ENVIRONMENTAL ASSESSMENT

for the

SOUTH SPIT

INTERIM

MANAGEMENT PLAN

July 2002

Bureau of Land Management
Arcata Field Office
1695 Heindon Road
Arcata, CA 95521

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(# 02-10)
for the
SOUTH SPIT INTERIM MANAGEMENT PLAN

BLM Office: **CA-330, Arcata Field Office**

Proposed Action Title/Type: **South Spit Interim Management Plan**

Location of Proposed Action: **South Spit, Humboldt County, CA**

Conformance with Applicable Land Use Plans, Zoning, and other Land Use Controls: The South Spit Interim Management Plan is consistent, to the maximum extent practicable, with BLM's **Arcata RMP *Amendment* (1995),** Humboldt County's ***Beach and Dunes Management Plan* (1995),** Coastal Conservancy's ***South Spit Management Plan* (1997)**, and applicable county ordinances.

This plan has been reviewed to determine if the proposed action conforms with the land use plan terms and conditions as required by 43 CFR 1610.5.

BACKGROUND / ENVIRONMENTAL SETTING

The 800-acre South Spit is a four and one-half mile long, narrow strip of land located between Humboldt Bay's entrance and Table Bluff. The public has used the area for many years for a wide variety of activities. Its history is both unique and diverse. The South Spit is the homeland of the Wiyot people. During the 1980's and 1990's, the area was inhabited by transients and long-term homeless campers whose presence adversely affected both recreational opportunities and natural resource values. In 1997, Humboldt County's Health Department initiated a relocation program for those living on the South Spit, and the area is now open on a limited basis for a variety of recreation and other uses in accordance with County ordinances.

Most of the South Spit (600 acres) was recently gifted from Pacific Lumber Company to the State of California. Other ownerships include Humboldt County (17 acres), U.S. Fish and Wildlife Service (FWS) (160 acres), Texaco Corporation (19 acres), and U.S. Army Corps of Engineers (10 acres).

Through a Deed of Conservation Easement, the State of California conveyed to the Bureau of Land Management (BLM) an "interest" in and the "right" to manage the South Spit in all aspects of its use in perpetuity. To accomplish the purpose of this Easement, the following rights and interests are conveyed to BLM:

> Purpose: It is the purpose of this Easement to preserve, protect, enhance, and restore the conservation values of the Property; to provide dispersed recreation for the general public; and to prevent any use of the Property that will significantly impair or interfere with such conservation values.
>
> Affirmative Rights and Interests Conveyed:
>
> (a) To manage the Property in all aspects of its use in perpetuity, including the right to enforce the laws of the State of California and the United States of America;

(b) To inspect, observe, and study the Property for the purposes of identifying the current uses and practices thereon and the baseline condition thereof, and monitoring the uses and practices regarding the Property to determine whether they are consistent with this Easement;

(c) To perform habitat restoration in order to ensure the long-term viability of the conservation values of the Property and its ecological resources;

(d) To manage the Property for dispersed recreational purposes of the general public, subject to such use being consistent with preservation of the conservation values of the Property;

(e) To prevent any activity on or use of the Property that is inconsistent with the purpose of this Easement and to require the reasonable restoration of such areas or features of the Property that my be materially damaged by any inconsistent activity or use.

The South Spit will be designated a State of California *Wildlife Management Area* pursuant to California Department of Fish and Game Code, Chapter 5, Article 2, Sections 1525-1530. This designation is used for management purposes to protect and enhance habitat for wildlife species, and to provide the public with wildlife-related and other recreational uses.

NEED FOR PROPOSED ACTION

The South Spit is a unique and significant area to the people of Humboldt County. Due to the area's natural diversity, cultural resource values, and populations of sensitive species, protection of these resources is necessary and will require active management. The South Spit has provided, and will continue to provide, a variety of recreation activities and other uses including hiking, wildlife viewing, hunting (waterfowl, snipe and coot), picnicking, surfing, fishing, horseback riding, and vehicle access to the waveslope.

A comprehensive Humboldt County *Beach and Dunes Management Plan* was completed in 1995, which recommended actions for resource protection and provisions of public recreation use on both the North and South Spits. As a result of this effort, and a requirement of California Senate Bill 39, the California Coastal Conservancy completed the *South Spit Management Plan* in October, 1997. This plan evaluated the public acquisition of the spit, and actions for habitat restoration, development of recreational improvements, and related management options. The Coastal Conservancy issued a $500,000 grant for initial implementation of this plan, which is now administered by Redwood Community Action Agency. The plan outlined priorities for allocating the grant monies directed towards implementation of its vision and recommendations.

The BLM's Interim Management Plan is intended to provide interim management and allow for a baseline level of services, public uses, resource protection, and habitat restoration until the long-term plan is being developed (see Map A). The concept of adaptive management will be incorporated where appropriate and necessary to achieve the highest levels of public service and resource protection. The key to adaptive management is the willingness of management to let new information drive adaptation to changing conditions and information. To be successful, the plan must have the flexibility to adapt and respond to new information. With an initial level of knowledge and technology, and a baseline inventory, implementation will begin, followed by monitoring and evaluation of activities, their outcomes, and use levels. Using new knowledge and information, management actions can be modified to best meet the overall objectives of the plan. Most on-the-ground adjustments will fall within the realm of

administrative change. Others may require formal NEPA documentation, Endangered Species Act compliance, and/or concurrence with State and Federal regulatory agencies. An example of an adaptive management practice is meeting with the Service and CDFG to re-evaluate and adjust beach management and enforcement levels after documentation of three violations of plover protection area closures.

During the long-term management planning process, individuals, groups, and organizations will have the opportunity to assume their place as stakeholders in the development of the plan in concert with local, state, and federal agencies who will play a role in management. Such a private/public partnership will be fostered through a collaborative planning process where each stakeholder is given the opportunity to participate in a consensus-built, community-driven management approach, embracing multi-agency, multi-species, and multi-jurisdictional boundaries. The long-term planning process will be developed over the next three years and provide for future management of the South Spit.

DESCRIPTION OF PROPOSED ACTION

The goals and objectives of the Proposed Action are to:

1. Manage the area consistent to the maximum extent possible with the *Humboldt Beach and Dunes Management Plan*, 1995, and the *South Spit Management Plan*, 1997;

2. Manage for the protection and enhancement of threatened and endangered plant and animal species and their habitats;

3. Eradicate invasive non-native vegetation, including European beachgrass, iceplant, yellow bush lupine, and others;

4. Inventory and monitor plants, animals, and cultural resources to provide an information base to support both short-term and long-range management goals, objectives, on-the-ground activities, and feedback to use for adaptive management;

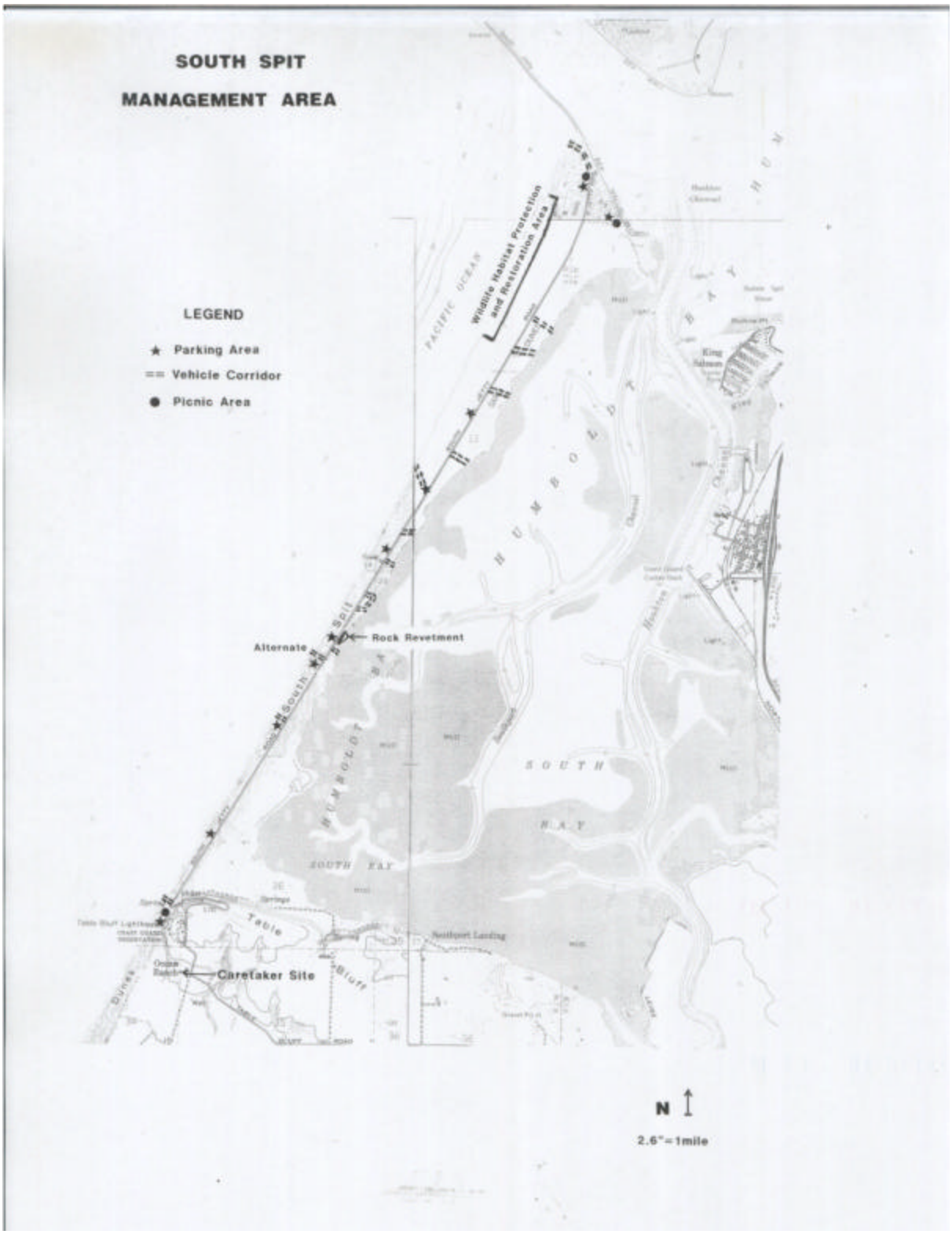
5. Respect and provide for the cultural heritage of the Wiyot people for access and use;

6. Manage for recreation opportunities and uses such as waterfowl hunting, wildlife/wildlands observation, photography, fishing, surfing, environmental education, and vehicle access to the waveslope;

7. Provide for limited recreational facilities necessary to accommodate the public health and safety;

8. Provide an active management presence, including visitor services and law enforcement personnel. Develop a cooperative effort by various law enforcement agencies, including the Humboldt County Sheriff's Office (HCSO), California Department of Fish and Game (DFG), Bureau of Land Management (BLM), and U.S. Fish and Wildlife Service (FWS).

MAP A


SOUTH SPIT
MANAGEMENT AREA
LEGEND
Parking Area
Vehicle Corridor
Picnic Area
Wildlife Habitat Protection and Restoration Area
PACIFIC OCEAN
HUMBOLDT BAY
Alternate
Rock Revetment
South Spit
SOUTH BAY
Table Bluff
Caretaker Site
Buhne Dunes
Woodley Island
N
2.6" = 1mile

Specific management actions include :

Recreation Opportunities and Use Restrictions

1. Provide for a variety of recreation opportunities, including, but not limited to, fishing, clamming, picnicking, sightseeing, beachcombing, hiking, horseback riding, wildlife viewing, surfing, waterfowl, snipe, and coot hunting, and vehicle access to the waveslope. Rules guiding some of these activities include:

a) The area will be open to day use only. General public uses will not be allowed during nighttime. The entrance gate will be opened one hour before sunrise and closed one hour after sunset. Open hours will be extended during waterfowl hunting season (October - January);

b) Designated vehicle access corridors will provide access to the waveslope. In accordance with county ordinances for the South Spit and Table Bluff County Park, vehicles will be allowed on the waveslope (that portion of the beach that shows evidence of having been washed by waves during the last tidal cycle) with a speed limit of 15 miles per hour;

c) All public uses within a designated plover protection area during the nesting season (March 1 to Sept. 15) are not allowed. The following restrictions apply to waveslope activities adjacent to fenced and posted plover nesting, temporary brooding and seasonal habitat protection areas:

1) Dogs must be leashed
2) No kites or model airplanes
3) No campfires

No waveslope activity restrictions apply to the temporary wintering protection areas. Plover protection areas are described in detail under action number 22, "Plover Protection Actions";

d) Dogs must be under the owner's control at all times. Owners must carry a leash. See (c) for use restriction;

e) Equestrian use is provided for on the west side of South Jetty Road;

f) Firewood cutting is allowed by permit from September 16th to March 1st;

g) Firearms (shotguns only) are only allowed for hunting of waterfowl, snipe, and coot;

h) Target shooting is not allowed (includes bow and arrows);

i) Fireworks are not allowed.

j) If fish are cleaned on the South Spit, then all entrails shall be carried off-site, or buried a minimum of 12 inches deep, or wrapped and disposed of in a proper receptacle: but in no case shall the entrails be left lying open on the beach.

2. Develop a brochure and map for the area.

3. Develop and install a variety of informational, educational, directional, and regulatory signs. The information kiosks will display interpretive themes related to endangered plants and animals, and historical and cultural resource values. Information on types and locations of the various recreation activities will also be provided along with warning signs that beach areas in front of plover nest protection

fences may not be passable during high tide. Adjacent to each kiosk will be a sign displaying the rules and regulations for the area. Many of the existing signs will be replaced with new ones that are more attractive looking.

4. Conduct a visitor survey in cooperation with Humboldt State University.

Commercial Uses

5. Commercial fishing will be allowed under a special use permit, issued by BLM, for hours outside of the day use period.

Facility Developments

6. Develop a volunteer caretaker site located on DFG property just south of Lighthouse Ranch. The site will include a graveled access route to a graveled pad. The site will also include a storage shed, developed drinking water well, electricity and telephone service, and a septic tank with leach field. A volunteer resident caretaker will open and close the entrance gate, provide information to visitors, and perform light maintenance duties. Refer to Appendix B, Figure 5 for design details.

7. Improve eight existing graveled parking areas on the west side of South Jetty Road: one for multiple uses at the southern end on County Park property, six at intervals along the road, and one multiple use parking area at the north end next to the jetty. The north and south sites will each have a single vault restroom, picnic tables, trash receptacles, and an information kiosk. Refer to Appendix B, Figures 2 & 3 for design details. Each of the parking areas along South Jetty Road will be expanded and graveled to accommodate at least four vehicles, and delineated by a post and cable barrier or driftwood logs. Three will be designated for pedestrian parking, two for vehicle access to the waveslope, and one for a combination of both.

Located at the northeastern corner of the management area, on the north side of the spur road, is an appropriate site for small watercraft launching, picnicking, beachcombing, and wildlife viewing. This area will be developed as a picnic site, with tables, cooking grills, and trash receptacles. Refer to Appendix B, Figure 4 for design details. Signs will be posted on the south side of the road, across from the picnic area, to direct visitors away from a culturally sensitive and fragile wetland area. The spur road beyond this site will be closed to vehicle use to protect a cultural and wildlife sensitive area. An existing four wheel-drive access route paralleling the sea wall will connect the picnic site to the jetty parking area. This route is used heavily by fishermen and will continue to be open to street legal vehicles.

8. Delineate four vehicle access corridors to the waveslope; two along South Jetty Road which will be identified by installing post and cable barriers. The other two are located at each end of the spit where multiple use parking and picnic areas will be developed. The southern access corridor will be delineated by using driftwood logs. The northern access corridor will require signing only, as the corridor is easily recognizable. An alternate vehicle corridor will be developed and used only if one of the other two sites needs to be closed for reasons associated with the snowy plover. Signs will be displayed on these corridors to inform visitors that these are the only corridors to the waveslope and all other unsigned routes are closed, and about potential difficulties while traveling at high tides, and that ATV and motorcycle riders need to use the same route to and from the beach to avoid driving on South Jetty Road.

Vehicle access routes extending to the bayshore from the east side of South Jetty Road will be left undeveloped. Vehicle use on nine of these short access routes will be allowed only for loading and unloading supplies during waterfowl hunting season (October - January). During the remainder of the

year these routes and surrounding lands will be closed to all vehicle use. Several existing corridors will be physically blocked using driftwood logs to prevent further vehicle use. To facilitate the access routes on the east side, 11 existing turnouts will be improved. The turnouts are located along South Jetty Road and will eliminate parking near the bay side of the area.

Public Health and Safety

9. Repair and improve South Jetty Road by filling in potholes with asphalt. Portions of the road will be graveled, and graded. As funding allows, a short 100-foot section of road will be riprapped and re-paved along the eastern edge to prevent erosion. Refer to Appendix B, Figure 1 for design details. The spur road leading to the proposed picnic site mentioned above will be graveled and graded. Traffic calming techniques such as speed bumps may be installed. Roads will be maintained as necessary during interim management. The speed limit will be 25 miles per hour and open for street legal vehicles only.

All facilities (including signs) will be designed to prevent, as much as reasonable possible, use as predator perches. All trash receptacles will be scavenger proof and emptied as necessary to prevent corvids from being attracted to these areas.

10. Remove two small piles of earthen materials containing potentially hazardous waste. These sites are located near the proposed northernmost parking and picnic area adjacent to the jetty.

11. Remove or repair the chain link fence surrounding the large rocks that are stockpiled for jetty maintenance.

Resource Protection / Monitoring / Enhancement

12. Stabilize and rehabilitate by terracing and re-vegetating, the existing hiking trail that extends from the bluff to South Jetty Road. This access route will then be signed and closed to public use.

13. Perform archaeological and cultural surveys, record sites and oral histories of the area, establish a monitoring and cultural resources management program, and conduct limited test excavations if necessary to identify and protect cultural resource values. Wiyot representatives will be involved in these activities. The BLM will work with Table Bluff Reservation – Wiyot Tribe to identify traditional cultural uses and use areas and develop an access and use plan for them

14. Restore native dune mat habitat by manual removal of invasive non-native vegetation; as funding permits, a minimum of two acres of habitat shall be freed from invasive weed competition under this plan. Preferred weed eradication sites shall be selected favoring threatened dune mat habitat that is of larger size, higher quality, and close proximity with respect to access ways, turnouts, and parking areas. Maintain existing habitat adjacent to high impact public use areas by guiding pedestrian movements via the installation of driftwood barriers and/or post and cable fencing. Work will be conducted outside the plover nesting season.

15. Vegetative types, and endangered and rare plant species populations will be mapped. Habitat features valuable to wildlife, such as ephemeral wetlands, will be included in the mapping.

16. Monitoring will occur for beach layia on the South Spit to meet these objectives 1) to collect data to provide occupied habitat area for comparable use in the future, to ensure maintained or increased available habitat for long term adaptive management, 2) to establish baseline population estimates with which to establish overall population trends in the future, and 3) to observe habitat changes with respect

to recreation impacts.

Population estimate protocol that is time and labor efficient for beach layia will be developed and implemented in fiscal year 2003 in partnership with FWS in order to meet mutual agency needs. Habitat monitoring with respect to recreation impacts will be documented using GIS accurate photo points, that will be established at various intervals along horse trails, vehicle and pedestrian corridors, and at the north and west boundaries of the Texaco Property to capture visual impacts and changes to habitat. Qualitative notes will be recorded at each monitoring site. The plover restoration project will have frequency monitoring for layia to demonstrate post project colonization implemented upon completion of the heavy equipment work in an area likely to colonize with wind driven beach layia seed.

Monitoring for the Humboldt Bay wallflower may occur on the South Spit. If permission can be obtained from Texaco Inc. to enter private property, vegetative and reproductive individuals will be counted and the overall population photo-documented. The BLM is willing to participate with the USFWS and Texaco Inc. to develop and implement a conservation and restoration strategy for the South Spit population, particularly if the USFWS finds that this population is genetically unique to other Humboldt Bay populations. In the event that the BLM is not granted permission to monitor and enhance the wallflower population from Texaco Inc., then, the BLM will patrol the property boundaries to dissuade trespass.

17. Pursue acquisition of the Texaco property to more fully protect rare and endangered plants found there. Post the Texaco property with private property signs along the north and west boundaries.

18. Authorize scientific research and studies providing they are designed to yield information relative to management and protection of native and endangered species.

19. Conduct plover searches along the 4½ miles of the South Spit beach at least once per month during the winter to identify areas of use and numbers of birds. Document all actions adversely impacting the birds.

20. Conduct plover searches along the South Spit beach at least once per week during the nesting season. Make note of paired birds and nest scrapes and request nest protection actions where appropriate. Monitor nest attempts, nest failures, fledging success, presence of banded birds, brood numbers, brooding areas, brood failures, adult and brood harassment, and interaction with recreational activities. Record locations of bird activity and attempt to determine failure, abandonment, mortalities and other incidents. All monitoring and protective actions will be conducted by individuals holding an appropriate recovery permit.

21. Monitor visitor compliance with rules guiding recreational activities and document non-compliance. Document acts of vandalism or tampering with temporary protective fencing or predator exclosures and report monthly to the FWS. Document observations of take of plovers or plover eggs and report immediately to the FWS.

22. Implement the following plover protection actions:

Temporary Nest Protection Area

Upon verification of an active plover nest, a plover protection area will be closed to all recreational activity during the nesting season (3/1 to 9/15). The plover protection area will run along the beach, just above the seasonal high tide line, for a distance of 600 feet on each side of the nest, then proceed eastward to a line 200 feet inland from the nest. Temporary “symbolic” fencing will be erected to delineate the

perimeter of the plover protection area. Preventive measures will be taken so as not to create additional perches for avian predators. The proposed plover protection area configuration is designed to:

a) Protect nests from vehicle run-overs and still allow vehicle passage;

b) Protect an area wide enough to make it difficult for predators or vandals to key in on the nest site;

c) Provide a wide enough buffer from unleashed dogs and kite or model airplane types of disturbances;

d) Protect an area deep enough to screen nesting plovers from activities in the back dunes without closing off a large area.

Temporary Brood Protection Area

If an area is discovered where one brood appears to be frequenting for one week, a plover protection area may be established which will be closed to all recreational activity until fledging. Temporary "symbolic fencing" will be erected above the seasonal high tide line to delineate the concentrated use area of the broods and removed after birds fledge.

Seasonal Habitat Protection Area

In order to provide a dry-sand area of relatively disturbance-free habitat for plovers to initiate nesting activities, a seasonal (3/1 to 9/15) plover protection area will be established near the north end of the South Spit. The area will run from a point approximately 500 yards south of the Jetty for approximately 3,000 feet along the beach at a level approximately 40 feet inland from the seasonal high tide line. The protection area will extend inland approximately 300 feet into the dunes creating a plover protection area of about 20 acres. The placement of the protection area at this location was chosen for several reasons. The site is toward the north end of the spit where visitor intensity is lower, but with a 500-yard buffer from the concentrated fishing-sightseeing area at the jetty. The site is where wintering birds were observed in early 2002 and where a pair of plovers was seen as late as mid-April 2002. The beach is at its greatest distance from the access road and would potentially have the least amount of foot traffic by visitors. The site is located where the spit averages about one-half mile in width where plover habitat restoration actions could be implemented without potentially affecting the access road by sand movement. Temporary "symbolic" fencing will be erected to delineate the perimeter of the plover protection area. Preventive measures will be taken so as not to create additional perches for avian predators. The proposed plover protection area configuration is designed to:

a) Protect nests from vehicle run-overs and still allow vehicle passage;

b) Protect an area wide enough to make it difficult for predators or vandals to key in on the nest site;

c) Provide a wide enough buffer from unleashed dogs and kite or model airplane types of disturbances;

d) Protect an area deep enough to provide for the implementation of future habitat restoration activities.

Predator-proof exclosures will be constructed at nest sites if local experts and the local recovery team come to a consensus the action would be beneficial. Any exclosures would be constructed after the departure of migrating merlins.

Temporary Wintering Protection Area

If an area is discovered where numerous plovers are wintering, a plover protection area may be established which will be closed to all recreational activity until the birds leave the area. A "picket line" of warning signs will be erected to delineate the concentrated use area and will be removed when the birds disburse.

23. Employ an interpreter/maintenance person during the plover nesting season to update kiosk material, perform minor maintenance on fences, signs and garbage available to potential plover predators. This person would also be used to monitor visitor compliance with rules and document vandalism.

If plovers are present, additional staff will be on-site during high use periods (official opening of the area, holiday weekends of Memorial Day, Fourth of July and Labor Day), to act as interpretive/maintenance personnel to greet visitors at the South Spit entrance and to provide educational as well as current information on the presence of snowy plover nesting areas.

23a. Provide training in plover identification, behavior, and track and nest site recognition to beach monitors, law enforcement personnel, other BLM resource specialists, researchers and construction and maintenance personnel to help ensure that plovers are not inadvertently disturbed or taken during beach management actions.

23b. Train BLM personnel and any volunteers or contractors that require the use of vehicles on the beach to travel as close to the water line and as slowly as safely possible in order to avoid incidents with snowy plovers.

24. Restore 20 acres of extremely degraded western snowy plover habitat by using heavy equipment (bulldozers and excavators) to remove invasive non-native vegetation and re-grade the site to the natural gradient of the unvegetated beach. Dispose of the vegetative material, mostly beachgrass, and a small amount of sand by pushing it into the winter surf at low tide. The work would be performed at low tide prior to a winter storm so the natural power of the ocean could be used to mobilize and move the material in a natural way as storm drift when large amounts of beach in other local areas are also being mobilized by the storm. Burying or composting and burying the vegetation may be considered as an alternative to placing the vegetation to be taken away by storm tides. An archaeologist and a threatened/endangered plant specialist would be on site during the heavy equipment work to make sure those resources are not adversely impacted by the project. The flattened and exposed sand would then be available to natural wind and water-caused sand movement to maintain a natural dynamic system. Similar projects in degraded dune systems in Oregon have resulted in dynamic increases in plover nesting with no unexpected adverse impacts (Heany, Palermo, Segotta, Frounfelker pers. comm.). Further habitat enhancement may include dumping oyster shell hash on the project site, improving the effectiveness of the cryptic plover plumage and decreasing their vulnerability to predators (Kritz 1999). Resprouting of beachgrass is inevitable and annual maintenance for several years would be required to maintain appropriate landscape conditions. Permits would be required by the, Corps of Engineers, and possibly others.

The restoration would be performed in the 3,000-foot-wide by 300-foot-deep "seasonal habitat protection area" described under action 22 listed above. The project design would initially treat over one-half mile of foredune ocean-frontage to a distance of 300 feet inland of the primary dune and grading it to the natural rise of the beach. This project configuration and location was chosen to treat a large area nearest the existing plover habitat on the widest portion of the spit while not impacting seasonal wetlands or encroaching on the paved access road to the east. The area would be seasonally fenced with cable or rope and removable posts for the duration of each plover nesting season. The current proposed location of the project is in the 20-acre plover protection area mentioned in the "Plover Protection Actions".

The establishment of European beachgrass, ice plant and other invasive plants, has interrupted the functioning of natural systems on the spit, to the detriment of the western snowy plover. The stabilization of foredunes by beachgrass has eliminated low-gradient shifting dunes preferred by nesting plovers. The amount of suitable plover habitat on the South Spit available above the high tide line has dramatically

decreased to 30-50 acres. The remaining plover habitat is adjacent to a thatch of continuous vegetative ground cover convenient as ground predator ambush sites.

Agency and Tribal Coordination

25. Develop Agreement between the BLM and Table Bluff Reservation - Wiyot Tribe for traditional use and gathering of resources.

26. Develop Agreement between the BLM, FWS, DFG, and HCSO to provide a coordinated law enforcement presence. BLM patrols will occur a minimum of two days per week, with one of the days being on the weekend. Patrol summaries and incident reports will be prepared annually.

27. Coordinate with U.S. Army Corps of Engineer on potential use and storage areas next to the jetty.

28. Develop a Memorandum of Understanding (MOU) between the BLM, Humboldt County, and DFG to provide a coordinated management approach for the area, and to provide consistency with visitor management rules and regulations.

DESCRIPTION OF ALTERNATIVES

Alternative A (Custodial Management)

This alternative would provide the minimal amount of facilities necessary for the public's health and safety. Resource enhancement and protection activities such as non-native vegetation removal, bluff stabilization, and establishment all but one type of plover protection area (predator-proof exclosure) would be deferred until the long-term management plan is developed. Custodial management actions would include:

1. Provide recreation opportunities identified under the Proposed Action with the following guidelines:

    a) The area would be open to day use only. The entrance gate would be opened one hour before sunrise and closed one hour after sunset. Open hours would be extended during waterfowl hunting season (October - January);

    b) Designate two vehicle access corridors to the waveslope (one at the south end and one at the jetty). Vehicles would be allowed on the waveslope with a speed limit of 15 miles per hour;

    c) Dogs must be under the owner's control at all times;

    d) Allow firewood cutting from September 16th to March 1st;

    e) Allow firearms (shotguns only) for hunting of waterfowl, snipe, and coot;

    f) Do not allow target shooting (includes bow and arrows);

    g) Allow fireworks (safe and sane) at the jetty area only.

2. Install only those signs necessary to inform the public about health and safety issues. Rules and

regulations, and a map of the area would be posted on the existing kiosks at the south end on county park property. No interpretive information about the area's resource values would be provided.

3. Allow commercial fishing under a special use permit for hours outside of the day use period.

4. Install portable restrooms; one at the south end and one at the jetty.

5. Repair and improve South Jetty Road as described in the Proposed Action.

6. Remove or repair the chain link fence nearby the jetty.

7. Remove two small piles of earthen material containing potentially hazardous waste.

7. Map vegetative types, and endangered and rare plant species populations.

8. Monitor rare, threatened, and endangered plant species.

9. Monitor for occurrence of plovers once every two weeks during the nesting season only.

10. Perform archaeological and cultural surveys, record sites and oral histories of the area, establish a monitoring and cultural resources management program, and conduct limited test excavations if necessary to identify and protect cultural resource values. Wiyot representatives will be involved in these activities. The BLM will work with Table Bluff Reservation – Wiyot Tribe to identify traditional cultural uses and use areas and develop an access and use plan for them

11. Construct predator-proof exclosures at snowy plover nest sites after the departure of migrating merlins, based on the recovery contractor's recommendation. Temporary nest protection areas, temporary brood protection areas, and the seasonal habitat protection area would not be provided.

12. Provide a law enforcement presence commensurate with the level of illegal activity. Patrols would average approximately four hours per week, depending on the need to respond to incidents.

Alternatives Considered but Dropped from Further Analysis

1. The No Action (Continuation of Existing Management) was considered as an alternative but was dismissed as a viable option. The present key system of 3000 keys given out to allow for day and night use with no sanitation facilities, little road maintenance, and minimal law enforcement or visitor contact on a day-to-day basis severely compromises the public health and safety on the South Spit. In addition, use is being allowed with no resource protection afforded by way of signing, education and interpretation, and sensitive area closures. With the present management that exists in the area, impacts to federally listed plants, snowy plovers, and cultural resources essentially go unchecked. Therefore, this alternative was dismissed from consideration and was not further analyzed in this document.

2. The BLM considered, but dismissed the option of restricting or prohibiting vehicle access along the waveslope in this EA. The *Humboldt County Beach and Dunes Management Plan*, 1995 and the *South Spit Management Plan*, 1997 both recognized waveslope access for vehicles. The California Coastal Commission has also concurred with this use by approving Amendment No. 1-93 of Humboldt County's Local Coastal Program to allow vehicle access to the waveslope. Any recommended change in vehicle designations or use would not be consistent with County planning and possibly require changing certain

County ordinances in order to implement or enforce a vehicle designation change. Furthermore, BLM's policy is to design plans and management objectives to conform to local government planning whenever possible.

Extensive public involvement, including many public meetings and hearings, occurred as a part of developing the two plans mentioned above. In 1990, the Beach and Dunes Advisory Committee began a series of 30 meetings that focused on a review of background reports, new inventories and studies needed, and the formulation of alternatives that differentiated primarily in the locations and degree to which OHV riding would be allowed. In the fall of 1992, the County Planning Commission considered both the *Beach and Dunes Management Plan* and the draft EIR in a series of three public hearings. On January 7, 1993, the Commission developed a compromise alternative and recommended adoption of the plan and EIR to the Board of Supervisors. The Board of Supervisors considered the plan and EIR at a series of four public hearings in the spring of 1993. Finally, on August 31, 1993, the Board certified the Final EIR, approved the plan, and adopted an alternative that provided for waveslope driving along the South Spit. Vehicle access on the east side of the South Spit would be allowed by special permission where necessary for hunting, gathering, wildlife field work, or traditional uses of the Wiyot tribe.

AFFECTED ENVIRONMENT

Recreation Uses and Facilities

The South Spit is currently accessible to the public. Access is limited to individuals who have purchased a key that opens a locked gate located on Table Bluff County Park. Several thousand keys have been issued since the gate was installed. It is often left open, allowing visitors without keys to access the area. Other existing facilities are limited to two information kiosks at the bottom of the hill on county park property, and several signs placed along South Jetty Road, the northern boundary to the Eel River Wildlife Area, and at the jetty. The access road is partially paved and graveled, and numerous potholes exist. Over 25 graveled turnouts exist at various locations on the west side of the road. Nearly 20 undeveloped access routes extend from the east side of the road out to the bayshore. The Army Corps of Engineers has stored some large rocks at the jetty area that are surrounded by a chain link fence.

The area is used for many recreational activities involving the consumptive and non-consumptive use of wildlife. Birdwatching, brant, duck, snipe and coot hunting, clamming in the bay and on the beach, fishing for surf perch and surf smelt off the beach, and bottom fish and salmon off the jetty are the major uses of wildlife on the spit. The spit is also used for commercial fishing for surf perch and surf smelt. Other existing recreation activities include hiking, sightseeing, picnicking, surfing, and off-highway vehicle (OHV) use. A relatively small amount of OHV use is legal, occurring on the waveslope as a means to perform other activities such as surf fishing and firewood collection. Most of the current OHV activity occurs in the dunes, which is designated "closed" to vehicle use. Other inappropriate or illegal activities include overnight camping, littering and dumping, firewood cutting out of the permitted season, and various firearms and hunting violations. Total annual recreation use is estimated at 25,000 visits.

Law enforcement patrols now occur on a weekly basis by both the BLM Law Enforcement Ranger and Humboldt County sheriff deputies. DFG wardens and the FWS Law Enforcement Ranger patrol the area occasionally.

Cultural and Native American Concerns

The Humboldt Bay region including the South Spit lands have been occupied for at least the last 1,500 years by Algonquian speaking people now referred to as Wiyot. Descendants of these people, the Wiyot Tribe, now reside at Table Bluff Reservation and other places in Humboldt County. An early

ethnographer, Llewellyn L. Loud, collected information from surviving Wiyot informants about the ethnogeography and archaeology of the Humboldt Bay area in 1913; his report was published in 1918. Loud listed two modern village sites and five archaeological village sites on the South Spit plus a trail system connecting the southernmost site to Table Bluff where many more occupation sites were located. The South Spit was not occupied to the density of other areas around the Bay; Loud suggests the Wiyot favored the upper bluffs and hillsides with their forests and less harsh environment as opposed to the South Spit's unprotected, low-lying open dunes and marshy bayside (Loud 1918:277). The present day Wiyot Tribe feel a strong connection to the South Spit as part of their aboriginal territory, and it has a great significance to them as part of their heritage and is still used for hunting, fishing, and gathering shellfish and vegetal resources. In addition, several culturally sensitive areas have been identified.

The Sea Wall and South Spit Jetty are also historic resources as their construction by the Army Corps of Engineers began in 1889. Both Humboldt Harbor Jetties are registered as California Historic Civil Engineering Landmarks and the Humboldt Harbor Historical District is listed as California Historic Landmark Number 882. The Jetties are two of the oldest man-made structures on the Pacific Coast subject to extreme wave action.

Under an educational cooperative agreement between the BLM Arcata Field Office and Humboldt State University Foundation's Native American Ethnic Studies Program, six preliminary archaeological surveys of about 400 acres of the approximate 800 acres of the South Spit (including the Eel River Wildlife area) were undertaken in 1998 between June and October and one test excavation unit was placed to explore for subsurface materials. The 1998 survey crew was hampered by dense vegetation, ticks, and foul weather. Oral histories were also gathered from living descendants during the project and Wiyot representatives participated in the survey work. However, not a single ethnographic or archaeological site was found and the reported burial ground could not be relocated. Previous limited cultural surveys (ACOE 1976, Bramlette and Lerner, 1988) were also conducted with negative results. The historic remains were not surveyed or recorded. However, an intensive Class III archaeological and cultural survey is now underway on the South Spit by cultural resources staff from Table Bluff Reservation - Wiyot Tribe and the BLM. One proto-historic, 8 prehistoric sites, and one prehistoric Isolate, ten historic period sites, and one historic isolate have now been identified on the South Spit and site records are presently being prepared. It is expected that several more such sites will be recorded when the cultural survey of the remaining acres is done.

Most of these sites have poor integrity which may have been caused over the last one hundred-fifty plus years by large storm events, accretion of sand, the construction and maintenance of the South Jetty over the years, and the active disturbance from modern encampments which have washed away, covered, eradicated and/or removed many traces of prehistoric and historic use by the Wiyot. Therefore, extra caution must be used for any proposed projects and undertakings on the South Spit. Any areas to be disturbed by recreational activities or impacted by ground disturbing activities should be monitored by a qualified archaeologist and a representative of the Wiyot Tribe if desired by Table Bluff Reservation Tribal officials. Once the survey is complete and all sites have been identified, cultural resources should be evaluated, sensitive areas protected, and a site monitoring program developed under the long-term management plan to aid in their protection and preservation.

Caretaker Site/DFG Property: This property is known historically as the Ocean Ranch and is situated on the western headlands of Table Bluff. The first land surveys of the South Spit took place as early as 1854 and were officially recorded in 1855. The Government Land Office's official Plats for 1855 and 1866 show a house, outbuildings, and a barn belonging to J. Clark in Sections 34 and 35, Township 4 North, Range 2 West, HUM. The barn structure is still standing while the only remains of the adjacent house are concrete piers, slabs, foundations, bricks from the fireplace, some water pipes, and scattered household

debris. There are daffodils and a remnant Cypress shelter wood upslope from the house ruins that are part of the cultural landscape. Susie Van Kirk, 1998, has done basic documentation of and prepared a report on this historic property for the California Department of Fish and Game. All of the historic structures, with the exception of the barn, have now been destroyed by fires. Archaeological site records need to be prepared to further document this historic structure. A more complete survey of this property has been recommended by Table Bluff Reservation representatives to determine presence/absence of prehistoric sites or materials. Archaeological monitoring will be necessary for any ground disturbing activities at this historic site.

Vegetation

The South Spit is currently in a severely degraded vegetative condition with the majority of the spit consisting of invasive, non-native plant types. European beachgrass (*Ammophila arenaria*), iceplant (*Carpobrotus edulis*), and yellow bush lupine (*Lupinus arboreus*) now dominate the foredunes where once they were absent, as seen from sets of air photos dating from the late 1930-1940's. Most of the west side of the spit is a very young land form and is a direct artifact of the construction of the south jetty at the turn of the 20th century. Although difficult to see in the air photos, native species were present on the spit in the 1940's but not uniformly distributed or abundant due to wave over-wash events that maintained the spit sands in an actively moving state over much of the area, particularly near the south end (1992, Pacific Watershed Associates). Much more native vegetation is visible in the 1978 set of air photos. As a result of the explosive spread of invasive weeds, many native plant habitats have degraded as a result of the effects of the weed-induced over-stabilization of sand.

Common native dune mat species that have persisted on the South Spit include beach pea (*Lathyrus littoralis*), beach morning glory (*Calystegia soldanella*), beach layia (*Layia carnosa*), beach evening primrose (*Camissonia cheiranthifolia*), beach strawberry (*Fragaria chiloensis*), silver beach bur (*Ambrosia chamissonis*), dark-eyed gilia (*Gilia millefoliata*), sea thrift (*Armeria maritima*), dune goldenrod (*Solidago soldanella*), coast buckwheat (*Eriogonum latifolia*), yellow sand verbena (*Abronia latifolia*), and sand dune blue grass (*Poa douglasii*), among others.

On the bay margin of the spit, there are several native plant communities including salt marsh and its subset of community associations such as pickleweed (*Salicornia spp.*), cordgrass (*Spartina densiflora*), and mixed marsh, the most species rich; native dunegrass (*Leymus mollis* and *Leymus vancouverensis*); brackish marsh (where seasonal flooding of salt water through dikes and intertidal channels mixes with freshwater and saltwater influencing species composition); and reaching further inland from the bay margin, woody and herbaceous swales, which can become seasonally flooded. **(the following data will be available by July 24).** According to mapping recently completed by the BLM 2002, XX acres represent salt marsh, XX acres represent brackish marsh, and XX acres represent woody and herbaceous swale; all of which provide important perennial and ephemeral resources to waterfowl and wildlife.

In the early 1990's, two native species, Humboldt bay wallflower and beach layia, became federally listed as endangered but still occupy some sites on the South Spit. Beach layia, an endangered pioneering annual, occupies areas with bare to semi-stabilized sand; examples include infrequently used foot or vehicle access ways, recovering blow-outs, road margins, or remnant patches of native plant communities known as dune mat. Humboldt Bay wallflower occupies one remnant dune mat site on Texaco Inc. property, currently at-risk due to encroaching invasive weeds and wildlife (presumably deer) predation. According to the *1998 Recovery Plan for Seven Coastal Plants and the Myrtle's Silverspot Butterfly (Recovery Plan),* this South Spit population of Humboldt Bay wallflower is the southern most occurrence for this subspecies. Several other special status species occur on the South Spit. These plants include California Native Plant Society (CNPS) List 1B plants; pink sand verbena (*Abronia umbellata* ssp. *breviflora*) and dark-eyed gilia (*Gilia millefoliata*) found in the semi-stabilized open sand to dune mat

plant community types; and Humboldt Bay owl's-clover (*Castilleja ambigua* ssp. *humboldtiensis*); Point Reyes bird's-beak (*Cordylanthus maritimus* ssp. *palustris*); and CNPS List 2 plant, western sand spurrey (*Spergularia canadensis* var. *occidentalis*) found in the mixed-saltmarsh plant community type.

Current vegetative mapping resources available on the South Spit depict all existing vegetation communities as of July 2002, existing and historical salt marsh communities, eel grass beds associated with the bay, population maps of Humboldt Bay owl's-clover and Point Reyes bird's-beak, and very generalized depictions of sensitive habitats and rare plant locations by Tom Duebendorfer.

Further, there has been limited research or monitoring completed on native plant resources and populations compared to research or monitoring conducted or ongoing on the North Spit. The isolated population of Humboldt Bay wallflower has been sporadically monitored since its discovery in 1991 by Tom Duebendorfer. Examples of research that is ongoing on the North Spit or that could take place on the South Spit include the study of genotypes of endangered plant populations, native pollinator presence, invasive weed dynamics and edge effect on native habitat, and cryptogamic crust composition, distribution, and soil impacts on native dune mat.

Wildlife

The South Spit has a wide variety of wildlife resources both within and adjacent to its borders and provides many opportunities for both consumptive and non-consumptive wildlife uses. The exotic vegetation and recent use of the area by unauthorized human residences has allowed for unnatural increases in native as well as exotic (feral cat) species to the detriment of some native fauna.

The western snowy plover, one of many species on the South Spit, is probably of the most immediate importance because of its potential for extirpation. The Pacific coast population of the western snowy plover was federally listed as threatened in March of 1993 (USDI 1993). General population decline and a decrease in numbers of breeding locations were the basis for listing. The declines are attributed to loss and modification of habitat resulting from European beachgrass, encroachment and urban development, extensive human recreational activity in plover habitat, and predation exacerbated by human disturbance. Designation of critical habitat was proposed in 1995 (USDI 1995) with final designation being published in 1999. The South Spit was not designated critical habitat.

According to the Draft *Western Snowy Plover Pacific Population Recovery Plan* (USDI 2001), total numbers of breeding plovers and nest locations have decreased in Humboldt, Del Norte and Mendocino Counties over the last 10 years or so, but because of variations in levels of survey effort, it is difficult to compare past with current bird numbers. Five beaches where nesting plovers were detected by Page and Stenzel (1981) or Fisher (1992-94) have had no nesting activity in the past few years. The majority of Humboldt County plover nesting has shifted to Eel River gravel bars (Colwell et al. 2001).

The South Spit is in Recovery Unit 2 of the Draft Recovery Plan (USDI 2001), which included Del Norte, Humboldt and Mendocino Counties, California. Total numbers of breeding plovers and nest locations have decreased in Recovery Unit 2 over the last dozen years, but because of variations in levels of survey effort, it is difficult to compare past with current bird numbers (USDI 2001). Total numbers of adult plovers counted in coordinated surveys in Humboldt County portion of the Recovery Unit were 30, 19 and 39 in 1991, 1995 and 2000 respectively (Page 2000), compared to 64 birds counted in 1981 (Page and Stenzel 1981).

On the South Spit, plover nesting has been documented in 1983 (three nests detected by Paul Springer), and one nest in 1993 during Fisher's surveys of 1992 - 1994 (Fisher 1994). In 1999, two nests and six chicks were observed (LeValley 1999). No plover nesting attempts have been detected since 1999 despite

intensive surveys.

Due to the current degree of dune habitat degradation, only about 30 to 50 acres of nesting habitat occurs on the approximately four and one-half miles of beach on the South Spit. LeValley (1999) has documented detrimental recreational vehicle interactions with plovers and has observed numerous predators. He has also documented wave wash effects on a plover nest on the narrow beach of the adjacent Eel River Wildlife area.

The brown pelican (federally listed as endangered in 1970) feeds in the waters surrounding the spit. Allegedly a night roost exists on the northeast corner of the spit, but we have yet to confirm it. Past human activity on the spit has probably discouraged or eliminated the roost. Pelicans may use the jetty rocks as a day roost when fishing activities are minimal.

The spit and its immediately vicinity are rich with bird life. The beaches, in addition to the western snowy plover, are occupied by the sanderling, semi-palmated plover, killdeer, whimbrel, dunlin, black-bellied plover, gulls, Caspian tern, western, and least sandpiper. Northern harriers, black-shouldered kites and peregrine falcons can be seen occasionally over the dune areas. The bay and channel are occupied by the grebe (five species), cormorant (Brandt's, double-crested, and pelagic), scoter (surf, white-winged, black), gull (western, glaucous-winged, ring-billed, black-legged kittiwake, Heermann's gull, Forester's tern, elegant tern), loon (4 species), common murre, marbled murrelet, rhinocerous auklet, pigeon guillemot, willet, marbled godwit, brown pelican, and many species of waterfowl. black turnstones, black oystercatchers, rock sandpipers and surfbirds can be found on the rocky jetty. Dune habitats contain many terrestrial birds as well.

The common raven and American crow are ubiquitous and are likely to affect plover survival, both adults and young. A spring migration of merlins stop off at the spit and are suspected to be plover predators as well.

The adjacent bay contains vast eelgrass meadows important as spawning and nursery habitat for fish and essential forage for thousands of black brant. The east edge of the spit, and especially the northeast corner are important grit gathering sites for black brant (Black, pers. com.).

Marine mammals such as the gray whale and the harbor porpoise can be seen offshore from the spit. Terrestrial mammals that can be found in the area are coyotes, gray foxes, raccoons, weasels, skunks, voles, woodrats, mice (deer, harvest, and jumping), shrews, moles, brush rabbits, jackrabbits, and the introduced opossum and feral cat. Flying mammals probably include the big brown bat, California myotis and Yuma myotis.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

Critical Element	Affected Yes	Affected No	Critical Element	Affected Yes	Affected No
Air Quality		X	T&E Species-Botany	X	
ACEC's		X	T&E Species-Wildlife	X	
Cultural Resources	X		Water Quality/Hydrology		X
Farmlands		X	Wetlands/Riparian	X	
Floodplains		X	Wild & Scenic Rivers		X
Nat. Amer. Concerns	X		Wilderness		X
S&M Component 1		X	Recreation	X	
S&M Component 2		X	Visual Resources/Aesthetics	X	
Essential Fish Habitat		X	Hazardous Wastes	X	
Soils/Geology		X	Vegetation	X	
Environmental Justice		X	Public Services	X	
Mineral Resources		X	Utilities/Service Systems	X	
Noise		X	Transportation/Traffic		X
Population/Housing		X	Mandatory Findings of Significance		X
Land Use/Planning		X	Invasive Non-Native Species	X	

DESCRIPTION OF IMPACTS

Proposed Action

Impacts on Recreation Opportunities and Uses

A variety of recreation opportunities and uses will continue to be provided. Some of these activities, however, will be managed with greater controls or regulations to enhance visitor safety, reduce user conflicts, and provide for a more meaningful and enjoyable recreation experience. Restrictions on camping will have a negative impact on visitors wishing to camp overnight. Requiring dog owners to carry a leash and have their dog's leashed near plover protection areas will have a minor negative impact on these people. Visitors who cut driftwood for firewood or who fly kites or model airplanes will be impacted to a minor degree because these activities will not be allowed near plover protection areas. Allowing equestrians to ride only on the beach and dunes to the west of South Jetty Road will have a minor negative impact on this user group because they will no longer be able to ride on the east side of the road. This will impact only a small number of riders because an estimated 95% of equestrians prefer to ride on the waveslope. Visitors who enjoy target shooting and letting off fireworks will be negatively impacted because these activities will not be allowed. Visitors will be positively impacted by removing the two small piles of potentially hazardous waste that exists near the jetty parking area.

The overall scenic quality of the area will be improved substantially. In excess of 30 vehicle routes are currently being used to provide vehicle access to the waveslope. This number will be reduced to two along South Jetty Road, and one at each end (Table Bluff and jetty area). Approximately 20 vehicle routes exist on the east side of South Jetty Road, 11 of which will be closed to vehicle use. The other nine routes will be open only during brandt hunting season for loading and unloading supplies. The substantial number of vehicle routes proposed to be closed will soon become vegetated, creating a more natural appearing landscape. Providing facilities such as restrooms and trash receptacles will improve the scenery of the area by helping to reduce the likelihood of littering which now occurs on a frequent basis.

Providing a variety of informational, directional and regulatory signs will help all visitors become familiar with where facilities are located, what types of recreation activities are allowed or not allowed, and how they can best enjoy their experience. Developing a brochure and map, and installing two kiosks that display interpretive materials will educate visitors about the area's cultural and natural resource values. Becoming educated through interpretation will improve visitor experiences and appreciation of the environment.

Unauthorized OHV use in the dunes and along the bayshore is anticipated to decrease substantially as a result of an increased law enforcement presence. An increased presence of other agency personnel performing visitor services and monitoring will also deter this type of activity. Enforcement of the 15 miles per hour speed limit on the waveslope will decrease OHV use in this area as well, because the small number of riders who travel the beach for play or racing will be prevented from recreating in this manner.

Identifying several vehicle access corridors to the waveslope will help inform riders how and where they can access the beach. Currently, there are over 20 OHV trails leading from the road to the waveslope, and riders have no way of knowing which routes they should use. Signs posted along the proposed four vehicle access corridors will inform riders about potential hazards at high tides and traveling on soft sand. This information may reduce the number of incidents of becoming trapped along the beach or from getting stuck. Many of the off-highway vehicle enthusiasts currently using the South Spit will seek out other areas to ride. Samoa Dunes Recreation Area is one legal riding area that will likely see an increase in OHV use.

An increase in law enforcement presence will create an atmosphere where visitors feel substantially more safe and secure. Restrictions on firearms and target shooting will help prevent accidents from occurring.

Hunter access during the waterfowl hunting season will be modified from past patterns of use. Nine designated routes extending from South Jetty Road toward the bayshore have been identified for hunter access to load and unload supplies only. Vehicles will then be parked along the road. This change will impact hunter access because of the extra work, time, and inconvenience involved.

Overall recreation use is anticipated to increase from approximately 25,000 visits to roughly 50,000 visits annually.

Repairing South Jetty Road, and providing designated parking areas and turnouts, picnic areas, and restrooms will improve visitor experiences, safety, and enjoyment of the area. Improvements will prevent indiscriminate littering and sanitation problems. Developments will be designed, to the maximum extent practicable, to accommodate people with disabilities. The southernmost parking and picnic area will also be designed to accommodate equestrian use. Developments will not impact existing hang glider use that occurs at the top of the bluff (takeoff) and the beach area west of the bluff. The short section of South Jetty Road to be reinforced with rip-rap will benefit overall public use of the area by preventing the road from becoming washed out. Boaters will still be provided the opportunity to launch their watercraft from this location.

Development of the caretaker site will benefit visitors because a BLM volunteer will be stationed and living nearby to answer questions and provide visitors with information. The caretaker will be responsible for stocking the restroom, emptying trash cans, and picking up litter, which improves visitor enjoyment and appreciation of the area. Visitors will also benefit from having a BLM representative nearby who can monitor compliance with rules and regulations, and be in communication with law enforcement, and search and rescue personnel if the need arises.

Impacts on Wildlife

General Wildlife

Wildlife species occupying the ocean, bay and channel would receive little, if any impacts because of their distance and disconnection from the proposed action area.

The construction actions such as the caretaker site, the restrooms, parking areas, trash facilities, picnic tables, road repairs, trail decommissioning, signing, and plover fencing involve a very small part of the proposed action area and are expected to have very minor impacts on wildlife or their habitat and duration of disturbance. A few individuals of ground dwelling species will be displaced or eliminated and a few more may be displaced for a short duration during construction.

On the beach, the increased use by visitors and their associated activities such as horseback riding, vehicle operation, dog walking, and other activities are expected to have an increased disturbance impact on shorebirds, gulls and terns. Interruption or displacement of feeding and loafing activities can result in birds moving to other areas or add to stress on individuals that stay. Stress can result in decreased reproduction and survival as can additional competition for birds that move to other sites. Increased visitor use in the back dune areas may have similar impacts on land birds. Adverse impacts can be lessened by law enforcement and interpretive/maintenance personnel who can explain and enforce regulations that provide increased protection to wildlife.

Visitor use east of the main access road and along the edge of the bay will likely decrease as a result of greater control of vehicle access in those areas and proportionate decreases in disturbance to wildlife would be expected. Restricting vehicle access to the northeast corner of the spit would also be expected to result in decreased visitor use at the bayshore where black brant concentrate to gather grit during their use of the bay.

Establishment of plover protection areas will have a beneficial impact on other beach dwelling species by decreasing disturbance by visitors in those areas.

The plover habitat restoration project would result in the removal of all vegetation, mostly exotic European beachgrass, iceplant and lupine, from 20 acres of a foredune area on the South Spit. The project would benefit species adapted to open sand and native dune habitats, but would adversely impact species associated with European beach grass habitats such as horned larks, some species of sparrows and juncos. Deer mice, voles, gray foxes, stripped skunks, raccoons and feral cats would also be adversely impacted be a loss of habitat. The project would be implemented in the fall when no bird nesting activity would be occurring. The work would be performed at low tide prior to a winter storm so the natural power of the ocean could be used to mobilize and move the material in a natural way as storm drift when large amounts of beach in other local areas are also being mobilized by the storm. Burying or composting and burying the vegetation may be considered as an alternative to placing the vegetation to be taken away by storm tides. Similar projects in several hundred acres of degraded dune systems in Oregon have been implemented with no unexpected adverse impacts on terrestrial or ocean wildlife (Heany, Palermo, Segotta, Frounfelker pers. comm.). The amount of vegetation and sand taken by the ocean from the project would be a very small amount in relation to the amount of vegetation and sand mobilized naturally by winter storm events within the Humboldt Littoral Cell (Borgeld pers. comm).

Western Snowy Plover

Implementing the proposed action may impact the western snowy plover. The following actions are likely to adversely impact the bird:

Vehicle operation on the waveslope exposes plovers, their young and their nests to being run-over on the beach. Plover use is concentrated on the dry sand portion of the beach and vehicle use is concentrated at the top of the wetted sand, but considerable overlap occurs and loss or near-loss of nests have been documented on the South Spit beach and the adjoining Eel River Wildlife Area. Adult birds and young utilize the depression of the tire tracks for protection from the wind and vehicle operators often follow the track made by other motorists, making the hazard even greater. Day use only, plover protection areas, interpretive and warning signage would help to minimize disturbance or take, however, considerable likelihood of adverse impacts remain. Vehicle use in conjunction with BLM management and law enforcement activities may adversely affect the snowy plover, its young and nests. Orientation and training of BLM beach vehicle operators and other users should minimize these effects.

Equestrian use of the beach may result in horses stepping on plovers or nests. Implementation of plover protection actions and establishment of symbolic fencing would serve to minimize adverse interactions. Equestrians will be informed that, through adaptive management, if they make extensive use of the upper-beach, dry sand areas and plover losses are confirmed, that adaptive management may limit their riding opportunities on the South Spit.

Plover disturbance, mortality, and nest destruction by pedestrians and dogs is a potential adverse impact. Establishment of plover protection areas and prohibition of unleashed dogs on the beach in front of the protection areas would help to minimize these adverse impacts. Plover use outside of the protection areas and visitor non-compliance with restrictions would leave the potential for residual adverse impacts on the plovers.

Night vehicle operation by commercial fishermen has the potential to adversely impact snowy plovers. Birds roosting in depressions made by tire tracks may become disoriented and frozen in place by bright vehicle headlights and be crushed. A permitting process for authorizing use by commercial night fishermen and the low numbers of fishermen expected would minimize the magnitude of this adverse impact. However, until monitoring occurs, some residual adverse impacts could be expected.

The proposed action provides for all facilities, signs, etc. to be made so that they do not provide perches for avian predators. The avian predators may be smarter than the facility designers and may take several years to perfect the designs. Snowy plover's avian predators may have an increased advantage over plovers for several years resulting in a small, undetermined adverse impact on snowy plovers.

Archaeological survey work, vegetation mapping and monitoring, research, exclosure and plover protection area fencing, beach use monitoring and law enforcement work all may adversely impact snowy plovers. These adverse impacts may be minimized by orienting and training people who would be involved in the above listed activities. Plovers may be adversely impacted to some degree in spite of the minimization measures.

Traditional resource gathering by the Wiyot Tribe has the potential to adversely impact snowy plovers. The number of people involved would be relatively small and the location of most of the activity would be on the "bay side" of the spit. The action is considered not likely to adversely impact the western snowy plover.

The change in management of the South Spit from Humboldt County to the BLM would be newsworthy enough for local media coverage. The higher profile from news coverage along with new visitor facilities would be expected to increase the amount of visitor use of the area. Increased visitor use would be expected to increase the potential for disturbance of plover nesting, brooding, feeding or other life processes which would result in adverse effects on the species. There is no way to estimate the

magnitude of these impacts. A proportionate increase in litter, vandalism and non-compliance would also be expected to adversely impact plover life processes.

The following actions may beneficially impact the western snowy plover by better protecting them from disturbance or direct physical injury and allow them to successfully carry on life process such as nesting, brooding and wintering:

Creating temporary nesting and brood protection areas and seasonal protection areas, and closing them to all public uses;

Closing the beach areas in front of plover protection areas to dogs off leashes, firewood cutting, kite and model airplane flying;

Instituting day use only by visitors, and requiring dogs to be under control at all times;

Prohibiting fireworks and target shooting, and prohibiting firewood cutting during the plover nesting season;

Installing symbolic fencing to increase visitor compliance with plover area closures;

Installing scavenger-proof trash cans to decrease visitor garbage available to predators;

Installing toilets at either end of the spit and decreasing vehicle access corridors to the beach from an unlimited number to three would concentrate visitor use at those places and leave large areas of beach relatively free of human use to the benefit of plovers.

The following proposed action will beneficially impact snowy plovers by increasing voluntary compliance and law enforced compliance with plover protection regulations and this should result in fewer accidental and deliberate acts of plover disturbance and destruction:

Installing management signs and information kiosks; employing interpretive monitors to explain the value of plovers and the need for their protection;

Doubling the utilization of law enforcement personnel to give information and issue citations to better protect plovers by making the public more aware of plover resources and areas where visitor use is prohibited.

The restoration of 20 acres of plover habitat is an action that is likely to beneficially impact the species by resulting in a 40 to 60 percent increase in fully protected nesting and brood rearing habitat on the South Spit.

Brown Pelican

Increased visitor activity on the jetty would be expected to discourage brown pelicans from roosting there during the day. Day roosting sites do not appear to be in short supply so the action is not likely to adversely impact the brown pelican. The night roost that may occur on the northeast corner of the spit would not be affected by the proposed action because the spit would be closed to night use.

Impacts on Vegetation

Native vegetation will be maintained and/or benefited under the Proposed Action through the removal of at least two acres of invasive non-native species around selected dune mat areas, the use of signing and

driftwood barriers/post and cable barriers to guide pedestrian movement away from sensitive native plant communities needing relief from impacts, and through the restricted and managed use of vehicles.

Endangered species including beach layia and Humboldt Bay wallflower, and the CNPS 1B dark-eyed gilia, will benefit from the removal of invasive species that are adjacent to existing rare plant populations. Sensitive (CNPS 1B) mixed-marsh species (Humboldt Bay owls clover, Pt. Reyes birds beak, and CNPS List 2 western sand spurrey) will benefit from the additional closure of two existing vehicular hunting access ways (the first adjacent and north of the Texaco Property, and the second, the second vehicle access to the south of the boat launch site); and the restricted use of vehicles from all remaining 9 points of bay side winter access.

There will be no impacts to vegetation as a result of mapping or monitoring. Potential equestrian impacts will be limited to the parking areas and the west side of the spit.

Potential negative short-term impacts to South Spit vegetation under the Proposed Action include: risk of introduction of invasive annual grasses or forbs from equestrian users resulting from the use of weed contaminated hay that could escape from horse trailers or viable seed in fecal matter, direct trampling impacts by horses upon native plant individuals that may be colonizing the center of foredune trails, direct trampling by pedestrians on native plant individuals near vehicle turnouts and adjacent to or within pedestrian corridors, and direct trampling of native plant individuals in any given area of the spit due to unauthorized vehicle use. Overall, however, these limited negative impacts and/or random occasional events are expected to be offset by the positive effects of sand disturbance in helping to maintain open areas for opportunistic native plant pioneers, and the fact that many dune species are ecologically adapted to a moderate amount of habitat disturbance.

Impacts on Cultural Resources

Cultural resources will be positively affected under the Proposed Action with the identification and protection of those resources using a process of avoidance or installation of protective barriers and through educational and interpretive efforts with the public aided by continued consultation with Table Bluff Reservation - Wiyot Tribe. The cultural resources identified to date have been greatly impacted by past events both from humans and from natural events. Establishing a monitoring program for resource protection will further improve their well-being.

A brief summary identifying environmental effects of the Proposed Action by use of a checklist is provided in Appendix A.

Alternative A (Custodial Management)

Impacts on Recreation Opportunities and Uses

This alternative would provide for a variety of recreation opportunities and uses, similar to the Proposed Action. There would be fewer rules, regulations, restrictions, and BLM management presence, which would reduce visitor safety, increase user conflicts, and lessen the overall quality of most visitors' recreation experience. Annual visitor use is estimated to increase from 25,000 to 35,000 visits.

Impacts on campers would be the same as the Proposed Action, because the area would be open for day use only. Dog owners would not be required to carry a leash, so there would be less impact on these visitors. There would be no restrictions on firewood cutting, or flying kites and model airplanes nearby plover protection areas, so this type of activity would not be impacted. Equestrians would not be

restricted to riding only on the west side of South Jetty Road, therefore, they would benefit under this alternative. Impacts on target shooters would be the same as the Proposed Action. Fireworks would be allowed at the jetty area only, which would be a minor positive impact on those seeking to light fireworks. Impacts on commercial fishermen would be the same as the Proposed Action. Waterfowl hunters would benefit under this alternative because they would not be restricted from accessing the bayshore by vehicle.

Only those signs necessary to inform the public about health and safety issues would be provided under this alternative. By not providing interpretive information, visitors would not learn as much about the important resource values on the South Spit, and the potential for inappropriate behavior due to a lack of knowledge would increase. Greater negative impacts on wildlife and vegetation, including threatened and endangered species, would occur. The recreation experience of a substantial number of visitors would not be as enjoyable or rewarding as that which will occur under the Proposed Action.

Unauthorized OHV use and illegal activities throughout the area would be much more prevalent under this alternative because there would be less law enforcement presence, visitor contact, and monitoring of visitor use activities. The 15 miles per hour speed limit on the waveslope would be more difficult to enforce. Many visitors would likely feel unsafe and insecure under the Custodial Management alternative than the Proposed Action.

Facility developments would be kept to a minimum. No caretaker site would be developed, and therefore an on-site volunteer caretaker would be absent. The BLM would need to find a nearby resident who would volunteer to open and shut the entrance gate. By not providing a caretaker, routine facility maintenance, picking up litter, and visitor contact would occur less frequently than identified under the Proposed Action. The scenic quality of the area would be negatively impacted, and visitor experiences would be degraded.

South Jetty Road repair, chain link fence repair or replacement, and removal of two piles of potentially hazardous waste would also occur under this alternative.

Impacts on Wildlife

General Wildlife

Wildlife species occupying the ocean, bay and channel would receive little, if any impacts because of their distance and disconnection from the management area. This is the same as under the Proposed Action.

The construction actions in Alternative A such as, road repairs and minimal signing, involve a very small part of the management area and are expected to have very minor impacts on wildlife or their habitat. A few individuals of ground dwelling species will be displaced or eliminated and a few more may be displaced for a short duration during construction. By not having the caretaker site, caretaker, or trash facilities, a problem would probably arise where trash would be piled and or scattered around the area and scavengers and predators would increase to the point where they may adversely impact other native fauna through predation.

On the beach, the increased use by visitors would not be as great as under the Proposed Action but use would be relatively unregulated. Impacts would be similar to the Proposed Action but would be exacerbated by no leash requirements on dogs anywhere and horse use on the entire area.

Visitor use east of the main access road and along the edge of the bay will not likely decrease as in the Proposed Action, but increase visitor use and increase disturbance to wildlife would be expected.

Uncontrolled vehicle access to the northeast corner of the spit would be expected to result in more visitor use than either presently or under the Proposed Action at the bayshore where black brant concentrate to gather grit during their use of the bay. This may adversely impact this species.

The lack of establishing plover protection areas, not having interpreter/maintenance person presence and less law enforcement presence than under the Proposed Action would result in vehicles driving all over the South Spit increasing disturbance related adverse impacts.

Western Snowy Plover

Implementing Alternative A may impact the western snowy plover. The following actions are likely to adversely impact the bird:

Impacts of vehicle operation on the waveslope would be similar to those listed under the Proposed Action, however, there would be no measures to lessen impacts, such as plover protection areas, interpretive and warning sign installation and use of an interpreter/ maintenance employee. Driving on the dry beach would probably be much more prevalent with less law enforcement patrols than under the Proposed Action.

Impacts of equestrian use and pedestrians and dogs would be similar to those under the Proposed Action, however, without plover protection areas other than predator exclosures, there would be no minimization of these impacts.

Impacts of night vehicle operation by commercial fishermen would be the same as under the Proposed Action.

Archaeological survey work, vegetation mapping and monitoring, research, beach use monitoring and law enforcement work all may adversely impact snowy plovers as in the Proposed Action. These adverse impacts may be minimized by orienting and training people who would be involved in the above listed activities. Plovers may be adversely impacted to some degree in spite of the minimization measures.

As under the Proposed Action, rising visitor use would be expected to increase the potential for disturbance of plover nesting, brooding, feeding or other life processes which would result in adverse effects on the species. The magnitude of these impacts are difficult to ascertain and subject to speculation. An increase in litter, vandalism and non-compliance would also be expected to adversely impact plover life processes. The amount of non-compliance, vandalism and litter is expected to be greater than that under the Proposed Action because of the decrease of management and law enforcement presence under Alternative A.

Under Alternative A, the following actions would not occur that would have beneficially impacted the western snowy plover by better protecting them from disturbance or direct physical injury and allow them to successfully carry on life process such as nesting, brooding and wintering:

> Creating temporary nesting and brood protection areas and seasonal protection areas, and closing them to all public uses;
>
> Closing the beach areas in front of plover protection areas to dogs off leashes, firewood cutting, kite and model airplane flying;
>
> Instituting day use only by visitors, and requiring dogs to be under control at all times;

Prohibiting fireworks and target shooting, and prohibiting firewood cutting during the plover nesting season;

Installing symbolic fencing to increase visitor compliance with plover area closures;

Installing scavenger-proof trash cans to decrease visitor garbage available to predators;

Installing toilets at either end of the spit and decreasing vehicle access corridors to beach from an unlimited number to three would concentrate visitor use at those places and leave large areas of beach relatively free of human use to the benefit of plovers.

Restoring 20 acres of plover habitat to increase and fully protect nesting and brood rearing habitat on the South Spit.

Under Alternative A, the following actions would not beneficially impact snowy plovers by increasing voluntary compliance and law enforced compliance with plover protection regulations and this should result in fewer accidental and deliberate acts of plover disturbance and destruction:

Installing management signs and information kiosks;

Employing interpretive monitors to explain the value of plovers and the need for their protection;

Doubling the utilization of law enforcement personnel to give information and issue citations to better protect plovers by making the public more aware of plover resources and areas where visitor use is prohibited.

Brown Pelican

Under Alternative A, increased visitor activity on the jetty would be expected to discourage brown pelicans from roosting there during the day. Day roosting sites do not appear to be in short supply so the action is not likely to adversely impact the brown pelican. The night roost that may occur on the northeast corner of the spit would not be affected by the Proposed Action because the spit would be closed to night use and commercial smelt fishermen do not use this area.

Impacts on Vegetation

Existing native dune mat communities would be negatively impacted in the absence of invasive weed control efforts. Invasive weeds displace substantial area of native habitat every year. It is unknown exactly how much more native habitat would be compromised over the life of this interim plan under the Custodial Alternative.

There would be potential for greater habitat disturbance from equestrian use on east sides of the spit as use would not be restricted to the west side only.

Although there would be fewer designated vehicle corridors provided under this alternative, there would be less law enforcement patrols that could result in more frequent, high intensity habitat disturbance, and off-site trespass that could cause loss of endangered or rare plants and their habitats.

Impacts on Cultural Resources

There would be some short-term negative impacts to cultural resources on the South Spit under this alternative as resource interpretation and law enforcement protection would be minimal. The educational

benefits of interpretation would not be available to aid in preventing vandalism and destructive acts.

Cumulative Impacts
For the purposes of this assessment, the geographic area of reference are beaches and dunes in Humboldt County, CA. The management actions identified under the Proposed Action have been addressed in a regional context within the framework of Humboldt County's *Beach and Dunes Management Plan*. The Proposed Action is consistent to the maximum extent practicable with this plan and associated impact assessment, as well as other regional planning efforts such as Humboldt County's Local Coastal Program. This planning effort is a short-term, two to three year time frame. None of the actions proposed are expected to cause irreversible or irretrievable impacts that would preclude future management options. All actions in this interim plan will be closely monitored and documented to ensure that long-term management will not cause significant cumulative impacts.

Under the Proposed Action, positive cumulative impacts will occur for a variety of recreation opportunities and uses. The area will open an additional four and one-half miles of coastal beach and dunes to public use, reducing the potential for overcrowding on other public beach areas in the county. Additional cumulative impacts on the western snowy plover, beach layia, and Humboldt Bay wallflower are analyzed against the species' range-wide baseline populations, which can be found in the Interim Management Plan's Biological Assessment.

Mitigation Measures
Mitigation measures are incorporated into the management actions identified under the Proposed Action. No additional mitigation measures have been identified or found necessary to avoid potentially significant effects.

AGENCIES AND ORGANIZATIONS CONSULTED

Table Bluff Reservation -Wiyot Tribe
California Department of Fish and Game
Wildlife Conservation Board
California Coastal Conservancy
Redwood Community Action Agency
Regional Water Quality Control Board
Humboldt Bay Harbor District
Humboldt County Board of Supervisors
Humboldt County Planning Department
Humboldt County Public Works Department
Humboldt County Sheriff's Office
Humboldt State University
California Coastal Commission
U.S. Fish and Wildlife Service
The Dunes Forum
Bureau of Land Management-Coos Bay District
U.S. Army Corps of Engineers

FINDING OF NO SIGNIFICANT IMPACT

The Bureau of Land Management, Arcata Field Manager, has reviewed this Environmental Assessment. On the basis of this document, I have determined that the Proposed Action, with the mitigation measures incorporated into the specific management actions, will not have any significant impacts on the human or natural environment and that an Environmental Impact Statement is not required.

A DECISION RECORD, fulfilling the requirements of NEPA, will be prepared.

Authorized Official: _____ _____

BLM Arcata Field Manager **Date**

APPENDIX A: ENVIRONMENTAL CHECKLIST

1. Project title: Environmental Assessment for the Samoa Spit Interim Management Plan

2. Lead agency name and address
   Bureau of Land Management
   Arcata Field Office
   1695 Heindon Road
   Arcata, CA 95521

3. Contact person and phone number:
   Lynda J. Roush, Field Manager
   Bureau of Land Management
   Arcata Field Office
   1695 Heindon Road
   Arcata, CA 95521
   (707) 825-2300

4. Project location: South Spit, Humboldt County, CA

5. Project sponsor's name and address: same as #3

6. General plan designation: Natural Resources/Public Recreation

7. Zoning: Natural Resources/Public Recreation

8. Description of project: Refer to Environmental Assessment

9. Surrounding land uses and setting: Refer to Environmental Assessment

10. Other public agencies whose approval is required: California Department of Fish and Game, California Coastal Commission, U.S. Fish and Wildlife Service, U.S. Army Corps of Engineers, Humboldt Bay Harbor, Recreation, and Conservation District, California Regional Water Quality Control Board, California Coastal Conservancy

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
I. AESTHETICS -- Would the project:				
a) Have a substantial adverse effect on a scenic vista?	?	?	?	**X**
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	?	?	?	**X**
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	?	?	?	**X**
d) Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?	?	?	?	**X**
II. AGRICULTURE RESOURCES: In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	?	?	?	**X**
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	?	?	?	**X**

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?	?	?	?	**X**
III. AIR QUALITY -- Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	?	?	?	**X**
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	?	?	?	**X**
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions, which exceed quantitative thresholds for ozone precursors)?	?	?	?	**X**
d) Expose sensitive receptors to substantial pollutant concentrations?	?	?	?	**X**
e) Create objectionable odors affecting a substantial number of people?	?	?	?	**X**
IV. BIOLOGICAL RESOURCES -- Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	?	**X**	?	?

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	?	?	**X**	?
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	?	?	**X**	?
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	?	?	?	**X**
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	?	?	?	**X**
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	?	**X**	?	?
V. CULTURAL RESOURCES -- Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in '15064.5?	?	?	**X**	?
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to '15064.5?	?	?	**X**	?
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	?	?	?	**X**

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
d) Disturb any human remains, including those interred outside of formal cemeteries?	?	?	?	**X**
VI. GEOLOGY AND SOILS -- Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:	?	?	?	**X**
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	?	?	?	**X**
ii) Strong seismic ground shaking?	?	?	?	**X**
iii) Seismic-related ground failure, including liquefaction?	?	?	?	**X**
iv) Landslides?	?	?	?	**X**
b) Result in substantial soil erosion or the loss of topsoil?	?	?	?	**X**
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	?	?	?	**X**
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	?	?	?	**X**
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	?	?	?	**X**
VII. HAZARDS AND HAZARDOUS MATERIALS B Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	?	?	?	**X**

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	?	?	?	**X**
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	?	?	?	**X**
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	?	?	?	**X**
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	?	?	?	**X**
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	?	?	?	**X**
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	?	?	?	**X**
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	?	?	?	**X**
VIII. HYDROLOGY AND WATER QUALITY -- Would the project:				
a) Violate any water quality standards or waste discharge requirements?	?	?	?	**X**

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	?	?	?	**X**
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner, which would result in substantial erosion or siltation on- or off-site?	?	?	?	**X**
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner, which would result in flooding on- or off-site?	?	?	?	**X**
e) Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?	?	?	?	**X**
f) Otherwise substantially degrade water quality?	?	?	?	**X**
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	?	?	?	**X**
h) Place within a 100-year flood hazard area structures, which would impede or redirect flood flows?	?	?	?	**X**
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	?	?	?	**X**
j) Inundation by seismic, tsunami, or mudflow?	?	?	**X**	?
IX. LAND USE AND PLANNING - Would the project:				
a) Physically divide an established community?	?	?	?	**X**

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	?	?	?	**X**
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	?	**X**	?	?
X. MINERAL RESOURCES -- Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	?	?	?	**X**
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	?	?	?	**X**
XI. NOISE B Would the project result in:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	?	?	?	**X**
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	?	?	?	**X**
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	?	?	?	**X**
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	?	?	?	**X**
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	?	?	?	**X**

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	?	?	?	**X**
XII. POPULATION AND HOUSING -- Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	?	?	?	**X**
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	?	?	?	**X**
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	?	?	?	**X**
XIII. PUBLIC SERVICES				
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
Fire protection?	?	?	?	**X**
Police protection?	?	?	?	**X**
Schools?	?	?	?	**X**
Parks?	?	?	?	**X**
Other public facilities?	?	?	?	**X**

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
XIV. RECREATION --				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	?	?	?	**X**
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	?	?	**X**	?
XV. TRANSPORTATION/TRAFFIC -- Would the project:				
a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?	?	?	?	**X**
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	?	?	?	**X**
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	?	?	?	**X**
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	?	?	?	**X**
e) Result in inadequate emergency access?	?	?	?	**X**
f) Result in inadequate parking capacity?	?	?	?	**X**
g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	?	?	?	**X**

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
XVI. UTILITIES AND SERVICE SYSTEMS B Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	?	?	?	**X**
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	?	?	?	**X**
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	?	?	?	**X**
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	?	?	?	**X**
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project=s projected demand in addition to the provider=s existing commitments?	?	?	?	**X**
f) Be served by a landfill with sufficient permitted capacity to accommodate the project=s solid waste disposal needs?	?	?	?	**X**
g) Comply with federal, state, and local statutes and regulations related to solid waste?	?	?	?	**X**

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
XVII. MANDATORY FINDINGS OF SIGNIFICANCE --				
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	?	**X**	?	?
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	?	?	**X**	?
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	?	?	?	**X**

APPENDIX B: FACILITY DESIGNS

Rock Revetment/Rip-Rap

The BLM proposes to armor approximately 100 feet of South Jetty Road to reduce erosion of the road surface into Humboldt Bay by constructing a small rock revetment between the road and the bay (see Figure 1, next page). Design and construction will be conducted with the intent of minimizing visual and environmental impacts, while still providing boat launching access to the bay. Without some form of erosion control, it is likely that the road surface will be further eroded or undermined by wave and tidal action, thereby reducing visitor access to much of the South Spit and requiring eventual realignment of the road, which would most likely result in the loss of dune habitat. We anticipate that the revetment wall will not reduce the tidal prism of Humboldt Bay.

Cobbles (two to six inch diameter rocks) and quarry rock (1/2 ton armor stone) will be used to control erosion along the road as depicted in Figure 1. Construction will entail excavation of an approximately 100-foot long trench to a depth of three feet below the road surface. The anticipated maximum extent of encroachment into the tidal zone will be approximately five feet. The excavation will be lined with a non-woven filter fabric (geo-textile) and then an approximately one-foot thick layer of cobbles will be placed in the trench to hold the geo-textile in place. The geo-textile will then be pulled back over the cobbles and the armor stone (1/2 ton; 1-1/2 to 2-1/2 feet diameter) will be placed on top of the geo-textile to anchor the cobbles and filter fabric. Finally, an approximately six-foot wide path will be created over the revetment by grouting the interstices between the armor stones with cement. This will allow safe access to the bay for small boat users.

Parking/Picnic Areas

The three proposed picnic/parking areas would be designed to accommodate a variety of recreation user groups, including beachcombers, hikers, equestrians, off-highway vehicle enthusiasts, surfers, wildlife viewers, picnickers, and fishermen. Facilities would include picnic tables, one restroom for each area, cooking grills, signage, and post and cable barriers to define and confine vehicles to each area (Figure 2, 3, and 4).

Prior to the installation of facilities, the three areas would be graded so they are almost level to the ground. A slight slope is preferred to facilitate runoff during the rainy season. Non-woven fabric would then be placed on the ground, ¾ minus crushed gravel on top of the fabric, and then 3/8 minus crushed gravel on top of the larger aggregate. The gravel would be packed using a roller, providing a firm and stable surface suitable for wheelchair use. Facilities would be designed and placed in configurations that facilitate universal access to disabled people.

Caretaker Site

The caretaker site would need to be improved by providing a 20'x50' graveled pad for the volunteer's trailer, a small 8'x12' shed, installing a well, septic tank, and leach field, and hooking up underground telephone and electricity. The existing graveled access route would need to be resurfaced with several inches of ¾ minus crushed aggregate gravel (Figure 5).

FIGURE 1: SOUTH JETTY ROAD ROCK REVETMENT

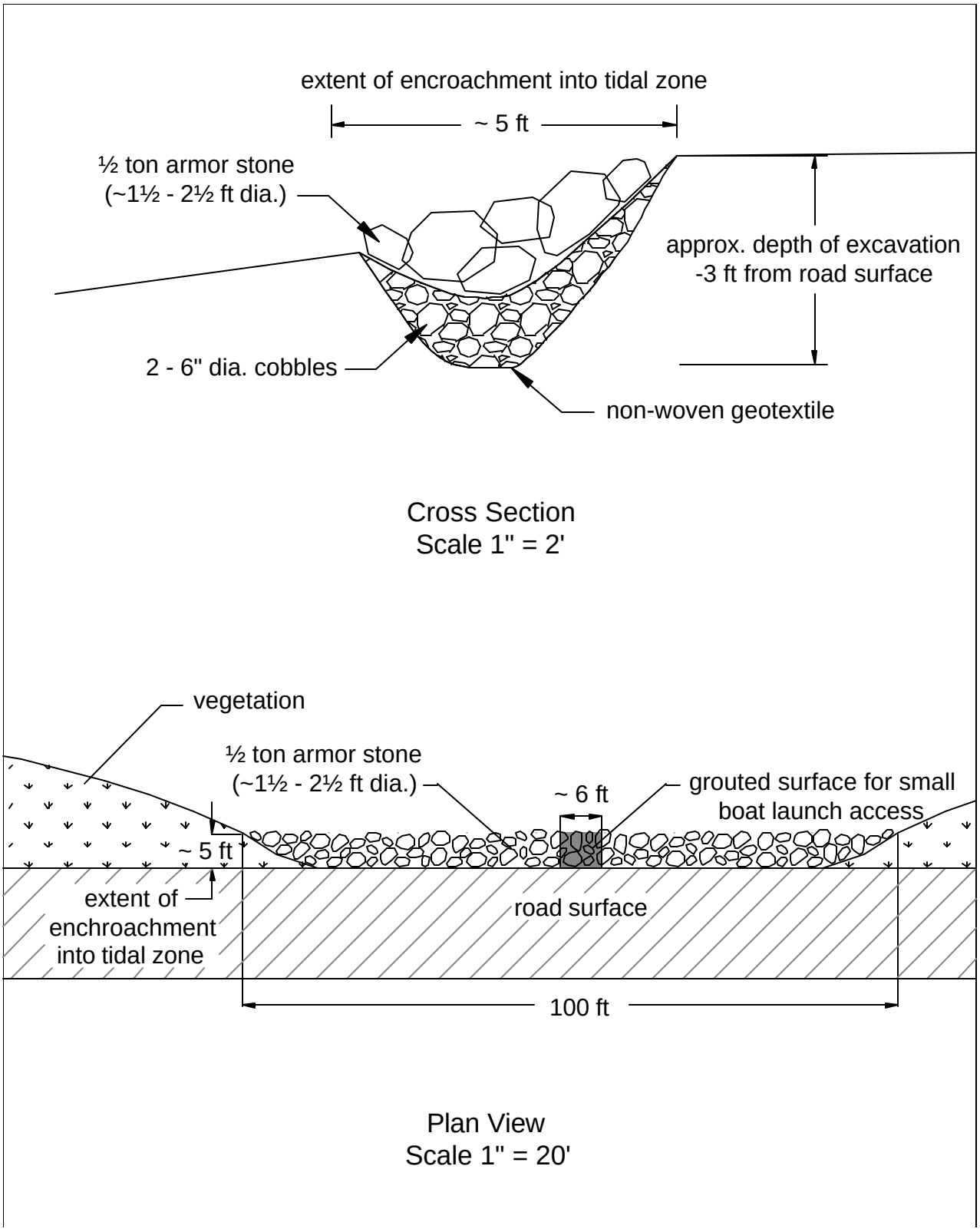


FIGURE 2: SOUTH PARKING AREA

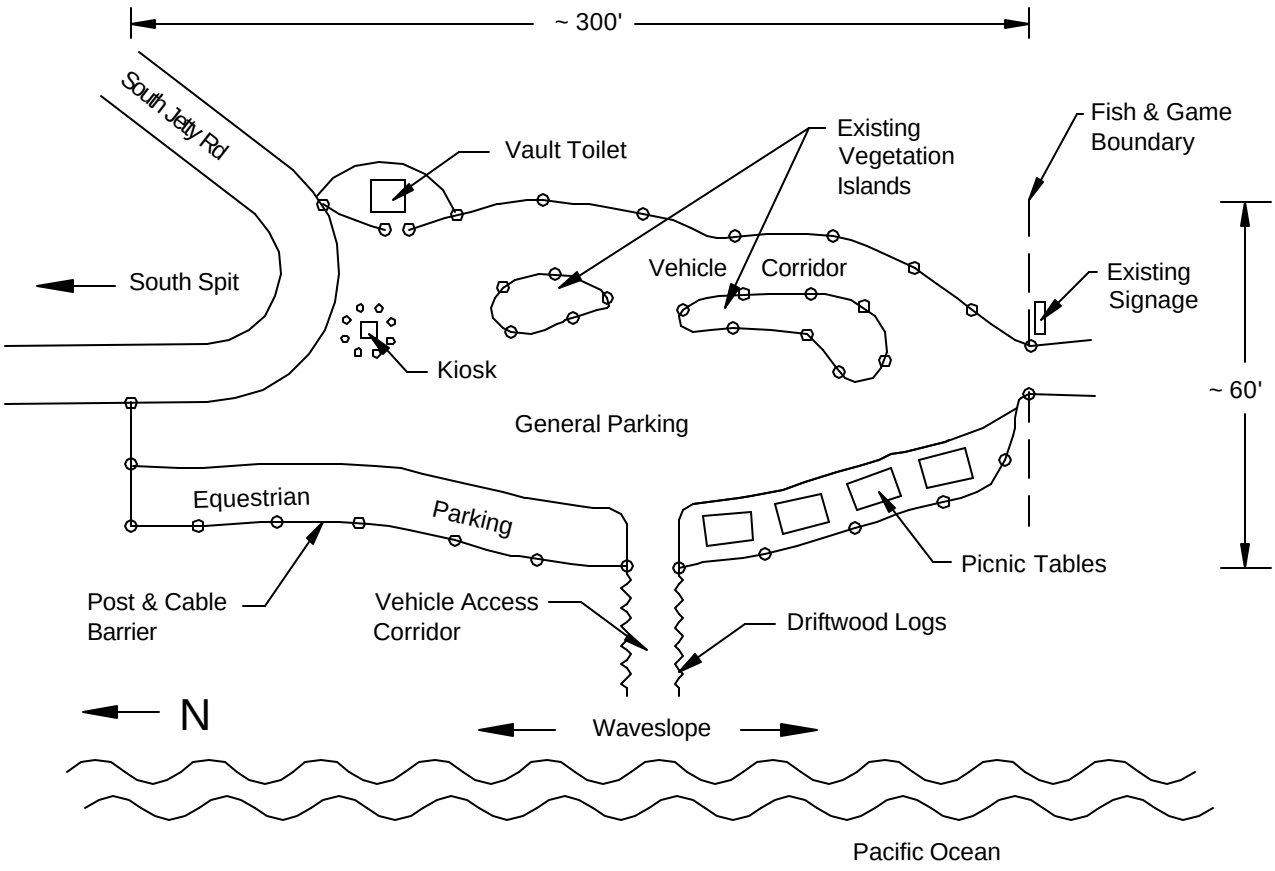


FIGURE 3: NORTH PARKING AREA

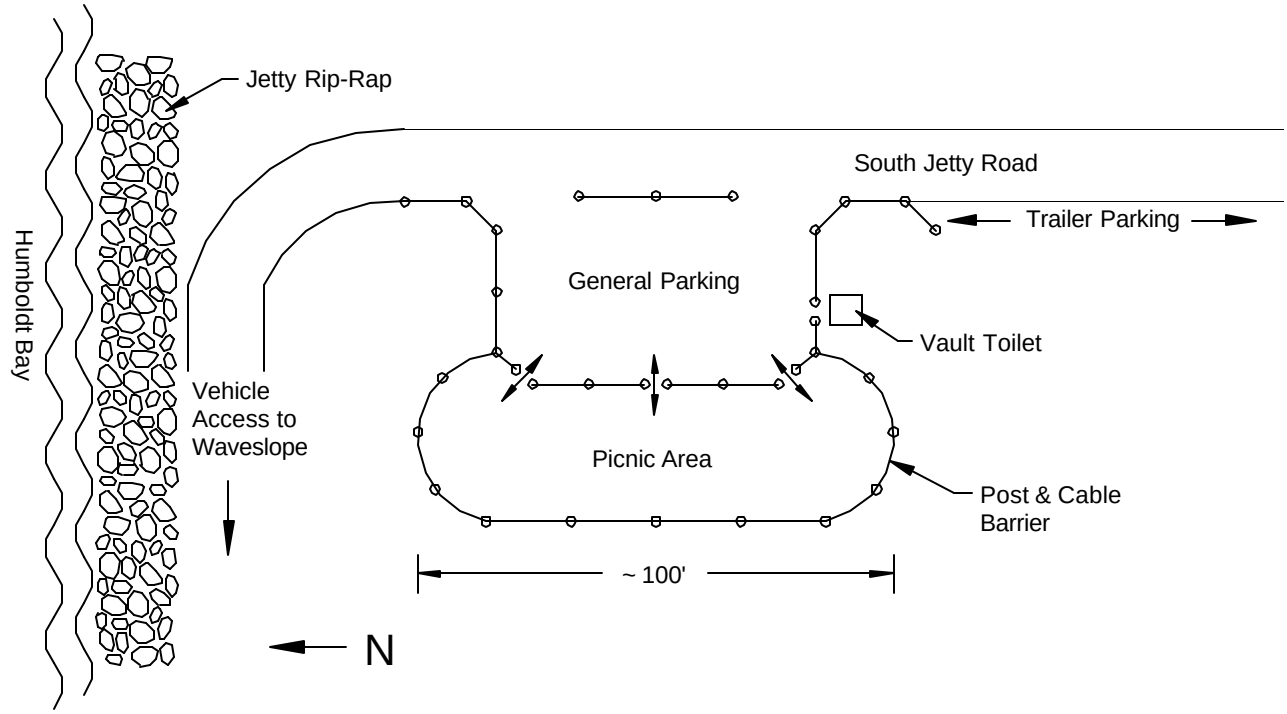


FIGURE 4: NORTHEAST PICNIC AREA

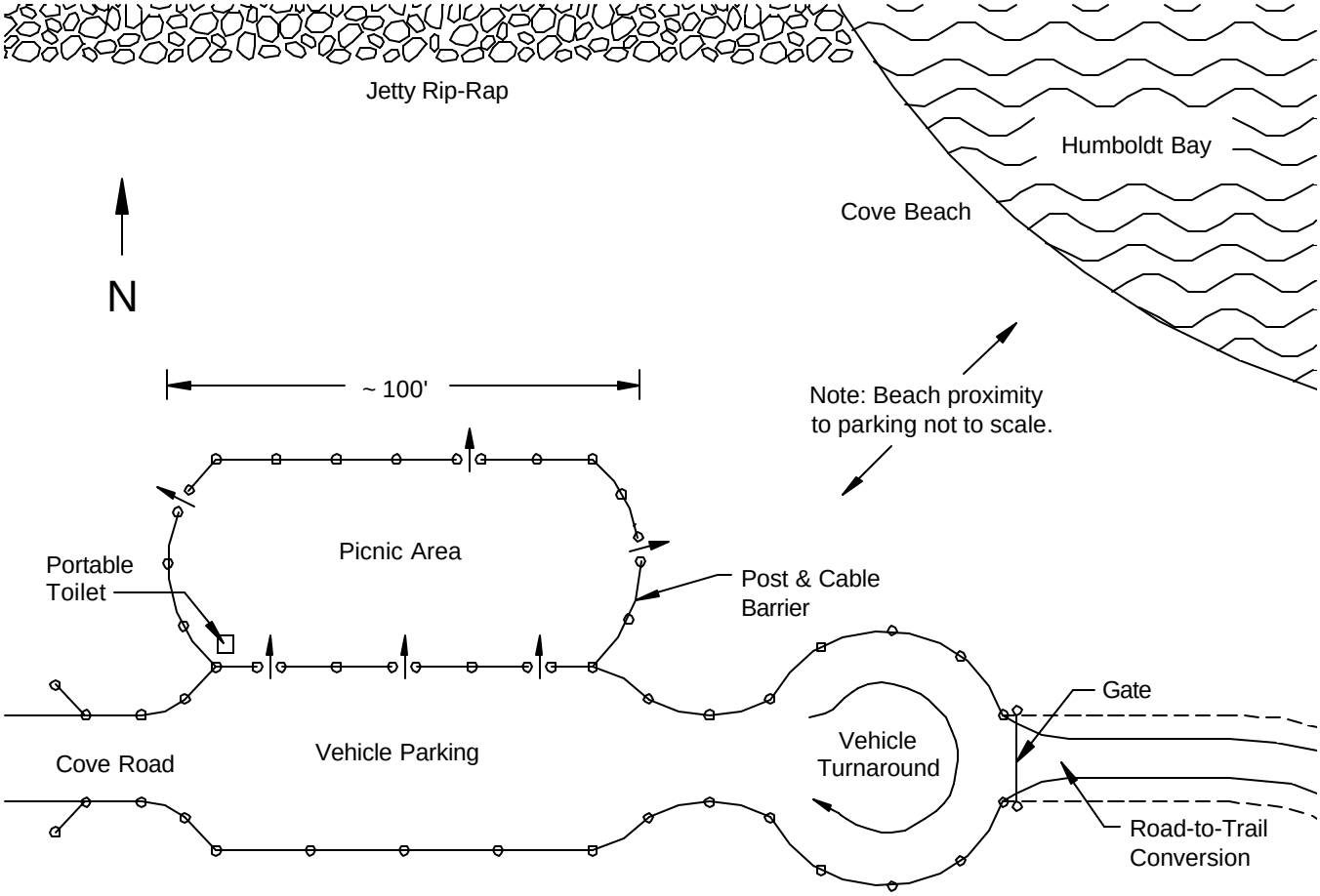
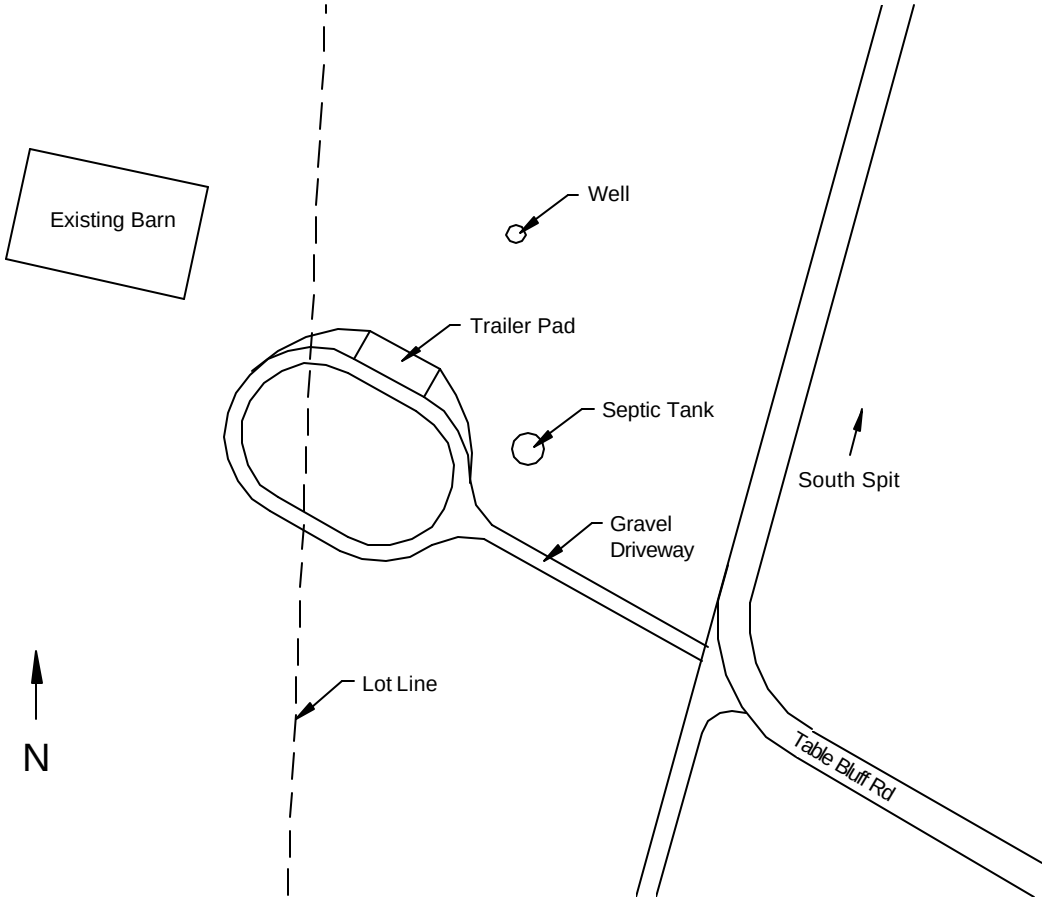


FIGURE 5: CARETAKER SITE



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