

**2-420-A Site Summary - Richardson Bay Marshes****2-420-A****County:** Marin **ACP Division/Segment:** MR - Q - S001 MR - Q - S013**NOAA Chart:** 18649 Entrance to San Francisco Bay **Map Book:** Marin County, S **Decimal Degrees:** 37.876775 -122.489773**Site Description:**

This site includes Richardson Bay, the prolific eelgrass beds, salt-marshes, and tidally influenced, sheltered mudflats in the upper bay. Richardson Bay is a relatively shallow bay with numerous natural resources, most notably the pickleweed marshes in the Pickleweed Inlet arm and in the ecological reserve in the northwest lobe. The mouth of the Bay is about one mile wide and the length of the bay is about four miles long. Most of the shoreline is urbanized and rip-rapped. The average depth at low tide is about four feet (MLLW), though the south side, where the channel is located, is generally deeper. There are extensive mudflats at low tides, and the bay bottom is mud. There's an extensive bed of eelgrass in the south central portion of the bay, which varies year to year. Pacific herring spawn (Nov-Feb) and deposit their eggs on the eelgrass bed sub-structure and pier pilings. Numerous live-aboards reside on their vessels within Richardson Bay year-round.

**Resources at Risk:***ESI and Habitat:* 8B Sheltered solid man-made structures

9A Sheltered tidal flats

8C Sheltered riprap

**List of Resources at Risk:**

	Resource Name	Status	Presence	Sensitivity
Birds	California Ridgeway's rail	FE, SE	Year-round	Mar - Aug
Birds	California black rail	FP, ST	Year-round	Mar - Jul
Fish	Pacific herring		Year-round	Nov - Apr
Fish	longfin smelt	ST	Year-round	Nov - May
Mammals	salt-marsh harvest mouse	FE, SE	Year-round	Mar - Nov
Mammals	harbor seal	FP	Year-round	Mar - Jul
Plants	eelgrass		Year-round	
Plants	San Francisco lessingia	FE, SE	Year-round	Jul - Nov

FT-Federally Threatened, FE-Federally Endangered, FP-Federally Protected, SE-State Endangered, ST-State Threatened, SP -State Protected, SR-State Rare, SSC-Species of Special Concern, BGEPA-Bald and Golden Eagle Protection Act, SSSP-State Special Status Species

**List of Key Contacts:**

Type	Name/Title	Organization	Phone
C	/Coordinator	Native American Heritage Commission	(916) 373-3710
C	/Coordinator	Northwest Information Center	(707) 588-8455
E	/Emergency Contact (24hr)	Marin County Emergency 911	(415) 472-0911
E	/Emergency Service Coordinator	Marin County Office of Emergency Services	(415) 250-0267
E	/Dispatch, 24-hr	Marin County Sheriff's Department	(415) 479-2311
E	/Sanctuary Manager	Richardson Bay Audubon Center	(415) 388-2524
O	/Office	Audubon Society, Marin County Chapter	(415) 924-6057
O	/Harbor Master	Marin County, Richardson Bay	(415) 971-3919
O	/Dispatch, 24-hr	The Marine Mammal Center	(415) 289-7350

C – Cultural, Historic, Archaeological; E – Entry/Owner/Access; O – Other; S – Safety; T – Trustee; X – Exclusion or Security

**Additional Site Summary Comments:**

This is important habitat for migratory marsh and water birds during winter and spring. Exposed rocks are resting habitat for birds and seals. Eelgrass beds are extensive and annually variable.

**Concerns and Advice to Responders:**

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, resident and migratory species, eelgrass beds and herring spawning sites. If front exclusion is not successful, secondary strategies will be executed to collect/divert oil.

**Hazard and Restrictions:**

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

**Site Strategies:****Site Validation Level: II**

**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

**Strategy:** 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.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Harbor	9x9 inch		2700	feet	
Boom	Sorbent			300	feet	
Anchor	Danforth	22 lb		15		
Vessel	Boom Boat			1		
Vessel	Skiff or Punt			1		
Staff	Staff to Deploy			6		

**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

**Strategy:** 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 seal the gaps between the boom sets in Strategy 1 and this deployment strategy (2).

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Harbor	9x9 inch		3300	feet	
Boom	Sorbent			300	feet	
Anchor	Danforth	22 lb		8		
Vessel	Boom Boat			1		
Vessel	Skiff or Punt			1		
Staff	Staff to Deploy			6		

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

**Strategy:** 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

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Swamp Boom	6x6 inch		3300	feet	
Boom	Oil Snare (pom-pom)			600	feet	
Boom	Sorbent			600	feet	
Anchor	Danforth	22 lb		12		
Vessel	Boom Boat			2		
Vessel	Skiff or Punt			1		
skimmer	self propelled			1		
Staff	Staff to Deploy			8		

### Logistics:

**Directions:** 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.

**Land Access:** Multiple access points throughout Bay.

**On-Water Limitations:** Shallows everywhere; exceeding shallows in back & north bay. Launch on site at Clipper Yacht Harbor, Harbor Dr. Sausalito. Many marinas and services available.

**Facilities, Staging Areas, Command Posts, Available Equipment:** US Corp of Engineers dock is onsite and is most convenient site for staging and launch ramp. Many facilities are available at Sausalito.

**Communications Problems:** Good cell reception throughout area.

**Additional Operational Comments:** Exclusion by 2-420.1 and 2-420.2 was initially a single strategy and was tested successfully in 2001. Splitting of strategy was done to allow flexibility of response resource utilization.

