

County: **Marin**  
 USGS Quad: **San Rafael, San Quentin, San Fran N**

Thomas Guide Location

Latitude N Longitude W  
 36 56 122 30

NOAA Chart: **18649 Entrance to San Francisco Bay**

Last Page Update : 7/1/2005

**SITE DESCRIPTION:**

The site includes Richardson Bay and the marshes and mudflats at the back bay arms. Richardson Bay is a shallow bay with many natural resources, most notable among them are the pickleweed marshes in the Pickleweed Inlet arm and in the ecological reserve in northwest lobe. The mouth of the Bay is about one mile wide and the length of the bay is about four miles. Most of the margin is urbanized or rocky and privately owned. The average depth at low tide is about four feet, though the south side, where the channel is located, is generally deeper. There are extensive mudflats, and the bay bottom is a mud. There is a diffuse bed of eelgrass in the south central portion of the bay.

**SEASONAL and SPECIAL RESOURCE CONCERN**

Marshes are A-priority at all times. This is important habitat for migratory marsh and water birds during winter and spring and important herring spawning habitat from (Nov-Feb) & viable eggs (Feb-Apr).

**RESOURCES OF PRIMARY CONCERN**

There are a variety of habitats at risk. The pickleweed marshes are in the north and west margins, and there is a wildlife reserve in the north bay. The mudflats are habitat for a rich infauna and are foraging areas for birds and fish. The rocky shore lines are intertidal habitat. Exposed rocks are resting habitat for birds and seals. The eelgrass and pier pilings are prime spawning habitat for herring (Nov-Apr).

There are a wide variety of birds which use the bay and the marshes, including endangered Ca clapper rail and potentially high numbers of brown pelicans. Richardson Bay Audubon Center is located in Tiburon.

The pickleweed marshes are habitat for the endangered saltmarsh harvest mouse. Harbor seals haul out on the rocks and shoreline.

Fish concerns are focused on the spawning habitat of pacific herring which use the eelgrass beds, wharves and docks as spawning substrate.

Eelgrass beds are extensive, and annually variable.

**CULTURAL, HISTORIC, and ARCHEOLOGICAL SENSITIVITIES**

Contact the California Dept of Parks and Recreation - Office of Historic Preservation (Eric Allison -(916) 653-9125), and the Northwest Information Center, (Bryan Much, Sonoma State College ((707) 332-1117)) for specific information on historic or cultural resources in this area.

**KEY CONTACTS: Trustee (T); Entry/Owner/Access (E); Cultural (C); or Other Assistance (O)**

Type	Name / Title	Organization	Phone
BEL	Richard Bicknell Supervising Ranger	Baylands Nature Preserve	(650) 617-3156
E	Chief Ranger Dispatch	Marin, County of, Open Space District	(415) 472-0911
E/T	Ari Golan Chief Open Space Ranger	Marin, County of, Open Space District	(415) 499-6387
O	Bill Price Rchrdsn Bay, Reg. Co. Ad	Marin, County of	(415) 971-3919
E/T	Kerry Wilcox Sanctuary Manager	Richardson Bay Audubon Center	(415) 388-2524

**ADDITIONAL SITE SUMMARY COMMENTS:**

## 2-420 -A Site Strategy - Richardson Bay Marshes

County and Thomas Guide Location

Marin

NOAA CHART

18649 Entrance to San Francisco Bay

## 2-420 -A

Latitude N

3 6 56

Longitude W

122 30

### CONCERNS and ADVICE to RESPONDERS:

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The main objective is to exclude oil from Richardson Bay by exclusion booming of the mouth. This can successfully be executed just inside the mouth, and will protect all the resources of the bay including the marshes at the back shorelines, the mudflats, endangered species, ducks, eelgrass beds and herring spawning sites. If front exclusion is not successful, secondary strategies will be executed to collect oil.

### HAZARDS and RESTRICTIONS:

Be aware of shallows and obstructions. Boat traffic is restricted in northwest lobe of the main bay.

### SITE STRATEGIES

There is little tidal movement into the bay except at in the channels at the north (Tiburon) and south (Sausalito) sides. Oil will tend to eddy at the mouth, due to the strong Raccoon Strait passing current, and then be carried into the bay by these two local flood currents or by southerly wind. The main channel at the Sausalito margin has currents exceeding a knot that will carry any oil that enters, to back bay (including inland of Hwy 101). Along the Tiburon margin there is a light current.

Strategy 2-420.1 Objective: Primary: Exclude oil at bay mouth by booming Sausalito main channel and Tiburon minor flood channels. This is main part (part 1) of a total exclusion at the bay mouth which would include Part 2: 2-420.2

a) Exclude oil from the south channel by deploying about 1,500 ft of 9X9+ Hboom from the breakwater north of the ferry landing to (or near) Red channel marker "4". Cascade boom in 2 or 3 lengths to allow vessel passage through this exclusion.

b) At the Tiburon shore inside (west) of cone rock, deploy boom at a 45 degree angle across the nearshore channel for 600 ft and then the last 600 ft perpendicular to shore toward the deployment on the south channel.

Strategy 2-420.2 Objective: Secondary exclusion; Part 2 - complete exclusion across the low current portion of the bay. This is added-on to previous or concurrent execution of Part 1 substrategy 2-420.1

Boom across the bay mouth from end of southerly deployment to the end of the Tiburon side deployment. Connect boom ends if possible. Otherwise uses sorbents or skirted boom to close and seal the gaps between the boom sets in Part 1 and this deployment.

Strategy 2-420.3 Objective: Exclude/collect oil that has entered Richardson Bay

Establish the following collections / exclusions. Depending on the amount and kind of oil, sorbents may be effectively be substituted for shoreside skimming systems (SSS):

a) Deploy 1800' 6X6+ boom diagonal from Strawberry Pt. to the jetty with a J-hook collection pocket; back the collection pocket with 300' sorbent boom. Use channel markers and anchors to maintain diagonal in the current. A cascade may be necessary to accommodate boat traffic. If there are skimmable quantities of oil, deploy a SSS for collection.

b) Deploy 1500' 6X6+ boom diagonal from Strawberry Pt. to the east with a J-hook collection pocket; and back the collection pocket with 300' sorbent boom. If there are skimmable quantities of oil, deploy a SSS for collection.

c) Close the tidegate to Belvedere Lagoon at north east margin.

### Table of Response Resources

strategy number	harbor boom	swamp boom	Other boom type	sorb boom	Anchoring no type and gear	Boom boat	Skiffs punts	Skimmers No Type	Special Equipment or comment No and kinds	staff deploy	Staff tend
2-420.1	2700			300	12 22#+/danforths + chain	3	1	0	Bboats capable of shallows & obstructions	11	
2-420.2	3300	0	0	300	6 22#+ danforths	2	0	0	0	6	
2-420.3		3300	600 OS	600	12 12/22+/danforths + chain	2	1	2 SSS	Bboat: shallow draft	8	2

### LOGISTICS

**DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)**

Closest water access is from Marinas in Sausalito which open to Richardson Bay. By vehicle, marshes can be accessed by exiting Hwy 101 at Sausalito or Tiburon at Almonte or Tiburon Blvd. The site includes Richardson Bay and the marshes and mudflats at the back bay arms.

**LAND ACCESS:** All types

**WATER LOGISTICS:** Shallows everywhere; exceeding shallows in back & north bay

Limitations: depth, obstruction

Launching, Loading, Docking and Services Available: Launch on site at Clipper Yacht Harbor, Harbor Dr. Sausalito (415) 332-3500. Many marinas and services available.

### FACILITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

US Corp Engineers dock is onsite and is most convenient site for staging and out post. Many facilities are available at

Sausalito.

COMMUNICATIONS PROBLEMS: none known

ADDITIONAL OPERATIONAL COMMENTS: Exclusion by 2-420.1 and 2-420.2 was initially a single strategy and was tested successfully.

## 2-420 -A Strategy Diagram- Richardson Bay Marshes

2-420 -A

