

County: Marin **ACP Division/Segment:** MR - W - S004**NOAA Chart :** 18654 San Pablo Bay**Map Book :****Decimal Degrees** 38.09624 -122.488768**Site Description:**

Site includes the San Pablo Bay frontage from mouth of Petaluma River extending 2.3 miles southerly to the levee at Hamilton Air Base and includes a mile of Novato Creek to the Bel Mar Keys locks and adjacent marshes. Site is under jurisdiction of Marin County Open Space. The bay frontage marshes between Petaluma River and Hamilton Air Base are prograding and shallow very gradually, supporting 100 to 200 meter wide variety of biota from tidal flat to high marsh: unvegetated to cordgrass to pickleweed dominated. Novato Creek is an incised channel through a wide flood plain of pickleweed marsh. In addition, there is much larger high pickleweed marsh both north and south of Novato Creek; the Northerly side is a tidal tributary to Novato Creek, while the marshes to the South are predominantly tributary directly to San Pablo Bay with several mosquito abatement outlets.

Resources at Risk:*ESI and Habitat:* 10A Salt - and brackish-water marshes**List of Resources at Risk:**

	Resource Name	Status	Presence	Sensitivity
Birds	California Ridgeway's rail	FE, SE		
Birds	California black rail	FP, ST		
Birds	song sparrow	FP, SSC		
Fish	longfin smelt	ST		
Fish	steelhead - Central/Northern California	FT		
Fish	white sturgeon	SSC		
Fish	green sturgeon			
Mammals	salt-marsh harvest mouse	FE, SE		
Plants	Marin knotweed			

FT-Federally Threatened, FE-Federally Endangered, FP-Federally Protected, SE-State Endangered, ST-State Threatened, SP -State Protected, S 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
E	/Chief Ranger	Marin County, Open Space District	(415) 472-0911
O	Barbra Salzman/	Audubon Society, Marin County Chapter	(415) 924-6057
T	Peter Baye/Coastal Plant Ecologist, Ph.D.		(415) 310-5109
T	/	NOAA National Marine Fisheries Service	(562) 980-3232
T	John Takekawa/	US Geological Survey, SF Bay Estuary	(707) 562-2000

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

Additional Site Summary Comments:

Concerns and Advice to Responders:

This is very sensitive habitat with rare and endangered species present. Exclude oil from entering Novato Creek to prevent oil from conveying into the north side marsh via tidal channels. Boom tidal inlets to the southerly marsh. Deflect oil away from Novato Creek mouth and this site. Any oil arriving at this site should be deflected to collection locales and prevented from remobilizing where possible. Protect marsh fronts from oiling and oil penetration. Avoid trampling marsh and driving oil into marsh sediments during cleanup. Be aware of oil penetrating animal burrows.

Hazard and Restrictions:

Aircraft should beware of high power lines in this area. This area is very shallow except in Novato Creek Channel.

Site Strategies:

Strategy: 2-557.1 Objective: Exclusion booming of Novato Creek and the three major and any minor tidal channels south of Novato Creek to prevent oil from penetrating to interior marshes (and upstream tidal channels)

Strategy: Exclude oil at Novato Creek mouth by deploying 300' of 9X9+ Hboom diagonally across the mouth & direct oil to accumulate in a pocket (lined with boom) at the northern shore (if opportunity permits, a cleared or excavated pocket may be prepared to enhance capture and collection for possible skimming). Run boom high onto marsh margin. This deployment requires a midchannel anchorage.

Also, boom each of the eight (3 major, 5 minor) small inlets in Novato Creek by staking short lengths of swamp boom to exclude. Exclude oil from entering tidal channels south of Novato Creek with chevron booming of inlets with 100' of boom each. Back with sorbent boom. Repeat deployment if severe oiling or wave action threaten to defeat the strategy.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Harbor	9x9 inch		600	feet	
Boom	Swamp	6x6 inch		200	feet	
Boom	Sorbent			400	feet	
Anchor	Danforth	22 lb		6		
Vessel	Boom Boat			1		
Vessel	Skiff or Punt			1		
Staff	Staff to Deploy			5		

Strategy: 2-557.2 Objective: Deflection when oil is approaching from South or East of Novato Creek, deflect past Novato Creek mouth toward Petaluma River.

Strategy: Deflection boom: Establish a shore anchorage at least 100 yards south of the Novato Creek mouth and deploy a 1000' of 9X9+ Hboom at a diagonal to channel marker 23 and across the Novato Creek channel. Make an overlap to permit channel traffic. Deploy 2000' of 9X9+ Hboom at a slighter angle to the north of the first boom set.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Harbor	9x9 inch		3000	feet	
Anchor	Danforth	22 lb		5		
Vessel	Boom Boat			1		
Vessel	Skiff or Punt			1		
Staff	Staff to Deploy			5		

Strategy: 2-557.3 Objective: Skimming in channel if heavy oil is threatening to overwhelm the exclusion strategy (.1) for Novato Creek mouth, deploy a vessel skimmer as a backup to the deflection strategy to capture oil.

Strategy: Deploy a skimmer in the Novato Creek channel as close to the mouth as feasible to capture oil. Deploy booms from right and left banks to funnel oil to the skimmer. Deploy a diagonal boom behind the skimmer to divert any escaping oil to the shore.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Swamp	6x6 inch		300	feet	
Anchor	Danforth	22 lb		2		
skimmer	self propelled			1		
Staff	Staff to Deploy			3		

Strategy: 2-557.4 Objective: Protective booming of the marshy shoreline north of Novato Creek to Petaluma River. Consider that this deployment will require intensive resources and time in the short navigable intervals.

Strategy: Protection booming of marshfront north of Novato Creek. Deploy a 2500' layer of harbor or swamp boom along the marshy bay frontage from southerly Petaluma River mouth to Novato Creek. Deploy during periods of higher tides to permit approach near shore using shallow draft boomboats capable of stranding without damage. Set boom close to vegetation, as may be possible. Anchor at 500' intervals with chevron apex around channel marker #21. Under severe oil threat, two layers and a sorbent backup may be required. Two layers of swamp boom set about 10 feet apart would be equivalent to harbor boom.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Harbor	9x9 inch		2500	feet	<i>Strategy Updated:</i> <i>Last Test: 1/23/2019</i>
Anchor	Danforth	22 lb		7		
Vessel	Boom Boat			1		
Vessel	Skiff or Punt			1		
Staff	Staff to Deploy			5		

Strategy: 2-557.5 Objective: Protective booming of the marshy shoreline south of Novato Creek

Strategy: Protect the 2.5 miles of marshy bay frontage south of Novato Creek with 13,000 feet of skirted boom (two layers of river boom are preferable to one layer of harbor boom). Deploy during periods of higher tides to permit approach near shore using shallow draft boomboats. Set boom close to vegetation, as may be possible. Anchor at 1000' intervals and stake as necessary to secure. Under severe oil threat, two layers and a sorbent backup may be required. Two layers of swamp boom set about 10 feet apart would be equivalent to harbor boom.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Harbor	9x9 inch		13000	feet	
Anchor	Danforth	22 lb		27		
Vessel	Boom Boat			5		
Vessel	Skiff or Punt			1		
Staff	Staff to Deploy			16		

Logistics:

Directions: There is no vehicle access to this site. The nearest vehicle accesses are at Petaluma River (at Hwy 37) and at Bel Mar Keys (exit Hwy 101 at Ignacio Blvd south of Novato and proceed bay-ward). Via water, proceed bay-ward from Petaluma River and then to the south: a line of channel markers lead from the river channel to the Novato creek channel.

Land Access: None except on foot.

2-557-A Site Strategy - Novato Creek Marshes

2-557-A

On-Water Limitations: Channel is navigable, use channel markers. Very shallow mudflats. Boat ramp at Black Point Launch one mile north. There is also less useful launch and moorage at Del Mar Keys.

Facilities, Staging Areas, Command Posts, Available Equipment: Best staging site is Black Point Launch, Hwy 37 and Petaluma River.

Communications Problems: None

