL RANGE LAND
- RR RURAL RESIDENTIAL
- STATE PARK BOUNDARY
- PRIMARY HIGHWAY
- PAVED ROAD
- UNPAVED ROADS
- TRAILS
- INTERMITTENT STREAMS
- PERENNIAL STREAMS
- CALTRANS GRANT-FUNDED ADDITION 84/85 F.Y.
- B.L.M. LEASE



MATCH LINE TO SHEET TWO

MackERRICHER STATE PARK
GENERAL PLAN
 Map No. 9
 Adjacent Land Uses
 North Central Section of the Park
LAND USE ELEMENT



MATCH LINE TO SHEET ONE

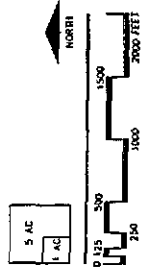
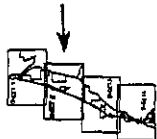
Drawing No. 26787

PACIFIC OCEAN

LEGEND

- OS** OPEN SPACE
- PF** PUBLIC & SEMI-PUBLIC FACILITIES
- RR** RURAL RESIDENTIAL
- STATE PARK BOUNDARY
- PRIMARY HIGHWAY
- PAVED ROAD
- UNPAVED ROADS
- TRAILS
- INTERMITTENT STREAMS
- PERENNIAL STREAMS
- EXISTING BUILDINGS

MAP SHEET KEY



MATCH LINE TO SHEET THREE

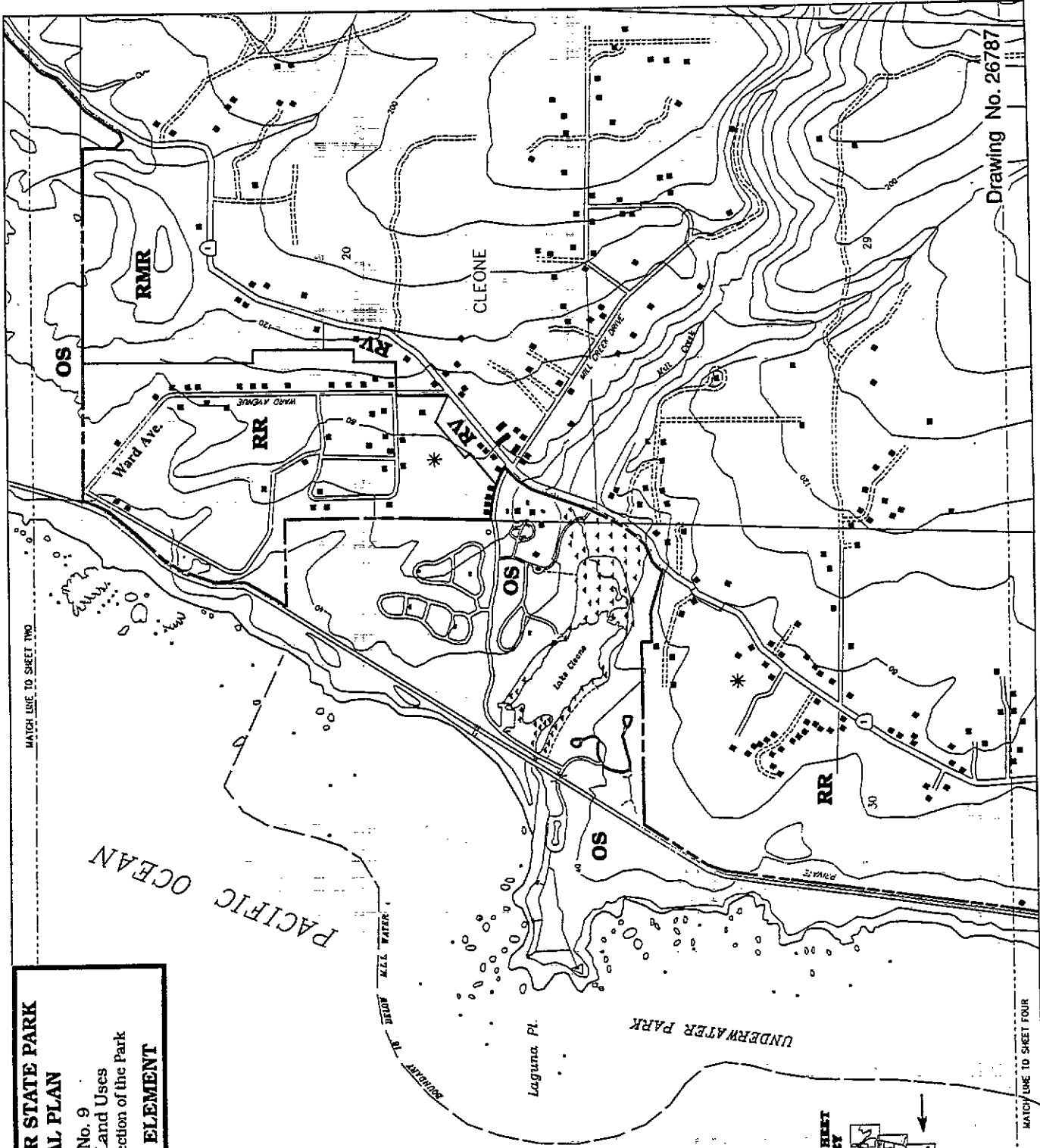
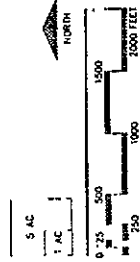
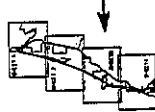
**MackERRICHER STATE PARK
GENERAL PLAN
Map No. 9
Adjacent Land Uses
South Central Section of the Park
LAND USE ELEMENT**



LEGEND

- OS OPEN SPACE
- RMR REMOTE RESIDENTIAL
- RR RURAL RESIDENTIAL
- RV RURAL VILLAGE
- * PRIVATE CAMPGROUND
- STATE PARK BOUNDARY
- PRIMARY HIGHWAY
- PAVED ROAD
- UNPAVED ROADS
- TRAILS
- INTERMITTENT STREAMS
- PERENNIAL STREAMS
- EXISTING BUILDINGS
- UNDERWATER PARK BOUNDARY

MAP SHEET KEY



Drawing No. 26787

MATCH LINE TO SHEET TWO

MATCH LINE TO SHEET FOUR

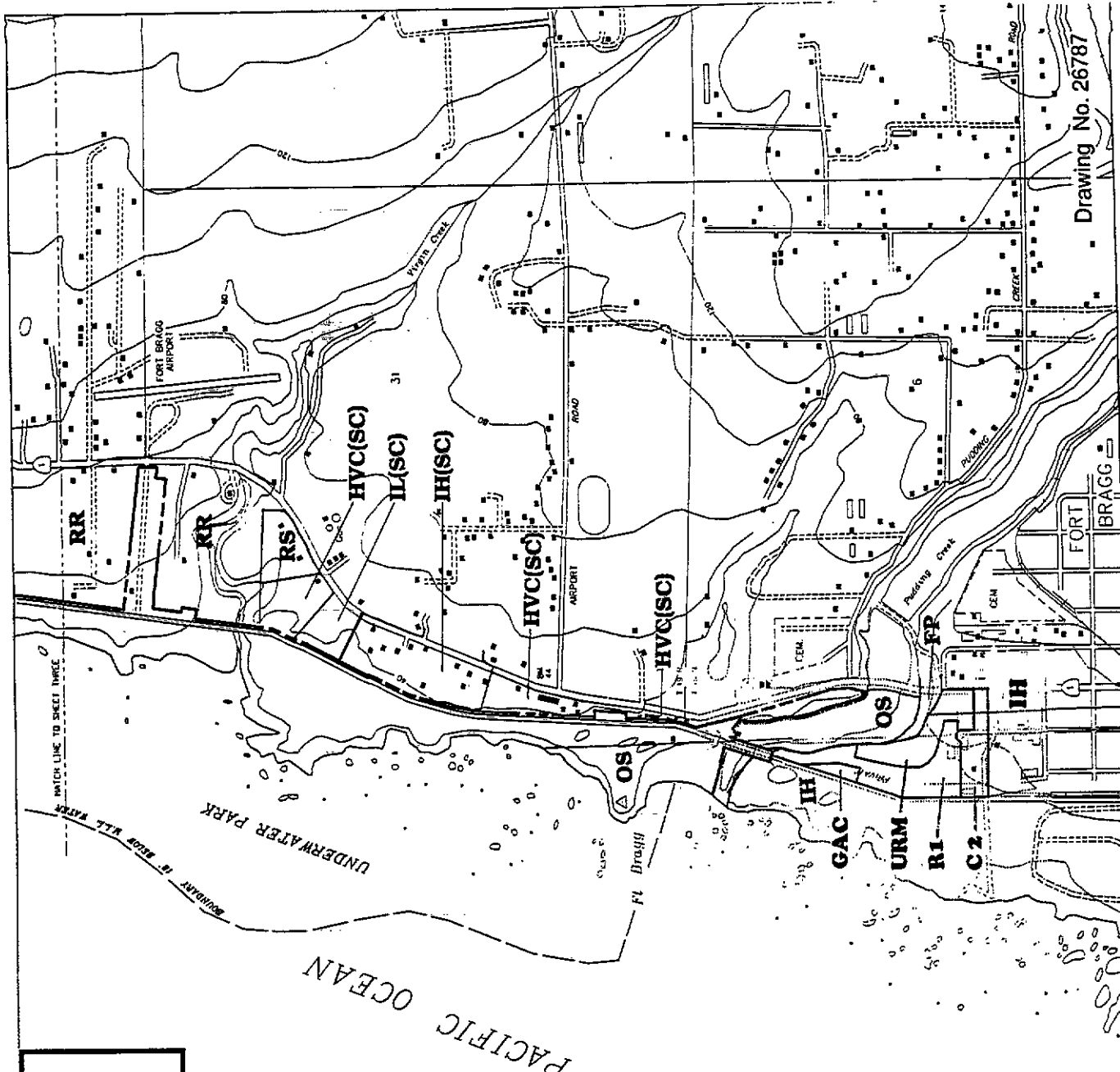
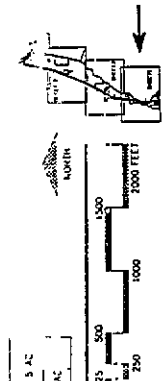
**MACKERRICHER STATE PARK
GENERAL PLAN**
Map No. 9
Adjacent Land Uses
Southern Section of the Park
LAND USE ELEMENT



LEGEND

- RR** RURAL RESIDENTIAL
(County Designation)
- RS** RESIDENTIAL-SUBURBAN
(County Designation)
- FP** FLOODPLAIN
(City Designation)
- HVC(SC)** HIGHWAY VISITOR COMMERCIAL (SCENIC CORRIDOR)
(City Designation)
- IH** HEAVY INDUSTRIAL
(City Designation)
- IH(SC)** HEAVY INDUSTRY (SCENIC CORRIDOR)
(City Designation)
- IL(SC)** LIMITED INDUSTRY (SCENIC CORRIDOR)
(City Designation)
- OS** OPEN SPACE
(City and County Designation)
- C 2** GENERAL COMMERCIAL
(City designation)
- GAC** GARDEN APARTMENT/CONDOMINIUM
(City designation)
- R1** SINGLE FAMILY RESIDENTIAL
(City designation)
- URM** URBAN MULTI-FAMILY RESIDENTIAL
(City designation)

MAP SHEET KEY



ELECTRICITY

Electricity is available at Highway 1. The Pacific Gas and Electric Company can meet the needs of the proposals in this plan.

LAND USE PLANNING FOR MacKERRICHER STATE PARK

This section will describe the planning parameters that have guided land use planning for MacKerricher State Park. Planning parameters reflect various mandates that come to bear upon the department as it manages State Park System units and are an aid in land use analysis and problem-solving. From the time the department acquires a unit, they help focus the wide range of possibilities for its future.

PLANNING PARAMETERS

Planning parameters that affect all state park units are their classification and declaration of purpose. Other parameters are unit-specific and act as guides during general planning. These include the suitability of the unit's resources for various future uses, public opinion revealed during the planning process, and specific guidelines from the general plan's Resource Element, as well as directives from other agencies. The following section explains each of these parameters.

CLASSIFICATION

The most general parameter determining a unit's future is its classification. As a state park, MacKerricher's primary purpose is to preserve outstanding natural, cultural, and scenic values. Improvements must be consistent with resource preservation, involve no major land or water modifications, and should directly enhance public enjoyment of resource values. See the classification section in the Resource Element, pages 52-53, for an explanation of the classification, "state park", and the meaning of the subclassification, "natural preserve", as well as MacKerricher State Park's classification history.

DECLARATION OF PURPOSE

A more specific parameter than the classification is a park's declaration of purpose, which is established by the State Park and Recreation Commission when a unit is classified or reclassified. At MacKerricher State Park, the marine and shore environments, sand dunes, marine terrace, wetland areas, geology, plant and animal life, and numerous cultural sites are outstanding features. The purpose of the park is to make beach access and these features available, in an essentially natural condition, for visitor enjoyment. See the park's declaration of purpose in the Resource Element, pages 54-55.

SUITABILITY OF THE RESOURCES

This parameter relates to the department's primary mission to preserve and protect park resources. State parks must provide for public use. As a part of this general planning process, department resource protection staff have assessed the sensitivities of the resources at MacKerricher State Park and their constraints for various public uses in order to establish allowable use intensities for the different areas in the park, as well as a park carrying capacity.

Carrying Capacity

The Public Resources Code requires that a carrying capacity be set for a park during general planning and that park attendance be held within this limit. The carrying capacity for recreation land is defined as the number of people a recreational resource can accommodate and still maintain a desirable and sustained landscape quality for the recreation experience. Two factors have been employed to determine the

carrying capacity of the resources at MacKerricher State Park. One is allowable public use intensity, and the other is visitor capacity. A discussion of allowable use intensity follows. Visitor capacity is the number of visitors that can be accommodated in the park based on the capacity of the park's existing and proposed facilities. It will be taken up in the Facilities Element.

Allowable Use Intensity

Allowable use intensity is based on the significance and sensitivities of the park's resources and the degree of disturbance due to human use. It is established during general planning for State Park System units. Determinations are based on analysis and integration of two interdependent components.

One component relates to the sensitivities of the park's resources independent of the development that has occurred in the past. Because MacKerricher is a state park, relevant sections of the Public Resources Code, other law, and the state park classification apply, further refined by the park's declaration of purpose and specific directives for resource management contained in the Resource Element.

Sensitivities are attributes of resources that warrant protection through restricted use. They are determined by ascertaining such factors as erodibility of the soils, geologic hazards, hydrologic conditions, potential for water pollution or flooding, and whether or not plants and animals merit special concern. Sensitivities are evaluated by considering the ability of the resources to withstand human impacts over the short term and the long term, and also the resources' ability to regenerate, their rarity or uniqueness, and their statewide significance. Resource constraints are factors that would identify visitor use or facility development as ecologically harmful, unsafe, economically impractical, or otherwise undesirable. See the tables in Appendix A showing the resource constraints based on their sensitivities as they relate to the development of campgrounds, roads, picnic areas, and trails at MacKerricher State Park.

The other component used here to derive allowable use intensity involves assessment of what have been and could be the impacts of visitor and operational activities on park resources. These impacts are assessed through the study of past effects of physical development upon the park's land base and resources. Below are descriptions of the different kinds and levels of development that have defined human use patterns in the park, along with an assessment of the effects of each on park resources.

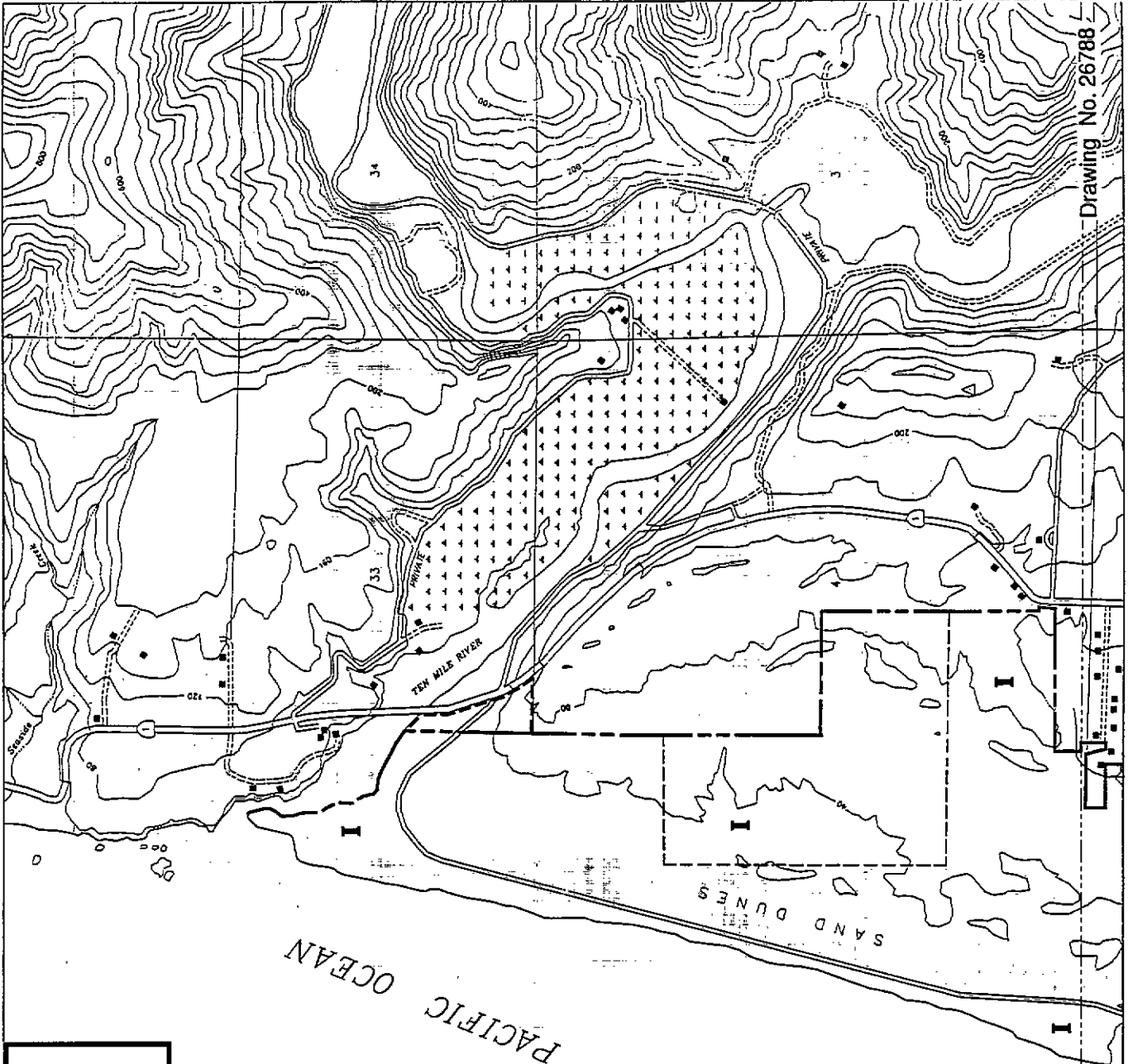
Natural Area: This serves as a reservoir of protection for natural resource values and provides the setting for the other land use areas in the park. It includes the coastal terrace and bluffs, beaches and lagoons, prairies, the fen, sand dunes, and parts of the coastal forest. Public use is currently confined mainly to the beaches and coastal terrace. The coastal forest areas that are used by the public are included within the recreation use area. The only park facilities now in the natural areas are trails (including volunteer trails) and the haul road. Impacts from public use are relatively low. The portion of the park north of Ward Avenue has been subclassified as a natural preserve, with the exception of the barn east of Inglenook Fen. See page 53 in the Resource Element for a description of land use constraints in a natural preserve.

Recreation Use Area: This includes existing developed areas containing facilities for camping and day use. It is concentrated in the center of the park around Lake Cleone. It consists of the three campgrounds and the day use areas at Lake Cleone, Laguna Point, and MacKerricher Beach. Human use here is almost continual during the busy season, making impacts heavy in localized areas. Impacts overall, however, can be considered moderate, and some sensitive species and habitats do coexist with use by the public. This general plan proposes to leave these developed areas intact and to continue existing land uses, rather than to rehabilitate them. Special facilities, such as boardwalks, can reduce impacts on the land surface. Better resource management, such as rerouting roads and trails, could help protect sensitive areas.

Administrative Area: This includes all administrative development in the park. Most of this

MackERRICHER STATE PARK
GENERAL PLAN

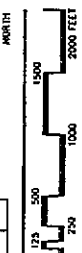
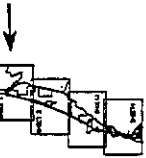
Map No. 10
 Allowable Use Intensity
 Northern Section of the Park
LAND USE ELEMENT



Drawing No. 26788

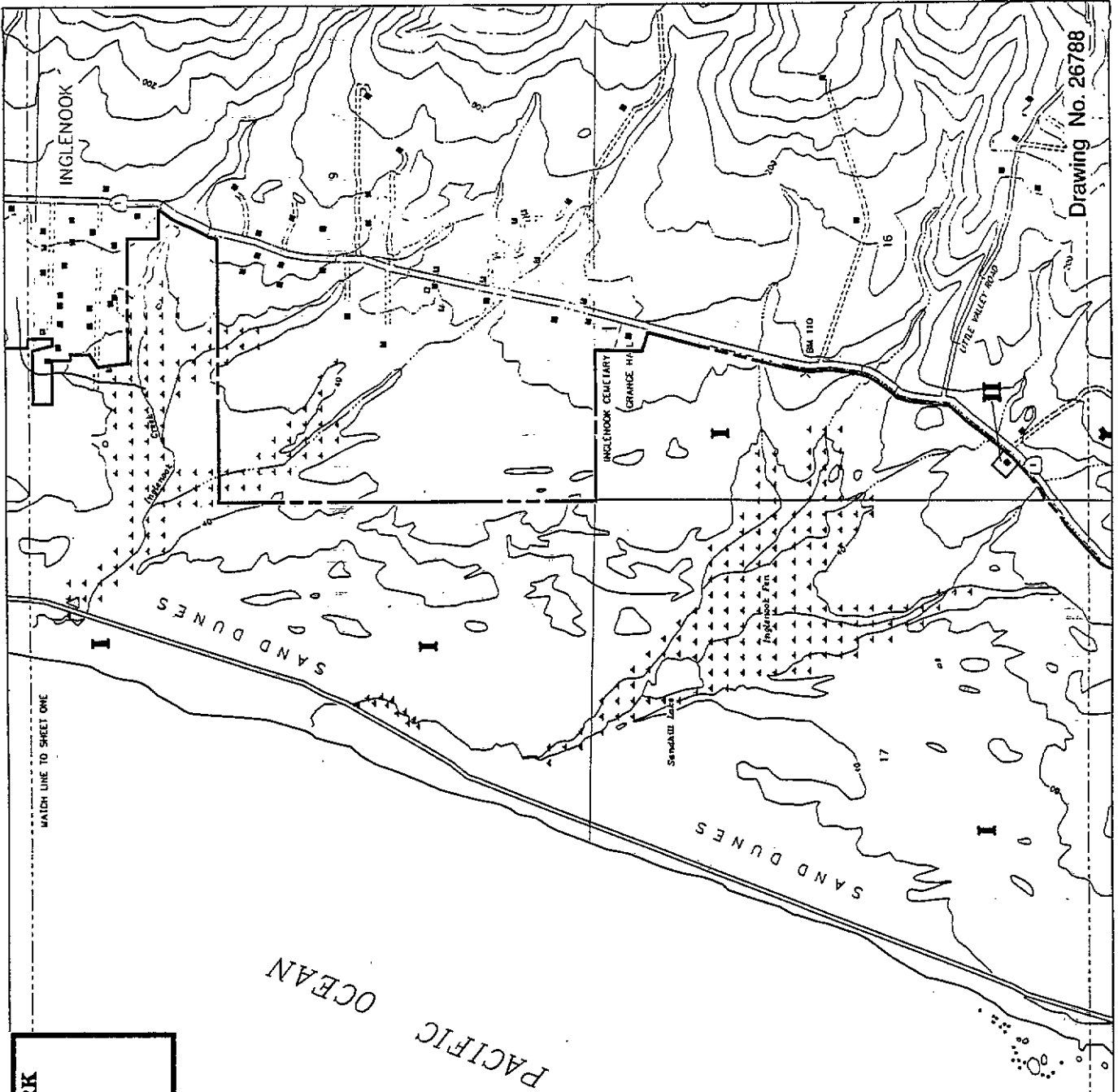
LEGEND

- I** LOW USE INTENSITY AREAS
- II** MODERATE USE INTENSITY AREAS
- III** HIGH USE INTENSITY AREAS
- STATE PARK BOUNDARY
- PRIMARY HIGHWAY
- PAVED ROAD
- UNPAVED ROADS
- TRAILS
- INTERMITTENT STREAMS
- PERENNIAL STREAMS
- CALTRANS GRANT-FENCED ADJACENT 94/95
- B.L.M. LEASE



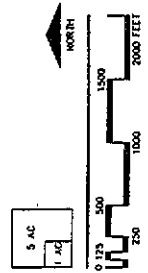
MATCH LINE TO SHEET TWO

**MACKERRICHER STATE PARK
GENERAL PLAN**
Map No. 10
Allowable Use Intensity
North Central Section of the Park
LAND USE ELEMENT



LEGEND

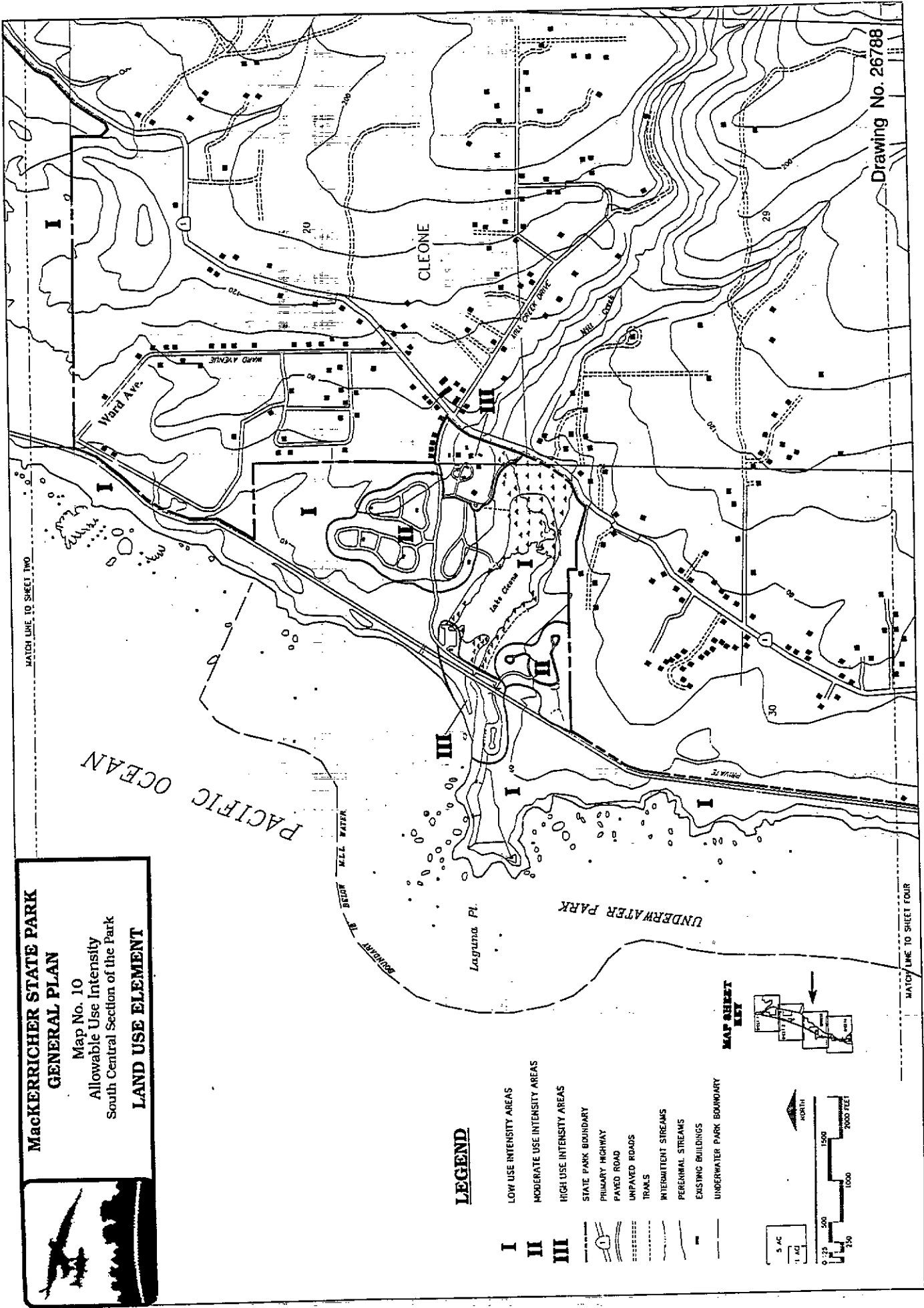
- I** LOW USE INTENSITY AREAS
- II** MODERATE USE INTENSITY AREAS
- III** HIGH USE INTENSITY AREAS
- STATE PARK BOUNDARY
- PRIMARY HIGHWAY
- PAVED ROAD
- UNPAVED ROADS
- TRAILS
- INTERMITTENT STREAMS
- PERENNIAL STREAMS
- EXISTING BUILDINGS



MAP SHEET KEY

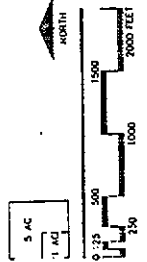
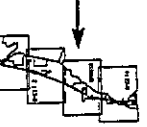
MATCH LINE TO SHEET THREE

MACKERRICHER STATE PARK
GENERAL PLAN
 Map No. 10
 Allowable Use Intensity
 South Central Section of the Park
LAND USE ELEMENT



LEGEND

- I** LOW USE INTENSITY AREAS
- II** MODERATE USE INTENSITY AREAS
- III** HIGH USE INTENSITY AREAS
- STATE PARK BOUNDARY
- PRIMARY HIGHWAY
- PAVED ROAD
- UNPAVED ROADS
- TRAILS
- INTERMITTENT STREAMS
- PERENNIAL STREAMS
- EXISTING BUILDINGS
- UNDERWATER PARK BOUNDARY

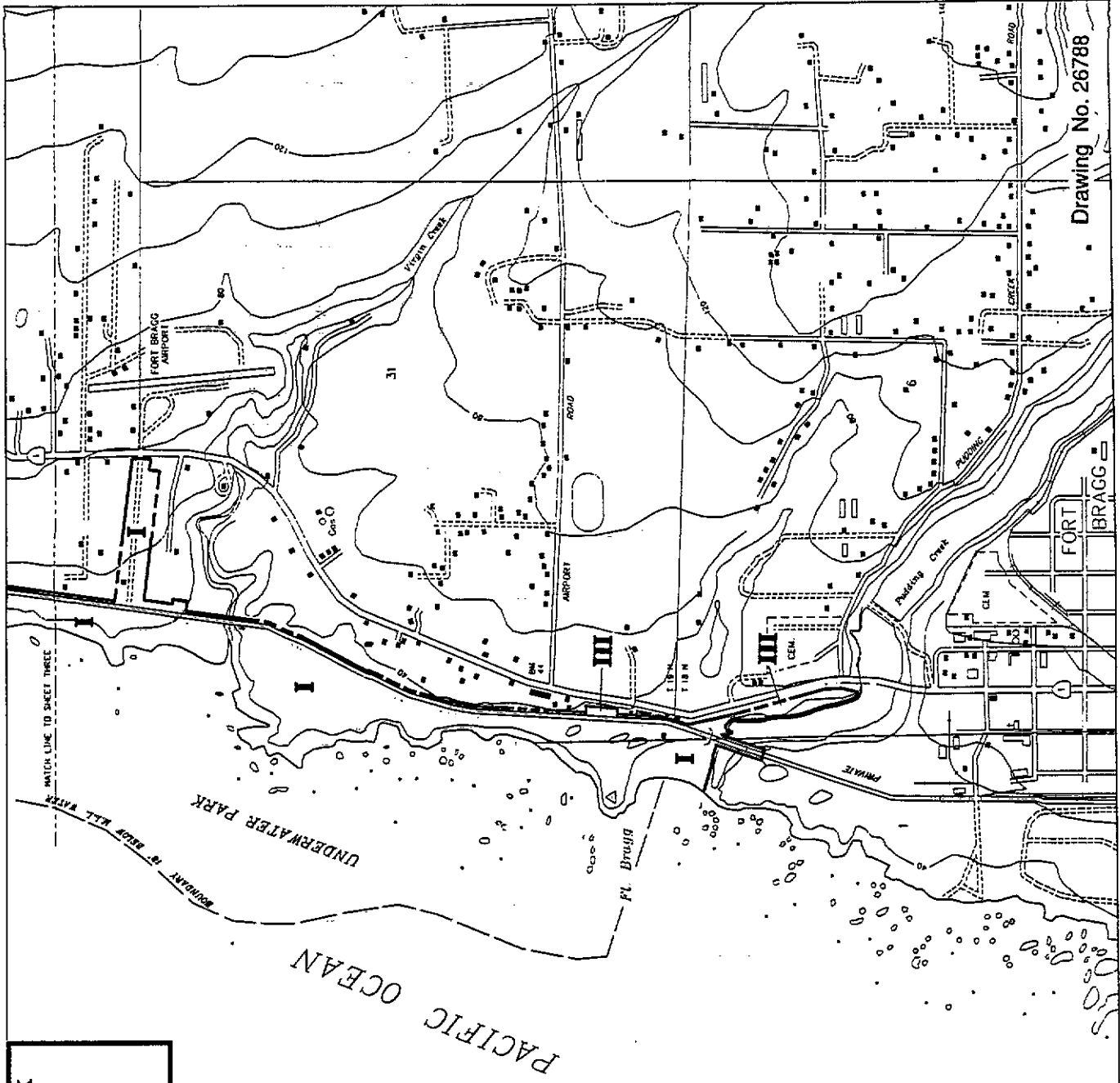


DRAWING No. 26798

MATCH LINE TO SHEET TWO

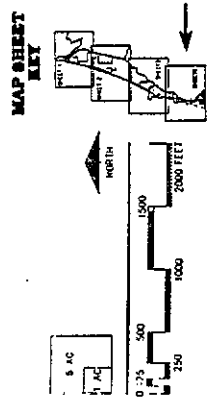
MATCH LINE TO SHEET FOUR

**MackERRICHER STATE PARK
GENERAL PLAN**
Map No. 10
Allowable Use Intensity
Southern Section of the Park
LAND USE ELEMENT



LEGEND

- I** LOW USE INTENSITY AREAS
- II** MODERATE USE INTENSITY AREAS
- III** HIGH USE INTENSITY AREAS
- STATE PARK BOUNDARY
- PRIMARY HIGHWAY
- PAVED ROAD
- UNPAVED ROADS
- TRAILS
- INTERMITTENT STREAMS
- PERENNIAL STREAMS
- EXISTING BUILDINGS
- UNDERWATER PARK BOUNDARY



use is clustered near the park entrance and consists of the park office, staff residences, and park maintenance yard and storage area. It also includes the roads and parking areas throughout the park, with the exception of the coastal trail on the haul road, which has a basically recreational function. A great deal of this area is disturbed by paving, the presence of buildings or trailer pads, and past removal of vegetation. The number of people using the administrative area near the park entrance is lower than the number in many parts of the recreation zone, but the use that occurs there is often heavy and capable of causing vegetation loss and soil compaction. Roads and parking lots receive intense use over a small land base. For these reasons, impacts in the administrative areas must be described as high.

Map No. 10, Allowable Use Intensity, summarizes information on resource sensitivities and the intensities of past uses at the park. It illustrates the levels of proposed allowable use that will best provide for both resource protection and public use.

Low Use Intensity areas — I

In low use intensity areas, park resources have for the most part been impacted lightly or not at all. Appropriate facilities include trails and existing roads monitored to avoid unacceptable damage to important resources. Appropriate activities include sightseeing, beachcombing, hiking, nature observation, informal picnicking, and primitive hike-in camping where it is allowed. Resource restoration should be undertaken where necessary.

Moderate Use Intensity — II

Moderate use intensity areas have experienced some resource impacts, but much of the topography and vegetation remain unaffected. Appropriate facilities in moderate use intensity areas are trails, roads, and buildings, if designed to withstand hazards associated with physical constraints and to avoid or minimize impacts on natural and cultural resources. Appropriate uses include group activities, family camping, picnicking, and all activities, including resource restoration, allowed in land use intensity category I.

High Use Intensity — III

In high use intensity areas, most of the park resource values have been degraded or lost. Appropriate facilities in high use intensity areas are trails, roads and parking areas, and buildings designed to blend aesthetically with scenic, natural, and cultural features and to avoid large-scale disturbance and minimize unavoidable impacts. Relatively high impact activities or intensive human traffic are acceptable, as are all other activities identified as compatible with use intensity categories I and II.

Allowable use intensity is useful primarily for general planning purposes. Once site-specific proposals for land uses or facilities are prepared, the actual locations must be checked during the early phases of project planning for resource sensitivities and possible constraints for project development. Further, allowable use intensities established during the general planning process should not be considered unchangeable. Monitoring of resources after a site is subject to public use may indicate that unacceptable damage is occurring and that an adjustment in allowable use intensity may be necessary. Alternative site management methods, such as installation of barriers, paths, or artificial surfaces may suffice. Visitor management techniques, including party size limitations, use of reservations, and interpretive signs, talks, and other devices may also be employed to alter use intensity impacts.

RESOURCE ELEMENT AND/OR OTHER AGENCY GUIDELINES

This parameter includes guidelines originating within this department, as well as those mandated by other agencies, that would affect proposals in the general plan. Many of these consist of directives from

the plan's Resource Element. The Mendocino County Local Coastal Plan (LCP) is also particularly important with respect to this general plan. It concentrates mostly on protecting views, rare or sensitive species and habitats, and on improvements at the park's points of access. It also mandates maintaining a coastal trail from Pudding Creek to Ten Mile River. Specific recommendations will be taken up in the discussions for each of the park areas.

PUBLIC OPINION

Public opinion is an integral parameter in the process that the department uses to prepare general plans. Public dialogue represents an intensive effort on the part of the department to ensure that future park management and use considers the desires of the statewide and local visitors who use state parks and of those potentially impacted by this use (e.g., adjacent property owners). Public opinion concerning critical issues helps shape planning alternative proposals and the subsequent choice of a single park plan.

LAND USE ANALYSIS: APPLYING THE PLANNING PARAMETERS

Land use at MacKerricher State Park is uneven. The park contains some sensitive landscapes that do not invite or endure human intrusion well. The park also experiences high visitation. To date, human activity has been almost entirely confined to the most easily accessible areas in the park. This has led to heavy levels of concentrated use.

Another factor to consider when discussing land use is the wide array of landscape types within the park, including beach, grassy terrace, forest, and lonesome dunes, to name a few. It would be impossible to discuss land use for all of these at one time. Instead, the following discussion will treat the discrete areas that make up the park one by one.

Because the classification and declaration of purpose apply to all areas within the park, they will not be recapitulated for each of them. The suitability of the park's resources for public uses in the various parts of the park appears on Map No. 10, Allowable Use Intensities. Therefore, park area discussions will focus on existing conditions, relevant guidelines from the Resource Element and directives from other planning agencies, and public opinion, as well as problems in each area that should be resolved through the general planning process. There will also be a brief site analysis for each area. Map No. 11, Park Areas and Existing Conditions, appears in the following section. It illustrates how the park's areas relate to each other and to the park as a whole.

PARK TRAILS

Park trails comprise a discrete land use. The heavy public use areas in the park have many trails. The coastal trail on the haul road is the main park trail. Other major trails are the equestrian trail paralleling the haul road, the trail alongside Mill Creek Drive that provides access for equestrians, and the boardwalks on Laguna Point and around Lake Cleone.

The park also has innumerable volunteer trails. These crisscross Laguna Point, as well as the rest of the coastal terrace. There are also many around Lake Cleone and that cut through the dunes, especially between Pinewood Campground and the beach.

THE HAUL ROAD

The haul road is the most unifying element throughout the park, as it traverses most of MacKerricher's varied landscapes. Many of the park's finest and most distant views are from the haul road. It is popular with local residents and park visitors alike.

The trestle across Pudding Creek, the haul road, and the associated equestrian trail comprise a critical part of the coastal trail on the Mendocino coast. The coastal trail within the park should soon connect with Fort Bragg, furnishing coastal access to large numbers of people, including disabled persons. This unique recreational resource will run the entire length of the park and will allow pedestrians and bicyclists to approach beach and dune areas that they otherwise could not easily. Maintaining the haul road in a condition suitable for bicycle use will provide an alternative for bicyclists to busy Highway 1, with an associated avoidance of hazards and accidents.

EXISTING CONDITIONS

Even while active, the haul road functioned for many years as part of the park, as the Georgia-Pacific Company allowed people to drive on it on weekends. Washouts north of Ward Avenue and west of Lake Cleone in the early 1980s brought about the road's closure to logging trucks. Use of the road by joggers, hikers, and bikers increased. Automobiles continued to be allowed south of Surfwood Campground during daylight hours under terms of an agreement between Georgia-Pacific and the department, which then took on the operation and management of the road. The possible sale of the haul road to a private party in early 1992 led Georgia-Pacific to close it to motorized traffic. It has remained closed to this use.

The department has now acquired all of the haul road within the park boundaries and has recently received federal grant funding for needed improvements. The City of Fort Bragg has completed construction of a trailhead and staging area for coastal trail users at the south end of the trestle.

RESOURCE ELEMENT GUIDELINES AND/OR OTHER AGENCY DIRECTIVES

The Resource Element cites previous motorized recreation traffic on the haul road as contributing to the decline of wildlife in its vicinity and favors continued closure of the haul road to such traffic.

The county Local Coastal Plan mandates the department to provide maximum coastal access via an off-highway hiking and biking trail, specifically for non-vehicular use, for the eight miles from Pudding Creek to Ten Mile River.

The Fort Bragg LCP calls for an alternate river crossing in addition to Highway 1 at Pudding Creek. The grant-funded new surface and railings to make the trestle ready for public use and the city's trailhead at its south end will fulfill this recommendation.

PUBLIC OPINION

Public opinion regarding the haul road was diverse. Only a few visitor surveys mentioned the haul road, probably indicating that it is less of an attraction to out-of-town visitors than many of the park's other features. The people who live nearby the park, however, were much concerned with repairing the washed out sections. Some members of the public also had strong feelings as to whether or not motorized traffic should be allowed to continue using the haul road.

SITE ANALYSIS

The haul road now has several deficiencies as a coastal trail. In addition to the washed out parts, it has been poorly maintained and needs resurfacing. The trestle also needs surfacing and a railing to make it safe for public use. Furthermore, access to the haul road is poor in some locations, notably Ten Mile River. Nevertheless, large numbers of people access it at many points even though this requires trespassing on private property in some locations.

For recommendations for improving the haul road and the coastal trail experience, see the Facilities Element, page 153.

EQUESTRIAN TRAIL

EXISTING CONDITIONS

Equestrian and pedestrian trails from Pudding Creek to Ten Mile River were formally dedicated by the department in a ceremony at the Ward Avenue underpass in November, 1977. Equestrians use a trail west of the haul road north to Laguna Point. There are spots where the trail is badly eroded, as well as places where it must bypass deep gullies, many of which extend back to the haul road. At Lake Cleone, circulation becomes ambiguous. Some riders descend the west side of the haul road berm and cross MacKerricher Beach. Others descend the east side of the berm and pass Lake Cleone alongside the park road. North of the lake, the equestrian access trail paralleling Mill Creek Drive joins the one from the south, and riders follow the haul road to Ward Avenue Beach. Much of the equestrian use in the northern part of the park results from guided rides conducted by the current concessionaire. North of Ward Avenue, some riders use the beach, while others ride into the dunes to avoid the haul road washouts. During bad weather, the park's northern beaches may sometimes be impassable.

In addition to these routes, some horseback riders also ride along the bluffs, on the beaches, and over the coastal terrace in the southern part of the park. All of these landforms are subject to erosion from this kind of high-impact use.

RESOURCE ELEMENT GUIDELINES AND/OR OTHER AGENCY DIRECTIVES

The Resource Element contains many directives aimed at the prevention of erosion in the park.

The LCP specifically requires the department to maintain a trail for equestrians through the eight-mile length of the park and provide equestrian access to the park via Mill Creek Drive.

PUBLIC OPINION

Equestrians were outspoken at public meetings. They expressed a willingness of work with the department to upgrade the park's equestrian trail and advanced many suggestions for its improvement and operation. Most of these have been incorporated into this plan. The visitor survey revealed few visitors with an interest in riding in the park, but those who did express interest were enthusiastic about the park as a place to ride.

SITE ANALYSIS

At this time, equestrian use is relatively unstructured. Many riders use the trail, but others do not or are inconsistent in their use of it. The trail is poorly designated and discontinuous.

For recommendations regarding the equestrian trail, see pages 153-155 in the Facilities Element.

PARK CENTER TRAILS

The area between the park entrance and the Lake Cleone day use area contains many trails, some formal and many others informal. One of the formal trails is the equestrian access trail along the north side of Mill Creek Drive. Another is the path from the small parking area near the contact station to the campfire center. In addition, several well-used volunteer trails lead from the campgrounds to the campfire center and the park entrance area.

There is a need to improve and formalize circulation around the park entrance-Camp Cleone-Lake Cleone area, especially in the light of proposals to construct new interpretive and campfire centers in the midst of this large and topographically complex space.

Refer to the Facilities Element, pages 155-157 for proposals for improving the trails in the central part of the state park.

THE LAGUNA POINT BOARDWALK

EXISTING CONDITIONS

The Telephone Pioneers, a volunteer group, constructed the very popular boardwalk that provides easy access to the western end of Laguna Point for viewing seals and migrating whales. The boardwalk was built to accommodate the heavy foot traffic that has scored the point with volunteer trails. This traffic has impacted the area's vegetation and many archeological sites. The boardwalk also provides mobility for elderly and disabled visitors. It has several overlooks and terminates at a platform that allows viewing of the harbor seals in the water and on the offshore rocks.

RESOURCE ELEMENT GUIDELINES AND/OR OTHER AGENCY DIRECTIVES

Erosion of soil and archeological sites and trampling of vegetation are dealt with in the Resource Element. See directives for the Coastal Bluffs and Coastal Terrace RMZs, pages 79-82. The element states that the boardwalk is an aid in controlling these impacts, as it "helps delineate trails on a portion of Laguna Point", which is a high recreation use area within the Coastal Terrace RMZ.

PUBLIC OPINION

Several visitor survey respondents claimed enthusiastically that the boardwalk was their favorite feature in the park. Others, as well as some of the people attending the public meetings, mentioned that they thought the boardwalk was too narrow for comfortable use.

SITE ANALYSIS

The boardwalk has resulted in reduced impacts upon the Laguna Point's terrace vegetation and archeological sites. However, the point's level and open surface makes the boardwalk and the platform extremely conspicuous, especially from the south. Land use and facilities decisions for the boardwalk will have to take into account the need to continue to protect the point's resources while ameliorating its shortcomings with respect to visitor comfort and visual intrusion.

See the Facilities Element, page 157, for recommendations for improving the Laguna Point boardwalk.

THE LAKE CLEONE BOARDWALK

EXISTING CONDITIONS

A boardwalk begins at the Lake Cleone boat ramp and runs along the lake's north shore until it turns south, providing the only feasible access to the wet riparian forest at the eastern end of the lake. The boardwalk does not currently meet standards for disabled access. Approximately two-thirds of the way around the lake, moreover, it ends abruptly, and an unsurfaced footpath continues the circuit around the south side of the lake.

RESOURCE ELEMENT GUIDELINES AND/OR OTHER AGENCY DIRECTIVES

The Resource Element directs that impacts from trails and roadways should be avoided in wetland areas and should allow access over, not on, wetland soils. See page 84 of the element for more detail.

The Local Coastal Plan states that environmentally sensitive habitat areas, such as the wetlands at Lake Cleone, must have a buffer a minimum of 100 feet wide unless the Department of Fish and Game allows less.

PUBLIC OPINION

Respondents to the visitor survey were enthusiastic about boardwalks, in general. These comments may have been mostly concerned with the Laguna Point boardwalk. They could, however, refer to the boardwalk around the lake or to both boardwalks. Local residents expressed concern for preservation of the freshwater marshes on the east and south sides of the lake.

SITE ANALYSIS

The lack of a boardwalk connection around the south side of the lake leaves the marshes and resident wildlife there open to impacts from visitor use. The sometimes muddy trail also makes passage difficult for some people and impossible for disabled visitors. Facilities proposals should encourage continued visitor use while respecting resource protection guidelines.

Improvements proposed for the park's existing boardwalks will appear in the Facilities Element, pages 157-158.

THE PARK AREAS

PUDDING CREEK

EXISTING CONDITIONS

Pudding Creek Beach is at the south end of the park adjoining the Fort Bragg city limits on the north side of the creek. The beach extends west from the edge of the department's parking lot beneath the trestle and north along the toe of the bluff for several hundred feet. It receives heavy seasonal day use but lacks day use facilities, such as a public restroom. There is a trail up to the bluffs and haul road from the north end of the department's parking lot, but it is badly eroded, steep, and slippery.

In 1986, Caltrans built a 50-car parking lot within the Highway 1 right-of-way overlooking the creek. Caltrans maintains the lot, although it is adjacent to the department's parking lot. The several steep informal paths that lead down to the sand from this lot are sources of bluff erosion. A dirt road descends to the department's unsurfaced parking lot, which holds 30-50 cars. Because of its nearness to the beach, this lot is more used than the Caltrans lot. Over the years, its western edge has begun to erode.

Aside from the parking lots and the trestle, the only developed facility is the city's concrete block pump station that lifts sewage from the department's sewer line into the city's sewer system.

RESOURCE ELEMENT GUIDELINES AND/OR OTHER AGENCY DIRECTIVES

The Resource Element recognizes Pudding Creek as a sensitive coastal lagoon floodplain that needs protection of its wetlands, special plant and animal species, and natural river processes. A directive in the element forbids opening the lagoon (for flood protection) without first preparing a management plan and obtaining permits.

The county LCP recognizes Pudding Creek as a sensitive coastal wetland.

**MackERRICHER STATE PARK
GENERAL PLAN**
Map No. 11
Park Areas and Existing Conditions
Northern Section of the Park
LAND USE ELEMENT

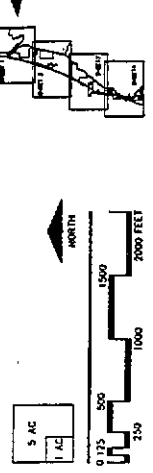


TEN MILE RIVER
Resource values very sensitive
Inadequate parking
Existing informal trails croding
Private property lies between the
highway and park property
Park visitors trespass on neighboring
land and wetlands
No interpretation or orientation

TEN MILE BEACH
No problems

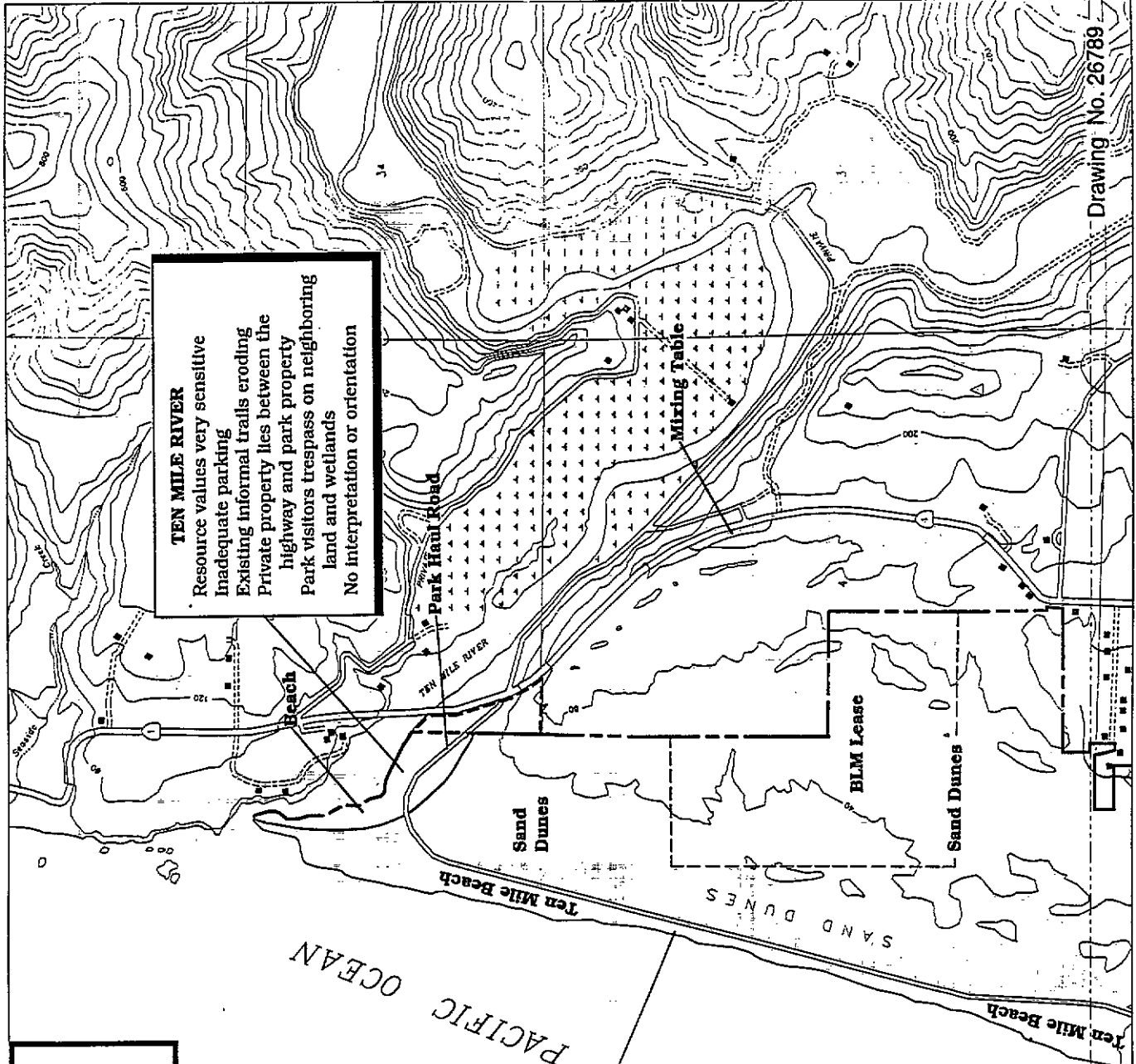
LEGEND

- STATE PARK BOUNDARY
- PRIMARY HIGHWAY
- PAVED ROAD
- UNPAVED ROADS
- TRAILS
- INTERMITTENT STREAMS
- PERENNIAL STREAMS
- CALTRANS COUNT/FUNDED ADDITION 8/4/95 E.Y.
- BLM LEASE



MADE LINE TO SHEET TWO

Drawing No. 26789



**Mackerricher State Park
GENERAL PLAN**
Map No. 11
Park Areas and Existing Conditions
North Central Section of the Park
LAND USE ELEMENT



INGLENOOK CREEK WETLAND
Soils very wet
Vegetation impenetrable
High quality prairie vegetation

SAND DUNES
Easily destabilized
Resource values are impacted

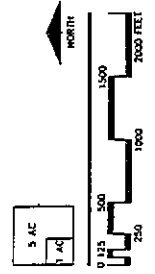
INGLENOOK FEN
Has no access
Resources are extremely rare
and sensitive

COASTAL PRAIRIES
Contain sensitive plants
Are part of the fen watershed
Difficult access from the highway

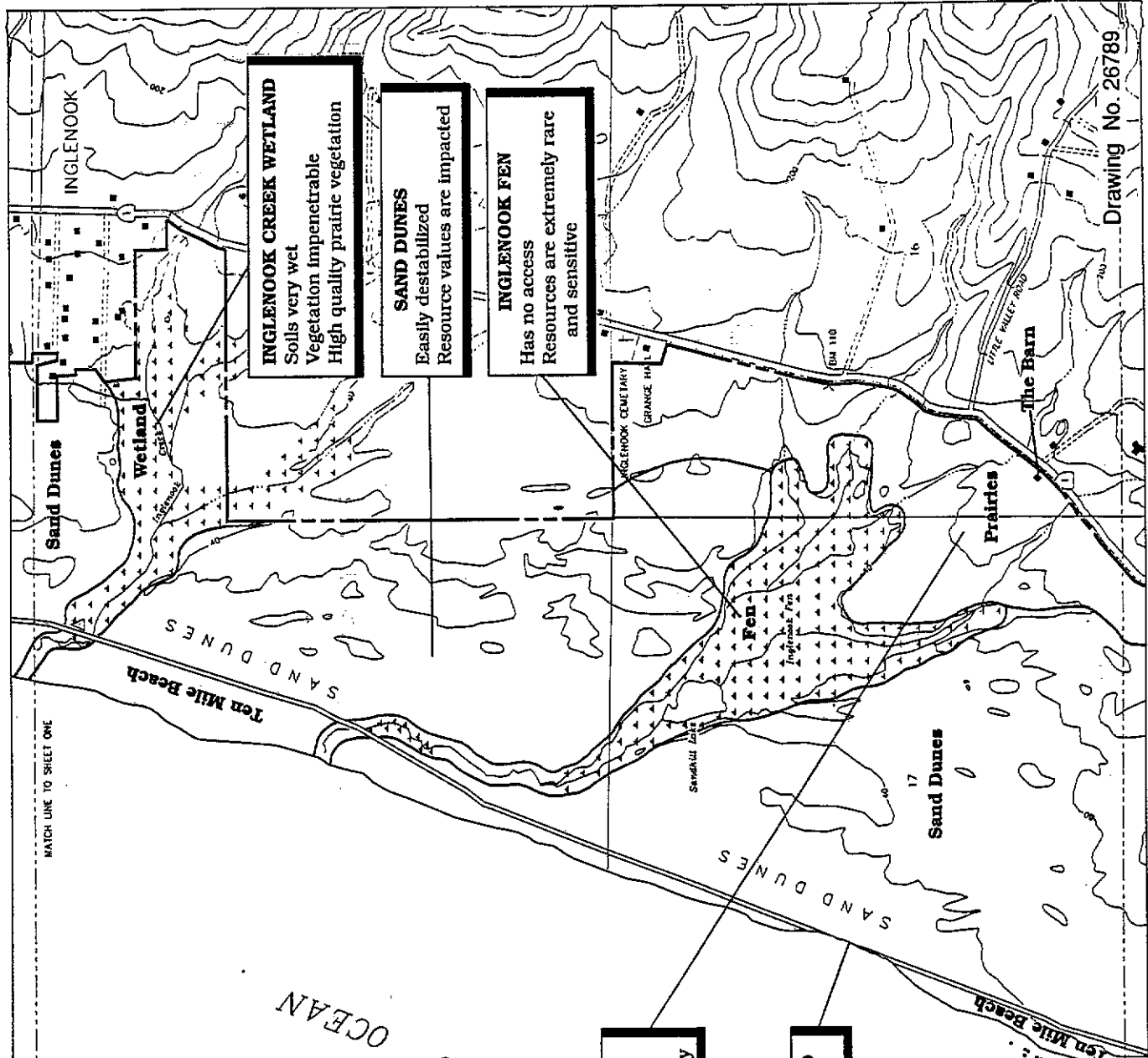
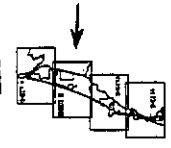
HAUL ROAD
Washed out

LEGEND

- STATE PARK BOUNDARY
- PRIMARY HIGHWAY
- PAVED ROAD
- UNPAVED ROADS
- TRAILS
- INTERMITTENT STREAMS
- PERENNIAL STREAMS
- EXISTING BUILDINGS



MAP SHEET LIST



MATCH LINE TO SHEET ONE

MATCH LINE TO SHEET THREE

MACKERRICHER STATE PARK
GENERAL PLAN
 Map No. 11
 Park Areas and Existing Conditions
 South Central Section of the Park
LAND USE ELEMENT



HAUL ROAD
 Erosion of berm and loss of surface

LAGUNA POINT
 Many volunteer trails/erosion
 Visitor impacts on tidepools
 and marine mammals

NORTH MACKERRICHER COASTAL TRAIL ACCESS
 Access to the beach badly eroded
 No interpretation or orientation

CAMPGROUNDS
 No group camp
 Only one campsite for disabled
 Camp host is not in campground
 Campgrounds need rest

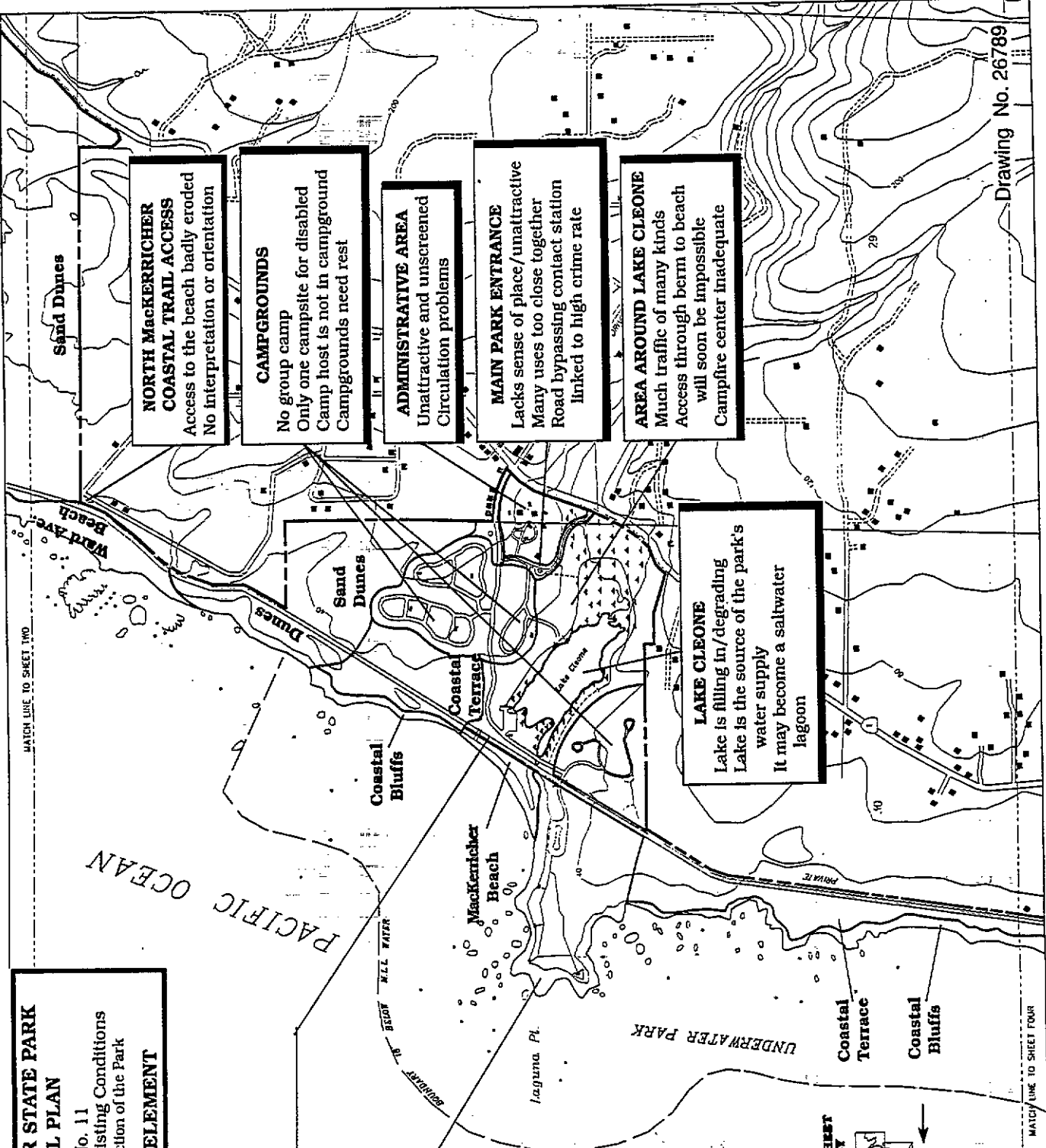
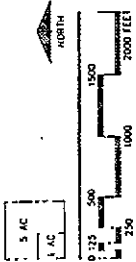
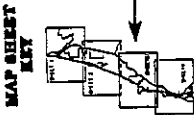
ADMINISTRATIVE AREA
 Unattractive and unscreened
 Circulation problems

MAIN PARK ENTRANCE
 Lacks sense of place/unattractive
 Many uses too close together
 Road bypassing contact station
 linked to high crime rate

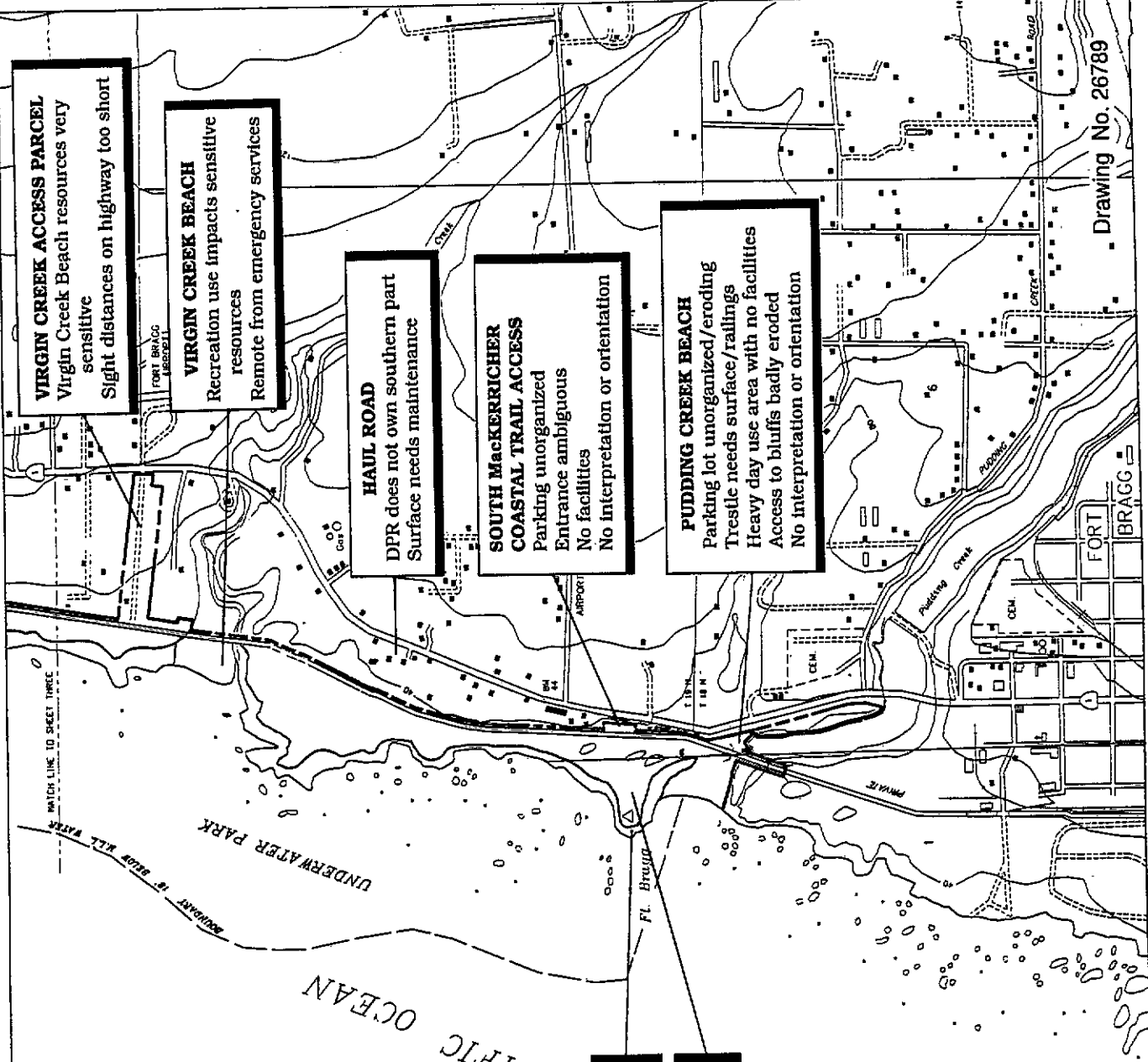
AREA AROUND LAKE CLEONE
 Much traffic of many kinds
 Access through berm to beach
 will soon be impossible
 Campfire center inadequate

LAKE CLEONE
 Lake is filling in/degrading
 Lake is the source of the park's
 water supply
 It may become a saltwater
 lagoon

- LEGEND**
- STATE PARK BOUNDARY
 - PRIMARY HIGHWAY
 - PAVED ROAD
 - UNPAVED ROADS
 - TRAILS
 - INTERMITTENT STREAMS
 - PERENNIAL STREAMS
 - EXISTING BUILDINGS
 - UNDERWATER PARK BOUNDARY



**MACKERRICHER STATE PARK
GENERAL PLAN**
Map No. 11
Park Areas and Existing Conditions
Southern Section of the Park
LAND USE ELEMENT



VIRGIN CREEK ACCESS PARCEL
Virgin Creek Beach resources very sensitive
Sight distances on highway too short

VIRGIN CREEK BEACH
Recreation use impacts sensitive resources
Remote from emergency services

HAUL ROAD
DPR does not own southern part
Surface needs maintenance

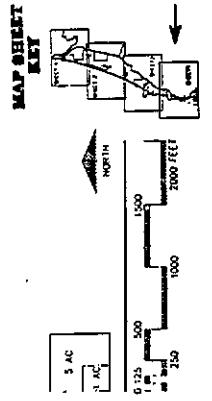
SOUTH MACKERRICHER COASTAL TRAIL ACCESS
Parking unorganized
Entrance ambiguous
No facilities
No interpretation or orientation

PUDDING CREEK BEACH
Parking lot unorganized/eroding
Trestle needs surface/railings
Heavy day use area with no facilities
Access to bluffs badly eroded
No interpretation or orientation

COASTAL BLUFFS
Badly eroded

COASTAL TERRACE
Many volunteer trails

- LEGEND**
- STATE PARK BOUNDARY
 - PRIMARY HIGHWAY
 - PAVED ROAD
 - UNPAVED ROADS
 - TRAILS
 - INTERMITTENT STREAMS
 - PERENNIAL STREAMS
 - EXISTING BUILDINGS
 - UNDERWATER PARK BOUNDARY



Fort Bragg's LCP encourages the department to preserve coastal views at Pudding Creek, to provide increased and easier access, and to develop visitor-serving facilities.

PUBLIC OPINION

Public input regarding this area, which was predominantly local, revealed a desire to keep Pudding Creek development to a minimum. People also wished to retain pedestrian and equestrian access to the haul road from Pudding Creek.

SITE ANALYSIS

The beach associated with Pudding Creek is broad and open. Any day use developments there would be visually intrusive, so it would be preferable to keep land use on the ocean side of the trestle unchanged. As the trestle effectively separates the parking area, pump station, and nearby traffic from the beach beyond it, keeping development inland of the trestle would not only minimize its impact on the beach but would also make it easily accessible for parking and utilities.

For facilities recommendations for the Pudding Creek area, see pages 158-159.

SOUTH MacKERRICHER COASTAL TRAIL ACCESS

EXISTING CONDITIONS

This small, department-owned parking lot serves 25 to 30 cars and lies between Highway 1 and the haul road approximately one-half mile north of Pudding Creek. Its function is to furnish access to the trail on the haul road and the park lands in this vicinity. Only about a third of the .88-acre parcel is now used for parking. It is poorly organized (unsurfaced), poorly marked, and has no facilities. The vehicle entry and exit are ambiguous, and it lacks signing to direct visitors.

RESOURCE ELEMENT GUIDELINES AND/OR OTHER AGENCY DIRECTIVES

The parking area is located in the Coastal Terrace Resource Management Zone. Recommendations for that RMZ apply to this site. The Resource Element directs the department to protect special species and their habitats, to remove non-native trees, to protect archeological sites, and to keep the open space feeling of the coastal terrace. It approves development of compatible recreational access where resource values can also be preserved.

The county LCP calls for maintaining coastal access for non-vehicular uses from this location and also for installation of directional signing.

Fort Bragg's LCP reflects concern for the sensitivities of the coastal terrace and bluffs, calling for improved access but recommending no facilities except for a fenced walkway out to the bluffs. It also recommends that the department provide an additional access point north of this parking area with another fenced walkway across the terrace to the bluffs to serve the area annexed by the city.

PUBLIC OPINION

Opinion expressed at the public workshops favored enlarging this access point so that it could become the primary staging area for the coastal trail in this vicinity and also for the southern part of MacKerricher State Park.

SITE ANALYSIS

With careful development, especially the addition of native plantings, this site could regain a sense

of connection with the coastal terrace inside the park, even while land use becomes more intense. Because this site will ultimately become the major access point to this part of the park, it may need to be expanded. With the recent acquisition of this section of the haul road, rerouting of the coastal trail and the equestrian trail west of the site could allow more space for parking and day use facilities. This could also enhance the park visitors' experience and their recreational opportunities.

For facilities proposals for the South MacKerricher Coastal Trail Access site, see pages 159-161.

COASTAL BLUFFS AND COASTAL TERRACE

These landscape types are exposed and highly visible. In addition, they are both easily erodible and are rich in archeological sites. These characteristics present problems for park use. Respecting their fragility, openness, and cultural and esthetic sensitivities, the bluffs and terrace should generally be avoided as sites for facilities development except where the developments would function specifically to protect them (e.g., boardwalks, stairways, prepared trails).

COASTAL BLUFFS

EXISTING CONDITIONS

From Pudding Creek to Laguna Point, the park's shoreline is characterized by low bluffs. Rocky stretches of the shore contain tidepools, attracting park visitors to explore. In other areas, the sandy beach material blends into the bluffs. Bluff erosion is an ongoing natural phenomenon.

Bluffs possess an attraction for visitors because they are an edge, an overlook, and they give access to beach and tidepool areas. Almost everybody on the haul road at some point tramps over to the edge of the bluffs to watch the waves crash among the rocks or to feel the wind rush in their faces. Many then scramble down the face of the bluffs as best they can, taking rocks and soil with them.

RESOURCE ELEMENT GUIDELINES AND/OR OTHER AGENCY DIRECTIVES

Resource directives protect the ecosystems, special species, and archeological sites associated with the bluffs. The directives are also aimed at keeping the bluffs secure from offshore and onshore development impacts while allowing natural geologic and ecosystem processes to go on. Directives establish zones for facilities exclusion and mandate non-structural solutions to coastal erosion except where absolutely necessary.

The LCP warns of the hazards of coastal erosion. It also permits use of stairways or other devices to get people down the bluffs.

PUBLIC OPINION

At the public workshops, the public expressed concern about the erodible nature and fragility of the bluffs. However, people felt that a trail along the blufftops in the southern part of the park would be desirable if further negative impacts could be avoided.

SITE ANALYSIS

The bluffs have remained completely undeveloped and, because of their fragility, they are not likely sites for permanent developments. However, to prevent human-accelerated erosion that impacts them, hardened surfaces should be provided to take foot traffic along the bluff edge. This is also true of places where access down to the beach and tidepool areas will be encouraged. The department has to take control of this situation and focus use upon places and improvements that will both enhance visitor safety and

prevent further wear on the landscape. Thus, land use in the bluffs area should be more focused and its associated impacts lessened.

For proposals for the coastal bluffs, see the Facilities Element, page 161.

COASTAL TERRACE

EXISTING CONDITIONS

The coastal terrace extends from Pudding Creek north to Laguna Point. It is twenty to forty feet above the level of the ocean. Much of it is covered with archeological sites, attesting to the popularity of this region with the Native American peoples who once dwelled upon these shores.

In spring, the terrace can be covered with wildflowers. Other than this, its vegetation is mainly grasses, occasional shrubs, beach pines, Monterey cypresses, and Himalaya berry thickets.

South of Laguna Point, the terrace is undeveloped, save for the haul road and the deeply etched equestrian trail. Numerous volunteer footpaths crisscross the terrace, many leading to the bluff edge for access down to the beach. These have impacted some of the archeological sites.

RESOURCE ELEMENT GUIDELINES AND/OR OTHER AGENCY DIRECTIVES

The Resource Element emphasizes preservation and protection of ecosystem processes, special species, and archeological sites on the coastal terrace. It also suggests safeguarding the open character of this landscape. In one of the directives, the element proposes a study to determine what the pristine condition of the terrace vegetation was so as to establish a base to guide vegetation management.

PUBLIC OPINION

A few visitor surveys mentioned the open character of the landscape at MacKerricher as a favorite feature. This quality is certainly characteristic of the coastal terrace. In the public workshops, people expressed their concerns regarding the great number of volunteer trails on the coastal terrace.

SITE ANALYSIS

This landscape would seem to have development potential because it is mostly level and has few barriers to access. On the other hand, directives in the Resource Element deal with the resource sensitivities of the terrace and dictate extreme care. Further, almost anything built in this landscape is visible from a long distance. Land use on the coastal terrace needs to be focused and controlled.

For facilities proposals for the coastal terrace, see page 161.

VIRGIN CREEK

EXISTING CONDITIONS

Virgin Creek Beach presents a paradoxical situation. It looks like a perfect recreational beach, but not immediately visible are fragile and sensitive resource values easily impacted by common beach activities. This situation is repeated at other sensitive resource areas in the park.

The area consists of the beach formed by Virgin Creek and also the property owned by the Department between Highway 1 and the haul road. The haul road divides the beach from the winding

creekbed and a small wetland associated with it.

Virgin Creek Beach is relatively secluded compared to other beaches in the southern part of the park. Still, it has a magnetism that draws a wide range of people seeking recreation. Though relatively small, its deep, white sands and well-formed breakers make it desirable enough for people to walk more than half a mile to get to it, some even carrying surfboards.

The beach attracts western snowy plovers to forage. This is a sensitive species, now federally listed as threatened. The number of birds present has decreased due to the stress caused by people coming to picnic, frolic in the water, and run their dogs and horses.

The 10.25 acres of property between the haul road and Highway 1 was purchased to provide formal beach access in anticipation of removal of motorized traffic from the haul road. However, the limited frontage of this property on the highway allows only a few people to park on the highway shoulder at a time, and sight distances along the highway are poor. People gain access to park property through a designated opening in the fence. A path leads them to the haul road near Virgin Creek.

RESOURCE ELEMENT GUIDELINES AND/OR OTHER AGENCY DIRECTIVES

The Resource Element deals with Virgin Creek Beach in the same manner as Pudding Creek Beach, identifying it as a sensitive coastal lagoon floodplain that needs protection of its wetlands, special plant and animal species, and natural riverine processes. A directive in the element forbids opening the lagoon (for flood protection) unless permits are obtained, and a management plan prepared. In addition, another directive states that, because of the resource sensitivities in the Virgin Creek area (the snowy plovers), human recreational intrusion should either be restricted or limited to specific times to avoid further impacts. This directive requires the department to coordinate with the Department of Fish and Game and the U.S. Fish and Wildlife Service because the western snowy plover is a listed species.

The LCP recommended limited parking and wheelchair access here, as well as construction of a haul road undercrossing to provide better access to the beach at Virgin Creek. However, this last proposal was written when logging trucks still used the haul road. Proposals in this general plan are in conflict with these LCP mandates because of the unsuitability of this property for parking development and the fact that logging trucks are no longer a hazard to park visitors.

PUBLIC OPINION

Visitor response on the surveys did not mention Virgin Creek because visitors from outside the local area were largely unaware of it. However, local residents and concerned interest groups had much to say about it. Some equestrians originally hoped to use the beach as a "play" area for their horses. Individuals and groups with an interest in birding pleaded to save the dwindling numbers of snowy plovers by removing recreational uses that stress them, especially equestrian use and dogs running off the leash. Other people spoke vigorously in favor of the ability to drive to the beach on the haul road.

Local residents also felt strongly about the future of the property adjoining Highway 1. A number wrote to the department expressing their opinion that it should not be developed. The only local interest group that favored development, in fact, were some equestrians who, early in the planning process, asked for a day use and staging area on this property. Another equestrian group requested an equestrian camp.

SITE ANALYSIS

The department's primary mission with respect to state parks is to protect resource values of high quality. With the haul road closed to motorized traffic, the resulting relative remoteness of Virgin Creek Beach will afford the department a better opportunity to do so.

Planners scrutinized the property between the haul road and the highway carefully. Land use decisions had to take into account the sensitive nature of the beach resources and the hazardous sight distances where the property joins the highway.

For facilities recommendations for the Virgin Creek area, see pages 161-162.

LAGUNA POINT

EXISTING CONDITIONS

Laguna Point is a rocky outcrop projecting westward into the ocean. Its top is flat and grassy, and its sides slope steeply down to a rocky shore. It combines the landscape qualities and resource sensitivities of both the coastal terrace and coastal bluffs. The ocean has battered it on three sides, sculpting rocks sporting tidepools or attractive to seals for hauling out, and has modeled tempting shapes in the bluffs that invite visitors to explore. People are a highly visible impact on the landscape at the point.

The point is the only place in the park with a significant view east toward the mainland. The wide sweep of MacKerricher Beach northward and the sight of crashing breakers and coastal woodlands framed by timbered mountains is grand and colorful and gives a true sense of being on the edge of the continent.

Laguna Point lies west of the haul road, with vehicular access via an underpass beneath the berm. The park road ends at a 45-50 car parking lot located on the northeast side of the point. This is a popular abalone diving area and, for the convenience of divers, an outdoor shower has been installed at the northeast corner of the parking lot.

Owing to the nearness of Laguna Point to the most heavily used day use areas of the park, it is seasonally overloaded by visitors. This has some undesirable consequences. Many of the people using the boardwalk freely leave it to clamber down the bluffs, harass marine mammals at the haul-out area, and climb around and into the tidepools, sometimes removing items from them.

RESOURCE ELEMENT GUIDELINES AND/OR OTHER AGENCY DIRECTIVES

The Resource Element's two main objectives with respect to Laguna Point are to halt the trampling of vegetation and archeological sites and to remove exotic vegetation. It also emphasizes the importance of protecting marine life.

The LCP mandates protection of archeological sites. It also directs the department to regulate access on the point in order to protect the harbor seal haul out area. Proposals in the Interpretive and Operations elements to provide more patrols and docent support in the haul out area should result in additional protection, if not actual regulation of access.

PUBLIC OPINION

Park visitors like Laguna Point. Many survey respondents claimed that the boardwalk and the viewing platform were their favorite places in the park.

SITE ANALYSIS

The same site attributes discussed for the terrace and bluffs are also true at Laguna Point. Built elements should not intrude upon the horizontal character of the landscape. As on the terrace and bluffs, land use needs to be focused and controlled.

For facilities proposals for Laguna Point, see page 162.

THE MAIN PARK ENTRANCE**EXISTING CONDITIONS**

Entering the park off of Highway 1, you are immersed in a lush, green landscape. The curving road ascends a hill. However, when you reach the contact station, the tree canopy disappears and several scattered and discordant features come into view – phone booths, wood bins, the camp host trailer, and a wide expanse of asphalt with confusing circulation.

The official park entrance is located about midway between its southern and northernmost points. The entrance area contains the entrance road, contact station, and park office, which also doubles as a small interpretive center, an eight-car parking lot, two phone booths, a shed for firewood, and the camp host's concession. The entrance to one of the campgrounds begins just north of the contact station. A sanitary dump station for the use of park visitors, and the park's staff residential area, shop, water treatment plant, and storage yard are situated close by.

A major visitor security problem that needs to be resolved by this general plan originates in the park entrance area. The park's contact station is on the park entrance road. However, Mill Creek Drive forms an intersection with Highway 1 about 850 feet north of the entrance road turnoff. During the park's development, Mill Creek Drive was extended to become the main route for circulation to the campgrounds and the Lake Cleone-Laguna Point area. It bypasses the contact station and enters the park approximately 600 feet west of the highway. People who know this road can use it to enter the park unobserved by department staff. This has contributed to MacKerricher State Park's high crime and vandalism rates (see Appendix D).

RESOURCE ELEMENT GUIDELINES AND/OR OTHER AGENCY DIRECTIVES

The Local Coastal Plan directs that Mill Creek Drive should be kept open for free day use access to the beach for vehicles, equestrians, and pedestrians.

PUBLIC OPINION

The entrance bypass road issue was one that galvanized public opinion. Many of the survey respondents indicated that they did not feel secure in the park because people could come in and leave without contact with department staff, and some respondents had been victims of theft. The local residents, on the other hand, vigorously defended free and unrestricted access to the park via the road.

In addition, a number of survey respondents complained of automobiles noisily speeding down the road at night and creating hazards for them and their children during the day.

SITE ANALYSIS

The entrance area suffers from the juxtaposition of several clashing elements. It needs more separation, or at least screening, between them, as well as the relocation of uses better provided elsewhere. The park entrance should focus visitors' first impressions on the natural aspects of the park and on the contact station. Design solutions can contribute to improvements in this area.

For facilities recommendations for the park entrance area, see pages 163-164.

STAFF ADMINISTRATIVE AREA**EXISTING CONDITIONS**

The administrative area contains the park's residential and maintenance facilities and extends from

the intersection of Highway 1 and Mill Creek Drive west and south to the park entrance road. The residential portion contains one house and five trailers. To the north is the sanitary dump station used by park visitors. The shop area consists of eight buildings of various sizes for maintenance activities and storage. These facilities will become inadequate as this plan is implemented and when MacKerricher becomes responsible for maintenance at Westport Union-Landing State Park. East of the shop area is a large grassy space used for storage. This space was once well screened from Mill Creek Drive, but the row Monterey cypress along its north edge have been pruned so that they no longer hide it. Access to the administrative area is via the same road that serves the sanitary dump station. Service traffic on this road sometimes conflicts with that on the park entrance road, as well as RVs using the dump facility.

RESOURCE ELEMENT GUIDELINES AND/OR OTHER AGENCY DIRECTIVES

The administrative area is located in a space that was once covered by coastal forest, although most of the native trees are gone and some non-natives have been planted. The area would fall under the guidance of directives for coastal forest in the Resource Element, as well as those directives that mandate the replacement of non-natives by native plants.

SITE ANALYSIS

At this time, traffic to and from this area, as well as the sanitary dump station, must all use the same road for access. This sometimes creates an unduly heavy traffic load. Additional administrative and maintenance activities here in the future will create even more traffic. The grassy storage area is currently used for dumping and for storing trailers for a park concession. It is unattractive and mostly empty. Because it is level and almost devoid of resource values, the area might lend itself best to uses involving high impacts that need to be located on the edge of the park.

For facility recommendations for the Administrative Area, see page 164 in the Facilities Element.

CAMPGROUNDS

EXISTING CONDITIONS

The park contains three separate campgrounds, all situated around Lake Cleone.

Camp Cleone is the nearest to the park entrance, lying just above the slope on the north side of the lake. It is the oldest of the park's campgrounds, built in 1952. It is also the least isolated, as Mill Creek Drive skirts its northern edge, and the park's campfire center is just south of it. It contains one loop with 20 family campsites and also the park's bicycle campground and has one restroom/shower building.

Pinewood Campground was built in the late 1950s. It is on the level land north of Mill Creek Drive across from Camp Cleone. The 87-space campground has east and west loops and four restroom/shower buildings. Access to the campground is from Mill Creek Drive. An aged forest of Bishop pine forms a canopy over much of the campground and requires vegetation management for visitor safety.

Surfwood Campground is situated at the southwest corner of Lake Cleone. The area is hummocked and forested mainly with Bishop and beach pines. Two of the camping loops are accessible to vehicles, while the third is for walk-in campers. The campground has two restroom/shower buildings. Surfwood Campground lies right next to a park boundary. The neighboring property has the potential for expansion of this campground. For further discussion of the ramifications of possible expansion for Surfwood, see the Facilities Element, page 165.

The park's campgrounds are very popular, especially with families. Children abound. The campgrounds are full without fail during the summer months and also on weekends from April to June

and from September through Thanksgiving.

Group Camp

There is no group camp at MacKerricher State Park. At this time, groups attempt to reserve two or more adjacent campsites. It is not unusual at any one time for up to a third of the park's campsites to be occupied by groups.

RESOURCE ELEMENT GUIDELINES AND/OR OTHER AGENCY DIRECTIVES

Because it focuses on ecological areas and not land use areas, the Resource Element does not deal with the campgrounds per se. It does call attention to the deleterious effects upon the coastal forest natural community of past tree removal to provide campsites. It also cites trails to the beach over the dunes and coastal terrace as problems generated by people using the campgrounds, especially Pinewood. One of the element's directives is aimed at better vegetation management in the campgrounds.

The LCP approves the addition of up to 50 campsites at MacKerricher State Park.

PUBLIC OPINION

Public opinion from the visitor surveys was more concerned with the campgrounds than with day use, presumably because most of the respondents were campers. Most recommendations were for more hot showers, better fire pits, and more adaptations in the restrooms and showers for disabled persons. By the completion of this general plan, these improvements will be in place. Understandably, the local residents had no recommendations regarding the campgrounds.

SITE ANALYSIS

Pinewood and Surfwood campgrounds function well and need few changes. The addition of a group camp would be a benefit to the park. Camp Cleone could be used for this purpose, but this would at times displace family campers, and it might necessitate moving the bicycle camp.

The ultimate solution for a group camp, as well as more family camping, would be the addition of property for the extension of this land use south of Surfwood Campground. See the Appropriate Additions section at the end of the Land Use Element, page 144.

For a discussion of proposed changes in the campgrounds, see proposals in the Facilities Element, pages 164-165.

LAKE CLEONE

EXISTING CONDITIONS

The heart of the park, Lake Cleone is framed by gentle hills covered with Bishop and beach pines. The forested setting gives few hints of the large number of campsites or the extent of residential development nearby.

There are a 20- to 30-car parking lot, a small boat ramp, and six picnic tables with stoves at the northwest corner of the lake. By the side of the parking lot are a restroom and a dumpster. The restroom is not easily accessible to disabled visitors.

Mill Creek feeds Lake Cleone. The park's drinking water intake is on the lake's north shore. At the lake's west end, a gate regulates the flow of Mill Creek into the ocean.

Although the lake is an artificial feature maintained as a freshwater body, it has resource sensitivities. Where the lake has filled in on its east end, freshwater marsh vegetation has become established, blending into the riparian forest farther east. This has become valuable habitat for birds and other wildlife.

The loss of material from the haul road berm due to natural coastal erosion and strong winter storms could at some time in the future allow seawater to intrude into the lake, perhaps returning it to a saltwater lagoon. Some department staff feel that the beach in this area is high enough to protect the lake from all but the biggest waves but, without further study, it is not possible to know for certain.

RESOURCE ELEMENT GUIDELINES AND/OR OTHER AGENCY DIRECTIVES

The Resource Element examines the ramifications of managing Lake Cleone either as a fresh- or saltwater body (see pages 88-91). It recommends a study to determine what the effects of each would be on groundwater, hydrological regimes, aquatic and wetland resources, vegetation, and sensitive plant and animal communities. Short- and long-term costs and the impacts on visitor use would also need to be examined before the department could make a definite recommendation. If protection of the park's drinking water source and recreational resources is determined to be the best course of action, the Resource Element suggests dredging the lake, but only after thorough study of the possible effects and obtaining the necessary permits.

The LCP focuses on Lake Cleone's resource values, recognizing it as a sensitive coastal wetland. It also mentions the osprey among the rare and endangered animals and plants in the coastal area.

PUBLIC OPINION

When visitor surveys referred to Lake Cleone, it was usually for its recreational amenities. Local residents, on the other hand, at first focused their comments on preservation of the haul road berm, partly for its own recreational value and partly because it protected the lake. However, at the second public workshop where alternative plans were discussed, a sincere concern for the lake's resource values emerged. A large percentage of people attending this meeting favored restricting boating to the west end of the lake to minimize human impacts on the freshwater marsh at its east end. Also, some of the people at this meeting recommended letting the lake become a lagoon, rather than trying to maintain it as an artificial freshwater lake.

SITE ANALYSIS

The lake is a focal point in the park because of its central location and easy access. Sooner or later, almost everyone who comes to the park will come to the lake. As such, the lake shore is a good location for installing interpretation or regulatory signs that need maximum exposure. The essential character of the heavy land use now occurring in this part of the park cannot be expected to change. In fact, it may intensify. Facilities will have to be designed to mitigate human impacts.

See facilities recommendations for Lake Cleone on pages 165-166.

THE AREA AROUND LAKE CLEONE

EXISTING CONDITIONS

This land use area consists of the land flanking Lake Cleone, excluding the campgrounds. It includes the slopes around the north, east, and south shores of the lake, the level land with a view of the lake adjoining the north slope, and the riparian forest and freshwater marshes on the lake's east and south sides. Also a part of this discussion will be the park road where it passes Lake Cleone and MacKerricher Beach, which is west of Lake Cleone and the haul road berm.

Mill Creek Drive, which becomes the park road, enters this area north of Lake Cleone and then curves to the south to parallel the haul road berm. This road is the only formal path lying between the lake and the berm and is traversed by many people on their way to Laguna Point, to use the haul road, to Surfwood Campground, or to exit the park. Except for the campgrounds and the park's administrative area, this land use area is the most densely developed part of the park.

Because it is so close to the busy area around the lake, MacKerricher Beach is the most heavily used beach in the park. Visitors can access this beach from Laguna Point, where the north edge of the parking lot is close to the sandy beach area south of the Mill Creek outlet to the ocean. Another access corridor begins west of Lake Cleone and reaches the part of the beach north of the Mill Creek outlet via a corrugated pipe tunnel through the haul road berm. This underpass has been impacted by winter storm wave damage during the period that this plan has been in preparation.

Paths, both formal and volunteer, are numerous. It is, in fact, difficult to discern which are formal, designated trails and which are not. Many lead to the haul road. There are trails on either side of the park road used by pedestrians and horseback riders to avoid competing with automobiles.

The other facility in this area is a small, primitive temporary campfire center atop the slope north of the lake. It is located in an area of extreme archeological sensitivity.

RESOURCE ELEMENT GUIDELINES AND/OR OTHER AGENCY DIRECTIVES

Directives have been developed in the Resource Element that stress the protection of the natural dynamic processes of watercourses. It also directs that trails and flood control measures should not interfere with natural periodic inundation. Habitats and rare species must be preserved.

PUBLIC OPINION

Local residents did not have comments regarding use of this area. They did, however, speak to the issue of preserving riparian vegetation, bird habitat, and the freshwater marshes at the east end of the lake.

SITE ANALYSIS

Very little of the area around the lake would be suitable for development. It is either sloping, wet, the site of rare plants, or already built upon. The land south and west of Camp Cleone is a notable exception, being relatively flat and containing some buildable areas free of resource sensitivities. These would allow for a modest expansion of land uses here.

For facilities recommendations relating to the area around Lake Cleone, see page 165-167.

NORTH MacKERRICHER COASTAL TRAIL ACCESS

EXISTING CONDITIONS

This informal 15- to 20-car parking lot lies on the ocean side of Ward Avenue. On the other side of the street, a subdivision extends east to Highway 1. A corrugated steel tunnel passes beneath the haul road for access to the beach and ocean. However, the trail leading down the bluff is steep and badly eroded. Substantial surface drainage from the adjacent subdivision flowing through the underpass has accelerated this erosion. Although people often spend many hours in the areas accessible from this point, there are currently no restroom facilities.

This point of access serves the state park but is located on neighboring county land. It is the most northern access point in the southern part of the park and is the only place providing circulation to the

coastal trail on the haul road serving the large part of the state park between Ward Avenue and Ten Mile River. From the coastal trail north of here, dramatic views of the sand dunes that cover most of the northern half of the park and access to long and narrow Ten Mile Beach are available

RESOURCE ELEMENT GUIDELINES AND/OR OTHER AGENCY DIRECTIVES

The Resource Element speaks to the issue of bluff erosion and sets parameters on what solutions can be taken to resolve this problem.

The LCP states that the "parking area and beach access should be maintained as part of the MacKerricher State Beach. The park management plan should specifically address parking and signing of this access point and make specific recommendations which will mitigate for the adverse impacts of increased visitor use within Cleone Acres Subdivision."

PUBLIC OPINION

Public opinion was divided regarding this access area. The local equestrians requested that the lot be enlarged to accommodate two or three horse trailers. Other comments concerned providing better access for disabled persons and creating barriers so that off-road vehicles will no longer be able to leave the parking area and drive over the bluffs and dunes in the vicinity. Nearby homeowners were against further signing or development in this location, as the traffic associated with the parking was already a burden to them. There were also several requests for another access point to the northern part of the park.

SITE ANALYSIS

The land base for future expansion in this area is limited. Creating a major point of access at this site would entail further impacts upon people living nearby. Therefore, land use here should remain essentially the same, despite recommendations in the LCP. Public desires for better access for disabled visitors, as well as OHV barriers, were contradictory. Planning team members determined it would not be possible to create a barrier that could do both. In this instance, the department's commitment to making the park as accessible as possible would have to prevail.

For proposals for the future of the North MacKerricher Coastal Trail Access, see page 167.

SAND DUNES

EXISTING CONDITIONS

The main body of the dunes encompass hundreds of acres at the north end of the park, from north of Pinewood Campground to Ten Mile River. The department also manages 120 acres of dune land under a lease from the Bureau of Land Management. The lease was negotiated in 1983 and has a term of 25 years. The dunes occur in five lobes of varying size. The inland margins of the dunes are actively moving, though less so than in the past. At that time, heavy logging upcoast contributed a great deal of sediment to the ocean from which dune sand could be recruited. In addition, off-road vehicular use, which is now prohibited, destabilized the dunes, causing them to migrate inland.

The dunes are not developed and are empty, save for the tattered remnants of the dune stabilization study conducted there by department staff several years ago. Access is available at their south end from the North MacKerricher Coastal Trail Access and at their north end from informal parking areas at Ten Mile River, where people trespass across private property to get into the dunes.

RESOURCE ELEMENT GUIDELINES AND/OR OTHER AGENCY DIRECTIVES

The Resource Element deals with the sensitivities of the sand dunes at length. It proposes a Dune Management Plan to assess areas of past and present change and imbalance and to survey current use. It recommends replacing non-native vegetation in the dunes with natives, starting in places remote from existing residential development. The element directs that use in the dunes be focused, rather than free-ranging, and that any development should be in harmony with the natural dynamics of the dune system and unobtrusive. It also directs the department to subclassify the dunes as part of the Inglebrook Fen-Ten Mile Dunes Natural Preserve.

Several stipulations contained in the 1983 BLM lease affect general planning for the land owned by that agency. The lease requires that the department inform the BLM of any land use changes on the leased lands and that it also perform intensive sensitive plant and archeological site field surveys. The lease also permits the department to renew the lease for an additional 25-year term, as well as granting an "irrevocable option to patent" the land upon the completion of an "adequate Master Plan". This general plan will fulfill the master plan requirement.

The LCP calls for preserving and protecting sand dunes as environmentally sensitive habitats for scientific, educational, and passive recreational uses, with vehicles prohibited and public access confined to well-defined paths. It also contains guidelines for development in dune areas.

PUBLIC OPINION

Before the Department of Parks and Recreation acquired the dunes, they were the site of uncontrolled off-highway vehicular use. In the 1970s, when the department was negotiating with the Bureau of Land Management for the land it now leases, there was considerable correspondence from the local populace supporting continued OHV use. However, other local residents led a strong anti-OHV movement that eventually led to the ban of this activity on park property and the addition of more dune property to the park. Occasional trespassing by OHV users continues to be a problem. Local public opinion now strongly supports preserving the dunes. Neighboring landowners are especially interested in keeping them free from any kind of use that might promote further migration.

SITE ANALYSIS

The sand dunes are too ephemeral to support anything but minimal development. Visitor use should be limited in the sand dunes and should be concentrated in areas prepared to deal with the impacts of human intrusion.

For facilities recommendations for the sand dunes, see page 167.

INGLENOOK FEN**EXISTING CONDITIONS**

This unusual landscape type is of great interest to the scientific community. Like some of the other sensitive resource areas in the park, however, its values are not easily visible to those who do not know how rare and unusual it and many of its resident plant and animal species are.

Lying between two large dune lobes, the fen is a low swath of green, the only coastal fen in California. On its west side, Sandhill Lake sits where sand blocks Fen Creek's passage to the ocean. To the east, the fen spreads out, terminating in the somewhat drier and brushy fen-carr. All of these areas are rare habitats and contain species of plants and animals found nowhere else. This area is undeveloped. Few visitors

know of its existence, much less attempt to go there. The fen itself is too wet for access, although an overview can be obtained from the sand dunes flanking it.

RESOURCE ELEMENT GUIDELINES AND/OR OTHER AGENCY DIRECTIVES

The Resource Element recommends preparation of a fen management study to be integrated and coordinated with the dune study. It further directs access here to be limited to groups accompanied by an interpretive ranger on a well-planned nature trail. The element also stresses the importance of watershed protection and directs the department to monitor water quality in the fen and work with neighboring property owners in their land use planning. The element directs that the fen become part of the natural preserve, along with the dunes and prairies.

The LCP states that "the fen clearly is a wetland subject to protection by the Coastal Act", which would entitle it to protections afforded all wetland areas. It also recommends installation of a trail to the fen from the Grange at Highway 1 to provide "limited access for scientific study".

PUBLIC OPINION

Public opinion received regarding the fen emphasized the importance of protecting it from development and intrusion. Although some local residents recommended routing controlled access to the beach through here, there were also strong objections to providing any trail at all into this area.

SITE ANALYSIS

Because it is fragile and also a wetland, access into the fen itself could only be possible if some facility, such as a boardwalk, were constructed there. However, this could invite more visitation than the area could sustain. The department has not encouraged access because it has not wanted to invite public use. At this time, the existing informal trail system satisfies the need for controlled access for scientific purposes and occasional guided tours.

For further recommendations regarding Inglenook Fen, see page 167-168.

COASTAL PRAIRIES

EXISTING CONDITIONS

The grassy areas east of Inglenook Fen are the location of a rare native prairie vegetation. They are accessible through a gate off of Highway 1, which defines the park's eastern boundary in this vicinity. Trees (mostly exotics) and shrubs rim the prairies on the north and south. To the west, sand dunes rise up abruptly from the grassy flats.

The prairie east of the fen contains a barn now used by park staff for cutting and storing wood that is sold in the park for firewood. This present use provides a service for the public. It should be noted that the barn is situated in the fen watershed and the natural preserve.

Coastal prairies are small areas. They are framed on the north and south by trees and shrubs and bordered on the east by the highway. Dune fingers project into their western edges. Their special nature as prairies is not apparent to the casual visitor. Rather, they are of interest mainly to scientists.

RESOURCE ELEMENT GUIDELINES AND/OR OTHER AGENCY DIRECTIVES

The Resource Element recognizes the prairies as a rare natural plant community, the hydrology of which is closely linked with nearby riparian areas. It directs study and restoration of these areas including

removal of non-native shrubs and trees. Furthermore, it includes the coastal prairies with the fen and sand dunes in the proposed natural preserve.

PUBLIC OPINION

Some individuals expressed an interest in the barn. A few horse enthusiasts mentioned it as a possible staging area for rides through the dunes to the beach. It was also proposed at different times as the location for a group camp or an outdoor education center.

SITE ANALYSIS

These areas are flat and seemingly developable. However, they are part of the park's proposed natural preserve for their rare and sensitive biological features and are remote from the more heavily used areas of the park. Moreover, they would not be easily developable for safe access off of Highway 1, which is narrow and has high speed traffic in this area. Development here is not recommended, and land use should not change with implementation of this general plan. It is the goal of the department to maintain the scenic quality of the area, so it is important to recognize that the barn is highly visible from the highway, as well as the surrounding park land.

For further recommendations for the coastal prairies, see page 168.

THE WETLAND/RIPARIAN SYSTEM ON INGLENOOK CREEK

EXISTING CONDITIONS

This wetland area consists of an outlet between two dune lobes and runs from a segment of coastal prairie adjacent to Highway 1 to Ten Mile Beach. The prairie is at an elevation of approximately fifteen feet above the highway. West of the prairie, the lowland soils are very wet and vegetation is impenetrable. There are no built features, aside from a wire fence.

RESOURCE ELEMENT GUIDELINES AND/OR OTHER AGENCY DIRECTIVES

Investigation subsequent to the general plan inventory by Resource Management Division staff has identified well preserved coastal prairie on this property with the likelihood of rare plants also being present. This means that the directives relating to preservation of special plants and plant communities would apply to this property.

SITE ANALYSIS

The planning team hoped that another access point to the northern part of the park might be possible across this property. However, the difference in elevation between the prairie and the highway, in addition to poor sight distances on the highway, both horizontally and vertically, would make this area unsuitable for parking development. Furthermore, the saturated soils in the lower reaches of the drainage would make any kind of access impossible without construction of considerable stretches of boardwalk.

TEN MILE BEACH

EXISTING CONDITIONS

Separated from the dunes by the northern arm of the haul road is a long, gray, sandy beach, stretching level for miles. This area is completely undeveloped.

RESOURCE ELEMENT GUIDELINES AND/OR OTHER AGENCY DIRECTIVES

The Resource Element identifies management objectives for Ten Mile Beach that would minimize development impact on its scenic values, protect it from offshore development influences, and maintain the natural processes at river and creek mouths. The element recommends monitoring cliff retreat, landslides, and beach elevation and width. The beach is to be included in the park's natural preserve.

The LCP expresses a concern for the dunes, but it does not distinguish the beach as separate.

PUBLIC OPINION

Local residents expressed their satisfaction with the beach as it is, except for one suggestion to place campsites at intervals along its length.

SITE ANALYSIS

This beach lacks screening, protection, and suitable sites for facilities development. In addition, it would be impossible to provide the services necessary to support development on Ten Mile Beach.

Further recommendations for Ten Mile Beach are contained on page 168 in the Facilities Element.

TEN MILE RIVER**EXISTING CONDITIONS**

Ten Mile River defines the northern boundary of MacKerricher State Park. The river sweeps out to the ocean past a sand spit recently acquired by the department. South of the spit, the northern lobe of the sand dunes stretches south toward the rest of the park. The department does not own the land between the sand dunes and spit and Highway 1 but has recently been awarded grant funding for property that could make this connection.

The Georgia-Pacific Company operates an active haul road east of the highway over an easement on private property owned by the same parties who own the land adjoining the park boundary. The active haul road intersects the highway at the top of the hill about one-half mile south of the bridge and descends to the river edge. Almost at the river shore, this road joins the inactive haul road that runs through the park. The active haul road turns upriver, while the inactive haul road passes under the highway bridge on its way west toward the park boundary. Wetlands useful to wildlife can be found on both sides of the haul road in the vicinity of the bridge.

At the top of the hill on the west side of the highway, Caltrans long ago constructed a large asphalt mixing table. It is still used by Caltrans for dumping. People also use it for informal parking. From there, they cross private land to access the dunes, beach, and river shore. In addition, a small unsurfaced area adjacent to the west side of the bridge approach and the highway is frequently used for parking. The steep access from this point has resulted in eroded trails leading into the dunes and to the river shore.

RESOURCE ELEMENT GUIDELINES AND/OR OTHER AGENCY DIRECTIVES

This northernmost part of MacKerricher State Park falls within the area designated by the Resource Element to be a natural preserve. This would preclude any substantial development in the area. The element states "There should be minimum development impact on scenic resources.... Natural processes must be maintained at the river mouth."

The LCP recognizes several significant resource values at Ten Mile River. It places the river among coastal wetlands worthy of protection. The river supports an anadromous fish population, requiring a 100-

foot buffer. The LCP has also outlined specific policies with reference to recreation at Ten Mile River: "DPR should develop access, including boating access, from the south shore.... DPR should build parking for trails to the beach and the river."

The Department of Fish and Game (DFG) is concerned about the protection of the Ten Mile River wetlands because of their value to wildlife, particularly birds. DFG intended to acquire the wetlands on the river shore at the time the LCP was written and still has the intent if property owners should be willing to sell, although there is no funding at this time. Since the LCP was approved, DFG has stated that there should be no boat access on the river's south shore. The Department of Parks and Recreation's proposals in this general plan will respect DFG's recommendations, although this will create a conflict with the LCP. DPR could also consider allowing DFG to acquire wetlands in State Park System ownership at some time in the future when that agency might be able to do so.

PUBLIC OPINION

The visitor surveys did not mention Ten Mile River, presumably because most people from outside the area were unfamiliar with it. Some local residents said that they would like better access to this part of the park. They recommended acquisition of a land base for a staging area, but only if the seller were willing. Others expressed concern about sensitive wetlands with wildlife value under the highway bridge where a staging area might be developed. Because of resource sensitivities and lack of department ownership, the people at the alternatives workshop supported using the Caltrans mixing table for parking with trails to the beach and river. However, Caltrans opposes use of the mixing table.

SITE ANALYSIS

The main problem at Ten Mile River has been that acquisition of additional property or an easement is necessary to provide any kind of legal access into the area. Other problems that must be addressed relate to its fragility and its lack of formal parking or access to the dunes, haul road, and river. Visitation is expected to increase, whether encouraged by the department or not. If uncontrolled, this could lead to further erosion of the bluffs, destabilization of the dunes, and degradation of the wetlands, as all are sensitive to human intrusion.

In preparing this general plan, the department explored the possibility of gaining access to the northern part of the park from other locations to avoid the problems at Ten Mile River. One possibility was through the wetland around Inglenook Creek, and the other was from land adjacent to the Grange, which is on the highway northeast of the fen. However, use of either of these would entail resource impacts that would potentially be more severe than those at Ten Mile River. For this reason, Ten Mile River is considered the most feasible access to the park north of Ward Avenue. If and when legal access onto park property can be acquired, existing problems might be alleviated by public education through interpretation and facility improvement.

Ultimately, this should be the visitors' northern exposure to the park, clearly identified as being under state management. It should give visitors formal routes for access, as well as interpretation on the sensitivities of the landscape and opportunities for nature observation. The addition of a connection to the haul road will give the potential for providing pedestrian, bicycle, and equestrian access to the coastal trail all the way to Fort Bragg and can provide a fine recreational experience, while also protecting the area's wildlife and other sensitive resources.

The Ten Mile River area contains several contrasting landscapes suitable for various activities. The essential qualities of the area are its remote and unspoiled character and its beauty. Facilities, if badly sited, could be visible and intrusive on the otherwise almost pristine view.

In order for this place not to lose its character and beauty, park development should be low level and screened as much as possible from the highway. In addition, use should be focused onto hardened routes.

This would prevent further overuse and its accompanying erosion, dune movement, and loss of vegetation. In concert with the goal for minimum intrusions upon park resources, this should assure that the area will not become overly impacted by new facilities or inappropriate land uses.

For facilities recommendations for the Ten Mile River area, see pages 168-169.

THE LAND USE PLAN

The intent of this section is to develop a unified concept for perpetuating and protecting the park's resource values while providing for appropriate public use. It contains land use solutions to the issues and problems that have been identified in this element. The land use plan begins with establishment of land use goals and specific actions the department can take to implement these goals and ends with the presentation of the overall land use concept the planning team believes will best serve the park.

GENERAL LAND USE GOALS

The purpose of these goal statements is to create a focus or framework to which the resource management, facilities, interpretation, public services, and operational proposals in this general plan can relate. Specific actions for achievement of each of the goals are listed beneath each goal.

RESOURCES

Natural Resource Preservation

Goal: Protect the park's sensitive resources.

- Restrict access in areas most sensitive to impacts: the fen and other wetlands, and the sand dunes
- Reduce the amount and level of use in areas with sensitive plants and animals, such as Virgin Creek Beach, the area northwest of Lake Cleone, and at the tidepools at Laguna Point.
- Provide facilities where there will be access for the public that will protect sensitive features, such as the bluffs, the coastal terrace, and the wetlands around Lake Cleone.

Goal: Identify, protect, and perpetuate the diversity of the existing ecosystems found at MacKerricher State Park and that are representative of the California coastline.

- Continue to identify and protect threatened and endangered plant and animal species, marine mammals, and other sensitive natural resources.
- Maintain and restore natural processes through research and implementation of programs relating to wildlife, prescribed burning, exotic plant and animal reduction, regulation and control of resource use, shoreline erosion, and pollution control.
- Give sufficient protection to appropriate parts of the park, such as the tidepools at Laguna Point, for necessary resource protection.

Goal: Restore park resources that have been damaged.

- Monitor terrace and bluff erosion due to human use and propose methods for restoring and protecting these areas.
- Implement the vegetation management plan in the park's coastal forest areas.

Goal: Minimize the impact on park resources resulting from current human activities outside the park.

- Assess the impact on park natural resources of adjacent existing land uses and proposed

changes through watershed research and water quality monitoring activities.

- Cooperate with other government agencies and private interests in planning for management and use of resources adjacent to the park to prevent adverse resource and scenic impacts within the park.

Cultural Resource Preservation

Goal: Identify, protect, and preserve the significant prehistoric and historic resources of MacKerricher State Park.

- Reduce, control and, where possible, eliminate access where there are archeological sites.
- Propose methods for protecting the many archeological sites throughout the park.
- Inventory features and/or events that have played a part in the recorded history of the MacKerricher area, such as the creation of the Mendocino Indian Reservation, farming and ranching activities, logging, and other land and water uses.
- Retain and stabilize historic structures pending their historical evaluation.

RECREATION

Goal: Promote access to and recreational opportunities within the park.

- Provide for a variety of land uses and developed facilities that protect sensitive areas and promote appropriate activities in areas where public use is encouraged.
- Provide a series of access points that spread out use in the park and contain suitable support facilities.

CIRCULATION

Goal: Develop a safe and efficient circulation system.

- Develop a well organized and esthetic main park entrance.
- Develop adequately sized, well designed and well organized parking at park access points.
- Create clear and separate circulation routes for equestrians, pedestrians, and bicyclists west of Lake Cleone.
- Eliminate volunteer and redundant trails; focus use onto prepared surfaces.
- Where appropriate, construct boardwalks for public access and to protect sensitive areas.

PUBLIC OPINION

Goal: Meet the needs expressed by the public that are consistent with state park goals.

- Control vandalism and crime through improved facility design and greater surveillance at the park entrance.
- Provide facilities to support recreational use and protect resources.
- Increase access for disabled visitors from parking areas to park facilities and increase park facilities to serve disabled visitors, including trails and campsites.

INTERPRETATION

Goal: Increase public awareness and appreciation of the diversity, interdependence, and fragility of MacKerricher State Park's natural, cultural, and recreational resources.

- Provide interpretation about sensitive habitats and/or species to inform visitors of their presence and cultivate a preservation ethic.
- Develop interpretive facilities that reflect the scale and character of the park's landscape.

- Offer visitor interpretation and informational programs that foster appreciation, visitor enjoyment, and respect for resources throughout the park.
- Emphasize displays and programs aimed at children to best serve the great number of children who come to this park.

Goal: Increase orientation and interpretation in the park generally.

- Provide orientation to the park at each point of access.
- Provide an interpretive center and upgraded campfire center to increase visitors' understanding and appreciation of park resources.

VISITOR WELFARE

Goal: Promote the safety and well-being of the visiting public.

- Create a network of service roads that will allow maximum surveillance of park use areas.
- Develop a long-term source of potable water for the park.

PARK OPERATIONS

Goal: Maintain a safe, functional, and orderly environment that provides compatible opportunities for resource preservation and park enjoyment.

- Protect the safety and security of visitors and employees; control crime and vandalism.

LAND USE CONCEPT

The park's land use concept recognizes both its diverse and sensitive resources and its extremely heavy use. The main thrust of the land use concept will be to prevent visitors from dispersing randomly within the park as they do now to avoid the consequent impacts on sensitive resources. Visitors may, in fact, gain access into areas of the park that they currently do not use. But, access will be controlled and well-managed, with a circulation system bolstered by interpretation, guided tours, boardwalks, etc. It will be necessary for the department to undertake several actions in order to implement the land use concept.

First, the department will have to step up its efforts to protect park resources, both natural and cultural. Methods by which this could be accomplished are discussed in the plan at length. These include discouraging access in sensitive areas through the establishment of a natural preserve and additional controls where necessary, more information, interpretation, and regulation aimed at the visiting public, and prudent facilities development.

Another necessary step is the rehabilitation of areas that have received too much use. A major effort to bring this about will be removal and replanting of volunteer trails. Repairing the eroded edge of the Pudding Creek parking lot, upgrading the parking at the South MacKerricher Coastal Trail Access, providing better beach access where bluffs have been eroded, and improving the park entrance will also be aimed at rehabilitating overused areas.

To prevent further overuse in the future, the department must establish appropriate visitor capacities as it provides access. Parking improvements at Pudding Creek, the South MacKerricher Coastal Trail Access, Laguna Point, and Ten Mile River will set limits on the number of vehicles that can park at one time. This should also improve public enjoyment of these areas by preventing overcrowding.

Another method the department should employ to control land use is to focus human use on areas able or prepared to support it. Because of the park's heavy visitation, the emphasis in the future will be to focus traffic on specially prepared surfaces. These will include hardened trails, boardwalks, and

stairways. While doing this, the department will expand the areas available for public access, thereby increasing opportunities for recreational experiences and enjoyment.

One aspect of park land use will be very different in the future than it has been to date. This general plan recommends separation of incompatible activities. The most apparent instance will be separation wherever feasible of different kinds of traffic. Automobile, foot, and horse traffic will be on distinct routes with as little overlap as possible. Another example of this principle will be that equestrian use of beaches will be confined to the north half of the park. This will leave the beaches in the southern half for visitors who do not want to encounter horses at all during their time on the beach.

Finally, the department will undertake, in all actions intended to implement this general plan, to enhance the attractiveness of the park. This will entail conscientious attention to the aesthetic consequences of development decisions, careful construction methods, and strict adherence to design criteria spelled out in the Facilities Element.

LAND USE MAP

The land use map categorizes park lands to reflect the inherent nature and suitability of the park's various resources to support park activities. It sets directions for management and future use that will best fulfill the purpose of the park and the land use goals. Land use zones appear on Map No. 12.

Natural Zone: Here, natural resources and processes remain largely unaltered by human activity except for developments essential for the management, modest use, and appreciation of the park. Public use will be kept to a low level. Most of the land at MacKerricher State Park has received this designation.

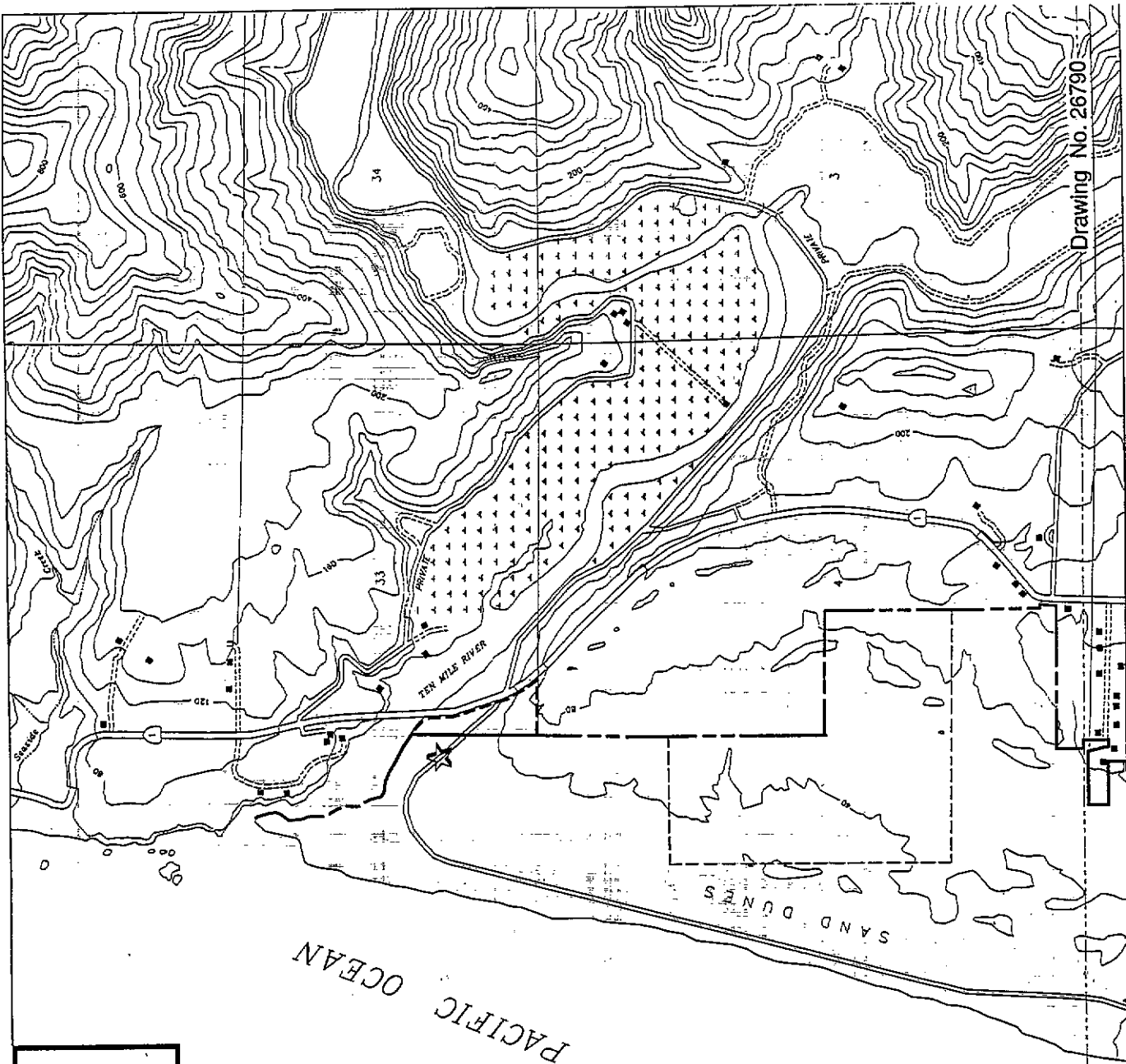
Natural Preserve (subclassification of the Natural Zone): This area includes the sand dunes, the beach in the northern half of the park, and wetlands and prairies associated with the dunes. The general plan recommends that these areas receive official subclassification as a natural preserve. This subzone will be managed to allow for visitor enjoyment without impairment of its natural qualities or critical ecological processes. This will require that most public use be restricted to the beach, with mostly controlled use of the remaining area. Although the administrative use of the barn will continue until it is feasible to move this function to the administrative zone near the park entrance, the barn area is part of the natural preserve.

Development Zone: This includes land where camping and day use development and other intensive uses have substantially altered the natural environment. These areas are managed to provide and maintain development serving large numbers of visitors.

Administrative Zone (subzone of the Development Zone): This zone consists of land that serves administrative uses, including residences, the park's shop, and storage. It is heavily impacted by these uses, but not by public use, which is not encouraged in this zone.

In addition to the zones described above, the land use map shows areas in the park where public use will be concentrated. Some of these areas are already heavily used, while others will experience more public use with the implementation of the general plan. These proposed public activity nodes are depicted on the map with star symbols and indicate places where special attention to facility design, interpretation, and, when necessary, staff or volunteer presence may be required to provide adequate protection for park resources.

Mackerricher State Park
GENERAL PLAN
 Map No. 12
 The Land Use Plan
 Northern Section of the Park
LAND USE ELEMENT

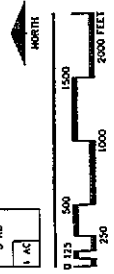
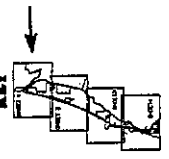


Drawing No 26790

LEGEND

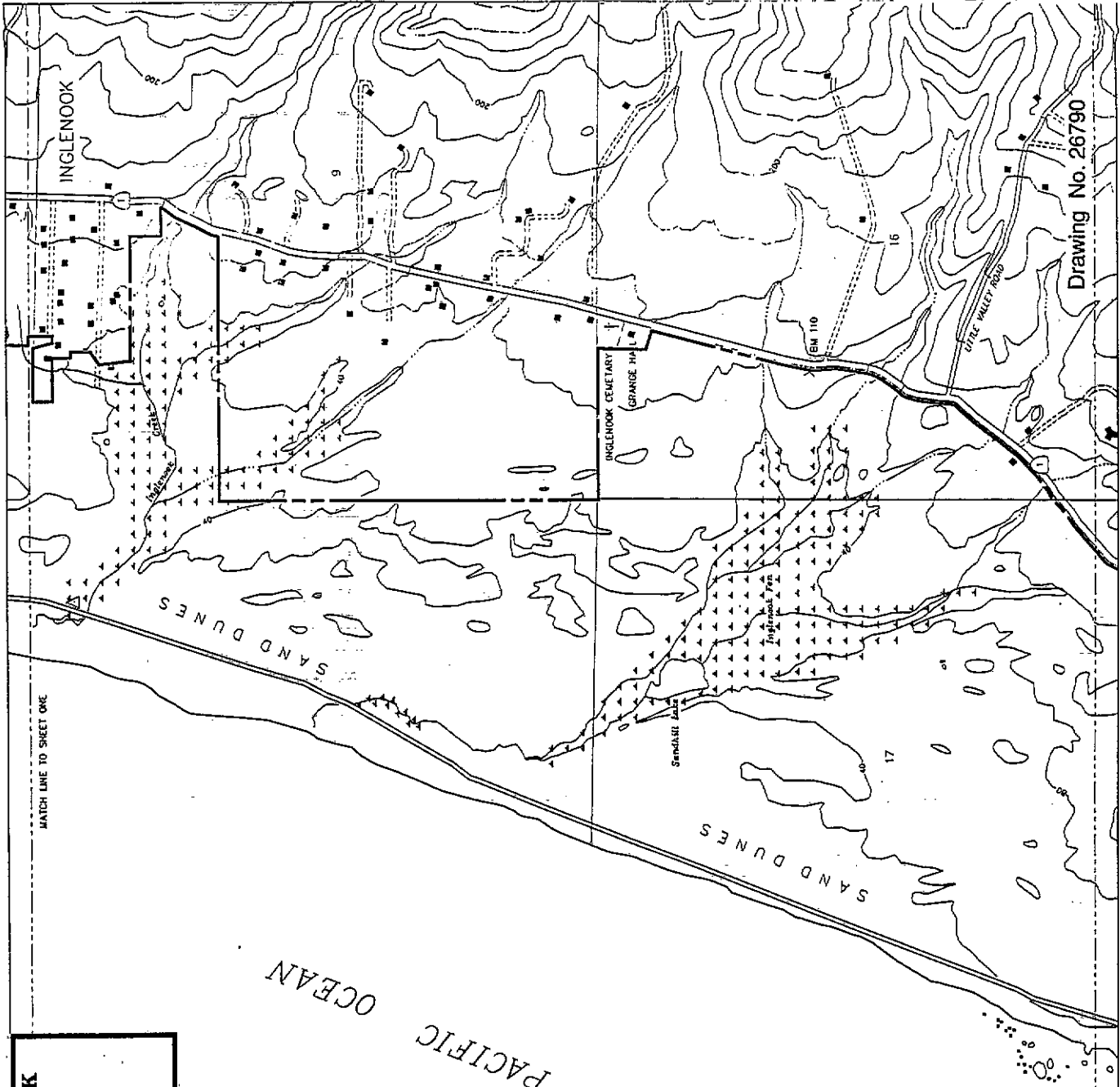
- NATURAL ZONE - APPROPRIATE PUBLIC USE ENCOURAGED
- NATURAL PRESERVE (NATURAL ZONE SUBCLASSIFICATION) - PUBLIC USE REGULATED
- DEVELOPMENT ZONE - APPROPRIATE PUBLIC USE ENCOURAGED
- ADMINISTRATIVE ZONE (DEVELOPMENT ZONE SUBZONE) - PUBLIC USE RESTRICTED
- PROPOSED PUBLIC ACTIVITY NODE
- STATE PARK BOUNDARY
- PRIMARY HIGHWAY
- PAVED ROAD
- UNPAVED ROADS
- TRAILS
- INTERMITTENT STREAMS
- PERENNIAL STREAMS
- CALTRANS GRANT-FUNDED ADDITION 94/95 F.Y.
- D.L.H. LEASE

MAP SHEET KEY







MATCH LINE TO SHEET TWO









MackERRICHER STATE PARK
GENERAL PLAN
 Map No. 12
 The Land Use Plan
 North Central Section of the Park
LAND USE ELEMENT



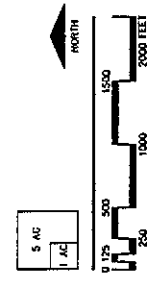
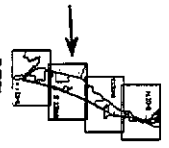
Drawing No. 26790

LEGEND

-  NATURAL ZONE - APPROPRIATE PUBLIC USE ENCOURAGED
-  NATURAL PRESERVE (NATURAL ZONE SUBCLASSIFICATION) - PUBLIC USE REGULATED
-  DEVELOPMENT ZONE - APPROPRIATE PUBLIC USE ENCOURAGED
-  ADMINISTRATIVE ZONE (DEVELOPMENT ZONE SUBZONE) - PUBLIC USE RESTRICTED

- PROPOSED PUBLIC ACTIVITY NODE**
-  STATE PARK BOUNDARY
 -  PRIMARY HIGHWAY
 -  PAVED ROAD
 -  UNPAVED ROADS
 -  TRAILS
 -  INTERMITTENT STREAMS
 -  PERENNIAL STREAMS
 -  EXISTING BUILDINGS

MAP SHEET KEY

















MATCH LINE TO SHEET THREE

**MackERRICHER STATE PARK
GENERAL PLAN**

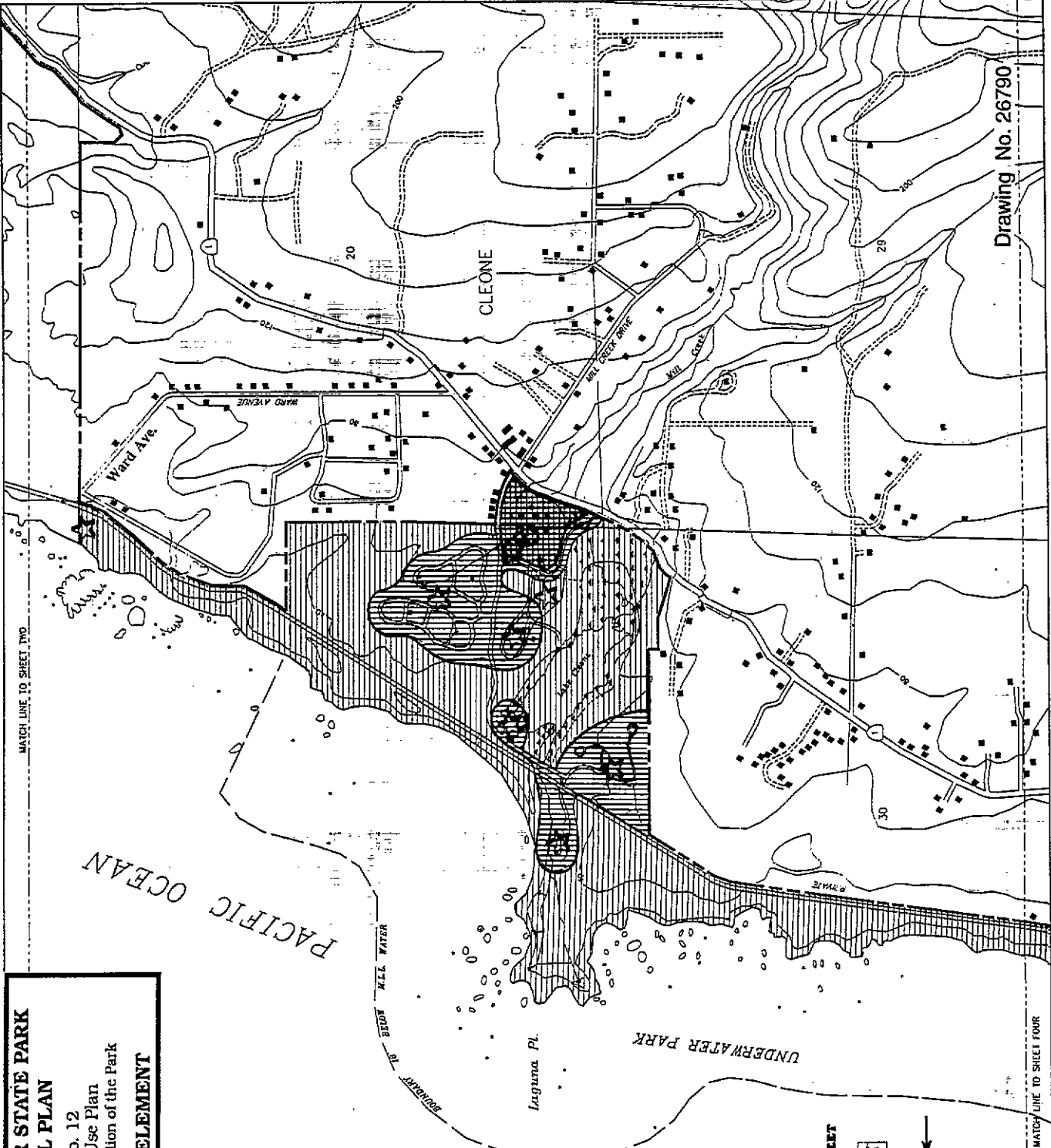
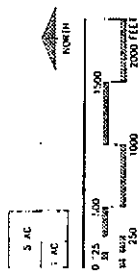
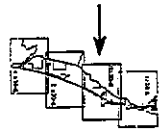
Map No. 12
The Land Use Plan
South Central Section of the Park
LAND USE ELEMENT



LEGEND

-  NATURAL ZONE - APPROPRIATE PUBLIC USE ENCOURAGED
-  NATURAL PRESERVE (NATURAL ZONE SUBCLASSIFICATION) - PUBLIC USE REGULATED
-  DEVELOPMENT ZONE - APPROPRIATE PUBLIC USE ENCOURAGED
-  ADMINISTRATIVE ZONE (DEVELOPMENT ZONE SUBZONE) - PUBLIC USE RESTRICTED
-  PROPOSED PUBLIC ACTIVITY NODE
-  STATE PARK BOUNDARY
-  PRIMARY HIGHWAY
-  PAVED ROADS
-  UNPAVED ROADS
-  TRAILS
-  INTERMITTENT STREAMS
-  PERENNIAL STREAMS
-  EXISTING BUILDINGS
-  UNDERWATER PARK BOUNDARY

MAP SHEET KEY

















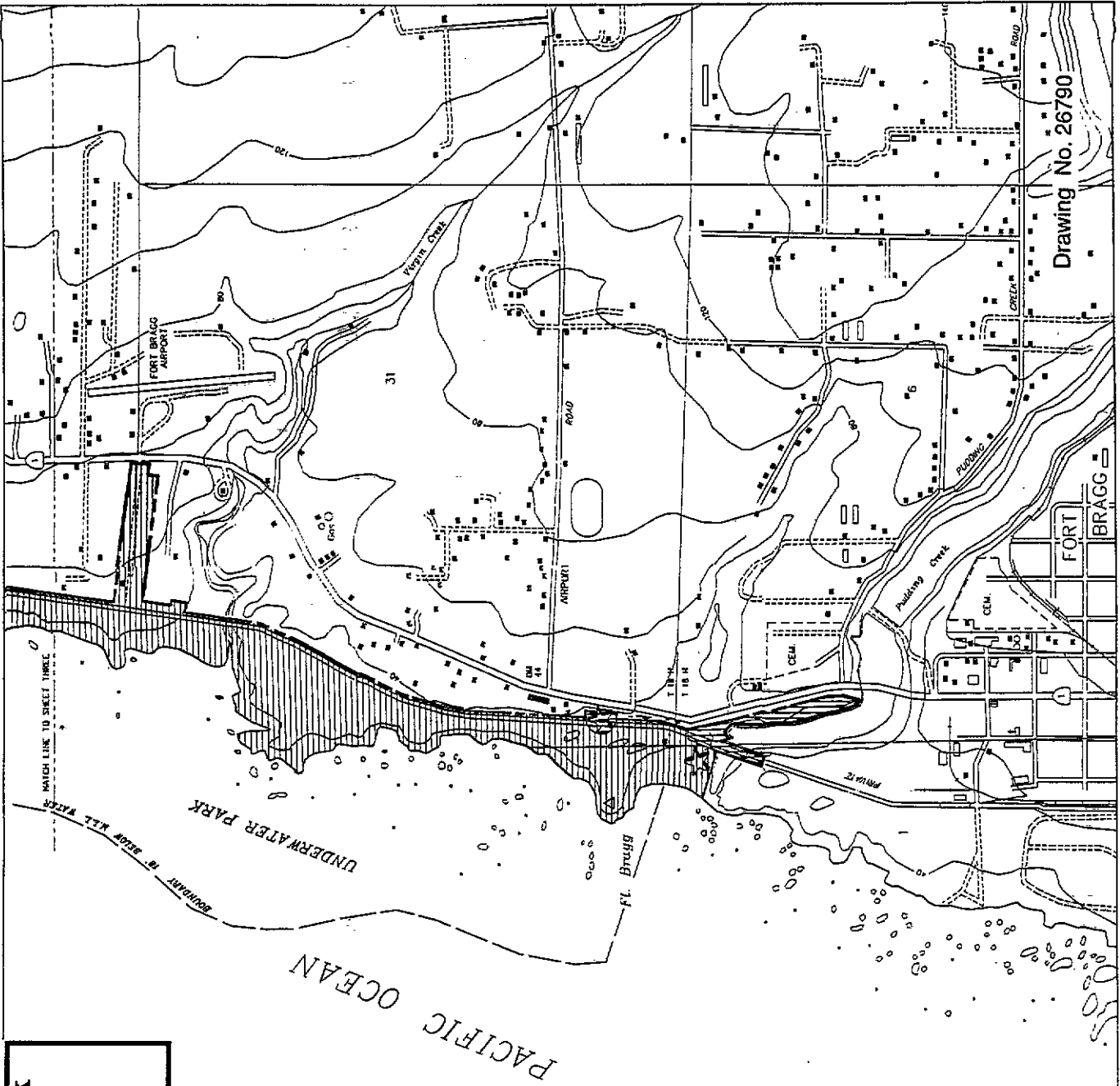
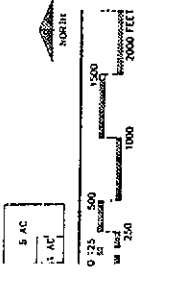
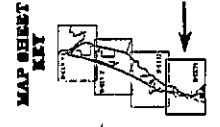
Drawing No. 26790



**MACKERRICHER STATE PARK
GENERAL PLAN**
Map No. 12
The Land Use Plan
Southern Section of the Park
LAND USE ELEMENT

LEGEND

-  NATURAL ZONE - APPROPRIATE PUBLIC USE ENCOURAGED
-  NATURAL PRESERVE (NATURAL ZONE SUBCLASSIFICATION) - PUBLIC USE REGULATED
-  DEVELOPMENT ZONE - APPROPRIATE PUBLIC USE ENCOURAGED
-  ADMINISTRATIVE ZONE (DEVELOPMENT ZONE SUBZONE) - PUBLIC USE RESTRICTED
-  PROPOSED PUBLIC ACTIVITY NODE
-  STATE PARK BOUNDARY
-  PRIMARY HIGHWAY
-  PAVED ROAD
-  UNPAVED ROADS
-  TRAILS
-  INTERMITTENT STREAMS
-  PERENNIAL STREAMS
-  EXISTING BUILDINGS
-  UNDERWATER PARK BOUNDARY



Drawing No. 26790

APPROPRIATE ADDITIONS

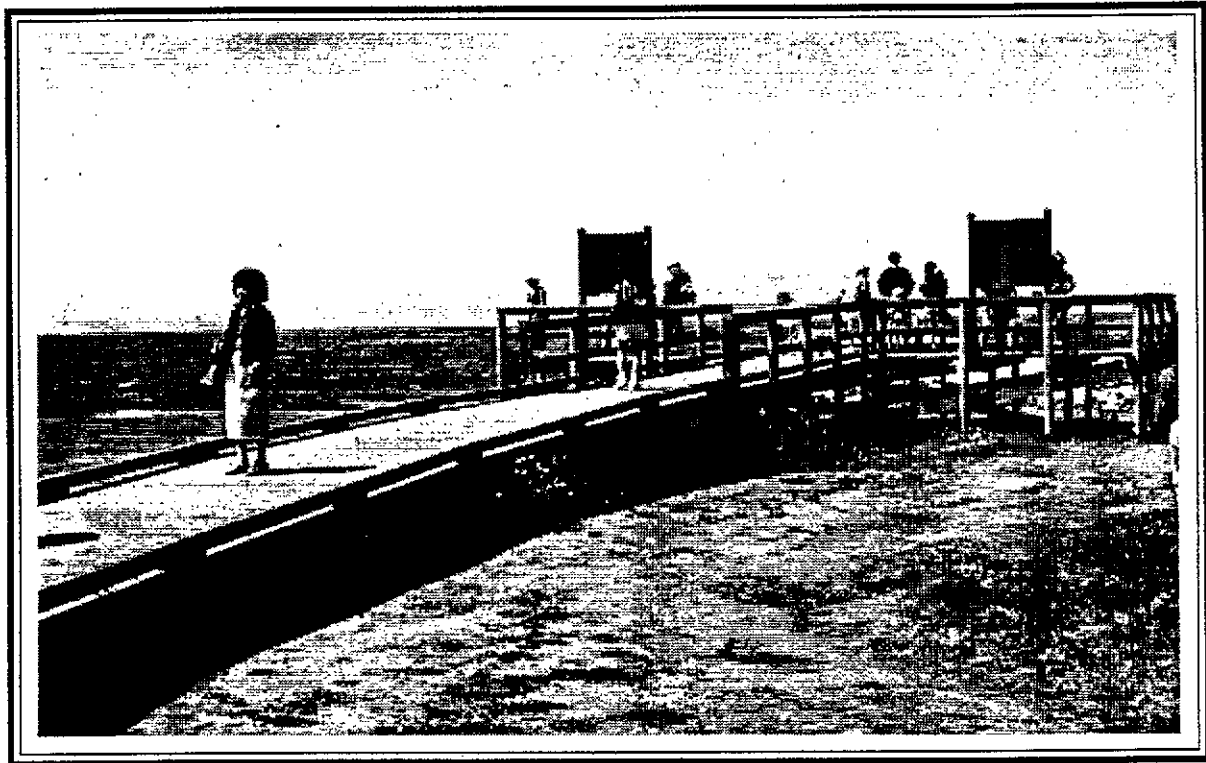
The land use proposals in this plan are not dependent on new land acquisition. However, the general plan does describe the resource values and potential uses of some adjacent lands, were they to become part of the State Park System.

The following discussion and all other comments regarding additions to the park are intended for long-range planning purposes only, and do not represent a commitment for acquisition. Addition of these lands depends on many factors, including the availability of funds and the willingness of the owners to sell.

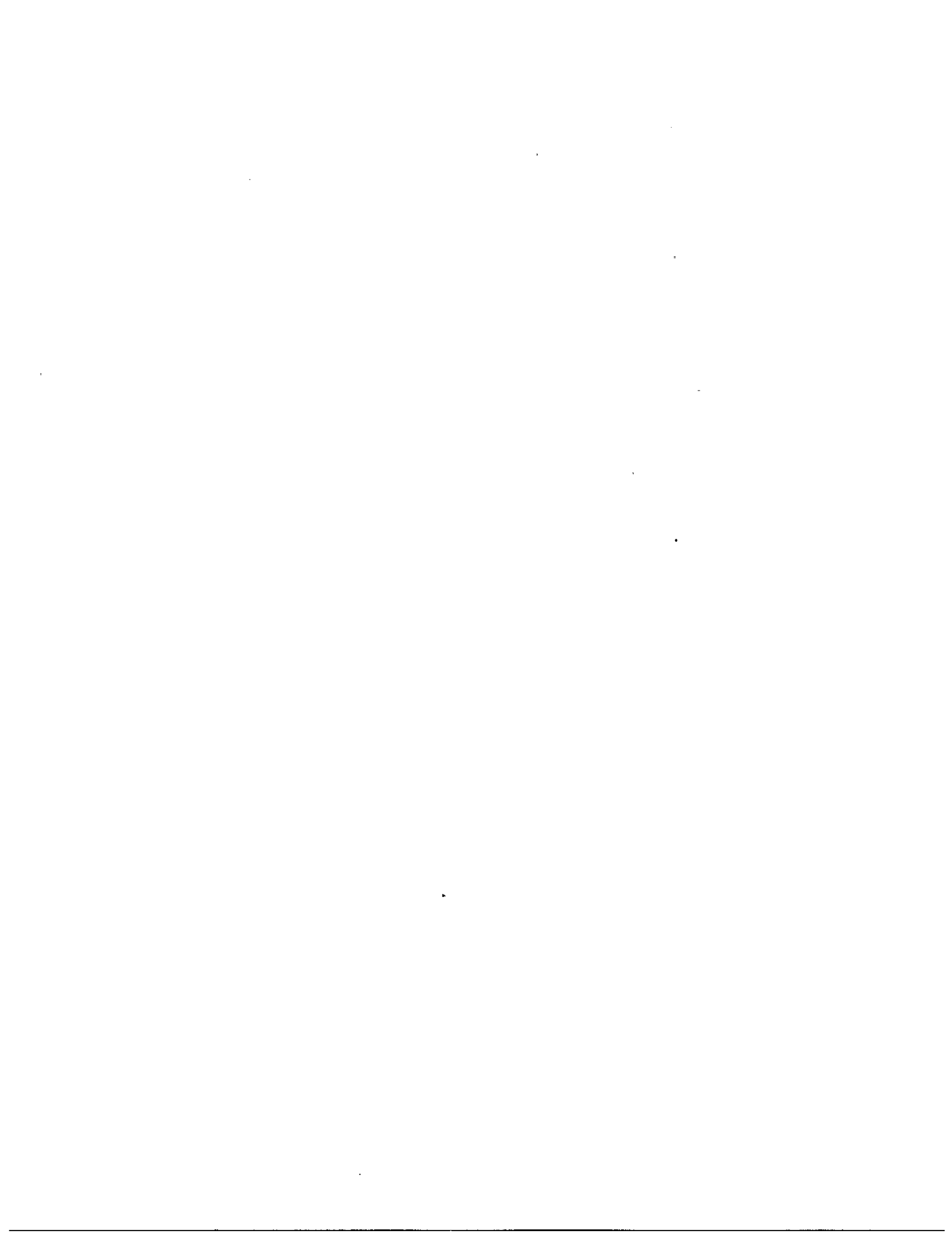
There are several properties adjacent to MacKerricher State Park that would be desirable for the department to acquire in fee title or other interest.

1. The department should pursue acquiring an interest, either fee title or an easement, in the property where the haul road runs between its holdings at Ten Mile River and Highway 1. Grant funding became available during the preparation of the general plan. The sellers have indicated a willingness to sell. Such an interest will be necessary to provide any legal access from the highway to park property in this area. When this is obtained, the Department should seek property from a willing landowner upon which to furnish parking, interpretive exhibits, and sanitary facilities. It should also coordinate with Caltrans for use of the right-of-way on the west side of the highway for a trail to access the coastal trail on the haul road, if necessary
2. The termination of the lease for the dune property from the Bureau of Land Management will occur during the life of the general plan. The department should work with the BLM for inclusion of this property in State ownership, or as a minimum, should negotiate a new lease when this one expires.
3. If properties become available south of Surfwood Campground, more family camping could be provided. The LCP permits up to 50 new campsites at MacKerricher State Park. Another possible purpose could be an additional group camp to replace or augment a group camp at Camp Cleone. The addition of more camping adjacent to Surfwood could allow for a part of that campground to be converted to day use parking and a picnic area to support recreational activities at Laguna Point and the nearby ocean beach and to provide additional access to the haul road. These changes would have to be consistent with the protection of the sensitive resources at Laguna Point, as discussed in the Resource, Facilities, Interpretive, and Operations elements of this general plan.
4. In addition, the department should consider other land for addition that could improve coastal access. This would include property north of the South MacKerricher Coastal Trail Access, which could enable the department to further enlarge and improve this parking area. The department should also consider inclusion of property between the haul road and Highway 1 just north of Pudding Creek for an improved access corridor.
5. As any property west of Highway 1 in the vicinity of the park becomes available for purchase, it should be evaluated for addition to the State Park System on a case by case basis. Appropriate conservation easements should also be considered.

Facilities Element



The Laguna Point boardwalk and viewing platform.



FACILITIES ELEMENT

The Facilities Element follows up on the problems identified in the Land Use Element with proposals for new facilities and for removal or improvement of existing facilities. The element's recommendations are intended to reflect the goals identified in the Land Use Element. It includes design criteria to guide future facilities design, as well as recommendations for phasing of implementation.

Circulation proposals will be addressed first, followed by proposals for individual park areas in the same sequence as they appeared in the Land Use Element. Utilities proposals will follow, and explanations of visitor capacity and general plan proposal implementation will close the element. Map No. 13, Proposed Facilities, shows key proposals for the park areas in boxes. The Resource, Interpretive, and Operations elements, as well as the text in this element expand upon these proposals and contain others too numerous to include on the map.

Design criteria appear following each set of facilities proposals and are intended to provide guidelines to ensure that future improvements will be compatible with the character of the landscapes at MacKerricher State Park and specific codes relating to facilities development. Design criteria for park-wide facilities and park areas appear first. Those design criteria with a more general application follow on page 170.

PARK-WIDE CIRCULATION

This section addresses circulation into and within the park.

PARK ROADS

There is only one major public road in the park, running from the park entrance to the Laguna Point parking lot. Lesser roads serve the campground loops and the sanitary dump station. There are also a small number of service roads in the park's central area. In addition, the haul road functions as a service road. Proposals for park roads will be discussed along with the parts of the park they serve.

PARKING AND SITE ACCESSIBILITY

Parking for visitors entering the park from Highway 1 at Pudding Creek, the coastal trail access points, and Ten Mile River is mostly unimproved. Formal parking areas serve the developed part of the park that can be reached by way of the park entrance. Proposals in this element recommend changes to virtually all of the parking areas in the park and will be taken up in the discussions of the park areas.

GENERAL FACILITIES PROPOSALS FOR PARKING AREAS AND SITE ACCESSIBILITY

The following items should be considered to ensure a good transition between transportation and facility entrances for the benefit of all park visitors.

- Surface and stripe parking areas to organize them for visitor safety and convenience and to establish visitor capacities for the areas being served.
- Locate drop-off zones as close to facilities as possible.
- Provide signs to direct both vehicles and pedestrians to more distant destinations served

Mackerricher State Park
GENERAL PLAN
 Map No. 13
 The General Plan Map -
 Proposed Facilities
 Northern Section of the Park
FACILITIES ELEMENT

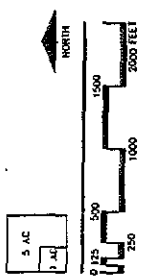
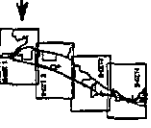


TEN MILE RIVER
 When legal access becomes available from Highway 1, use the Caltrans mixing table for parking and the highway right-of-way for a trail. Work with Caltrans to provide sanitary facilities, interpretation, and regulatory signs at the mixing table. Fence wetlands near the highway bridge and provide interpretation.

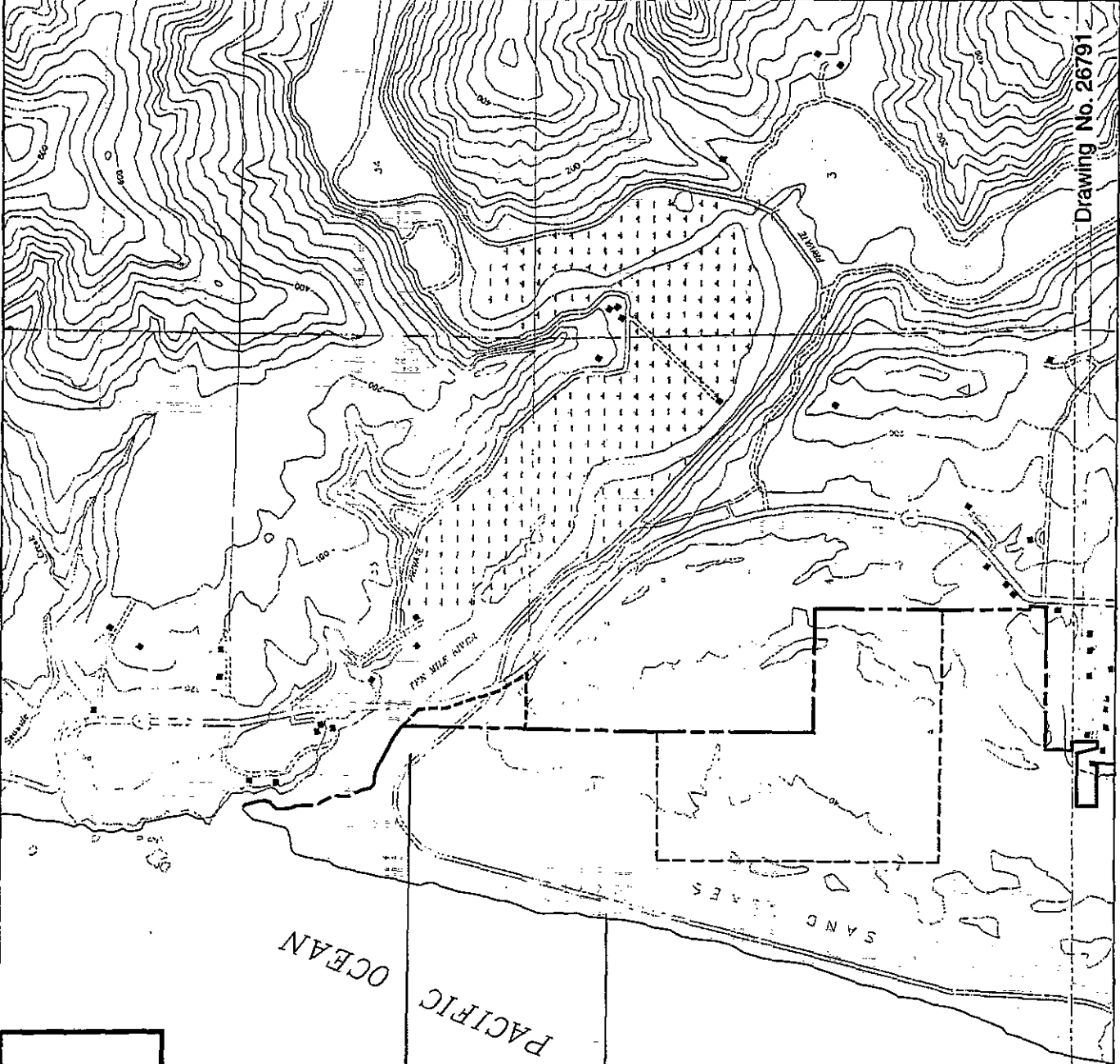
TEN MILE BEACH
 Use the beach as a segment of the park equestrian trail.

LEGEND

- STATE PARK BOUNDARY
- PRIMARY HIGHWAY
- PAVED ROAD
- UNPAVED ROADS
- TRAILS
- INTERMITTENT STREAMS
- PERENNIAL STREAMS
- CALTRANS GRANT FUNDED ADDITION 94/95 E.Y.
- B.L.M. LEASE



MATCH LINE TO SHEET TWO



Drawing No. 26791

MackERRICHER STATE PARK
GENERAL PLAN
 Map No. 13
 The General Plan Map -
 Proposed Facilities
 North Central Section of the Park
FACILITIES ELEMENT



MATCH LINE TO SHEET ONE

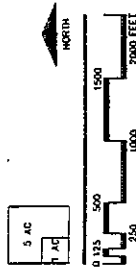
PACIFIC OCEAN

INGLENOCK

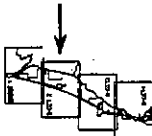
SAND DUNES

LEGEND

- STATE PARK BOUNDARY
- PRIMARY HIGHWAY
- PAVED ROAD
- UNPAVED ROADS
- TRAILS
- INTERMITTENT STREAMS
- PERENNIAL STREAMS
- EXISTING BUILDINGS
- B.L.M. LEASE



MAP SHEET KEY



SAND DUNES
 Create dune boardwalk for coastal trail continuity.
 Install interpretation.

INGLENOCK FEN
 No development.
 Guided tours only.

COASTAL PRAIRIES
 Encourage no public access.
 Continue administrative use of the barn for storage.

Drawing No. 26791

MATCH LINE TO SHEET THREE

Mackerricher State Park
GENERAL PLAN
 Map No. 13
 The General Plan Map -
 Proposed Facilities
 South Central Section of the Park
FACILITIES ELEMENT



MATCH LINE TO SHEET TWO

OCEAN

CAMPGROUNDS
 Add more campsites for disabled visitors. Pinewood Campground: 1) adapt a camp-site for a camp host; 2) install hook-ups on one camping loop. Surfwood Campground: Add a camp host campsite. Camp Cleone: 1) convert into a modular group/family campground, 2) install a new entrance road opposite the Pinewood Campground entrance.

LAGUNA POINT
 Install restroom; add picnic tables. Improve the boardwalk as repairs are needed. Install access for disabled visitors to the haul road and beach. Install additional interpretation.

NORTH MACKERRICHER COASTAL TRAIL ACCESS
 Install restroom. Work with the county to pave the parking area and provide easy access for disabled visitors. Repair the tunnel beneath the haul road. Improve access down to the beach. Provide interpretation and orientation relating to the northern half of the state park.

ADMINISTRATIVE AREA
 As administrative and maintenance responsibilities increase, add office space. Screen from adjacent areas with native vegetation. Construct a new access road off of Mill Creek Drive. Add or enlarge maintenance and storage facilities in the future, if necessary.

MAIN PARK ENTRANCE
 Consider facilities options for alleviating crime and speeding. Move the camp host to Pinewood Campground. Move the park office to the administrative area. Remove the entrance road to Camp Cleone and adapt the intersection for vehicular circulation to the new interpretive center.

LAKE CLEONE AND SURROUNDINGS
 Study whether to keep as a freshwater lake or allow to revert to a lagoon. Restrict boating to the west end of the lake. Install a fishing dock accessible to disabled visitors. Construct a bypass replacing the washed-out part of the coastal trail on the haul road berm. Improve the boardwalk and trail around the lake. Install a few picnic tables in the day use area. Improve the restroom to code for disabled access. Add a hitching post near the restroom for equestrian trail users. Build an interpretive center and new campfire center.

PARK CENTER
 Complete a Park Center Area Development Plan before any major facilities development. Create a trail system serving the park entrance area, Lake Cleone area, campgrounds, and the future interpretive center and campfire center. Separate incompatible modes of traffic as completely as possible.

LEGEND

- STATE PARK BOUNDARY
- PRIMARY HIGHWAY
- PAVED ROAD
- UNPAVED ROADS
- TRAILS
- INTERMITTENT STREAMS
- PERENNIAL STREAMS
- EXISTING BUILDINGS
- PARK CENTER AREA DEVELOPMENT PLAN BOUNDARY

MAP SHEET SET

5 AC
1 AC

0 250 500 1000 1500 2000 FEET

NORTH

Drawing No. 26791

MATCH LINE TO SHEET FOUR



Mackerricher State Park
GENERAL PLAN
 Map No. 13
 The General Plan Map -
 Proposed Facilities
 Southern Section of the Park
FACILITIES ELEMENT

WATCH LINE TO SHEET THIRSE

BOUNDARY TO SHEET NINE

PACIFIC OCEAN

UNDERWATER PARK

UNBROOK AIRPORT

THE HAUL ROAD
 Add rest stops at bluff access trail intersections.
 Install interpretation and orientation.
 Keep the road closed to motorized traffic, and provide a shuttle service, if feasible.
 Improve the equestrian trail paralleling the haul road.

SOUTH MACKERRICHER COASTAL TRAIL ACCESS
 Improve and enlarge the parking area and provide directional signing.
 Install restroom.
 Install picnic facilities.
 Create an equestrian staging area.
 Provide interpretation and orientation.
 Add a park entrance sign.
 Screen parking using native coastal terrace vegetation.

PUDDING CREEK BEACH
 Improve and enlarge the parking lot.
 Install fire rings and a restroom.
 Improve trails to the beach and up to the bluffs.
 Add more interpretation, orientation, and regulatory signage.
 Improve trestle for haul road access.

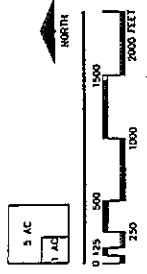
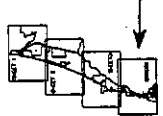
VIRGIN CREEK BEACH
 Install emergency call box.
 Increase patrols.

COASTAL BLUFFS AND TERRACE
 Remove and revegetate volunteer trails.
 Improve the blufftop trail from Pudding Creek to Laguna Point.
 Create bluff overlooks and bluff access trails from the haul road.
 Create beach access where feasible.

LEGEND

- STATE PARK BOUNDARY
- PRIMARY HIGHWAY
- PAVED ROAD
- UNPAVED ROADS
- TRAILS
- INTERMITTENT STREAMS
- PERENNIAL STREAMS
- EXISTING BUILDINGS
- B.L.M. LEASE

MAP SHEET KEY



by the parking lot or drop-off.

- Caltrans recommends a 50-foot setback from the highway centerline for improvements adjacent to Highway 1.

General Design Criteria for Parking and Site Accessibility for Visitors with Disabilities

The following proposals are intended to assure consistency with the department's goal to provide access to park facilities for visitors with disabilities and to adhere to the provisions of Title 24 of the California Building Code.

- Relate parking areas for visitors with disabilities directly to the facilities that they serve, following relevant codes for parking near building entries, restrooms, campsites, and recreational and picnic areas.
- Avoid abrupt grade changes and soft or rough areas between road surfaces and adjacent walkways or trails.
- Clearly identify building entries. Alternative means of entry for individuals with disabilities should also be clearly marked.
- When seasonally possible, provide access for persons with disabilities to the water's edge at beaches where the grade change is minimal and nearby parking is available. Various roll-out devices have been used for this purpose, such as sections of snow fence or other strong and flexible materials. In addition, specially constructed sand wheelchairs are already in use at some of the department's southern beaches. These should be available to visitors with disabilities by reservation.
- As new technologies aiding access for persons with disabilities are developed, those that would increase accessibility should be available in the park.

PARK TRAILS

The concept guiding trail development at MacKerricher State Park is to provide pedestrian access to all areas to which the department wishes to invite visitation. At the same time, improvements should protect park resources. Equestrian and bicycle access will be controlled in such a way as to promote resource protection and visitor safety.

- Prepare a detailed park-wide trail study to assess the history and current function of every park trail and to recommend a final circulation pattern.
- Carry out trails recommendations specified in the 1991 Developed Facilities Zone Vegetation Management Plan, previously referenced in the Coastal Forest RMZ section of the Resource Element, during the implementation of this general plan.
- Construct connecting trails between facilities to provide clear, direct, and attractive routes. Paved surfaces should be firm and as level as possible, with curb cuts and ramps provided where necessary. Unpaved trails should have firm surfaces, free from obstacles.
- To eliminate grading, follow the natural contours for beach access trails that pass through the dunes or along the beach. Where necessary to control erosion or prevent continual loss of trails from windblown sand, employ erosion control devices, such as the establishment of native vegetation.
- Obliterate some existing trails for resource management purposes. Remove unnecessary volunteer trails by returning the routes to natural contours, replanting with plants native to that location, and providing barriers where necessary.
- Align relocated trails to reduce the temptation to shortcut by taking advantage of grade separation where possible, directing visitors to key vantage points, and providing appropriate orientation along the way.

- Provide rest areas where pedestrians must walk long distances.
- Avoid subsurface disturbances in areas containing archeological sites.

TRAIL ACCESS FOR VISITORS WITH DISABILITIES

It is the department's intention to make as many of the park's pedestrian trails as possible usable by visitors with disabilities.

- If feasible, the department will provide a shuttle on the haul road. In the meantime, motorized use of a portion of the haul road should be available to visitors with disabilities on a case by case basis with access from Laguna Point after inquiry at the contact station.
- Furnish non-motorized coastal trail access to the haul road for visitors with disabilities from the Laguna Point parking lot, as well as the north and south coastal trail access points.

THE HAUL ROAD/COASTAL TRAIL

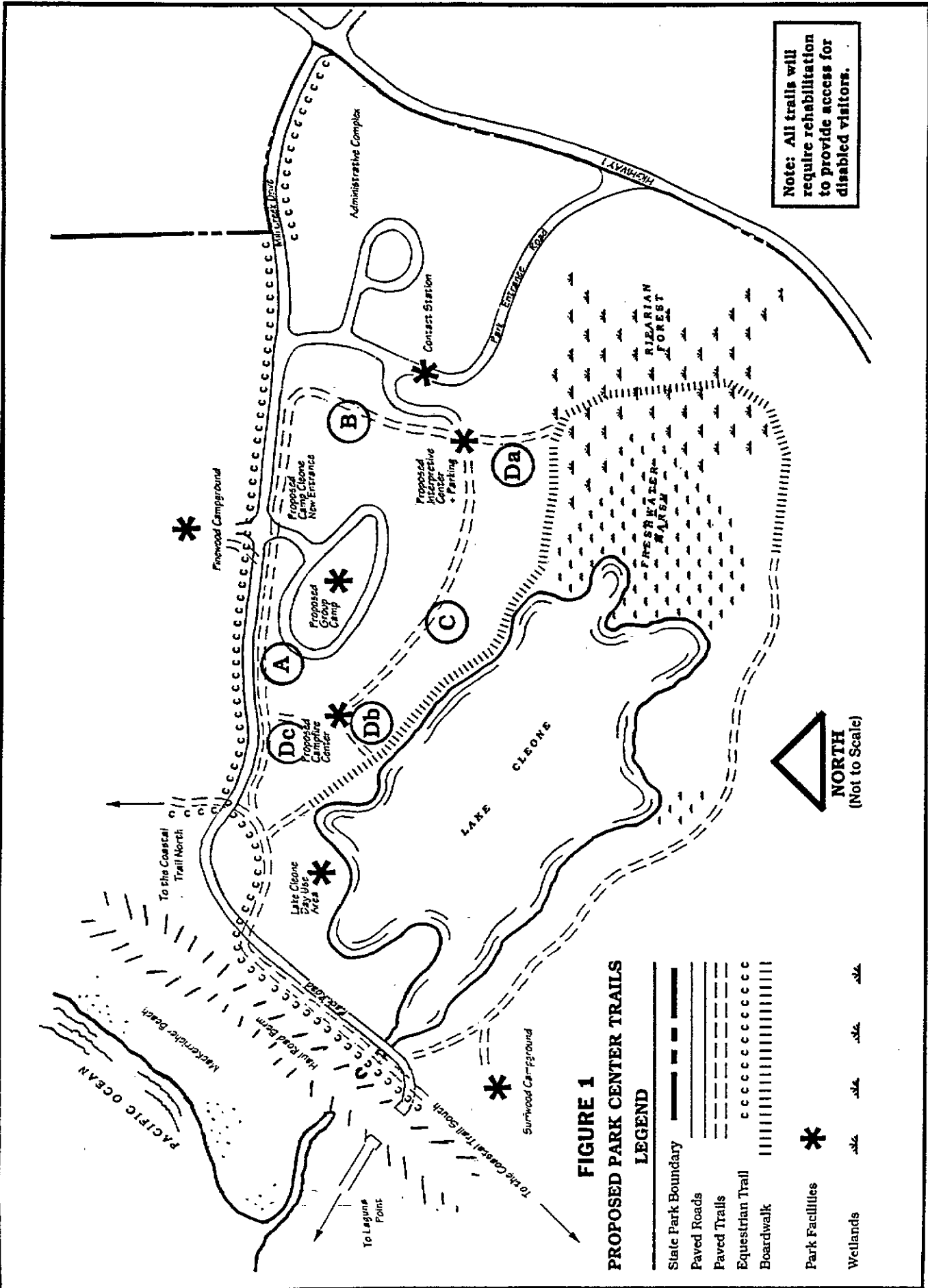
See the Land Use Element, pages 111-112, for the existing condition of the haul road.

- Improve the trestle for visitor safety before opening it to public use. Inspect the pilings for structural integrity; install railings and a safe surface for foot and bicycle traffic.
- Provide required maintenance to the trestle and the haul road. This will entail ongoing planning and funding.
- Keep the haul road closed to motorized traffic except for patrol, maintenance, and emergency vehicles, as well as a shuttle if it is possible to provide this service.
- Improve the surface of the haul road so that it is safe and comfortable for pedestrians and bicyclists.
- Repair areas along the haul road that have erosion problems. In some places, this will require shoring the road up. In others, bypasses will be required due to ongoing erosion by the ocean.
- Remove volunteer trails on the coastal terrace and in the dunes to which the haul road provides access.
- In the area of Lake Cleone, clear the eroded haul road berm of large chunks of asphalt and other debris that could potentially become a hazard. Shape the berm so that access over it to the beach will be possible.
- Direct coastal and equestrian trail traffic down the east side of the haul road berm and bring it past the lake on paths separate from the park road. This will require bridging the Mill Creek outlet to avoid conflicts between automobiles and other kinds of traffic.
- Provide a dune boardwalk to bypass the area north of Ward Avenue where the haul road has been washed out to serve hikers, bikers, and persons with disabilities. Equestrians will use the beach for the northern leg of their coastal trail.
- Provide rest stops along the haul road where there are intersections with major trails serving park use areas. These should be frequent enough to serve elderly and disabled visitors and should include benches, interpretation, and orientation for coastal trail users.

EQUESTRIAN TRAIL

See the Land Use Element, page 113, for the existing condition of the equestrian trail.








- Monitor, maintain, and specially surface where necessary, a designated year-round equestrian trail from Pudding Creek to Ten Mile River.



Note: All trails will require rehabilitation to provide access for disabled visitors.

FIGURE 1
PROPOSED PARK CENTER TRAILS

LEGEND

- State Park Boundary 
- Paved Roads 
- Paved Trails 
- Equestrian Trail 
- Boardwalk 
- Park Facilities 
- Wetlands 



- Conduct the equestrian trail along a route separate from the haul road except at those places and during the winter, when it would be hazardous to confine equestrians to the beaches. Where horses must share the haul road or parallel the dune boardwalk, they should walk on the western shoulder.
- Equestrians may ride on the less heavily used part of MacKerricher Beach north of Lake Cleone except on weekends and holidays during the park's peak use period.
- The designated equestrian trail will climb up to the western shoulder of the haul road to bypass Ward Avenue Beach in order to reserve this relatively easily accessible beach for non-equestrian use. Equestrians may return to beach level just north of that beach or, alternatively, at the south end of the washout.
- Keep equestrian routes separate from other kinds of traffic, where possible.
- Allow horses on the beach only north of Lake Cleone and not on the beaches or the bluffs in the southern part of the park because these are heavily used by non-equestrian visitors.
- Reroute the equestrian trail paralleling the park road northwest of Lake Cleone so as to avoid areas where the spineflower grows.
- Where erosion is a problem, surface equestrian trails with suitable protective materials, such as road base, aggregate, or wood chips, using expandible webbing to keep them in place, if appropriate.
- Coordinate with equestrian groups for their continuing aid in trail maintenance and support for equestrian regulations.
- Furnish signs marking parking spaces for horse trailers and explaining park rules for equestrians at all places where staging areas are proposed for equestrian access to the equestrian trail.
- Provide clear and widely distributed regulatory information so park visitors will know where horses are and are not allowed.

PARK CENTER TRAILS

This trail system will link many of the use areas and facilities around Lake Cleone. It will integrate some existing trails, but much of it will be new. Please refer to Figure 1, which is keyed to the items appearing below.

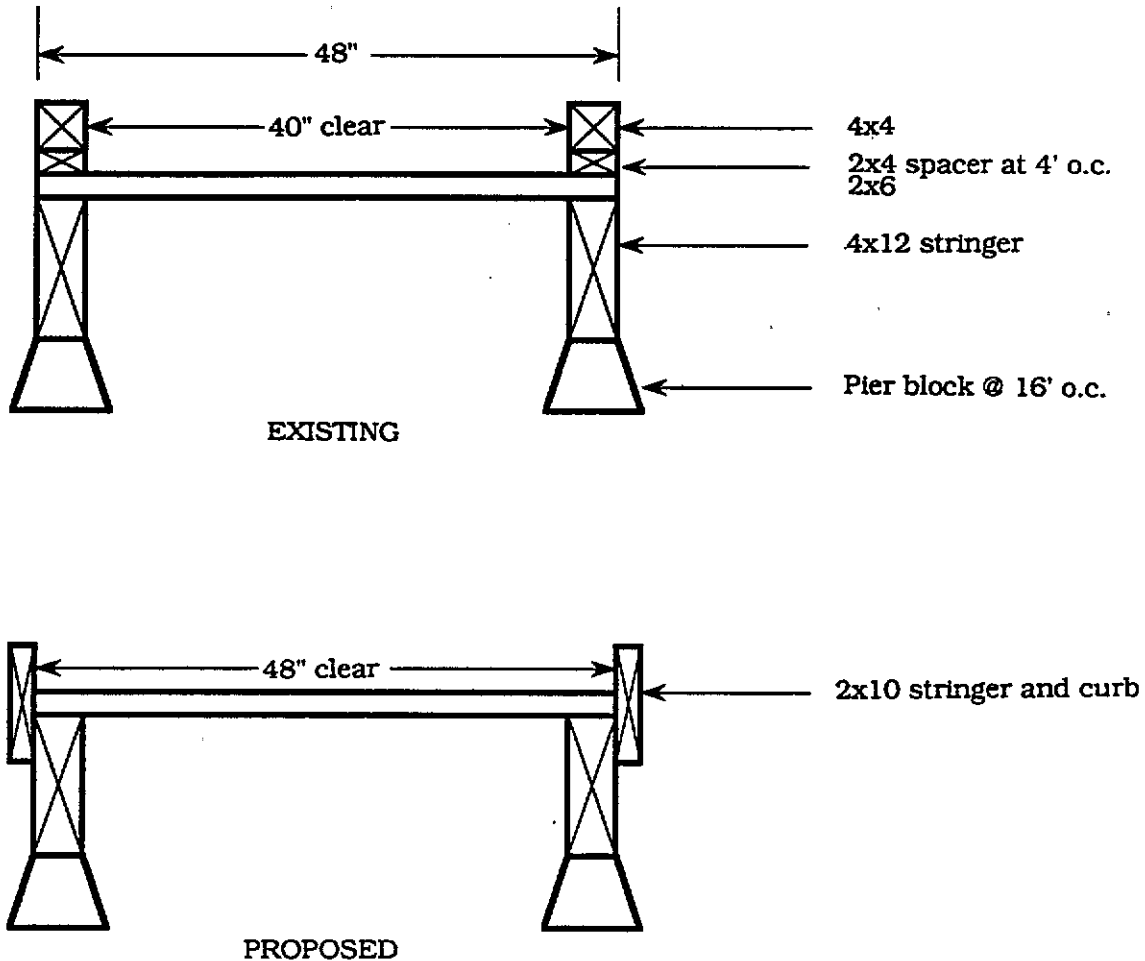
- A** This segment of the trail will connect the Lake Cleone bypass and the park entrance area. It will be paved and is intended for use by bicyclists, as well as pedestrians. It parallels Mill Creek Drive, running on the south side, across from the equestrian trail.
- B** This part of the trail system will run south from the park entrance area to the new interpretive center overlooking Lake Cleone. It will be paved to serve bicyclists, as well as pedestrians.
- C** This trail will connect the interpretive center with the new campfire center, as the two facilities will often work together. The trail will run along the top of the slope north of the lake and will also be a nature trail. It will have a surface usable by pedestrians and visitors with disabilities, but it will not be open to bicycle use.
- D** From the new campfire and interpretive centers, connections will be possible down the slope to the Lake Cleone boardwalk (Da and Db) and to the trail paralleling Mill Creek Drive (Dc).

In addition, the campground areas will be tied into the trail system. Connections from Camp Cleone and Pinewood Campground to trail segment A and the new campfire center should be as direct as possible. A trail from the Surfwood area will join the Lake Cleone bypass trail west of the lake. From there, it will connect with trail segment A.

FIGURE 2

LAGUNA POINT BOARDWALK

Recommendation for Alteration



Note: This proposal was prepared by a Department of Parks and Recreation engineer during the preparation of the general plan. It would address the comments received from the public that the boardwalk is currently too narrow for two people to walk abreast or for passing. The recommendation is to do the alteration when the boardwalk is being repaired. The advantages of the new configuration would be:

1. Replacement boards would be easier to install;
2. There would be increased space for pedestrians and wheelchairs;
3. The new configuration would use the same number of board feet of lumber as the existing structure..

Design Criteria for Park Trails

- Maintain trails in natural areas in an informal appearance.
- Use rustic-appearing materials for rest stop site furnishings and interpretive facilities.
- Surface trails that are intended to protect eroded areas with natural-looking materials.
- Safety improvements to the haul road trestle to adapt it for use as a coastal trail connection should employ materials as compatible as possible in appearance with those used in the construction of the original structure.

BOARDWALKS

Refer to the Land Use Element, pages 114-115, for the existing conditions of the Laguna Point and Lake Cleone boardwalks.

LAGUNA POINT BOARDWALK

- Redesign the confusing ramp entrance to the boardwalk at the parking lot to facilitate circulation and to function as an aesthetic trailhead.
- As repairs are required, lower the Laguna Point boardwalk to make it less visually intrusive in the coastal terrace landscape. It should also be widened so visitors can walk abreast more comfortably and wheelchairs can pass by each other (refer to Figure 2). Added turnouts will also aid in accomplishing this.
- Lower the profile of the whale- and seal-viewing platform to reduce its visibility from a distance. The interpretive panels and other signs on the platform should be redesigned and attached so that they are no higher than the railing.

LAKE CLEONE BOARDWALK

- Continue the Lake Cleone boardwalk to complete the circuit around the lake. It should be rerouted on the south side of the lake to provide a buffer between it and the freshwater marshes.
- Improve the accessibility of the boardwalk, including access for visitors with disabilities.
- Use interpretation to inform visitors on the boardwalk about the sensitivities of the indigenous plants and wildlife.
- If resource sensitivities would not be adversely affected, add an observation platform or blind to the boardwalk in an area where there would be the potential for viewing wildlife.

PROPOSED SAND DUNE BOARDWALK

- Construct a dune boardwalk for the use of pedestrians and bicyclists to bypass the washed-out parts of the haul road north of Ward Avenue. The structure of the boardwalk should not adversely impact the dune surface and should allow for easy relocation as the configuration of the dunes changes over time.
- The boardwalk and accompanying rest stops should incorporate dune interpretation.
- Provide regulatory signage. As the dune area is part of a natural preserve, access should be discouraged except on the boardwalk.

Design Criteria for Boardwalks

These criteria will govern the design and placement of the dune boardwalk, as well as any construction on the Laguna Point and Lake Cleone boardwalks.

- Make the starting points of the boardwalks clearly visible to arriving visitors to encourage their use.
- Construct the dune boardwalk so that its alignment follows the natural contours of the landscape without creating steep drop-offs from its edges.
- Installing the dune boardwalk at grade will eliminate the need for handrails.
- Construct the dune boardwalk a minimum of six feet wide. A cross-slope of no more than 2% should be allowed for drainage.
- Use gradients up to 3% where needed for all boardwalks. For sustained steeper grades, follow codes applying at the time of construction.
- Use non-slip surfaces on boardwalk ramps and observation decks or blinds.
- The spaces between decking on boardwalk and deck surfaces should be as small as possible, preferably less than 1/2 inch in width.
- Provide curbs to code along the sides of ramps and landings as surfaces against which wheelchair visitors can turn their wheels in order to stop. These should have breaks in them every 5 to 10 feet to allow for drainage.
- Provide handrails on both sides of ramps, or along the edges of boardwalks or observation decks where codes require. A second, lower, rail is advantageous to children and wheelchair-dependent people.
- Conceal observation decks or blinds in the edge of the riparian forest with a good view into the freshwater marsh area. These should be constructed no higher than necessary to allow visibility for children and people seated in wheelchairs. Screening could be made from natural materials and should be regularly maintained.
- Locate any interpretive panels or signs used on boardwalks or viewing platforms at handrail height or lower.
- To minimize the need for repair and replacement, use construction materials that are resistant to the effects of the marine environment, such as concrete piers and pressure-treated wood timbers.
- Construct boardwalks of materials that are compatible with the surrounding landscape.

FACILITIES PROPOSALS FOR THE PARK AREAS

PROPOSALS FOR THE SOUTHERN SECTION OF THE PARK

PUDDING CREEK FACILITIES

Day use at Pudding Creek will be improved with facilities that modestly increase visitor capacity and promote visitor safety. Pudding Creek will no longer be considered a major haul road access point. See the Land Use Element, pages 115 and 120, for existing conditions and analysis of the Pudding Creek area.

- Improve access at Pudding Creek by rebuilding the retaining wall on the west side of the department parking lot and expanding the parking area for a maximum capacity of 50 to 60 vehicles, including one space for visitors with disabilities. Surface the parking area and organize it for standard-sized vehicles.
- Use the upper parking lot (the Caltrans lot) for large vehicles, including recreational vehicles, trailers, and busses.
- Eradicate the volunteer trails from the Caltrans lot to the beach and replace them with formal access trails. Clearly sign all access trails.
- Add a restroom adjacent to the existing sewage pump station. Water for a restroom could

perhaps be obtained in the future from city water lines that run along Highway 1 north to Pudding Creek Road.

- Add five fire rings on the creek shore in the vicinity of the department parking lot.
- Add more interpretation and orientation to acquaint visitors with the Pudding Creek area and the rest of the state park.
- Improve the trail up to the bluffs and the haul road for pedestrian and equestrian use.

Design Criteria for Pudding Creek Facilities

- Construct the restroom of concrete block in a color compatible with the beach sand and the pump station.
- Screen the restroom and the pump station with native vegetation to keep them from being visually intrusive.
- Make formalized trails on slopes as natural looking as possible while still resisting erosion.
- Perpetuate the rustic appearance of the department parking lot. Use a finish coat with aggregate rolled in to match natural earth tones; employ faint striping, rather than high contrast, etc.
- Use colors for signs that are compatible with the landscape.

SOUTH MacKERRICHER COASTAL TRAIL ACCESS FACILITIES

The South MacKerricher Coastal Trail Access will become the major pedestrian and equestrian access point to the southern half of the park. It will also be improved with the addition of day use facilities and plantings. See the Land Use Element, pages 120-121, for existing conditions and an analysis of this site.

- Realign the haul road and improve this area as shown in the concept plan in Figure 3.
- Surface and stripe the parking area for better organization and set a capacity of 60 vehicles (two for use by visitors with disabilities) as a first phase of development. Include sufficient spaces for large vehicles, including horse trailers.
- Establish and sign a definite entrance to and exit from the parking area and work with Caltrans to provide a highway left-turn lane.
- Create the major equestrian access and staging area for the coastal trail here.
- Smooth and grade the access to the haul road to make it compatible with standards for disabled access. Design a gate and barrier system that will allow access for bicycles, horses, wheelchairs, and emergency vehicles.
- To make the area more park-like, install a restroom and six picnic tables (two for visitors with disabilities) close to where visitors will access the haul road.
- Provide water to this area. City water service exists approximately 600 feet from the parking area but is not available to the department at this time. The department could construct its own water well; neighboring properties have wells. When city water is available, the department will utilize that service.
- Indicate with signing that this is the main coastal trail access in this area for all coastal trail uses, including equestrian.
- Provide orientation to this part of the state park and use interpretation to explain the sensitivity of the coastal terrace and bluffs to erosion.
- Use signing to clearly indicate to equestrians where the horse trail is and the regulations for equestrian use of the park.

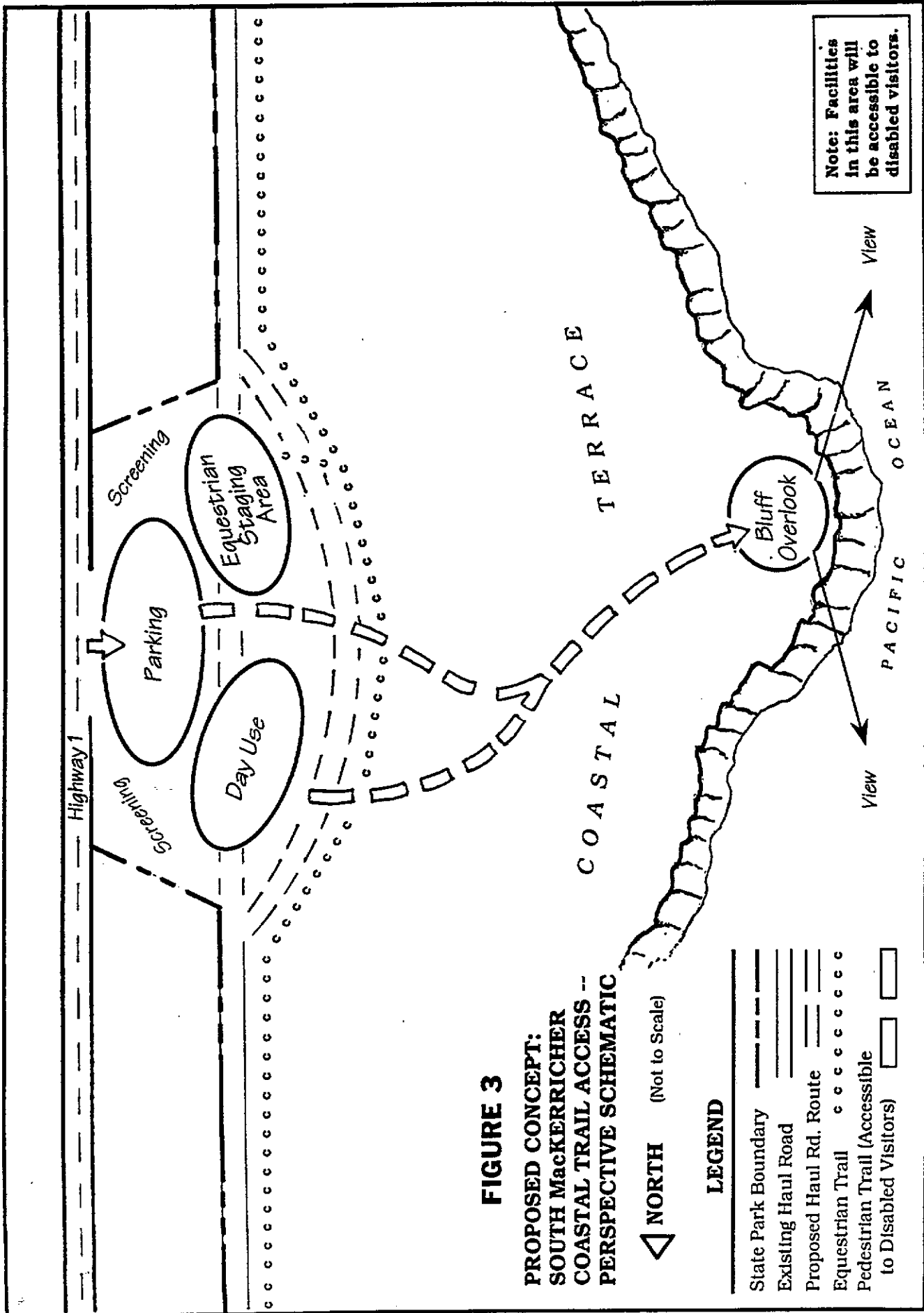


FIGURE 3
PROPOSED CONCEPT:
SOUTH MACKERRICHIE
COASTAL TRAIL ACCESS --
PERSPECTIVE SCHEMATIC

◀ **NORTH** (Not to Scale)

LEGEND

- State Park Boundary ———
- Existing Haul Road - - - - -
- Proposed Haul Rd. Route — — — — —
- Equestrian Trail - - - - -
- Pedestrian Trail (Accessible to Disabled Visitors) □ □ □ □ □

Note: Facilities in this area will be accessible to disabled visitors.

- Incorporate access to a blufftop overlook from the haul road that will be accessible for persons with disabilities. Provide benches and interpretation at the overlook for visitor comfort and education.

Design Criteria for the South MacKerricher Coastal Trail Access Facilities

- Screen the parking area with natural materials (earth berms, native trees and shrubs).
- Tint asphalt to match the area's natural earth tones; use standard striping.
- Construct the restroom of materials compatible with the natural landscape.
- Use native trees or shrubs around the restroom to make it less prominent in the landscape.
- Employ colors for signs that are compatible with the landscape.
- Use a method that is not visually intrusive, such as a high curb or low split-rail fence, as a barrier to prevent cars from leaving the parking area.

COASTAL BLUFFS AND COASTAL TERRACE FACILITIES

The purpose of facilities recommendations for the bluffs and terrace is to stop existing erosion and prevent future erosion through random trampling and climbing down to the beach. For existing conditions and analyses of the coastal bluff and coastal terrace areas, see the Land Use Element, pages 121-122.

- Eradicate most of the volunteer trails that have been worn into the terrace and the face of the bluffs. The most traveled routes should be selected for special surfaces and accessways down to the beaches and/or tidepools, if appropriate.
- Create three overlooks with trail connections to the haul road and improve them with benches, picnic facilities, and access for visitors with disabilities.
- Until a shuttle service can be provided on the haul road, make the second bluff overlook south of Laguna Point a destination point for visitors with disabilities driving from Laguna Point by installing parking from which access is available to the bluff edge.
- Locate resting areas, interpretation, and regulatory signs near where trails intersect with the haul road to explain to visitors the necessity of staying on trails in this part of the park.
- Attempt to provide beach and tidepool access from the bluffs at appropriate locations. It may be necessary to employ access structures to prevent further bluff erosion and to protect archeological sites. Before specific sites are selected, a field investigation will be required by a Resource Management Division geologist and archeologist for prior clearance, as well as monitoring, if necessary.
- Improve the footpath at the top of the bluffs to provide circulation for pedestrians only along their entire length south of Laguna Point. The path should meet the standards for bluff development appearing in the Resource Element.

Design Criteria for Facilities on the Coastal Bluffs and Terrace

- Build structures for beach access in such a way that they intrude on views as little as possible.
- Use low-profile benches, railings, and interpretive structures at the bluff overlooks.
- Use rustic materials that blend with the nearby landscape for construction where possible.

VIRGIN CREEK PROPOSALS

The department wishes to lessen the impacts of high intensity recreational use at Virgin Creek Beach. For a description of existing conditions and the planning parameters having a

bearing on the Virgin Creek area, see the Land Use Element, pages 122-124.

- Continue to prohibit private motorized traffic on the haul road, except for visitors with disabilities, and encourage only low-intensity recreational activities on the beach.
- Provide no facilities except interpretation, a solar-powered emergency call box, and regulatory signage.

Virgin Creek Walk-in Access

- Because the department wishes to reduce the recreational impacts on Virgin Creek Beach, retain this area in its existing condition to continue as a local secondary walk-in access.
- Improve signing to indicate that this is an entry point to the state park.
- Add interpretive and regulatory signing at the gate next to the highway to inform visitors about the sensitivities of resources at Virgin Creek Beach and any seasonal variations in these sensitivities, as well as the hours of park operation and what activities are and are not permitted.

FACILITIES PROPOSALS FOR THE MAIN AREA OF THE PARK

LAGUNA POINT FACILITIES

The department's intent at Laguna Point is to continue to improve the resource protection that began with the construction of the boardwalk. This will take the form of increased interpretation, regulation, and patrol. Laguna Point will also receive some day use facilities for visitor welfare and enjoyment. See the Land Use Element, pages 124, for a discussion of existing conditions at Laguna Point and a site analysis.

- Besides the parking lot, the major existing facilities at Laguna Point are the boardwalk and viewing platforms. See the recommendations for these features under Boardwalks on pages 157-158.
- Add 20 new parking spaces, to make a total of 70. Two of these will be for visitors with disabilities, making a total of six parking spaces for persons with disabilities at the point.
- Add six picnic tables, two of which should be for visitors with disabilities.
- Locate a restroom near the parking lot.
- Provide more interpretation, including an on-site ranger and/or docent to explain the extreme sensitivity of the tidepools and other resource values found here. These may need to be supplemented with additional patrols for enforcement at times of particularly high visitation. This should occur before additional development is allowed at Laguna Point, as well as any improvements or changes in parking at Surfwood Campground that could increase day use at the point.
- Provide disabled access to the haul road and beach from the Laguna Point parking lot.

Design Criteria for Laguna Point Facilities

- Construct the restroom of materials compatible with the natural soil color in the area. Its profile should be low, using native trees for screening.
- Also see design criteria for boardwalks on pages 157-158.

CENTRAL PARK AREA DEVELOPMENT PLAN

Planning for permanent facilities in the central part of the park, including the main park

entrance area, the administrative area, and the land between Mill Creek Drive and the top of the slope north of Lake Cleone, must proceed in an orderly fashion. Therefore, prior to finalizing any major development designs for any portion of this area, a unified Area Development Plan must be completed for the total area. Major facilities proposals for the central park area appear in the following sections.

FACILITIES PROPOSALS FOR THE MAIN PARK ENTRANCE

Department facilities improvements at the main park entrance are aimed at creating a more attractive entry experience, increasing the safety and security of park visitors, and visually separating the various dissimilar uses that now occur in close proximity to one another. See the Land Use Element, pages 125, for existing conditions and a site analysis of this area.

- Create a more aesthetic entry experience by relocating some elements away from the existing park entrance. These include the phone booths and wood bins, which can be incorporated into the design of the new interpretive center. Also move the park office from its present location to the administrative area to serve unit maintenance staff, and move the camp host to Pinewood Campground.
- Regarding Mill Creek Drive, the Mendocino County Local Coastal Plan Policy 4.3-4 declares:

Mill Creek Drive shall remain open for free vehicle, equestrian, and pedestrian day use access to the MacKerricher Beach parking lot. DPR shall be encouraged to seek alternative methods of controlling access to the campgrounds.

In order to ameliorate ongoing theft and vandalism in the park's campgrounds, as well as to control speeding automobiles that endanger visitors and their children and create noise at night, several possible facilities and management solutions aimed specifically at these problems are presented here. The department will work closely with the county Board of Supervisors and notify park visitors and local residents regarding any proposed future changes in management or implementation of facilities solutions for Mill Creek Drive within the park. Possible options, in no particular order, are:

1. Nighttime only closure of the road. This proposal was accepted by the consensus of those present at the third general plan public meeting. Around-the-clock unobstructed access would continue to be available via the ungated contact station entry.
2. Nighttime only closure of the Laguna Point and/or Lake Cleone parking lots.
3. Installation of video devices along Mill Creek Drive and/or at the contact station for nighttime surveillance.
4. Controlling access to the campgrounds by such methods as gating each and giving campers cards or keys for access or constructing separate entrance kiosks at each campground entrance. These protective facilities could be further strengthened by fencing all or part of the perimeters of the campgrounds.
5. Coordinating with the county to reduce the speed of automobiles on Mill Creek Drive within the park by a) posting a low speed limit, b) constructing several speed bumps, or c) installing stop signs on the road at its intersections with the park entrance road and/or the Pinewood Campground entrance. (The proposal for a stop sign at the intersection of Mill Creek Drive and the park entrance road could include minor realignment of the park entrance road to make it easier and safer for cars and RVs turning right from that road onto Mill Creek Drive.)
6. Facilities options could be augmented with park management actions, such as instituting a late night ranger patrol at the park or having camp hosts be responsible for registering campers and maintaining surveillance in the campgrounds (see the Operations Element, page 205).

Design Criteria for Park Entrance Area Facilities

- After removal of unnecessary elements near the contact station, use native plant materials for screening and to create a natural-looking scene appropriate to the park entrance.
- Recess fencing providing barriers along the perimeters of campgrounds and screen with vegetation if possible so it will not be visible from nearby roads and trails.
- For intersections, turnarounds, etc., employ the minimum paving necessary.

ADMINISTRATIVE AREA FACILITIES

There are negative impacts of the existing administrative area due to its proximity to the park entrance area. Views are unattractive, and there are traffic problems. See the Land Use Element, pages 125-126, for a description of existing conditions in this area.

- As park visitation increases, consider furnishing additional park office space, either in an existing building or a new one, to serve as the Northern Mendocino Sector Headquarters and to support maintenance for Westport-Union Landing State Park.
- Create visual separation between the administrative complex and the entrance area with native plantings.
- Create a new access road to the administrative area off of Mill Creek Drive through the storage yard.
- Continue use of the existing road for sanitary dump station traffic.
- Gradually remove the cypress trees along Mill Creek Drive and replace them with native trees or shrubs that will screen the storage yard.
- Remove two trailer pads from the administrative residential area.
- If the barn east of Inglenook Fen should become unusable, move this storage function to the administrative complex.

Design Criteria for Administrative Area Facilities

- Employ materials of a rustic nature compatible with other park architecture for all future improvements.
- Screen all unattractive views.

FACILITIES PROPOSALS FOR THE CAMPGROUNDS

The department does not intend to increase family camping capacity in the campground loops. Expansion of total camping capacity will depend on new property additions. Descriptions of existing conditions in the campgrounds and site analyses are on pages 126-127.

All Campgrounds

- Construct campsites for visitors with disabilities at each campground loop (one additional at Pinewood; one at Camp Cleone; two at Surfwood).
- Revegetate and rehabilitate overly impacted campsites, and cycle all campsites through a rest period, when needed.
- Consider using part of one or more of the campgrounds to support the overnight needs of an environmental education program during the non-peak season.

Camp Cleone

- If no additional property can immediately be acquired for a group camp, convert Camp Cleone into the park's group camp. Camp Cleone would lend itself to this use owing to its size and its nearness to the park entrance. Campsites should be designed so that, if no group were using the campground, they could be occupied by families. The addition of one or two informal group campfire circles would make evening gatherings, daytime classes, or other activities possible without preemption of the main campfire center.
- In addition, because of the proximity of the new interpretive and campfire centers to Camp Cleone, consider use of this campground for environmental education activities at times when it is not in use by other groups.
- When Camp Cleone begins to function as a group camp, move the hike-in/bike-in camp to Pinewood Campground to avoid overcrowding at Camp Cleone.
- Move Camp Cleone's entrance road so that it will intersect the park road opposite the entrance to Pinewood Campground. Adapt the existing intersection near the contact station for vehicular access to the proposed interpretive center and remove and revegetate the parts of the existing road that will not be needed for the new use.
- If a more suitable group camp location should become available on newly acquired property, consider again using Camp Cleone exclusively as a family campground or, alternatively, continue as a group/family campground.
- Convert a campsite at Camp Cleone for use by a camp host.

Pinewood Campground

- Install one campsite for a camp host in the east loop of the campground and one in the west loop.
- Create a new hike-in/bike-in campground on one of the Pinewood loops.
- Designate one of the Pinewood loops for RV use and add electrical hook-ups.

Surfwood Campground

- Convert a campsite at Surfwood for use by a new camp host.
- If additional property is acquired to the south of Surfwood and is developed for additional family camping, consider turning the northern loop of Surfwood into a day use area for use in connection with MacKerricher Beach, Laguna Point, and the Lake Cleone area.

Possible Additional Camping

- If property is acquired in the future south of Surfwood Campground, explore the options of furnishing more camping there (up to 50 family sites or a group camp) and/or permanent facilities for an environmental educational program.

Design Criteria for Campground Facilities

- Emphasize screening between campsites when performing vegetation management.
- Keep campground roads narrow and avoid long, straight segments to give a feeling of privacy while still providing safe routes for campground users.

FACILITIES PROPOSALS FOR LAKE CLEONE AND THE SURROUNDING AREA

This plan emphasizes development solutions to protect the resources of the lake and its

environs so heavy visitor use of picnic and parking facilities and the park road can continue, while also incurring less disruption of resource values. For descriptions of existing conditions at and around the lake, see pages 127-129.

- Keep the lake a freshwater body to provide water for the park pending studies to determine if it should continue as a lake or become a lagoon.
- Examine the feasibility of a well or intake on Mill Creek east of Highway 1 as a possible solution to the water quality problems at the park. Also, continue discussions regarding the possibility of obtaining water from Fort Bragg.
- Restrict boating to the lake's west end to protect the freshwater marsh at its east end.
- Refurbish the restroom so it can serve visitors with disabilities.
- Add three picnic tables near the existing parking area, one for visitors with disabilities.
- Add a fishing dock accessible to visitors with disabilities if the lake remains a freshwater body and is maintained as a fishery.
- Add more interpretation to discourage littering and feeding wildlife.
- Provide a well-screened recycling collection facility near the Lake Cleone day use area.
- Install a hitching post near the restroom for the use of people riding on the equestrian trail.
- Construct interpretive facilities at the top of the slope north of the lake (see below).

Design Criteria for Lake Cleone Facilities

- Construct the dock of rustic-appearing, pressure-treated material at a level close to the water's surface.
- Add new picnic tables only in the areas where this use is already occurring.
- Construct interpretive structures at the lake of rustic-appearing materials.

INTERPRETIVE CENTER

- Construct an interpretive center near the park entrance at the top of the slope overlooking the north shore of the lake.
- Provide the interpretive center with exhibit and A/V space, a sales area, offices for department staff and park docents, classrooms (inside and outdoors), and storage space. A deck should serve for outdoor classes, as well as visitor pass through and viewing space.
- Provide parking for 50 vehicles screened from Camp Cleone and the Park Entrance Area to serve the interpretive center, two of which should be reserved for visitors with disabilities.
- Make the interpretive center capable of supporting outdoor education functions for school groups in concert with the nearby group camp and campfire center at times when general park visitation is low.

Design Criteria for the Interpretive Center

- The interpretive center should be a minimum size to adequately house all the functions planned for it, with low-profile inside/outside use areas, and employing materials and colors that will blend with the site.
- Use appropriate screening materials to separate activity spaces where needed.

CAMPFIRE CENTER

- Construct a new campfire center west of Camp Cleone.

- Provide storage for interpretive materials, projection equipment, etc.

Design Criteria for the New Campfire Center

- Build the campfire center of materials compatible with its coastal forest setting.
- Orient the campfire center so that headlights from automobiles at Camp Cleone cannot interfere with campfire programs at night.
- Orient the campfire center so that arriving visitors will not interfere with campfire programs in progress.

FACILITIES PROPOSALS FOR THE NORTHERN SECTION OF THE PARK

NORTH MacKERRICHER COASTAL TRAIL ACCESS FACILITIES

Although this area is in county ownership, it would be desirable for it to have improvements to function better as an access point to the northern part of the park. For a discussion of existing conditions and a site analysis, see the Land Use Element, pages 129-130.

- Coordinate with Mendocino County to surface the parking area and improve circulation so it will continue to accommodate 15-20 cars (one for visitors with disabilities), as well as two or three horse trailers
- Add orientation, interpretation, and regulatory signs on state-owned land to stress the resource importance of the sand dunes, point out locations of trails for pedestrians, bicyclists, equestrians, and visitors with disabilities, and to discourage OHV use.
- Construct a 100-series vault-style restroom on park property on the inland side of the haul road just north of the parking area, out of view of the adjacent subdivision.
- Repair the tunnel beneath the haul road and create a single high quality route down to the beach, accessible to visitors with disabilities, if possible.
- Work with the county to engineer a solution to the subdivision drainage problem that will conduct water away from the underpass and down the bluffs so as to prevent further erosion.

Design Criteria for the North MacKerricher Coastal Trail Access Facilities

- Construct any interpretive structures of rustic-appearing materials.
- Construct the restroom of materials visually compatible with the nearby beach and dunes.
- Use colors compatible with the surrounding landscape for signs.

PROPOSALS FOR THE SAND DUNE AREA

See the Land Use Element, pages 130-131, for a discussion of existing conditions and a site analysis of the sand dunes.

- No development should occur in the sand dunes except for the dune boardwalk. (See design criteria recommendations under boardwalks on pages 157-158.)

PROPOSALS FOR INGLENOOK FEN

See the Land Use Element, pages 131-132, for a discussion of existing conditions and a site analysis of Inglenook Fen.

- No facilities development should occur in the fen.
- Conduct guided tours for groups in the company of an interpretive ranger or docent to the edge of the fen. No casual visitation will be allowed into the fen.
- Clean up remnants of research efforts permitted in this sensitive area in a timely fashion.

PROPOSALS FOR THE COASTAL PRAIRIES

Existing conditions and a site analysis of the coastal prairies appear on pages 132-133.

- No further development should occur in the prairies.
- The department intends to maintain the scenic quality of the prairies. For this reason, the woodcutting occurring at the barn east of the fen should be concealed as much as possible and discontinued in this area when treecutting becomes less frequent at the park.
- Maintain the barn for field staff use/storage.
- When the barn's roof needs replacement, use materials with a historic appearance. Worn siding should be replaced in-kind, as should other structural elements.
- If the barn were to be destroyed, it should not be rebuilt. The administrative function (storage) should be moved to the administrative complex.

PROPOSALS FOR TEN MILE BEACH

See pages 133-134, for the existing conditions and a site analysis of Ten Mile Beach.

- Maintain the beach in its undeveloped state.
- Use the beach as the northern half of the equestrian trail.
- In addition, allow visitors to participate in passive recreational activities, such as beachcombing, body surfing, sunning, etc., that do not create negative impacts upon the dunes, beach, associated wetlands, or resident wildlife.

TEN MILE RIVER FACILITIES PROPOSALS

The department will continue to work toward formalizing access into the Ten Mile River area to prevent the erosion, wetland trampling, disruption of wildlife, and trespassing that now occur. Its intent is to keep the dunes available for the public to enjoy. However, it does not propose to make this a heavily used area. See the Land Use Element, pages 134-136, for a description of existing conditions and a site analysis.

- When possible, acquire an interest either by purchase or through an easement from a willing landowner south of the Ten Mile River bridge for use of sufficient land to park 30 vehicles, including spaces horse trailers and for visitors with disabilities.
- Install sanitary facilities at this parking area.
- Add a sign at the parking area to create a gateway impression and clarification that the Ten Mile River area is within the State Park System.
- If necessary, coordinate with Caltrans to create a trail within the right-of-way on the west side of the highway to serve as a corridor from a future parking area onto park property; furnish a barrier between the trail and highway traffic.
- Coordinate with equestrian groups for equestrian access from this future parking area to the haul road.
- Install fencing where necessary to enter the park near where the haul road passes beneath the bridge rather than trespassing across sensitive dunes, wetlands, or private property.

- Coordinate with Caltrans and adjacent property owners so that the department can install interpretation and regulatory signs about the sensitivities of the area and explaining that OHV use in the dunes is prohibited.
- Provide fencing to prevent intrusion onto wetlands on department property, as well as to control trespassing onto wetlands not owned by the department.
- Remove volunteer trails providing access into the wetlands, as well as those in the dunes, that are negatively impacting the area's resource values.
- Provide signs indicating which trails visitors should use for beach access.
- This department will respect the wishes of the Department of Fish and Game not to provide formal boat access to the river, as that agency's intent is eventually to acquire the wetlands, including those on the south shore of the river, if the sellers are willing.

Design Criteria for Ten Mile River Facilities

- Avoid visual intrusions when providing routes from the parking area onto park land.
- Construct interpretive structures of rustic-appearing materials.
- All additional construction in the natural preserve, of which the Ten Mile River area is a part, will be minimal and will utilize natural materials, where possible.

ENVIRONMENTAL EDUCATION PROGRAM

Environmental education would be an important addition at this resource-rich park. If developed, a permanent facility should be located where it would not interfere with resource protection or with recreational or overnight uses. A possible location would be on land south of Surfwood Campground, if that land were added to the park. In the interim, a program could employ temporary facilities, such as movable sleeping shelters in one or more of the campgrounds. In addition, any portable classroom structures should be placed in areas that would not adversely impact resource values, existing visitor services, or the aesthetic character of the park. Exact placement of both kinds of structures would have to be determined by field staff with resource staff input. Planning and design for any permanent facilities would need to be preceded by an area development plan for the part of the park within which they would be located. Such facilities will extend the use period of the park for school season field trips and provide a camping alternative for those desiring to use the park during the off-season.

PARK UTILITIES

FACILITIES PROPOSALS

SEWER

In order to accommodate day use expansion at the park, the department should consider an on-site underground sewage storage facility to balance flows throughout the day or week. More evaluation will be needed to properly size and site a storage tank.

WATER

While Lake Cleone is an adequate water source at this time, a better one should be found for the future. The best source would be city water. The next best solution would be a well or intake on Mill Creek upstream from Highway 1.

See the recommendations in this element for Pudding Creek, the South MacKerricher

Coastal Trail Access, Laguna Point, and the North MacKerricher Coastal Trail Access for further utility recommendations.

GENERAL DESIGN CRITERIA FOR PARK FACILITIES

DESIGN CRITERIA FOR PARK ARCHITECTURE

- Building materials for new park structures should convey a rustic simplicity in harmony with the natural character of the park.
- Buildings should reflect the landscape type in which they are sited.
- Buildings should be no larger than necessary to fulfill their functions.
- Buildings should be energy efficient.
- Restrooms should be sited unobtrusively and so as not to be focal points upon arrival.
- Park structures should be screened by siting, grading and/or landscaping from critical views within and outside the park. The exception will be the interpretive center, which should be sited to afford maximum views of the surrounding park land.
- Interiors of buildings should be accessible and functionally usable by visitors with disabilities.

DESIGN CRITERIA FOR LANDSCAPING AND IRRIGATION

- When grading, respect the natural contours of the land as much as possible.
- Use plant materials native to the plant community(ies) and location of the landscaping.
- Use irrigation systems only for establishing new landscaping.

DESIGN CRITERIA FOR SIGNS

- Use advance signing on the highway to inform travelers about the distance to the park and to indicate upcoming entrances.
- To maintain the natural and open character of the park, keep signs to the minimum needed to relate all necessary information on resource values and park regulations.
- Use uniform design and materials on park signs to reflect the park's natural character.
- Keep signs to a height that will not intrude on views.
- Place informational signs at natural gathering spots and integrate them into the design of site furniture, if possible.
- Group signs where possible to avoid sign clutter.
- Do not allow signs to conflict with pedestrian or other traffic.

TABLE 2
MacKERRICHER STATE PARK
EXISTING AND PROPOSED FACILITIES

Facility	Existing	Proposed	Total
Campsites, family	141	-2*	139
Campsites, walk-in	10	0	10
Campsites, bike-in	1	0	1
Campsites for disabled	1	+4	5
Camp host	1	+1	2
Group camp	0	+1	1
Parking capacity	195-245	Variable	355-380**
Parking for disabled visitors***	7	+6	13
Picnic sites	14	+15	29
Picnic sites for disabled****	0	+5	5
Fire rings	0	+5	5
Bluff overlooks	0	+3	3
Restrooms	1	+4	5
Restroom/shower building	7	0	7
Equestrian staging area	0	+1	1
Boat ramp	1	0	1
Fishing dock	0	+1	1
Contact station	1	0	1
Park office	1	Relocate	1
Campfire center	1	Remove old/Build new	1
Environmental Educ. Facility	0	+1	1
Interpretive center	0	+1	1
Outdoor shower	1	0	1
Boardwalks	5,400 l.f.	+4,000 l.f.*****	9,400 l.f.
Hiking trails	7,000 l.f.	0	7,000 l.f.
Horse trails	7-1/2 mi.	0	7-1/2 mi.
Former haul road	7-1/2 mi.	0	7-1/2 mi.
Interpretive shelters	2	+5	7
Foot bridges	11	0	11
House	1	0	1
Residential trailers	5	-2	3
Sanitary dump station	1	0	1
Storage & utility bldg.	8	+1	9
Water treatment plant	1	0	1

* Family campsites will only be removed temporarily during times when Camp Cleone is used by groups. In addition, two family campsites will be adapted for use by the camp hosts.

** If day use parking is put at Surfwood (contingent upon land addition), this figure would increase, as would the figures for family campsites, if more were added on new land south of Surfwood.

*** Parking for visitors with disabilities is also included in the total proposed parking figures.

**** Picnic sites for visitors with disabilities are also included in total proposed picnic site figures.

***** Includes approximately 1,000 feet of additional boardwalk on the south side of Lake Cleone and the dune boardwalk.

- Do not allow signs to conflict with door openings or vehicle operation.
- Make information on signs as concise and direct as possible.
- Use bold and simple lettering styles and graphic symbols.
- Make outdoor signs weather- and vandal-resistant.
- Use the wheelchair symbol on signs for disabled visitors.

DESIGN CRITERIA FOR WETLAND AREAS

- Construct all future structures in wetland areas of rustic materials that are decay resistant.
- Screen all structures in wetland areas with natural vegetation.
- Place all interpretive panels so they will not obstruct views.

VISITOR CAPACITY

As a result of park development, especially at major points of access, visitation at most park areas can be expected to increase. Increases in the number of visitors are also anticipated because of the new interpretive center, modest expansion in the day use areas, and with the addition of a group camp or camps. Organizing parking areas to set visitor capacities is an attempt to stop "packing" unorganized spaces, thus establishing a cap on the number of people accessing the park at any one time from various access points.

Estimates of future visitation levels for park areas are primarily to analyze the range of

<u>Area</u>	<u>Approx. People At One Time (to nearest 5)*</u>	
	<u>Now</u>	<u>Proposed</u>
Pudding Creek	255 - 320	320 - 350
S. MacKerricher Coast. Trail Access	80 - 95	195
Laguna Pt.	145 - 160	225
Main Park Entrance	25	25
Lake Cleone	65 - 95	65 - 95
Interpretive Center	0	160
N. MacKerricher Coast. Trail Access	65	65
Ten Mile River	15 - 20	100
Family Campsites	525	450**
Group Camp	0	100
Visitor Center Parking	0	160
Totals:	1,175 - 1,305	1,865 - 1,925

* Visitor capacities are based on estimated capacities of existing and proposed facilities. For day use facilities, the number of parking spaces is multiplied by a factor of 3.2, which is the State Park System standard for the average number of visitors per vehicle. The number of campground sites is multiplied by 3.73, representing the number of visitors per campsite based on the 1990 visitor use survey; except for the group camp, where maximum capacity is limited to 100 people.

** This figure based on family campsites not being available at Camp Cleone when it is occupied by groups.

impacts on the environment that could result. Decisions setting the numbers of parking spaces and campsites proposed in the plan were made by the planning team based on a number of factors, including the physical constraints of the site, environmental and resource sensitivities, and professional judgment and experience. An important consideration was the desire to avoid overcrowding.

The figures in Table 3, MacKerricher State Park Visitor Capacities, do not represent absolute carrying capacities. However, they can be used as a starting point from which future studies might be done if there should be physical damage resulting from overuse. When and if actual carrying capacities can be established with the benefit of thorough research and regular site monitoring, practical management measures can then be developed to maintain use levels within required limits. Constraints on access and implementation of development proposals would be among the possible methods for accomplishing this.

GENERAL PLAN IMPLEMENTATION

CODES AND REGULATIONS

The Environmental Impact Report contained in this general plan applies to the plan only and will not cover specific projects arising from its proposals. Various codes and regulations will apply to these projects. All will be subject to the California Environmental Quality Act (CEQA). In addition to CEQA, all work involving historic buildings will be under the purview of the provisions in the California Public Resources Code Section 5024.5 and Executive Order W-26-92 and must also utilize the State Historic Building Code. Moreover, work involving historic, as well as prehistoric, sites should be carried out according to guidelines contained in the Secretary of the Interior's Standards for Historic Preservation or Rehabilitation.

Projects will also need approvals from several regulatory agencies. The entire park is within the coastal zone, so all projects will require coastal permits, save repair or maintenance work not located near environmentally sensitive habitats. Mendocino County will handle most coastal permits through its local coastal permitting authority except for some of the work on the haul road that may stay within the purview of the State Coastal Commission. The State Lands Commission has jurisdiction over projects located on historic tideland, and the U.S. Army Corps of Engineers has to approve any projects involving discharge of dredged or fill material.

PRIORITIES

The priorities shown on Table 4 are intended to guide budget decisions and accomplish the most important things first. Criteria for establishing importance include park resource protection, visitors' health and safety, and public access and enjoyment. Development phasing should also make improvements first in the park's most heavily used areas. In addition, prior to detailed design for development projects that might impact existing or proposed adjacent facilities (i.e., in the central park area), an area development plan, including proposals for related adjacent spaces, must be completed for the entire area.

Priority I actions are those that should occur soon and are needed to protect visitor health and safety, remedy or prevent problems that cause resource damage, or must be done early in order to implement Priority II or III actions. Some of these are relatively minor changes to existing conditions, requiring little or no additional park staff to operate and maintain. Others could increase public access to the park. The cost of most of these first phase actions is expected to be low. Many will be accomplished by field staff and/or volunteers. Projects requiring special budgeting and contracts will be more expensive.

TABLE 4
MacKERRICHER STATE PARK
GENERAL PLAN FACILITIES IMPLEMENTATION

<u>PROPOSED DEVELOPMENT</u>	<u>SUGGESTED PRIORITIES</u>			<u>PRIMARY PURPOSE</u>
	<u>I</u>	<u>II</u>	<u>III</u>	
PARK-WIDE PROJECTS				
Park equestrian trail improvements	X			Access
Eradicate volunteer trails	X			Res. Protection
Park-wide trail study/brochure	X			Access
SOUTH PARK AREA				
Improve trestle	X			Access
Pudding Creek improvements		X		Visitor Services
South Coastal Trail Access improvements		X		Access
Terrace and bluffs trails/bluff overlooks		X		Res. Protection
Interpretation at Virgin Creek Beach	X			Resources/Interp.
Haul road surface improvement	X			Access
Haul road rest stops		X		Visitor Services
MID-PARK AREA				
Construct interpretive center		X		Vis. Svcs./Interp.
Construct new campfire center		X		Vis. Svcs./Interp.
Park entrance improvements	X			Safety/Aesthetics
Relocate/add camp host site(s)	X			Vis. Svcs./Safety
Admin. area improvements/park office		X		Visitor Services
Group camp at Camp Cleone	X			Visitor Services
Add disabled campsites/improve existing	X			Vis. Svcs./Access
Add more campgrounds (up to 50 sites)*			X	Visitor Services
Permanent env. educ. facility*			X	Visitor Services
Lake Cleone bypass	X			Access
Lake Cleone day use rehabilitation		X		Visitor Services
Complete Lake Cleone boardwalk		X		Access/Res. Prot.
Build fishing dock at Lake Cleone			X	Access
Underground sewage storage		X		Visitor Services
Park center trail system		X		Access
Laguna Point day use improvements		X		Visitor Services
Laguna Point boardwalk rehabilitation		X		Access
NORTH PARK AREA				
North Coastal Trail Access improvements		X		Access
Construct dune boardwalk	X			Access
Ten Mile River access**	X			Resources/Access

*Possibly dependent upon land addition south of Surfwood Campground.

**Dependent upon land addition or easement for connection to Highway 1.

Some of the Priority II and III projects will be costly. These projects continue to emphasize providing access and resource protection; however, most of the situations they would remedy do not now severely compromise visitor access, safety, or resource protection.

Several studies and programs recommended in the plan can proceed independently without regard to completion of other items. These include resource management programs and the preparation of a park trail plan.

Priorities shown here can be influenced by many factors and should be treated only as guidelines. For example, such opportunities as available volunteer assistance or special funding might accelerate some projects. As each phase of work is accomplished, it will be prudent to evaluate how the completed facilities are being used and to examine the appropriateness of continuing with the next phase. In addition, regardless of funding availability, priorities contained in the general plan can be instrumental in providing guidance for park maintenance and for defensive planning.



Interpretive Element



Junior Ranger program at MacKerricher State Park.



INTERPRETIVE ELEMENT

State park interpretive facilities, programs, and publications orient, inform, and inspire visitors so they can better enjoy, appreciate, and protect their parks.

Interpretation aims at enhancing public enjoyment and benefit in the State Park System through increasing understanding of significant natural, cultural, and recreational resources, and encouraging appreciation of their values. Interpretation is founded on the premise that knowledge deepens the park experience, providing lasting benefits not only to individuals but to society in general. The Interpretive Element works toward this goal by identifying park themes and a variety of facilities and programs appropriate for their presentation.

The goals of interpretation at MacKerricher State Park are to:

- Orient and inform visitors to help them have enjoyable, meaningful, and safe visits to the area;
- Foster appreciation and conservation of the natural, cultural, and recreational resources of the area;
- Meet the special needs of visitors of all ages and abilities;
- Involve the local communities in its programs; and,
- Keep interpretive media appropriate and sensitive to the esthetic values of the area.

INTERPRETIVE THEMES

Interpretation employs themes and media to connect visitors to natural, cultural, and recreational resources in personally meaningful ways. Themes define the point of view to be given to the interpretation of the park's resources. Since this is an element of a general planning document, themes recommended here will be kept relatively broad. The goal is to provide planners of future interpretive development and programs with both sufficient thematic definition and enough creative leeway to successfully complete their interpretive projects. Future planning will necessarily entail a more detailed definition of these interpretive themes.

Thematic development has been coordinated for the Mendocino Sector State Park units. Interpretive resources at these units were listed and compared. Units were ranked according to how well they represented each resource. These rankings, existing interpretive efforts, and distances between units were analyzed to arrive at suggested interpretive themes for each unit. The goals are to tell the best stories where and when they can be best told and to avoid redundancy. As such, the following themes are not exhaustive. For example, marine mammals live offshore of all of these units, but this topic is only recommended as an interpretive theme for the units where they are commonly seen.

LEVELS OF THEMATIC DEVELOPMENT

The unit's themes are presented in three levels: the **unifying theme**, **primary themes**, and **secondary themes**. The unifying theme encompasses interpretive material for all the coastal state parks in this part of Mendocino County, while the primary and secondary themes relate to interpretation at MacKerricher State Park and, in some cases, to the other parks.

THE UNIFYING INTERPRETIVE THEME

The single unifying theme provides a conceptual focus for interpretive exhibits and programs for all the Mendocino Coast State Park units. The unifying theme also sets the overall interpretive tone and direction, and implies the desired result interpretation should have on visitors' attitudes and perspectives. The unifying theme is presented, however, exclusively through interpretation of primary and secondary themes.

Explore how natural forces, plants, animals, and people continually change this fragile and dynamic coast.

PRIMARY THEMES

Primary themes define the most important ideas to be interpreted. They should naturally receive more emphasis in interpretive exhibits and programs than secondary themes.

Primary Theme

Enjoying and Preserving the Mendocino Coast: You can safely enjoy the Mendocino Coast, and leave it unmarred for you and for others to enjoy in the future.

This theme helps visitors make decisions that lead to enjoyable, safe, and low-impact use of the park's resources. This information can be conveyed through exhibits, guided walks, roving interpreters, audio-visual programs, and take-home interpretive materials (trail guides, the North Wind guide, other guidebooks, maps, local history books, and video cassettes).

About 800,000 people come to the park annually to camp, hike, walk, jog, picnic, explore tidepools and beachcomb, study nature, view marine mammals, bird watch, scuba and skin dive, play in the ocean, sea kayak, boat and fish on Lake Cleone, surf fish, hike or bike on the haul road, and ride horses. Interpretation can help visitors have a safe visit by informing them of potential threats, such as disease-carrying ticks. Interpretation can also help the visitor protect resources by discouraging harmful behavior, such as illegal off-road vehicle use, activities promoting erosion, disturbing wetlands or marine mammals, or allowing dogs to run free.

Primary Theme

Underwater Parks and Preserves help conserve the Mendocino Coast's marine heritage.

The underwater park at MacKerricher State Park should be interpreted so that visitors can appreciate its values better and minimize their impacts on it.

Primary Theme

Discover the Ocean's Power!: The dynamic ocean is continually sculpting the Mendocino Coast.

The powerful and unceasing motion of the sea in this part of the coastline eats at the land, causing coastal erosion that is visible in many places throughout MacKerricher State Park. Among these are the rocky bluffs, the places where the haul road has been undermined and washed out along Ten Mile Beach, and west of Lake Cleone, where the haul road berm has been practically destroyed.

Primary Theme

Discover the Rocky Shore: The colorful and varied lifeforms of the rocky shore have evolved fascinating ways of surviving natural challenges, but they can't survive our carelessness.

MacKerricher State Park's rocky shore stretches south from Laguna Point to the park boundary. The rocky shore is a wonderful place to observe the variety, abundance, adaptations, and beauty of marine plants and animals. The physical and biological challenges of this environment are great, but the nutrients and productivity of the rocky shore are high. Nearly every phylum of invertebrate animal is represented at the rocky shore, many in great variety and profusion. Many ancient, highly successful, and strange animal forms and behaviors can be observed closely at the rocky shore, particularly during the lowest tides. The rocky shore is unsurpassed as a window into the marvels of ecology and evolution.

Many rocky shore organisms live most commonly in specific zones that have the conditions they are adapted for. The upper zones have less competition for space but have longer exposure to drying, more terrestrial and avian predation, and greater temperature and salinity ranges. The lower zones are exposed much less by the tides, but they have much greater competition for attachment sites and experience more marine predation. Attached upper zone animals are mostly encrusting forms. Lower down and in more protected areas, attached animals are mostly erect or bushy.

The rocky shore ecology is based primarily on plankton, and secondarily on algal films and macroscopic algae. The feeding styles of the primary consumers are filter feeding, algal film grazing, and macroscopic algal browsing or scavenging. Some algal film grazers have evolved to become carnivorous browsers of colonial polyps, sponges, and bryozoans. The reproductive, feeding, and protective adaptations of rocky shore life are complex, varied, and fascinating.

Rich accessible tidepool areas such as are found at Laguna Point can be quickly destroyed by human collecting and trampling. Interpretation should inform visitors how to enjoy these fragile areas without harming them.

Primary Theme

Discover Marine Mammals: Gray whales, seals, and sea lions can be viewed from MacKerricher State Park's headlands.

MacKerricher State Park is a prime marine mammal viewing area. Laguna Point is a favorite spot for watching harbor seals, California sea lions, and migrating gray whales. Interpretation should address interesting natural history facts and information regarding stranded marine mammals and should bolster regulatory signs against badgering the animals.

Primary Theme

Discover the Coastal Dunes!: The coastal dune community shifts through time and space as life gets a foothold in the sand and then fixes it in place.

Coastal dunes form where there is a steady supply of beach sand and constant onshore winds blowing toward land with a low relief. Dune pioneer plants are adapted to survive the desert-like conditions of wind, drought, heat, and sand abrasion. Salt spray is an added plant survival challenge. Plant adaptations to these harsh conditions include succulence, woody stems, waxy cuticles or small hairs on stems and leaves, vertical leaf orientation, long tap roots

or shallow root systems, and leaf drop or curling.

Coastal dune physical conditions vary greatly with location, stabilization, and vegetation. Foredunes are naturally the most exposed, least vegetated, and least stable sand dunes. Secondary dunes are more sheltered, have more vegetation, and are consequently more stable.

Dune animals are not very easily seen because most are either nocturnal or adapted to live beneath the sand. Some dune insects build traps in the sand to catch prey.

The Mendocino Coast's dune areas, like most strand areas in California, have been severely disrupted by human influences and uses. Native dune plants have been largely supplanted by European beachgrass. Nesting habitat for western snowy plovers in the dunes is adversely affected by European beachgrass invasion. Interpretation can enhance the effectiveness of programs aimed at encouraging the recovery of native dune vegetation.

Primary Theme

Discover Coastal Wetlands: Rare saltwater, brackish, and freshwater wetlands support abundant and varied life at the dynamic edge of the land and the sea.

Coastal wetlands are some of the richest, most dynamic, and complex ecosystems on the Mendocino Coast. These wetlands are also greatly impacted and threatened by human uses and influences. MacKerricher State Park's wetlands include coastal lagoon, freshwater riparian marsh, fen, and riparian habitats. There are wetlands near the mouths of Pudding, Virgin, Fen, and Inglenook creeks, and at Ten Mile River. The Fen Creek/Sandhill Lake/Inglenook Fen complex and the Mill Creek/Lake Cleone complex each exhibit a range of wetland types along a watercourse. All of these are dynamic ecosystems that change with the amount of freshwater discharge. Some of MacKerricher's wetlands are also affected by the amount of sand movement or tidal and wave action. These wetlands provide important habitats for species whose local populations are in question, such as steelhead trout and the swamp harebell.

The Mendocino Coast's stream or riparian habitats are wildlife magnets and corridors that both link and bisect grassland, coastal scrub, and coastal forest ecosystems. Mature red alder riparian forest and coast riparian scrub form dense canopies over MacKerricher's streams. This lush vegetation offers a variety of nesting, feeding, and cover opportunities to wildlife and is critical to many species. A great percentage of riparian bird species are cavity nesters.

Many riparian birds are heard more than seen in this lush environment. Riparian bird life is at its highest and noisiest activity during the spring courtship and nesting period. Many migratory bird species travel along stream corridors during the spring and fall.

Never a large part of California's landscape, our state's original riparian areas have been largely destroyed by clearing, bank stabilization, channelization, and road building. Remaining riparian areas at MacKerricher must be protected from development activities within and outside the park, as well as restored. Inglenook Creek, Fen Creek, and Mill Creek support steelhead and Coho salmon and may contain red-legged frogs and foothill yellow-legged frogs, whose populations are generally threatened along the Mendocino Coast.

The Inglenook Fen complex is California's only known remaining coastal fen. This highly significant ecological area has a unique combination of insects and plants with high montane or northern associations. The fen was formed thousands of years ago by advancing sand dunes that blocked acidic drainage from upland conifer forests. The fen complex is made up of the open water of Sandhill Lake, its fringing freshwater marsh, the fen itself, and the fen-carr forest. The sensitive fen complex and surrounding dunes support a wide variety of rare

or endemic species and rich flora arranged in ecological succession zones.

Lake Cleone was once a small brackish lagoon. Construction of the haul road berm cut off tidal and wave action, transforming it into a freshwater lake. Coastal freshwater marsh, a rare community of cattails and sedges, occurs along the lake's edge. Lake Cleone is important resting habitat for migrating waterfowl and shorebirds. The lake is used by the bufflehead and the osprey and, perhaps, also by red-legged frogs. All are sensitive species.

The outlets of Pudding and Virgin creeks can close with sand bars during low stream flow, creating brackish lagoons. These wetlands are important habitat for anadromous fishes, shorebirds, and the sensitive tidewater goby.

Primary Theme

Making a Living on the Coast: Native Americans, including the Coast Yuki and Pomo, lived skillfully in the area of MacKerricher State Park for more than 2,000 years.

Native Americans have been using the resources of this area for at least the last 2,000 years. The Coast Yuki were occupying the area of today's MacKerricher State Park when the first Europeans arrived. The Lalim-ontilka lived near Cleone, the Lilhuyak-ontilka lived at Inglenook Beach, and the Metkuyak-ontilka lived at the mouth of Ten Mile River. The Lalim-ontilka and the Northern Pomo of Sherwood Valley were living near each other at Lake Cleone (Lalim). Native Americans gathered seaweeds, mussels, and acorns and they caught surf fish, deer, elk, seals, and sea lions.

Primary Theme

The Mendocino Indian Reservation: American settlement in the 1850s quickly resulted in the loss of Native American land and life.

American settlement of the MacKerricher State Park area began in 1852 with the construction of a sawmill at the mouth of Big River. Robert White, who started a ranch north of Russian Gulch, acted as an unofficial agent for Superintendent of Indian Affairs, Thomas Henley. White presented a petition to Henley in 1855 signed by 52 settlers that threatened vigilante reprisals against alleged Indian depredations unless the government took action. White and John Simpson guided the government survey party that arrived to select a reservation site. The party laid out a reservation extending north from the Noyo River to one mile north of Ten Mile River and extending from the coast to the mountains.

The reservation was purportedly created to concentrate the Indians so they would be less vulnerable to attacks by whites and could be taught farming and trades. This concentration also made more land available for whites to settle without conflicting claims from Indians. By 1856, 3,000 Indians were living at the reservation, and houses, a smokehouse, a blacksmith shop, and a carpenter shop had been built. The Indians farmed and were encouraged to continue their fishing and gathering. A hospital and more houses were built in 1857 and a military post called Fort Bragg was built at the southern edge of the reservation to keep the peace. However, in the late 1850s and early 1860s, many skirmishes between the Indians and settlers occurred. The post was vacated in 1864, two years before the reservation was abandoned.

Superintendent Henley, who allowed a sawmill to be built at the mouth of the Noyo River that disrupted the salmon fishery, was accused of graft and removed from office in 1859. Appropriations to the reservation were subsequently cut, just as many more Indians driven

from their homes in outlying areas arrived looking for support. Euroamerican settlement associated with the sawmill introduced alcohol, disease, and exploitation of the Indians. The reservation became a place of privation and disease, and many Indians were forcibly driven by the Army to the reservation at Round Valley. Many were left to die along the way, while some of those who survived the trip were able to escape and return to the Mendocino Coast.

Abandoned in 1866, the reservation was surveyed in 1869 and opened to public sale. Many of those who took up land claims had been reservation employees who stayed and claimed the government improvements. Duncan MacKerricher, after whom the park is named, gained his holdings in this way. The Indians were completely dispossessed only fourteen years after the first white petition complained of Indian depredation.

SECONDARY THEMES

Secondary themes provide support and interpretive context for primary themes.

Secondary Theme

Discover Coastal Forests!: Whether growing or decaying, native conifers support a rich variety of wildlife.

Bishop pine forest and beach (shore) pine forest around Lake Cleone support similar kinds of wildlife within and below their dense vegetation. Within the forests, wildlife species will be found in specific habitats where they best thrive. Bark of living trees, dead snags, and fallen wood provide food and shelter for many kinds of invertebrates and their predators. Common coastal forest mammals include western gray squirrel, black-tailed deer, raccoons, gray foxes, ringtails, spotted and striped skunks, and weasels. Steller's jays are commonly seen. Sensitive birds that use this habitat include sharp-shinned hawks, cooper's hawks, and rarely-seen goshawks.

Secondary Theme

Preserving the Coast's Natural Heritage: Native species populations that are rare, threatened, or endangered need our cooperation to survive.

Each native species plays an important role in maintaining the ecological balance of its ecosystem. MacKerricher State Park has the following rare, threatened, endangered or sensitive species: Coho salmon, steelhead rainbow trout, tidewater goby, red-legged frog, foothill yellow-legged frog, western pond turtle, western snowy plover, California brown pelican, tufted pelican, marbled murrelet, common loon, double-crested cormorant, western grebe, American peregrine falcon, osprey, California gull, Caspian tern, bufflehead, long-billed curlew, northern harrier, burrowing owl, short-eared owl, sharp shinned hawk, grey whale, Howell's spineflower, Menzie's wallflower, Mendocino coast Indian paintbrush, Point Reyes ceanothus, Thurber's reedgrass, northcoast phacelia, swamp harebell, and fringed false hellebore. The department should interpret efforts to improve habitats to better support healthy native populations, as well as departmental efforts to control or eradicate exotic species.

Secondary Theme

Harvesting the Sea's Bounty: Though marine resources have been harvested on the Mendocino Coast for thousands of years, we must now carefully manage these resources to ensure continued abundance.

Native Americans have been harvesting marine resources along the Mendocino Coast for

thousands of years. The increased pressure of today's recreational and commercial marine harvests can threaten long-term productivity of some species. Red abalone, red sea urchin, and kelp harvesting should be interpreted to help promote sustainable yield management.

Secondary Theme

A Coast in Constant Change: Restless atmospheric and oceanic forces are daily changing this dynamic and fragile coast.

The Mendocino Coast's weather patterns of fog, winter storms and summer droughts are part of the constant exchange of air and moisture between the equator and the poles and between the ocean and continental surfaces. The cold southward moving California Current, upwelling currents, and local waves and tides are part of the dynamic ocean system that moves energy, minerals, and nutrients around the Earth.

Secondary Theme

Discover the Kelp Forest!: From their anchoring holdfasts to their floating fronds, towering kelp forests shelter and nourish diverse and colorful lifeforms.

MacKerricher State Park's kelp forest stretches south from Laguna Point to the park boundary. To survive, giant kelp requires a hard surface for its holdfasts to attach to, cool and clear water in moderate motion, and rich nutrients. Wherever these conditions are found, lush beds of giant kelp flourish along the Mendocino Coast.

Similar to terrestrial forests, kelp forests support many kinds of animals in a layered three-dimensional habitat that goes through seasonal changes. Animals find greatly different survival conditions in the different layers of both kinds of forests. However, unlike land forests, kelp forests absorb all their nutrients directly from the water that envelopes and supports them. Exceptionally fast-growing, a giant kelp plant usually lives only one to seven years before it is torn from its anchoring rock by a storm wave. During its life, a giant kelp supports and shelters a rich variety of marine life and, like a fallen tree, in its death a washed up kelp supports a new food chain of decomposers.

Secondary Theme

Discover the Sandy Shore!: Most sandy shore animals live beneath the sand and under the waves in this harsh and dynamic habitat.

MacKerricher State Park's sandy shore stretches north from Laguna Point to the park boundary. Sandy shores are one of the harshest and most dynamic environments for life on earth. Winds, waves, and tides incessantly rearrange the topography and change the conditions for life. Shifting sand particles give organisms little chance of stable attachment. Exposure is great and temperature and moisture changes are extreme. Inhabitants are exposed alternately to aquatic and, then, terrestrial and aerial predators.

Yet, the sandy shore ecosystem is endowed with rich nutrients, particularly from the sea, in the form of plankton, flotsam, and detritus. Life has evolved to thrive even in this harsh and dynamic environment. Relatively few species live here, but those that do often occur in great numbers. To see most of them, one must look under the sand or beneath the beach wrack where living conditions are more favorable. A burrowing lifestyle offers protection from predation, wave impact, temperature extremes, and desiccation when the tide is out. But, it poses problems for getting enough oxygen, finding mates, and acquiring food. Beach species have evolved adaptations that enable them to solve these problems.

Secondary Theme

Coastal Bluff Ecosystems: Plants and animals of the exposed sea stacks and coastal bluffs are adapted to living with wind, salt spray, and steep slopes.

Plants and animals of Mendocino's coastal bluffs are exposed to constant wind and salt spray. The substrate is mostly made up of exposed bedrock. Vegetation is largely composed of a mosaic of herbaceous plants and dwarf shrubs called the northern coastal bluff scrub community. This rare community includes sea fig, seaside daisy, seaside sunflower, powdery live-forever, and Mendocino coast paintbrush. Although this environment is exposed to the elements, seed-eating birds such as American goldfinches, savannah sparrows, house finches, and song sparrows live here. Western harvest mice, western fence lizards, and garter snakes also live on the coastal bluffs. Two bird species of special concern, the marbled murrelet and the tufted puffin, have been seen off MacKerricher State Park's bluffs. Interpretation can also enhance the effectiveness of revegetation programs aimed at reducing the number of volunteer trails on the bluffs.

Secondary Theme

Making a Living on the Coast: Timber cutting, milling, and coastal shipping from doghole ports were the beginnings of many coastal towns, shaping generations of their citizens.

While developing the town of Cleone in the early 1880s, Duncan MacKerricher gave lumber entrepreneurs Alexander Jefferson and Samuel Kennedy rights to build a wharf and an apron chute on his property at Laguna Point. These shipping facilities served sawmills built on Laguna Creek and on the south fork of Ten Mile River and supported Cleone's growth. The town soon had two saloons, two hotels, and a general store. In 1885, the Little Valley Lumber Company bought the Laguna Creek mills. Two years later, a tramway was built from the mill to a new wire chute and wharf built to replace the original facilities washed away by winter storms. Gravity carried the lumber cars from the mill to the landing, and horses returned the cars to the mill. In 1916, the Union Lumber Company built a railroad from its timber resources on Ten Mile River to its mill in Fort Bragg. The rails were removed in 1945, and the paved roadbed became the haul road, used originally by logging trucks and now used by park visitors as a recreational corridor.

Secondary Theme

Discover the Historic Humboldt Trail

In the late 1800s, before there was a highway or railroad to Eureka from the Mendocino coast, the Humboldt Trail was the route used by people from the Fort Bragg area to go north along the coast. Over land now within the park, the trail went along the bluffs south of Cleone and, then, north over the beach to Ten Mile River. It was a long, difficult, and necessary trip for people wishing to purchase land or take up claims at the Land Office in Eureka.

Secondary Theme

The Laguna Ranch Becomes MacKerricher State Park.

Canadian immigrants Duncan and Jessie MacKerricher moved to the Mendocino Indian Reservation in the mid-1860s. Employed at the reservation just before its closure, MacKerricher was able to consolidate nearly 1,000 acres of the reservation into holdings he called the Laguna

Ranch. Here, MacKerricher operated a dairy and raised cattle, hogs, and draft horses until he moved to Fort Bragg in 1908. His daughter, Evelyn MacKerricher Cotton and other heirs sold 205 acres of the Laguna Ranch to the state in 1949. This became the core of today's MacKerricher State Park.

EXISTING AND PROPOSED INTERPRETIVE FACILITIES AND ACTIVITIES

INTERPRETIVE FACILITIES

Existing interpretive facilities include a tiny interpretive center with exhibits, a campfire center, a boardwalk on Laguna Point, and a few outdoor panels. The interpretive center, basically a small room in a small park office, cannot adequately serve the park's visitors. The camp host sells interpretive publications and objects from a trailer and a temporary roadside display. A whale skeleton exhibit lies outdoors near the park office.

Proposed changes to interpretive facilities include:

- Installing interpretive panels at resting points along the haul road;
- Planning and constructing a new interpretive center with formal exhibits, room for indoor classes, an adequate interpretive sales area, audio-visual capacity, and a headquarters and work space for a docent group near the park's campgrounds and campfire center, as well as space for some department field staff to support the building's interpretive function;
- Constructing an improved campfire center;
- Eventually constructing permanent facilities to support an environmental education program at the park; in the interim, using existing facilities, possibly in combination with the new interpretive and campfire centers;
- Developing interpretive exhibits on the erosive power of the ocean and on the extreme sensitivity of the resources at Laguna Point;
- Planning and developing a self-guided boardwalk in the dunes;
- Planning and developing interpretation for the Lake Cleone boardwalk trail; and
- Developing a self-guiding auto tour utilizing a park brochure with map for MacKerricher State Park or an inset for a visitor guide, such as the "North Wind", to interpret the highlights of the entire Mendocino Coast for motorists traveling on Highway 1.

INTERPRETIVE ACTIVITIES

The following interpretive programs are now conducted at the park: campfire programs, Junior Ranger programs, school group programs as requested, interpretive bicycle rides, abalone cleaning demonstrations, and guided walks interpreting the dunes, beach, tidepools, whales, seals, wildflowers, birds, and archeological sites.

Proposed changes to interpretive activities include:

- Using the docent headquarters in the new interpretive center as a place to assemble groups and disseminate information;
- Increasing interpretive program frequency as the park's docent membership develops;
- Increasing interpretation and monitoring of sensitive resources at Laguna Point,

- with docents taking an active role on-site;
- Leading guided interpretive tours into the Inglenook Fen area;
 - Creating self-guiding automobile tours.
 - Demonstrating fishing techniques, including fishing for surf smelt with throw nets and A-frame nets;
 - Demonstrating safe canoeing; and
 - Sponsoring spring fishing derbies for children.

INTERPRETIVE CONCESSIONS

No interpretive concessions currently operate at this unit. Future proposals for interpretive concessions should be evaluated on a case by case basis.

INTERPRETIVE ASSOCIATIONS

Throughout California, interpretive associations provide critical volunteer interpretive support for the department's mission. The Mendocino Area Parks Association (MAPA) is "a non-profit organization that provides educational and interpretive activities that encourage visitors' and residents' awareness, understanding, and appreciation of the natural and cultural resources of the coastal area and the local parks. MAPA volunteers operate a visitors' center, sponsor monthly gallery exhibits, provide historical information to groups of children and adults, conduct activities for special events and show nature films on a regular basis, all at the Ford House in Mendocino."

The docent program at MacKerricher is just beginning. In the future, docent support will be necessary to adequately interpret and protect the park's resources. Docents' activities are now based in the small park office building across from the contact station, which is inadequate to serve the need. The new interpretive center will provide offices for the docents and will have an area for sales.

INTERPRETIVE COLLECTIONS

Interpretive collections include natural and historic objects, photographs, and references that support displays, programs, demonstrations, and research. There are currently no formal interpretive collections at the park beyond the natural history specimens on exhibit at the existing interpretive center. Cultural history photographs and the sector's slide files are maintained at the Ford House in Mendocino Headlands State Park. Appropriate interpretive objects, photographs, and references should be collected, organized, and curated.

INTERPRETIVE RECOMMENDATIONS

Interpretation can only be as valuable as it is accurate. Research should continue to support the interpretation of all themes. Further research on the status of rare, threatened, and endangered species within MacKerricher State Park will aid in the interpretation of the park.

The list below shows recommended phasing for implementing interpretation at MacKerricher State Park. It should be noted that the phasing recommendations are guidelines that could change with unforeseen future statewide priorities, fluctuations in available funding, etc. Please also refer to priorities shown on Table 4, General Plan Facilities Implementation, in the Facilities Element.

FIRST PHASE DEVELOPMENT

- Add more Pudding Creek Beach interpretation and orientation;
- Add South MacKerricher Coastal Trail Access interpretation and orientation;
- Add haul road trailhead interpretation and orientation;
- Add more interpretation of Virgin Creek Beach resources;
- Redesign Laguna Point interpretation both at the boardwalk entrance and the haul out viewing platform;
- Provide department staff and docents at the Laguna Point haul out area to prevent harrassment of marine mammals and tidepool depredation;
- Furnish dune boardwalk interpretation;
- Add North MacKerricher Coastal Trail Access interpretation and orientation;
- Add Ten Mile River resource interpretation;
- Add more interpretation of Native American history and life styles;
- Enact interpretive programs as staffing and volunteer support allow;
- Add a self-guiding automobile tour for people using Highway 1.

SECOND PHASE DEVELOPMENT

- Create exhibits and programs for the new interpretive center;
- Begin programs and other interpretation at the new campfire center;
- Add more interpretation at Lake Cleone.

THIRD PHASE DEVELOPMENT

- Provide appropriate interpretation, to be planned at a future date, at any camping facilities constructed on property yet to be acquired.
- If permanent environmental education facilities are constructed, provide interpretive exhibits and programs as appropriate.



Concessions Element



Horses on the trail north of Lake Cleone en route to the park's coastal equestrian trail.



CONCESSIONS ELEMENT

Concession operations within MacKerricher State Park are governed in part by the Public Resources Code, Section 5080.02 et seq., and by the policies of the California State Park and Recreation Commission (especially Policy No. 19).

GENERAL DEFINITION

A concession is defined as authority to permit specific use of State Park System lands and/or facilities for a specified period of time. The intent is to furnish the public with goods, services, or facilities that the department cannot provide as conveniently or efficiently and that are not reasonably available outside the park, or to permit limited uses of State Park System lands for other purposes compatible with the public interest and consistent with the Public Resources Code.

PURPOSE AND COMPATIBILITY

It is the department's policy to enter into concession contracts for the provision of products, facilities, programs, management, and visitor services that will provide for the enhancement of visitor use and enjoyment, as well as visitor safety and convenience. Such concessions should not create added financial burdens on the state, and, wherever possible, shall reduce costs and/or generate revenues to aid in maintaining and expanding the State Park System.

Concession developments, programs, or services must be compatible with a unit's classification and the objectives and provisions in the general plan.

Concession opportunities may be considered at all stages of state park planning and operation.

GENERAL CONCESSIONS POLICIES

Regarding concessions, it is the statewide policy of the Department of Parks and Recreation to:

1. Study the economic feasibility of proposed concessions to determine viability, as well as contract terms and conditions. Ultimate responsibility for approving proposed concessions rests with the Director of the Department of Parks and Recreation;
2. Cultivate and encourage small business and ethnic minorities as concessionaires;
3. Avoid entering into convenience-type concession agreements for facilities, products, or programs that are adequately provided within a short distance outside unit boundaries, when such travel will not unduly endanger or inconvenience visitors or lead to unreasonable consumption of transportation fuels; and
4. Assure that concessions shall provide facilities, products, programs, or services at prices competitive with similar businesses outside State Park System units.

LIMITATIONS

The needs of park visitors for services can be largely met by businesses in the nearby communities of Fort Bragg and Cleone. Therefore, appropriate concession activities for this park have been limited to:

1. Special events;
2. Concessions that enhance the state park's themes and policies.

EXISTING AND PROPOSED CONCESSIONS

One of the concessions currently in operation at the park is a horseback riding service provided from a stable located at the intersection of Highway 1 and Mill Creek Drive. The concession furnishes guided horseback rides on trails inside the park for groups of up to 20 riders. Riders enter the park via the trail alongside Mill Creek Drive and ride north along Ten Mile Beach. This concession is popular, although there have been some complaints from non-riding visitors about horse dung on the trails and beaches and the large size of some of the horse groups. Given its present location and constitution, the horseback riding concession should continue. If unforeseen changes or impacts were to develop in the future, the department would need to reevaluate whether or not this concession would still be a benefit to the park. Should the concession cease, the department should continue to offer this service, but not from stables located on park property.

Another concession began in the spring of 1994 and provides trailers to people having reservations for campsites at coastal Mendocino Sector state parks. Visitors can rent fully equipped trailers that are put in their campsites for the duration of their stays. When not in use, all of the trailers available for the Mendocino Sector are kept in the MacKerricher administrative area storage yard. As of the approval of the general plan, there are fewer than five trailers; future numbers will depend upon the demand for this service.

In June, 1994, a concession began to rent kayaks in Mendocino Sector state parks. The concession operates at both Van Damme State Park and MacKerricher. At Lake Cleone, kayaks for lake kayaking are rented out of a large truck parked during the day at the north end of the boat ramp. Buoys placed in the lake by the concession are to protect the freshwater marshes from kayakers, but will also serve to prevent private boats from impacting these sensitive areas. Eventually, the concession may also rent kayaks for use in the ocean at MacKerricher.

The operational and economic feasibility of other concessions proposals will be considered on a case-by-case basis. Any proposal requiring a permanent commitment of park resources would require a general plan amendment.

Operations Element



Talking to the ranger at the park's contact station.



OPERATIONS ELEMENT

ORGANIZATION

The Deputy Director of Park Stewardship oversees the department's field operations. MacKerricher State Park falls under the jurisdiction of the Mendocino Sector of the Russian River/Mendocino District. The district is under the authority of the Deputy Chief, Northern Division, who reports to the Deputy Director of Park Stewardship.

GENERAL SECTOR AND UNIT OPERATIONS

OPERATIONS FACILITIES

The Mendocino Sector Office headquarters is at Russian Gulch State Park, about seven miles south of Fort Bragg and 9-1/2 miles south of MacKerricher State Park. Facilities consist of administrative office buildings and a large maintenance work center and storage yard.

Visitor services at MacKerricher State Park are carried out at the park office and contact station, which face each other across the park entrance road. Maintenance services at the park occur at the maintenance yard behind the park residence complex. Both visitor services and maintenance are supported by the larger facilities at headquarters in Russian Gulch State Park.

EXISTING OPERATIONS RESPONSIBILITIES

ADMINISTRATION

General park administrative tasks are the responsibility of the Mendocino Sector administrative staff. These duties include public information, community relations, operations, maintenance, minor capital outlay budgeting, program and personnel management, defensive planning, time and fiscal accounting, document management, monitoring of concessions operations, and special events scheduling. The large amount of public contact includes providing information via the telephone and over the counter. The dispatch center provides dispatch services for the entire Mendocino Sector area and the southern portion of the North Coast Redwoods District.

RESOURCE MANAGEMENT

Resource management programs are conducted under the overall guidance of the department's Resource Management Directives. Specific programs are directed by a variety of documents, including the department's Tree Hazard Control Manual, Pesticide Use Manual, and Prescribed Fire Management Policy and Procedures document. Line responsibility for resource programs is delegated to the District Resource Ecologist, who is assisted by the park's rangers and seasonal staff. Ongoing resource programs in the Mendocino Sector units include prescribed burning, exotic plant control, and tree hazard control.

A major hazardous tree removal and campground vegetation management project has recently been undertaken at MacKerricher State Park under the direction of a department forester with the assistance of the California Department of Forestry (CDF) and the California Department of Corrections (CDC) crews.

Other major resource management issues at MacKerricher include preservation of Native American archeological sites scattered throughout the park, dealing with sedimentation and rapid accumulation of algae in Lake Cleone, preventing degradation of the intertidal zone from increased visitation, as well as degradation of targeted species by both sport and commercial harvesting, and preservation of rare or endangered flora and fauna in the dunes, fen, and on the headlands.

Exotic vegetation is removed from the park on an occasional basis under the supervision of park staff when CDF labor crews are available or court referral workers are provided.

VISITOR SERVICES

Four State Park Rangers are assigned to this state park and are responsible for all park functions involving contact with the visiting public. These include entrance station operations, campground registration, information and interpretation, resource protection, patrol and law enforcement, and medical emergencies. The ranger staff is assisted by seasonal park aides, who are used primarily for entrance station operations.

The park's rangers are responsible for visitor services at MacKerricher State Park, from Pudding Creek to Ten Mile River. This popular destination park currently contains 152 campsites and three designated day use parking lots. It receives much pedestrian, equestrian, and bicycle day use via the numerous access points along Highway 1. The park has experienced an enormous increase in visitation over the last ten years. Numerous annual special events are held at MacKerricher, including five- and ten-kilometer runs utilizing the haul road.

The entrance station is staffed by seasonal park aides during the peak season and on weekends during the off-peak season to register campers. Camper registration is the park rangers' responsibility at other times. An "iron ranger" is also provided within the campgrounds for fee collection after hours or during the off-season. There is no fee collection at any of the day use areas.

The greatest frequency of law enforcement and public safety protection activities coincides with the highest period of park visitation and the open abalone season, from April through November. The main enforcement problems are thefts and auto burglaries, vandalism, noise and disturbances of the peace, fish and game violations, unleashed dogs, vehicle code violations, off-road vehicle use, illegal camping, and fires. Additionally, there are occasionally more serious crimes.

Despite the park's nearly six miles of sandy beach, Northern California's cold ocean temperatures discourage ocean swimming. Because swimming is not a popular activity at this park, lifeguards are not provided. However, free diving and SCUBA tank diving are popular, and surfing is rapidly growing in popularity. In order to determine appropriate safety services consistent with the department's Aquatic Safety Task Force Report (Sept. 1988), the Department of Parks and Recreation continues to monitor aquatic recreation activity along the Mendocino Coast.

Interpretive programs are offered at the park during the peak use period, consisting of campfire programs, nature walks, and a Junior Ranger Program. An interpretive specialist is currently funded by the Mendocino Area Parks Association (MAPA) and is primarily responsible for these interpretive programs.

Educational outreach interpretive programs are presently offered to local schools and visiting school groups during the spring months (March through May). The focus of these programs to date has been interpretation of the intertidal zone, marine mammals, coastal

headlands and prairies, edible plants, animal behavior, and animal classifications. An educational outreach interpretive specialist is currently funded by the MacKerricher Docent Council through MAPA and is primarily responsible for these programs.

MAINTENANCE SERVICES

Maintenance at MacKerricher State Park is the responsibility of one maintenance worker, who is supported by the Mendocino Sector maintenance staff. The maintenance staff is responsible for ensuring that all park facilities are kept in a clean and functional condition. Routine duties include housekeeping, garbage collection, carpentry, plumbing, water treatment, sewage treatment, and operating and maintaining a variety of equipment. The maintenance staff is augmented during the summer months with a seasonal staff that performs most routine housekeeping, cleaning duties, and litter pick-up.

Both the beach and lake day use areas require litter pick-up daily through the summer months. Trash collection is contracted to a local disposal company.

One restroom and seven combination shower and restroom facilities in the campgrounds and Lake Cleone area, as well as a portable chemical toilet at Pudding Creek Beach, require daily cleaning. During the midweek in the off-peak season when visitation becomes low, one or more of the camping loops and shower/restroom buildings may be closed.

Regular maintenance responsibilities at MacKerricher State Park also include upkeep and repair of all the park's deteriorating facilities. These include signs, gates, fencing, boardwalks, campground tables and stoves, restrooms, water systems, sewage systems, and road surfaces. Other necessary tasks are landscape maintenance, mowing, and brush clearing on trails, in campsites, and on road rights-of-way.

PUBLIC SAFETY

Mill Creek Drive allows uncontrolled access into the Pinewood and Surfwood camp loops and the day use areas. Theft and vandalism in the campgrounds and day use parking lots are very high and are directly associated with this uncontrolled access. Improvements on Mill Creek Drive could greatly reduce the theft, vandalism, and resource damage that occur in the park and the associated necessity for park staff to respond.

MacKerricher offers the park visitor a variety of recreational opportunities. There are consequently accidents related to recreational activities, as well as the park's natural conditions. Eroding bluffs along the ocean's edge and slippery rocks in the intertidal zone are typical problem areas. Park staff are trained as first responders. Assistance is often requested from the Fort Bragg Fire Department and United States Coast Guard for beach, swimming, and cliff accidents.

AQUATIC SAFETY

The following aquatic hazards are common at MacKerricher State Park, as well as other Mendocino Sector coastal units:

1. Cold water. A wet suit is required to safely enter the water.
2. Variable surf conditions. The sea ranges from flat, clear water, to moderate swells with good visibility, to rough water with poor visibility, to the hazards of major Pacific storms. Conditions can change quickly from small surf to heavy storm-driven waves.
3. Rip currents. The combination of a steep main beach and an uneven bottom create this

unsafe condition for park visitors.

4. Tsunamis. This area of the coast is subject to tsunamis as a result of seismic events off the coast of Alaska and southward toward Mendocino.

MacKerricher offers visitors a variety of water-related recreation opportunities. It has one of the few freshwater lakes along the North Coast, besides its six miles of ocean shoreline. Surfing, fishing, diving, boating, and hiking along the water edge are major activities. Drownings at the park have included free divers, SCUBA divers, persons swept off the beach and rocks, and people whose boats overturned in the lake.

In response to aquatic hazards, current park operations include the following mitigations to safeguard visitor safety:

1. Various areas are posted to warn visitors of unsafe situations.
2. Interpretive programs emphasize aquatic safety.
3. Outreach services, such as the Junior Ranger Program, campfire programs, school and group talks, and the district newspaper, emphasize aquatic safety.
4. Permanent staff are all trained in first aid and CPR.
5. Several well-trained and equipped volunteer fire and rescue departments are available to the sector.

OFF-HIGHWAY USE

In years past, prior to state park ownership, the northern dunes area near Ten Mile River was heavily used by dune buggies and other off-road vehicles. After the state took control of the area, pressure from local residents led the department to ban this activity, and most of it stopped. Currently, the main problem areas are at the northern end of the park at the Ten Mile Dunes, the fen, and the beach south from Ten Mile River. Occasionally, vehicles also travel out onto Pudding Creek Beach. Many different access points provide entry into these areas, and enforcement is difficult. Routine patrols and citizen reports have helped to control the problem, but the general lack of signing, appropriate beach patrol equipment, and adequate staff time prevent total control.

TRESPASS

The state park is and has been subject to various trespass-related problems. Vegetation has been removed on park property to expand open areas accessible only by private property owners. The main problem encouraging trespass is a lack of fencing to define property lines. Routine boundary patrols are necessary to reduce trespass problems and damage.

COORDINATION WITH OTHER AGENCIES

Fire Suppression

The California Department of Forestry and Fire Protection (CDF) has the primary responsibility for fire protection in all State Park System units. The CDF facility at Chamberlain Creek, with headquarters in Fort Bragg, responds to fires at MacKerricher State Park during the summer, assisted by the volunteer fire and rescue department from Fort Bragg.

In the summer, wildfire is a threat at the park. Large areas of grasslands and forest create a significant problem. In 1988, a suspected arson fire began on neighboring private property and traveled into the walk-in camp at Surfwood Campground, making it necessary to evacuate the walk-in camp. Fortunately, rapid response from the CDF station nearby contained the fire

to roughly one acre of grassland and three acres of coniferous forest.

Ambulance

Ambulance service is provided by Fort Bragg Ambulance to the Mendocino Coast District Hospital, a ten-minute drive from the park. Rescue helicopters are also available for the less accessible outlying areas of the park through the hospital at the United States Coast Guard station at Noyo Harbor.

Law Enforcement

Concurrent law enforcement jurisdictions include the Mendocino County Sheriff's Department, the Fort Bragg Police Department, the California Highway Patrol (CHP), and the California Department of Fish and Game (DFG). Park rangers are occasionally called upon to assist at vehicle accidents along Highway 1 or to back up a deputy sheriff, warden, California Highway Patrolman, or police officer. Park rangers also interface closely with the Fort Bragg Police Department, as the northern city limits adjoin the southern park boundary. The proximity of the park to Fort Bragg makes the park vulnerable to urban-related problems, such as vandalism and theft. Adult arrests are currently booked into the Fort Bragg jail.

Marine Organisms

The Department of Fish and Game exercises jurisdiction over sport and commercial hunting and fishing in California. Although unit and district staff maintain good working relationships with their counterparts in DFG, regulation of marine resources by DFG in State Park System coastal units poses a conflict for management of park resources. For example, at the present time, DFG permits commercial collection and harvesting of seaweed and sea urchins in the tidal and offshore waters of the Mendocino state park units. This is contrary to the department's mission to preserve and protect all park resources. Collection activities often threaten or damage other park resources.

Oil Spill Response

The Department of Parks and Recreation coordinates with the Department of Fish and Game and the United States Coast Guard for oil spill response in the event of an accident within a Mendocino coast state park. The DFG is the lead agency and would contract with a private company for clean-up. DPR has agreed to provide access through state park property to the shore along routes that would create the fewest resource impacts. A department representative should be on the scene to monitor for resource protection.

VOLUNTEERISM

Cooperative Associations

The Mendocino Area Parks Association (MAPA) is a non-profit park cooperative association whose purpose is to assist the sector through a variety of programs. MAPA's docent council operates the interpretive centers in the Mendocino Sector and assists in interpretation by conducting walks and tours and by giving talks. The primary focus of their assistance to date has been the Ford House at Mendocino Headlands State Park and the interpretive center at Van Damme State Park.

MAPA provides and sells firewood, brochures, publications, and other interpretive items to state park visitors, as well as conducting some limited non-interpretive revenue generating activities at MacKerricher to benefit the park. Proceeds from its fund-raising activities pay the

salaries of the part-time cooperative association director, the Ford House director, and park interpretive specialists during the summer season, one of whom is assigned to MacKerricher State Park. MAPA also uses its proceeds to provide informational newspapers to visitors and to provide for special interpretive events and programs.

At present, a docent council is just beginning to form at MacKerricher. The park's staff coordinates, trains, acts as liaison, and works with the docent council to provide services to the park. Docents can be expected to play a number of important roles at the park in the future, such as guiding interpretive walks and monitoring visitor activities in sensitive resource areas (i.e., Laguna Point). The proposal for an interpretive center at this park will undoubtedly increase local interest in further promoting MacKerricher's interpretive values.

Camp Host

MacKerricher State Park also utilizes a year-round volunteer camp host through the department's camp host program. In general, camp hosts can be effective in reducing campground theft, vandalism, and other illegal or undesirable activities by alerting rangers or campers to potential problems, although this presence seems to be a minimal deterrent at MacKerricher. This may be because the camp host is not now actually located within a campground.

The current camp host at MacKerricher assists the maintenance staff with small tasks, such as repairing worn or broken campground furniture, and assists the visitor services staff by providing interpretation and local information to the public. The camp host also contributes significantly to the MAPA coffers through the sales of T-shirts and publications and by recycling aluminum cans. These services are provided in exchange for the use of a campsite with hook-ups.

OPERATIONS PROPOSALS RELATING TO RECOMMENDATIONS IN THIS GENERAL PLAN

PROPOSED OPERATIONS FACILITIES

Goal: Furnish adequate office space to administer the park as the general plan's proposals are implemented.

Park Office: The existing park office is inadequate and, even when moved to the administrative area, would not have the space required to serve the potential needs of the Northern Mendocino Sector Headquarters. Additional park office space could be provided, either by converting one of the residences or building a new structure.

Maintenance needs: In the future, Westport-Union Landing State Park, approximately ten miles north of the park, will receive its maintenance support from the administrative facilities at MacKerricher. This will allow Westport staff to work at MacKerricher when visitation is low at Westport. The increased facilities proposed for MacKerricher will require rehabilitation and expansion of the shop area to provide more equipment and storage space. In addition, adequate office space for additional maintenance staff will be necessary.

Goal: Maximize the operational flexibility of facilities at the park.

Group Camp: An arrangement that could serve small or large groups would have operational advantages. Such a group camp could accommodate groups of various sizes

groups and also furnish family overflow camping when not occupied by groups.

Interpretive center: While keeping visitor-serving needs foremost, the new interpretive center will have to provide for a variety of uses. In addition to space for exhibits, the facility will have areas for classes and offices for the park's docent council. See the Interpretive Element for a complete list of interpretive functions to be housed within the building. It will also have office space for a field staff presence (rangers and/or seasonal staff, as necessary) to support its primarily interpretive function.

Campfire center: A new campfire center with modern projection facilities will have multiple advantages. In addition to storage for campfire programs, a storage facility can house Junior Ranger supplies, as well as other interpretive materials. This will involve much less hauling of equipment than at present for park staff conducting these programs.

Goal: Provide adequate staff for all operational functions related to new facilities.

Expansion of day use facilities: Additional day use facilities will necessitate increasing the park's maintenance staff, as well as more frequent patrol of these areas. It will also require more vigilance by staff and volunteers at the Laguna Point tidepools and seal haul out area.

Equestrian trail: A mounted patrol (preferably of volunteers) will be necessary to adequately patrol the equestrian trail.

Virgin Creek: Proposals to regulate recreation more closely at Virgin Creek Beach will mean that patrols to this outlying area will also have to be increased.

Goal: Maintain some staff housing at the state park.

Staff housing within the park is desirable for 24-hour immediate emergency response.

ADMINISTRATION

Goal: Coordinate project planning and development.

Planning of projects and development should be carefully coordinated with other agencies by the Parks Superintendent to assure that all concerns are addressed, avoiding potential misunderstandings and conflicts.

Goal: Establish and gain support for realistic budgets to deal with added facilities responsibilities.

Budgeting: Establish a workable policy and budget to maintain all park facilities on a consistent basis. Staff should be available to provide necessary park operation and maintenance.

RESOURCE MANAGEMENT

Goal: Protect and perpetuate park resources.

MacKerricher State Park is noted for its extensive sandy beaches and dunes and the richness of its wetlands, grasslands, and wildlife. It is the purpose of the department to provide protection to maintain and perpetuate these resources. Because protection and perpetuation of the natural and cultural resources of the park are primary goals of the

department, special programs and events may be allowed by the Mendocino Sector only if they are compatible with this goal.

Goal: Protect sensitive areas.

The sensitive natural resource areas in the park should receive special care and consideration when any activity is conducted within them. Proposed activities and development within or affecting the park's natural preserve or other sensitive areas will be described in writing, reviewed by the Parks Superintendent, and forwarded for public review as required by the California Environmental Quality Act.

The park contains rare natural plant communities, sensitive wildlife habitats, beach and dunes, unique wetland complexes, and open space. Protection of these values with particular emphasis on the natural preserve and other areas with sensitive resources, such as Laguna Point, will require special management programs, coordinating park staff and volunteer efforts. Ecological management plans will have to be developed and implemented. Special expertise will be necessary to conduct studies and develop and carry out these plans.

Goal: Control dogs within the park.

Mendocino County's Local Coastal Plan requires that the general plan for MacKerricher State Park include an effective dog control program. It is the policy of the department to remove domestic and feral dogs as humanely as possible. Although pet dogs let off the leash are a major problem at Virgin Creek, as mentioned in previous elements, the park does not currently experience problems related to stray domestic dogs, dog packs, or feral dogs. If, at some future time, it becomes necessary to control predatory dogs originating from the park, a dog management program shall be developed and implemented.

At the present time, the park ranger enforces state park rules and regulations regarding unleashed dogs, and attempts to educate park visitors as to the detrimental impact of loose dogs on the park's wildlife (especially western snowy plovers) and habitat areas.

Goal: Prevent trespassing.

Whenever possible, park staff should attempt to educate adjacent property owners about the value of park resources and the continuity of natural ecosystem processes. Nevertheless, park lands must be protected from trespass, unauthorized private use, and encroachment. Unauthorized private accessways over park lands will be eliminated. Written approval from the Parks Superintendent or appropriate department representative is required for exclusive private use of or access over park property. Due to the large number of adjacent parcel owners and the complexity of the park's boundaries, the potential for trespass is great, and boundary surveys to deter trespass should be performed. Fencing particularly problematic areas may help alleviate this situation.

Goal: Control commercial harvesting of marine resources.

The underwater portion of MacKerricher State Park currently lacks protection of its marine flora and fauna. Commercial fishing for sea urchins has resulted in negative ecological changes in the unit's marine waters. The commercial take of marine algae is increasing, and may be negatively impacting park resources. Commercial harvest of any natural resources on state park managed land is incompatible with the department's goals of sustained biodiversity and healthy populations for the benefit of all visitors.

The Department of Parks and Recreation should work closely with the Department of Fish and Game and the Fish and Game Commission for better protection of marine resources within the park through the establishment of an ecological reserve or other means.

Park staff will also work closely with the Department of Fish and Game and other agencies to follow standard practices for care and protection of stranded marine mammals.

VISITOR SERVICES

Goal: Provide public safety for aquatic recreation.

The Park Services Division will prepare an Operations Response Plan for emergency actions.

The beach attracts large numbers of aquatic-oriented visitors. SCUBA and skin diving, surfing, windsurfing, sailing, fishing, swimming, and other activities should be encouraged within the constraints of resource protection and safety. Non-compatible activities having a deleterious effect on the park and/or visitors, such as off-road vehicle use, shall be restricted or prohibited.

Recognizing that numbers of aquatic visitors, especially divers and surfers, are increasing, the need for trained rescue personnel becomes more important.

Goal: Prevent recreation from becoming a nuisance or harming park resources.

Other recreation, including hiking, running, cycling, bird and nature observation, equestrian use, and kite flying, shall be encouraged within the limits of resource protection and safety. The use of noise-producing recreational apparatus, including but not limited to high performance stunt kites, motor boats, airplanes, and model vehicles, may be restricted to minimize negative impacts on park resources. This is because kites, boats, etc. used in such a manner can harass or disturb shorebirds and other animals.

Goal: Provide adequate public safety and law enforcement.

Possible park management actions for solving the problems of theft, vandalism, and speeding automobiles in the central part of the park, in conjunction with the facilities options discussed in the Facilities Element on page 163, include nighttime only closure of Mill Creek Drive while keeping the contact station ungated, nighttime closure of the Laguna Point and/or Lake Cleone parking lots, addition of a late night ranger patrol, and including the camp hosts in registration of campers and maintaining surveillance in the campgrounds.

Common problems, such as OHV use, illegal fires, and illegal camping are of concern because they directly threaten the park's resource values. To counter these problems, regular and careful patrols are needed to establish a basic law enforcement presence. Should enforcement problems change decidedly, the level of response may need to be reviewed and modified by the Parks Superintendent.

MAINTENANCE SERVICES

Goal: Provide high quality maintenance services.

Facility maintenance will continue to be conducted in a manner appropriate to meet standards for public health and safety, to maintain public and departmental expectations

for cleanliness and appearances, to meet security requirements, and to extend the life span of facilities, tools, and equipment. At MacKerricher State Park, it is important that maintenance methods and materials reinforce the park's rustic quality. In addition, facility maintenance will be consistent with design criteria established in the Facilities Element of this general plan.

COORDINATION WITH OTHER AGENCIES

Goal: Work with other agencies for mutual assistance.

Park and sector staff expect to continue to assist county, state, and other law enforcement agencies. Cooperative efforts should result in a clear understanding by all law enforcement personnel of their responsibilities and jurisdictions with respect to protection of the park's prime resources.

Goal: Work with the county and city to assure compatible development next to the park.

Recognizing that adjacent land development may impact aesthetic and resource values within the park, department staff should coordinate with Mendocino County Department of Planning and Building Services and the county Department of Public Works, as well as the City of Fort Bragg planning staff, to assure that special attention is given in granting building permits adjacent to the park. Where possible, the maintenance of wildlife corridors and habitat, even across park boundaries, is essential.

VOLUNTEERS

Goal: Encourage the growth of volunteerism at MacKerricher State Park.

Volunteers in parks help meet several objectives by increasing public awareness of park resources and features and developing ways to make those values more accessible to the public while also helping protect sensitive resources. This public service will be fully supported by the Mendocino Sector. To encourage volunteer efforts, park and sector staff will work closely with individuals and organizations to assist with training and to provide the direction and supervision necessary to ensure efficient and effective interpretive programs and public service.

Goal: Provide more camp host assistance to campers.

An additional camp host at Surfwood Campground will aid campers, as will moving the current host to Pinewood Campground so that family campers from both Pinewood and Camp Cleone will then have access to camp host assistance.

SPECIAL EVENTS

Goal: Continue to encourage special events consistent with resource protection.

Large groups may participate in such activities as foot races, wedding receptions, club activities, local/historic California Native American festivities, etc., at the state park and shall be governed by a special event permit process.

OPERATIONAL IMPACTS OF GENERAL PLAN IMPLEMENTATION

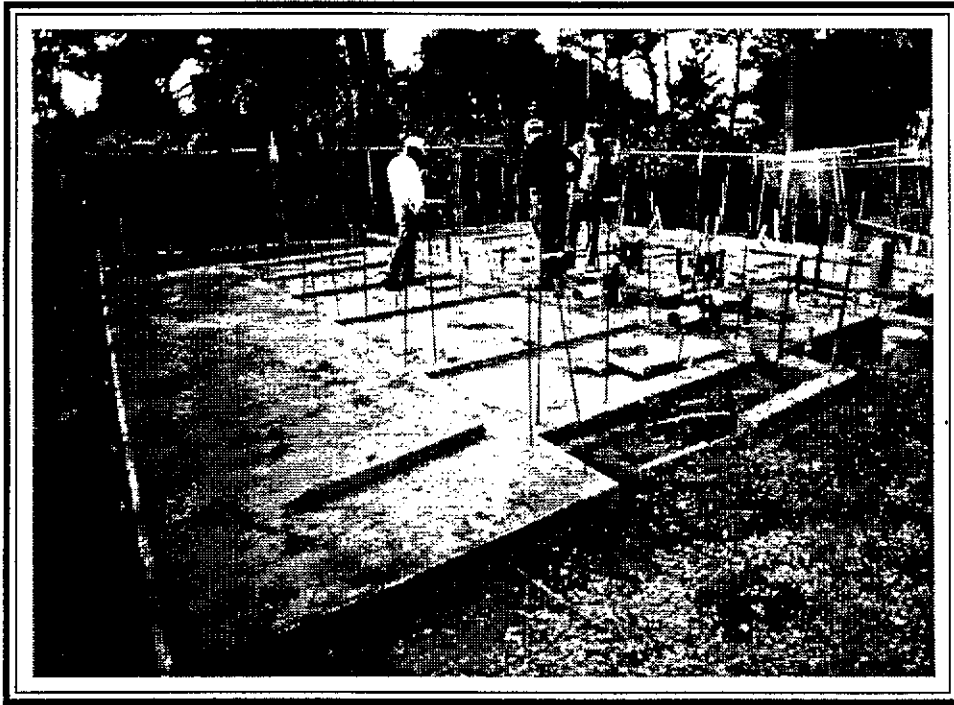
A number of the proposals in the general plan will assist in the operation and maintenance of the park. Necessary administrative, maintenance, and storage needs will be able to be accommodated within the unit, as identified in the Facilities Element. These improvements will ease current and projected operational problems associated with visitor contact and control, as well as facility maintenance. Improved and/or redesigned use areas are intended to minimize or eliminate resource problems related to visitor use, and new interpretive panels can take on some of the educational and informational functions now required of park staff.

At the same time, implementation of the general plan will present a significant increase in responsibility for park staff. The Resource Element identifies a number of resource management projects and programs that will need surveying, monitoring, controlling, and restoring for the perpetuation and preservation of park resources. New and expanded park facilities will require operation and maintenance. Park boundaries may be expanded, adding new land that must be patrolled and protected. Proposed interpretive programs, as well as facilities, will result in greater visitation, a corresponding increase in staff workload, and the need for additional volunteer support.

Ultimately, the operational responsibilities associated with increased visitation, development, and programs will grow beyond the ability of the existing staff to handle. As the general plan's recommendations are implemented, it will be the responsibility of the Mendocino Sector Parks Superintendent to recommend to the department appropriate future increases in staffing, equipment, operational expenses, and volunteer support necessary to fulfill operational responsibilities at MacKerricher State Park.



Environmental Impact Element



Construction project in progress at MacKerricher State Park.



ENVIRONMENTAL IMPACT ELEMENT

The general plan, with all its elements, constitutes an environmental impact report (EIR), as required by Public Resources Code Sections 5002.2 and 21000 et seq. This EIR is for the approval of the general plan. Site specific development and resource management projects for the park will be subject to subsequent CEQA compliance as they are proposed. The discussion of impacts is commensurate with the level of specificity of the plan.

The general plan proposes facilities changes, resource management proposals, and classification recommendations. A summary of general plan proposals is provided at the beginning of this document. Impacts discussed in this element are those commonly associated with visitor use and facility development. The mitigation proposed requires resource specialists to review and select sites avoiding or reducing potential impacts.

PROJECT DESCRIPTION

The Resource, Land Use, Facilities, Interpretive, Concessions, and Operations elements in the general plan propose park development and operation, and they designate appropriate land uses and resource management, etc. These elements constitute the project description.

DESCRIPTION OF THE ENVIRONMENTAL SETTING

The Resource Element and Resource Inventory are incorporated by reference. The Land Use and Facilities elements also describe the existing environment in terms of development.

AIR QUALITY

The Mendocino coast is within the North Coast Air Basin. Air quality data for the North Coast Air Basin were reviewed from the 1988 Summary of Gaseous and Particulate Pollutants by the California Air Resources Board, Technical Support Division. Pollutants were monitored at several stations, mostly in populated areas. There were no monitoring stations for gaseous pollutants along the Mendocino coast. One station along the coast, at Fort Bragg, monitored particulates.

Air quality on the Mendocino coast is generally good due to the inflow of clean air from the Pacific Ocean and should be superior to that at most of the monitoring stations. The monitoring stations in the air basin did not record any days during which gaseous pollutants exceeded state or federal standards. However, there were 25 days when particulate samples exceeded state standards and three days when federal standards were exceeded.

TRAFFIC

There are currently five access points to MacKerricher State Park. The peak hourly traffic occurs in July. According to *Caltrans 1992 Traffic Volumes on California State Highways*, the peak hourly traffic from the Fort Bragg northern city limits to beyond the MacKerricher entrance road was 1,300 vehicles per hour, and the peak month and annual average daily traffic counts were 7,400 and 6,000, respectively. Peak hourly traffic at the MacKerricher entrance road was 880 vehicles per hour, and the peak month and annual average daily traffic counts were 6,400 and 4,500, respectively.

SIGNIFICANT ENVIRONMENTAL EFFECTS OF THE PROPOSED PROJECT

1. There is the potential for loss of threatened and endangered plant and sensitive animal species through the construction of facilities and trails, maintenance activities, vandalism, and the inadvertent destruction of resources by visitors. Locations, tolerances, and habitat requirements of some species are not precisely known.
2. The construction of trails and other facilities may impact archeological sites. The introduction of visitors into the vicinity of the sites may lead to vandalism.
3. Facilities located on the beach slope and along the bluffs are subject to natural erosion processes (shoreline, wind, and mass wasting).
4. Some land will have to be cleared to improve approximately four miles of equestrian trail. Soils in the unit are generally highly erodible. The potential for soil erosion is high.

MITIGATION MEASURES

1. Prior to construction of facilities and trails, areas of potential sensitive plant and wildlife species will be surveyed by a departmental resource specialist to determine the presence of known sensitive plant species. Trail alignments and facility sites will be selected to avoid direct impacts to any sensitive plant species. The department will consult with the Department of Fish and Game if there is a potential for the direct take of special species.
2. Trail alignments will be reviewed by a departmental archeologist to select an alignment avoiding culturally sensitive areas.
3. Facilities should be sited with sufficient setback to accommodate natural processes within the lifetime of the facility, designed to be easily moved, or recognized as temporary and constructed accordingly.
4. Trails will be designed and maintained to reduce soil erosion. Standard erosion control features (i.e., maximum slope, waterbars, etc.) will be employed. Boardwalks will be constructed over particularly sensitive sites (i.e., sand dunes and around Lake Cleone). Volunteer trails will be removed and revegetated, if necessary.

ENVIRONMENTAL EFFECTS THAT CANNOT BE AVOIDED IF THE PROJECT IS IMPLEMENTED

Mitigation should reduce the impacts to a non-significant level but will not completely avoid them. Facilities and trails can be removed and sites restored to an essentially pre-project condition, if necessary.

ALTERNATIVES TO THE PROPOSED PROJECT

Three alternatives are presented for consideration: 1) the no project alternative, 2) the natural and cultural resource protection priority alternative, and 3) the public use priority alternative.

1. **NO PROJECT:** The unit would be maintained with its existing facilities, and resource management would continue in its present form. The No Project Alternative is considered unacceptable because the opportunities for improved resource management and recreation enhancement would not be realized. Deterioration of the haul road would continue. Without the creation of a more stable (lower) profile for the haul road berm, erosion of the shoreline and haul road at Lake Cleone would continue.

Eventually, Lake Cleone would connect with the ocean, and a new potable water source would be needed for the park. Access to Surfwood Campground and the Laguna Point parking areas would be lost. Either a new access from the highway would need to be developed, or the campground and Laguna Point parking area would have to be abandoned. While preventing development of user facilities in the northern dunes area would limit impacts to the archeological and natural resources, a lack of resource management in the dunes, as would be provided by the project, would allow exotic plants to continue to spread and displace native species.

2. **NATURAL AND CULTURAL RESOURCE PROTECTION PRIORITY:** Existing facilities would be reduced to ameliorate visitor impacts to the park's resources. Access would be severely limited to the northern dunes area to prevent impacts to western snowy plover habitat and archeological sites found there. No further development would occur around Lake Cleone to prevent impacts to the sensitive habitat, wildlife, and plant species. Natural shoreline erosion would continue without interference. The Surfwood Campground and Laguna Point parking areas would be abandoned when coastal erosion eliminated access. A new potable water source would be needed. Alien or exotic species would be removed from the park, and native species would be replanted. Generally, environmental impacts would be less than with the other alternatives and the existing situation. However, the rare coastal freshwater marsh and red alder riparian forest habitats would be lost when Lake Cleone came under tidal influence.
3. **PUBLIC USE PRIORITY:** Visitor-serving facilities would be expanded to the maximum level possible to encourage and accommodate recreational use. Shoreline protection could be constructed to maintain the haul road berm as a barrier for Lake Cleone and to protect the access road to the Surfwood Campground and Laguna Point parking areas. A new potable water source could be developed, probably further upstream in the Mill Creek watershed to improve drinking water quality. Lake Cleone could be dredged to improve the recreational fishery and to permit a larger water surface area for boating. Trails along the bluffs and in the dunes could be developed to increase recreational opportunities. Visitor impacts to resources would increase. Degradation of the freshwater marsh habitat could likely occur with the dredging of the lake.

The environmentally-preferred alternative would have been the natural and cultural resource protection priority alternative (2). However, that alternative did not fully meet the goal of providing for the public use identified in project's statement of purpose. Therefore, the project proposed in the general plan is a combination of the natural and cultural resource protection priority and public use priority alternatives.

RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES OF THE ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

The proposed short-term uses, recreation and resource protection, should not affect the long-term productivity of the unit. The protection and preservation of resources will not diminish any potential productive use; however, these resources were not acquired for their potential production, conversion, or harvesting for marketable products.

SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES IF THE PROJECT IS IMPLEMENTED

If the haul road berm is allowed to erode and Lake Cleone becomes a lagoon and is hydrologically connected to the ocean, the resultant habitat changes within and around the lake may be considered to be irreversible impacts. In general however, facilities can be removed or relocated to allow sites to return to pre-project conditions. On the other hand, impacts to archeological resources would be irreversible.

GROWTH-INDUCING IMPACT OF THE PROPOSED PROJECT

The proposed project could have a minor cumulative impact of growth inducement in the area. Any improvement or increase in capacity within the park could encourage increased use, which would translate into additional tourism and its attendant demand for services.

EFFECTS FOUND NOT TO BE SIGNIFICANT

1. The project's potential traffic impact is not considered significant. Assuming that the maximum number of vehicles from the state park (one per campsite and each parking space) were to enter Highway 1 during peak hour traffic, it would cause a 10.2% increase in the peak hour traffic level between the existing and proposed conditions. The average time space between vehicles under existing and proposed conditions would be 4.09 and 3.71 seconds, respectively. The peak hour directional split is nearly equal (between 52% and 54%). This allows approximately eight (at present) to seven (proposed project) seconds between vehicles traveling in the same direction, which should provide adequate stopping time. This is a worst case scenario. The actual impact should be less.
2. The project's expected effect on water consumption on the Mendocino County coast is not considered to be significant. The park now has its own water source, Lake Cleone, in the Mill Creek watershed. Estimated water consumption, existing and projected, is an extremely small proportion of the watershed flow. Any new or replacement water-using facilities (toilets, showers) will have low-flow, water-conserving features.
3. The project's projected amounts of sewage or wastewater are considered not to be significant. Currently, Fort Bragg has contracted with the park for a 50,000 gallon per day sewage volume to be transferred to the city's sewage treatment facilities via the pump station at Pudding Creek. Existing and proposed estimates for water consumption and wastewater are 22,000 and 31,000 gallons per day, respectively. Moreover, a substantial portion of the water consumption does not enter the waste water treatment stream.
4. Project implementation will not cause air quality to deteriorate significantly. No substantial rise in traffic and, therefore, traffic-generated pollutants is expected. Pre-scriptive burning will be conducted in accordance with the air basin requirements.
5. Noise increase resulting from project implementation will be negligible. The most sensitive receptors are users of the state park, and the predominant noise sources are the highway and the ocean surf. There will be temporary noise increases during construction.
6. No significant increase in energy consumption is projected. Lighting of facilities (restrooms, etc.) is independent of the level of use. The use of energy for water and pumping will increase.

Appendices



Recreation in the 1890s at MacKerricher Beach. Laguna Point and the wharf are in the background.



APPENDIX A

RESOURCE SENSITIVITIES AND CONSTRAINTS

The following tables show resource constraints based on their sensitivities as they would affect four primary kinds of park development: campgrounds, roads, picnic areas, and paths or trails. (Source: Department of Parks and Recreation, Resource Protection Division, 1992)

TABLE A-1				
CONSTRAINTS DUE TO SOIL TYPES AND GEOLOGICAL HAZARDS AT MacKERRICHER STATE PARK				
<u>CONSTRAINTS</u>	<u>CAMPGROUNDS</u>	<u>ROADS</u>	<u>PICNIC</u>	<u>TRAILS</u>
<u>Soil Type Constraints</u>				
MacKerricher (705)	severe	severe	severe	mod.
Tregoning (765)	severe	mod.	severe	mod.
Cleone (765)	slight	slight	slight	slight
Cabrillo (777)	mod.	slight	mod.	slight
Heeser (770)	slight	slight	slight	slight
Heeser (771)	mod.	mod.	mod.	slight
Sirdak (773)	mod.	mod.	mod.	mod.
Dune field/duneland (425)	NOT RATED — unstable, migration			
Coastal beaches (360)	NOT RATED — unstable, wave action			
Tropaquepts (841)	NOT RATED — hydric condition/wet land			
<u>Geological Constraints</u>				
Coastal erosion at L. Cleone	severe	severe	severe	severe
Coastal erosion of road bed	severe	severe	severe	mod.
Tsunami runup and flooding	severe	severe	mod.	slight

TABLE A-2

**CONSTRAINTS POSED BY RARE PLANTS
AND NATURAL COMMUNITIES AT MACKERRICHER STATE PARK**

<u>RARE PLANT COMMUNITY</u>	<u>CAMPGROUNDS</u>	<u>ROADS</u>	<u>PICNIC</u>	<u>TRAILS</u>
<u>Rare Plant</u>				
Thurber's Reed Grass	severe	severe	severe	severe
Swamp Harebell	severe	severe	severe	severe
Mendocino Coast Indian Paintbrush	severe	severe	severe	severe
Howell's Spineflower	severe	severe	severe	severe
Menzie's Wallflower	severe	severe	severe	severe
Point Reyes Horkelia	severe	severe	severe	severe
North Coast Phacelia	severe	severe	severe	severe
<u>Rare Natural Communities</u>				
Coast Dunes	severe	severe	severe	mod.
Northern Foredune Grassland	severe	severe	severe	mod.
Coastal Terrace Prairie	severe	severe	severe	slight
Beach Pine/Bishop Pine Forest	severe	mod.	severe	slight
Riparian/Wetlands	severe	severe	severe	mod.
North Coast Bluff Scrub	severe	severe	severe	mod.
Freshwater Swamp	severe	severe	severe	mod.
Coastal Freshwater Marsh	severe	severe	severe	severe

TABLE A-3
CONSTRAINTS POSED BY WILDLIFE, AQUATIC LIFE, AND
HABITATS
AT MacKERRICHER STATE PARK

<u>ANIMAL OR HABITAT</u>	<u>CAMPGROUNDS</u>	<u>ROADS</u>	<u>PICNIC</u>	<u>TRAILS</u>
<u>Sensitive Animal Species</u>				
Western Snowy Plover	severe	severe	mod.	mod.
Steelhead Trout	severe	severe	severe	severe
Coho Salmon	severe	severe	severe	severe
<u>Sensitive Habitats</u>				
Snowy Plover Nesting Habitat	severe	severe	severe	severe
Tidewater Goby Habitat	severe	severe	severe	severe
Red-legged Frog Habitat	severe	severe	severe	mod.
Foothill Yellow-legged Frog Habitat	severe	severe	severe	mod.

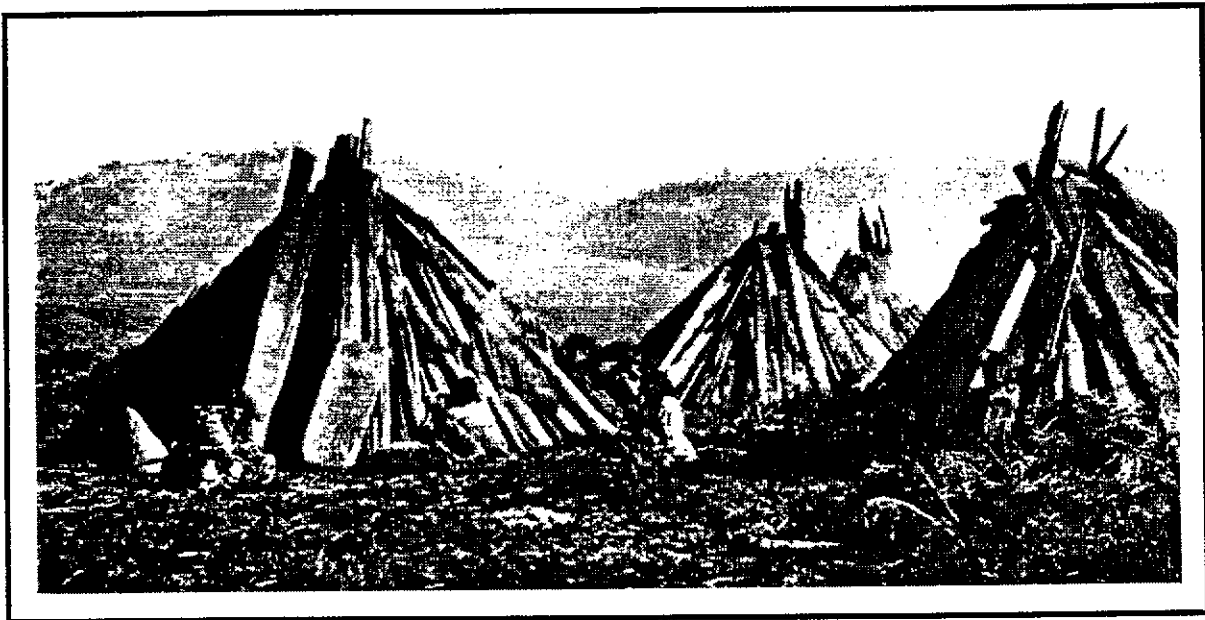
TABLE A-4
CONSTRAINTS DUE TO PREHISTORIC CULTURAL SITES AT
MacKERRICHER STATE PARK

<u>CULTURAL SITES</u>	<u>CAMPGROUNDS</u>	<u>ROADS</u>	<u>PICNIC</u>	<u>TRAILS</u>
All archeological sites	severe	severe	severe	severe



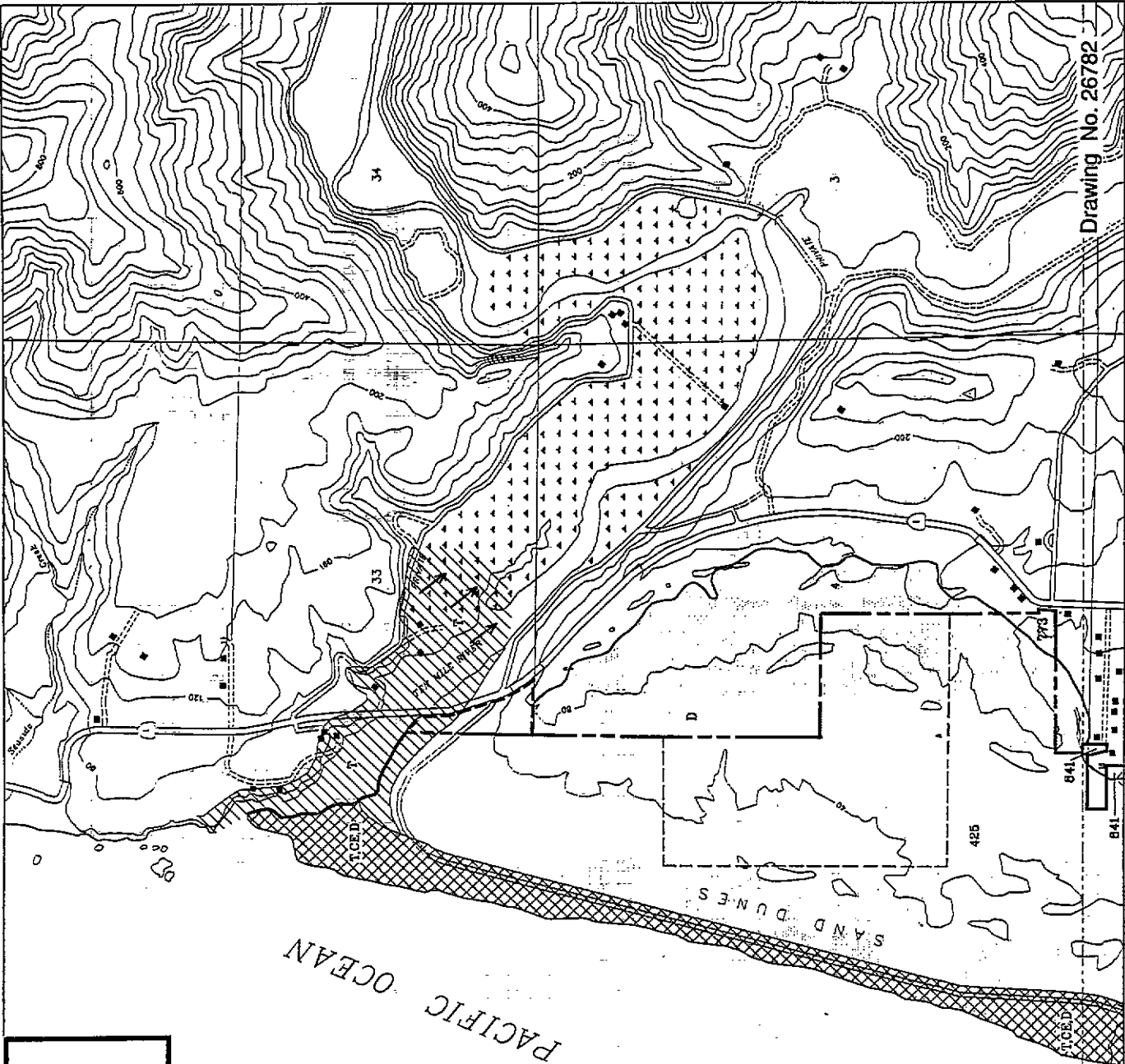
APPENDIX B
RESOURCE ELEMENT MAPS

- Map 4: Physical Constraints
- Map 5: Special Plants and Rare Natural Communities
- Map 6: Sensitive Wildlife, Aquatic Life, and Habitats
- Map 7: Cultural Resources Sensitivity



Yuki village near Ten Mile River, circa 1860.

MACKERRICHER STATE PARK
GENERAL PLAN
 Map No. 4
 Physical Constraints
 Northern Section of the Park
RESOURCE ELEMENT



Drawing No. 26782

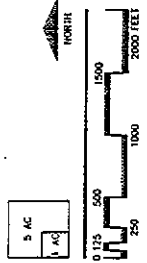
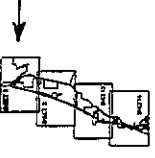
SOILS KEY

Mapping Unit #	Soil Series
380	Coastal Beaches
425	Duceland
705	Mackerricher
765	Tregional
785	Cleona
770	Cabrillo
770	Heeser
771	Heeser
773	Sidrak
841	Trepagupta

LEGEND

- IC COASTAL EROSION - LAKE CLEAN AREA
 • THREATENS ROAD AND PRINCIPLE WATER SUPPLY OF PARK
- CE COASTAL EROSION OF ROAD BED
- TSUNAMI RUNUP AND FLOODING DAMAGE POTENTIAL LOW TO MODERATE BUT POTENTIALLY UNSAFE DURING TSUNAMI ALERT. (Limits shown to estimated 25 ft. elevation).
- DUNE FIELD - SENSITIVE TO EROSION/MOUMENT QUICKLY DESTABILIZED BY UNAPPROPRIATE/UNCONTROLLED ACCESS. (See Dune Policy for details.)
- NOTE: All boundaries are approximately located.
- STATE PARK BOUNDARY
- PRIMARY HIGHWAY
- PAVED ROAD
- UNPAVED ROADS
- TRAILS
- INTERMITTENT STREAMS
- PERENNIAL STREAMS
- CALTRANS CORNER PUNKED ADDITION 94/95 F.T.
- E.L.M. LEASE

MAP SHEET KEY



MACKERRICHER STATE PARK GENERAL PLAN

Map No. 4
Physical Constraints
North Central Section of the Park
RESOURCE ELEMENT



SOILS KEY

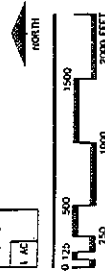
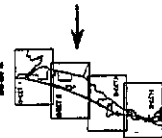
Mapping Unit	Soil Series
380	Coastal Beaches
425	Dunecland
706	Mackerricher
785	Tregaming
786	Cleons
770	Cabrillo
771	Heeser
777	Heeser
773	Siratak
841	Tropaeopsis

LEGEND

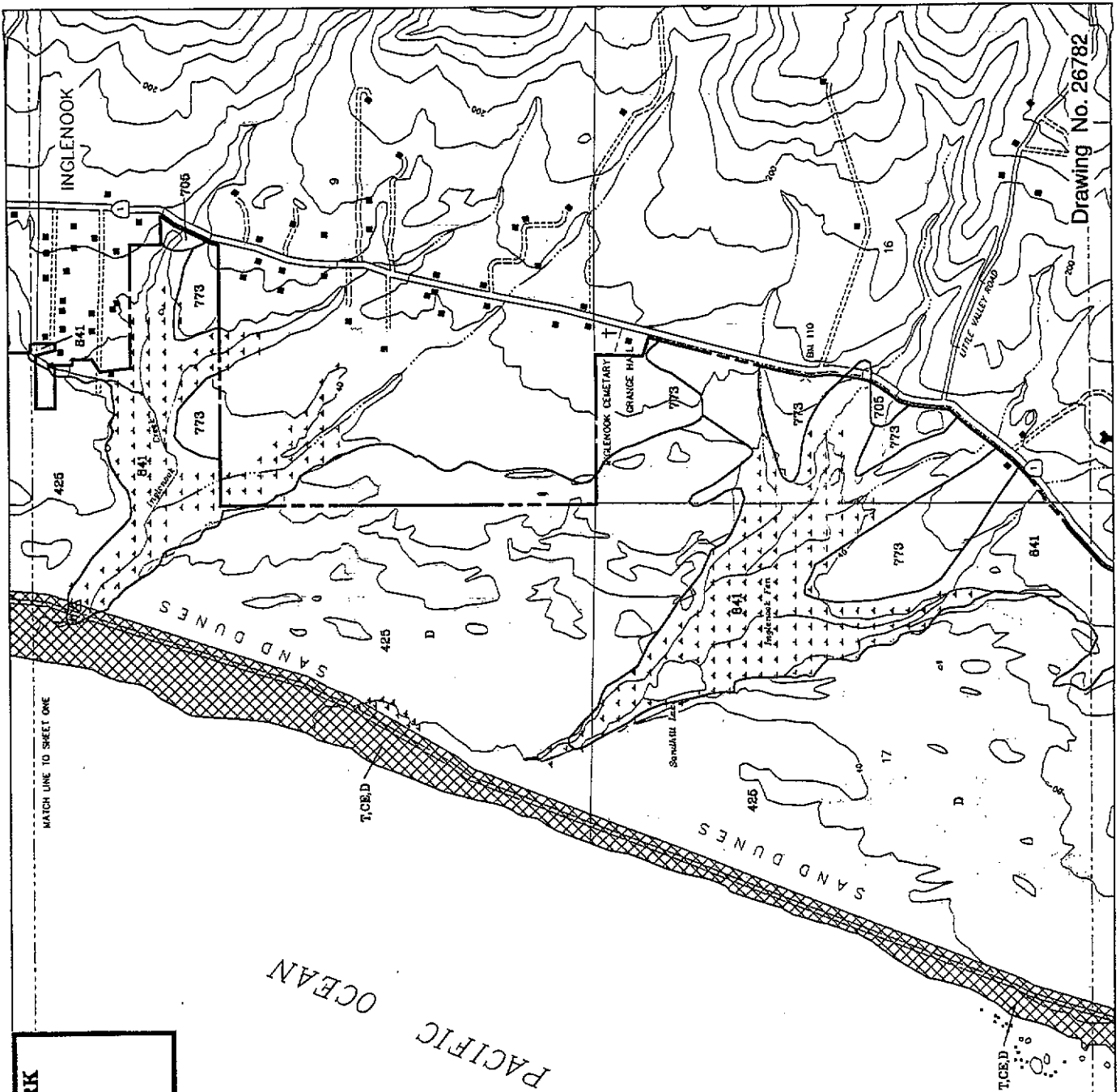
- IC COASTAL EROSION - LAKE GLEONE AREA
*THREATENS ROAD AND FRINGIPLE WATER SUPPLY OF PARK
 - CE COASTAL EROSION OF ROAD BED
 - D TSNYAMI RUMP AND FLOODING
DAMAGE POTENTIAL LOW TO MODERATE BUT POTENTIALLY UNSAFE DURING TSUNAMI ALERT. (limits drawn to estimated 25 ft. elevation.)
 - DUNE FIELD - SENSITIVE TO EROSION/MOVEMENT QUICKLY DESTABILIZED BY INAPPROPRIATE/UNCONTROLLED ACCESS. (See Dune Policy for details.)
- NOTE: All boundaries are approximately located.

- STATE PARK BOUNDARY
- PRIMARY HIGHWAY
- PAVED ROAD
- UNPAVED ROADS
- TRAILS
- INTERMITTENT STREAMS
- PERENNIAL STREAMS
- EXISTING BUILDINGS
- BLM. LEASE

MAP SHEET KEY



MATCH LINE TO SHEET THREE



Drawing No. 26782

MACKERRICHER STATE PARK
GENERAL PLAN
 Map No. 4
 Physical Constraints
 South Central Section of the Park
RESOURCE ELEMENT



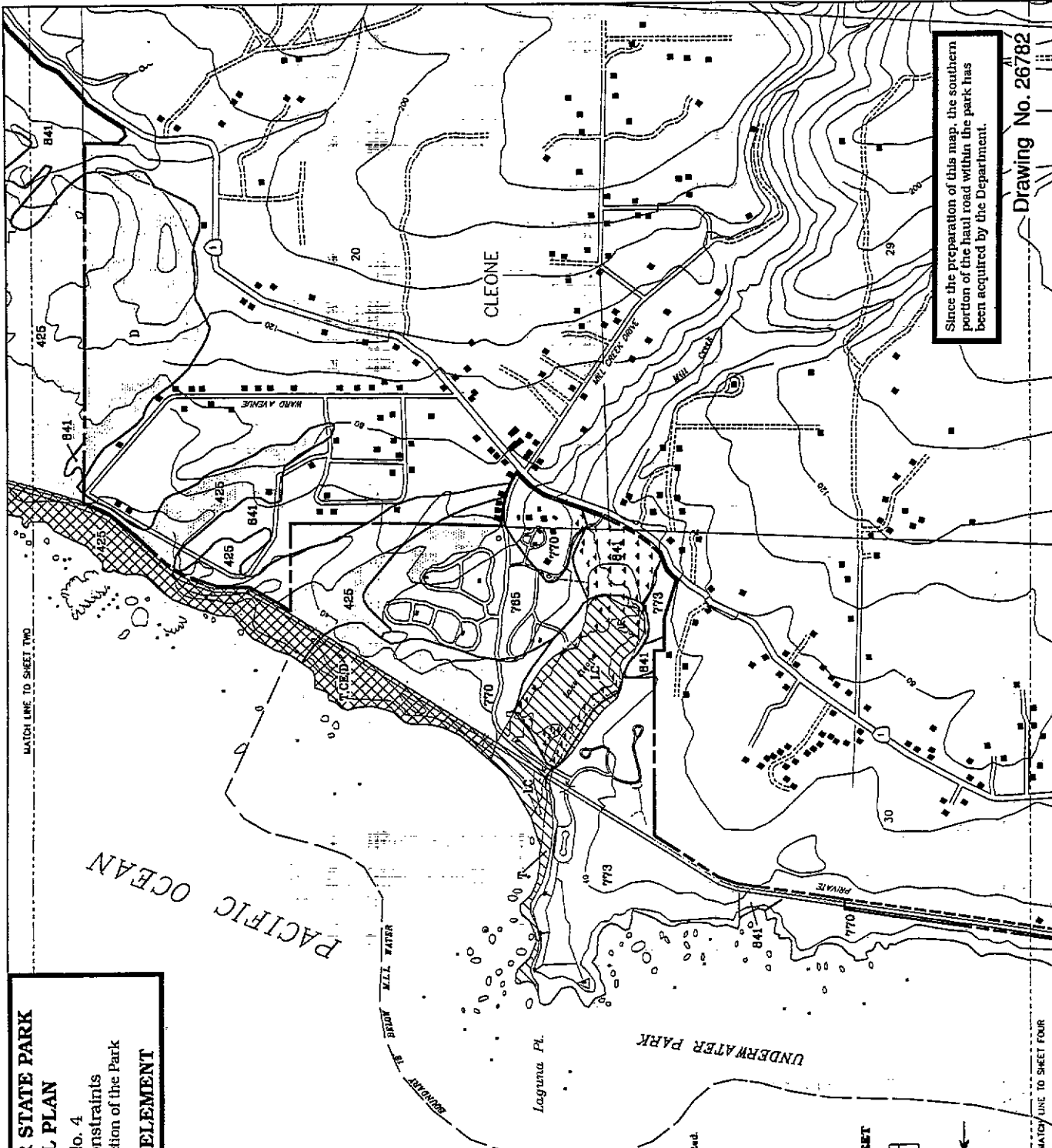
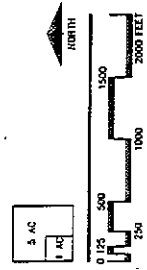
SOILS KEY

Mapping Unit	Soil Series
380	Coastal Beaches
425	Duneland
705	Mackerricher
765	Tregoning
785	Cleone
770	Cabrillo
771	Hecker
773	Stidrak
841	Tropaeopsis

LEGEND

- IC COASTAL EROSION - LAKE CLEONE AREA
 THREATENS ROAD AND PRINCIPLE WATER SUPPLY OF PARK
- CS COASTAL EROSION OF ROAD BED
- TSUNAMI RUNUP AND FLOODING
 DAMAGE POTENTIAL LOW TO MODERATE BUT
 HIGHLY DESTRUCTIVE TO LIFE AND PROPERTY.
 (limits drawn to estimated 25 ft. elevation)
- D DUNE FIELD - SENSITIVE TO EROSION/MOVEMENT
 QUICKLY DESTABILIZED BY INAPPROPRIATE/
 UNCONTROLLED ACCESS. (See Dune Policy
 for details).
- NOTE: All boundaries are approximately located.

- STATE PARK BOUNDARY
- PRIMARY HIGHWAY
- PAVED ROAD
- UNPAVED ROADS
- TRAILS
- INTERMITTENT STREAMS
- PERENNIAL STREAMS
- EXISTING BUILDINGS
- B.L.M. LEASE



Since the preparation of this map, the southern portion of the haul road within the park has been acquired by the Department.

Drawing No. 26782

MATCH LINE TO SHEET TWO

MATCH LINE TO SHEET FOUR

MACKERRICHER STATE PARK
GENERAL PLAN
 Map No. 4
 Physical Constraints
 Southern Section of the Park
RESOURCE ELEMENT



SOILS KEY

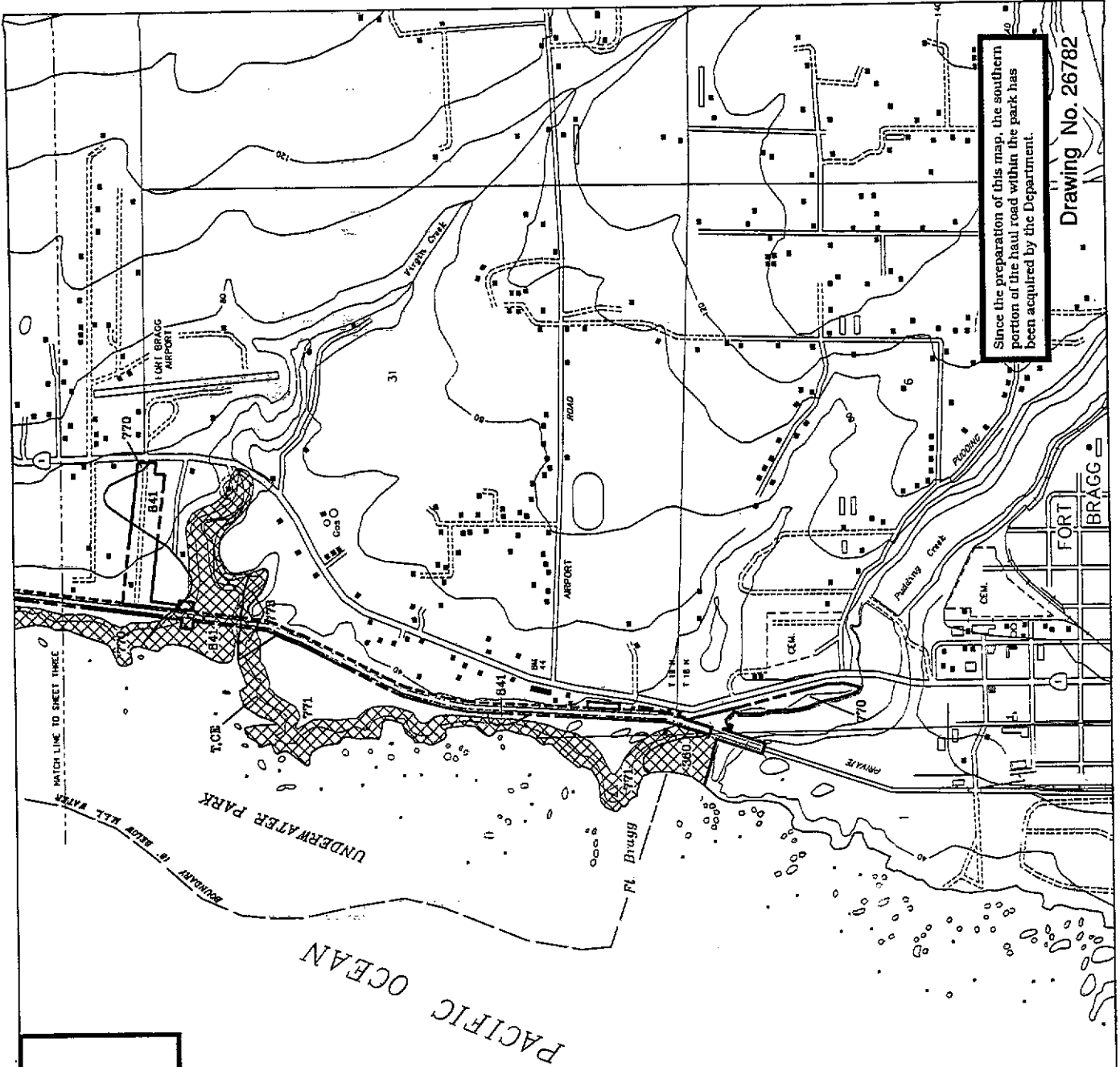
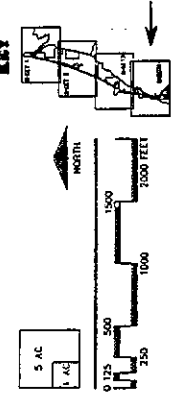
Mapping Unit #	Soil Series
360	Coastal Beaches
425	Duneland
705	Mackerricher
765	Tregoning
766	Cleone
770	Cabrillo
770	Heiser
771	Heiser
773	Sidrak
841	Tropequeps

LEGEND

- LC COASTAL EROSION - LAKE OLEONE AREA
THREATENS ROAD AND PRINCIPLE WATER SUPPLY OF PARK
 - CE COASTAL EROSION OF ROAD BED
 - T TSNAMI RUNUP AND FLOODING
DAMAGE POTENTIAL LOW TO MODERATE BUT POTENTIALLY UNSAFE DURING TSUNAMI ALERT.
(Limits drawn to estimated 25 ft. elevation.)
 - D DUNE FIELD - SENSITIVE TO EROSION/MOVEMENT
QUICKLY DESTABILIZED BY INAPPROPRIATE/
UNCONTROLLED ACCESS. (See Dune Policy for details.)
- NOTE: All boundaries are approximately located.

- STATE PARK BOUNDARY
- PRIMARY HIGHWAY
- PAVED ROAD
- UNPAVED ROADS
- TRAILS
- INTERMITTENT STREAMS
- PERENNIAL STREAMS
- EXISTING BUILDINGS
- B.L.M. LEASE

MAP SHEET KEY



Since the preparation of this map, the southern portion of the haul road within the park has been acquired by the Department.

Drawing No. 26782

MACKERRICHER STATE PARK
GENERAL PLAN
 Map No. 5
 Special Plants and
 Rare Natural Communities
 Northern Section of the Park
RESOURCE ELEMENT

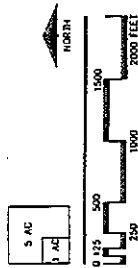
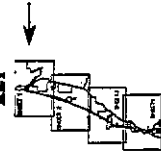


LEGEND

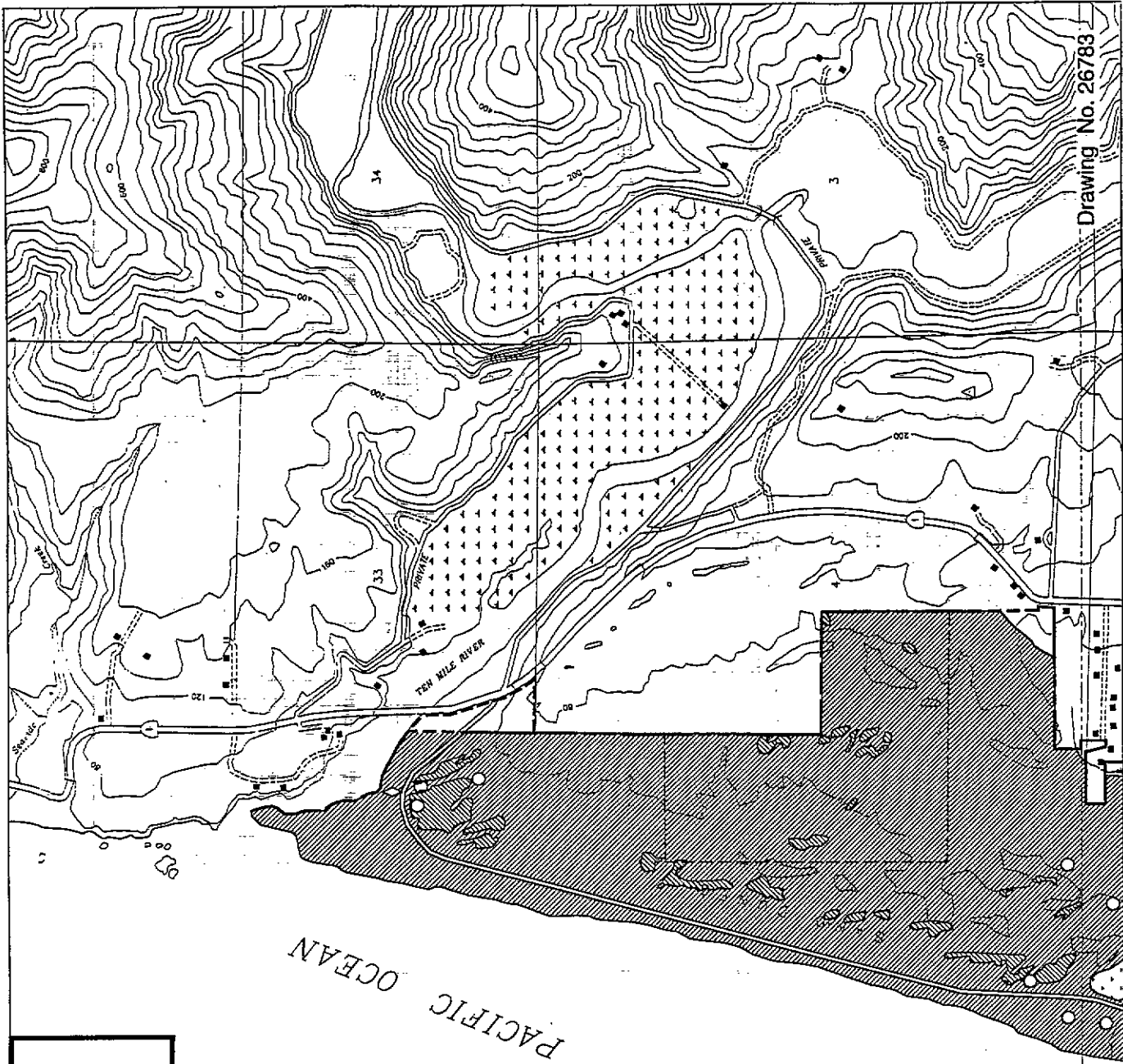
- STATE PARK BOUNDARY
- CALTRANS GRAFF-FUNGED ADITION 94/95 P.V.
- BARE NATURAL COMMUNITIES
- Coastal Dunes*
Northern, Deer Scrub, and
Northern's Parasitic Scaevolas
- Northern Foradune Grassland/
Dune Swales (seasonally wet)
- Coastal Terrace Prairie
- Beach Pine Forest/
Northern Babop Pine Forest
- Pinyon/Juniper
Open, North Coast Reserve Scrub, and
Red Alder-Spurn Forest Communities
- Northern Coastal Bluff Scrub
- Red Alder Riparian Forest/
Freshwater Swamp
- Coastal Freshwater Marsh
- SPECIAL PLANT SPECIES**
- Thurber's Seed-Grass
(*Calamagrostis stansburiana*)
- Swamp Lettuce
(*Sesuvium californicum*)
- Mendocino Coast Indian Paintbrush
(*Castilleja leucola* ssp. *mendocinensis*)
- Howell's Spineflower
(*Chamaelirium howellii*)
- Menzies's Wellflower
(*Eriogonum menziesii*)
- Peck's Reyes Forkella
(*Horckelia maritima*)
- Northern Phacelia
(*Phacelia humilis* var. *santhuziana*)

*These systems are dynamic and have considerably shifting boundaries.
 (Mapped from aerial photos of 2-29-88 and 1988 Topog)

MAP SHEET KEY



MATCH LINE TO SHEET TWO



MACKERRICHER STATE PARK
GENERAL PLAN
 Map No. 5
 Special Plants and
 Rare Natural Communities
 North Central Section of the Park
RESOURCE ELEMENT



LEGEND

STATE PARK BOUNDARY

KEY

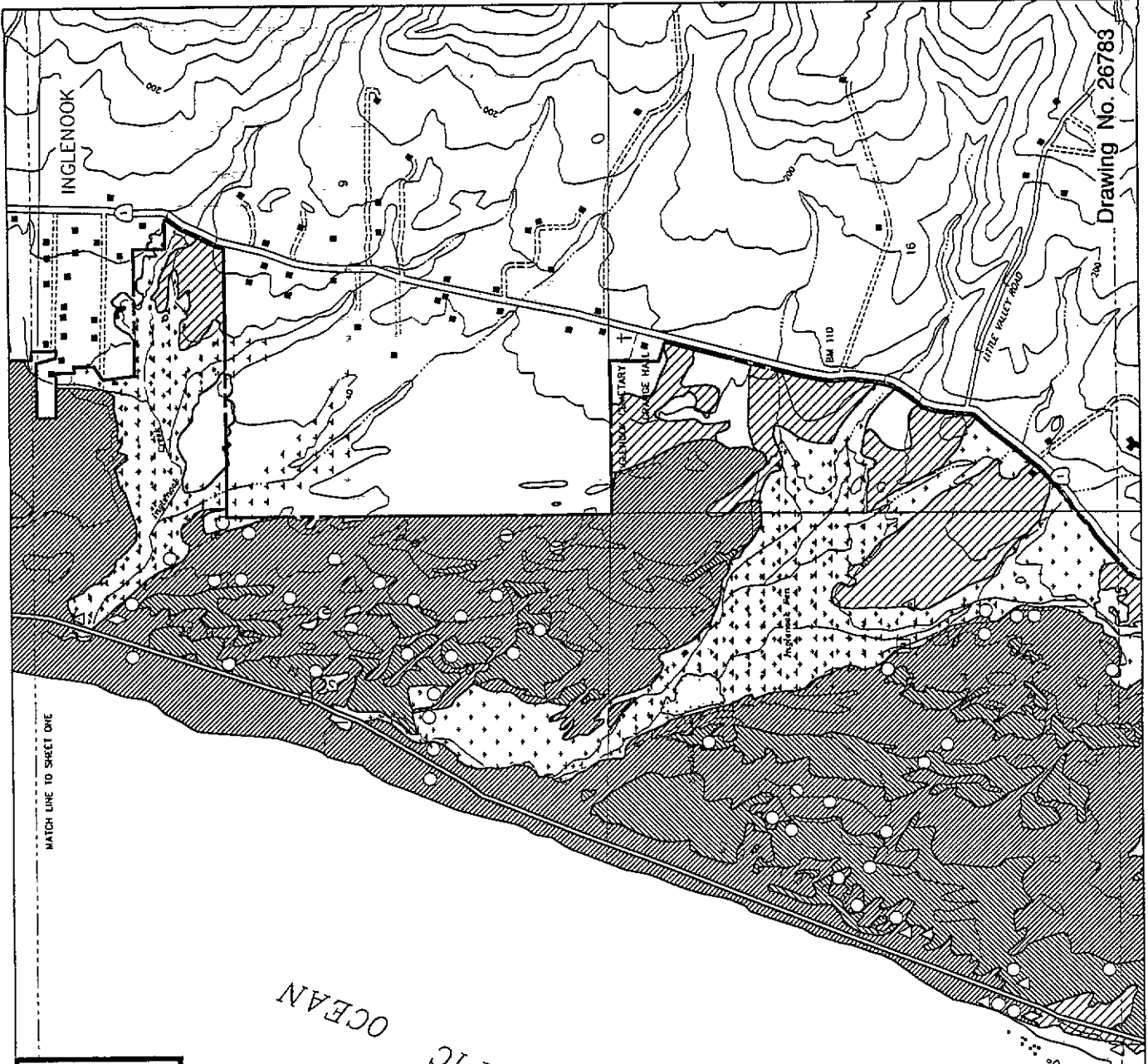
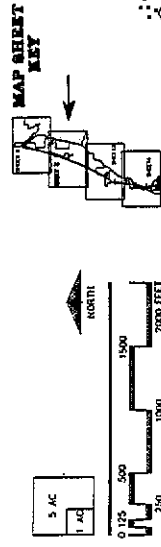
RARE NATURAL COMMUNITIES

- Coastal Dunes*
(Northern Cove Scrub and Northern Fortified Communities)
- Northern Foredune Grassland/
Dune Swales (seasonally wet)
- Coastal Terrace Prairie
- Beach Pine Forest/
Northern Bishop Pine Forest
- Riparian/Wetlands
Dry North Coast Scrub, Scrub and Red Alder Riparian Forest Communities
- Northern Coastal Bluff Scrub
- Red Alder Riparian Forest/
Freshwater Swamp
- Coastal Freshwater Marsh

SPECIAL PLANT SPECIES

- Thick-leaved Red Grass
(*Chamaecrista crassifolium*)
- Swamp Harebell
(*Campanula californica*)
- Mendocino Coast Indian Paintbrush
(*Castilleja pilifolia* ssp. *mendocinensis*)
- Howell's Spineflower
(*Chorizanthe howellii*)
- Hazle's Wallflower
(*Erpogonum mansueti*)
- Point Reyes Horkelia
(*Horkelia maritima*)
- Northcoast Phacelia
(*Phacelia laevis* var. *continentalis*)

*Dune systems are dynamic and have constantly shifting boundaries.
 (Adapted from aerial photos of 1958-66 and 1986 topography)



MACKERRICHER STATE PARK
GENERAL PLAN
 Map No. 5
 Special Plants and
 Rare Natural Communities
 South Central Section of the Park
RESOURCE ELEMENT



LEGEND

STATE PARK BOUNDARY

KEY

RARE NATURAL COMMUNITIES

Coastal Dunes*
 (Northern Dune Scrub and
 Northern Parklands Communities)

Northern Foredune Grassland/
 Dune Swales (seasonally wet)

Coastal Terrace Prairie

Beach Pine Forest/
 Northern Bishop Pine Forest

Plantain/Wildlands
 (Dry North Coast Scrub and
 Red Alder Sporn Forest Communities)

Northern Coastal Bluff Scrub

Red Alder Riparian Forest/
 Freshwater Swamp

Coastal Freshwater Marsh

SPECIAL PLANT SPECIES

Thick-knee Reed-Grass
 (*Chamaecrista crassifolium*)

Swamp Harebell
 (*Campanula saliflorica*)

Mandacino Coast Indian Painbrouh
 (*Castilleja latifolia* ssp. *mandacinoensis*)

Howell's Sunflower
 (*Achillea filifolia*)

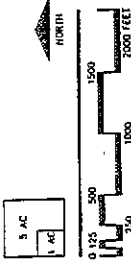
Kearney's Milkflower
 (*Erythronium kearneyi*)

Point Reyes Horkelia
 (*Horkelia maritima*)

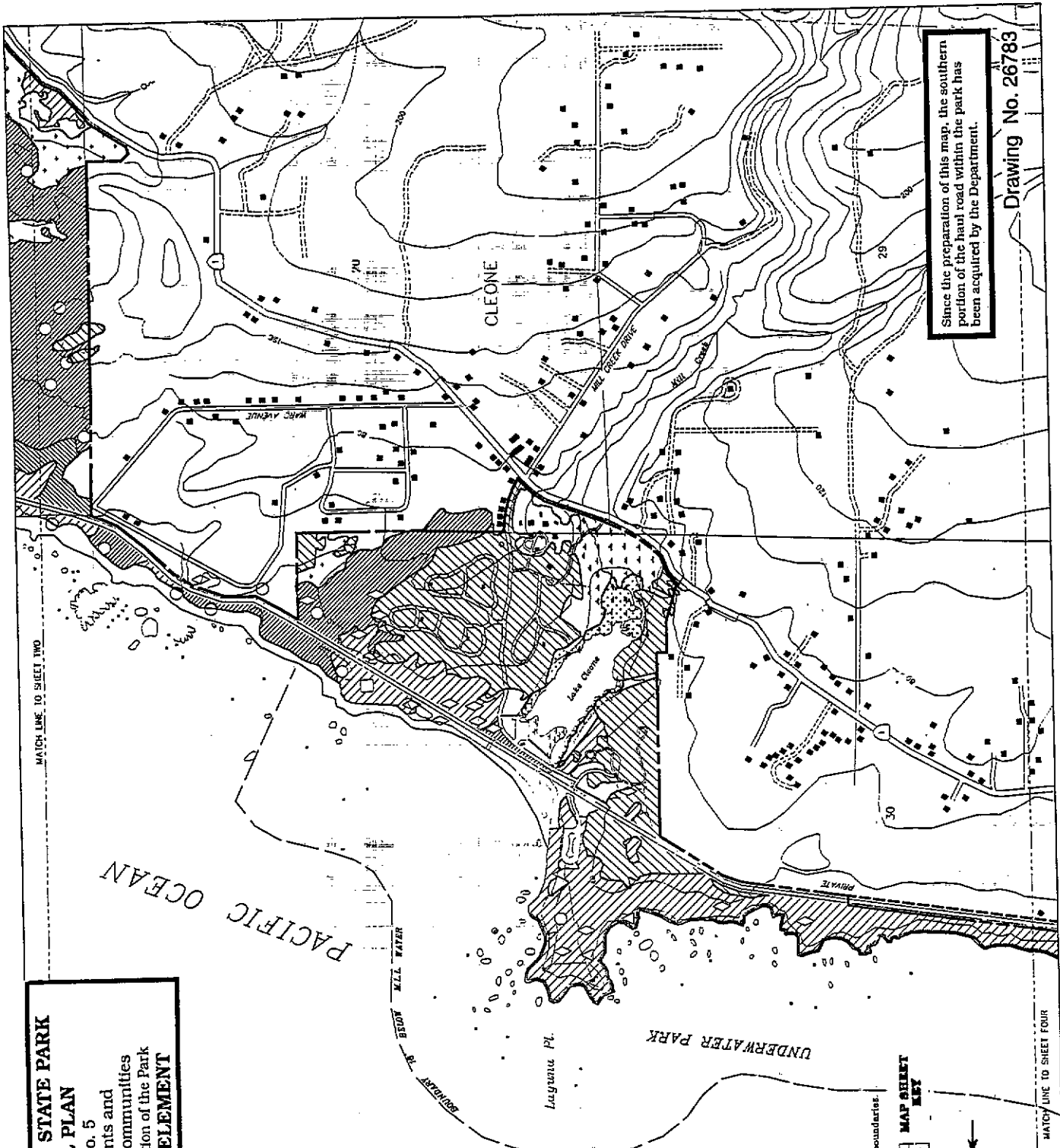
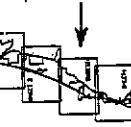
Northcoast Phacelia
 (*Phacelia lasallei* var. *continentalis*)

*Dune systems are dynamic and have constantly shifting boundaries.
 (Mapped from aerial photos of 2-22-68 and USGS topog.)

5 AC
 1 AC



MAP SHEET KEY



Since the preparation of this map, the southern portion of the hant road within the park has been acquired by the Department.

Drawing No. 26789

MATCH LINE TO SHEET FOUR

MATCH LINE TO SHEET TWO

MACKERRICHER STATE PARK
GENERAL PLAN
 Map No. 5
 Special Plants and
 Rare Natural Communities
 Southern Section of the Park
RESOURCE ELEMENT



LEGEND

STATE PARK BOUNDARY

KEY

RARE NATURAL COMMUNITIES

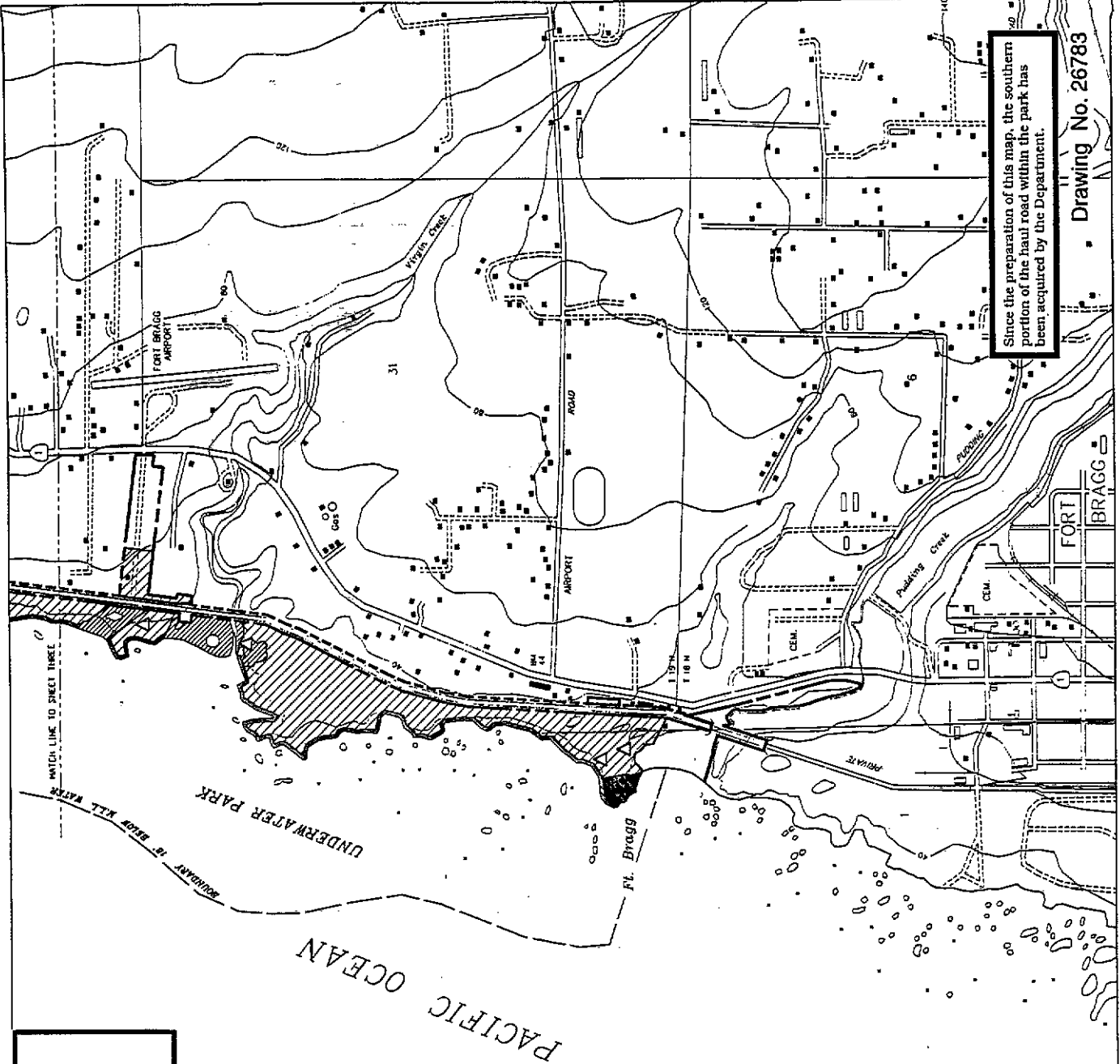
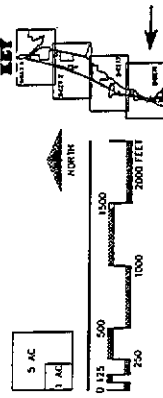
- Coastal Dunes*
 (Southern Blue Scrub and
 Northern Foresters Communities)
- Northern Foresters Grassland/
 Dune Shales (seasonally wet)
- Coastal Terrace Prairies
- Beach Pine Forest/
 Northern Bishop Pine Forest
- Riparian (Wetlands,
 Red Alder, Coast Redwood Scrub, and
 Red Alder Riparian Forest Communities)
- Northern Coastal Bluff Scrub
- Red Alder Riparian Forest/
 Freshwater Swamp
- Coastal Freshwater Marsh

SPECIAL PLANT SPECIES

- Pursh's Red-Grass
 (*Salmagradia purshiana*)
- Swamp Harebell
 (*Campanula salifornica*)
- Mendocino Coast Ladies' Tails/brush
 (*Castilleja latifolia* ssp. *mendocinensis*)
- Howell's Spineflower
 (*Chorizanthe howellii*)
- Mason's Wellflower
 (*Erazminum masonii*)
- Point Reyes Horkelia
 (*Horkelia macrantha*)
- Northern Phacelia
 (*Phacelia lasallei* var. *continentalis*)

*Dune systems are dynamic and have constantly shifting boundaries.
 (Mapped from aerial photos of 2-28-85 and USGS topog.)

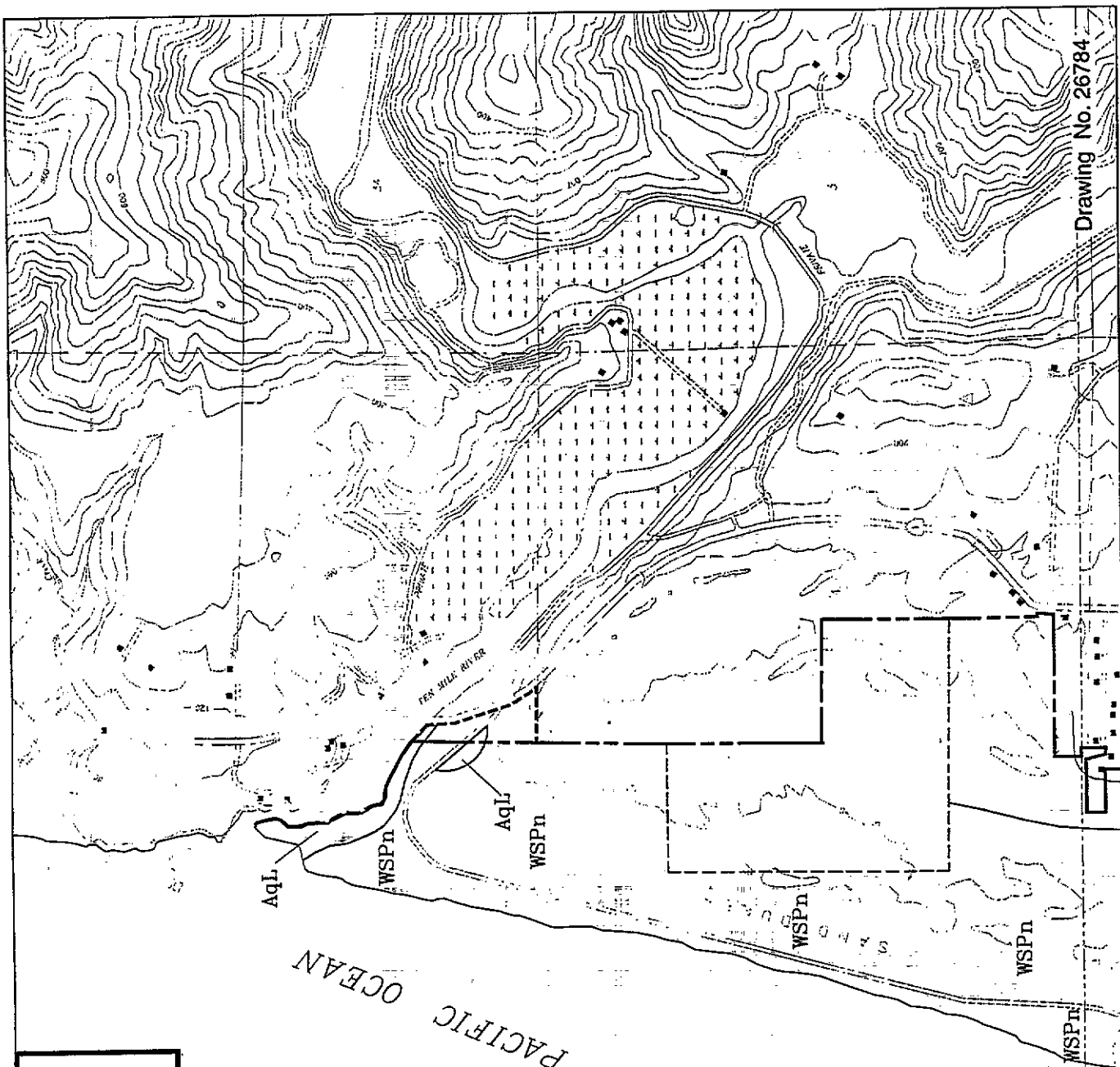
MAP SHEET



Since the preparation of this map, the southern portion of the haul road within the park has been acquired by the Department.

Drawing No. 26783

MACKERRICHER STATE PARK
GENERAL PLAN
 Map No. 6
 Sensitive Wildlife, Aquatic Life,
 and Habitats
 Northern Section of the Park
RESOURCE ELEMENT

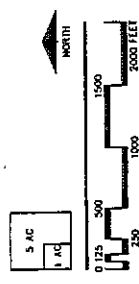
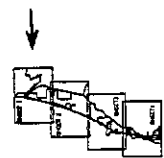


Drawing No. 26784

LEGEND

- WSP Western Snowy Plover habitat
- WSPn Western Snowy Plover, presumed nesting habitat
- AqL Aquatic life habitat, sensitive
- IF May include one or more of the following:
 - Egg deposition, nursery, Red-legged Frog
 - Footbill Yellow-legged Frog - subadult, and adult habitat
 - Siteseated Trout - juvenile, rearing habitat,
 - Coho Salmon - critical pool habitat
 - Inglanook Fen - Habitat for unique invertebrate fauna
- Intertidal Resources
- Harbor Seal Haulout
- STATE PARK BOUNDARY
- PRIMARY HIGHWAY
- PAVED ROAD
- UNPAVED ROADS
- TRAILS
- INTERMITTENT STREAMS
- PERENNIAL STREAMS
- CALTRANS GRANT-FUNDED ADDITION 9/05 F.Y.
- B.L.M. LEASE

MAP SHEET KEY



MATCH LINE TO SHEET TWO

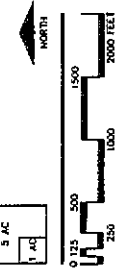
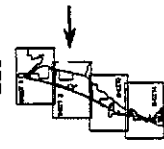
MACKE RRICHER STATE PARK
GENERAL PLAN
 Map No. 6
 Sensitive Wildlife, Aquatic Life,
 and Habitats
 North Central Section of the Park
RESOURCE ELEMENT



LEGEND

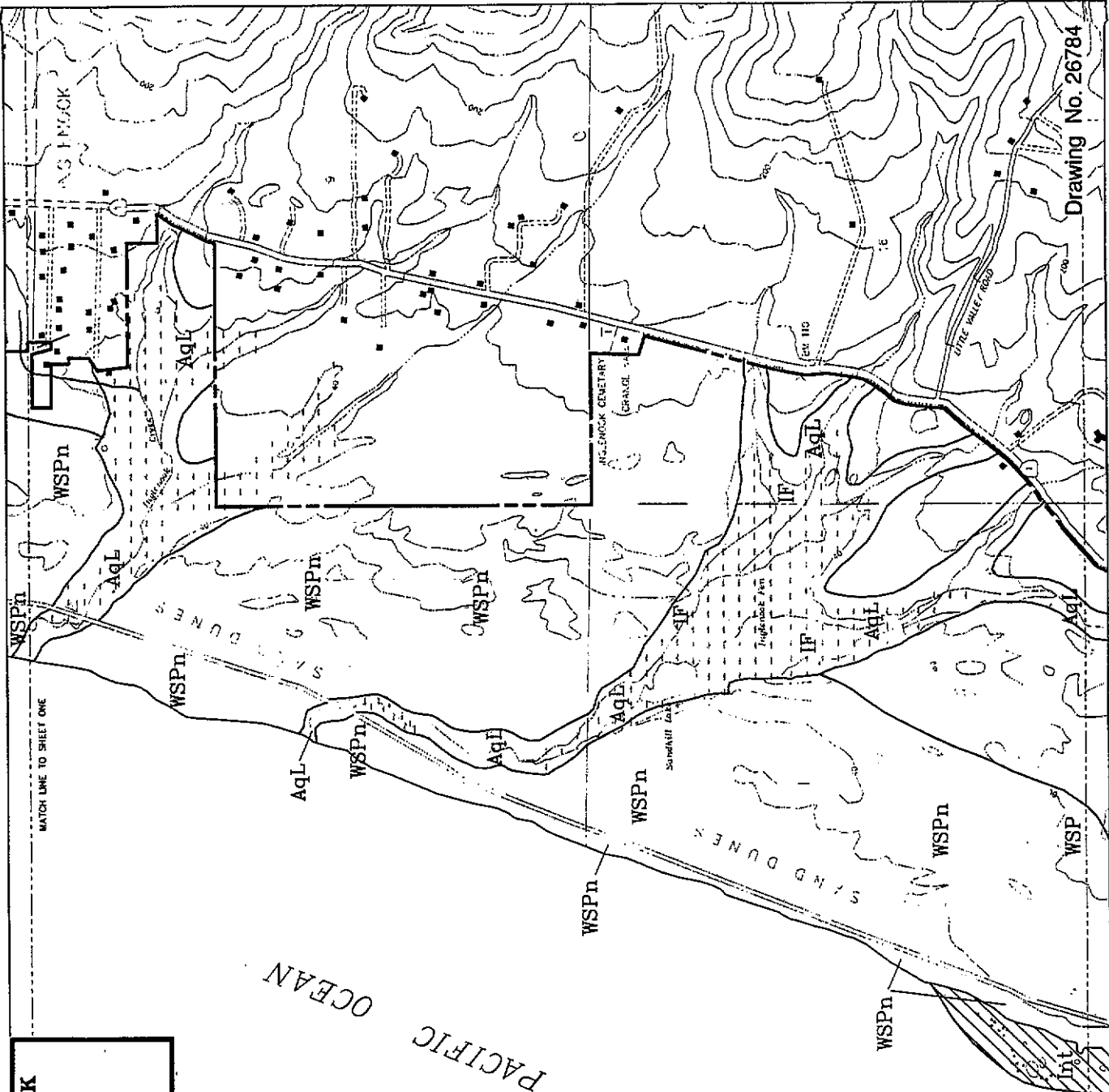
- WSP Western Snowy Plover habitat
- WSPn Western Snowy Plover, pre-natal nesting habitat
- AqL Aquatic life habitat, sensitive
- May include one or more of the following:
 - Coastal lagoon habitat
 - Tide-water Goby habitat
 - Red-legged Frog
 - Foot-hill Yellow-legged Frog - subadult, and adult habitat
 - Steelhead Trout - juvenile, rearing habitat
 - Coho Salmon - critical pool habitat
 - Inglebrook Fen - Habitat for unique invertebrate fauna
- IF Intertidal Resources
- IFn Harbor Seal Haulout
- STATE PARK BOUNDARY
- PRIMARY HIGHWAY
- PAVED ROAD
- UNPAVED ROADS
- TRAILS
- INTERMITTENT STREAMS
- PERENNIAL STREAMS
- EXISTING BUILDINGS

MAP SHEET KEY



MATCH LINE TO SHEET THREE

Drawing No. 26784

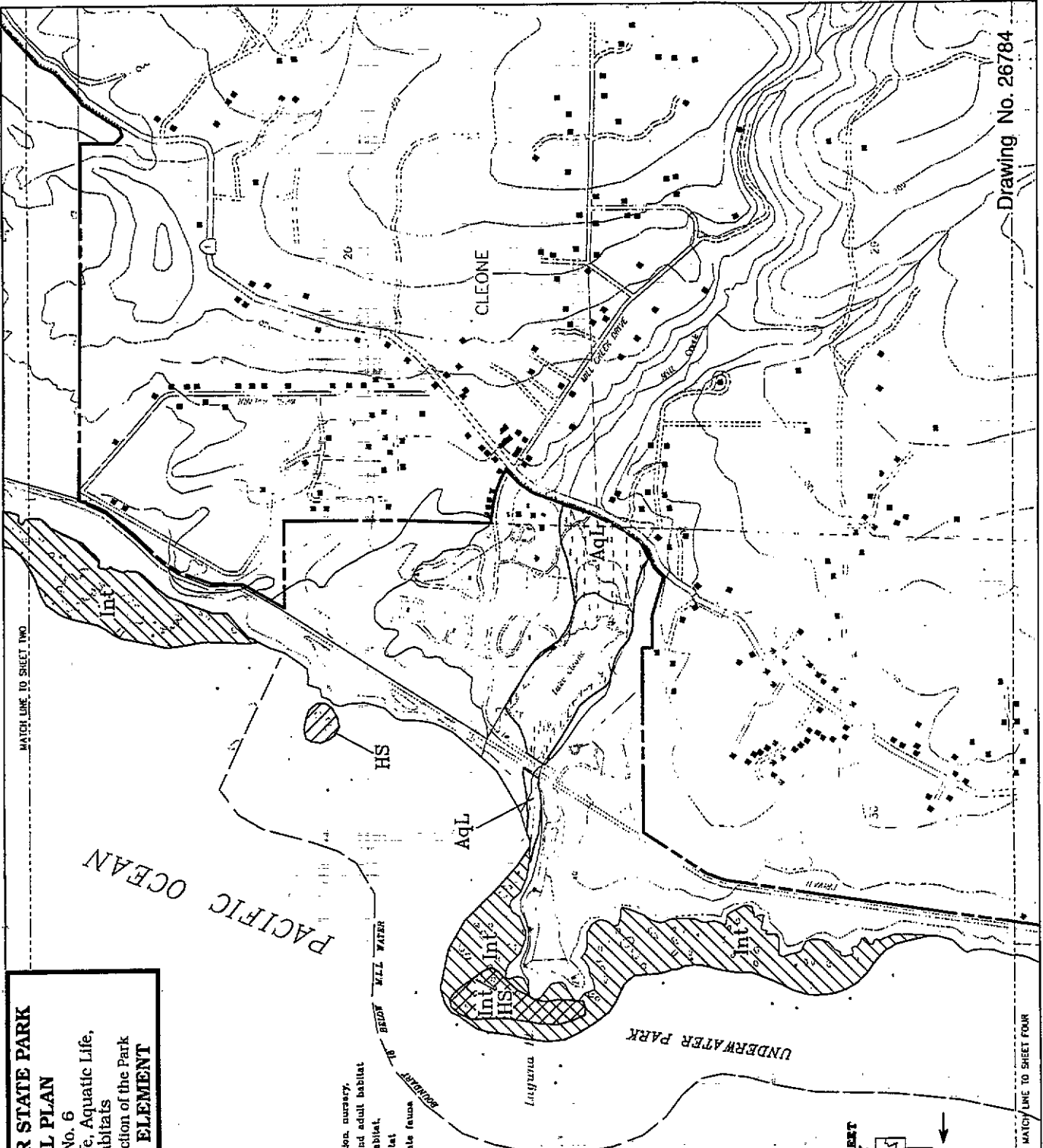
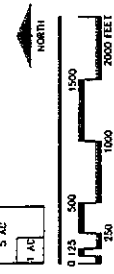
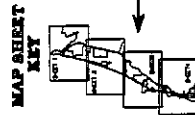


MACKERRICHER STATE PARK
GENERAL PLAN
 Map No. 6
 Sensitive Wildlife, Aquatic Life,
 and Habitats
 South Central Section of the Park
RESOURCE ELEMENT



LEGEND

- AqL Aquatic life habitat, sensitive
 May include one or more of the following:
 Coastal lagoon habitat
 Tidewater Coby habitat
 Red-legged Frog Egg deposition, nursery,
 Foot-hill Yellow-legged Frog subadult, and adult habitat
 Steelhead Trout juvenile, rearing habitat,
 Coho Salmon juvenile, rearing habitat
 Inglebrook Fen - habitat for unique invertebrate fauna
- IF Invertebrate fauna habitat
- WSP Western Snowy Plover habitat
- WSPn Nesting Western Snowy Plover habitat
- Int Intertidal Resources
- HS Harbor Seal Habitat
- STATE PARK BOUNDARY
- PRIMARY HIGHWAY
- PAVED ROAD
- UNPAVED ROADS
- TRAILS
- INTERMITTENT STREAMS
- PERENNIAL STREAMS
- EXISTING BUILDINGS



Drawing No. 26784

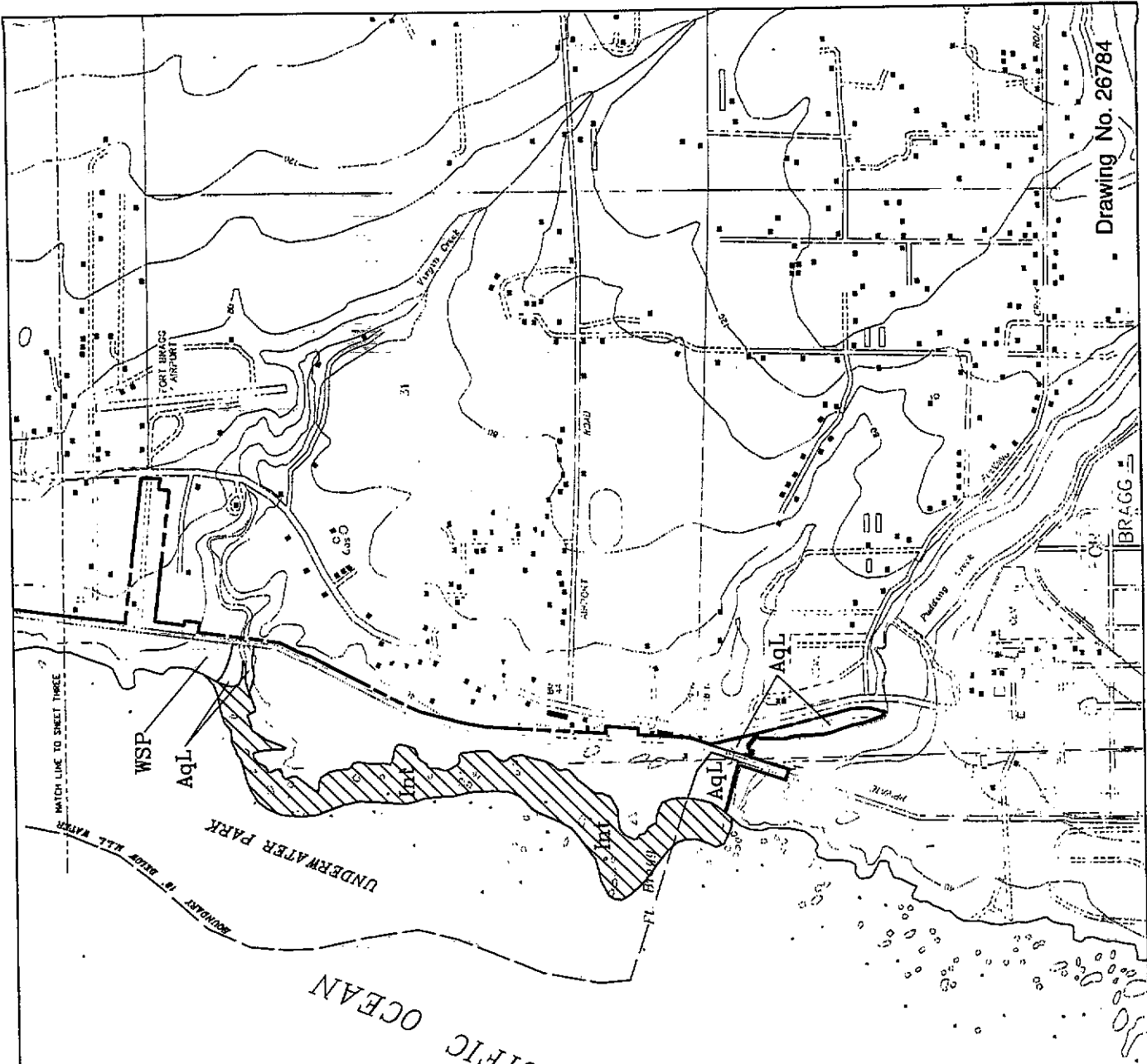
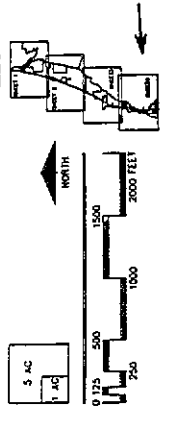
MACKERRICHER STATE PARK
GENERAL PLAN
 Map No. 6
 Sensitive Wildlife, Aquatic Life,
 and Habitats
 Southern Section of the Park
RESOURCE ELEMENT



LEGEND

- WSP Western Snowy Plover habitat
- WSPn Western Snowy Plover habitat, nesting
- AqL Aquatic life habitat, sensitive
 May include one or more of the following:
 Coastal lagoon habitat
 Tidewater Goby habitat
 Red-legged Frog
 Foothill Yellow-legged Frog - subadult, and adult habitat
 Steelhead Trout
 Coho Salmon
 Inglenook Fen - Habitat for unique invertebrate fauna
- IF Intertidal Resources
- HS Harbor Seal Haulout
- STATE PARK BOUNDARY
- PRIMARY HIGHWAY
- PAVED ROAD
- UNPAVED ROADS
- TRAILS
- INTERMITTENT STREAMS
- PERENNIAL STREAMS
- EXISTING BUILDINGS

MAP SHEET KEY



**MackERRICHER STATE PARK
GENERAL PLAN**

Map No. 7
Cultural Resources Sensitivity
Northern Section of the Park
RESOURCE ELEMENT



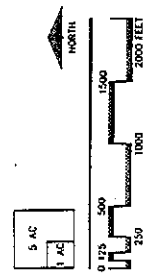
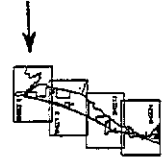
LEGEND

HIGH SENSITIVITY — Areas with known archeological sites. Also areas containing historic structures or features and/or with a high potential for having archeological sites and their immediate settings. All areas within unit boundaries not designated as high sensitivity are of moderate sensitivity where archeological sites and historic structures and features are likely to occur but have not been discovered to date.

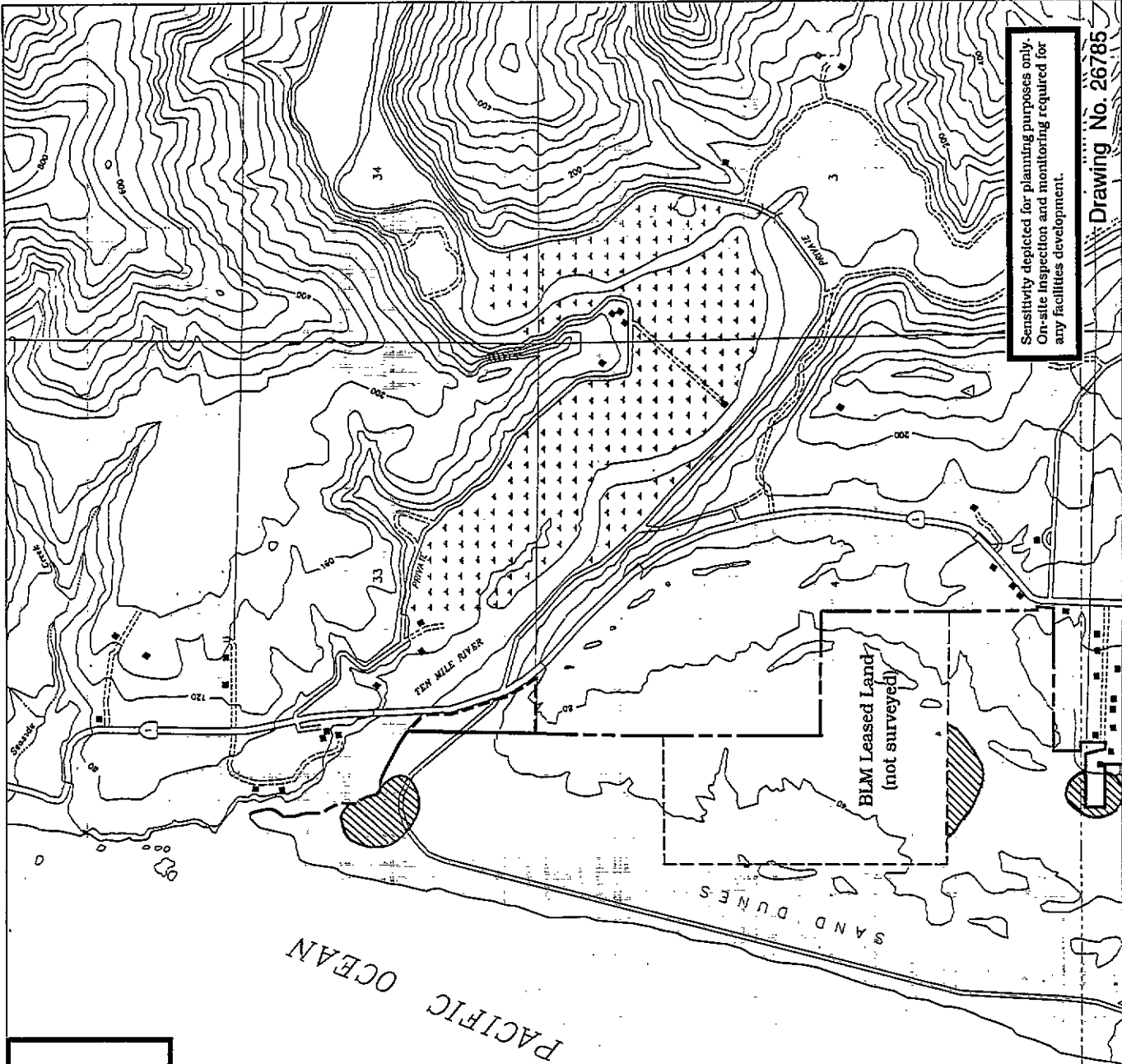


- STATE PARK BOUNDARY
- PRIMARY HIGHWAY
- PAVED ROAD
- UNPAVED ROADS
- TRAILS
- INTERMITTENT STREAMS
- PERENNIAL STREAMS
- CALTRANS GRANT-FUNDED ADDITION 94/95 F.Y.
- B.L.M. LEASE

**MAP SHEET
LIST**



MATCH LINE TO SHEET TWO



Sensitivity depicted for planning purposes only.
On-site inspection and monitoring required for
any facilities development.

Drawing No. 26785

**MackERRICHER STATE PARK
GENERAL PLAN**

Map No. 7

Cultural Resources Sensitivity
North Central Section of the Park

RESOURCE ELEMENT



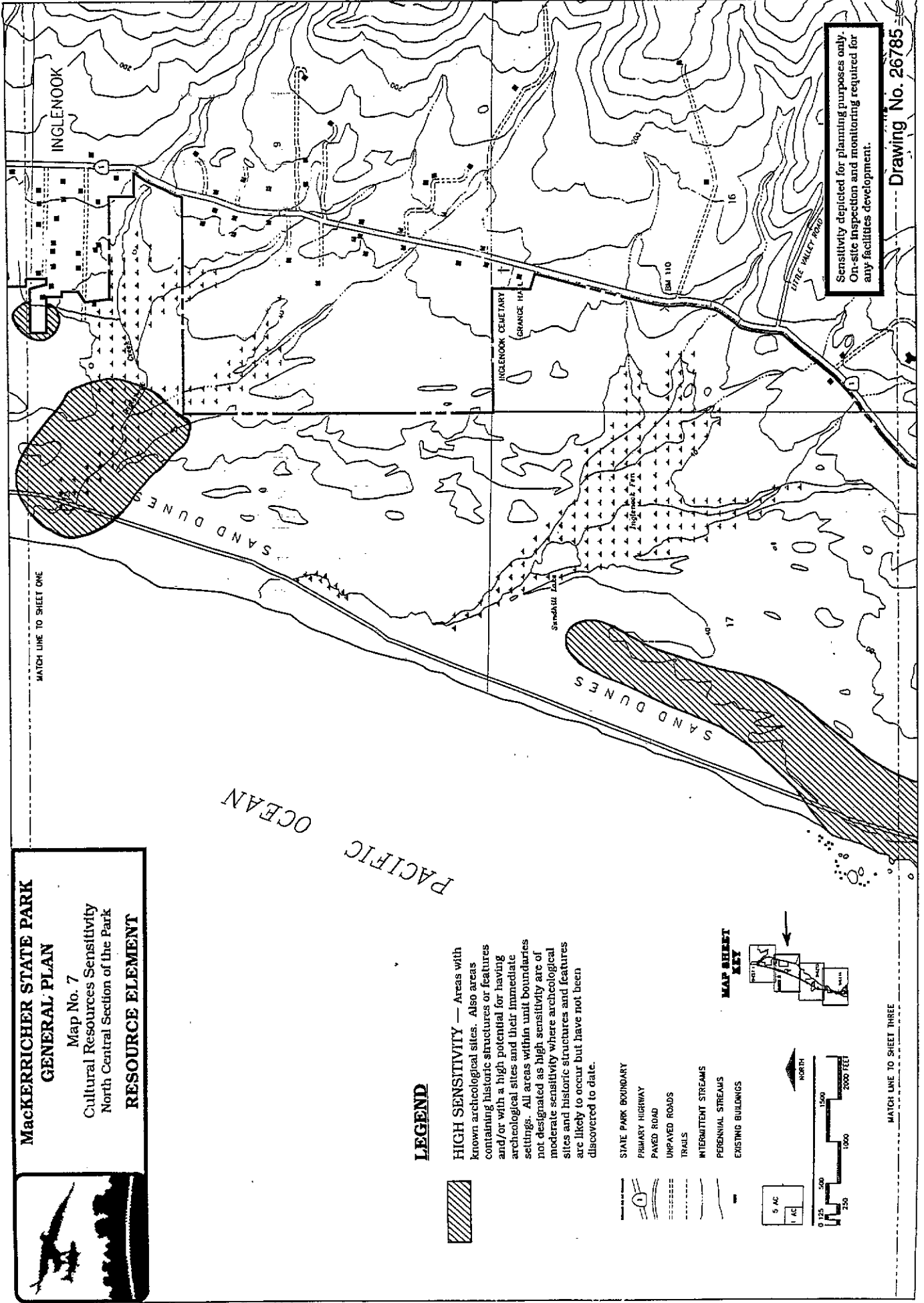
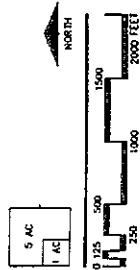
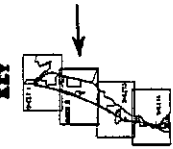
LEGEND



HIGH SENSITIVITY — Areas with known archeological sites. Also areas containing historic structures or features and/or with a high potential for having archeological sites and their immediate settings. All areas within unit boundaries not designated as high sensitivity are of moderate sensitivity where archeological sites and historic structures and features are likely to occur but have not been discovered to date.

- STATE PARK BOUNDARY
- PRIMARY HIGHWAY
- PAVED ROAD
- UNPAVED ROADS
- TRAILS
- INTERMITTENT STREAMS
- PERENNIAL STREAMS
- EXISTING BUILDINGS

MAP SHEET KEY



Sensitivity depicted for planning purposes only.
On-site inspection and monitoring required for
any facilities development.

Drawing No. 26785

**MACKERRICHER STATE PARK
GENERAL PLAN**
Map No. 7
Cultural Resources Sensitivity
South Central Section of the Park
RESOURCE ELEMENT

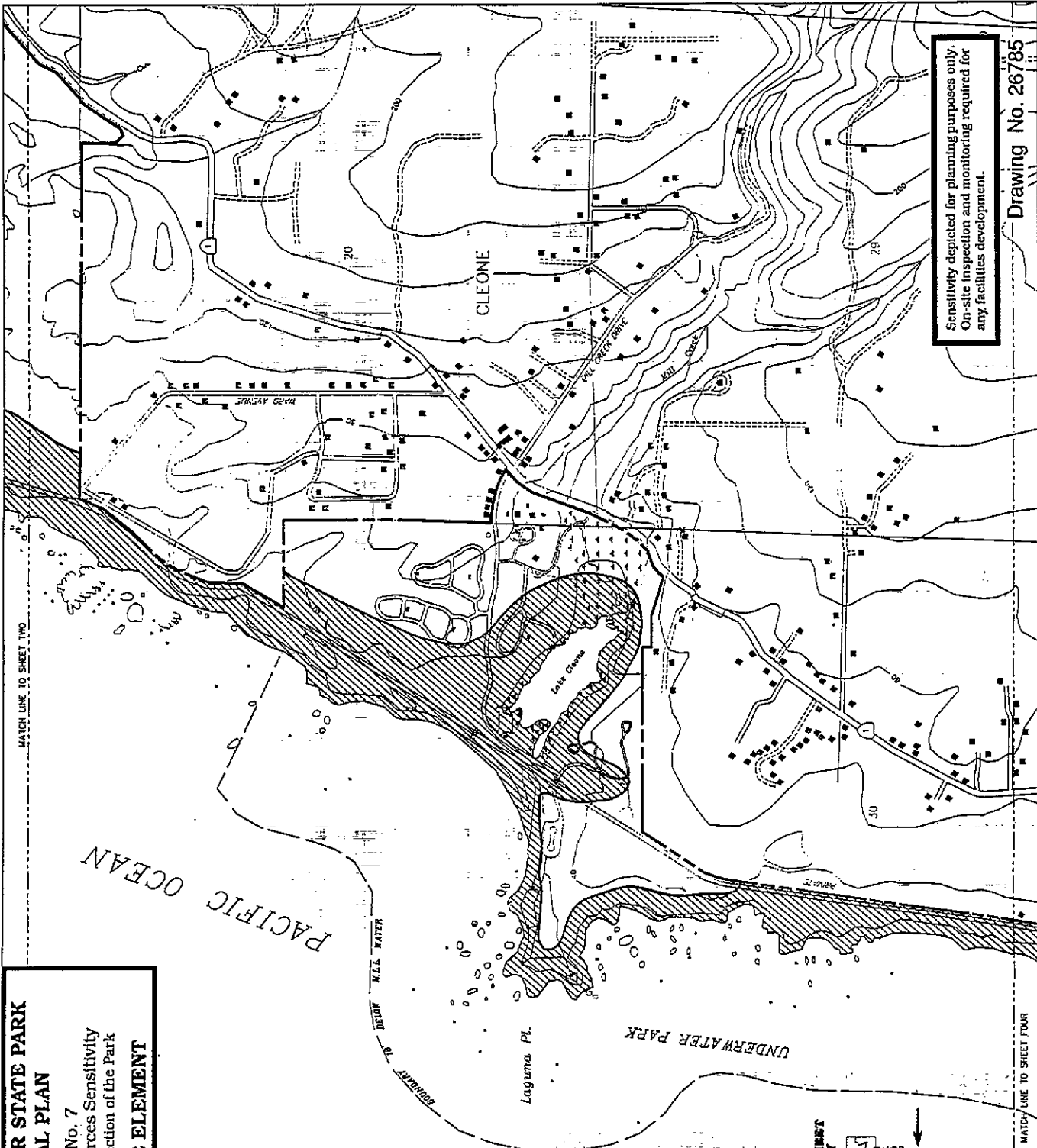
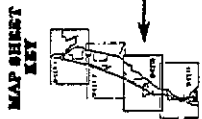
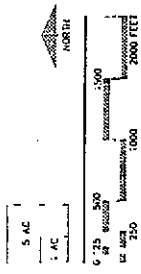


LEGEND

HIGH SENSITIVITY — Areas with known archeological sites. Also areas containing historic structures or features and/or with a high potential for having archeological sites and their immediate settings. All areas within unit boundaries not designated as high sensitivity are of moderate sensitivity where archeological sites and historic structures and features are likely to occur but have not been discovered to date.



- STATE PARK BOUNDARY
- PRIMARY HIGHWAY
- PAVED ROAD
- UNPAVED ROADS
- TRAILS
- INTERMITTENT STREAMS
- PERENNIAL STREAMS
- EXISTING BUILDINGS
- UNDERWATER PARK BOUNDARY

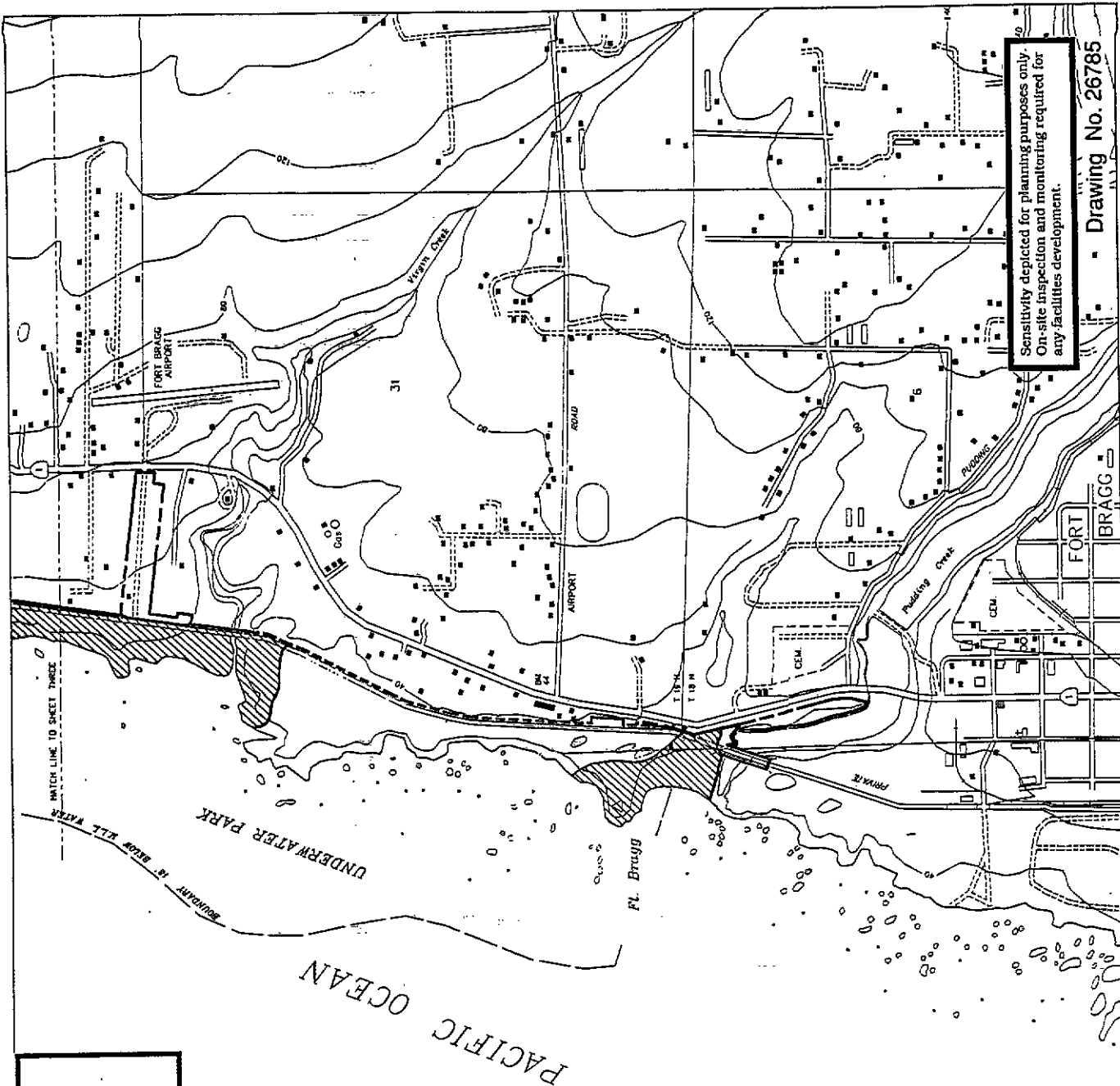


Sensitivity depicted for planning purposes only. On-site inspection and monitoring required for any facilities development.

Drawing No. 26785

**Mackerricher State Park
GENERAL PLAN**

Map No. 7
Cultural Resources Sensitivity
Southern Section of the Park
RESOURCE ELEMENT



Sensitivity depicted for planning purposes only.
On-site inspection and monitoring required for
any facilities development.

Drawing No. 26785

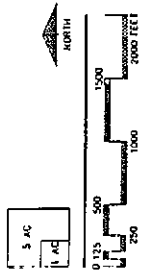
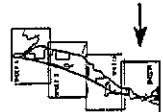
LEGEND

HIGH SENSITIVITY — Areas with known archeological sites. Also areas containing historic structures or features and/or with a high potential for having archeological sites and their immediate settings. All areas within unit boundaries not designated as high sensitivity are of moderate sensitivity where archeological sites and historic structures and features are likely to occur but have not been discovered to date.



- STATE PARK BOUNDARY
- PRIMARY HIGHWAY
- PAVED ROAD
- UNPAVED ROADS
- TRAILS
- INTERMITTENT STREAMS
- PERENNIAL STREAMS
- EXISTING BUILDINGS
- UNDERWATER PARK BOUNDARY

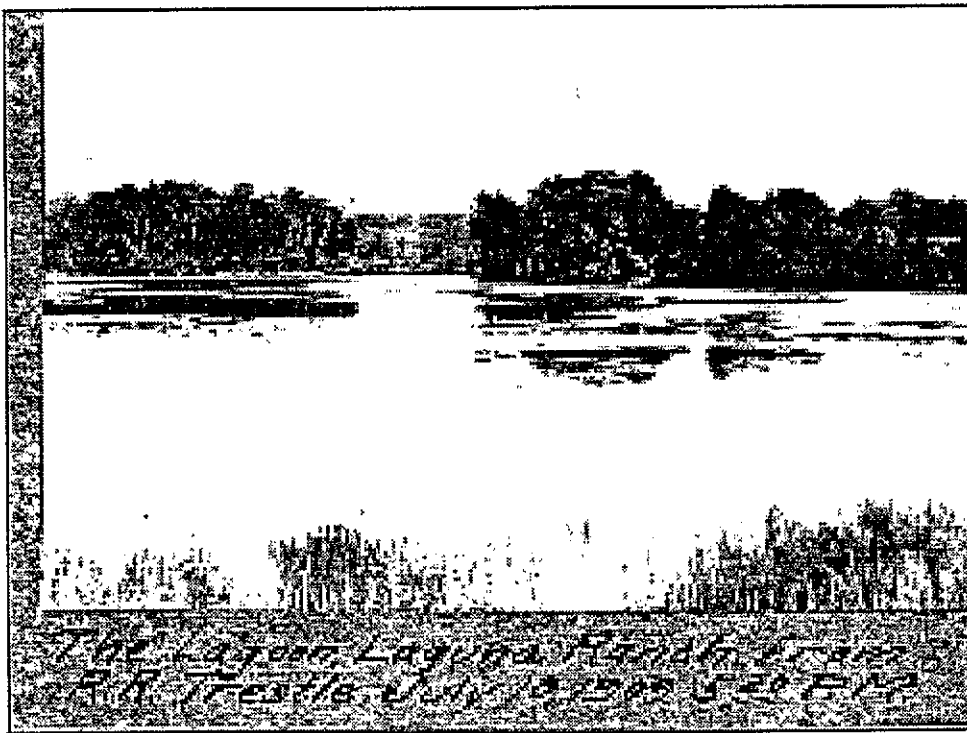
MAP SHEET KEY





APPENDIX C

**TABLES RELATING TO
SENSITIVE PLANT AND ANIMAL SPECIES
FOUND AT MacKERRICHER STATE PARK**



From the collection of Faith MacKerricher Graham

**Table C-1: Special Plant Species and Rare Natural
Communities of MacKerricher State Park**

**Table C-2: Special Animal Species of MacKerricher
State Park**

APPENDIX C TABLE C-1

SPECIAL PLANT SPECIES & RARE NATURAL COMMUNITIES OF MACKERRICHER STATE PARK*

<u>Sensitive Plants</u>	<u>Status**</u>	<u>Flowering Period</u>	<u>Habitat</u>
Blasdale's Bent Grass, <i>Agrostis blasdalei</i> var. <i>blasdalei</i>	CNPS 1B	May - July	bluffs, grassland
Bog Bean, <i>Menyanthes trifoliata</i>	EIM	May - Aug.	fen
Bolander's Reed-Grass, <i>Calamagrostis bolanderi</i>	CNPS 4	June - Aug.	wetlands, grassland
Coast Lily, <i>Lilium maritimum</i>	CNPS 1B	June - July	bluffs, forests
Coastal Bluff Bent Grass, <i>Agrostis clivicola</i> var. <i>clivicola</i>	CNPS 4	May - July	wetlands
Fringed False Hellebore, <i>Veratrum fimbriatum</i>	CNPS 3	July - Sept.	forests
Hardy Creek Barberry, <i>Mahonia nervosa</i> var. <i>mendocinensis</i>	CNPS 4	April - June	fen, forests
Heart-leaved twayblade, <i>Listera cordata</i>	FE, ST, CNPS 1B	March - July	dunes
Howell's Spineflower, <i>Chortzanthus howellii</i>	SR, CNPS 1B	May - July	bluffs
Leafy Reed-Grass, <i>Calamagrostis foliosa</i>	CNPS 1B	May - Aug.	bluffs
Mendocino Coast Indian Paintbrush, <i>Castilleja mendocinensis</i>	FE, SE, CNPS 1B	May - Aug.	bluffs
Menzies' Wallflower, <i>Erysimum menziesii</i> ssp. <i>menziesii</i>	CNPS 4	March - May	dunes
Nodding Semaphore Grass, <i>Pleurapogon refractus</i>	CNPS 1B	May - Aug.	grassland
Northcoast Phacelia, <i>Phacelia insularis</i> var. <i>continentus</i>	CNPS 1B	March - May	dunes
Oblong-leaved Sundew, <i>Drosera rotundifolia</i>	EIM	July - Aug.	fen
Pink sand verbena, <i>Abronia umbellata</i> ssp. <i>breviflora</i>	CNPS 1B	July - September	dunes
Pt. Reyes Ceanothus, <i>Ceanothus gloriosus</i> var. <i>gloriosus</i>	CNPS 4	March - May	bluffs, forests
Pt. Reyes Horkelia, <i>Horkelia marinensis</i>	CNPS 1B	May - Sept.	bluffs, terrace
Round-headed Chinese houses, <i>Collinsia corymbosa</i>	CNPS 1B	April - June	dunes
Short-leaved evax, <i>Hespererax sparsiflora</i> var. <i>brevifolia</i>	CNPS 4	April - June	dunes
Small groundcone, <i>Boschniakia hookeri</i>	CNPS 2	April - August	forests
Swamp Harebell, <i>Campanula californica</i>	CNPS 1B	June - Sept.	wetlands, grassland
Thurber's Reed-Grass, <i>Calamagrostis crassiglumis</i>	CNPS 2	June - July	wetlands
Whitney's Farewell-To-Spring, <i>Clarkia amoena</i> ssp. <i>whitneyi</i>	CNPS 4	June - Aug.	bluffs
Plants of Management Concern			
Coontail, <i>Ceratophyllum demersum</i>	native/invasive	June - Aug.	aquatic/riparian
Cotoneaster, <i>Cotoneaster franchetti</i>	exotic/invasive		terrace
English Ivy, <i>Hedera helix</i>	exotic/invasive		forests
European Beachgrass, <i>Ammophila arenaria</i>	exotic/invasive	May - Aug.	beach, dunes
Himalaya Berry, <i>Rubus procerus</i>	exotic/invasive		terrace, forests
Montbretia, <i>Crocasmia crocosmiflora</i>	exotic/invasive		terrace
Monterey Cypress, <i>Cupressus macrocarpa</i>	non-indigenous/invasive		terrace, forests
Monterey Pine, <i>Pinus radiata</i>	non-indigenous/invasive	April	terrace, forests
Parrot's Feather, <i>Myriophyllum brasiliense</i>	exotic/invasive		aquatic/riparian

Scotch Broom, <i>Cytisus scoparius</i>	exotic/invasive	April - June	terrace, forests
Tansy Ragwort, <i>Senecio jacobaea</i>	exotic/invasive	July - Sept.	terrace
Thistles, (various genera)	exotic/invasive		terrace
Seafig, <i>Carpobrotus</i> spp.	exotic/invasive	April - Oct.	beach, dunes, bluffs

Rare Natural Communities***

Northern Dune Scrub	Habitat
Northern Foredune Grassland/Scrub	dunes
Coastal Terrace Prairie	dunes
Beach Pine Forest/Northern Bishop Pine Forest	terrace
North Coast Riparian Scrub	forests
Red Alder Riparian Forest/Freshwater Swamp	riparian/wetlands
Coastal Freshwater Riparian Marsh	riparian/wetlands
Coastal Brackish Marsh	riparian/wetlands
Fen	riparian/wetlands

* Special plant species and rare natural communities observed and possible at MacKerricher State Park.

** Status as of August 1991 California Department of Fish and Game, Natural Diversity Data Base (CDFG, NDDDB) Special Plant List. Codes are explained below.

*** As designated by the CDFG, NDDDB Natural Communities List of November, 1990.

KEY TO SPECIES STATUS CODES

FE: Listed as Endangered by the Federal Government.

SE: Listed as Endangered by the State of California.

ST: Listed as Threatened by the State of California.

SR: Listed as Rare by the State of California.

CNPS 1B: California Native Plant Society (CNPS) designation - Plants rare, treated, or endangered in California and elsewhere.

CNPS 2: Plants rare, threatened, or endangered in California, but more common elsewhere.

CNPS 3: Plants about which we need more information.

CNPS 4: Plants of limited distribution.

EIM: A Department of Parks and Recreation code designating species of educational, interpretive, or management interest which are not necessarily protected by federal or state law.

APPENDIX C

TABLE C-2

SPECIAL ANIMAL SPECIES OF MACKERRICHER STATE PARK*

<u>Common and Scientific Name</u>	<u>Status**</u>	<u>Habitat</u>
<u>Invertebrates</u>		
(terrestrial snail), <i>Helminthoglypta arrosa pomoenis</i>	EIM	riparian, redwood forest
Abalone, <i>Haliotis</i> spp.	EIM	marine
Tick, <i>Ixodes pacifica</i>	EIM	grassland, forests
Globose Dune Beetle, <i>Coelus globosus</i>	EIM	dunes
Behren's Silverspot Butterfly, <i>Speyeria zerene behrensis</i>	EIM	terrace, bishop pine & redwood forest
Myrtle's Silverspot Butterfly, <i>Speyeria zerene myrteae</i>	FE	terrace, bishop pine & redwood forest
<u>Fishes</u>		
Coho Salmon, <i>Oncorhynchus kisutch</i> (Central California)	FT, CSC	riverine
Steelhead Rainbow Trout, <i>Oncorhynchus mykiss</i>	EIM	riverine
Tidewater goby, <i>Eucyclogobius newberryi</i>	FE	riverine
<u>Amphibians</u>		
Northern red-legged frog, <i>Rana aurora aurora</i>	CSC	riparian
Foothill yellow-legged frog, <i>Rana boylei</i>	CSC	riparian
Western pond turtle, <i>Clemmys marmorata</i>	CSC	riparian, wetlands
<u>Birds</u>		
Common Loon, <i>Gavia immer</i>	CSC	marine, riparian
Western Grebe, <i>Aichmophorus occidentalis</i>	EIM	marine, riparian
California Brown Pelican, <i>Pelicanus occidentalis californicus</i>	FE, SE	marine, beach, bluffs
Double-crested Cormorant, <i>Phalacrocorax auritus</i>	CSC	marine
Tundra/whistling Swan, <i>Olor columbianus</i>	EIM	riparian
Barrow's Golden Eye, <i>Bucephala islandica</i>	CSC	marine, riparian
Bufflehead, <i>Bucephala albeola</i>	EIM	marine
Harlequin Duck, <i>Histrionicus histrionicus</i>	CSC	marine
Black-Shouldered Kite, <i>Elanus leucurus</i>	EIM	terrace, wetlands
Cooper's Hawk, <i>Accipiter cooperii</i>	CSC	terrace, bishop pine
Sharp-shinned Hawk, <i>Accipiter striatus</i>	CSC	terrace, bishop pine
Northern Harrier, <i>Circus cyaneus</i>	CSC	bluffs, terrace, riparian
Goshawk, <i>Accipiter gentilis</i>	CSC, FSS	terrace, bishop pine forest
Ferruginous Hawk, <i>Buteo regalis</i>	CSC	terrace, bishop pine
Bald Eagle, <i>Haliaeetus leucocephalus</i>	FE, SE	variable
Osprey, <i>Pandion haliaeetus</i>	CSC	marine, beach, bluffs, riparian
Merlin, <i>Falco columbarius</i>	CSC	terrace
American Peregrine Falcon, <i>Falco peregrinus</i>	FE, SE	variable
Great Egret, <i>Casmerodius albus</i>	EIM	riparian, wetlands
Great Blue Heron, <i>Ardea herodias</i>	EIM	riparian, wetlands
Black-crowned Night Heron, <i>Nycticorax nycticorax</i>	EIM	riparian, wetlands
Western Snowy Plover, <i>Charadrius alexandrinus nivosus</i>	FT, CSC	beach, bluffs
Long-billed Curlew, <i>Numenius americanus</i>	CSC	beach, bluffs

California Gull, *Larus californicus*
 Elegant Tern, *Sterna elegans*
 Caspian Tern, *Hydroprogne caspia*
 Marbled Murrelet, *Brachyramphus marmoratus*
 Rhinoceros Auklet, *Cerorhinca monocerata*
 Tufted Puffin, *Fratercula cirrhata*
 Short-eared Owl, *Asio flammeus*
 Burrowing Owl, *Athene cunicularia*
 Northern Spotted Owl, *Strix occidentalis caurina*
 Bank Swallow, *Riparia riparia*
 Purple Martin, *Progne subis*
 Black-capped Chickadee, *Parus atricapillus*
 Yellow Warbler, *Dendroica petechia*
 Yellow-breasted Chat, *Icteria virens*
 Brown-headed Cowbird, *Molothrus ater*

Mammals

Townsend's Big-eared Bat, *Plecotus townsendii townsendii*
 Ringtail, *Bassariscus astutus*
 California Sea Lion, *Zalophus californianus*
 Harbor Seal, *Phoca vitulina*
 California Gray Whale, *Eschrichtius robustus*
 Humpback Whale, *Megaptera novaeangliae*
 Domestic Dog, *Canis domesticus*
 Domestic (feral) Cat, *Felis domesticus*

CSC marine, beach, bluffs
 CSC marine, beach, bluffs
 EIM marine, riparian
 FT, SE marine, redwood forest
 CSC marine
 CSC marine
 CSC terrace, prairie, wetlands
 CSC bluffs, terrace
 FT riparian, redwood forest
 ST riparian
 CSC variable
 CSC variable
 CSC riparian
 CSC riparian
 EIM riparian
 CSC variable
 EIM riparian, forests
 EIM marine
 EIM marine, beach
 EIM marine
 FE marine
 EIM all
 EIM all

* Special animal species of MacKerricher State Park: observed and possible.

** Status as of August 1991 California Dept. of Fish and Game, Natural Diversity Data Base (CDFG, NDDDB) Special Animals List. Codes are explained below.

KEY TO SPECIES LIST CODES

Occurrence: 1. Observed within or from the unit.
 2. Rarely sighted along the Mendocino Coast.

Status

FE: Federal Endangered.
FT: Federal Threatened
FPE: Proposed as Endangered by the Federal Government.
FPT: Proposed as Threatened by the Federal Government.
FSS: Federal (BLM and USFS) Sensitive Species
SE: Listed as Endangered by the State of California.
ST: Listed as Threatened by the State of California.
SCE: California Candidate for listing as Endangered.
SCT: California Candidate for listing as Threatened.

CSC: California Dept. of Fish and Game "Species of Special Concern".
CFP: Fully protected species in California (Department of Fish and Game).
EIM: Other species of Educational, Interpretive, or Management interest to DPR which are not necessarily protected by federal or state law.



APPENDIX D

TABLE D
COMPARISON OF CRIME STATISTICS, 1986-1990
MacKERRICHER STATE PARK AND
VAN DAMME STATE PARK

(Source: Department of Parks and Recreation Statistics)

<u>Penal Code Section</u>	<u>Crime</u>	<u>State Park</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>1990</u>
459	Burglery	Van Damme MacKerricher	3	7	4 3	1	3
488	Petty Theft	Van Damme MacKerricher	5 29	40	6 68	4 28	7 78
487	Grand Theft	Van Damme MacKerricher		1	2	1 1	4 6
496	Possession of Stolen Property	Van Damme MacKerricher					1
415	Disturbing the Peace	Van Damme MacKerricher	1		4	1	1
240-42	Assault & Battery	Van Damme MacKerricher	2	1	4		
245	Assault with a Deadly Weapon	Van Damme MacKerricher			1	1	
647(a)	Lewd Conduct	Van Damme MacKerricher	1	2			1
261	Rape	Van Damme MacKerricher				1	1

Note: This table indicates that crimes of all kinds, especially petty theft, are more prevalent at MacKerricher State Park than at Van Damme State Park, despite the level of development at the two state parks being roughly equivalent.



APPENDIX E

MacKERRICHER STATE PARK GENERAL PLAN

NEWSLETTERS



MACKERRICHER GENERAL PLAN NEWS

ISSUE #1

NOVEMBER 15, 1991

MacKerricher State Park Set For General Plan to Begin

The Department of Parks and Recreation will begin a general plan for MacKerricher State Park during the fall of 1991. The 1,600-acre park is a popular camping and day use destination.

Among the park's natural resources of special interest are the Ten Mile Dunes, rare plants, and wetlands. Culturally, the park is also rich with numerous archeological sites.

Recreational resources in the park include many beaches and tidepool areas, excellent sites for bird, seal and whale-watching, a fishable freshwater lake, and several miles of abandoned logging truck haul road suitable for hiking, bicycling, and other activities.

The approved final general plan is expected to guide the future resource management and facilities development in the park for twenty years. An inventory of the park's resources is close to completion.

The Department makes every effort to assess public needs and opinions during the planning process. To this

Fall Public Workshop Will Air Issues and Peoples' Concerns

The first of three workshops, during which Department of Parks and Recreation staff members will gather issues and concerns from the public, will be conducted in early December, 1991.

The workshop will be at the Redwood School multi-purpose room in Fort Bragg from 6:30 p.m. to 10:00 p.m. on Monday, December 9th.

Public Workshop

December 9, 6:30 p.m.

Make your concerns known for the MacKerricher State Park General Plan.
Redwood School
324 S. Lincoln Street
Fort Bragg, California

THE PLANNING PROCESS...

WHERE WE ARE:

1. Gathering Information
Public Workshop 1: Issues and Concerns
2. Preparing Alternatives
Public Workshop 2: Alternatives
3. Preparing Preliminary Plan
Public Workshop 3: Selected Plan
4. Departmental Review
5. CEQA Review
6. Parks and Recreation Commission Hearing

Issue #1

Visitor Survey Reveals High User Satisfaction, Problems

In the summer of 1990, the Department of Parks and Recreation conducted a visitor survey at MacKerricher State Park. Over 90 park visitors completed and returned the survey forms.

Visitor comments indicated an overall satisfaction with the park. Many said they liked being able to camp close to the ocean. Criticisms included the need for animal control because of the large number of stunks and that dogs were often off their leashes. Many respondents mentioned the thefts and vandalism in the campground.

Of respondents, 88% stayed overnight. But, both campers and day users participated in a range of activities. Most popular were nature-oriented activities. These included nature observation, nature walks, and contemplation of nature. Over 70% of respondents claimed to have done these. Significant numbers also undertook plant study, watching the seals, and birdwatching.

The most popular recreational activities included day hiking and beach activities. Picnicking, bicycling, fishing, swimming, and riding horseback followed in descending order.

Over 25% of respondents reported participation

in interpretive activities, including seeing the park's visitor center, viewing park exhibits, and attending capture programs.

Some cited improvements they would like. About 20% felt the park needed more patrols for user safety and would have liked the park to be cleaner.

Almost 30% asked for more educational and informational material. 17% wanted more ranger talks, and 13% called for a better visitor center.

More than one-fourth of respondents would favor more and better camping facilities. Almost 20% asked for more hiking opportunities. 20% desired more acquisitions to enlarge the park. Only 12% would like improved disabled access.

Many respondents' comments cited the beach as their favorite part of the park. Several complimented the park's staff and camp hosts for courtesy and helpfulness. Many also mentioned "sealing and partying in the campground at night" as major problems.

REMEMBER
MacKerricher SP
Public Workshop
Monday,
December 9th
6:30 p.m.

November 15, 1991

Status of the Mendocino Coast State Parks General Plans

General plan work is progressing on state parks on the southern and central Mendocino County coast. The writing of the plan for MacKerricher State Park is nearing completion.

The plans for Greenwood Creek State Park and Schooner Gulch State Beach will be finished not long after Manchester's. A date for presentation to the State Parks and Recreation Commission has not yet been set.

Planners are also in the process of developing alternatives for the central units, Van Damme State Park,

Caspar Headlands State Beach and Reserve, Jug Handle State Reserve, and Russian Gulch State Park.

The date of the second public meeting to discuss alternative plans for Van Damme State Park will be Tuesday, December 10. The meeting will be held in Mendocino. As with the southern units, there is not yet a Commission hearing date.

The general plan for Westport Union Landing State Park will begin work on the southern units is substantially done.

PUBLIC MEETING

Discussion of Alternative Plans for Van Damme State Park
Tuesday, December 10, 1991 - 7 to 10 p.m.
Mendocino High School Multi-purpose Room

Rehab Project Will Provide Showers and Disabled Access

A project to rehabilitate worn-out facilities will add showers to existing restrooms and improve disabled access in the campground at MacKerricher State Park. Construction is expected during the 1991/92 fiscal year.

The project will also provide a larger and better contact station at the park

entrance, provide another restroom and shower building at Surfwood Campground, and improve the parking for the walk-in campground.

According to responses on the visitor survey conducted during the summer of 1990, these improvements are much in demand by the people using the park.

Page 2

Page 1



MACKERRICHER GENERAL PLAN NEWS

ISSUE #2

JANUARY 17, 1992

Workshop Airs Public's Concerns for State Park

The Department of Parks and Recreation met with the public at a workshop on issues and concerns for the MacKerricher State Park General Plan Monday night, December 9. This was the first of three public meetings that will accompany the general plan work for the state park.

Planning team staff will need to evaluate public comments along with opinions expressed in the 1990 visitor surveys and information contained in the park's resource inventory. The surveys indicated that most visitors enjoyed the park but that many were concerned about the high levels of vandalism and crime (see article, Issue #1). The resource inventory revealed a great number of significant resources in the park (see article in this issue). The Department will take all of these into consideration when creating policies for the general plan.

What follows is a summary of comments from the meeting, including both the group workshops and the open discussion that ensued.

FEES

- No day use fees.
- Use State taxes etc. to take care of parks and don't make individuals pay.
- Keep park's access free as deduced to the State years ago by Frank Hyman.
- No iron rangers.
- The cost of development planning is excessive in this time of budget crisis and could create the need for beach fees.
- The park should participate in the State-mandated recycling program as a revenue source.
- Free access

ACCESS

- Improve all existing access areas and create new ones.
- Access to the Haul Road should be possible via the Georgia-Pacific iron gate at Pudding Creek; also from Mill Creek Road, Ward Avenue, and at Ten Mile River.
- Virgin Creek area between Highway 1 and the Haul Road should be developed for parking and horse trailers for day use only.
- Would like a northern access to Ten Mile Beach for foot and horse traffic only.
- Parking should continue at Ward Avenue.
- There should be maximum access for a variety of users, including handicapped, horses and equestrians, bicycles, and pedestrians, to all parts of the park.
- Open up the Pudding Creek trestle for pedestrian traffic.
- There should be access to both ends and the middle of the park.
- Need a safe new road for access to the north area of the park.
- Would like access all along the Haul Road.

EQUESTRIAN ISSUES

- There should be no limitation on the numbers of day use equestrians and family pets
- We support the Northern California Trails Council recommendations stated in the December 9, 1991, letter.
- Have concerns about horses on the beach.
- Want to keep the right to ride on the beach and horse trail.
- Want horse trail as left in 1972. All beaches should be open to horse trails.
- Virgin Creek area between Highway 1 and the Haul Road should be developed for parking and horse trailers for day use only.
- Favor horseback riding.
- Horseback riding is too restricted. Designated trails should be eliminated.
- There should be more horse trails that do not cross private property.
- Reserve an area for horse camping.
- The tunnel at Ward Avenue was supposed to be for horses, but it was closed because of motorcycles.
- Private clubs, such as the N.C.T.C., might cooperate with the Department to maintain staging areas for equestrians.
- Horses should be able to go where people go.
- There should continue to be designated horse trails throughout the park.
- Her horse was bothered by bicycles and large numbers of hikers in the park.
- If a horse is made nervous by bicycles, it shouldn't be on that particular trail.
- Mixing horses and large numbers of people is unsafe. Some trails should be for people only.
- It would be wrong to segregate foot and horse traffic.
- People are everywhere at MacKerricher. It would be good to reserve some trails just for hiking and some just for horses.

CIRCULATION

- Would like to see traffic enter the park via Mill Creek Road and be able to connect with the Haul Road and leave that way.
- The park road system should not become one way in and one way out.
- Keep the Haul Road open to vehicles all the time.
- Close the Haul Road to motorized traffic.
- Make the Mill Creek Road entrance safer.

NATURAL RESOURCES

- Should maintain the ecosystem in the park.
- Lake Cleone should be protected and upgraded as an important bird habitat.
- Retain the rural values of the area.
- Keep the north portion of the park a wilderness area.
- Keep the European grasses in check.
- There should be no boating at the marshy end of Lake Cleone during the nesting season.
- Stocking the lake with fish should end.

Continued on page 2, column 1

CONCERNS FOR PARK *Continued from page 1*

- People should stay out of the harbor seal habitat between Laguna Point and Ward Avenue. They should keep off the rocks.
- Says she enjoys exploring tidepools and taking children there. The pools are only exposed at low tide, and seeing them involves walking on the rocks.
- Seals are protected by the Marine Mammal Act. The Department should educate visitors about this.
- People are part of the ecosystem, too. There has to be compromise on both sides.
- The Department can't satisfy people's desire to participate in all recreational activities. There need to be limits. People are part of the ecosystem, too, but they don't have to bring their toys into it.
- From Pudding Creek to Ten Mile River, the Haul Road and beaches should be wilderness with no motorized traffic.
- Keep it natural.
- Study mammals, birds, and plants to determine the impacts of human usage of their habitats.

FACILITIES

- There should be more benches on the headlands near trails.
- The boardwalks are too narrow to walk comfortably abreast or for wheelchairs and people walking to pass.
- Save the trestle for bikers and hikers.
- The northern part of the park needs boardwalks to the beach.
- There need to be more public restrooms and trashbins in the park.
- Would like to see hitching rails near park restrooms.
- The Haul Road from Pudding Creek to Ten Mile River is a State-dedicated trail and should be improved.

FACILITIES FOR DISABLED PERSONS

- Improvement is needed for disabled access.
- Concerned about disabled persons having access to the Haul Road.
- Sensible parking lots include spaces for disabled people.
- Create a fishing area for disabled persons.
- Provide more camping for disabled persons.
- The park needs more handicapped access.
- There need to be restrooms and showers accessible to wheelchairs.
- The Disabled in Action League can help the Department plan access for disabled persons.

BICYCLES

- Bikes ruin trails. Nature trails should be for foot traffic only.

REGULATIONS AND ENFORCEMENT

- The Department should standardize trail rules for equestrians.
- Concerned about dogs running loose and unattended.
- Need better directions for access to the beach — signs telling tourists where the trails are and which are dead ends.
- There should be signs protecting marine mammals.
- There should be more ranger patrols in the Pudding Creek area.
- The park needs better litter control.
- There should be a longer time limit on visitation with friends, family, staying in the park.
- Eliminate signs along the Haul Road.
- Too many rangers — too many guns — in the campground areas.

- There is a lack of enforcement with the result that people are speeding in the campgrounds and trashing tidepools.
- Park users need clearer instructions: pedestrians, equestrians, etc.
- Need better park monitoring.
- Logging road (motorized) traffic should be stopped or controlled with speed bumps or etc.
- Anybody should be able to participate in any form of recreation at MacKerricher.
- Don't overload the park with signs.

MAINTENANCE

- Please fix the washed out sections of the Haul Road.
- Create a permanent policy to upgrade and maintain the boardwalk.
- Keep the big fish in the lake.
- Loose wire and half-buried fences should be removed, as they are hazards.
- The stakes holding railroad ties at Ward Avenue project up from the ground and are a hazard to horseback riders.
- The Department should clean up the mess left over from the dune stabilization project. The fences and pieces of surfacing material are unsightly.
- Preserve the park in its beauty now and oversee it to maintain for the future.

PRIVATE PROPERTY

- There should be no designation of Open Space on private property.
- Acquisition of private property should be from willing sellers only.
- The Department should acquire the land containing the little lake south of Lake Cleone.
- Establish an understanding between land owners' rights vs. park access rights.
- Take care of present ownership before acquiring new. This includes funding for maintenance. **

Suggestions Submitted by People at Workshop

The Northern California Trails Council submitted a letter to Department of Parks and Recreation planners Monday night, December 9th, at the Department's general planning workshop for MacKerricher State Park. The letter cited problem areas in the park's equestrian facilities and also discussed the need for clearer equestrian regulations.

Among the letter's specific recommendations were a horse "play" area at Virgin Beach and a day use staging area for horseback riders north of Virgin Creek. Because MacKerricher Beach is a more heavily used area, the letter called for segregating horses and other users there. It also suggested removing horses from the Mill Creek Road underpass beneath the Haul Road, for improvements on the bridge south of the underpass, and for more signing.

In the Ward Avenue area, the letter recommended parking for two or three horse trailers and improvements to the trail north of the parking lot. The N.C.T.C. offered its assistance to the Department in planning equestrian facilities at the park.

In addition, a concept and petition for a sculpture depicting an archeological dig at a Yuki firecircle were presented to Department staff by Louise Ditto. **

MacKerricher Rich in Sensitive Resources

Department of Parks and Recreation Resource Ecologist, Janet Didion, described and explained the value of MacKerricher State Park's many and diverse resources at the December 9 public workshop. This was her report.

The northern part of the park has four miles of beach backed by low bluffs and dunes. It includes Inglenook Creek and the Inglenook Fen complex, and marine, coastal beach, coastal dune, riparian/wetland, and coastal prairie ecosystems.

The marine resources are in the nearshore and underwater areas. The State Lands Commission has title to the property, and the Department of Fish and Game has jurisdiction over the marine organisms. The seafloor is sandy with some rocky bottom. Some species commonly observed include California brown pelicans, ospreys, common loons, double-crested cormorants, and western grebes, all recognized by biologists as sensitive, rare, or threatened.

The beach is narrow and sparsely vegetated, though there is abundant, seldom observed life in the sand and beached seaweed. The Ten Mile Dunes lies on top of the oldest marine terrace in the area. The dunes, vegetated dune swales, and a few freshwater seeps are a harsh environment for their inhabitants. Two rare natural plant communities are found in this part of the park: northern foredunes and northern foredune grassland. Four sensitive plants grow here: Howell's spineflower, Menzies' wallflower, and northcoast phacelia in the dunes, and Mendocino coast Indian paintbrush on the bluffs.

Inglenook Creek and Inglenook Fen are the riparian/wetland areas here. The fen is of particular biological significance being an ecological intermediate between a bog and a marsh with a unique mix of plants and insects, some usually found much farther north or in more montane environments. The fen is the southernmost of a series stretching from Alaska, and is the last remaining coastal fen in the state. Five rare natural communities are found here: fen, coastal brackish marsh, and coastal freshwater marsh in the fen itself, and north coast riparian scrub and red alder riparian forest upstream along the creeks. Three sensitive plants occur here: swamp harebell and Thurber's reedgrass in the fen and fringed false hellebore in the riparian forest. Coastal prairie is located between the fingers/tributaries of the fen. This is a rare natural community. An increase of California oatgrass, a depleted native grass, has been noted here.

There are several non-native plants in this part of the unit. Seafig forms a nearly solid blanket near Lake Cleone and along the bluffs, crowding out natives. European beach grass is spreading south from Ten Mile River, changing the shape and ecology of the dunes. It may be a factor in the decreased use of the dunes by nesting western snowy plovers, a sensitive shorebird.

Over several years, a team of State Park archeologists inventoried the park and recorded 32 prehistoric sites and one historic site. The Native American sites are of three types: shell middens (the most numerous at 29), surface shell scatters, and stone tool making sites without shell or midden. They are usually on bluff edges, on

terraces, or in the dunes. The dune sites, coinciding with western snowy plover nesting habitat and sensitive plants, present conflicts for excavation. Native American sites at the park represent a relatively intact series of settlement systems used with varying intensity over 2000 years. They illustrate occupation by Coast Yuki and Pomo and their ancestors and address important historical research areas and cultural adaptations on the Mendocino Coast.

The central part of the park includes flat marine terrace, the southern end of the dunes, and rocky bluffs. The unit's southern coastline is designated as a 454-acre underwater park. This recognizes the biological significance of the area and protects the marine geology, but it does not protect the marine organisms.

The marine environment in this part of the unit is primarily rocky bottom and rocky sea stacks. Laguna Point is surrounded by wave-cut benches and has rich intertidal flora and fauna with exceptional variety and degree of development. It is an easily accessible tide-pooling area, which also makes it vulnerable. Particularly visible is the harbor seal haulout on the rocks adjacent to Laguna Point. Harbor seals, California sea lions, and, farther offshore, California grey whales may be observed. The commercial harvest of red urchin and seaweed/sea palm are problems in the marine environment.

South of Laguna Point, northern coastal bluff scrub is the rare natural community. Mendocino coast Indian paintbrush and Point Reyes ceanothus are the two sensitive plants. A high concentration of Native American archeological sites are along the bluffs. They are threatened by coastal erosion and visitor use.

The coastal terrace here lies on the most recent portion of the series of wave-cut terraces formed by Pleistocene sea level changes and uplifting of the coast. It is a rare natural community. Vegetation found here is coastal scrub and grasslands. Rare Howell's spineflower, Menzies' wallflower, and Point Reyes horkelia are found here. At least part of the coastal terrace has been grazed,

Continued of Page 4, column 1

State Will Soon Begin To Acquire Haul Road

The Department of Parks and Recreation will go before the State Public Works Board in early 1992 to request approval to begin acquisition of a portion of the haul road at MacKerricher State Park.

The north end of the segment of road to be acquired is at the south side of the 40-acre parcel still owned in part by the Georgia-Pacific Company in the Inglenook Fen area. The segment extends south to the Department gate at Laguna Point.

The Department will use inholding funding for the acquisition. This limited fund is replenished yearly so that the Department can move quickly to acquire properties that meet the requirements of the fund.

For properties to be eligible for inholding funds, they must have willing sellers and be surrounded by State ownership on at least three sides. **

RICH RESOURCES (Continued from page 3)

and beach pine is moving into the grasslands. Sensitive animals include northern harriers, black-shouldered kites, and burrowing owls.

Coastal forest surrounds Lake Cleone. It tends from beach pine near the coast to Bishop pine inland. Howell's spineflower is found near the campground, threatened by visitor use. Common wildlife are raccoons, skunks, deer, and Steller's jays.

The riparian/wetland area here is the Lake Cleone/Mill Creek complex. All riparian areas are important (as wildlife habitat among other reasons) and their significance increases as riparian areas decrease statewide. Coastal freshwater marsh and red alder riparian forest are rare natural communities here. The area provides critical habitat for several sensitive species: coho salmon (historically), steelhead trout, red-legged frogs, possibly foothill yellow-legged frogs, western pond turtles, great egrets, great blue herons, and black-crowned night herons.

Coastal lagoon areas in the southern part of the park include Pudding and Virgin creeks, important as migratory corridors for anadromous fishes and habitat for tidewater gobies and shorebirds. Virgin Creek is a resting and foraging area for migratory shorebirds and important for the sensitive western snowy plover. With the haul road open to motorized traffic, the beach has become a popular recreation spot, disturbing the birds and degrading the quality of the habitat.

Non-native plants of management concern include tansy ragwort and thistles in the grasslands, and Monterey pine and Monterey cypress. A campground management plan is being developed to remove older and/or introduced trees which may become hazards to the visitors in the campgrounds.

In summary, with an abundance of cultural resources, ten sensitive plant species, ten rare natural communities, and habitat for several sensitive wildlife species, this is a park of high diversity with resources of statewide significance. The Department of Parks and Recreation is charged with the responsibility to develop policies to protect state park resources. The rarity, sensitivity, and significance of MacKerricher's resources will be taken into account as the planning team prepares alternative plans for the park during the coming months. **

Rehab Project Update

Working drawings are almost complete for the rehabilitation project that would put another comfort station and showers at Surfwood Campground. The project would also retrofit many of the other comfort stations at MacKerricher State Park with showers and disabled access. This is in response to a need long expressed by park visitors.

The Department originally planned to begin construction during the current fiscal year (1991/92). However, the rehabilitation project has been deferred for one year. This means that construction is now slated for 1992/93. The Department expects to begin actual site work in January, 1993. **

Van Damme State Park Public Meeting Results

Thirty-five members of the public met with Department of Parks and Recreation planners in Mendocino on Tuesday night, December 10th, to discuss alternative plans for Van Damme State Park. Representing the Department were Robert Acrea, David Keck, and Roy Woodward.

Generally, the public supported the Department's proposal to create a 200-acre Pygmy Forest Natural Preserve, as well as attempts to restore the Little River steelhead and salmon habitats.

The public favored proposed additional campsites within the park and the possible acquisition of the Spring Ranch, but they opposed development of the coastal bluffs. **

To Contact the Planning Team,

Write to:

Mr. Robert Acrea
Dept. of Parks and Recreation
P.O. Box 942896
Sacramento, CA 94296-0001

Or Call:

(916) 653-9995

The Planning Process -- Where We Are:

1. Gathering Information
Public Meeting #1:
Issues and Concerns
2. Preparing Alternative Plans
Public Meeting #2:
Alternatives
3. Creating a Single Plan
Public Meeting #3:
Selected Plan
4. Departmental Review
5. CEQA Review
6. State Parks & Recreation
Commission Approval

The Next Step:

Taking into account the issues and concerns about MacKerricher State Park that came to light through visitor surveys, the public workshop, and staff research, planning team staff will prepare a series of alternative plans for the park. These will be brought before the public at the second public meeting, expected to be held sometime this spring. **



MACKERRICHER GENERAL PLAN NEWS

ISSUE #3

MAY 15, 1992

Parks & Recreation to Present Alternative Plans at Second MacKerricher Public Meeting

On Tuesday, June 9, 1992, the Department of Parks and Recreation planning staff will present alternative proposals for the MacKerricher State Park General Plan at a public workshop. The workshop will be from 7 p.m. to 10 p.m. in the Redwood School multipurpose room.

The workshop is the second in a series of three that will occur in connection with the general plan. The first in December, 1991, gathered issues and concerns from the local public. The second will give the public an opportunity to see the range of proposals that the Department of Parks and Recreation is considering for the state park and to discuss them. The third will present the selected single plan, when it is completed.

**

THE PLANNING PROCESS --

Where We Are:

Gathering Information
Public Workshop #1,

Issues & Concerns

Preparing Alternatives
Public Workshop #2,

Alternatives

Preparing Single Plan

Public Workshop #3,

The Single Plan

CEQA Review
Parks and Recreation

Commission Approval

MacKerricher Alternatives Will Help to Fulfill Goals Of the Park's General Plan

The Department of Parks and Recreation has established the following goals to fulfill through implementation of the general plan that is now being written for MacKerricher State Park:

Resources: Protect the park's significant resources.

Circulation: Develop a safe and efficient circulation system.

Major Issues: Meet needs expressed by the public:

- Eliminate vandalism and crime.
- Provide facilities needed to support recreational use and protect resources.
- Increase access, esp. for disabled persons.

Interpretation: Increase orientation and interpretation
Visitor Welfare: Provide facilities that promote the safety and well-being of the visiting public.

**

Questions? Write or call Bob Acra

P.O. Box 942896
Sacramento, CA 94296-0001
(916) 653-9995

PUBLIC WORKSHOP

Tuesday, June 9, 7 p.m.

Hear and discuss the alternatives
for the MacKerricher State Park
General Plan

Redwood School
324 South Lincoln Street
Fort Bragg, California



MACKERRICHER GENERAL PLAN NEWS

ISSUE #4

DECEMBER 21, 1992

Public meeting to air General Plan Proposals

The date and place for the third public involvement meeting for the MacKerricher State Park General Plan have been set. The meeting will be to discuss preliminary proposals for long-range management and development of the state park. It will be held on **Thursday, January 14, 1993, at the Redwood School, 324 S. Lincoln Street in Fort Bragg at 7 p.m.**

This will be the last in a series of three public workshops that accompany the Department of Parks and Recreation's general planning process. Its purpose is to present proposals and take public comment on the various actions recommended in the preliminary general plan. Following this workshop, the preliminary document will be submitted to the review process mandated by the California Environmental Quality Act for public comment. The plan will then be presented to the State Parks and Recreation Commission at a public hearing in 1993.

The Department of Parks and Recreation extends an invitation to all people interested in MacKerricher State Park and the general plan to attend the public meeting.

PUBLIC WORKSHOP
Thursday, January 14th
Redwood School
324 S. Lincoln Street
Fort Bragg
7:00 p.m.

MacKerricher Crime Rate Highest in District

MacKerricher State Park has always had a crime rate higher than the other parks in the Mendocino District. This fall, however, it has climbed considerably. In just one weekend in late October, there were 16 thefts.

At the June 9 public workshop, many attending were surprised to learn the high number of crimes committed at MacKerricher State Park. The table below compares MacKerricher's statistics to those for Van Damme State Park. These statistics are for selected crimes from 1986 to 1990.

Crime	Van Damme	MacKerricher
Assault & battery	0	7
Assault with a deadly weapon	0	2
Rape	0	2
Disturbing the peace	0	7
Burglary	4	17
Grand theft	5	10
Petty theft	22	243
Possession of stolen property	0	1
Low conduct	1	4
Totals:	32	293

MacKerricher State Park is larger than Van Damme, with approximately two times the

Issue #4

(Continued from page 1)

number of campsites. However, the disparity in these crime figures can only partially be explained by MacKerricher's size relative to Van Damme's. The essential factor is that park rangers at Van Damme can see people as they enter and leave the park, while at MacKerricher, they cannot.

At the June workshop, participants were asked how they thought the Department might best protect park visitors from crime due to the uncontrolled access on Mill Creek Road. Options presented were to close the road at night, to create a one-way traffic pattern, with traffic passing the contact station on the way out, and putting a parking lot on Mill Creek Road inside the park boundary and allowing day users to walk in. The greatest number of replies favored closing the road at night.

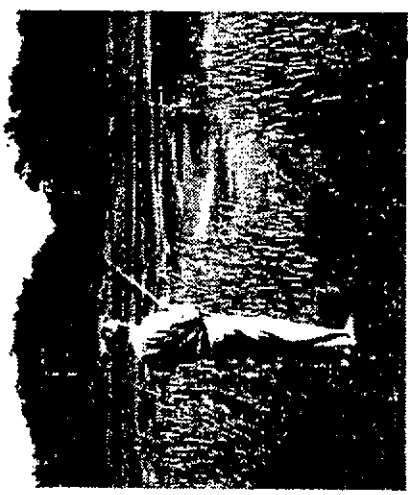
Trestle, inholding, and part of haul road acquired by DPR

During 1992, the Department of Parks and Recreation acquired the haul road from Surfwood Campground to Ten Mile River from the Georgia-Pacific Company. The State also took ownership of the 40 acres of property at Inglenook Fen. In addition, Georgia-Pacific gifted the haul road trestle at Pudding Creek to the Department. The Department is now working with the California Coastal Conservancy toward purchase of the rest of the haul road.

Meanwhile, the Department is, in addition, also applying for grant money for further haul road acquisition and to put a new surface and railings on the trestle. Grant money could also potentially fund construction of a haul road bypass at Lake Cleone and a dune boardwalk to bypass the part of the haul road washed out north of Ward Avenue.

THE PLANNING PROCESS -- Where We Are:

- Gathering Information
Public Workshop #1,
Issues & Concerns
- Preparing Alternatives
Public Workshop #2,
Alternatives
- Preparing Single Plan
Public Workshop #3,
The Single Plan
- CEQA Review
Parks and Recreation
Commission Approval



Fishing at Lake Cleone



MACKERRICHER GENERAL PLAN NEWS

ISSUE #5

JANUARY, 1995

CEQA Review Begins for the Preliminary MacKerricher State Park General Plan

The preliminary draft general plan for MacKerricher State Park is now available for public review at these locations:

Mendocino County Library
499 Laurel Street
Fort Bragg

Mendocino County Library
105 North Main Street
Ukiah

Mendocino Library
10591 William Street
Mendocino

Russian Gulch State Park Headquarters
Highway 1, Mendocino
Phone: (707) 937-5804

MacKerricher State Park
Highway 1, Cleone

The California Environmental Quality Act (CEQA) mandates a 45-day review period. The review period for the Preliminary MacKerricher State Park General Plan will end Friday, February 24th. Comments should be returned by that date to:

Dept. of Parks and Recreation, Northern Service Center
1725 - 23rd Street #200
Sacramento, CA 95816
ATTN: Rob Uelzen
Phone: (916) 323-0975

CEQA REVIEW PERIOD

January 10 - February 24

Please review the draft general plan and get your comments to us on time.

Page 1

Issue #5

The General Plan Goals and Associated Key Proposals

Natural Resource Preservation

• **Goal: Protect the park's sensitive resources.**

A major natural resources proposal in the preliminary general plan is the establishment of a natural preserve that will include the dunes, fen, and Ten Mile Beach. Proposals associated with this goal also emphasize the protection and preservation of the park's plant species and land and water animal species that are sensitive to human intrusions. Some of these either are candidates or are already listed for protection by law.

The plan also calls for the preparation of management plans for the purpose of protecting the park's various sensitive habitats, plants, animals, and landforms, and to guide the use of prescribed burning.

• **Goal: Identify, protect, and perpetuate the diversity of ecosystems found at the park that are representative of the California coastline.**

Several of the plan's proposals call for the perpetuation of the natural communities that exist in the park. Other proposals direct that, in locations where natural communities have been disrupted and a more natural condition would be desirable, the Department must manage the resources toward the restoration of natural conditions.

The plan also contains proposals that would reduce exotic plant and animal species within the park and would manage and protect coastal lifeforms.

• **Goal: Restore park resources that have been damaged.**

Proposals relating to this goal direct the study and restoration of damaged areas within the coastal forest and eroded parts of the coastal bluffs and coastal terrace.

• **Goal: Minimize impacts on park resources resulting from current human activities outside the park.**

These proposals are aimed mainly at protecting riparian habitats, such as Inglebrook Fen, and other resources that could be adversely influenced by neighboring land use. In addition, they are intended to prevent, as much as possible, any adverse visual impacts.

Cultural Resource Preservation

• **Goal: Identify, protect, and preserve the park's significant prehistoric and historic resources.**

Proposals associated with this goal require the protection of archeological sites within the park.

They also provide that restoration of or improvements to the park's historic features, including the haul road and the trestle, should be accomplished as much as possible without

damage to or loss of historic fabric.

The draft general plan also includes directives intended to allow the gathering of foodstuffs and other materials by the Native American peoples who have traditionally done so on the land that has become MacKerricher State Park.

Recreation

• **Goal: Promote access to and recreational opportunities within the park.**

Many of the plan's proposals would furnish a greater range of services to prepare for the projected future increase in recreational use of the park while also protecting park resources from becoming overly impacted. Some examples of these recommendations are:

- Improving the haul road to better function as part of the California Coastal Trail for hiking and providing providing easier access for disabled visitors.
- Upgrading the blufftop trail between Pudding Creek and Laguna Point for visitor safety and to prevent further erosion of archeological sites and the coastal bluffs. The equestrian trail will also be upgraded.

- Improving the park's major points of access from the highway. Proposals include adding a restroom and fire rings at Pudding Creek; upgrading the Airport Road parking lot with picnic tables, a restroom, and an equestrian staging area to make it the main equestrian, bicycle, and equestrian access point to the coastal trail in the southern part of the park; and cooperating with the county for limited improvements at Ward Avenue and working with Caltrans for use of the highway right-of-way at Ten Mile River for parking and a trail for access to the haul road.
- Improving the campgrounds for the added comfort and security of campers.
- Refurbishing the Laguna Point boardwalk and completing the boardwalk around Lake Cleone.
- Adding picnic tables and a restroom at Laguna Point.

Circulation

• **Goal: Develop a safe and efficient circulation system.**

Circulation proposals are intended to deal with the many kinds of transportation within the park (vehicular, pedestrian, bicycle, equestrian, disabled, and park service vehicles). Proposed solutions to existing problems are intended, wherever possible, to avoid conflicts between the various kinds of traffic (i.e., horses and bicycles) and between traffic and people engaged in recreational pursuits.

Some plan proposals related to circulation deal with improving the aesthetics of the park entrance, providing safe and adequate parking areas at all points of access, removing redundant informal trails, and constructing more boardwalks where appropriate.

Page 2

Park Operations

- *Goal: Maintain a safe, functional, and orderly environment that provides compatible opportunities for resource preservation and park enjoyment.*

Proposals relating to this goal are intended to provide for the safety and security of park visitors and employees. An important aim is to improve the control of crime and vandalism in the park. Please refer to the article regarding Mill Creek Drive on page four for some specific suggestions in this regard.

Other proposals are meant to assure that the Department's administrative abilities will keep pace with projected increased park use and that the park will be well maintained.

Public Opinion

- *Goal: Meet the needs expressed by park visitors that are consistent with state park goals.*

Proposals associated with this goal are intended to respond to particular requests received by the General Plan Team during the planning process. They include providing more protection from vandalism and crime in the park, providing facilities that will support increased recreational opportunities while continuing to protect park resources, and increasing access and facilities designed to serve the needs of disabled visitors.

Interpretation

- *Goal: Increase park orientation and interpretation.*
- Plan proposals recommend constructing an interpretive center and a new welcome center to better convey interpretive material to park visitors.

Proposals also include providing more interpretation at points of access and at places where people tend to gather within the park.

- *Goal: Increase public awareness and appreciation of the diversity, interdependence, and fragility of the park's natural, cultural, and recreational resources.*

Proposals relating to this goal include providing facilities and programs that are in tune with the character of the park and will sensitize visitors to its resource and recreational values.

The plan also recommends giving special emphasis to interpretive programs aimed at children.

Visitor Welfare

- *Goal: Promote the safety and well-being of the visiting public.*

These proposals are intended to furnish sanitary facilities at all major points where the public can access the park and to foster the development of a long-term source of potable water.



The Pudding Creek Trestle, one of the park's prime historic resources.

Mill Creek Drive Problems and General Plan Proposals

Mill Creek Drive crosses Highway 1 and intersects the MacKenzie State Park entrance road beyond the contact station. This informal park entrance has resulted in problems for park operation ever since the park opened in the 1950s, as visitors in the campgrounds have been subject to frequent thefts, vandalism, and automobiles speeding along the road at night.

One of the main goals of this general planning effort was to promote the safety and well-being of park visitors while also respecting the desires of the public, who have for a long time benefitted from free day and night access to the park. The general plan contains a number of proposals that will make this possible.

The Mendocino County Local Coastal Plan encourages the Department of Parks and Recreation to seek alternative methods, rather than closure of the road, to control access to the park's campgrounds. The preliminary general plan sets forth a series of possible alternative actions the Department could implement singly or in combination to fulfill its goal of providing for visitors' safety while also working within the LCP direction.

These possible options appear in the draft general plan's Facilities and Operations elements: 1) Nighttime only closure of the road with around-the-clock unobstructed access through the unguarded contact station; 2) nighttime only closure of the Laguna Point and/or Lake Cleone parking lots; 3) video surveillance of traffic on the road within the park; 4) controlled access to the campgrounds via separate entrance kiosks or gates, possibly supplemented by perimeter fencing; 5) posting a low speed limit or installing stop signs and/or speed bumps on the road within the park; and 6) instituting a late night ranger patrol at the park and/or making the camp hosts responsible for registering campers and maintaining surveillance in the campgrounds.

What's New at the State Park

1994 saw a number of positive changes at MacKenzie State Park. Foremost among these has been the acquisition of the rest of the haul road through a Department of Transportation Environmental Enhancement and Mitigation Program grant. The casual trail now extends the full 7 1/2-mile length of the park. Fort Bragg has constructed a trailhead at the south end of the Pudding Creek trestle. Another Caltrans grant, awarded early last year, will fund the improvements to the trestle and bypasses at Lake Cleone and north of Ward Avenue that will make the entire trail usable for hikers and bicyclists.

Negotiations have been in progress with the Pacific Education Center to establish an environmental education program at the park.

Park staff and representatives from PEC are now looking for places in the park for this activity. It's possible that a program may be in place as early as next fall using temporary facilities.



It's good news that Western Snowy Plovers are still nesting at Virgin Creek Beach. However, none of the nests built during the 1994 nesting period survived. In an effort to help protect birds that might try to nest on the beach in 1995, the park staff has built a fenced enclosure to keep out the loose dogs that harass the birds and to prevent other disturbances. The enclosure is about 100 yards square. It is located north of Virgin Creek on dry sand near the haul road. This means that the beach near the water and the breakers will continue to be available for compatible recreational uses. People using the beach are cautioned that allowing dogs to run loose is illegal and has been identified as the most significant cause for the steady decline of the Western Snowy Plover population in the park.

The Planning Process

Where We Are:

- Gathering Information
- Public Workshop #1, Issues and Concerns
- Preparing Alternatives
- Public Workshop #2, Alternatives
- Preparing a Single Plan
- Public Workshop #3, The Single Plan
- CEQA Review
- Parks and Recreation Commission Hearing

**Members of the MacKerricher State Park
General Planning Team:**

Robert Acrea, Senior Landscape Architect, Project Manager
Joann Weiler, Associate Landscape Architect, Project Lead
William Berry, Park Superintendent, Mendocino Sector
David Bartlett, previous District Superintendent, Mendocino District
Janet Didion, Associate State Park Resource Ecologist
Roy Martin, Associate State Park Resource Ecologist
Robert Orlins, Associate State Archeologist
Kris Vyverberg, Associate Engineering Geologist
Jack Chatfield, Associate Landscape Architect
Michael Springer, Civil Engineering Associate
Tom Winter, Associate Architect
Robert Hare, State Park Interpreter II
Robert Ueltzen, Associate Park and Recreation Specialist

Other Contributors:

Stephen Bakken, Forester II
Kathleen Davis, State Historian II
Glenn Farris, Associate State Archeologist
Mark Hoffman, State Park Ranger I
Chuck Meissner, State Park Ranger I
Ron Munson, State Park Ranger I
Carol Roland, State Historian II
Peter Schulz, Senior State Archeologist

Consultant:

John D. DeMartini, Professor
Department of Biological Sciences
Humboldt State University

With special thanks for the assistance of:

Faith MacKerricher Graham for additional
information about park history

Gail McNulty, Associate Government Program Analyst,
Native American Heritage Commission

Harriet Stanley-Rhoades, member,
Mendocino County Archeological Commission,
for additional Native American history

Dorothy Tobkin
Mendocino Coast Audubon Society

Greg White, Archeologist
Anthropological Studies Center
Cultural Resources Facility, Sonoma State University

Photograph Credits:

- Cover: Upper right: California Department of Parks and Recreation,
Resource Protection Division, 1983
 Left: Joann Weiler, 1992
 Lower right: Joann Weiler, 1992
- Summary of Proposals: *Many families with children camp at MacKerricher State Park, Joann Weiler, 1992*
- Introduction: *The park entrance road from Highway 1, R. Roessler, 1959; California Department of Parks and Recreation Photographic Archives*
- Resource Element: *Erysimum menziesii (State listed Endangered) growing in the sand dunes at MacKerricher State Park, California Department of Parks and Recreation, Resource Management Division*
- Land Use Element: *Lake Cleone and its surroundings from the air, James Woodward, 1986*
- Facilities Element: *The Laguna Point boardwalk and viewing platform, Joann Weiler, 1992*
- Interpretive Element: *Junior Ranger program at MacKerricher State Park, Joann Weiler, 1992*
- Concessions Element: *Horses on the trail north of Lake Cleone, Joann Weiler, 1992*
- Operations Element: *Talking to the ranger at the park's contact station, Joann Weiler, 1992*
- Environmental Impact Element: *Construction project in progress at MacKerricher State Park, Dennis Scott, circa 1990*
- Appendices: *Recreation in the 1890s at MacKerricher Beach, San Francisco Maritime National Historic Park Photo Files*
- Appendix B: *Yuki village near Ten Mile River, circa 1860, Mendocino Historical Society*
- Appendix C: *The Lagoon, Laguna Ranch, from R.R. Trestle, July 10, 1909, 5:20 P.M., Faith MacKerricher Graham*
- Poem: *A family walking at Laguna Point (looking back toward MacKerricher Beach, Lake Cleone, and the campgrounds area) Joann Weiler, 1992*

Copies of this report are available from:

The California State Parks Store
P.O. Box 942896
Sacramento, CA 94296-0001

The price of this report is \$6.00, plus \$2.50
for shipping and handling. California residents
add current sales tax.

Make checks payable to the California Department
of Parks and Recreation.

LIBRARY COPY

Return to
DEVELOPMENT DIVISION
Room 905