

# Sector San Francisco– Area Contingency Plan (ACP)

## Volume II: Section 9800

### ACP 2- San Francisco Bay and Delta

#### 2014-2020 Annual/Interim Updates to Geographic Response Strategies for Environmental Sensitive Sites

Geographic Response Area (GRA)	Site Number	Site Name	Change Description
GRA 1 - Sonoma/Marine Counties			No Change
GRA 2 - Marin, San Francisco, San Mateo Counties Coastal			No Change
GRA 3 - South San Francisco Bay	2-309.1	San Leandro Bay	Booming configuration adjusted, back up w/ absorbents, objectives standardized, key contacts updated
GRA 3 - South San Francisco Bay	2-312(1.2)	Oyster Bay	Boom length increased by 100 ft, objectives standardized, key contacts updated
GRA 3 - South San Francisco Bay	2-353.2	Heron's Head Park-India Basin	Booming configuration adjusted, objectives standardized, key contacts updated
GRA 3 - South San Francisco Bay	2-354.1	Islais Creek - Pier 94 Saltmarsh	Boom length adjusted to 1300 ft, anchors at 150 ft intervals, objectives standardized, key contacts updated
GRA 3 - South San Francisco Bay	2-364.1	Bair Island	Boom length adjusted, objectives standardized, key contacts updated
GRA 3 - South San Francisco Bay	2-376.1	Alviso Slough	Booming strategy overhauled, diagram revised, objectives

Geographic Response Area (GRA)	Site Number	Site Name	Change Description
			standardized, key contacts updated
GRA 4 - Central San Francisco Bay	2-423.1	Angel Island	Decreased boom angle and increase anchors to 50lbs each, objectives standardized, key contacts updated
GRA 4 - Central San Francisco Bay	2-426.1	San Rafael Creek	Boom Length adjusted, cascade configuration to allow vessel traffic , objectives standardized, key contacts update
GRA 4 - Central San Francisco Bay	2-453.1	Brooks Island	Boom length adjusted to 5000 ft, configuration changed to avoid shallows, additional anchors to secure in strong currents, objectives standardized, key contacts updated
GRA 4 - Central San Francisco Bay	2-480.1	Albany Marsh	Objectives standardized, key contacts updated
GRA 5 - San Pablo Bay	2-503.1	Point Pinole Marshes South	GPS coordinates added to identify anchor/boom configuration; caution to submerged hazards adjacent to shoreline (historic concrete pilings), objectives standardized, key contacts updated
GRA 5 - San Pablo Bay	2-552.3	China Camp Marsh	GPS coordinates added to identify tidal inlets to interior marsh, harbor boom adjusted to 350 ft, site diagram updated

Geographic Response Area (GRA)	Site Number	Site Name	Change Description
GRA 5 - San Pablo Bay	2-552.4	China Camp Marsh	Harbor boom adjusted to 3200 ft, swamp boom adjusted to 9000 ft., site diagram updated
GRA 5 - San Pablo Bay	2-553.3	Gallinas Creek	Boom length adjusted to 600 ft, GPS coordinates added to identify tidal inlets to interior marsh, site diagram updated
GRA 5 - San Pablo Bay	2-557.4	Novato Creek Marshes	Site # changed from 2-554 to 2-557, boom configuration adjusted to 2500 ft, site diagram updated
GRA 6 - Carquinez Strait and Suisun Bay	2-605.2	Point Edith Marshes	Revised angle of deflection due to strong currents & westerly winds, objectives standardized, key contacts updated
GRA 6 - Carquinez Strait and Suisun Bay	2-608.2	Shore Acres Marsh	Revised angle of deflection due to strong currents, objectives standardized, key contacts updated
GRA 6 - Carquinez Strait and Suisun Bay	2-651.2	Southampton Bay	Boom configuration adjusted to create shoreline seal, increase length to 3200 ft, GPS coordinates added to specify anchoring points, objectives standardized, key contacts updated
GRA 7 - West Delta	2-736.2	Taylor Slough	Boom configuration/length changed to avoid ferry terminal, diagram revised, equipment adjusted, objectives

Geographic Response Area (GRA)	Site Number	Site Name	Change Description
			standardized, key contacts updated
GRA 7 - West Delta	2-742.1	Fishermans Cut	Boom configuration/length adjusted, diagram revised, equipment adjusted, key contacts updated
GRA 7 - West Delta	2-755.2	Spoonbill Creek	Collection point moved due to submerged snags, diagram revised, objectives standardized, key contacts updated
GRA 7 - West Delta	2-757.1	Van Sickle Island	GPS coordinates added to specify anchor/boom configuration, objectives standardized, key contacts updated
GRA 8 - North Delta	2-850.2	Cache Slough	Boom configuration/length changed, diagram revised, equipment adjusted, key contacts update
GRA 9 - South Delta	2-922.2	Indian Slough	Boom configuration/length changed, diagram revised, equipment adjusted, objectives standardized, key contacts updated
GRA 9 - South Delta	2-970.2	Middle River Upper Jones Tract	New boom configuration to allow vessel traffic, objectives standardized, key contacts updated
GRA 10 - East Delta	2-045.1	Disappointment Slough	New boom configuration to allow vessel traffic,

Geographic Response Area (GRA)	Site Number	Site Name	Change Description
			objectives standardized, key contacts updated
GRA 10 - East Delta	2-060.1	SJR Mandeville/ Venice Tips Complex	New boom configuration to allow shipping traffic to Port of Stockton, boom length reduced to 1700 ft, objectives standardized, key contacts updated

**2-309-A Site Summary - San Leandro Bay****2-309-A****County :** Alameda **ACP Division/Segment :** AL - D - S008 AL - D - S015**NOAA Chart :** 18649/18650 Entrance to SF Bay **Map Book :** **Decimal Degrees** 37.750827 -122.221723**Site Description:**

This site includes all of San Leandro Bay and the San Leandro Channel, and Arrowhead Marsh. This shallow bay between Alameda and Bay Farm Islands has extensive mudflats and well developed saltmarsh, including the 50-acre Arrowhead Marsh at the south end. The west and south margins are part of Martin Luther King Jr. Regional Shoreline - EBRP. The Oakland Estuary feeds into the north end, and San Leandro Channel feeds in from the west. San Leandro Creek empties to the bay at its southeast corner. The Airport Marina is along the southwest margin.

**Resources at Risk:**

*ESI and Habitat:* 10A Salt - and brackish-water marshes  
9B Vegetated low banks

**List of Resources at Risk:**

	<b>Resource Name</b>	<b>Status</b>	<b>Presence</b>
Birds	California least tern	FE, SE	Jun - Sep
Birds	California Ridgway's rail	FE, SE	
Birds	California black rail		
Birds	Alameda song sparrow	SSC	
Fish	longfin smelt	ST	
Mammals	salt marsh harvest mouse	FE, SE	

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:**

<b>Type</b>	<b>Name/Title</b>	<b>Organization</b>	<b>Phone</b>
E	/Dispatch	East Bay Regional Park District	(510) 881-1833
E	Anne Rockwell/Shoreline Parks Manager	East Bay Regional Park District	(510) 544-3172
E	Kevin Takei/Park Supervisor	East Bay Regional Park District	(510) 544-3171
E	Ralph Trujillo/Park Supervisor	East Bay Regional Park District	(510) 544-3082

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:**

The main concerns are the very sensitive marshes and mudflats here, which are almost impossible to cleanup. Endangered birds and marsh mice live here. The intention is to prevent oil from entering the marshes by diverting it to collection sites on the north shore of Bay Farm Island near the bridge. Avoid disturbing or trampling marsh vegetation and oil into the mud.

**Hazard and Restrictions:**

Beware of shallows.

**Site Strategies:****Strategy: 2-309.1 Objective:** Divert Oil

*Strategy:* Deploy 1600' ft of 9X9+ Hboom (800' per leg) in a chevron configuration from north side of Bay Farm bridge, across San Leandro Channel to south side at fishing pier, establish collection pockets on both sides, and exclude oil from San Leandro Bay marshes. Place interim anchors as needed based upon conditions. Ebb Tide:- If little to no oil is inside San Leandro Bay; flood tide harbor boom can remain in place. If strong currents exist the boom may be opened, using the boom to line the marshes on either side of the channel, allowing oil to move out of the bay. If a significant amount of oil is present inside the bay; leave existing flood tide harbor boom in place, collect oil on the north bank.

Flood tide - Using 1200 ft. of 9X9+ Hboom and 300 ft of swamp boom (or intertidal barrier boom) connected together, place boom across channel at approximately a 45 deg. Angle. Place intertidal barrier boom on north side of channel across mudflat, extending harbor boom across channel to form a collection pocket on south side of channel at inlet next to the Alameda/Bay Farm Island bridge.

Backup considerations- see substrategy 2-309.5: A secondary line of defense in the San Leandro Channel may be required. This could involve sorbent boom behind harbor boom or additional harbor boom and skimmers working near the bridge. Specific equipment requirements will be determined based on oil, current, and weather conditions during the incident. Advise UC/IC.

Table of Response Resources

<b>Equipment</b>	<b>Sub-Type</b>	<b>Size</b>	<b>Unit</b>	<b>QTY</b>	<b>Unit</b>	<b>Last Page Update</b>
Boom	Harbor	9x9 inch		1600	feet	<i>Strategy Updated: Last Test: 1/13/2017</i>
Boom	Sorbent			3000	feet	
Anchor	Danforth	22 lbs		5		
Vessel	Boom Boat			2		
Vessel	Skiff or Punt			1		
Staff	Staff to Deploy			8		
Staff	Staff to Tend			2		

**Strategy: 2-309.2 Objective:** Divert Oil

*Strategy:* Deploy 1500 ft of 9X9+ Hboom from the Park St. jetty on Alameda. Depending on weather and spill conditions, this boom can be used to either deflect oil away from the marsh east of jetty and into channel, or to deflect oil to the sandy beach into a collection area. SPS skimmer in San Leandro Channel may be replaced by portable skimming head operated from shore with vac truck or other shore storage.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Harbor Boom	9x9 inch		1500	feet	
Anchor	Danforth		22 lbs	4		
Vessel	Boom Boat			2		
Vessel	Skiff or Punt			1		
Staff	Staff to Deploy			8		
Staff	Staff to Tend			2		

**Strategy: 2-309.3 Objective:** Exclude Oil

*Strategy:* Protective measures on the north channel (Oakland Estuary) entrance to San Leandro Bay may also be necessary depending on the size and location of the spill. Spills in SF Bay should be confronted in the Oakland Inner Harbor to prevent oiling of the inner harbor and San Leandro Bay. Spills in the harbor should be confronted in the Park Street Bridge Reach. Currents in the Park St. Bridge Reach are very fast. Specific strategies have not been developed for these locations, although extensive use and deployment of several thousand feet of harbor boom, boom boats, skimmers and vacuum trucks may be required. Diagonal booming will be necessary to move oil out of swift water to slower shoreside collection pockets and eddies.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Harbor	9x9		3000	feet	
Boom	Sorbent			100	feet	
Anchor	Danforth		22lb	10		
Vessel	Boom Boat			2		
Vessel	Skiff or Punt			1		
Staff	Staff to Deploy			7		
Staff	Staff to Tend			2		

**Strategy: 2-309.4 Objective:** Exclude Oil

*Strategy:* To contain and collect along-shore transported oil on Alameda Beach, set 300 ft of swamp boom at a diagonal just west of Park St. jetty. Use sorbents and provide for additional oil collection as needed.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Swamp	6x6		300	feet	
Boom	Oil Snare (pom-pom)			50	feet	
Anchor	Danforth		12 lbs	3		
Vessel	Skiff or Punt			1		
Staff	Staff to Deploy			2		
Staff	Staff to Tend			2		

**Strategy: 2-309.5 Objective:** Collect Oil with Skimmer

*Strategy:* Best skimming location is at south side of Alameda-Bay Farm Island Bridge in conjunction with 2-309.1. There is a pocket with immediate vehicle access, sea wall, and walkway immediately to the west of bridge footing. This site is well suited for a Shoreside skimming system. Extra boom to reinforce the pocket is recommended.

Skimming with a Self propelled skimmer may be effective upstream from the bridge and particularly in conjunction with strategy 2-309.2 (deflection boom from Park Street jetty at Elsie Romer Bird Sanctuary.) The channel on the south side is favorable to navigation. Shoreside skimming may also work in conjunction with 2-309.2.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Swamp	6x6		100	feet	
Self propelled skimmer				1		
Staff	Staff to Deploy			4		
Staff	Staff to Tend			4		

### Logistics:

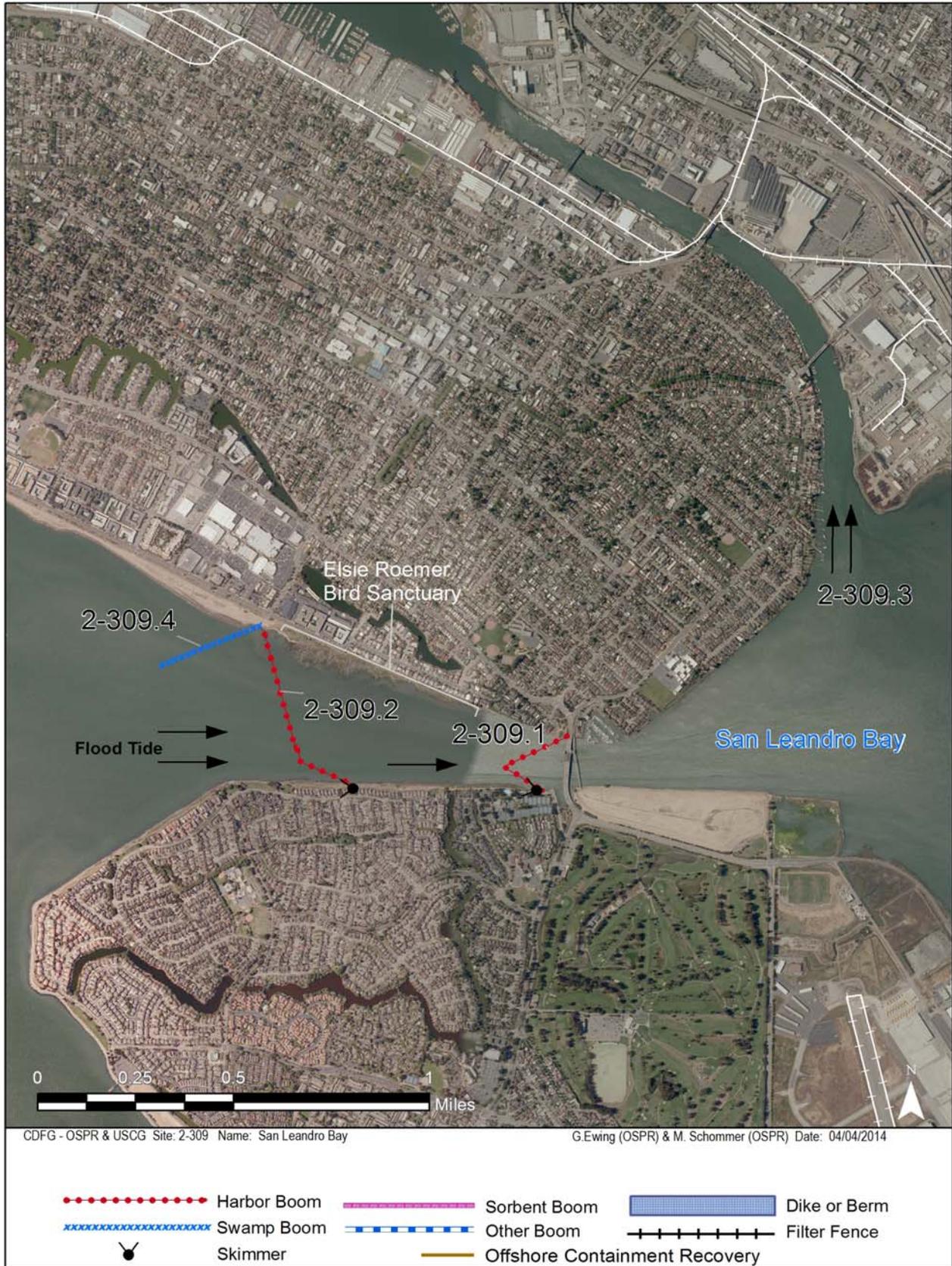
*Directions:* By vehicle, exit I-880 at Hegenberger Rd and proceed bayward (toward airport). Turn right (north) on Doolittle Dr (Hwy 61) which runs along the west side of San Leandro Bay and crosses the San Leandro Channel. By boat, from the tip of Alameda Island, the bay is at the east end of the Island and may be approached via the Oakland

*Land Access:* Good on west shore.

*On-Water Limitations:* Exceedingly shallow. There are launches in Oakland Estuary and at the southwest of Alameda

*Facilities, Staging Areas, Command Posts, Available Equipment:* Good staging at the foot of Alameda-Bay Farm Island Bridge. Also at Crown Park, San Leandro Regional Shoreline, and Bay Farm Ferry Landing. Field Post at USCG, Alameda.

*Communications Problems:*



Imagery: NAIP 2010 (Summer) 4-Band

**2-312-A Site Summary - Oyster Bay Marshes****2-312-A****County :** Alameda **ACP Division/Segment :** AL - E - S003**NOAA Chart :** San Francisco Bay, Southern Part **Map Book :** AAA Fremont - N **Decimal Degrees :** 37.703591 -122.191389**Site Description:**

The site is made up of wetlands at Oyster Bay Regional Shoreline located along the east side of San Francisco Bay, bounded to the northwest by Oakland International Airport, to the east by the San Leandro Davis Street Waste Transfer Station, and to the southwest by San Francisco Bay. The site consists of 4 acres of emergent marsh bordering the Oyster Bay Regional Shoreline to the north and 5 acres of tidally influenced marsh located along the southeast portion of the shoreline. The marsh in the northern portion of the site occurs on both side sides of the drainage channel and consists primarily of cordgrass. Access should be made through Davis St. gate managed by EBRPD. Access is restricted on the north side of the channel (Oakland Airport property). The marsh along the southeast portion of the shoreline is bordered to the east by private industrial facilities, and to the south by a mudflat cove where shorebirds are present. The shallow mudflats in the vicinity of Oyster Bay Regional Shoreline, which provide habitat for numerous shorebirds, may make access for deployment of large boom sections problematic at low tide.

**Resources at Risk:**

*ESI and Habitat:* 6B Riprap  
9B Vegetated low banks

**List of Resources at Risk:**

	<b>Resource Name</b>	<b>Status</b>	<b>Presence</b>
Birds	California least tern	FE, SE	
Birds	California Ridgway's rail	FE, SE	
Birds	Western snowy plover	FT	
Fish	longfin smelt	ST	
Mammals	salt marsh harvest mouse	FE, SE	
Mammals	salt marsh wandering shrew		
Plants	California seablite	FE	

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:**

<b>Type</b>	<b>Name/Title</b>	<b>Organization</b>	<b>Phone</b>
C	/	Northwest Historical Resources Information Center	(707) 588-8455
E	/Dispatch	East Bay Regional Park District	(510) 881-1833
T	/	MLK/Oyster Bay Park Supervisor	(510) 544-3115

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:**

Should oil enter the marsh, expect injury and death of marsh vegetation, small mammals, shorebirds and waterfowl. Avoid trampling marsh vegetation and trampling oil into mud.

**Hazard and Restrictions:**

Shallow water, seas to 3 feet. Soft mud.

**Site Strategies:**

**Strategy: 2-312.1 Objective:** Exclude Oil

*Strategy:* a). Deploy 600 ft of swamp boom having a minimum freeboard of 4 inches and a minimum draft of 4 inches in the tidal channel on the north side of Oyster Bay Regional Shoreline. Deliver the boom by truck. A john boat and 4 people will be needed to deploy the boom. Access is through the Davis Street Waste Transfer Station. A skimmer and portable storage device may be located here if significant quantities of oil can be accumulated.

b). Deploy 250 ft of swamp boom across the mouth of the salt marsh at the southeast corner of Oyster Bay Regional Shoreline. Stakes must be used to keep boom in place. Water is very shallow at low tides. Access is through East Bay Regional Park gate at the northern-most end of Neptune Drive.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Swamp	6x6 inch		950	feet	<i>Strategy Updated: 4/28/2015</i>
Anchor	Danforth	12 lbs		6		<i>Last Test: 4/28/2015</i>
Vessel	Skiff or Punt			2		
Staff	Staff to Deploy			4		
Staff	staff to tend			2		

**Strategy: 2-312.2 Objective:** Exclude Oil

*Strategy:* Deploy 2,500 ft. of 9X9+ Hboom from the southern most point of Oyster Bay Regional Shoreline to Mulford Landing near the intersection of Marina Blvd. and North Dike Rd. One boom boat, two john boats and 6 people will be needed at this site. Angle of boom may be altered to take advantage of wind. Divert oil to an accessible shoreline.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Harbor	9x9 inch		2500	feet	<i>Strategy Updated: 4/28/2015</i>
Anchor	Danforth	22 lbs		8		<i>Last Test: 4/28/2015</i>
Vessel	Boom Boat			1		
Vessel	Skiff or Punt			2		
Staff	Staff to Deploy			6		
Staff	Staff to Tend			2		

**Strategy: 2-312.3 Objective:** Collect Oil with Skimmer

*Strategy:* If product accumulates as a result of strategies .1 and/or .2, deploy skimmers and vac truck to recover product.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
skimmer	shoreside			1		
Vac truck				3		
Staff	Staff to Deploy			4		

**Logistics:**

*Directions:* Take Highway S 880 to Alameda/San Jose. Take Davis Street exit. Proceed west on Davis St., access through the Davis Street Waste Transfer Station. To San Leandro Marina: Take Highway 880 to San Leandro. Take

**2-312-A Site Strategy - Oyster Bay Marshes**

**2-312-A**

Marina Blvd. exit. Go west on Marina Blvd. to San Leandro Marina. West bank access can be made through the East Bay Regional Parks trail located on Neptune Drive, just south of the Davis Street Waste Transfer Station. Alternate

*Land Access:* Access for trucks on well maintained, graveled levee roads.

*On-Water Limitations:* Shallow draft vessels < 3'. Boat launching available at San Leandro Marina. Small skiffs may be

*Facilities, Staging Areas, Command Posts, Available Equipment:* This is all part of East Bay Regional Park's Hayward Shoreline. A small staging area and access is available at the shoreline office at the west end of W. Winton Ave. Access

*Communications Problems:*



**2-353-A Site Summary - Heron's Head Park - India Basin****2-353-A****County :** San Francisco **ACP Division/Segment :** SF - B - S005 SF - B - S006**NOAA Chart :** 18649/18650 Entrance to SF Bay **Map Book :** **Decimal Degrees** 37.737503 -122.372363**Site Description:**

This site includes the entire north margin of India Basin and the land north of the (decommissioned) power plant discharge channel. Shoreline is managed under San Francisco Recreation & Parks Department. This wetland park is undergoing restoration. It is a narrow peninsula with high ground, about 8 acres of tidal marsh, and mudflat shores. The site has been graded to create a combination of pools and high grounds with walking paths. There are several small tidal inlets on the south and west margins (about 500 ft total length) which admit tidal exchange to interior ponds. The bay to the south is exceedingly shallow. The north side is a riprap/pebble shore with low sensitivity. The site is undergoing natural revegetation, and the marsh vegetation is not very developed at this time. With time it may become increasingly sensitive as marsh vegetation and the marsh community develop fully.

**Resources at Risk:**

*ESI and Habitat:* 6B Riprap  
9B Vegetated low banks

**List of Resources at Risk:**

	<b>Resource Name</b>	<b>Status</b>	<b>Presence</b>
Birds	California Ridgway's rail	FE, SE	
Fish	longfin smelt	ST	
Fish	Pacific herring		Apr - Nov
Plants	California seablite	FE	

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:**

<b>Type</b>	<b>Name/Title</b>	<b>Organization</b>	<b>Phone</b>
C	/	Northwest Historical Resources Information Center	(707) 588-8455
E	/	Baylands Nature Preserve	(650) 617-3156
E	Ric Notini/	Cargill Salt	(510) 790-8182
E	Joy Albertson/	US Fish and Wildlife Service, SF Bay	(510) 792-0222

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:**

The tidal inlets could admit oil to the lagoons, ponds, and low marsh areas on this site. As emergent marshes develop along shorelines, these would also be vulnerable to oil impacts. Exclude oil from all inlets and protect shorelines or deflect away. Avoid trampling marsh vegetation. This is a marsh restoration site.

**Hazard and Restrictions:**

This basin is very shallow - follow the stakes which mark the channel.

**Site Strategies:**

**Strategy: 2-353.1 Objective:** Exclude Oil

*Strategy:* Close small tidal inlets with shore sections of swamp (river) boom 4X4+ (80 ft) and back with sorbent boom. Stake in place. Several openings are along south middle margin of the site and one at the end of a rock wall opposite the power plant. This can be most easily accomplished by land deployment.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Swamp	6x6 inch		200	feet	
Boom	Sorbent			200	feet	
Anchor	Stakes			12		
Staff	Staff to Deploy			2		
Staff	Staff to Tend			2		

**Strategy: 2-353.2 Objective:** Divert Oil

*Strategy:* Deploy 2,500 feet of 9X9+ Hboom from the tip of the east end of the spit to the south shore of India basin, east of the emergent marsh. Deploy at an angle to the prevailing wind so that the oil will slide down the boom to the south shoreline where the oil can be collected at the shoreline with shore-based skimming equipment. The boom may be cascaded if that will make it easier to deploy. Stakes may be helpful to keep the boom from forming catenary pockets. Boom can be delivered to site by boat or vehicle. Sites on south side can enable rapid recharge of boom boats from shore support. A cascade may be necessary to admit boat traffic to boat launch at India Basin Park.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Harbor	9x9 inch		2300	feet	<i>Strategy Updated: 9/20/2017</i>
Anchor	Danforth	22 lbs		7		<i>Last Test: 9/20/2017</i>
Vessel	Boom Boat			2		
Vessel	Skiff or Punt			1		
Staff	Staff to Deploy			8		
Staff	Staff to Tend			2		

**Logistics:**

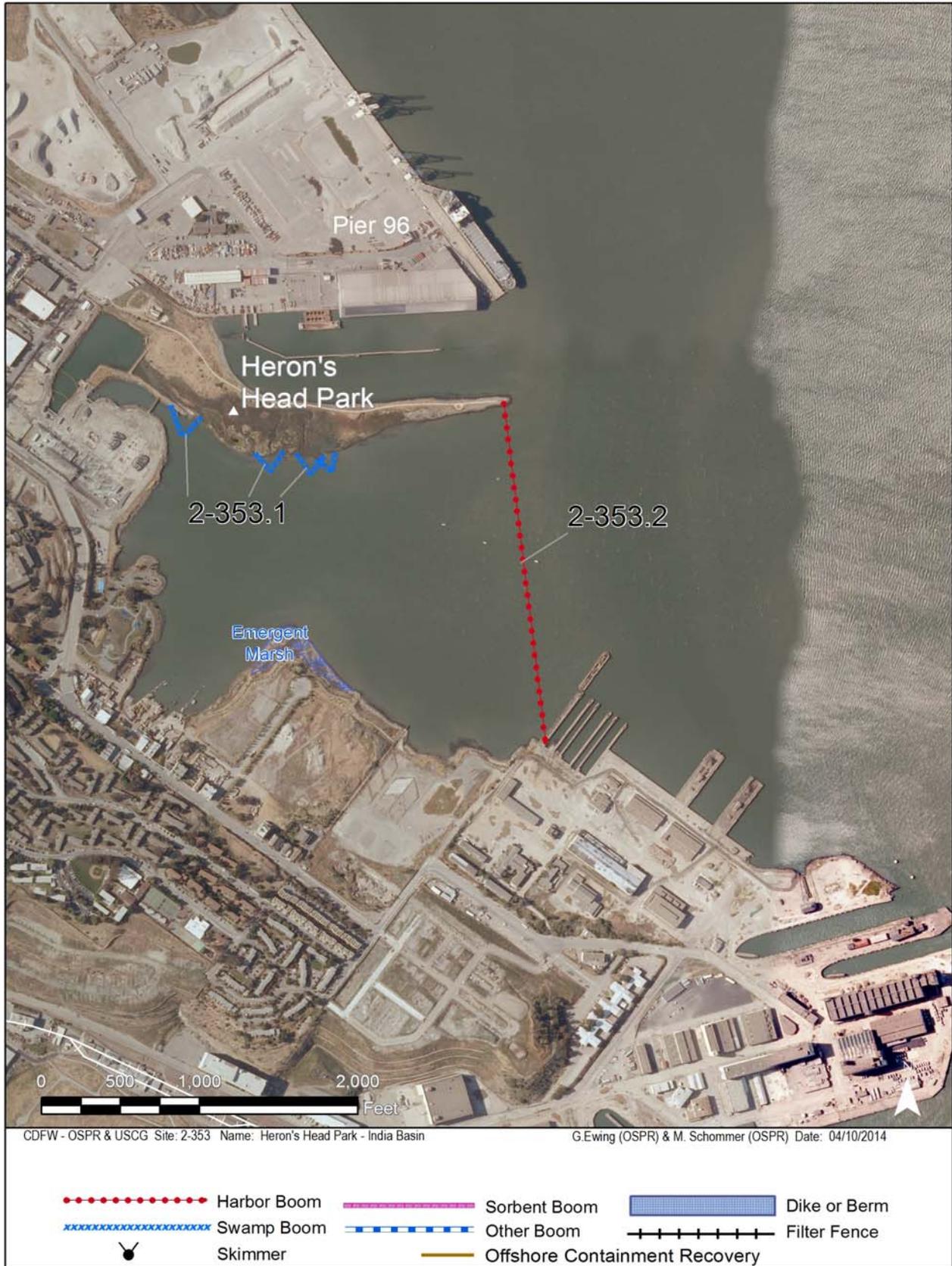
*Directions:* By boat the site is at the back of India Basin: proceed south along the SF waterfront about 4 miles from the Bay Bridge and turn west into India Basin just north of Hunters Pt. - Pt. Avisadero (Light G 5). By vehicle, exit Hwy 101 south of SF center at Army St. Continue east toward Bay on Army and turn south (right) on Evans Ave. Evans Ave becomes Hunters Point Blvd. India Basin Shoreline Park is on the left and there is a marina at Griffith St. Shoreline is

*Land Access:* Foot & ATV on site. Easy access on south shore of India Basin.

*On-Water Limitations:* Very shallow < 4' in most of basin and shallower at shore. Launch on south shore of basin.

*Facilities, Staging Areas, Command Posts, Available Equipment:* Staging on south shore of India Basin.

*Communications Problems:*



**2-354-A Site Summary - Islais Creek - Pier 94 Saltmarsh****2-354-A****County :** San Francisco **ACP Division/Segment :** SF - B - S001**NOAA Chart :** 18649/18650 Entrance to SF Bay **Map Book :****Decimal Degrees** 37.746861 -122.37547**Site Description:**

This 10+ acre site is the corner of Pier 94 at the south edge of the mouth of Islais Creek Channel and extends from Pier 96 back into the channel about a third of a mile. The shoreline is under management of the Port of San Francisco. It is a narrow 200+ yard wide parcel along the south side of the channel with high ground and about 5 acres of high saltmarsh. The site had been undergoing fill and there are mounds of rubble interspersed across the pickleweed and saltgrass marsh. The north side is a rip-rapped shore with low sensitivity. There is a small tidal inlet on the east margin near the Pier 96 wharf which admits tidal exchange to an interior marsh there. This site has "A" sensitivity because it is a wetland under restoration and has heavy waterbird and shorebird use during winter.

**Resources at Risk:**

*ESI and Habitat:* 6B Riprap  
9B Vegetated low banks

**List of Resources at Risk:**

	<b>Resource Name</b>	<b>Status</b>	<b>Presence</b>
Birds	shorebirds		
Birds	wading birds		
Birds	waterfowl		
Fish	longfin smelt	ST	
Fish	Pacific herring		Apr - Nov
Plants	California seablite	FE	

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:**

<b>Type</b>	<b>Name/Title</b>	<b>Organization</b>	<b>Phone</b>
C	/	Northwest Historical Resources Information Center	(707) 588-8455
E	/	City of San Francisco	(415) 701-2323

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:**

The tidal inlet could admit oil to the ponds and low marsh areas on this site. The openings are at the east end and can be protected with exclusion booming at the inlet and protective booming just offshore. Avoid trampling marsh vegetation. This is a marsh restoration site.

**Hazard and Restrictions:**

Riprap poses slip, trip and fall hazards. Vessels beware of submerged objects and shallows at margins.

**Site Strategies:**

**Strategy: 2-354.1 Objective:** Exclude Oil

*Strategy:* a. Place 600 feet of swamp boom at opening of rocks near Pier 96 wharf and back with sorbent. Stake in place.

b. Deploy 1,300 feet of 9X9+ Hboom from Pier 94 to the south shore of the entrance to Islais Creek. Place anchors at 150' intervals due to strong offshore currents.

**Table of Response Resources**

<b>Equipment</b>	<b>Sub-Type</b>	<b>Size</b>	<b>Unit</b>	<b>QTY</b>	<b>Unit</b>	<b>Last Page Update</b>
Boom	Harbor	9x9 inch		1300	feet	<i>Strategy Updated: 5/15/2015</i>
Boom	Swamp	6x6 inch		600	feet	<i>Last Test: 5/15/2015</i>
Boom	Sorbent			50	feet	
Anchor	Danforth	22 lbs		5		
Anchor	Stakes			6		
Vessel	Boom Boat			1		
Vessel	Skiff or Punt			1		
Staff	Staff to Deploy			4		
Staff	Staff to Tend			2		

**Logistics:**

*Directions:* By boat the site is at the south margin of the mouth of Islais Creek Channel (which is Pier 94): proceed south along the SF waterfront about 4 miles from the Bay Bridge to Islais Creek Channel (just south of Army St. Terminal-North Container Terminal -Pier 80). By vehicle, exit Hwy 101 south of SF center at Army St. Continue east toward Bay on Army and turn south (right) on 3rd St. and then left on Cargo Way. Access through industrial drives toward bay - Pier 94 and Pier 96.

*Land Access:* Foot & ATV on site. All types to adjacent piers.

*On-Water Limitations:* Submerged objects and shallows at margins. Launch on south shore of India Basin or at South

*Facilities, Staging Areas, Command Posts, Available Equipment:* Staging on Pier 96 or Pier 80, either side of the channel.

*Communications Problems:*



**2-364-A Site Summary - Bair Island****2-364-A****County :** San Mateo **ACP Division/Segment :** SM - C - S002 SM - C - S006**NOAA Chart :** 18649/18650 Entrance to SF Bay **Map Book :** **Decimal Degrees** 37.539532 -122.212531**Site Description:**

The site includes all of Bair Island between the mouths of Redwood Creek and Steinberger Slough. The "island" is located on the southwest shore of South San Francisco Bay, three miles south of the San Mateo-Hayward Bridge. It is part of San Francisco Bay National Wildlife Refuge and California Department of Fish and Wildlife Bair Island Ecological Reserve. This site includes Bair Island State Marine Park. Bair Island has an extensive marsh complex inside its levees. Water flows through breaches in several places around the island. A large fringe marsh exists outside the levee along Redwood Creek. The "island" is located on the southwest shore of South San Francisco Bay, three miles south of the San Mateo-Hayward Bridge. It is bounded on the southeast by Redwood Creek, on the northwest by Steinberger Slough and on the south by Corkscrew Slough.

**Resources at Risk:**

*ESI and Habitat:* 10A Salt - and brackish-water marshes  
6B Riprap

**List of Resources at Risk:**

	<b>Resource Name</b>	<b>Status</b>	<b>Presence</b>
Birds	California Ridgway's rail	FE, SE	
Birds	California least tern	FE, SE	
Birds	California black rail		
Birds	Western snowy plover	FT	
Birds	saltmarsh common yellowthroat		
Birds	Alameda song sparrow	SSC	
Fish	longfin smelt	ST	
Mammals	salt marsh harvest mouse	FE, SE	
Mammals	salt marsh wandering shrew		
Mammals	harbor seal	FP	Mar - Jun

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:**

<b>Type</b>	<b>Name/Title</b>	<b>Organization</b>	<b>Phone</b>
C	/	Northwest Historical Resources Information Center	(707) 588-8455
T	Erik Mruz/Manager	US Fish and Wildlife Service, SF Bay	(510) 792-0222

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:**

The concern is oil and response impacts to marsh, wildlife, and rare and endangered birds, animals and plants which are present year-round. Primary objective is to minimize exposure by excluding oil from entering openings to Bair Island and adjacent sensitive sites. Secondary objective is to minimize exposure and impacts to bay frontage marshes by protective booming. Always of concern is the impacts resulting from response and cleanup: avoid trampling marsh and sensitive plants and animals, avoid disturbing soft mudflats, and avoid trampling oil into marsh sediments.

**Hazard and Restrictions:**

Aircraft beware of overhead power lines nearby. Vessels be aware of shallow water.

**Site Strategies:**

**Strategy: 2-364.1 Objective:** Exclude Oil

*Strategy:* Deploy 2700' 9X9+ Hboom in a chevron across the large levee breach existing approximately halfway between Steinberger Slough and Redwood Creek.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Harbor	9x9 inch		3300	feet	
Boom	Sorbent			200	feet	
Anchor	Danforth	22 lb		12		
Vessel	Boom Boat			2		
Vessel	Skiff or Punt			1		
Staff	Staff to Deploy			7		
Staff	Staff to Tend			2		

**Strategy: 2-364.2 Objective:** Exclude Oil

*Strategy:* Deploy 4,000 ft of exclusionary tidal barrier boom around unleveed marsh on eastern Bair Island, northwest of Redwood Creek, beginning near levee breach midway along the bay side shore. Extend boom east and south into Redwood Creek channel. Connect with Hboom from Redwood Creek strategy (2-365-A).

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Harbor	9x9 inch		4000	feet	<i>Strategy Updated: 9/18/2017</i>
Anchor	Danforth	22 lb		17		<i>Last Test: 9/18/2017</i>
Vessel	Boom Boat			2		
Vessel	Skiff or Punt			1		
Staff	Staff to Deploy			10		
Staff	Staff to Tend			2		

**Logistics:**

*Directions:* Bair Island has no vehicular access. By water it is at the mouth and to the north of Redwood Creek, just bayward of the Port of Redwood City.

*Land Access:* Foot only: no road access to Bair Island.

*On-Water Limitations:* Very shallow on bay frontage and at margins. Port of Redwood City.

*Facilities, Staging Areas, Command Posts, Available Equipment:* Staging at Port of Redwood City.

*Communications Problems:*



Imagery: NAIP 2010 (Summer) 4-Band

**2-376-A Site Summary - Alviso Slough****2-376-A****County :** Santa Clara **ACP Division/Segment :** SC - W - S003**NOAA Chart :** 18654 San Francisco Bay Southern Part**Map Book :****Decimal Degrees** 37.46208 -122.021794**Site Description:**

Site extends from the mouth on Coyote Creek inland for about six miles to the railroad track at Alviso Marina. This is a waterway with marshes and mudflats near its mouth and along its banks. Alviso Slough is a water channel on the southwest shore of south San Francisco Bay, five miles southeast of the Dumbarton Bridge. It is a tributary to Coyote Creek surrounded by saltmarsh. The northeasterly and first two miles of west margins are part of San Francisco Bay National Wildlife Refuge.

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

	<b>Resource Name</b>	<b>Status</b>	<b>Presence</b>
Birds	California Ridgway's rail	FE, SE	
Birds	California black rail		
Birds	California least tern	FE, SE	
Birds	Alameda song sparrow	SSC	
Fish	longfin smelt	ST	
Mammals	salt marsh harvest mouse	FE, SE	
Plants	delta tule pea		
Plants	North-coast birds beak		

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:**

<b>Type</b>	<b>Name/Title</b>	<b>Organization</b>	<b>Phone</b>
C	/	Northwest Historical Resources Information Center	(707) 588-8455
E	Ric Notini/	Cargill Salt	(510) 790-8182
E	Joy Albertson/	US Fish and Wildlife Service, SF Bay	(510) 792-0222
T	Erik Mruz/Manager	US Fish and Wildlife Service, SF Bay	(510) 792-0222

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:**

The concern is oil and response impacts to marsh, wildlife, and rare and endangered birds, animals and plants which are present year-round. Primary objective is to minimize exposure by excluding oil from entering Alviso Slough. Secondary objective is to minimize exposure and impacts to bay frontage marshes by protective booming. Always of concern is the impacts resulting from response and cleanup: avoid trampling marsh and sensitive plants and animals, avoid disturbing soft mudflats, and avoid trampling oil into marsh and mudflats.

**Hazard and Restrictions:**

Be aware of overhead powerlines and shallow water. Head of slough at marina almost completely silted in.

**Site Strategies:**

**Strategy: 2-376.1 Objective:** Deploy Containment Boom

*Strategy:* Deploy 9x9 Harbor boom from both levees to skimmer in mid-channel. Use swamp boom across marsh and mudflat.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Harbor	9x9 inch		1000	feet	<i>Strategy Updated:</i> 10/5/2017 <i>Last Test:</i> 10/5/2017
Boom	Swamp	6x6 inch		2000	feet	
Boom	Sorbent			2000	feet	
Anchor	Danforth	22 lb		10		
Vessel	Boom Boat			2		
Vessel	Skiff or Punt			1		
skimmer	self propelled			1		
Staff	Staff to Deploy			10		

**Strategy: 2-376.2 Objective:** Divert Oil

*Strategy:* a. Deflection boom, using 100' segments, along south shore of Coyote Creek to keep oil away from Alviso Slough and in deep water.

b. Deploy boom and skimmers near power line towers for collection.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Harbor	9x9 inch		400	feet	
Anchor	Danforth	22 lb		4		
Vessel	Skiff or Punt			1		
skimmer	self propelled			1		
Staff	Staff to Deploy			4		

**Strategy: 2-376.3 Objective:** Deploy Containment Boom

*Strategy:* Line marsh front near mouth with swamp and sorbent boom.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Sorbent			2000	feet	
Anchor	Stakes			20		
Vessel	Skiff or Punt			1		
Staff	Staff to Deploy			4		

**Logistics:**

*Directions:* Take Hwy 880 south to Hwy 237 west and exit at Zanker Road. Turn right on Zanker Road to Esteros Road. Follow Esteros Road to Access Road which leads to the Alviso Slough. Roadway access is secured by a locked gate. Contact San Jose/Santa Clara Water Pollution Control to gain entry. 700 Esteros Road, San Jose, CA (408) 945-5300 (24

**2-376-A Site Strategy - Alviso Slough**

**2-376-A**

hours). Access to levee from SFBNWR and Cargill Salt Co.

*Land Access:* 4WD

*On-Water Limitations:* Shallow draft vessels<6' Small boats at high tide at Alviso Marina. Redwood City launch ramp for all boats.

*Facilities, Staging Areas, Command Posts, Available Equipment:* Alviso Marina

*Communications Problems:*



Imagery: NAIP 2016, 60 cm resolution

**2-423-C/X Site Summary - Angel Island****2-423-C/X****County :** Marin

**ACP Division/Segment :** MR - R - S001 MR - R - S002 MR - R - S003 MR - R - S004  
 MR - R - S005 MR - R - S006 MR - R - S007 MR - R - S008  
 MR - R - S009 MR - R - S010 MR - R - S011 MR - R - S012  
 MR - R - S013 MR - R - S014 MR - R - S015 MR - R - S016  
 MR - R - S017 MR - R - S018 MR - R - S019 MR - R - S020  
 MR - R - S021 MR - R - S022 MR - R - S023 MR - R - S024  
 MR - R - S025 MR - R - S026 MR - R - S027 MR - R - S028

**NOAA Chart :** Entrance to San Francisco Bay 18649**Map Book :** AAA - Mill Vall**Decimal Degrees** 37.866413 -122.435129**Site Description:**

Angel Island is a state park located about one mile SE of the Tiburon Peninsula. It has an area of about one square mile, and a maximum elevation of 781 feet. There is a dock and numerous floating berths in Ayala Cove located on the North Western side of the island. A road runs the perimeter of the island. Sand beaches exist on the North Eastern, Eastern and South Eastern shores. Rock bluffs make up a large part of the shoreline. Strong currents run through Raccoon Straits (the deep channel located on the North West side of the island). Back eddies occur along the South Eastern shore and probably at numerous other locations around the island. An underwater cable is located between Ayala cove and Pt Stuart. Shorelines have been oiled to different degrees in several spills, and the eastern shoreline is a natural collection area for oil and other floating debris. This makes the points along the eastern shoreline natural collection areas.

**Resources at Risk:**

*ESI and Habitat:* 1C Exposed rocky cliffs with boulder talus base  
 5 Mixed sand and gravel beaches

**List of Resources at Risk:**

	Resource Name	Status	Presence
Fish	Pacific herring		
Fish	longfin smelt	ST	
Mammals	harbor seal	FP	
Mammals	California sea lion	FP	
Plants	eelgrass		
Plants	northern meadow sedge		

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
E	/Environmental Scientist	California State Parks	(831) 335-6382
E	/Dispatch	California State Parks, Marin District	(707) 769-5665
E	/	Marin County, Sheriff/Office of Emergency	(415) 473-6584
T	Ryen Goering/	California State Parks, Diablo Range District	(925) 455-7876

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:**

Oil tends to collect on the eastern shore of the island, particularly on the beaches north of Blunt Point and Quarry Point. The beach between Blunt Point and the pier about 100 yards to the north is a mixture of coarse sand and gravel. Petroleum may penetrate this beach to a depth of six inches. The fine grained sand beach to the north would be much easier to clean. A similar situation exists to the north of Quarry Point where gravel beaches are both north and south of a fine sand grained beach.

**Hazard and Restrictions:**

Submerged rocks along most beaches, steep cliffs along most shorelines.

**Site Strategies:****Strategy: 2-423.1 Objective:** Contain Oil

*Strategy:* The following are the instructions to use this area as a collection site with a minimal amount of cleanup.

a) At Blunt Pt deploy 600 feet of boom (4 to 8 inch freeboard) in a northeasterly direction from the sand beach north of the pier to collect oil. To prevent oiling of the gravel beach south of the pier, deploy 800 ft of 9X9+ Hboom from the south side of Blunt Point to the pier to the north of Blunt Point.

b) At Quarry Point, the shoreline and the eddies just off the shoreline are natural collection areas for shoreline and onwater recovery. Collect oil on fine grained beach about 1000' north of Quarry Pt by deploying 600 feet of boom (4 to 8 inch freeboard) from the beach in a northeasterly direction. To prevent oiling of the gravel beach to the north of the collection site, deploy 1,000' of boom parallel to the gravel beach. Anchor the ends at the high tide line and anchor the midpoint 50 feet offshore. To prevent oiling of the gravel beach to the south of the collection beach, deploy 600 feet of harbor boom from the shoreline near the pier at Quarry Pt to the south end of the fine grained sand beach.

c) Look for oil offshore. Direct on-water recovery vessels to concentrations offshore. Set up Shore Side Skimming

(SSS) as necessary. Both sites have some roads and piers for support of SSS.

## Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Harbor	9x9 inch		2600	feet	<i>Strategy Updated: Last Test: 7/26/2016</i>
Boom	Swamp	6x6 inch		1200	feet	
Anchor	Danforth	22 lb		20		
Vessel	Boom Boat			1		
Vessel	Skiff or Punt			1		
Staff	Staff to Deploy			8		

**Logistics:**

*Directions:* Angel Island is a state park located SE of the Tiburon Peninsula. Access to the island is by water only. Ferry service is available from Tiburon. Numerous launch ramps and boat launching facilities are located in Sausalito. To launch boats take highway 101 to Sausalito, 3 miles north of Golden Gate Bridge. Take Bridgeway exit at north end of Sausalito about 1 mile south of the highway 1 exit. Go southeast on Bridgeway towards downtown Sausalito and the

*Land Access:* Equipment and vehicles would have to be transported over water.

*On-Water Limitations:* Submerged rocks off most beaches. Berths are available in Ayala Cove. There are piers just north of Blunt Point and at Quarry Point.

*Facilities, Staging Areas, Command Posts, Available Equipment:* California Parks and recreation can make space available

*Communications Problems:*



Imagery: NAIP 2010 (Summer) 4-Band

**2-426-A Site Summary - San Rafael Creek Marsh****2-426-A****County :** Marin **ACP Division/Segment :** MR - U - S003**NOAA Chart :** 18649 Entrance to SF Bay **Map Book :****Decimal Degrees** 37.96839 -122.488505**Site Description:**

This site is San Rafael Creek and the bay margins and mudflats for 1 mile north and south of the channel mouth. The navigation channel connecting San Rafael Marina with San Francisco Bay passes through mud flats and marshes extending about one half mile on each side.

**Resources at Risk:**

*ESI and Habitat:* 8B Sheltered solid man-made structures  
10A Salt - and brackish-water marshes

**List of Resources at Risk:**

	<b>Resource Name</b>	<b>Status</b>	<b>Presence</b>
Birds	California Ridgway's rail	FE, SE	
Birds	California black rail		
Birds	San Pablo song sparrow		
Fish	longfin smelt	ST	
Mammals	salt marsh harvest mouse	FE, SE	
Plants	Pt. Reyes bird's-beak		
Plants	Marin western flax	FT, ST	

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:**

<b>Type</b>	<b>Name/Title</b>	<b>Organization</b>	<b>Phone</b>
C	/	Northwest Historical Resources Information Center	(707) 588-8455
E	/	Marin County, Sheriff/Office of Emergency	(415) 473-6584
O	Barbra Salzman/	Audubon Society, Marin County Chapter	(415) 924-6057

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:**

The concern is to prevent oil from entering the creek (and oiling upstream marshes and marinas) and to protect the marshes and mudflats on for about a mile on sides of the channel. All this area has wildlife (including endangered species) and would be difficult to clean if oiled. Avoid disturbing marsh vegetation or trampling oil into muds.

**Hazard and Restrictions:**

Very shallow mud flats out side of channels

**Site Strategies:**

**Strategy: 2-426.1 Objective:** Exclude Oil

*Strategy:* Exclude oil with 9X9+ Hboom (3,000 ft) to close off San Rafael Creek Channel mouth and the yacht harbor entrance. Leave a cascaded chevron opening in the channel mouths to allow vessel passage but still exclude oil.

If heavy oil threat is theating, contact IC for deployment of on-water recovery should be conducted with a skimmer (weir) near the mouth of the creek and in front of the mud flats north of the yacht harbor.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Harbor	9x9 inch		3800	feet	<i>Strategy Updated:1/26/2017</i>
Anchor	Danforth	22 lb		12		<i>Last Test:1/26/2017</i>
Vessel	Boom Boat			1		
Vessel	Skiff or Punt			1		
Staff	Staff to Deploy			5		

**Strategy: 2-426.2 Objective:** Exclude Oil

*Strategy:* Deploy 6,900 ft of 9X9+ Hboom (2500 south of the channel the remainder to the north) to protect the mudflats and marshfront. Use swamp boom (Appox. 600 ft) to connect the harbor boom to the shoreline across shallow mudflats.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Harbor	9x9 inch		6900	feet	
Boom	Swamp	6x6 inch		600	feet	
Anchor	Danforth	22 lb		18		
Vessel	Boom Boat			3		
Vessel	Skiff or Punt			2		
Staff	Staff to Deploy			12		

**Logistics:**

*Directions:* From the Richmond-San Rafael Bridge, take Highway 101 north to the San Rafael Marina. Also, Loch Lomond Marina may be used as staging and deployment area: Exit Hwy 101 at 3rd St. and proceed east. 3rd becomes Pt San

*Land Access:* some portions only foot; paved roads

*On-Water Limitations:* extremely shallow water out of channels, launching, fuel, moorage at Loch Lomond Marina. More services up San Rafael Creek

*Facilities, Staging Areas, Command Posts, Available Equipment:* All manner of facilities in San Rafael Creek marinas.

*Communications Problems:*



Imagery: NAIP 2010 (Summer) 4-Band

**2-453-A Site Summary - Brook's Island****2-453-A****County :** Contra Costa **ACP Division/Segment :** CC - Z - S001 CC - Z - S010**NOAA Chart :** Entrance to San Francisco Bay 18649 **Map Book :** AAA Richmond **Decimal Degrees :** 37.897908 -122.356344**Site Description:**

Brook's Island lies south of the Richmond Channel and at the west side of the Richmond Inner Harbor and includes the spit but not the rocky channel breakwater. It is the property of East Bay Regional Parks and no trespassing is permitted at any time because of the extreme ecologic sensitivity. This small rocky island, 400 X 1,700 yards, consists of about 160 acres of rocky upland rising to a maximum elevation of 163 ft. Most shorelines of the island are mixed sand and gravel. A 2,300 yard long breakwater is attached to the west end of the island with a shipping channel along its north side. There is a small, 35 acre, seasonal wetland near where the breakwater connects to the island. The wetland is protected on the north by the breakwater and a sandy beach. Sand beaches and dunes have accumulated at several points along the breakwater. To the south the marsh is open to San Francisco Bay. There are tidal flats to the north, east, and south of Brook's Island and the breakwater. Eelgrass beds are present in shallow water (less than 6 feet below MLLW) south of the breakwater.

**Resources at Risk:***ESI and Habitat:* 5 Mixed sand and gravel beaches**List of Resources at Risk:**

Resource Name		Status	Presence
Birds	egrets		
Birds	herons		
Birds	Caspian tern		
Fish	Pacific herring		Apr - Nov
Fish	longfin smelt	ST	
Mammals	harbor seal	FP	
Plants	eelgrass		

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	/	Northwest Historical Resources Information Center	(707) 588-8455
E	/Operations (24hr)	Chevron Corporation, Long Wharf	(510) 242-4494
E	/Dispatch	East Bay Regional Park District	(510) 881-1833
E	/	Port of Richmond	(510) 215-4600
T	Jeff Manley/Shoreline Park Supervisor	East Bay Regional Park District	(510) 544-3172

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 site has heavy bird nesting activity which is concentrated on the spit. No foot traffic is permitted on the Island except with biologist supervising. Even activity nearby can be destructive to nesting success. There are marshy areas at the northwest corner of the island and along north margin of the spit.

**Hazard and Restrictions:**

Shallow water, debris, and pilings may be present throughout area south and east of island and breakwater. No foot traffic on shore without first notifying East Bay Regional Park District.

**Site Strategies:****Strategy: 2-453.1 Objective:** Exclude Oil

*Strategy:* On the south of the Brooks Island spit (on west end), deploy 5000 ft of 9X9+ Hboom across the cove from the SSE spit, forming a chevron configuration to the SW corner of the main island to include Bird Rock. Boom should be anchored on shore, but foot traffic must be kept to absolute minimum to avoid disturbing ground nesting birds and marsh life. Apex of configuration should be directly into prevailing wind to reduce entrainment and overtopping. Place anchors at 500' intervals or as necessary.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Harbor	9x9 inch		5000	feet	<i>Strategy Updated: 2/27/2017</i>
Anchor	Danforth	22 lb		12		<i>Last Test: 2/27/2017</i>
Vessel	Boom Boat			2		
Vessel	Skiff or Punt			1		
Staff	Staff to Deploy			7		

**Strategy: 2-453.2 Objective:** Exclude Oil

*Strategy:* On the north of the Brooks Island spit (on west end), deploy 3200 ft of swamp boom from the rocky point at northeast tip to west of the jetty breach. Probably only minimal mid-boom anchoring will be necessary. For the opening to the interior marsh, a small length of boom may be staked across the shallow entry in a chevron formation.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Swamp	6x6 inch		3200	feet	<i>Strategy Updated:</i>
Anchor	Danforth	22 lb		8		<i>Last Test:</i>
Vessel	Boom Boat			1		
Vessel	Skiff or Punt			1		
Staff	Staff to Deploy			5		

**Logistics:**

*Directions:* Access by vessel only. Launch at Richmond Marina. Island is managed by East Bay Regional Park District

*Land Access:* none

*On-Water Limitations:* Very shallow water, Launch ramp at Richmond Marina

*Facilities, Staging Areas, Command Posts, Available Equipment:* Large staging area available at MSRC in Richmond Harbor or at the Richmond Marina. Possible field posts at any of the several marine terminals along Santa Fe Channel in Richmond Harbor.

*Communications Problems:*



**2-480-A Site Summary - Albany Marsh****2-480-A****County :** Contra Costa **ACP Division/Segment :** CC - Z - S029 AL - A - S002**NOAA Chart :** 18649/18650 Entrance to SF Bay **Map Book :** **Decimal Degrees** 37.893846 -122.31531**Site Description:**

This site includes the embayment and tributary marshes between the Pt. Isabel peninsula and the Golden Gate Fields peninsula. Both peninsulas are largely fill and ripped along most of their margins. The two peninsulas roughly form a rectangle with the back marsh making the shore end. The back bay marsh is pickleweed marsh fronted with a sheltered tidal flat extending and very gradually deepening bayward and around the south side toward the mouth. Over half the bay is exposed tidal flat at low tide. There is almost no wave action at the marsh margin and very little past the mouth. The extensive tidal flats are used by shorebirds for foraging and water birds shelter in the calm of this bay. This site includes the embayment and tributary marshes between the Pt. Isabel and the Golden Gate Fields peninsula. This site is managed by East Bay Regional Park District (EBRPD).

**Resources at Risk:**

*ESI and Habitat:* 6B Riprap  
9B Vegetated low banks

**List of Resources at Risk:**

	Resource Name	Status	Presence
Birds	California Ridgway's rail	FE, SE	
Birds	Alameda song sparrow	SSC	
Birds	migratory waterfowl		Apr - Sep
Fish	longfin smelt	ST	
Mammals	salt marsh harvest mouse	FE, SE	
Plants	California seablite	FE	

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	/	Northwest Historical Resources Information Center	(707) 588-8455
E	/Dispatch	East Bay Regional Park District	(510) 881-1833
T	Jeff Manley/Shoreline Park Supervisor	East Bay Regional Park District	(510) 544-3172

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:**

The concern here is the back bay which has extensive shallow mudflats and pickleweed marshes which have endangered species and lots of bird use. The habitat is very sensitive and almost impossible to cleanup. Keep oil from entering the mouth of the bay and/or to divert it to shore near the mouth for collection. Please stay off the marsh and mudflats and avoid trampling vegetation or oil into muds.

**Hazard and Restrictions:**

The water is reasonably deep at the mouth, but becomes progressively shallower as you proceed inward to shore. Beware of possible obstructions.

**Site Strategies:****Strategy: 2-480.1 Objective:** Exclude Oil

*Strategy:* Deploy boom from the Golden Gates Fields Peninsula to Pt. Isabel: 1500' 9X9+ Hboom. Leave loose boom at each shoreline anchorage to maintain boom seal when tide is low. In most conditions a second layer of boom will be required to intercept and exclude oil washed over the first layer by wave actions (see 2-480.3). If potential for collection exists, establish collection pocket on Pt. Isabel, with shallow water skimmer and vac truck: double line the collection pocket: advise Incident Command:

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Harbor	9x9 inch		1500	feet	<i>Strategy Updated: 2/19/2015</i> <i>Last Test: 2/19/2015</i>
Boom	Sorbent			100	feet	
Anchor	Danforth	22 lb		8		
Vessel	Boom Boat			1		
Vessel	Skiff or Punt			1		
Staff	Staff to Deploy			5		

**Strategy: 2-480.2 Objective:** Exclude Oil

*Strategy:* Deploy boom from the Golden Gate Fields Peninsula to Pt. Isabel: 1700' 9X9+ Hboom. In most conditions a second layer of boom will be required to exclude oil washed over the first layer by wave actions (see 2-480.3). If significant oil possible: establish collection pocket on Golden Gate Fields Peninsula and deploy shallow water skimmer and vac truck : double line the collection pocket.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Harbor	9x9 inch		1700	feet	
Boom	Sorbent			100	feet	
Anchor	Danforth	22 lb		9		
Vessel	Boom Boat			1		
Vessel	Skiff or Punt			1		
skimmer	shoreside			1		
Staff	Staff to Deploy			8		

**Strategy: 2-480.3 Objective:** Exclude Oil

*Strategy:* Repeat the deployment with a second deployment (1,500 ft for 2-456.1 or 1,700 ft for 2-456.2) of swamp boom. Front the deployment with sorbent (1500-1700' sorbent).

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Swamp	6x6 inch		3200	feet	
Boom	Sorbent			1700	feet	
Anchor	Danforth	22 lb		12		
Vessel	Boom Boat			2		
Vessel	Skiff or Punt			1		
Staff	Staff to Deploy			5		

**Strategy: 2-480.4 Objective:** Collect Oil with Skimmer

*Strategy:* A skimming pocket will be necessary to keep oil from getting behind exclusion and to ensure that collection oil is focused to skimmer. Back the skimming pocket with sorbents (or Oil Snare if oil is group 4 or 5). Shallow water skimming head will be needed. Whether skimming with 2-456.1 or 2-456.2 exclusion, in both situations the backup exclusion is advisable (2-456.3).

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Swamp	6x6 inch		200	feet	
Boom	Sorbent			200	feet	
Anchor	Danforth	22 lb		3		
Vessel	Skiff or Punt			1		
skimmer	shoreside			1		
Staff	Staff to Deploy			4		

**Logistics:**

*Directions:* There is access to this area from Pt. Isabel Regional Park: From I-80 or I-580 just south of Richmond, exit on Central Ave and drive bayward to Pt. Isabel. (There is also access on the south shore though Golden Gate Fields at Buchannon St exit) By water, the inlet is 2 miles north of Berkeley Marina or Richmond Marina about a mile north of Pt.

*Land Access:* access good all types except on marshy margin

*On-Water Limitations:* Very shallow particularly toward back. Beware, obstructions, Launching, gas, and moorage at Richmond Marina and Berkeley Marina.

*Facilities, Staging Areas, Command Posts, Available Equipment:* Full facilities and staging both Richmond and Berkeley.

*Communications Problems:*



**2-503-A Site Summary - Pinole Pt. Marshes-South****2-503-A****County :** Contra Costa **ACP Division/Segment :** CC - O - S002 CC - O - S003**NOAA Chart :** San Pablo Bay 18654 **Map Book :** AAA Richmond **Decimal Degrees :** 37.990181 -122.359397**Site Description:**

The site is bounded on the north by Point Pinole and continues south approximately 2 miles to the Richmond Rod and Gun Club skeet range. Point Pinole is under management of East Bay Regional Park District (EBRPD). Approximately 50 acres of salt marshes run intermittently from one mile south of Pinole Pt. to a filled area approximately 2 miles south of Pinole Pt. Predominately contained within the Point Pinole Regional Shoreline. The south 0.5 mile of shoreline access is controlled by private owners (Richmond Rod and Gun Club, Bruener Property). Salt marshes front most of the two miles of shoreline from 0.3 mi. south of the San Pablo Creek mouth to 0.5 mi. south of Pinole point. This prograding marsh is up to 0.4 mi. wide and vulnerable to oiling along the entire length of the shoreline since there are no levees.

**Resources at Risk:**

*ESI and Habitat:* 10A Salt - and brackish-water marshes  
5 Mixed sand and gravel beaches

**List of Resources at Risk:**

	<b>Resource Name</b>	<b>Status</b>	<b>Presence</b>
Birds	California Ridgway's rail	FE, SE	
Birds	California black rail		
Birds	San Pablo song sparrow		
Fish	longfin smelt	ST	
Mammals	salt marsh harvest mouse	FE, SE	
Mammals	salt marsh wandering shrew		
Mammals	San Pablo vole		

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:**

<b>Type</b>	<b>Name/Title</b>	<b>Organization</b>	<b>Phone</b>
C	/	Northwest Historical Resources Information Center	(707) 588-8455
E	/Dispatch	East Bay Regional Park District	(510) 881-1833
T	Britt Thorsnes/Park Supervisor	East Bay Regional Park District	(510) 544-3062

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:**

Should oil enter the marsh injury and death of vegetation and wildlife can be expected.

**Hazard and Restrictions:**

Shallow water, submerged obstructions likely, eelgrass may foul propellers. Wind chop to three feet possible.

**Site Strategies:**

**Strategy: 2-503.1 Objective:** Exclude Oil

*Strategy:* Exclude oil from the inlets leading into Parchester Marsh. Place harbor or swamp boom backed by sorbent boom in each of the four inlets draining the marsh. From the South inlet -boom lengths of each inlet are: 200', 300' (deploy boom from jetty to jetty to close off inlet and protect secondary inlet), 200' and 200'. The type of sorbent should be adjusted to the type of oil spilled. Use plastic pompoms for heavy oils and rubberizer boom for light oils.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Swamp	6x6 inch		1400	feet	<i>Strategy Updated:</i> 11/17/2015
Boom	Sorbent			1400	feet	<i>Last Test:</i> 11/17/2015
Anchor	Danforth	22 lb		12		
Vessel	Boom Boat			1		
Vessel	Skiff or Punt			1		
Staff	Staff to Deploy			5		

**Strategy: 2-503.2 Objective:** Exclude Oil

*Strategy:* If high tides are anticipated, protection of the marsh front is needed. Deploy 5,400 feet of 9X9+ Hboom ( 2 layers of swamp boom held by 3 to 6 feet apart may be substituted) immediately east of the rows of piles offshore of Parchester Marsh. Backed with 6,000 feet of sorbent boom or oil snare.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Harbor	9x9 inch		5400	feet	
Boom	Sorbent			6000	feet	
Anchor	Danforth	22 lb		16		
Vessel	Boom Boat			2		
Vessel	Skiff or Punt			1		
Staff	Staff to Deploy			8		

**Logistics:**

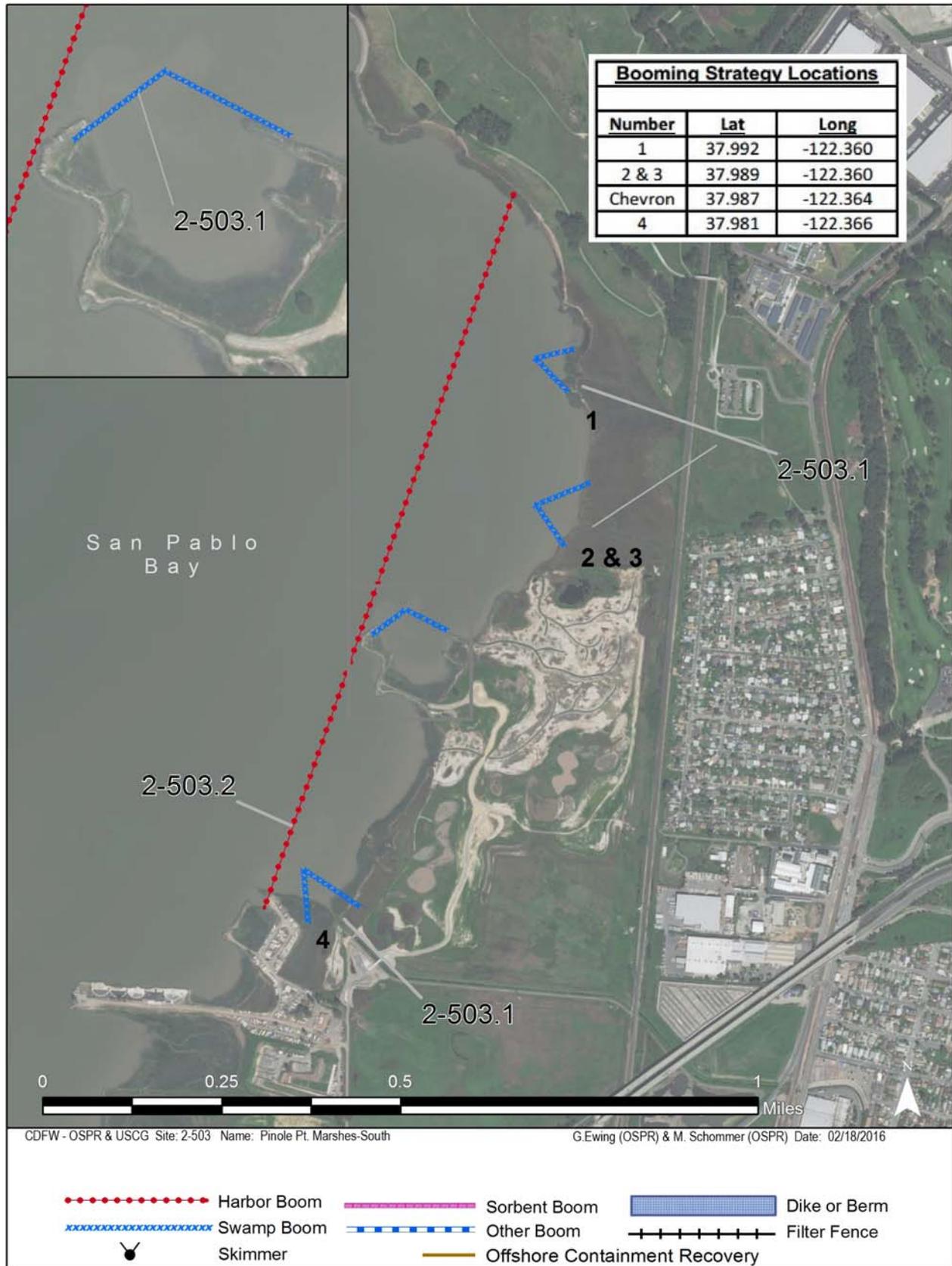
*Directions:* Approximately 50 acres of salt marshes run intermittently from one mile south of Pinole Pt. On the north to a filled area approximately 2 miles south of Pinole Pt. From I-80 in Richmond, exit at the Richmond Parkway. From the Richmond Parkway, turn right onto Giant Highway and proceed to the park entrance. Limited access can also be obtained through Goodrick Ave, off Richmond Parkway.

*Land Access:*

*On-Water Limitations:*

*Facilities, Staging Areas, Command Posts, Available Equipment:*

*Communications Problems:*



**2-552-A Site Summary - China Camp Marsh****2-552-A****County:** Marin**ACP Division/Segment:** MR - V - S008 MR - V - S012**NOAA Chart:** 18654 San Pablo Bay **Map Book:** Marin County, S **Decimal Degrees:** 38.010451 -122.487525**Site Description:**

Site includes the marshes and mudflats of China Camp State Park. Approximate boundaries are Rat Rock/Five Pines Point on the east to Gallinas Creek on the west (approximately the power line tower). Nearly 3 miles of bayfront marshes, mudflats and rocky shores. The largest pickleweed marsh extends from Gallinas Creek to Buckeye Point (1.5 miles). This is a pristine marsh with extensive tidal channels. Three narrow pocket marshes of cordgrass and pickleweed are present between Buckeye Point to Weber Point, Weber Point to Bullhead Flat, and Bullhead Flat to Five Pines Point.

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

8A Sheltered scarps in bedrock, mud, or clay

5 Mixed sand and gravel beaches

**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		
Invertebrates	Olympia oyster			
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, 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	/	Northwest Information Center	(707) 588-8455
E	/Dispatch	California State Parks, Bay Area District	(707) 769-5665
O	Barbra Salzman/	Audubon Society, Marin County Chapter	(415) 924-6057
O	Matt Ferner/	San Francisco Bay Estuarine Research Reserve	(415) 388-3724
T	/Northern Comms Center	California State Parks (Dispatch)	(916) 358-0333
T	/Dispatch	Marin County Parks, Open Space District	(415) 499-6387

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:**

The large extensive saltmarsh with interior tidal channels is extremely vulnerable to oil. The presence of large tidal mudflats create access difficulties for protection measures thereby increasing the risk of oiling. First priority is to keep oil from being carried into inner marsh via tidal channels. Avoid trampling marsh vegetation and trampling oil into mudflat.

**Hazard and Restrictions:**

Shallow water and mudflats extend out into the bay from all marsh areas. Power lines are present at the west end of the site across Gallinas Creek.

**Site Strategies:**

**Strategy: 2-552.1 Objective:** On-water recovery of oil to prevent oil from entering marshes, tidal channels and mudflats.

*Strategy:* Conduct on-water recovery in deeper water and channels near Rat Rock and east of China Camp State Park.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
skimmer	self propelled			2		
Staff	Staff to Deploy			4		

**Strategy: 2-552.2 Objective:** Deflect oil away from shoreline into main channel. Prevent oil from entering marshes and tidal channels.

*Strategy:* Deploy deflection 9X9+ Hboom from mainland shore near Rat Rock and at Buckeye Point (at pier pilings). Deploy in 200-500 ft. sections. 500 ft. at each site.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Harbor	9x9 inch		1000	feet	
Anchor	Danforth	22 lb		4		
Vessel	Boom Boat			1		
Vessel	Skiff or Punt			1		
Staff	Staff to Deploy			5		

**Strategy: 2-552.3 Objective:** Exclude oil from entering marshes and tidal channels from Gallinas Creek to Rat Rock.

*Strategy:* Exclusion booming of inlets in largest (west) marsh if limited by equipment/time. Seven tidal channels are present in the largest marsh. Deploy a combination of "V" shape swamp booms across channel openings (50 ft. each).

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Swamp	6x6 inch		350	feet	<i>Strategy Updated: 2/6/2019</i>
Anchor	Danforth	22 lb		8		<i>Last Test: 2/6/2019</i>
Vessel	Boom Boat			1		
Vessel	Skiff or Punt			1		
Staff	Staff to Deploy			5		

**Strategy: 2-552.4 Objective:** Protective booming of marsh fronts from Gallinas Creek to Rat Rock

**Strategy:** Deploy swamp boom along marsh fronts to exclude oil. Deploy at high tide over mudflats as close to marsh front as possible. From west to east, the marshes at this site require 9000 ft. From Buckeye Pt to Rat Rock, use 3200 ft Harbor Boom (2200 ft west leg, 1000 ft east leg) to exclude shoreline.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Swamp	6x6 inch		9000	feet	<i>Strategy Updated: 2/6/2019</i>
Boom	Harbor Boom	9x9 inch		3200	feet	<i>Last Test: 2/6/2019</i>
Anchor	Danforth	22 lb		28		
Vessel	Boom Boat			4		
Vessel	Skiff or Punt			2		
Staff	Staff to Deploy			12		

### Logistics:

*Directions:* From Hwy 101 in San Rafael, Marin County; take the San Pedro Road exit. Proceed east on San Pedro Road

*Land Access:* large truck okay

*On-Water Limitations:* Very shallow water (<3 ft.) Small boat launch at Buck's Landing. Water access also near Rat

*Facilities, Staging Areas, Command Posts, Available Equipment:* Small restaurant/store at Buck's Landing. Staging at

*Communications Problems:* None



Imagery: NAIP 2010 (Summer) 4-Band

**2-553-A Site Summary - Gallinas Creek Marshes****2-553-A****County:** Marin **ACP Division/Segment:** MR - W - S001 MR - W - S002**NOAA Chart:** 18654 San Pablo Bay **Map Book:** Marin City, San **Decimal Degrees:** 38.021801 -122.5025**Site Description:**

Site contains Gallinas Creek marshes and the bayfront marshes from the creek north to old Hamilton Field. Boundaries include the south shore of Gallinas Creek as the south boundary, to the levee and tower at the south end of Hamilton air field as the north boundary. Site is under jurisdiction of Marin County Open Space. Extensive cordgrass and pickleweed saltmarsh are present on both sides of Gallinas Creek and on the San Pablo Bay marshfront from the creek to Hamilton Field. Mudflats extend out into San Pablo Bay from the marshes. At least seven major interior tidal channels in the marsh open to San Pablo Bay.

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

	<b>Resource Name</b>	<b>Status</b>	<b>Presence</b>	<b>Sensitivity</b>
Birds	California Ridgeway's rail	FE, SE		
Birds	California black rail	FP, ST		
Birds	song sparrow	FP, SSC		
Birds	burrowing owl	SSC		
Fish	longfin smelt	ST		
Fish	green sturgeon - Southern	FT, SSC		
Fish	chinook salmon - California coastal	FT		
Fish	white sturgeon	SSC		
Mammals	salt-marsh harvest mouse	FE, SE		
Plants	Pt. Reyes bird's-beak			
Plants	Marin knotweed			

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:**

<b>Type</b>	<b>Name/Title</b>	<b>Organization</b>	<b>Phone</b>
C	/	Northwest Information Center	(707) 588-8455
E	/Dispatch	California State Parks, Bay Area District	(707) 769-5665
E	/Chief Ranger	Marin County, Open Space District	(415) 472-0911
O	Barbra Salzman/	Audubon Society, Marin County Chapter	(415) 924-6057
O	Matt Ferner/	San Francisco Bay Estuarine Research Reserve	(415) 388-3724
T	/Northern Comms Center	California State Parks (Dispatch)	(916) 358-0333

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:**

The large and extensive saltmarshes along Gallinas Creek and north of the creek mouth with several interior tidal channels are extremely vulnerable to oil. The large tidal mudflats create access difficulties and potentially increase the risk of oiling. There are numerous channels that connect the marshes with San Pablo Bay. Avoid trampling of marsh vegetation and trampling oil into mud.

**Hazard and Restrictions:**

Shallow water and mudflats are extensive. Power lines over creek and parallel to mudflat will be a hazard to low flying aircraft.

HAZARD: there is a poorly marked submerged wreck in the Bay-side entrance to the channel.

**Site Strategies:**

**Strategy: 2-553.1 Objective:** Deflect/collect oil to prevent from entering Gallinas Creek and interior marsh channels along bayfront.

*Strategy:* Charts do not properly reflect the mouth of the Gallinas Creek. The creek is drained through the main channel and smaller channels serve the salt marshes.

Deploy 1000 ft. of deflection harbor boom across Gallinas Creek to boat ramp. Anchor boom on north shore in the high marsh near the power line tower. May need tidal barrier boom across mudflat and marsh to provide an adequate seal.

Deploy 500 ft. of swamp boom on south shore from boat ramp, extending towards the bay, in front of dock, across mudflat and marsh towards power line tower.

Deflect to collection pocket at boat ramp. Skim oil at boat ramp.

## Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Harbor	9x9 inch		2500	feet	<i>Strategy Updated:</i> 12/1/2016
Anchor	Danforth	22 lb		12		<i>Last Test:</i> 12/1/2016
Vessel	Boom Boat			1		
Vessel	Skiff or Punt			1		
skimmer	shoreside			1		
Staff	Staff to Deploy			7		

**Strategy: 2-553.2 Objective:** Exclude oil from entering marsh channels and/or marshfront north of Gallinas Creek.

*Strategy:* Seven interior tidal channels exist in the marsh north of Gallinas Creek. Use exclusion booming techniques to prevent oil entry. Deploy a combination of "V" shaped swamp booms across each channel opening (50 ft. each). Back each chevron with sorbent boom.

## Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Swamp	6x6 inch		350	feet	<i>Strategy Updated:</i> 2/6/2019
Boom	Sorbent			350	feet	<i>Last Test:</i> 2/6/2019
Anchor	Danforth	22 lb		4		
Anchor	Stakes			8		
Vessel	Skiff or Punt			1		
Staff	Staff to Deploy			2		

**Strategy: 2-553.3 Objective:** Prevent oil from entering Gallinas Creek.

*Strategy:* This is a fall-back strategy to strategy 2-553.1:

Further inside Gallinas Creek, on a flood tide, deploy 600 ft. of harbor (300 ft each leg) boom in a "V" formation with an apex at mouth of skimmer.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Harbor	9x9 inch		600	feet	<i>Strategy Updated: 2/6/2019</i>
Boom	Sorbent			200	feet	<i>Last Test: 2/6/2019</i>
Anchor	Danforth	22 lb		4		
Vessel	Boom Boat			1		
Vessel	Skiff or Punt			1		
skimmer	self propelled			1		
Staff	Staff to Deploy			8		

### Logistics:

*Directions:* From Hwy 101 in San Rafael, Marin County, take the San Pedro Road exit east towards China Camp State Park. Turn left at road to Buck's Landing and launch ramp for access to Gallinas Creek. There is no road access to the

*Land Access:* Large truck okay on south side, no land access on north side.

*On-Water Limitations:* Shallow draft vessels only, Small boat launch at Buck's Landing. Additional water access at China

*Facilities, Staging Areas, Command Posts, Available Equipment:* Staging and small restaurant/store at Buck's Landing.

*Communications Problems:* None



Imagery: NAIP 2010 (Summer) 4-Band

**2-557-A Site Summary - Novato Creek Marshes****2-557-A****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:**

	<b>Resource Name</b>	<b>Status</b>	<b>Presence</b>	<b>Sensitivity</b>
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, SR-State Rare, SSC-Species of Special Concern, BGEPA-Bald and Golden Eagle Protection Act, SSSP-State Special Status Species

**List of Key Contacts:**

<b>Type</b>	<b>Name/Title</b>	<b>Organization</b>	<b>Phone</b>
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		

**2-557-A Site Strategy - Novato Creek Marshes****2-557-A**

**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>
Anchor	Danforth	22 lb		7		<i>Last Test: 1/23/2019</i>
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

**2-557-A Site Strategy - Novato Creek Marshes**

**2-557-A**

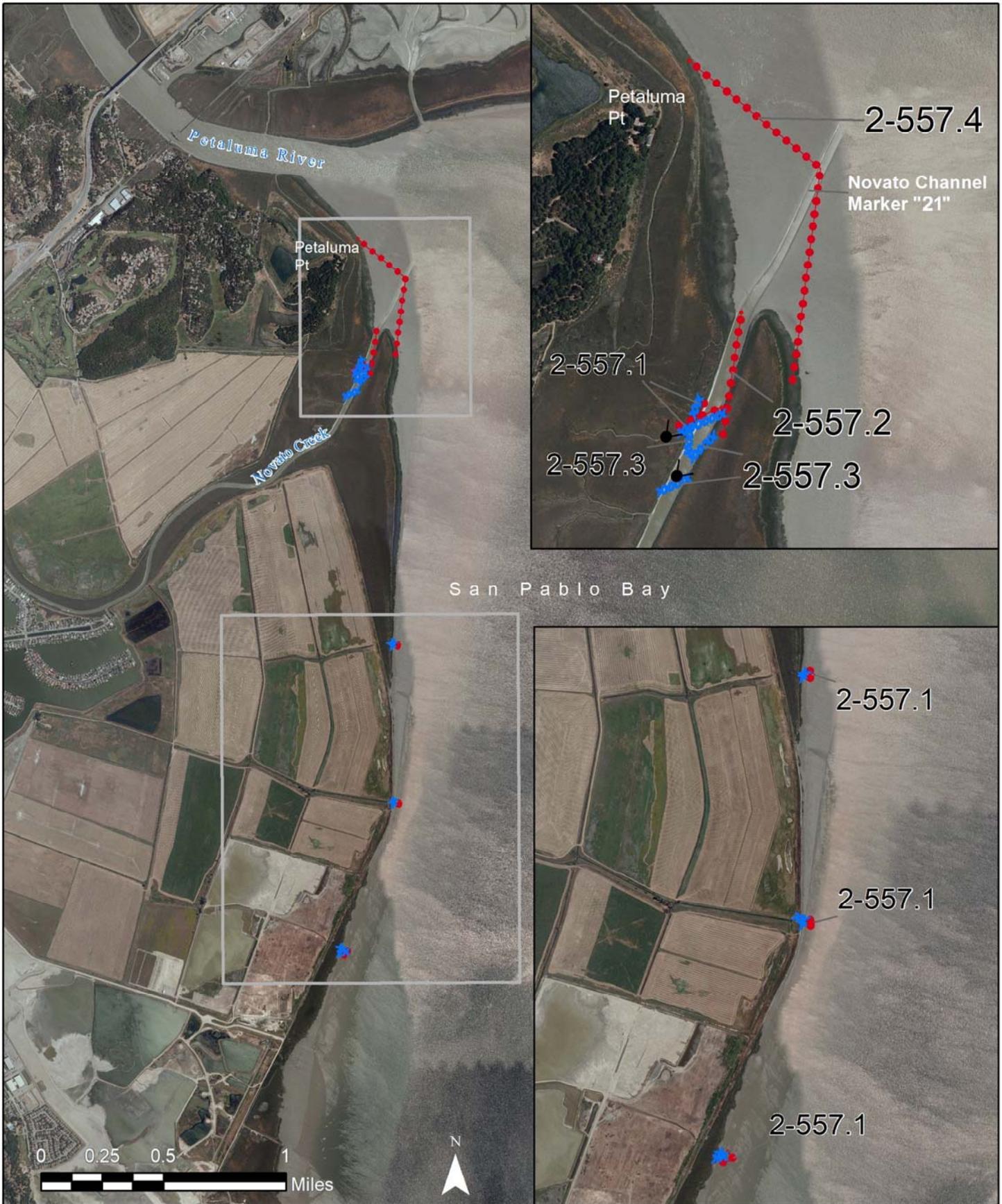
channel.

*Land Access:* None except on foot.

*On-Water Limitations:* Channel is navigable, use channel markers. Very shallow mudflats. Boat ramp at Black Point

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

*Communications Problems:* None



CDFW - OSPR & USCG Site: 2-557 Name: Novato Creek Marshes

G.Ewing (OSPR) & M. Schommer (OSPR) Date: 08/01/2019

●●●●● Harbor Boom

⦿ Skimmer

XXXXXXXXXXXXXXXXXXXX Swamp Boom

**2-605-A Site Summary - Hastings Slough & Point Edith Marshes****2-605-A****County :** Contra Costa **ACP Division/Segment :** CC - L - S007**NOAA Chart :** 18656 Suisun Bay**Map Book :****Decimal Degrees** 38.050057 -122.067468**Site Description:**

Site extends from the Tosco Avon terminal wharf west to Hastings Slough and includes all the marshes tributary to Hastings Slough including those south of Waterfront Road. Marshes from Pt Edith to the Avon Wharf are property of Department of Fish and Game (700+ acres), but the marshes around Hastings Slough and much of the tributary marshland (2000+ acres) is military property and entry is prohibited without prior clearance. These marshes have a large tidal exchange volume, particularly Hastings Slough marshes. The DFW marshes drain directly to the bay via 10 tidal sloughs. Hastings Slough is very sinuous and has many tributary channels including Mt. Diablo Creek. Throughout the marsh there is an extensive network of mosquito abatement channels which connect the freshwater and brackish marshes between. Most of the marsh is pickleweed, but there are large stands of tules and standing ponds. Portions of the property south of Waterfront Rd and just east of the Avon refinery are refinery property.

**Resources at Risk:**

*ESI and Habitat:* 10A Salt - and brackish-water marshes  
9B Vegetated low banks

**List of Resources at Risk:**

	<b>Resource Name</b>	<b>Status</b>	<b>Presence</b>
Birds	California Ridgway's rail	FE, SE	
Birds	California black rail		
Birds	saltmarsh common yellowthroat		
Birds	Suisun song sparrow		
Fish	longfin smelt	ST	
Mammals	salt marsh harvest mouse	FE, SE	
Plants	soft bird's beak	FE, SR	
Plants	Mason's lilaeopsis	SR	
Plants	delta tule pea		
Plants	Carquinez goldenbush	SSC	

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:**

<b>Type</b>	<b>Name/Title</b>	<b>Organization</b>	<b>Phone</b>
C	/	Northwest Historical Resources Information Center	(707) 588-8455
T	Eric Larson/	California Department of Fish & Wildlife, Bay/Delta	(707) 944-5500
T	Joe Dillon/	NOAA National Marine Fisheries Service	(707) 575-6093
T	John Henderson/Environmental Contaminant	US Fish and Wildlife Service	(916) 930-5676

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:**

The prime concerns are oil penetrating the marsh up tidal sloughs on tidal currents, particularly Hastings Slough, and oil saturating marsh vegetation on exposed marsh fronts and margins. Exclusion is first priority: to Hastings Slough and small channels. Next priority is to deflect oil away from these inaccessible marshy shores. During response be aware that there are very small rare plants and mammals at the shoreline. So, minimize foot traffic. Avoid trampling vegetation and avoid trampling oil into muds.

**Hazard and Restrictions:**

Some of the waterfront has very shallow mudflats. There are submerged obstructions in Hastings Slough for about 50 yds south of bridge overcrossing.

**Site Strategies:**

**Strategy: 2-605.1 Objective:** Exclude Oil

*Strategy:* Exclude oil from entering all tidal sloughs using chevron booming configurations, including center anchors, and anchor boom ends well outside channel mouths to avoid entrainment and short circuiting around boom ends.

a) Hastings Slough: 1100' 6X6+ deployed in a modified chevron beginning well to the west (200'+ ) of the mouth. Back with sorbent boom. 3/22+/danforths.

b) The 2 sloughs just east of and one at Pt Edith: (400' 9X9+ and 1/22+ & 2/12+ danforths total.) Back with sorbent boom.

c) The ten tidal openings west of Pt Edith: 100' 6X6+ for each opening except #7 (from west) requires 200' (1100' total). Back each with sorbent.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Harbor	9x9 inch		1500	feet	
Boom	Swamp	6x6 inch		1100	feet	
Boom	Sorbent			2300	feet	
Anchor	Danforth	22 lb		9		
Anchor	Stakes			20		
Vessel	Boom Boat			1		
Vessel	Skiff or Punt			1		
Staff	Staff to Deploy			5		

**Strategy: 2-605.2 Objective:** Divert Oil

*Strategy:* Deploy 2400' Hboom from just west of Pt Edith past channel marker R2 and into channel toward channel marker G3.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Harbor	9x9 inch		2400	feet	<i>Strategy Updated:</i> 11/16/2016
Anchor	Danforth	22 lb		5		<i>Last Test:</i> 11/16/2016
Vessel	Boom Boat			1		
Vessel	Skiff or Punt			1		
Staff	Staff to Deploy			5		

**Strategy: 2-605.3 Objective:** Exclude Oil

*Strategy:* a) Hastings Slough: deploy a second layer of boom (800' 6X6+) close behind to catch and exclude over wash. 3/12+/danforths.

b) The 2 sloughs just east of and one at Pt Edith: (400 6X6+ and 2/12+ danforths total.) Back with sorbent boom.

c) The ten tidal openings west of Pt Edith: 100' 6X6+ for each opening except #7 (from west) requires 200' (1100' total). Back each with sorbent.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Swamp	6x6 inch		2300	feet	
Boom	Sorbent			1000	feet	
Anchor	Danforth	22 lb		5		
Vessel	Boom Boat			1		
Vessel	Skiff or Punt			1		
Staff	Staff to Deploy			5		

**Strategy: 2-605.4 Objective:** Exclude Oil

*Strategy:* Deploy protective boom along the marsh front from the Tosco Wharf to the US Navy piers and linking with existing boom deployments as convenient: an additional 7,000 ft of harbor boom and ten additional anchors will be required in combination with boom already deployed in strategies .1 and .2. (A similar strategy for the deployment of exclusion boom at this site is illustrated in Potential Oil-Spill Protection Strategies for San Francisco Bay, CA (Hayes and Montello, 1994).)

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Harbor	9x9 inch		7000	feet	
Anchor	Danforth	22 lb		15		
Vessel	Boom Boat			3		
Vessel	Skiff or Punt			1		
Staff	Staff to Deploy			8		

**Logistics:**

*Directions:* By boat, the site is east of the Benicia Bridge from the Avon Refinery wharf to the Navey Piers. By vehicle exit Hwy I-680 at Marina Vista (first exit south of Benicia Bridge - Waterfront Rd) and proceed west to Avon Refinery gate; request access and proceed east: Marina Vista (Waterfront) Road is blocked at the Hastings Slough Bridge by a Weapons Station locked gate. Important: Permission to enter eastern portion of the area must be obtained from the U.S. Naval Weapons Station Concord. By arrangement with Weapons Station Security only, access from Highway 4 to CNWS exit north on Port Chicago Highway to Base Gate to request entry: Contact USCG Watch 415-399-3546 or 3547.

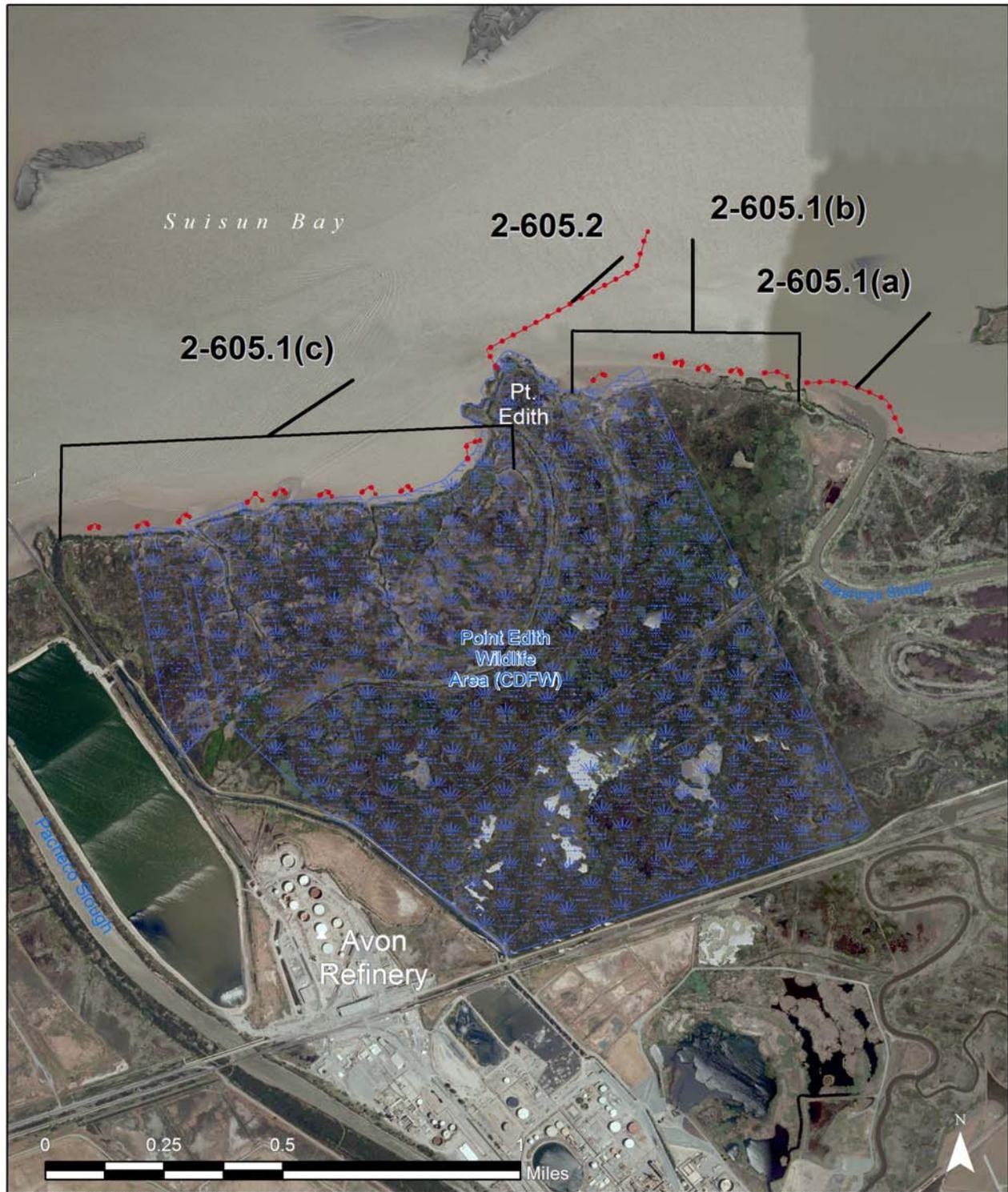
*Land Access:* All types to Waterfront Road. Otherwise foot only.

*On-Water Limitations:* Very shallow water. Exposed mud at low tide. # very poor launch at CNWS tug wharf.

Commercial Launching at Martinez, Benicia, and McAvoy's in Bay Point, all have complete services. Tosco launch is at Pacheco Slough.

*Facilities, Staging Areas, Command Posts, Available Equipment:* Martinez and McAvoy-Harris's are two primary staging

*Communications Problems:*



CDFW - OSPR & USCG Site: 2-605 Name: Hastings Slough & Point Edith Marshes

G. Ewing (OSPR) & C. Haffner (OSPR) Date: 05/23/2014

- |   |             |   |              |   |              |
|---|-------------|---|--------------|---|--------------|
|  | Harbor Boom |  | Sorbent Boom |   | Dike or Berm |
|  | Swamp Boom  |  | Other Boom   |   | Filter Fence |
|  | sss / sfs   |  | tss / sps    |  | tba / voo    |

**2-608-A Site Summary - Shore Acres Marsh****2-608-A****County :** Contra Costa **ACP Division/Segment :** CC - K - S009 CC - K - S010**NOAA Chart :** SUISUN BAY **Map Book :** **Decimal Degrees** 38.046557 -121.970912  
18658/18556/18656**Site Description:**

This site extends from McAvoy's Marina west to General Chemical Plant (just east of the chemical plant at Middle Pt) and bounded on the south by the Southern Pacific Railroad (SPRR). There are three ownerships: California Department of Fish and Wildlife owns the parcel next to the Marina, the US Navy Concord Weapons Station owns the parcel next to the chemical plant, and the East Bay Regional Park District (EBRPD) owns the "J" channel that feeds the marsh directly north of the Bay Point Regional Shoreline. This site is a combination of tidal and high marsh with both tule/cattails and pickleweed. It has an abrupt bank typical of eroding marsh front. Several finger sloughs carry tidal exchange to the back marsh. There are several dead-end sloughs. There is a channel along the shore front.

**Resources at Risk:**

*ESI and Habitat:* 10A Salt - and brackish-water marshes  
8B Sheltered solid man-made structures

**List of Resources at Risk:**

	<b>Resource Name</b>	<b>Status</b>	<b>Presence</b>
Birds	California least tern	FE, SE	
Birds	California Ridgway's rail	FE, SE	
Birds	California black rail		
Birds	Suisun song sparrow		
Fish	longfin smelt	ST	
Mammals	salt marsh harvest mouse	FE, SE	
Plants	Mason's lilaepsis	SR	
Plants	soft bird's beak	FE, SR	
Plants	delta tule pea		
Plants	Suisun marsh aster		

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:**

<b>Type</b>	<b>Name/Title</b>	<b>Organization</b>	<b>Phone</b>
E	/Dispatch	East Bay Regional Park District	(510) 881-1833
E	Anne Rockwell/Shoreline Parks Manager	East Bay Regional Park District	(510) 544-3172
E	Bill Nichols/	East Bay Regional Park District	(925) 228-0112
T	/Office	Baylands Nature Preserve	(650) 329-2506
T	Eric Larson/	California Department of Fish & Wildlife, Bay/Delta	(707) 944-5500
T	Kent Nelson/	California Department of Water Resources	(916) 653-9190
T	Brenda Grewell/Restoration Ecologist	US Department of Agriculture	(530) 752-0166

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 a sensitive saltmarsh with endangered plants and animals. Primary concern is to prevent oil from being carried into the marsh through tidal openings by using exclusion booms. Also of concern is oiling of the marsh front when tides flood the marsh front. Responders should make an effort to minimize trampling of vegetation and be aware that tiny endangered plants and animals are present. Also, don't trample oil into sediments.

**Hazard and Restrictions:**

There is a channel immediately along shore, but there is a sandbar farther out.

**Site Strategies:****Strategy: 2-608.1 Objective:** Exclude Oil

*Strategy:* There are two inlets at the McAvoy Marina, use 200' of 4x4+ swampboom each. There are also several small tidal channels. They are located about 100', 200', and 300' west from the west McAvoy entry. Each will require 25' of 6X6+ swampboom. Boom anchoring may be necessary (as opposed to staking) because bridging may admit oil at low flood. At the deadend slough near chemical plant, use 400' 6X6+ swampboom with stakes or anchors. Repeat deployment if currents or waves are likely to overtop boom. Leave trailing boom ends to insure a seal and prevent shortcircuiting. Back with sorbent.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Swamp	6x6 inch		1050	feet	
Boom	Sorbent			1050	feet	
Anchor	Danforth	22 lb		16		
Vessel	Boom Boat			1		
Vessel	Skiff or Punt			1		
Staff	Staff to Deploy			5		

**Strategy: 2-608.2 Objective:** Divert Oil

*Strategy:* a) From Middle Point deploy 9x9+ deflection boom at the best angle fend oil past marsh front and back into main channel.

b) Setup a deflection to shore and a shore skimming collection system at General Chemical shoreline to intercept any oil which escapes above deflection.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Harbor	9x9 inch		3000	feet	<i>Strategy Updated: 9/22/2015</i>
Anchor	Danforth	25 lb		18		<i>Last Test: 9/22/2015</i>
Vessel	Boom Boat			2		
Vessel	Skiff or Punt			1		
skimmer	shoreside			1		
Staff	Staff to Deploy			8		

**Strategy: 2-608.3 Objective:** Exclude Oil

*Strategy:* When foregoing strategies are inadequate to keep oil off marshes, 8000 ft of harbor boom will be deployed along the entire marsh front to keep heavy oiling off the marsh. Multiple layers may be required if oil is washing over the first layer (second layer may then be swamp boom.) (This strategy can be found in Potential Oil-Spill Protection Strategies for San Francisco Bay, California. (Hayes and Montelo, 1994).)

## Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Harbor	9x9 inch		8000	feet	
Anchor	Danforth		22 lb	20		
Vessel	Boom Boat			3		
Vessel	Skiff or Punt			1		
Staff	Staff to Deploy			11		

**Logistics:**

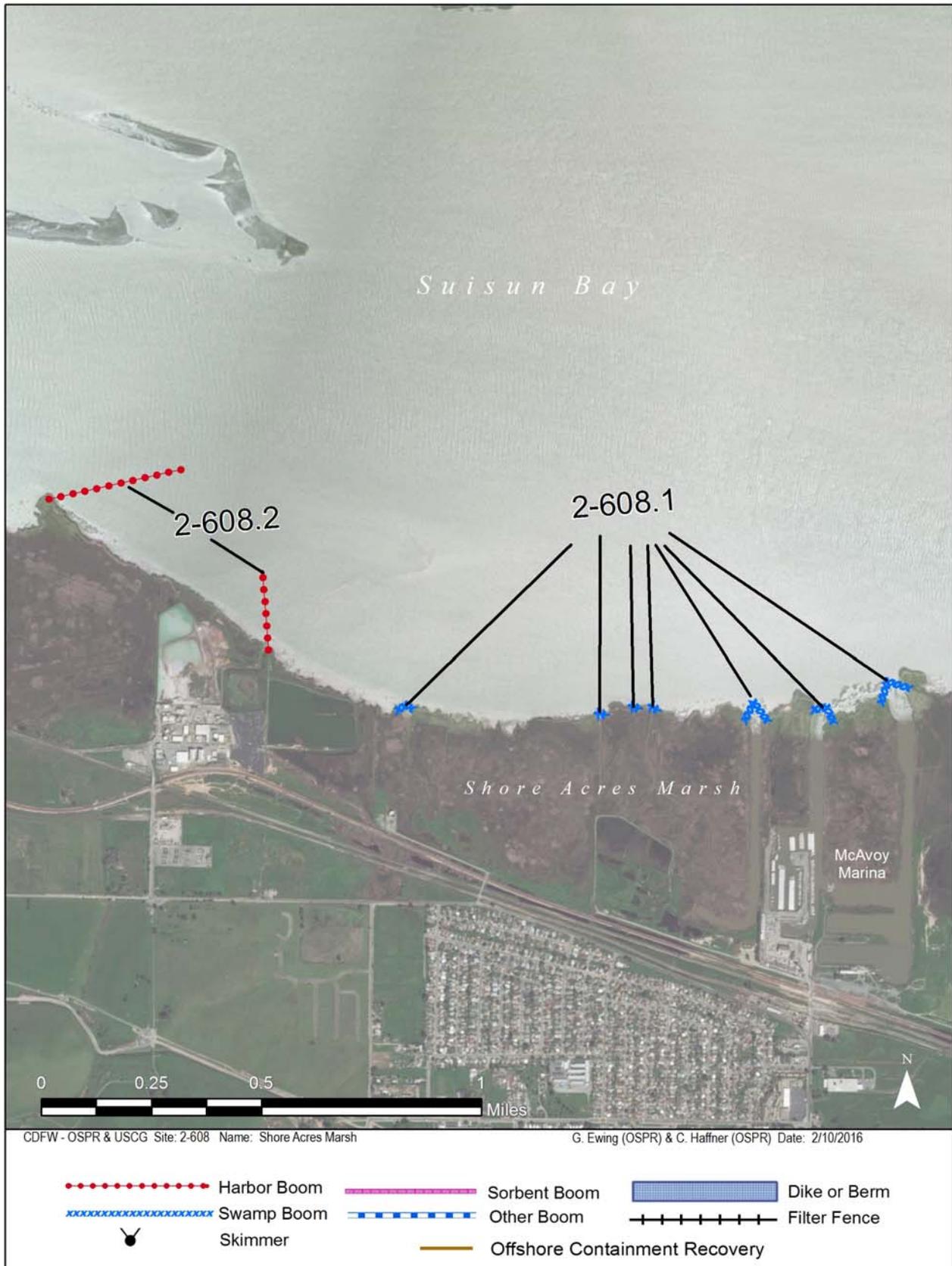
*Directions:* This site can be reached taking the Bay Point (Willow Pass) exit from Hwy 4 and then to Port Chicago Highway: marsh access through a locked gate (This is Concord Naval Weapons Station property). By water, the site is immediately west of McAvoy's Marina.

*Land Access:* ALL TYPES DEPENDING ON WEATHER

*On-Water Limitations:* none have been identified. McAvoy/Harris Marina at Bay Point is immediately to the east.

*Facilities, Staging Areas, Command Posts, Available Equipment:* Deploy from Pittsburg, Martinez or McAvoy's Marinas. McAvoy's is possible field post and staging/support site: all manner of facilities, except housing, are available.

*Communications Problems:*



**2-651-A Site Summary - Southampton Bay****2-651-A****County :** Solano **ACP Division/Segment :** SO - D - S006 SO - D - S008**NOAA Chart :** 18656 Suisun Bay **Map Book :** **Decimal Degrees** 38.066742 -122.188421**Site Description:**

The site extends from Dillon Point to the unnamed point (with dwellings) just west of Commodore Jones Point. Most of the site is Southampton State Park though some is in private or roadside right-of-way in the most easterly portion. Benicia State Recreation Area includes Southampton Bay Wetland Natural Preserve. Southampton Bay is shallow bay open to Carquinez Strait with a large prograding wetland. The bay is very shallow and is an extensive mudflat at low tides. The margin of the bay is tule-sedge. The back marsh is saltgrass and pickleweed grading to freshwater marsh in those portions receiving freshwater flow from the surrounding drainage and creek. Remnants dikes in the easterly mudflats are covered with water except at low tides.

**Resources at Risk:**

*ESI and Habitat:* 10A Salt - and brackish-water marshes  
8C Sheltered riprap

**List of Resources at Risk:**

	<b>Resource Name</b>	<b>Status</b>	<b>Presence</b>
Birds	California Ridgway's rail	FE, SE	
Birds	California black rail		
Birds	Suisun song sparrow		
Birds	saltmarsh common yellowthroat		
Fish	longfin smelt	ST	
Mammals	salt marsh harvest mouse	FE, SE	
Mammals	Suisun ornate shrew	SSC	
Plants	Mason's lilaeopsis	SR	
Plants	soft bird's beak	FE, SR	
Plants	Suisun marsh aster		
Plants	Bolander's water-hemlock	SSC	
Plants	Carquinez goldenbush	SSC	

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:**

<b>Type</b>	<b>Name/Title</b>	<b>Organization</b>	<b>Phone</b>
C	/	Northwest Historical Resources Information Center	(707) 588-8455
T	/Northern Comms Center	California State Parks (Dispatch)	(916) 358-0333
T	Ryen Goering/	California State Parks, Diablo Range District	(925) 455-7876

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 very shallow bay has extensive sensitive marsh shoreline, which if oiled, would be nearly impossible to clean or rehabilitate. The intent is to keep oil out of the bay by deflection or, failing that, by exclusion/protection booming along the marshfront. Respond in shallows only at high tide with very shallow boats or airboat/hovercraft. Avoid trampling vegetation and beware of trampling oil into muds. Site managed by CA State Parks.

**Hazard and Restrictions:**

The bay is extremely shallow at its margins and recesses. There is a remnant of an old dike extending from the land to the east side of the bay (near the dwellings). Aircraft beware of high power wires in the area.

**Site Strategies:****Strategy: 2-651.1 Objective:** Divert Oil

*Strategy:* Deflection Booming: To keep oil in the main channel where it is accessible to the skimmers, deploy 1200 ft of deflection boom extending easterly along the 20 foot isobath from Dillon Point to deflect oil away from Southampton Bay and back into Carquinez Strait on the flood tide. Deflection boom should also be deployed to the east of Southampton Bay to deflect oil away from the Bay and into Carquinez Strait during the ebb tide. Benicia Point appears to be a logical location from this boom. Recommended 600 ft of boom be deployed along the southeast side of the islands off this point and extend 600 ft northwesterly (285-T) from Daymark #23 along the 20 foot depth line.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Harbor	9x9 inch		1200	feet	
Anchor	Danforth	25 lb		5		
Vessel	Boom Boat			1		
Vessel	Skiff or Punt			1		
Staff	Staff to Deploy			5		

**Strategy: 2-651.2 Objective:** Exclude Oil

*Strategy:* Deploying swamp boom (6X6+) across Southampton Bay preventing oiling of the marsh shoreline habitat.

West anchor: N38.064999 W122.193074, East anchor: N38.066185, W122.182742

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Swamp Boom	6x6 inch		3200	feet	<i>Strategy Updated:</i> 11/10/2016
Anchor	Danforth	22 lb		6		<i>Last Test:</i> 11/10/2016
Vessel	Boom Boat			2		
Vessel	Skiff or Punt			2		
Staff	Staff to Deploy			8		

**Strategy: 2-651.3 Objective:** Exclude Oil

*Strategy:* The small cove immediately west of Dillon Pt. appears to be a potential containment and recovery site. Oil and debris on the gravel beach indicate it is a natural collection point, and there is vehicle access to the beach. To assist natural collection at this point, 300 ft of deflection boom extending westerly from Dillon Pt. (Daymark #21) during the flood tide or easterly from the small unnamed point approximately 1000 ft west on the ebb may be beneficial. These short lengths of boom should be set so as to direct oil into the cove. Oil may be recovered from the water with a Shoreside Skimming System (SSS) such as an oil-mop skimmer and pumped to a fast tank on beach or other methods.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Harbor	9x9 inch		300	feet	
Anchor	Danforth	22 lb		3		
Vessel	Boom Boat			1		
Vessel	Skiff or Punt			1		
skimmer	shoreside			1		
Staff	Staff to Deploy			4		

**Logistics:**

*Directions:* By boat, proceed 3 miles west from Martinez Marina. By land, take the Columbus Parkway Exit off Hwy 780 and drive into Southampton Bay State Park on the south side of the freeway. There is a park roadway that goes to Dillon point.

*Land Access:* Paved road around perimeter. Gate is locked sunset to sunrise. Foot only in marsh.

*On-Water Limitations:* Extremely shallow and obstructions. Nearest launch is at Benicia public ramp 1/4 th mile east.

*Facilities, Staging Areas, Command Posts, Available Equipment:* Staging locales: on-site at Dillon Pt, or Benicia public boat ramp. Staging areas at Benicia, Martinez, Exxon Wharf. Support services: lodging and food available at Martinez or Benicia.

*Communications Problems:*



Imagery: NAIP 2012 (Summer) 4-Band

**2-736-B Site Summary - Taylor Slough and West Piper Slough****2-736-B****County :** Contra Costa **ACP Division/Segment :****NOAA Chart :** 18661 Sacramento / San Joaquin River **Map Book :****Decimal Degrees** 38.047065 -121.652416**Site Description:**

This site includes Taylor Slough from its confluence with Dutch Slough to Piper Slough confluence with False River to southeasterly tip of Little Franks Tract. This is a winding, relatively narrow, rip-rapped channel with agriculture on Jersey Island bank, rural residential and private docks on Bethel Island bank, and marshy berm islands scattered along its length. Remnant levee of Little Frank's Tract is in natural marsh and shrub-scrub. Beware of busy ferry traffic terminals.

**Resources at Risk:**

*ESI and Habitat:* 6B Riprap  
10A Salt - and brackish-water marshes

**List of Resources at Risk:**

	<b>Resource Name</b>	<b>Status</b>	<b>Presence</b>
Plants	Mason's lilaepsis	SR	
Plants	Suisun marsh aster		

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:**

<b>Type</b>	<b>Name/Title</b>	<b>Organization</b>	<b>Phone</b>
C	/	Northwest Historical Resources Information Center	(707) 588-8455
T	Eric Larson/	California Department of Fish & Wildlife,Bay/Delta	(707) 944-5500
T	John Henderson/Environmental Contaminant	US Fish and Wildlife Service	(916) 930-5676

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:**

Primary concerns are oiling of marshy margins and penetration into levees though riprap and animal burrows.

**Hazard and Restrictions:**

Riprap poses slip, trip and fall hazards.

**Site Strategies:****Strategy: 2-736.1 Objective:** Divert Oil

*Strategy:* Use containment boom to close off uncontaminated part of Taylor Slough. Recover with use 50ft of oil Snare (OS), 100ft of sorbent boom. Contact IC if oil accumulates in skimmable quantities.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Swamp	6x6 inch		400	feet	<i>Strategy Updated:</i> <i>Last Test:</i>
Boom	Oil Snare (pom-pom)			50	feet	
Boom	Sorbent			100	feet	
Anchor	Danforth	22 lb		4		
Vessel	Boom Boat			1		
Vehicle	Skiff or Punt			1		
Staff	Staff to Deploy			5		

**Strategy: 2-736.2 Objective:** Exclude Oil

*Strategy:* Exclusion boom mouth of Taylor for threats from False River. Deploy 800' 6X6+ Sboom to a collection pocket on Jersey Island Shoreline. Collection of accumulated oil using a vacuum truck. Jersey Island Levee Road may be busy during harvest season. Create vessel traffic opening if needed.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Harbor Boom	9x9 inch		800	feet	<i>Strategy Updated:</i> 11/28/2017 <i>Last Test:</i> 11/28/2017
Anchor	Danforth	22 lb		5		
Vessel	Boom Boat			1		
Vessel	Skiff or Punt			1		
Vac truck				1		
Staff	Staff to Deploy			5		

**Strategy: 2-736.3 Objective:** Collect Oil with Skimmer

*Strategy:* Deploy skimmer if oil accumulates in skimmable quantities. Contact IC prior to initiating this strategy.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
skimmer	self propelled			1		
Staff	Staff to Deploy			3		

**Logistics:**

*Directions:* Private and public levee roads of Bethel and Jersey Islands provide access to island margins. There is ready access by boats from marinas on Bethel Island, Mokelumne River, Brannon-Andrus Island and Antioch.

*Land Access:* PAVED LEVEE TO MOUTH, GOOD DRY LEVEE RD

*On-Water Limitations:* GENERALLY GOOD WATER Boat launch and marine support at Antioch, Bethel Island and mouth of Mokelumne. Launch at Brannon Island State Park.

*Facilities, Staging Areas, Command Posts, Available Equipment:* Complete support facilities at Antioch and Brentwood. Lesser degree at Bethel Island and Oakley. Also support facilities at Mokelumne River. Staging is possible at Brannon Island, Mokelumne, Bethel Island, and Antioch.

*Communications Problems:*



CDFW - OSPR & USCG Site: 2-736 Name: Taylor Slough and West Piper Slough

G. Ewing (OSPR) & M. Schommer (OSPR) Date: 4/9/2018

XXXXXXXXXXXXXXXXXXXXX Swamp Boom

**2-742-B Site Summary - Fishermans Cut****2-742-B****County:** Contra Costa **ACP Division/Segment:****NOAA Chart:** 18661 Sacramento / San Joaquin River **Map Book:****Decimal Degrees:** 38.071054 -121.647937**Site Description:**

A north-south running channel connecting the San Joaquin River on its north end to the False River on its south end. Bradford Island to the west and Webb Tract on the east. This site is a rip-rapped channel with berm islands and emergent vegetation particularly at the north end of the cut.

**Resources at Risk:**

*ESI and Habitat:* 8C Sheltered riprap  
10B Freshwater marshes

**List of Resources at Risk:**

	Resource Name	Status	Presence	Sensitivity
Birds	Swainson's hawk	FP, ST		
Fish	chinook salmon - Winter-run	FE, SE		
Fish	delta smelt	FT, SE		
Fish	longfin smelt	ST		
Fish	steelhead - Central/Northern California	FT		
Plants	Mason's lilaeopsis	SR		
Plants	Suisun marsh aster			
Reptiles	giant garter snake	FT, ST		
Reptiles	western pond turtle	SSC		

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	/	Native American Heritage Commission	(916) 373-3710
C	/Coordinator	Northwest Information Center	(707) 588-8455
E	Andrew Giannini/Superintendent	Brannan-Andrus Reclamation District	(916) 952-9967
E	/ Office	Twitchell Island Reclamation District	(916) 777-6992
E	/ Office	Webb Tract Reclamation District	(209) 943-5551
T	Eric Larson/Environmental Program Manager	CA Dept. of Fish & Wildlife, Bay Delta Region	(707) 576-2837
T	/Spill Response Coordinator	S.F. Bay-Delta U.S. Fish & Wildlife Service Office	(916) 799-0588

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:**

Primary concern is oil transport/spreading to central Delta from San Joaquin River. Marshy Island at mouth and along margins are also a concern. Small rare plants occur here and throughout the Delta; minimize vegetation trampling and trampling oil into sediments.

**Hazard and Restrictions:**

Riprap poses slip, trip and fall hazards.

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

**Strategy: 2-742.1 Objective:** Exclude oil from entering from San Joaquin and protect berm islands.

*Strategy:* Deploy exclusion-deflection boom a shallow chevron (inverted V) formation outside the north mouth to exclude oil and deflect past mouth.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Harbor	9x9 inch		1600	feet	<i>Strategy Updated:</i>
Anchor	Danforth	22 lb		5		<i>Last Test: 2/24/2020</i>
Vessel	Boom Boat			1		
Vessel	Skiff or Punt			1		
Staff	Staff to Deploy			5		

**Strategy: 2-742.2 Objective:** Divert to confinement within cut any oil entering from either end - do not allow escape to Frank's Tract.

*Strategy:* Deploy collection/containment boom diagonally across cut to collect at most favorable shorefall under prevailing winds. Use 750' 6X6+ Sboom to land-based collection. Use 50ft of Oil Snare (OS), 100' of sorbent boom to collect oil that may accumulate. Use 3-4 mid-boom anchors to maintain non-catenary configuration. Make multiple sets as necessary and back with sorbent if escapement persists. Contact IC if oil accumulates in skimmable quantities.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Swamp	6x6 inch		750	feet	
Anchor	Danforth	22 lb		4		
Vessel	Boom Boat			1		
Vessel	Skiff or Punt			1		
Staff	Staff to Deploy			5		

**Strategy: 2-742.3 Objective:** Oil Recovery by Shoreside skimming

*Strategy:* Deploy skimmers if oil accumulates in skimmable quantities. Consult with IC prior to the initiation of this strategy.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
skimmer	self propelled			1		
Staff	Staff to Deploy			3		

**Logistics:**

*Directions:* Several private levee roads accessible from the private ferry on Jersey Island Road, provide levee road access to island margins. Access is primarily by boat from marina/launches on Bethel Island, Antioch, mouth of Mokelumne, and Brannon Island State Park.

*Land Access:* PRIVATE LEVEE ROADS GOOD WHEN DRY.

*On-Water Limitations:* FAIRLY DEEP EXCEPT AT MARGINS. Boat launch and marine support at Antioch, Bethel Island and mouth of Mokelumne (Korth's Marina). Launch at Brannon Island State Park.

*Facilities, Staging Areas, Command Posts, Available Equipment:* Complete support facilities at Antioch and Brentwood.

**2-742-B Site Strategy - Fishermans Cut**

**2-742-B**

Lessor degree at Bethel Island and Oakley. Also support facilities at Mokelumne River and 7-mile Slough. Staging is possible at Brannon Island, Mokelumne River mouth, Bethel Island, and Antioch.

*Communications Problems:*



CDFW - OSPR & USCG Site: 2-742 Name: Fishermans Cut

G.Ewing (OSPR) & M. Schommer (OSPR) Date: 1/11/2021

●●●● Harbor Boom

XXXXXXXX Swamp Boom

**2-755-A Site Summary - Spoonbill Creek****2-755-A****County :** Solano **ACP Division/Segment :****NOAA Chart :** SUISUN BAY**Map Book :** Solano County**Decimal Degrees :** 38.053697 -121.893555**Site Description:**

Site extends from its easterly mouth on Suisun Bay to about mid-point and includes openings to pocket sloughs and adjacent borrow channels. This tidal channel lies between Chipps Island and Van Sickle Island. It connects Honker Bay with eastern Suisun Bay. The Creek has a strong tidal current on both ebb and flood. Expect the water to flow to the northwest, toward Honker Bay, on the ebb tide and to the southeast, toward Suisun Bay on the flood tide. The levee on the east side, Van Sickle Island, is well maintained and has a narrow dirt road on top. It may support vac trucks, although a turn around has not been identified. There are also Eucalyptus trees on this levee that can be used to anchor boom. The easterly mouth of Spoonbill Creek is an extensive marshy area. The waterway has marshy margins with openings to a borrow channel that is separated from Suisun Bay by low marshy islands.

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

	<b>Resource Name</b>	<b>Status</b>	<b>Presence</b>
Birds	California black rail		
Mammals	salt marsh harvest mouse	FE, SE	

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:**

<b>Type</b>	<b>Name/Title</b>	<b>Organization</b>	<b>Phone</b>
C	/	Northwest Historical Resources Information Center	(707) 588-8455
O	/Office	Suisun Resource Conservation District	(707) 425-9302
T	Eric Larson/	California Department of Fish & Wildlife, Bay/Delta	(707) 944-5500
T	John Henderson/Environmental Contaminant	US Fish and Wildlife Service	(916) 930-5676

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:**

Major concern is transport and spread of oil to sensitive areas including Honker Bay and marshes within Spoonbill Creek as well as oil penetration of the marshes at the mouth of Spoonbill Creek.

**Hazard and Restrictions:**

Shallow water at entrance into Spoonbill Creek, submerged obstructions likely. Wind chop to three feet possible in Suisun Bay. Strong currents in Spoonbill Creek, but no chop.

**Site Strategies:**

**Strategy: 2-755.1 Objective:** Exclude Oil

*Strategy:* Deploy 3000 feet of Hboom across the mouth of Spoonbill Creek and along the north shore of the Sacramento-San Joaquin river not less than 1000 feet either side of the creek mouth. Anchor the ends of the boom well up onto the shoreline, above the high tide line if possible. Fasten an anchor to the boom near the middle of the creek mouth pull the anchor south into the river until the boom forms a shallow, taunt "V" and set the anchor.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Harbor	9x9 inch		3000	feet	
Anchor	Danforth		22 lb	7		
Vessel	Boom Boat			2		
Vessel	Skiff or Punt			1		
Staff	Staff to Deploy			7		

**Strategy: 2-755.2 Objective:** Divert Oil

*Strategy:* Deploy 1,500 feet of Sboom at a shallow angle across the creek. Anchor one end of the boom on the west side of the creek at or just outside the creek mouth. Anchor the other end of the boom 1,000 to 1,500 feet inside the creek mouth on the east bank of the creek. This is the oil collection and recovery point. The east bank of the creek is a levee with a graded road on top. Vehicle access may be possible. The shoreline should be lined with hard boom and backed with sorbent at this point, and there must be a means of placing tension on the boom (a winch or block and tackle) so it remains taught and straight. If any portion of the boom approaches an angle perpendicular to the current, oil will entrain and a second boom must then be deployed down current from the first.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Swamp	6x6 inch		1500	feet	<i>Strategy Updated: 9/30/2015</i>
Anchor	Danforth		22 lb	4		<i>Last Test: 9/30/2015</i>
Vessel	Boom Boat			1		
Vessel	Skiff or Punt			1		
Staff	Staff to Deploy			5		

**Strategy: 2-755.3 Objective:** Collect Oil with Skimmer

*Strategy:* Deploy a vessel mounted, self propelled skimming system in the middle of Spoonbill creek with 500 feet of boom deployed between each bank and the skimmer in such a way as to increase the encounter rate of the skimmer and prevent oil from getting around the skimmer.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Harbor	9x9 inch		1000	feet	
Boom	Sorbent			500	feet	
Anchor	Danforth	22 lb		5		
Vessel	Boom Boat			1		
Vessel	Skiff or Punt			1		
skimmer	self propelled			1		
Staff	Staff to Deploy			8		

### Logistics:

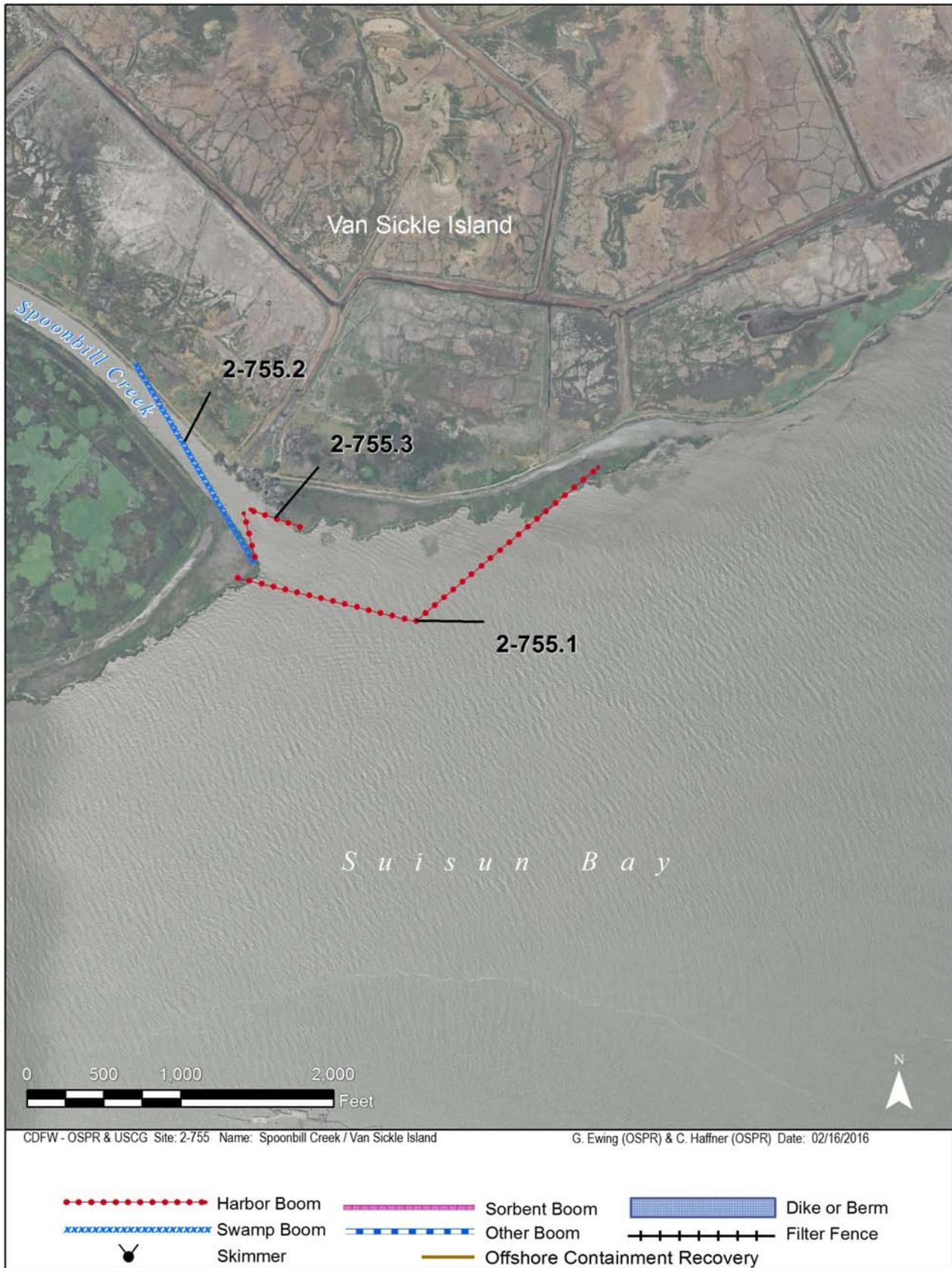
*Directions:* Water access from west Pittsburg. Some levee access from Van Sickle Island. Take hwy 12 to Grizzly Island Road to Van Sickle Island. Local Fish and Game warden can arrange for access over graded private roads.

*Land Access:* Van Sickle Island LEVEE ROAD

*On-Water Limitations:* DEEP EXCEPT BAR AT MOUTH Boat launching and other vessel services are available at several locations along the south shore of the river and Suisun Bay (northeastern Contra Costa County) including Pittsburg, Antioch, and Bay Point marinas.

*Facilities, Staging Areas, Command Posts, Available Equipment:* There are several locations along the south shore of Suisun Bay that may be suitable for staging areas and field posts, including Pittsburg, Antioch, and Bay Point marinas. On the north shore, Collinsville has limited facilities but equipment can be loaded onto vessels there.

*Communications Problems:*



Imagery: NAIP 2010 (Summer) 4-Band

**2-757-A Site Summary - Van Sickle Island****2-757-A****County :** Solano **ACP Division/Segment :****NOAA Chart :** SUISUN BAY  
18652/18656**Map Book :****Decimal Degrees** 38.06272 -121.888129**Site Description:**

This site is the south margin of Van Sickle Island which fronts on Suisun Bay between Spoonbill Creek and Montezuma Slough. This Island margin is a levee with emergent marsh on the Suisun Bay side. On the Spoonbill end there is a barrow channel behind the front marsh which is about one third the length of the exposure (which is an important path to close to oil spread).

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

	<b>Resource Name</b>	<b>Status</b>	<b>Presence</b>
Birds	California black rail		
Mammals	salt marsh harvest mouse	FE, SE	

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:**

<b>Type</b>	<b>Name/Title</b>	<b>Organization</b>	<b>Phone</b>
C	/	Northwest Historical Resources Information Center	(707) 588-8455
O	/Office	Suisun Resource Conservation District	(707) 425-9302
T	Eric Larson/	California Department of Fish & Wildlife,Bay/Delta	(707) 944-5500
T	John Henderson/Environmental Contaminant	US Fish and Wildlife Service	(916) 930-5676

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:**

Potential impacts of concern include oiling of emergent marsh, oil entering small sloughs, penetration of levees via animal burrows.

**Hazard and Restrictions:**

Riprap poses slip, trip and fall hazards. Vessels beware of submerged objects and shallows at margins.

**Site Strategies:**

**Strategy: 2-757.1 Objective:** Exclude Oil

**Strategy:** At the east tip of the berm island (about a half mile east of Spoonbill Creek) close the inside channel with 100 ft. 6x6+ Sboom. Deploy 6X6+ Sboom from the tip along the front of the berm island.. If wind chop is likely to lift oil over this boom use double booming and use larger boom. Anchor near shore and leave trailing boom ends to make a tidal seal. West anchor: (38.053854/-121.887663) East anchor: (38.056829/-121.880247)

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Swamp	6x6 inch		3500	feet	<i>Strategy Updated:</i> 10/22/2015
Anchor	Danforth		22 lb	8		<i>Last Test:</i> 10/22/2015
Vessel	Boom Boat			2		
Vessel	Skiff or Punt			1		
Staff	Staff to Deploy			8		

**Logistics:**

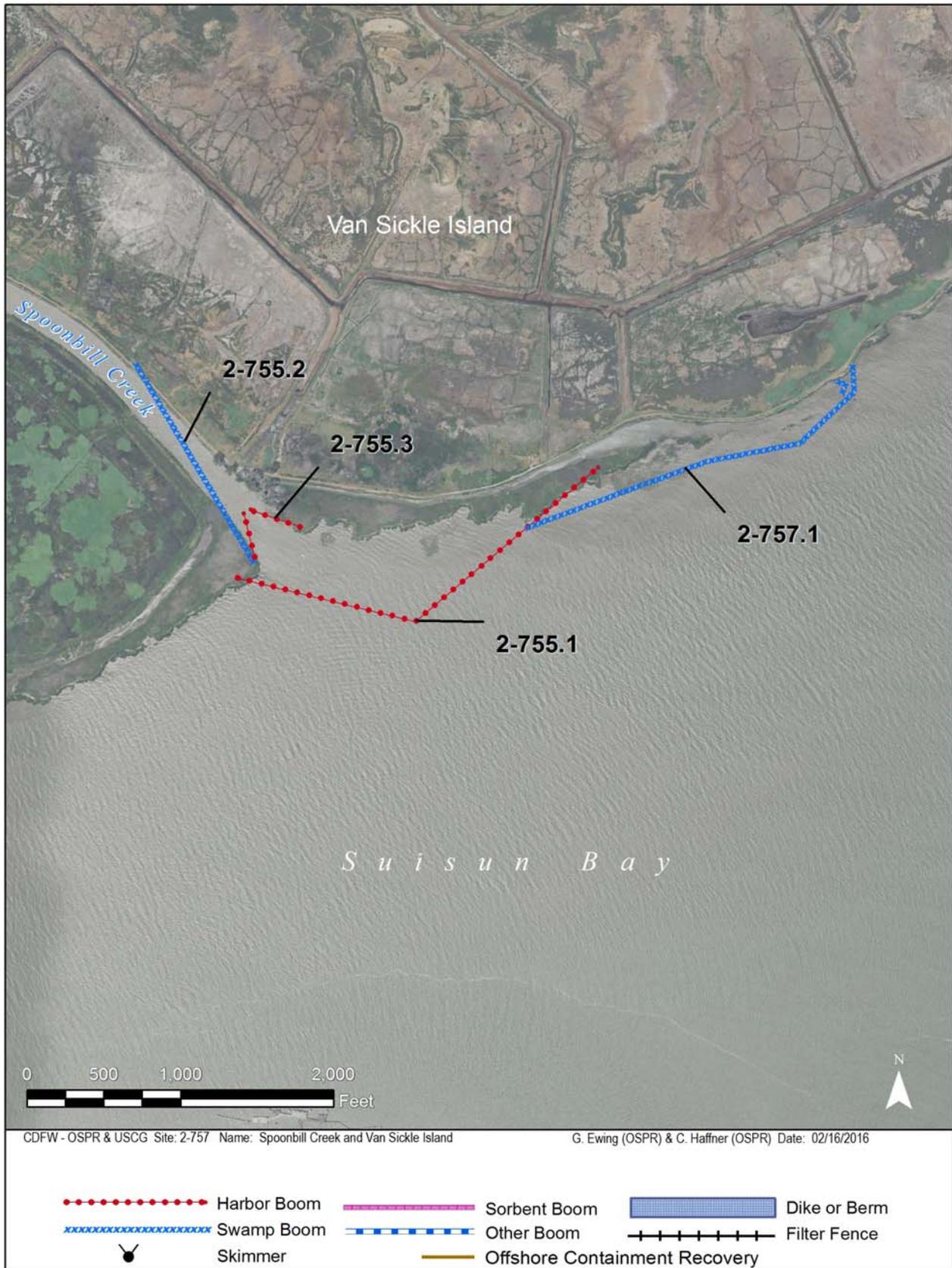
**Directions:** Levee and private roads provide land access from Collinsville. By water, the site is a mile northwest from the Pittsburg Marina.

**Land Access:** NO LAND ACCESS

**On-Water Limitations:** SHALLOWS AND OBSTRUCTIONS COMMON. Boat launch is available at South Shore (Contra Costa Co) locations including Pittsburg, Antioch, and Bay Point Marinas.

**Facilities, Staging Areas, Command Posts, Available Equipment:** There are various staging and facilities along the south shore. Collinsville has limited facilities but would be a good local deployment site.

**Communications Problems:**



**2-850-A Site Summary - Cache Slough****2-850-A****County:** Solano **ACP Division/Segment:****NOAA Chart:** 18662 SACRAMENTO RIVER **Map Book:****Decimal Degrees:** 38.236615 -121.682392**Site Description:**

Site extends from the mouth of the Sacramento River Deep Water Channel about 8 miles to its terminus plus several more miles of smaller sloughs (Haas Slough and Shag Slough) and many minor sloughs and marshes (20+ miles total). This meandering, marsh, dead-end slough has rich riparian growth throughout its length including channel islands. Both banks are leveed and rip-rapped in places. It has many shallows and snags. This habitat is rich in aquatic, marsh and terrestrial life.

**Resources at Risk:**

*ESI and Habitat:* 6B Riprap  
10B Freshwater marshes

**List of Resources at Risk:****List of Key Contacts:**

Type	Name/Title	Organization	Phone
C	/	Native American Heritage Commission	(916) 373-3710
C	/Coordinator	Northwest Information Center	(707) 588-8455
E	/General Manager	Little Egbert Tract Reclamation District	(530) 665-8222
E	/ Office	North Delta Water Agency	(916) 446-0197
E	/Superintendent	Ryer Island Reclamation District	(916) 775-1411
E	/Manager	Solano County Water Agency	(707) 455-1105
O	/Operations	California Department of Water Resources	(916) 574-2714
T	Eric Larson/Environmental Program Manager	CA Dept. of Fish & Wildlife, Bay Delta Region	(707) 576-2837
T	/Spill Response Coordinator	S.F. Bay-Delta U.S. Fish & Wildlife Service Office	(916) 799-0588

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 sensitive site is best protected by excluding oil from entering by exclusion booming and deflection to collection near mouth. Infiltration of oil into wetlands and penetration into levees, riprap, and banks.

**Hazard and Restrictions:**

Aerial traffic beware of overhead power wires. Watercraft beware of snags and shallows. Pedestrian hazards include: Poison Oak, riprap, and thick vegetation.

**Site Strategies:****Site Validation Level: III**

**Strategy: 2-850.1 Objective:** Deflection/exclusion to keep oil in main ship channel and prevent oil from entering reaches of upper Cache, Miner, Prospect, and Lindsey Sloughs.

*Strategy:* a. Power down water transfer pumps upstream in Lindsey Slough (at Barker Slough - DWR.)  
b. Deploy deflection boom keep oil in Ship Channel. From inside the Deep Water Channel mouth, lay 12X12+ curtain boom in a shallow chevron parallel to the Ship Channel and across upper Cache on the west and Miner Slough on the east.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Harbor	9x9 inch		1500	feet	
Anchor	Danforth	44 lb		6		
Vessel	Boom Boat			1		
Vessel	Skiff or Punt			1		
Staff	Staff to Deploy			5		

**Strategy: 2-850.2 Objective:** Exclusion/to confinement/collection across Cache Slough at Prospect Slough mouth. Create collection pocket on river right shoreline.

*Strategy:* Cascade 3 legs (800, 800, 900ft) of 2500' 6X6+ Sboom across Cache Slough to exclude oil from entering upper sloughs and direct it to shore for collection. Cascade each leg to allow vessel traffic passage. Anchor near shore with overlap of north bank and trailing boom ends to maintain tidal seal. Use 50ft of Oil Snare (OS), 100ft of sorbent boom to collect oil that may accumulate. Water depth ranges up to 80 ft.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Swamp Boom	6x6 inch		2500	feet	<i>Strategy Updated:</i>
Boom	Oil Snare (pom-pom)			50	feet	<i>Last Test: 3/5/2020</i>
Boom	Sorbent			100	feet	
Anchor	Danforth	40 lb		10		
Vessel	Boom Boat			1		
Vessel	Skiff or Punt			2		
Staff	Staff to Deploy			8		

**Strategy: 2-850.3 Objective:** Exclusion boom at Lindsey Slough mouth

*Strategy:* Deploy 1200' 9x9+ curtain boom from north ferry cable-ferry landing at mouth of Prospect Slough diagonally west across Cache Slough to the levee near the mouth of Lindsey Slough. Anchor near shore leaving, trailing boom ends to maintain tidal seal. If conditions permit, collect oil with on the south levee. Use 50ft of Oil Snare (OS), 100ft of sorbent boom to collect oil that may accumulate. Execute Prospect Slough strategy.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Harbor	9x9 inch		1200	feet	
Boom	Oil Snare (pom-pom)			50	feet	
Boom	Sorbent			100	feet	
Anchor	Danforth	25 lb		5		
Vessel	Boom Boat			1		
Vessel	Skiff or Punt			1		
Staff	Staff to Deploy			5		

**Strategy: 2-850.4 Objective:** Oil Recovery by Shoreside skimming

*Strategy:* Deploy skimmers if oil accumulates in skimmable quantities. Collect oil with land-based skimmer on the south levee, back with sorbent if oil presence is great as a result of strategy .2. Oil collection with a land based skimmer may also be used to collect oil as a result of strategy .3. Consult with IC prior to initiation of this strategy.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
skimmer	self propelled			1		
Staff	Staff to Deploy			3		

**Logistics:**

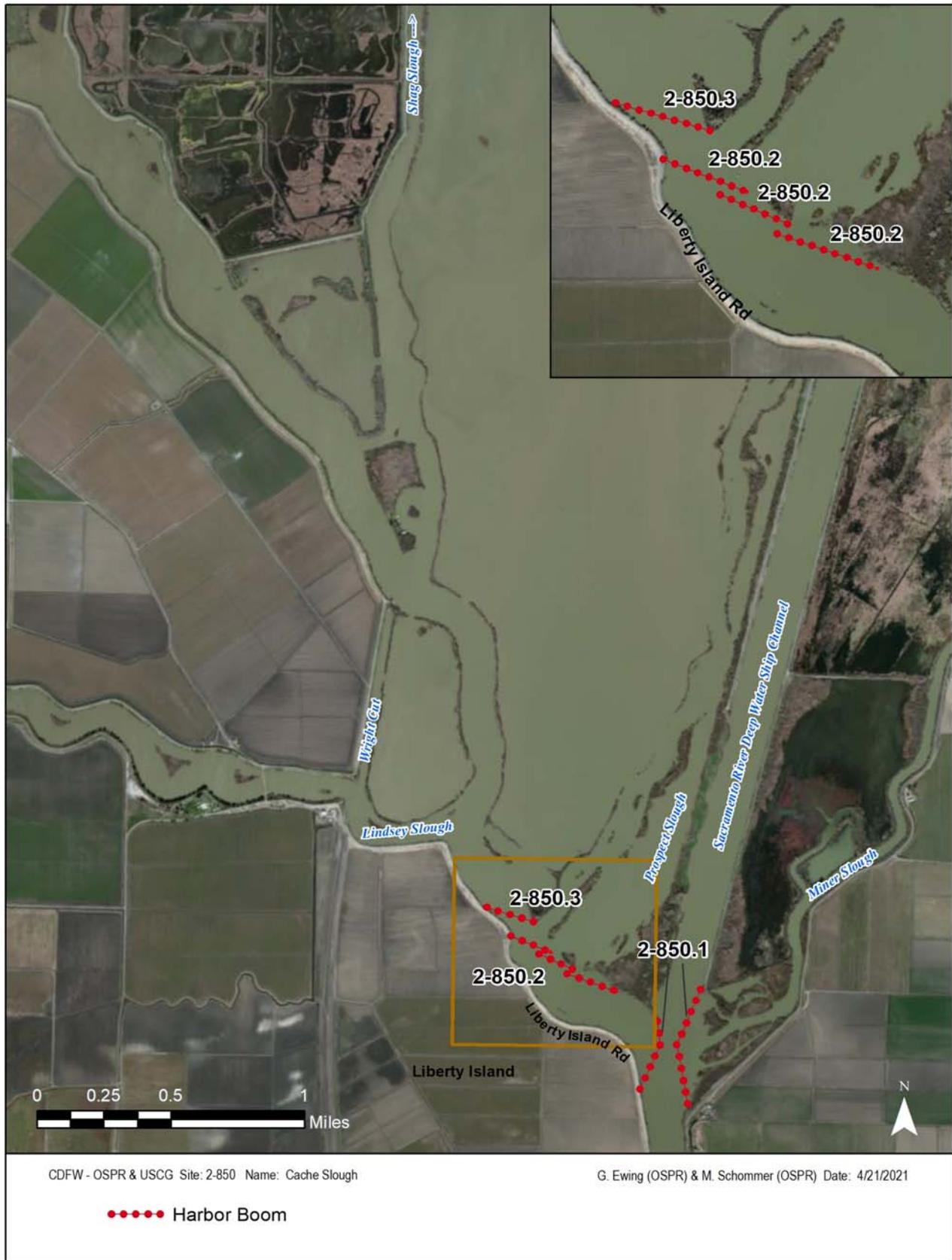
*Directions:* Vehicle access to the mouth is levee road 6 miles north from Rio Vista via Hwy 84. Levee roads are less accessible thru locked gates from Reclamation District or DWR. By water from Rio Vista north up the Sacramento River and lower Cache Slough to the mouth of the Sacramento Deep Water Ship Channel.

*Land Access:* PAVED AT MOUTH ELSE DRY WEATHER

*On-Water Limitations:* GOOD EXCEPT SNAGS AND SHALLOWS. Private boat launch on east side (near Miner Slough Mouth) but needs to be cleared prior to use. Real McCoy Ferry (Hwy 84) can be used as a launch site. Launch, moorage and fuel are also available at Steamboat Slough and City of Rio Vista.

*Facilities, Staging Areas, Command Posts, Available Equipment:* Real McCoy Ferry has large deployment site. Rio Vista has a full range of support facilities.

*Communications Problems:*



**2-922-A Site Summary - Indian Slough****2-922-A****County :** Contra Costa **ACP Division/Segment :****NOAA Chart :** 18661 Sacramento & San Joaquin River **Map Book :** Bay and River A **Decimal Degrees :** 37.915884 -121.566809**Site Description:**

This site consists of Indian Slough from the confluence with Old River to Bixler Road, including Werner Dredger Cut to the Union Pacific Railroad. The site includes a few in-channel "islands" and areas of emergent marsh and riparian vegetation. Discovery Bay, a residential complex, is located near its terminus.

**Resources at Risk:**

*ESI and Habitat:* 6B Riprap  
9B Vegetated low banks

**List of Resources at Risk:**

	Resource Name	Status	Presence
Birds	herons		
Birds	egrets		
Mammals	River Otter		
Mammals	muskrat		

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	/	Northwest Historical Resources Information Center	(707) 588-8455
O	Dante Nomellini/President	Central Delta Water Agency	(209) 465-5883
T	Eric Larson/	California Department of Fish & Wildlife, Bay/Delta	(707) 944-5500
T	John Henderson/Environmental Contaminant	US Fish and Wildlife Service	(916) 930-5676

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:**

The concern is two-fold: first, that oil will be transported through this site to other parts of the delta; and second, that marshy islands and margins will be come oiled. These marshy areas are sensitive and habitat to many sensitive species. There is always the concern of impacts from response and cleanup: trampling vegetation, disturbing wildlife, and tracking oil into marshes and mudflats.

**Hazard and Restrictions:**

Riprap poses slip, trip and fall hazards. Vessels beware of submerged objects and shallows at margins.

**Site Strategies:****Strategy: 2-922.1 Objective:** Divert Oil

*Strategy:* Keep oil in Old River by deploying 300-500 ft. sections of 9X9 Hboom from either the north or south point at the confluence, deflecting oil away from Indian Slough and back into the main current of Old River.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Harbor	9x9 inch		500	feet	<i>Strategy Updated:</i>
Anchor	Danforth	25 lb		3		<i>Last Test:</i>
Vessel	Boom Boat			1		
Staff	Staff to Deploy			3		

**Strategy: 2-922.2 Objective:** Exclude Oil

*Strategy:* On Old River, above the confluence of Indian Slough, use three 400ft legs of H boom, set up a cascading configuration from east to west. Add extra anchors to middle leg of boom. Use the remaining 400ft Hboom to create a collection pocket on the south side of Indian Slough. Collect oil with the skimmer and/or vacuum truck from the levee.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Harbor	9x9 inch		1600	feet	<i>Strategy Updated:</i> 12/11/2017
Anchor	Danforth	25 lb		18		<i>Last Test:</i> 12/11/2017
Vessel	Boom Boat			1		
Vessel	Skiff or Punt			1		
skimmer	shoreside			1		
Staff	Staff to Deploy			8		

**Strategy: 2-922.3 Objective:** Exclude Oil

*Strategy:* If oil is present in Indian Slough or coming from Discovery Bay, deploy 6X6 swamp boom to exclude and deflect oil away from the islands. Depending on currents and winds, sorbent boom may be satisfactory.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Swamp	6x6 inch		3000	feet	
Anchor	Danforth	25 lb		15		
Vessel	Boom Boat			1		
Vessel	Skiff or Punt			1		
Staff	Staff to Deploy			5		

**Strategy: 2-922.4 Objective:** Exclude Oil

*Strategy:* Deploy 9X9 Harbor boom across east and west channel entrances to Discovery Bay. Use 300 ft at east entrance. Use 200 ft at west entrance. Deploy 800 ft from west entrance across slough channel and tule island to "Point of Timber."

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Harbor	9x9 inch		1300	feet	
Anchor	Danforth		25 lb	8		
Vessel	Boom Boat			1		
Vessel	Skiff or Punt			1		
Staff	Staff to Deploy			5		

**Logistics:**

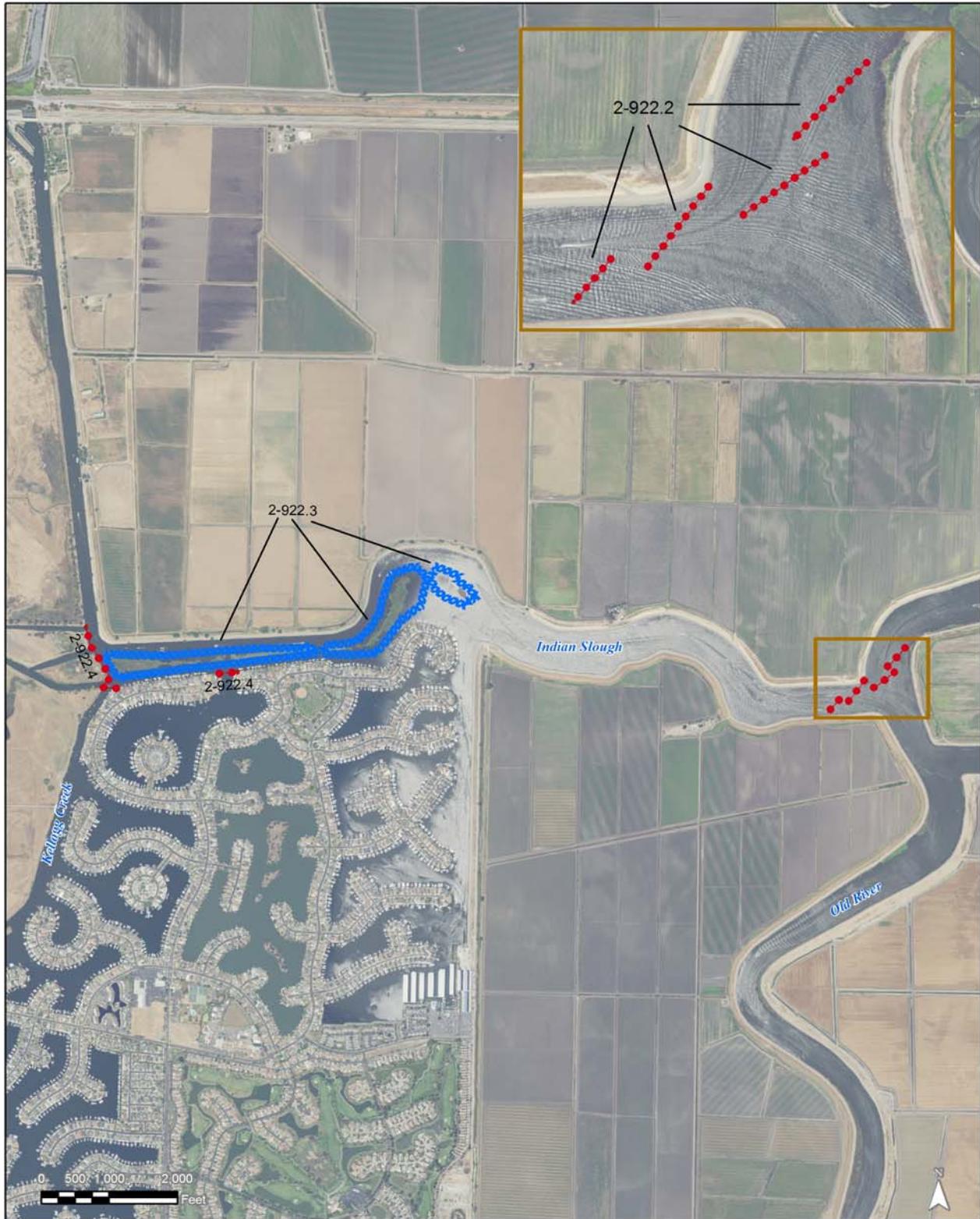
*Directions:* Key access to the site is from Highway 4 east to Discovery Bay Blvd Turn right on Willow Lane Road, then right on Marina Road, and left on Channel Drive to launch ramp.

*Land Access:* LG TRUCK, HVY EQUIP, 4WD,

*On-Water Limitations:* Low clearance on Dredger Cut. Boat launching facilities are available at Discovery Bay.

*Facilities, Staging Areas, Command Posts, Available Equipment:* Facilities and deployment sites can possibly be

*Communications Problems:*



CDFW - OSPR & USCG Site: 2-922 Name: Indian Slough

G. Ewing (OSPR) & M. Schommer (OSPR) Date: 4/9/2018

●●●●●●●● Harbor Boom

XXXXXXXXXXXXXXXXXXXX Swamp Boom

**2-970-A Site Summary - Middle River: Upper Jones Tract****2-970-A****County :** San Joaquin **ACP Division/Segment :****NOAA Chart :** 18661 Sacramento & San Joaquin River **Map Book :****Decimal Degrees** 37.927579 -121.526468**Site Description:**

This site is the reach from Southern Pacific Railroad (SPRR) crossing on the north to the Highway 4 bridge on the south. A large river reach with several in-channel tule marsh islands. Bordering island levees are riprapped with emergent marsh along the levee margins.

**Resources at Risk:***ESI and Habitat:* 6B Riprap

9B Vegetated low banks

**List of Resources at Risk:**

	<b>Resource Name</b>	<b>Status</b>	<b>Presence</b>
Birds	California Ridgway's rail	FE, SE	
Birds	Swainson's hawk	SR, ST	
Birds	egrets		
Birds	herons		
Fish	chinook salmon - Winter-run	FE, SE	
Mammals	beaver		
Mammals	River Otter		

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:**

<b>Type</b>	<b>Name/Title</b>	<b>Organization</b>	<b>Phone</b>
C	Elizabeth Greathouse/	Central California Information Center	(209) 667-3307
T	Eric Larson/	California Department of Fish & Wildlife,Bay/Delta	(707) 944-5500
T	John Henderson/Environmental Contaminant	US Fish and Wildlife Service	(916) 930-5676

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:**

The concern is two-fold: first, that oil will be transported through this site to other parts of the delta; and second, that marsh islands and margins will be come oiled. These marsh areas are very sensitive and serve as habitat to many sensitive species. There is always the concern of impacts from response and cleanup: trampling vegetation, disturbing wildlife, and tracking oil into marshes and mudflats

**Hazard and Restrictions:**

The low clearance of the bridge is a restriction to boat travel.

**Site Strategies:****Strategy: 2-970.1 Objective:** Exclude Oil

*Strategy:* a) For oil from the north; deploy 1000 ft of 9X9 Hboom near the UP railroad cut. Deflect oil away from islands towards levees for shore-based skimming and recovery.

B) Boom off entrances (2) to ski areas inside larger tule-island (200 ft each). Fall back position is up river towards Woodward Island Ferry.

C) Place 800 ft 9X9 Hboom in front of islands or outline with curtain or sorbent boom.

Use 50ft of Oil Snare (OS), 100ft of sorbent boom to collect oil that may accumulate. Contact IC if oil accumulates in skimmable quantities.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Harbor	9x9 inch		1200	feet	
Boom	Oil Snare (pom-pom)			50	feet	
Boom	Sorbent			100	feet	
Anchor	Danforth	25 lb		12		
Vessel	Boom Boat			1		
Vessel	Skiff or Punt			1		
Staff	Staff to Deploy			5		

**Strategy: 2-970.2 Objective:** Exclude Oil

*Strategy:* For oil from the south; deploy 1500 to 2000 ft of 9X9 Hboom across channel north of Trapper Slough confluence. Deflect to west side levee (Victoria Island) for collection. Use 50ft of Oil Snare (OS), 100ft of sorbent boom to collect oil that may accumulate. Contact IC if oil accumulates in skimmable quantities.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Harbor	9x9 inch		2000	feet	<i>Strategy Updated: 5/30/2017</i>
Boom	Oil Snare (pom-pom)			50	feet	<i>Last Test: 5/30/2017</i>
Boom	Sorbent			100	feet	
Anchor	Danforth	22 lb		5		
Vessel	Boom Boat			1		
Vessel	Skiff or Punt			1		
Staff	Staff to Deploy			5		

**Strategy: 2-970.3 Objective:** Collect Oil with Skimmer

*Strategy:* Deploy skimmers when oil accumulates in skimmable quantities. Consult with IC prior to the initiation of this strategy.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
skimmer	self propelled			1		
Staff	Staff to Deploy			3		

**Logistics:**

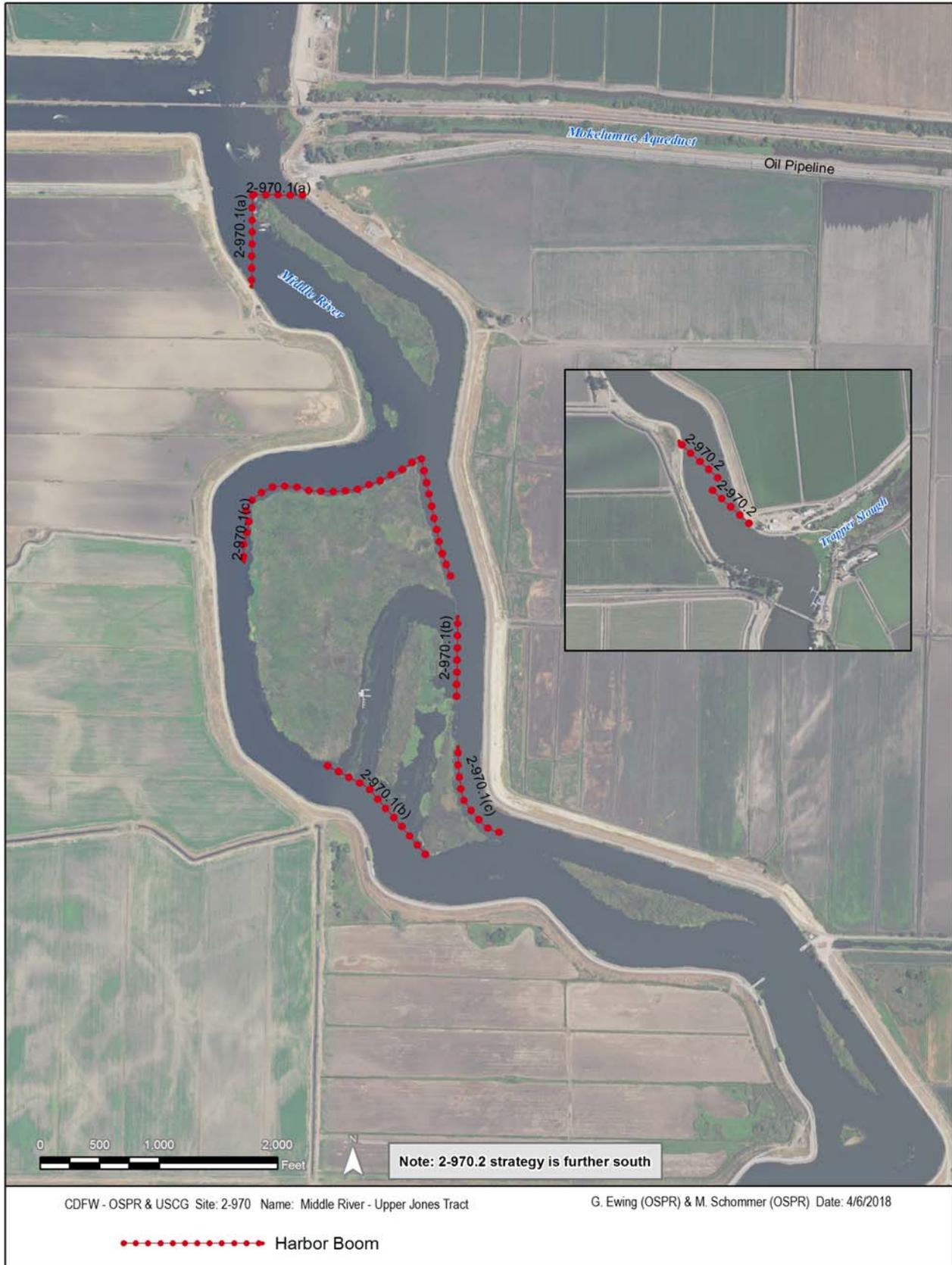
*Directions:* Key access is from Highway 4 east to Union Pacific at Middle River. Turn left on levee road across Trapper Slough to Bacon Island Road.

*Land Access:* all types on paved levee roads

*On-Water Limitations:* SHALLOW WATER NEAR ISLANDS Launch skiffs from levee, larger vessels launch from Discovery Bay.

*Facilities, Staging Areas, Command Posts, Available Equipment:* Staging at Union Point or along levees.

*Communications Problems:*



**2-045-A Site Summary - Disappointment Slough****2-045-A****County :** San Joaquin **ACP Division/Segment :****NOAA Chart :** 18661 SACRAMENTO / **Map Book :** SF Bay and Delta **Decimal Degrees** 38.039418 -121.48128  
SAN JOAQUIN RIVER**Site Description:**

This site extends about 7 miles from its mouth behind north Fern Island (north of Ward Cut) easterly to I-5, and includes the side channels Honker and Bishop Cuts. Throughout its length, it is laced with cross channels between its many marshy berm and channel islands. These islands are ecologically rich and covered with shrub-scrub and emergent vegetation. At the upper end near I-5 are several acres of mature riparian growth. Levee banks are rip-rapped with pockets of emergent marsh/riparian growth.

**Resources at Risk:**

*ESI and Habitat:* 6B Riprap  
9B Vegetated low banks

**List of Resources at Risk:**

	<b>Resource Name</b>	<b>Status</b>	<b>Presence</b>
Birds	Swainson's hawk	SR, ST	
Fish	chinook salmon - Winter-run	FE, SE	
Reptiles	southwestern pond turtle	SSC	

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:**

<b>Type</b>	<b>Name/Title</b>	<b>Organization</b>	<b>Phone</b>
C	/	Northwest Historical Resources Information Center	(707) 588-8455
O	Dante Nomellini/President	Central Delta Water Agency	(209) 465-5883
T	Eric Larson/	California Department of Fish & Wildlife,Bay/Delta	(707) 944-5500
T	John Henderson/Environmental Contaminant	US Fish and Wildlife Service	(916) 930-5676

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:**

Concern here is the protecting the many marsh channel islands and sensitive plants found there from oiling. The strategies are designed to keep oil from entering this channel by exclusion/collection booming. Responders should beware that sensitive plants are common here, and should avoid trampling vegetation. Also avoid trampling oil into sediments.

**Hazard and Restrictions:**

Aerial traffic beware of high wires. Poison Oak. Slips trips and falls on levee riprap. Beware of shallows and snags in side channels.

**Site Strategies:****Strategy: 2-045.1 Objective:** Exclude Oil

*Strategy:* Set harbor boom across channels at slough mouth. Anchor one boom end near west side riprap levee (Empire Tract) 800 ft across the slough on an upstream diagonal to the tip of Fern Island. Anchor a second boom length from Fern Island to mid-channel berm island and then on to the tip of Rindge Tract (500ft). Leave trailing boom lengths for a tidal seal. Back with sorbent boom.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Harbor	9x9 inch		1300	feet	<i>Strategy Updated:</i> 4/20/2017 <i>Last Test:</i> 4/20/2017
Boom	Sorbent			1500	feet	
Anchor	Danforth	25 lb		5		
Vessel	Boom Boat			1		
Vessel	Skiff or Punt			1		
Staff	Staff to Deploy			5		

**Strategy: 2-045.2 Objective:** Exclude Oil

*Strategy:* Honker Cut: At the intersection of Honker Cut and Disappointment Slough anchor one end of 4X4+ boom (200) at King Island levee and the other at Empire Tract, leaving trailing boom ends for tidal seal. This strategy can be deployed near 8 Mile Road if circumstances are favorable. Site may be appropriate for Shore-Side Skimming.

Bishop Cut: At the intersection of Bishop Cut and Disappointment Slough anchor one end of 4X4 boom (200) at Bishop Tract levee and the other at King Island leaving trailing boom ends for tidal seal. This strategy can be deployed nearer 8 Mile Road if circumstances are favorable. Site may be appropriate for Shore-Side Skimming.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Swamp	6x6 inch		400	feet	
Anchor	Danforth	22 lb		3		
Vessel	Skiff or Punt			1		
Staff	Staff to Deploy			3		

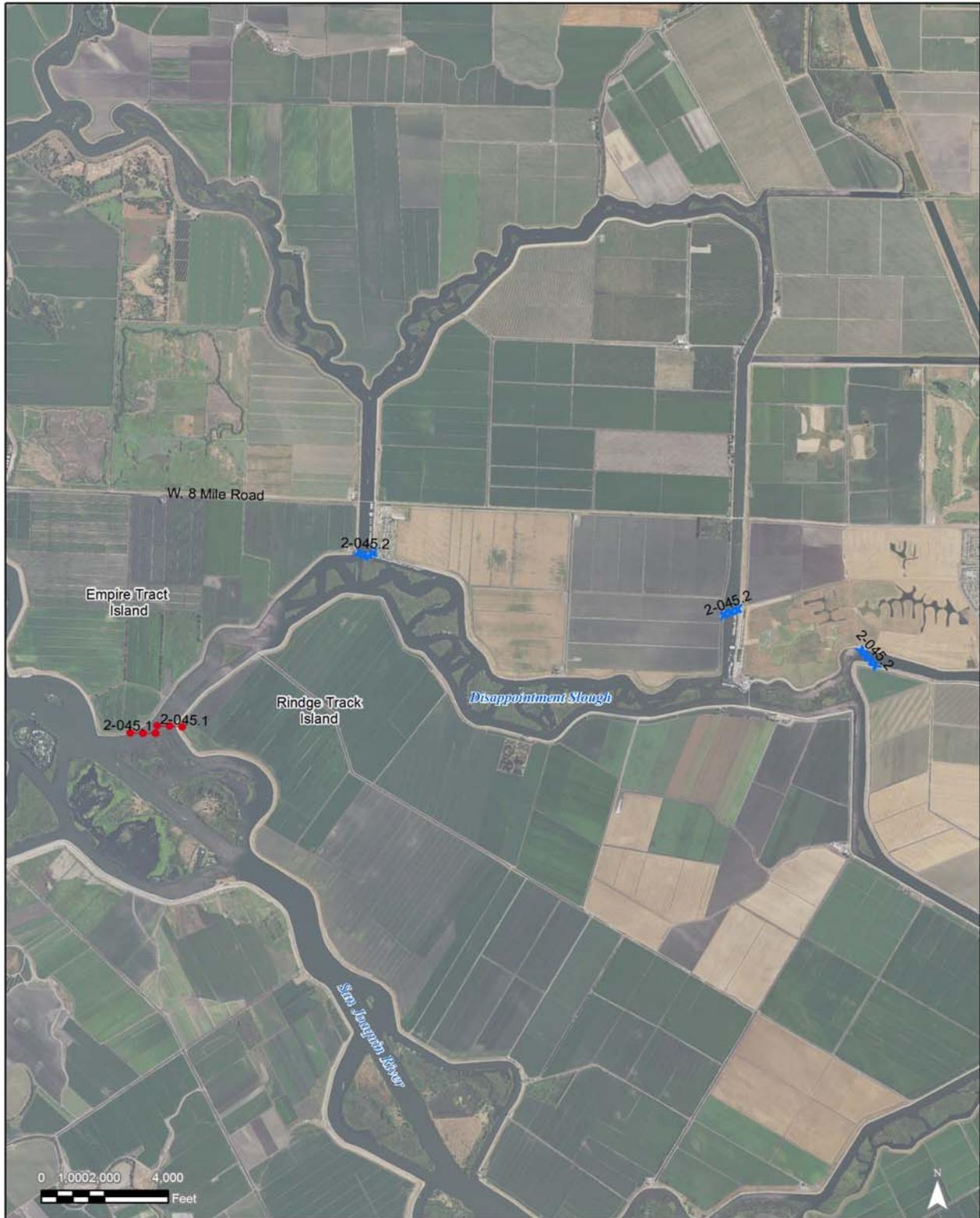
**Logistics:**

*Directions:* Key access to deployment is by boat. Site is water accessible from Stockton Deep Water Channel north at G 14 and from marinas on adjacent islands. Key land access is from private levee roads Rindge and Empire Tracts via 8mile Rd from I-5.

*Land Access:* Levee roads good unless wet

*On-Water Limitations:* Depth problems only near shore. Marina service and boat launch are available a

*Facilities, Staging Areas, Command Posts, Available Equipment:* Deployment possible from nearby levees. Also from nearby marinas consider using the end of 8-mile Rd as a major deployment site for this section of the Delta. Rental Rental boats, restaurants, water, power, gas, marine repair and some camping is available at nearby marina/resorts.



CDFW - OSPR & USCG Site: 2-045 Name: Disappointment Slough

G. Ewing (OSPR) & M. Schommer (OSPR) Date: 4/12/2018

●●●●●●●● Harbor Boom

XXXXXXXXXXXXXXXXXXXX Swamp Boom

**County :** San Joaquin **ACP Division/Segment :****NOAA Chart :** 18661 SACRAMENTO / **Map Book :** SF Bay and Delta **Decimal Degrees** 38.055945 -121.533675  
SAN JOAQUIN RIVER**Site Description:**

Site is island tips separated from main islands by construction of the Deep Water Channel from light R6 to light R58. These include Mandeville Tip and Venice Tip and the many small unnamed channel and berm islands and surrounding channels. In addition to the very rich natural habitat varying from marsh to shrub scrub to riparian, there is a heron rookery here. These triangular shaped tips were once part of adjacent islands but are now flooded to varying degrees and partially enclosed with historic levees. Each have marshy margins both inside and out and small associated islands. The portions facing the channel are not leveed. The neighboring agricultural islands have heavily rip-rapped levees.

**Resources at Risk:***ESI and Habitat:* 6B Riprap

9B Vegetated low banks

**List of Resources at Risk:**

	Resource Name	Status	Presence
Birds	California black rail		
Birds	Swainson's hawk	SR, ST	
Birds	great blue heron		
Birds	bank swallow		
Fish	delta smelt	FT, SE	
Fish	chinook salmon - Winter-run	FE, SE	

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	Elizabeth Greathouse/	Central California Information Center	(209) 667-3307
E	Chris Neudeck/	Mandeville Island Reclamation District	(209) 946-0268
O	Dante Nomellini/President	Central Delta Water Agency	(209) 465-5883
T	Eric Larson/	California Department of Fish & Wildlife,Bay/Delta	(707) 944-5500
T	John Henderson/Environmental Contaminant	US Fish and Wildlife Service	(916) 930-5676

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:**

The major oil issues here are oiling of vegetation and marshes and penetration into burrows and riprap.

**Hazard and Restrictions:**

Waters are deep draft except in narrow channels between islands, beware of snags and pilings in the shallows. Aerial traffic beware of power wires. Slips, trips and falls.

**Site Strategies:**

**Strategy: 2-060.1 Objective:** Exclude Oil

*Strategy:* During a flood tide, set 1700 ft of 9X9 Hboom in a "J" configuration along the west side of the Venice Island Peninsula forming a collection pocket. Northern tip of boom should be pointed towards cluster of trees in the distance. Land based skim/collect oil from the Venice Levee road.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Harbor	9x9 inch		1700	feet	<i>Strategy Updated:</i> 11/22/2016 <i>Last Test:</i> 11/22/2016
Boom	Sorbent			1700	feet	
Anchor	Danforth	25 lb		8		
Vessel	Boom Boat			1		
Vessel	Skiff or Punt			1		
Staff	Staff to Deploy			5		

**Strategy: 2-060.2 Objective:** Exclude Oil

*Strategy:* Deploy 6X6 Sboom across each SJR Channel face: 4000' at Venice tip and 2500' at Mandeville . Back with sorbent. Block small sloughs, and perimeter marsh edges with 6X6 and sorbents.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Swamp	6x6 inch		8000	feet	
Boom	Sorbent			8000	feet	
Anchor	Danforth	22 lb		17		
Vessel	Boom Boat			4		
Vessel	Skiff or Punt			1		
Staff	Staff to Deploy			12		

**Strategy: 2-060.3 Objective:** Exclude Oil

*Strategy:* Execute adjacent site strategies: See strategy for Ward Cut Complex (2-050.2) and strategy for Middle River Mouth - (2-950.1)

Table of Response Resources

**Last Page Update**

**Logistics:**

*Directions:* Key access to site is from the Ship Channel (lights R58- R6) is by boat from Herman & Helen's or Korth's Marina or other central delta marinas. Vehicle access is from bordering levees: only Empire Tract and Venice Island

*Land Access:* ROADS SEASONAL

*On-Water Limitations:* deep draft, except near shore Nearest marine facilities, fuel and launch are at Herman & Hellens at the end of 8-mile Rd and the mouth of Mokelumne to west.

*Facilities, Staging Areas, Command Posts, Available Equipment:* Good deployment staging site at tip of Empire Tract on San Joaquin R. Also levees of Venice Island. Facilities on Empire Tract include rental boats and houseboats & fuel moorage, restaurant, electricity and water, marine supply and repair and some camping.

*Communications Problems:*



CDFW - OSPR & USCG Site: 2-060 Name: San Joaquin River, Mandeville/Venice Tips Complex G. Ewing (OSPR) & M. Schommer (OSPR) Date 03/27/2017

- Tidegate locations
- Harbor Boom
- XXXXXXXXXXXXXXXX Swamp Boom
- Skimmer
- Sorbent Boom
- - - - - Other Boom
- Offshore Containment Recovery
- Dike or Berm
- + + + + + Filter Fence

Imagery: NAIP 2012 (Summer) 4-Band