

## VI. HARBOR

### Introduction

Harbor and marina facilities, commercial and sport fishing, recreational boating, and harbor construction and maintenance are topics addressed in the Harbor chapter. The Spud Point Master Plan prepared for the Sonoma County Regional Parks Department, the Harbor Discussion Paper prepared by the Harbor Technical Advisory Committee and the Environmental Assessment-Maintenance Dredging Bodega Bay Federal Channel prepared for the United States Army Corps of Engineers provide the basis for the analysis and recommendations.

### California Coastal Act Policies

The coastal act policies are supportive of coastal-dependent development stressing protection of fishing, boating, and necessary support facilities.

30001.5 (d). Assure priority for coastal-dependent development over other development on the coast.

30220. Coastal areas suited for water-oriented recreational activities that cannot readily be provided at inland water areas shall be protected for such uses.

30221. Ocean front land suitable for recreational use shall be protected for recreational use and development unless present and foreseeable future demand for public or commercial recreation activities that could be accommodated on the property is already adequately provided for in the area.

30224. Increased recreational boating use of coastal waters shall be encouraged, in accordance with this division, by developing dry storage areas, increasing public launching facilities, providing additional berthing space in existing harbors, limiting non-water dependent land uses that congest access corridors and preclude boating support facilities in natural harbors, new protected water areas, and in areas dredged from dry land.

30233 (a). The diking, filling, or dredging of open coastal waters, wetlands, estuaries, and lakes shall be permitted in accordance with other applicable provisions of this division, where there is no feasible less environmentally damaging alternative, and, where feasible, mitigation measures have been provided to minimize adverse environmental effects, and shall be limited to the following:

- (1) New or expanded port, energy, and coastal-dependent industrial facilities, including commercial fishing facilities.
- (2) Maintaining existing, or restoring previously dredged, depths in existing navigational channels, turning basins, vessel berthing and mooring areas, and boat launching ramps.
- (3) In wetland areas only, entrance channels for new or expanded boating facilities; and in a degraded wetland, identified by the Department of Fish and Game pursuant to subdivision (b) of Section 30411, for boating facilities if, in conjunction with such boating facilities, a substantial portion of the degraded wetland is restored and maintained as a biologically

productive wetland; provided, however, that in no event shall the size of the wetland area used for such boating facility, including berthing space, turning basins, necessary navigation channels, and any necessary support service facilities, be greater than 25 percent of the total wetland area to be restored.

- (4) In open coastal waters, other than wetlands, including streams, estuaries, and lakes, new or expanded boating facilities.
- (5) Incidental public service purposes, including, but not limited to, burying cables and pipes or inspection of piers and maintenance of existing intake and outfall lines.
- (6) Mineral extraction, including sand for restoring beaches, except in environmentally sensitive areas.
- (7) Restoration purposes.
- (8) Nature study, aquaculture, or similar resource dependent activities.
- (b) Dredging and spoils disposal shall be planned and carried out to avoid significant disruption to marine and wildlife habitats and water circulation. Dredge spoils suitable for beach replenishment should be transported for such purposes to appropriate beaches or into suitable longshore current systems.
- (c) In addition to the other provisions of this section, diking, filling, or dredging in existing estuaries and wetlands shall maintain or enhance the functional capacity of the wetland or estuary. Any alteration of coastal wetlands identified by the Department of Fish and Game, including, but not limited to the 19 coastal wetlands identified in its report entitled, "Acquisition Priorities for the Coastal Wetlands of California" shall be limited to very minor incidental public facilities, restorative measures, nature study, commercial fishing facilities in Bodega Bay, and development in already developed parts of South San Diego Bay, of otherwise in accordance with this division.

30234. Facilities serving the commercial fishing and recreational boating industries shall be protected, and, where feasible, upgraded. Existing commercial fishing and recreational boating harbor space shall not be reduced unless the demand for those facilities no longer exists or adequate substitute space has been provided. Proposed recreational boating facilities shall, where feasible, be designed and located in such a fashion as not to interfere with the needs of the commercial fishing industry.

30235. Revetments, breakwaters, groins, harbor channels, seawalls, cliff-retaining walls, and other such construction that alters natural shoreline processes shall be permitted when required to serve coastal-dependent uses or to protect existing structures or public beaches in danger from erosion and when designed to eliminate or mitigate adverse impacts on local shoreline sand supply. Existing marine structures causing water stagnation contributing to pollution problems and fish-kills should be phased out or upgraded where feasible.

30250 (a). New development except as otherwise provided in this division, shall be located within, contiguous with, or in close proximity to, existing developed areas able to accommodate it or, where such areas are not able to accommodate it, in other areas with adequate public services and where it will not have significant adverse effects, either individually or cumulatively, on coastal resources. In addition, land divisions, other than leases, for agricultural uses outside existing developed areas shall be permitted only where 50 percent of the usable parcels in the area have

been developed and the created parcels would be no smaller than the average size of surrounding parcels.

30254. ...Where existing or planned public works facilities can accommodate only a limited number of new development, services to coastal-dependent land use, essential public services and basic industries vital to the economic health of the region, state or nation, public recreation, commercial recreation, and visitor-serving land uses shall not be precluded by other development.

30255. Coastal-dependent developments have priority over other developments on or near the shoreline. Except as provided elsewhere in this division, coastal-dependent developments shall not be sited in a wetland.

30260. Coastal-dependent industrial facilities shall be encouraged to locate or expand within existing sites and shall be permitted reasonable long-term growth where consistent with this division. However, where new or expanded coastal-dependent industrial facilities cannot feasibly be accommodated consistent with other policies of this division, they may nonetheless be permitted in accordance with this section and Sections 30261 and 30262 if (1) alternative locations are infeasible or more environmentally damaging; (2) to do otherwise would adversely affect the public welfare; and (3) adverse environmental effects are mitigated to the maximum extent feasible.

#### **DOCK AND BERTHING AND RELATED FACILITIES**

Bodega Harbor is the home of a major commercial fishing fleet with more than 250 commercial vessels. Existing fishing industry facilities include two berthing installations, three boat launching ramps, commercial fish receiving piers, and a federally maintained navigation channel (See Table VI-1).

Public recreational facilities are provided at Doran Spit State Park, Westside County Park and the Dunes State Beach. A portion of the harbor on the west side is the marine-preserve under authority of the University of California.

In 1976, a small craft harbor feasibility study concluded additional berthing facilities for commercial fishing is needed. Spud Point Marina is proposed by the Sonoma County Regional Parks Department to satisfy that need. In addition, owners of existing docks and marinas have expressed interest in expanding their facilities. Expansion of dock and berthing facilities seems to have general community support although the amount of expansion is the subject of some debate. An expansion of 200-300 berths appears supportable in the short-term. Generally, the new berths are expected to be somewhat longer than existing berths reflecting a trend towards larger commercial fishing boats.

**TABLE VI-1**  
**SUMMARY: EXISTING DOCK AND BERTHING FACILITIES**

Number berths	210
Number tie-ups	45-50
Number moorings (at dock or marina)	30-35 (year-round)
Number anchored in outer-bay during salmon season	10-50
Size range	18-65 feet
Unloading docks	5
Fuel docks	3
Ice and blower	4
Haul out	1 (under 40 feet)
Dry dock	1
Repair area	3 (all small)
Launching ramps	1 private (small) 2 public

### **Recreational Boating**

#### **Bodega Bay**

While Bodega Harbor is known primarily for its commercial boating, recreational boating is also important. Approximately 11,000 boats use the launching facilities at Doran and Westside parks annually. An additional 350 sailing boats use Bodega Bay as a port of refuge.

A typical summer weekend will see two hundred to four hundred "recreational boats" using all facilities at the Bay. The demand for camping facilities, groceries, bait, fuel, mechanical repairs, and berthing space in the private marinas is considerable. Since facilities are limited, the needs of the recreational boater must be balanced against those of the commercial boater.

Expansion of berthing facilities for recreational boats is expected at Spud Point Marina and at Bodega Harbor Yacht Club. Limited support facilities for recreational boating may be considered at these two locations.

TABLE VI-2 RECREATIONAL BOATING

	HAND LAUNCHING	RAMP OR HOIST	RENTALS
Gualala River Redwood Park (Mendocino County)	X		X
Stump Beach (Salt Point)	X		
Gerstle Cove (Salt Point)	X		
Ocean Cove Fee Trespass Area	X		
Stillwater Cove County Park	X		
Timber Cove Boat Launching	X	X	X
Windermere Point	X		
Fort Ross State Historic Park	X		
River's End, Jenner	X	X	
Duncans Mills Campground	X	X	X
Cassini Ranch Family Campground	X	X	X
Bridgehaven (when open)	X	X	
Westside County Park	X	X	
Doran Park	X	X	
Valley Ford Bridge (Marin County)	X		

### Mosquito Fleet

The so-called mosquito fleet is a collection of small boats (18-30 feet) with commercial licenses. Owners range from part-time sport fishermen to serious full-time commercial fishermen. Some of the boats are trailerable, but most are moored or anchored. While these boats are not strictly recreational, they demand similar support facilities.

### Remainder of the Coast

Recreational boating outside of Bodega Bay includes inflatable rafts and other hand launched vessels used in abalone fishing; canoes, small power boats, and sailboats on the Russian River; recreational fishing boats launched on the north coast; and occasional canoes and sailboats on the Estero Americano. Ramp launching facilities are limited; hand launching opportunities are numerous but not usually supported by adequate parking, restroom, and shower facilities. (See Table VI-2). Boat rentals are available on the Russian River and North Coast.

## DREDGING AND FILLING

### Background

The commercial fishing industry in Bodega Bay exists by virtue of a deep-water channel dredged by the United States Army Corps of Engineers in 1943. Continued use of and expanded facilities in Bodega Bay are dependent on future dredging. Two types of dredging are contemplated for Bodega Bay: (1) periodic maintenance dredging of the Federal Channels and of the marinas, and (2) the one-time dredging for Spud Point Marina. The total quantity of material to be removed in the next fifty years is expected to be in excess of one million cubic yards (See Table VI-3).

Maintenance Dredging. The channel and basins have been dredged three times since the original dredging - in 1948, 1961, and 1968. The next maintenance dredging is planned for 1980.

The existing marina are currently predicting the need to dredge in order to keep existing facilities in operation and to expand some facilities. The total projected spoils from marina dredgings would be 20,000 cubic yards. This compares with 100,000 cubic yards from channel dredging.

**TABLE VI-3 DREDGE QUANTITIES**

	VOLUME, CUBIC YARDS	TYPE MATERIAL
<b>1980 Maintenance</b>		
Federal Channels	25,000	Sand
Federal Channels	75,000	Mud
Existing Marinas	20,000	Mud
<b>1981 Spud Point</b>		
Federal and Non-Federal	225,000	Mud
<b>Future Maintenance</b>		
Existing Federal Channels	125,000	Sand
Existing Federal Channels	375,000	Mud
Existing Marinas	100,000	Mud
Spud Point	100,000	Mud
Total for next 50 years	1,045,000	
	150,000	Sand
	895,000	Mud

Spud Point Dredging. The total dredge spoil quantity for construction of the Spud Point Marina and federal access channel is estimated at 225,000 cubic yards of material. About 183,000 cubic yards of spoils would result from the local berthing area and 87,000 cubic yards from the federal channel. Dredging for the Spud Point Marina is scheduled for 1981.

Impacts of Dredging and Filling. Little is known about the effects of dredging in Bodega Harbor. The direct removal of benthic organisms and turbidity caused by dredging is assumed to have at least some short term detrimental effects. Areas which were formerly shallow water habitats have been changed to deep water habitats with a corresponding alteration in the plant and animal communities of these environments. However, no specific documentation of these changes or their recovery is available.

A review of the natural resources of the Bodega Harbor area by the Department of Fish and Game states that the filling in of wetlands has the most detrimental effect on the area's natural resources of any of man's activities. Over the last century, about one fifth of the harbor has been lost to fill; the majority of this

occurred between 1931 and 1974. Of this loss, most was the result of dredge spoil disposal at Westside Park, Doran Spit, and at the mouth of Cheney Gulch.

The most obvious effects of filling are that it smothers all underlying organisms and eliminates a habitat. Filling is particularly crucial when the area being covered is a marsh or intertidal zone. These areas are among the most productive of natural communities, and, even more importantly, lie at the foundation level of several ecosystems. Therefore, an impact at this level has serious ramifications throughout the environment.

### Dredge Disposal Sites

One condition of Corps of Engineers construction projects involving dredging is that the local beneficiaries provide a suitable site for disposal of the dredge spoils. Maintenance dredging of the existing federal channel in Bodega Harbor has been accommodated by disposal areas at Doran Spit and the Old Airport Site. Initial dredging of the proposed Spud Point marina plus future maintenance dredging over a 50 year period represents greater volume than these sites could accommodate. Several new sites have been considered. (See Figure VI-1).

Figure VI-1

Four potential sites have been eliminated from further consideration for environmental or economic reasons: The Hole-in-the-Head canyon and Sand Dunes (both sites). The remaining potential sites are the New Airport, Marina Parking Area, Doran Spit, and Old Airport. Total capacity of these sites is slightly more than the projected 50 year production of dredging spoils. (See Table VI-4).

**TABLE VI-4 DISPOSAL SITE CAPACITIES**

VOLUME, CUBIC YARDS	
New Airport	184,000
Marina	20,000
Doran Spit	150,000
Old Airport	700,000
	<u>1,054,000</u>

New Airport Site. The New Airport site slopes gradually toward the north and northwest to and through the Dunes State Park. Highway 1 runs along the easterly edge of the property and the motorist is given a variety of views, onsite and offsite depending upon the direction of travel. The major visual feature is a seasonal drainage system which diagonally bisects the parcel. Looking west from State Highway 1, a hedgerow of eucalyptus globulus planted at Dunes State Park delineates the westerly edge, creating a dense visual border. The southerly edge of the site is bordered by a travel trailer and mobile home park which is occasionally visible from the highway when driving south toward Bodega Bay. Vistas from the highway to the northerly edge of the parcel include a glimpse of the landscape beyond Dunes State Park, an older farmhouse, out-buildings, and rolling knolls between the highway and the ocean.

Available capacity at the New Airport is limited by several constraints. The ground slopes at about six percent, and terraced spoil ponds with relatively large dike volumes are required. The depth of soil to bedrock is only about eight feet. The ground water table appears to lie near the bedrock surface in some places. A natural swale which contains significant vegetation becomes a fresh-water marsh downstream. In addition, dike heights should not exceed 20 feet for reasons of safety and soils stability. Infiltration of salt leachate into the ground water must be avoided, but the site soils are of low permeability, and special sealing is not expected to be necessary. Because of capacity limitations and a desire that this be a one time only disposal site, there is opposition to disposal of spoils from maintenance dredging on this site.

Diking systems for pumped dredgings will be constructed out of native soils on the parcel. After the dredge spoils dry and are leached to an acceptable degree, the material will be graded over the site to conform with an approved grading scheme.

The visual condition of the site prior to regrading would be similar to that of rice paddies, namely flat diked areas of varying elevations. The integrity of the plant life in the existing watercourse will be maintained and volunteer plant materials will spring up on the containment dikes. A possible temporary or interim mitigation measure would be to plant screening along Highway 1 until a restoration program can be completed on the parcel. Any screening material could be moved or removed after restoration was completed in order to restore views from the highway. Ultimately, the drainageway edges would be planted to native trees and shrubs which would reinforce the riparian habitat and create a visual link between the waterway in the State Park to the northwest.

### **Off-Shore Disposal**

Off-shore disposal of dredging spoils is permitted only in federally approved locations. No existing disposal site is close enough to Bodega Bay to be economical for disposal of Spud Point spoils. The process for approval of a new disposal site is lengthy and involves a controlled biological assessment (bio-assay) of the effects of ocean spoils disposal. Off-shore disposal has been tentatively explored, but no official steps have been taken to establish an off-shore disposal site for Spud Point dredging of future maintenance dredging.

## **RECOMMENDATIONS**

### **Dock and Berthing Facilities**

1. Encourage marina expansion up to 300 new berths in conjunction with the Phase I Land Use Plan.
2. Encourage development of support facilities for the fishing industry including fish processing in areas designated fishing commercial on the Land Use Plan.
3. Total marina development shall be restricted to a possible maximum of 700 berths in conjunction with the Phase II Land Use Plan for Bodega Bay. Expansion beyond the 300 new berths in Phase I shall be approved only in conjunction with Phase II, and only after 1) review of the harbor operations, with special emphasis on whether activities not dependent upon a harbor location can be relocated to preclude or minimize the need for additional dredging and filling; 2) determination of whether adequate appropriate locations for dredge spoils disposal exist and whether other environmental constraints can be successfully observed in the utilization of such sites; and 3) an assessment of the adequacy of the fisheries resources to support the additional pressure anticipated to result from such expansion, performed in conjunction with appropriate management agencies, demonstrates that the resources are adequate and would not be expected to be harmed by such increased effort.

4. Institute measures to control pollution of Bodega Harbor in connection with any marina expansion.
5. Encourage development of the following services and facilities at Spud Point Marina: Ice and Fuel; gear storage; gear loading; fish off-loading; electricity and fresh water outlets; pump-out stations; and laundry and washrooms.
6. Develop a mooring plan for Bodega Harbor.

### **Recreational Boating**

7. Modify the boat launching ramp at Doran Park so that it serves only small boats.
8. Encourage private operators to accommodate additional demand for boat launching facilities particularly for the "mosquito fleet".
9. Development of a nine-berth marina at the Bodega Harbor Yacht Club for recreational boats shall be allowed only if, upon appropriate site-specific investigation, it can be demonstrated that the area that would need to be dredged constitutes open coastal waters and that therefore the use would be appropriate under Section 30233 of the Coastal Act, that there is no feasible less environmentally damaging alternative, that all appropriate mitigation measures are required, and that the project would maintain or enhance the functional capacity of the estuary.
10. Provide for hand launching of car-top boats including inflatables and kayaks at Stillwater, Gerstle, and Timber Coves. Continue to use Fort Ross for hand launching until historic facilities in the cove (beach) area are open to the public.
11. Encourage continuation of private boat rentals and launch facilities at Timber Cove, River's End, Bridgehaven, and Russian River campgrounds.
12. Reserve up to 20 percent of the berths at Spud Point Marina for recreational boats.

### **Dredging and Filling**

#### **General**

13. Dredge only in the winter months when many animal species appear to be least sensitive to turbidity.
14. Transport spoils to sites outside the harbor.
15. Prohibit disposition of fill or spoils in Bodega Harbor except in accordance with Section 30233 of the Coastal Act.
16. Prohibit deposition of spoils in Bodega Bay (outside the harbor), east of a line extending from the tip of Tomales Point, to the tip of Bodega Head since Bodega Bay is an important crab nursery area.
17. Comply with recommendations in Chapter 3 concerning diking, dredging, and filling.
18. Require approval of a detailed reclamation plan for disposal sites prior to any dredging.

**New Airport Disposal Site**

19. Require that any disposal project at the new airport site be designed and implemented to protect groundwater resources and potential domestic supplies.
20. Protect the drainage and riparian corridor at the new airport site. Diked ponds for disposal must avoid the riparian area and assure that no spoils would be deposited in the drainage and that no runoff would enter the drainage or the freshwater wetland area.
21. Limit operation of construction equipment across the drainage between the disposal ponds to one haul road. Following spoils disposal, this road should be removed and the area regraded to natural drainage contours and seeded for quick establishment of vegetation.
22. Route the spoils conveyance pipe line to this site from Bodega Harbor along the right of way of existing roads except for the final crossing north to the site.
23. Implement a reclamation plan for the site that will assure rapid recovery, minimize visual impacts and improve the wildlife habitat.
24. Prohibit disposal of dredge spoils from maintenance dredging on this site.

**Old Airport Disposal Site**

25. Reclaim and restore the Old Airport Site to the maximum extent feasible following each maintenance dredging.
26. Protect the rare plants in the marsh south of the site during the course of construction.
27. Require a full evaluation of the potential visual, water quality, and reclamation problems associated with raising the dikes to accommodate a large one-time disposal prior to approving such a plan.

**Off-Shore Disposal**

28. Initiate the process of designating an off-shore dredge spoils disposal site.