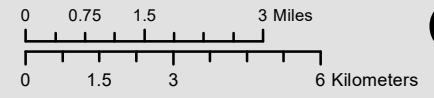


Calif. Dept. of Fish and Wildlife
Office of Spill Prevention and Response

Data Source: OSPR GIS
Requestor: C. Shinn
Author: G. Ewing
Date Created: 5/5/2022

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ACP 2 - GRA 7 Environmental Site Overview Contra Costa, Sacramento, Solano Counties



ACP 2 – West Delta

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9820 West Delta (GRA 7)

9820.1 Geographic Response Strategies for Environmental Sensitive Sites

9820.1.1 GRA 7 Site Index

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2-702-A Site Summary - Stake Point Marshes**2-702-A****County:** Contra Costa **ACP Division/Segment:** CC - J - S001 CC - J - S002**NOAA Chart:** 18656 Suisun Bay **Map Book:** **Decimal Degrees:** 38.046538 -121.943671**Site Description:**

This site consists of salt-marsh habitat on the Contra Costa shore of east Suisun Bay extends from the entrance to McAvoy's Marina east to the water intake slough at Mallard Island. It is an extensive salt-marsh system with multiple small channels and fingering channels. Most of the channels are small but three are extensive including two dead-end channels which run straight south for over a quarter mile inland. The third channel is in the east end and winds extensively and has inlets to the leveed interior marshes. The front salt-marsh is tule with some pickleweed. The marshes inland are freshwater with some large expanses of cattail. Though these marshes are grazed by cattle, there is extensive wildlife habitation by mammals and birds. The Bay front is alternating between eroding and accreting.

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

9B Vegetated low banks

6B Riprap

List of Resources at Risk:

	Resource Name	Status	Presence	Sensitivity
Birds	California black rail	FP, ST		Mar-Aug
Fish	longfin smelt	ST		Nov-May
Mammals	salt-marsh harvest mouse	FE, SE		
Plants	Mason's lilaeopsis	SR		Apr-Nov
Plants	soft bird's beak	FE, SR		Jul-Nov
Plants	Delta tule pea	SSSP		May-Jul

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

List of Key Contacts:

Type	Name/Title	Organization	Phone
C	/Coordinator	Native American Heritage Commission	(916) 373-3710
C	/Coordinator	Northwest Information Center	(707) 588-8455
E	/Dispatch, 24-hr	East Bay Regional Park District	(510) 881-1833
O	/Dispatch, 24-hr	California Department of Water Resources	(916) 574-2714
S	/Dispatch, 24-hr	Contra Costa County Office of the Sheriff	(925) 646-2441
T	/Environmental Program Manager	CA Dept. of Fish & Wildlife, Bay Delta Region	(707) 576-2837
T	/Oil Spill Point of Contact	NOAA National Marine Fisheries Service	(707) 480-3496
T	/Restoration Ecologist	US Department of Agriculture	(530) 304-2304
T	/Spill Response Coordinator	USFWS, SF Bay-Delta 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:

Inner channels and salt-marshes as well as waterfront salt-marshes are vulnerable to oil penetration - primary concern is to exclude tidal channels. Responders should minimize trampling of vegetation and tracking oil into marshes and sediments. Several endangered plants and animals are present and may be underfoot.

Hazard and Restrictions:

Very shallow near shoreline at low tide cycles.

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

Strategy: 2-702.1 Objective: Exclusion at mouths of 6 tidal channels to inner marshes.

Strategy: Set 9x9+ Hboom across all six openings in diagonals or chevron formations. Anchor near shore and leave a trailing boom end to insure tidal seal. Back with sorbent.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Harbor	9x9 inch		2000	feet	
Boom	Sorbent			600	feet	
Anchor	Danforth	22 lb		6		
Vessel	Boom Boat			1		
Vessel	Skiff or Punt			1		
Staff	Staff to Deploy			5		

Strategy: 2-702.2 Objective: Protective booming of bayfront emergent marsh margin from oil penetration

Strategy: Anchor 6X6+ Sboom anchored off marsh margin. If windchop is likely to wash oil over the boom, then double boom: deploy a second layer of boom. Sorbent boom may be used for the second layer only if it is deployed between the 6X6+ and the salt-marsh shoreline. Provide for oil skimming/collection if oil is likely to be collecting between the booms.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Swamp	6x6 inch		10000	feet	
Anchor	Danforth	22 lb		21		
Vessel	Boom Boat			4		
Vessel	Skiff or Punt			1		
Staff	Staff to Deploy			14		

Logistics:

Directions: There is no vehicle access to this site. By water, the site is immediately upstream from McAvoy's Marinas.

Land Access: Access to shoreline by foot only.

On-Water Limitations: Access via vessel challenging at low tide cycles. Launch and complete marina facilities are available at McAvoy's Marinas, and at Pittsburg Marina and public ramp 3 miles east.

Facilities, Staging Areas, Command Posts, Available Equipment: Both Pittsburg and McAvoy's provide excellent staging or deployment sites. Diverse facilities are available at both. Security is more an issue at Pittsburg.

Communications Problems: Good cell reception.



2-705-A Site Summary - Mallard Island**2-705-A****County:** Contra Costa **ACP Division/Segment:** CC - J - S003 CC - J - S005**NOAA Chart:** 18656 Suisun Bay**Map Book:****Decimal Degrees:** 38.041084 -121.915329**Site Description:**

All of Mallard Island and Slough on the Contra Costa shore of Suisun Bay, including the slough at the west edge of Mallard Island and the emergent salt-marsh islands east of Mallard island. The mainland salt-marsh to the south of Mallard Slough is protected behind a rip-rapped levee and is isolated from spills providing that the flood gate just east of Mallard Island is closed. Mallard Island is partially protected by levees along the north shore and while banks are eroding, but is open on the south shore. One of the sloughs deadends at the "pump house" a local landmark for the area. The area has both cattail and tule salt-marsh habitat.

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

9B Vegetated low banks

5 Mixed sand and gravel beaches

List of Resources at Risk:

	Resource Name	Status	Presence	Sensitivity
Birds	California black rail	FP, ST		Mar-Aug
Birds	California least tern	FE, SE		Apr-Jun
Fish	longfin smelt	ST		Nov-May
Fish	steelhead - Central/Northern California	FT		Nov-Apr
Fish	delta smelt	FT, SE		Mar-May
Mammals	salt-marsh harvest mouse	FE, SE		
Plants	Mason's lilaeopsis	SR		Apr-Nov
Reptiles	qiant qarter snake	FT, ST		Jul-Oct

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

List of Key Contacts:

Type	Name/Title	Organization	Phone
C	/Coordinator	Native American Heritage Commission	(916) 373-3710
C	/Coordinator	Northwest Information Center	(707) 588-8455
E	/Dispatch, 24-hr	Contra Costa Water District	(925) 688-8374
E	/Dispatch, 24-hr	East Bay Regional Park District	(510) 881-1833
E	/Security	Integral Communities	(925) 595-7225
O	/Dispatch, 24-hr	California Department of Water Resources	(916) 574-2714
S	/Dispatch, 24-hr	Contra Costa County Office of the Sheriff	(925) 646-2441
T	/Environmental Program Manager	CA Dept. of Fish & Wildlife, Bay Delta Region	(707) 576-2837
T	/Oil Spill Point of Contact	NOAA National Marine Fisheries Service	(707) 480-3496
T	/Spill Response Coordinator	USFWS, SF Bay-Delta 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:

Inner channels and marshes as well as waterfront marshes are vulnerable to oil penetration. Responders should minimize trampling of vegetation and tracking oil into marshes and sediments. Several endangered plants and animals are present.

Hazard and Restrictions:

Shallow depths in inner sloughs, submerged obstacles are likely, proceed with caution.

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

Strategy: 2-705.1 Objective: Exclude oil from entering inner sloughs using exclusion booming of slough mouths.

Strategy: Lay 9X9+ Hboom across slough openings - 3 openings. Deploy a shallow chevron configuration using mid-boom anchor. The east Mallard Slough mouth requires about 2000' of curtain boom at a long diagonal to the riprap point to the east. Anchor near shore and leave a trailing length to achieve a tidal seal. Double boom or back with sorbent boom as necessary.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Harbor	9x9 inch		2200	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: 2-705.2 Objective: Collection strategy for oil from east after implement the primary protection/exclusion strategy.

Strategy: Set 9X9+ Hboom from riprap levee point east of Mallard Island at an acute angle to the east. To collect oil that may accumulate use 50ft of Oil Snare (OS), 100ft of sorbent boom. Contact IC if oil accumulates in skimmable quantities. Deploy Shoreside Skimming from shoreline - Access through Power plant

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Harbor	9x9 inch		300	feet	
Boom	Oil Snare (pom-pom)			50	feet	
Boom	Sorbent			200	feet	
Anchor	Danforth	22 lb		4		
Vessel	Boom Boat			1		
Vessel	Skiff or Punt			1		
skimmer	self propelled			1		
Staff	Staff to Deploy			5		

Strategy: 2-705.3 Objective: Protective booming of emergent marsh frontage on Suisun Bay side of Mallard Island by deploying one or more layers of boom.

Strategy: Set 3200 ft of 6X6+ Sboom along entire north margin of Mallard Island. If wind chop is likely to exceed boom floatation a second layer of boom will be necessary: if two layers are necessary, the inner layer may be sorbent boom. Keep boom layers at least 6' apart and prepare for skimming oil which will collect between them.

Table of Response Resources

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

Logistics:

Directions: Access by vehicle is through the natural gas power plant off Willow Pass Road in Pittsburg. By water, the site is about two miles east of McAvoy's and a mile west of Pittsburg.

Land Access: Access to shoreline by foot only.

On-Water Limitations: Accessible via vessel at medium to high tides. Launch and complete marine facilities are available at McAvoy's Marina 2 miles west and at Pittsburg Marina's public ramp to the east.

Facilities, Staging Areas, Command Posts, Available Equipment: Both Pittsburg or McAvoy's provide excellent staging or deployment sites. Diverse facilities are available at both. Security can be an issue at Pittsburg.

Communications Problems: Cell reception good in area.



2-710-A Site Summary - Brown's Island**2-710-A****County:** Contra Costa **ACP Division/Segment:** CC - I - S019 CC - I - S022**NOAA Chart:** 18656 Suisun Bay **Map Book:** **Decimal Degrees:** 38.037874 -121.863871**Site Description:**

This site includes all of Brown's Island and includes Middle Slough just to the east. This island at the eastern end of Suisun Bay is surrounded by channels more than one quarter mile wide. It is part of the East Bay Regional Park District's (EBRPD) jurisdiction. It is covered with marshes, lagoons, and waterways. Brown's island has three plant communities including freshwater marsh, willow scrub, and a riparian forest. It is not diked.

Resources at Risk:

ESI and Habitat: 10A Salt - and brackish-water marshes
 9B Vegetated low banks
 5 Mixed sand and gravel beaches

List of Resources at Risk:

	Resource Name	Status	Presence	Sensitivity
Birds	California black rail	FP, ST		Mar-Aug
Fish	longfin smelt	ST		Nov-May
Fish	delta smelt	FT, SE		Mar-May
Plants	Mason's lilaeopsis	SR		Apr-Nov
Plants	Contra Costa wallflower	FE, SE		Mar-Jul
Plants	Antioch Dunes evening primrose	FE, SE		Mar-Sep
Reptiles	giant garter snake	FT, ST		Jul-Oct

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

List of Key Contacts:

Type	Name/Title	Organization	Phone
C	/Coordinator	Native American Heritage Commission	(916) 373-3710
C	/Coordinator	Northwest Information Center	(707) 588-8455
E	/Dispatch, 24-hr	East Bay Regional Park District	(510) 881-1833
E	/Shoreline Parks Manager	East Bay Regional Park District	(510) 881-1832
O	/Dispatch, 24-hr	California Department of Water Resources	(916) 574-2714
S	/Dispatch, 24-hr	Contra Costa County Office of the Sheriff	(925) 646-2441
T	/Environmental Program Manager	CA Dept. of Fish & Wildlife, Bay Delta Region	(707) 576-2837
T	/Oil Spill Point of Contact	NOAA National Marine Fisheries Service	(707) 480-3496
T	/Restoration Ecologist	US Department of Agriculture	(530) 304-2304
T	/Spill Response Coordinator	USFWS, SF Bay-Delta 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:

Submerged hazards are to be expected near shoreline.

Concerns and Advice to Responders:

The concern is that the entire Island is a salt-marsh which are vulnerable to oiling. Of greater concern are the slough openings which would more than double the exposure. Closing sloughs and keeping oil off shorelines are the objectives. Responders should minimize disturbance of vegetation and avoid tracking oil into salt-marsh and sediments.

Hazard and Restrictions:

Shallow near shoreline, particularly on the north side. Beware of submerged obstacles.

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

Strategy: 2-710.1 Objective: Exclusion Booming if oil is moving from east or south side toward site: Deploy exclusion booming at Middle Slough, small openings and channels, and marshy southeast corner.

Strategy: Establish boom to capture oil at the mouth of Middle Slough using 9x9 + Hboom anchored to channel islands on each side. Deploy 1500 ft. of 6X6 + Sboom from the skimming boom along the emergent marsh at the southwest corner of the island. Block the mouth of Winter Island channel with 6X6+ Hboom with sorbent backing. Boom the slough mouth between G3 and G5 with 6X6+ boom with sorbent backing. Place sorbant blocking in any other openings to interior sloughs. To collect oil in case of accumulation, 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	Harbor	9x9 inch		2400	feet	
Boom	Swamp	6x6 inch		2000	feet	
Boom	Oil Snare (pom-pom)			50	feet	
Boom	Sorbent			2000	feet	
Anchor	Danforth	22 lb		12		
Vessel	Boom Boat			2		
Vessel	Skiff or Punt			1		
Staff	Staff to Deploy			8		

Strategy: 2-710.2 Objective: Exclusion Booming: if oil is moving from west toward site: Deploy exclusion booming from Pt. Emmet to the creek mouth on the northwest shore of Brown's Island, and at all inlets on the remaining shoreline.

Strategy: Deploy 2000 ft of 6X6 + Sboom from Pt. Emmet to the creek mouth, a backup 6X6 and sorbent across creek mouth, and boom the mouth of slough opening halfway to Middle Slough (back with sorbent boom). Set 600' of 9x9 + Hboom across the northerly mouth of Middle Slough. Set up boom anchored to channel levee in the "pocket" just east of Middle Slough mouth and place sorbent booms on the channels inside the pocket. To collect oil in case of accumulation, 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	Harbor	9x9 inch		600	feet	
Boom	Swamp	6x6 inch		2000	feet	
Boom	Oil Snare (pom-pom)			50	feet	
Boom	Sorbent			600	feet	
Anchor	Danforth	22 lb		8		
Vessel	Boom Boat			1		
Vessel	Skiff or Punt			1		
Staff	Staff to Deploy			7		

Strategy: 2-710.3 Objective: Oil Recovery by Shoreside skimming

Strategy: If oil accumulates in skimmable quantities use skimmer to collect the oil. Establish skimmer at the mouth of middle slough if oil is moving from east or south side toward site. If oil is moving from west toward site, set up skimmer just east of Middle Slough mouth. Consult with 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: Access by water only: Browns Island is immediately upstream (east) of Pittsburg Marina.

Land Access: Access by vessel only.

On-Water Limitations: Shallows, particularly on north side. Pittsburg and Antioch Marinas.

Facilities, Staging Areas, Command Posts, Available Equipment: Pittsburg and Pittsburg Marina or Antioch has full range marine and other facilities. Pittsburg launch ramp is a good deployment site.

Communications Problems: Cell reception varies.

Additional Operational Comments: Access: By water, Brown's Island is easily accessible from the Pittsburg Marina.



2-712-A Site Summary - Winter Island**2-712-A****County:** Contra Costa **ACP Division/Segment:** CC - I - S023 CC - I - S025**NOAA Chart:** 18656 Suisun Bay**Map Book:****Decimal Degrees:** 38.042834 -121.849541**Site Description:**

This site includes the leveed island, surrounding berm and channel islands and the accreting, unleveed salt-marsh at the northern tip (Point San Joaquin) and the mudflats to the west of the tip. This island is flooded in the interior and has unregulated exchange through a tide gate. The interior of the island is emergent tule marsh. The levees and surrounding berm and channel islands are vegetated with shrub-scrub and emergent marsh; most are suffering from wave erosion. The northern tip (Point San Joaquin) is an accreting emergent salt-marsh. This tip and the pocket at the northwest end of the main island are natural wind catchment sites.

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

9B Vegetated low banks

8A Sheltered scarps in bedrock, mud, or clay

List of Resources at Risk:

	Resource Name	Status	Presence	Sensitivity
Birds	California black rail	FP, ST		Mar-Aug
Fish	longfin smelt	ST		Nov-May
Fish	steelhead - Central/Northern California	FT		Nov-Apr
Fish	delta smelt	FT, SE		Mar-May
Mammals	salt-marsh harvest mouse	FE, SE		
Plants	Mason's lilaeopsis	SR		Apr-Nov
Plants	Delta tule pea	SSSP		May-Jul
Reptiles	giant garter snake	FT, ST		Jul-Oct

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

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C	/Coordinator	Northwest Information Center	(707) 588-8455
S	/Dispatch, 24-hr	Contra Costa County Office of the Sheriff	(925) 646-2441
T	/Environmental Program Manager	CA Dept. of Fish & Wildlife, Bay Delta Region	(707) 576-2837
T	/Oil Spill Point of Contact	NOAA National Marine Fisheries Service	(707) 480-3496
T	/Restoration Ecologist	US Department of Agriculture	(530) 304-2304
T	/Spill Response Coordinator	USFWS, SF Bay-Delta 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:

Emergent wetlands are extremely vulnerable to oil with poor hope for cleanup. Potential for penetration of mudflats and berms via animal burrows.

Hazard and Restrictions:

Vessels beware of submerged objects and shallows at margins.

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

Strategy: 2-712.1 Objective: Extend exclusion-deflection chevron to fend past Pt. San Joaquin Marsh and Mudflats from oil threats from the west

Strategy: Deploy 3500 ft. of 9x9+ Hboom from the tip of Pt. San Joaquin westerly along the 4 ft. depth contour at the north westerly margin of the mudflat. Deploy a second 2500 ft. of 9x9+ Hboom leg from the collection pocket east of the mouth of middle slough (2-710 see Browns Island) northwest to connect with the first boom leg.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Harbor	9x9 inch		6000	feet	
Anchor	Danforth	22 lb		13		
Vessel	Boom Boat			2		
Vessel	Skiff or Punt			1		
Staff	Staff to Deploy			8		

Strategy: 2-712.2 Objective: Exclusion for oil threats from east- exclude oil entry to north cross channel and easterly barrow channel with small boom segments.

Strategy: Block openings to small channels with exclusion boom segments.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Swamp	6x6 inch		700	feet	
Anchor	Danforth	22 lb		4		
Vessel	Boom Boat			1		
Vessel	Skiff or Punt			1		
Staff	Staff to Deploy			5		

Logistics:

Directions: No land Access. Water access: Winter Island is a mile east of Pittsburg Marina and a mile west from Antioch Marina.

Land Access: Access by vessel only.

On-Water Limitations: Very shallow near shoreline, expect submerged obstacles. Boat launch nearby at Pittsburg and Antioch Marinas, and at public ramps.

Facilities, Staging Areas, Command Posts, Available Equipment: Good staging and facilities at both Antioch and Pittsburg marinas.

Communications Problems: Good cell reception.



2-715-A Site Summary - Pittsburg-Antioch Marsh (Dow Wetlands)**2-715-A****County:** Contra Costa **ACP Division/Segment:** CC - H - S001 CC - H - S004**NOAA Chart:** 18656 Suisun Bay**Map Book:****Decimal Degrees:** 38.022761 -121.829026**Site Description:**

The site is located on the south side of the San Joaquin River in Antioch and extends from Dowest Slough to the pier east of the Antioch Marina (at the end of I Street). This freshwater marsh has a large leveed salt-marsh enclosure and unenclosed emergent marsh. The leveed marsh has been named Corteva Wetlands (formerly Dow Wetlands) and extends from the Antioch Marina to Contra Costa Canal at the west levee. This interior salt-marsh is mostly cattail-tule-pickleweed marsh, and there is a freshwater marsh at the west end. There are breaches in the levee at Antioch Point, which allows a significant tidal exchange. Outside the levees are additional salt-marshes. Along the river side of the levee there are emergent growths, but the more remarkable emergent marshes are those at the mouth of Contra Costa Canal to the west, the shoreline east of the marina, Dowest Slough and the emergent growth on the offshore bar in the San Joaquin River.

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

10B Freshwater marshes

9B Vegetated low banks

List of Resources at Risk:

	Resource Name	Status	Presence	Sensitivity
Fish	longfin smelt	ST		Nov-May
Fish	steelhead - Central/Northern California	FT		Nov-Apr
Fish	delta smelt	FT, SE		Mar-May
Mammals	salt-marsh harvest mouse	FE, SE		
Plants	Mason's lilaeopsis	SR		Apr-Nov
Plants	Delta tule pea	SSSP		May-Jul
Plants	Suisun marsh aster	SSSP		May-Nov
Reptiles	giant garter snake	FT, ST		Jul-Oct

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

List of Key Contacts:

Type	Name/Title	Organization	Phone
C	/Coordinator	Native American Heritage Commission	(916) 373-3710
C	/Coordinator	Northwest Information Center	(707) 588-8455
E	/24-hr number	Cortiva AgriScience, Pittsburg	(925) 432-5278
O	/Dispatch, 24-hr	California Department of Water Resources	(916) 574-2714
O	/Office	Corteva Wetlands	(925) 779-6137
S	/Dispatch, 24-hr	Contra Costa County Office of the Sheriff	(925) 646-2441
T	/Environmental Program Manager	CA Dept. of Fish & Wildlife, Bay Delta Region	(707) 576-2837
T	/Oil Spill Point of Contact	NOAA National Marine Fisheries Service	(707) 480-3496
T	/Restoration Ecologist	US Department of Agriculture	(530) 304-2304
T	/Spill Response Coordinator	USFWS, SF Bay-Delta 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:

Marsh always has a high protection priority. First concern is to exclude oil from entering the interior salt-marsh by booming the breeches in the levee. Secondary concerns are to keep oil off of marshes to the east, west and north of Dow Wetlands by deflection and protection booming. Responders should avoid trampling vegetation and trampling oil into soft muds. There are very small rare plants and endangered mammals present.

Hazard and Restrictions:

There are obstructions and shallows in these waters.

Site Strategies:

Site Validation Level: II

Strategy: 2-715.1 Objective: Exclude oil from entering the marshes: booming levee breeches at Antioch Pt. & and small openings, mouth of Contra Costa Canal, Dowest Slough, & unnamed slough.

Strategy: a) At Antioch Pt (just west of the marina), deploy an extended chevron which encompasses both breeches using 800' 6X6+ (9X9+ Hboom with heavy anchors when there are winds). Back with sorbent. (This may alternatively be accomplished by by deploying 800' of 9x9+ from Antioch Pt as in strategy -.2 and attaching 500' from mid boom to the shoreline west of the breach. To do this add 400' to the amount shown below.)

b) At the mouth of Contra Costa Cannal (which is just west of the unnamed point between Antioch Point and Dowest Slough), exclude oil from channel and cove. Boom creek mouth with 20' 6X6+ (and if time an resources permit, boom across cove with 800' 6X6+ stake and anchor in place).

c) Exclude oil from Dowest Slough (200' 6X6+) and pocket cove east of Dowest Slough (100' 6X6+).

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Harbor	9x9 inch		800	feet	
Boom	Swamp	6x6 inch		350	feet	
Boom	Sorbent			800	feet	
Anchor	Danforth	22 lb		7		
Vessel	Boom Boat			1		
Vessel	Skiff or Punt			1		
Staff	Staff to Deploy			5		

Strategy: 2-715.2 Objective: Deflect oil away from sensitive areas on Flood tide

Strategy: For oil on the Flood tide, set 800' 9X9+ Hboom cascading off the point west of Antioch Pt and just east of the Contra Costa Canal mouth to deflect oil back into the channel and past the emergent growth in the San Joaquin. Also, set a 200' 9X9+ deflection just west of Antioch Marina entrance to deflect away from marsh east of the Marina. SSW of G13 R2

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Harbor	9x9 inch		1000	feet	
Anchor	Danforth	22 lb		6		
Vessel	Boom Boat			1		
Vessel	Skiff or Punt					
Staff	Staff to Deploy			5		

Strategy: 2-715.3 Objective: Deflection on Ebb tide: deflect oil away from and past sensitive areas.

Strategy: For oil on the ebb tide, set 400' 9X9+ Hboom cascading off the tip of the chevron to deflect oil past the emergent growth in the San Joaquin River.

If oil is massed and moving along the Antioch waterfront, deflect oil away from east marsh at the pier to deflect it away from the east marsh, marina, and sensitive areas further to the west of the marina. Deploy 200' deflection boom as necessary.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Harbor	9x9 inch		600	feet	
Anchor	Danforth	22 lb		4		
Vessel	Boom Boat			1		
Vessel	Skiff or Punt			1		
Staff	Staff to Deploy			5		

Strategy: 2-715.4 Objective: Protective booming of shoreline of marsh to the east of Antioch Marina.

Strategy: Deploy 800' 6X6+ Sboom along the shoreline from the fishing pier at the Antioch Marina east to the pier to the east (at I street).

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Swamp	6x6 inch		800	feet	
Anchor	Danforth	22 lb		5		
Vessel	Boom Boat			1		
Vessel	Skiff or Punt			1		
Staff	Staff to Deploy			5		

Logistics:

Directions: From Hwy 4, exit on Summersville Road and go north. Summersville becomes 4th Street (after a right curve). Turn north (left) on L Street. Marsh and marina are across railroad tracks. There is also access to shoreline at the west end via private roads (contact DOW Chemical or Winter Island Duck Club.) Site is most easily addressed via water; Antioch Marina is included in the site.

Land Access: Variable depending on shore segment: access either by foot or vessel.

On-Water Limitations: Shallows and submerged obstructions. Long-shore channel at levee, boat launch & fuel on site - Antioch Marina. Also private launch -Winter Isl. Duck Club - near Dowess Slough. Full services at Pittsburg and Antioch Bridge Marinas.

Facilities, Staging Areas, Command Posts, Available Equipment: There are many options for local and regional staging and field outposts depending on the scope of the spill impacts. Local staging at Antioch Marina. Further to the west is Pittsburg Marina. To the east is the public access at Antioch Bridge, nearby marinas.

Communications Problems: Good cell reception.



2-718-A Site Summary - Antioch Dunes National Wildlife Refuge**2-718-A****County:** Contra Costa **ACP Division/Segment:** CC - H - S007**NOAA Chart:** 18661 Sacramento / San Joaquin River **Map Book:****Decimal Degrees:** 38.016069 -121.796312**Site Description:**

The water front exposure of this site is from the Fiberboard factory west to the parking yard at Fultons boat works and includes a scenic revegetated remnant of the Antioch Dunes which is now part of the Antioch Dunes National Wildlife Refuge. Enter only with Trustee approval. The site is notable for its remnant dunes which supports a unique dune ecosystem. The dunes were an extensive historic habitat throughout this portion of Contra Costa County from Antioch to Oakley. The dunes had a characteristic flora and fauna some of which were unique to this habitat. Marshes, riverine dunes, and former dunes along the south bank of the San Joaquin River. Although this dunes habitat is high in elevation and, consequently, not very vulnerable to oiling the sensitive dune ecosystem, there is danger of encroachment and disturbance during response. The waterfront shoreline is sandy beach and emergent salt-marsh.

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

5 Mixed sand and gravel beaches

6B Riprap

List of Resources at Risk:

	Resource Name	Status	Presence	Sensitivity
Fish	longfin smelt	ST		Nov-May
Fish	steelhead - Central/Northern California	FT		Nov-Apr
Fish	delta smelt	FT, SE		Mar-May
Insects	Lange's Metalmark butterfly	FE		
Plants	Mason's lilaeopsis	SR		Apr-Nov
Plants	Contra Costa wallflower	FE, SE		Mar-Jul
Plants	Antioch Dunes evening primrose	FE, SE		Mar-Sep
Reptiles	giant garter snake	FT, ST		Jul-Oct

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

List of Key Contacts:

Type	Name/Title	Organization	Phone
C	/Coordinator	Native American Heritage Commission	(916) 373-3710
C	/Coordinator	Northwest Information Center	(707) 588-8455
E	/Office	Antioch Dunes National Wildlife Refuge	(707) 769-4200
O	/Dispatch, 24-hr	California Department of Water Resources	(916) 574-2714
S	/Dispatch, 24-hr	Contra Costa County Office of the Sheriff	(925) 646-2441
T	/Environmental Program Manager	CA Dept. of Fish & Wildlife, Bay Delta Region	(707) 576-2837
T	/Oil Spill Point of Contact	NOAA National Marine Fisheries Service	(707) 480-3496
T	/Restoration Ecologist	US Department of Agriculture	(530) 304-2304
T	/Spill Response Coordinator	USFWS, SF Bay-Delta 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:

A rare plant community occurs in this area.

Concerns and Advice to Responders:

No one may enter this site without the accompaniment or direction of the US Fish & Wildlife Service Representative in charge of this refuge. The main concern is that response personnel will accidentally damage the endangered plants or animals living in this dune site. If this site is oiled, no entry or cleanup should be attempted without USFWS concurrence. Oil impacts will be limited to a narrow band along the waterfront. Shoreline is steep and easily accessed from water.

Hazard and Restrictions:

There may be submerged hazards near shorelines.

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

Strategy: 2-718.1 Objective: On water skimming using mobile skimmers and towed skimming arrays.

Strategy: The first line of protection is to remove as much oil as possible before the oil can impact shorelines. At this site this can be accomplished through the deployment of several self-contained skimming vessels, or mini skimmers. Recommendation is that each skimming vessel should be supported by two boats operated in V towed booming configuration.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
skimmer	self propelled			1		
Boom	Swamp	6x6 inch		100	feet	
Vessel	Skiff or Punt			2		
Staff	Staff to Deploy			6		

Strategy: 2-718.2 Objective: Deflect oil away from this shoreline

Strategy: DEFLECTION BOOMING: Deflect oil away from the shoreline and toward the main channel where it is accessible to the skimmers. Deploy 100 feet of deflection boom at the up current end of this property to divert oil from the shoreline to the center of the channel.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Swamp	6x6 inch		500	feet	
Anchor	Danforth	22 lb		10		
Vessel	Boom Boat			1		
Vessel	Skiff or Punt			1		
Staff	Staff to Deploy			5		

Strategy: 2-718.3 Objective: Diversion to collection when heavy amounts of oil are moving along shore, deploy nearshore containment just outside the site.

Strategy: NEAR SHORE CONTAINMENT AND RECOVERY: Oil containment and recovery is possible at Fulton's Shipyard. Deploy 100 feet of deflection boom extending into the current from the shoreline so as to direct oil onto the shoreline. Back the recovery boom with a half length of swamp boom and sorbent boom to insure recovery. To collect any oil that may accumulate, use 50ft of Oil Snare (OS), 100ft of sorbent boom. Deploy Shoreside skimming If oil accumulates in skimmable quantities, contact IC.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Harbor	9x9 inch		100	feet	
Boom	Swamp	6x6 inch		50	feet	
Boom	Oil Snare (pom-pom)			50	feet	
Boom	Sorbent			100	feet	
Anchor	Danforth	22 lb		6		
Vessel	Skiff or Punt			1		
Staff	Staff to Deploy			2		

Logistics:

Directions: From Highway 4 go north on A Street thence east on Wilbur Ave. about 1 miles. Turn north on Shipyard Road. Antioch San Dunes National Wildlife Refuge is on the north side and is posted, fenced and gated. (You can also access Wilber Road from the Antioch Bridge toll plaza area and drive westerly.) When approaching by water, use Fulton Ship Yard and Fiberboard for orientation.

Land Access: All types are possible but none are permitted w/o coordination with USFWS Personnel.

On-Water Limitations: Good access. Beware of obstructions. Launching at Antioch public launch, Bridge Head Marina, Lawrenson's Marina, Antioch Marina. Full services are at marinas.

Facilities, Staging Areas, Command Posts, Available Equipment: All access to this site should be from the water only. Boats may be launched at Antioch Marina or Fulton's Shipyard which is the property immediately to the west of Antioch Dunes. Staging for this site may be at marina's or neighboring Fulton's Shipyard.

Communications Problems: Good cell reception.



2-719-A Site Summary - Antioch Dunes and Quarry Canyon**2-719-A****County:** Contra Costa **ACP Division/Segment:** CC - H - S007**NOAA Chart:** 18661 Sacramento / San Joaquin River **Map Book:****Decimal Degrees:** 38.017964 -121.769173**Site Description:**

The shoreline exposure of this site is from the Fiberboard factory east to the PG&E plant and includes a revegetated remnant of the Antioch Dunes which was a sand quarry and is now part of the Antioch Dunes National Wildlife Refuge(USFWS). The site is notable for its remnant dunes which, though degraded, supports a unique dune ecosystem. The dunes were an extensive historic habitat throughout this portion of Contra Costa County from Antioch to Oakley. The dunes had a characteristic flora and fauna some of which were unique to this habitat. Although this dune habitat is high in elevation and, consequently, not very vulnerable to oiling the sensitive dune ecosystem, there is danger of encroachment and disturbance during response. The waterfront margin is sandy beach which rises steeply and has a narrow emergent salt-marsh at the shoreline.

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

9B Vegetated low banks

6B Riprap

List of Resources at Risk:

	Resource Name	Status	Presence	Sensitivity
Fish	longfin smelt	ST		Nov-May
Fish	steelhead - Central/Northern California	FT		Nov-Apr
Fish	chinook salmon - Winter-run	FE, SE		Oct-May
Fish	delta smelt	FT, SE		Mar-May
Insects	Lange's Metalmark butterfly	FE		
Plants	Contra Costa wallflower	FE, SE		Mar-Jul
Plants	Antioch Dunes evening primrose	FE, SE		Mar-Sep
Plants	Mason's lilaeopsis	SR		Apr-Nov

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

List of Key Contacts:

Type	Name/Title	Organization	Phone
C	/Coordinator	Native American Heritage Commission	(916) 373-3710
C	/Coordinator	Northwest Information Center	(707) 588-8455
E	/Office	Antioch Dunes National Wildlife Refuge	(707) 769-4200
O	/Dispatch, 24-hr	California Department of Water Resources	(916) 574-2714
T	/Environmental Program Manager	CA Dept. of Fish & Wildlife, Bay Delta Region	(707) 576-2837
T	/Oil Spill Point of Contact	NOAA National Marine Fisheries Service	(707) 480-3496
T	/Restoration Ecologist	US Department of Agriculture	(530) 304-2304
T	/Spill Response Coordinator	USFWS, SF Bay-Delta 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:

Several listed species on site. DO NOT ENTER without coordination with USFWS Personnel.

Concerns and Advice to Responders:

No one may enter this site without the accompaniment or direction of the US Fish & Wildlife Service Representative in charge of this refuge. The main concern is that response personnel will accidentally damage the endangered plants or animals living in this dune site. If this site is oiled, no entry or cleanup should be attempted without USFWS concurrence. Oil impacts will be limited to a narrow band along the waterfront. Shoreline is steep and easily accessed from water.

Hazard and Restrictions:

Air traffic should be attentive to high power wires and smoke stacks from power point.

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

Strategy: 2-719.1 Objective: NEAR SHORE CONTAINMENT AND RECOVERY - Shoreside skimming

Strategy: Deploy 100 feet of deflection boom extending into the current from the shoreline so as to direct oil onto the shoreline. Back the recovery boom with a half length of swamp boom and sorbent boom to insure recovery. To collect oil that may accumulate, use 50ft of Oil Snare (OS), 100ft of sorbent boom. If oil accumulates in skimmable quantities, activate a Shoreside Skimmer or Vac truck for collection/removal.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Harbor	9x9 inch		300	feet	
Boom	Oil Snare (pom-pom)			50	feet	
Boom	Sorbent			100	feet	
Anchor	Danforth	22 lb		6		
Vessel	Skiff or Punt			1		
Staff	Staff to Deploy			2		

Logistics:

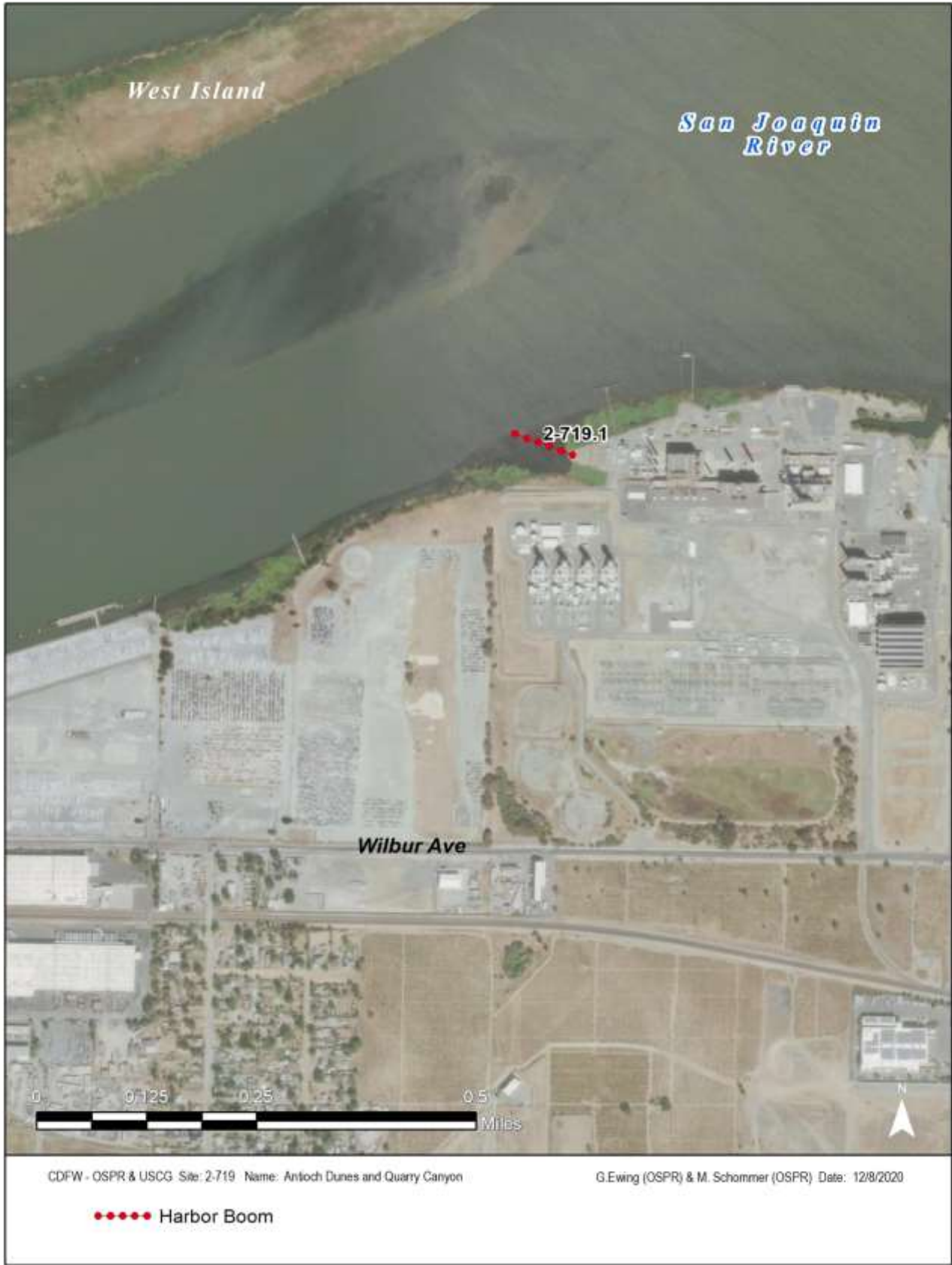
Directions: From Highway 4 go north on A Street thence east on Wilbur Ave. about 2.5 miles. Antioch San Dunes National Wildlife Refuge - Quarry Canyon is on the north side between the Fiberboard Plant and the PE&G plant and is posted, fenced and gated. (You can also access Wilber Road from the Antioch Bridge toll plaza area and drive westerly.) When approaching by water use the factories as orientation.

Land Access: All types are possible but none are permitted without USFWS Personnel coordination.

On-Water Limitations: Beware of obstructions. Launching at Antioch public launch, Bridge Head Marina, Lawrenson's Marina, Antioch Marina. Full services are at marinas.

Facilities, Staging Areas, Command Posts, Available Equipment: All access to this site should be from the water only. Boats may be launched at Antioch Marina or Fulton's Shipyard which is the property immediately to the west of Antioch Dunes. Staging for this site may be at marina's or nearby Fulton's Shipyard.

Communications Problems: Good cell reception,



County: Contra Costa **ACP Division/Segment:****NOAA Chart:** 18661 Sacramento / San Joaquin River **Map Book:****Decimal Degrees:** 38.019088 -121.720192**Site Description:**

This site includes the emergent salt-marshes in the San Joaquin River, unnamed flood channels east of Antioch Bridge, and Big Break including the adjacent portion of Dutch Slough up to and including lower Marsh Creek. The salt-marshes in the River are recently colonized sediment bars. The west side marsh is a formerly diked area. It is separated from Big Break by a dike and access channel to Big Break Marina. Big Break is a large, flooded area. The perimeter islands and shoreline are emergent salt-marsh, particularly on the southern and eastern edges. It is separated from the San Joaquin and Dutch Slough by an intermittent series of berm islands, the remnants of the old levee. East Bay Regional Park District (EBRPD) maintains the shoreline area to the southeast (Big Break Regional Shoreline).

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

9B Vegetated low banks

6B Riprap

List of Resources at Risk:

	Resource Name	Status	Presence	Sensitivity
Birds	California black rail	FP, ST		Mar-Aug
Fish	longfin smelt	ST		Mar-May
Fish	steelhead - Central/Northern California	FT		Nov-Apr
Fish	delta smelt	FT, SE		Mar-May
Plants	Mason's lilaeopsis	SR		Apr-Nov
Plants	Suisun marsh aster	SSSP		May-Nov
Plants	Delta tule pea	SSSP		May-Jul
Reptiles	giant garter snake	FT, ST		Jul-Oct

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

List of Key Contacts:

Type	Name/Title	Organization	Phone
C	/Coordinator	Native American Heritage Commission	(916) 373-3710
C	/Coordinator	Northwest Information Center	(707) 588-8455
E	/Office	Big Break Marina	(925) 679-0900
E	/Dispatch, 24-hr	East Bay Regional Park District	(510) 881-1833
O	/Dispatch, 24-hr	California Department of Water Resources	(916) 574-2714
S	/Dispatch, 24-hr	Contra Costa County Office of the Sheriff	(925) 646-2441
T	/Environmental Program Manager	CA Dept. of Fish & Wildlife, Bay Delta Region	(707) 576-2837
T	/Oil Spill Point of Contact	NOAA National Marine Fisheries Service	(707) 480-3496
T	/Restoration Ecologist	US Department of Agriculture	(530) 304-2304
T	/Spill Response Coordinator	USFWS, SF Bay-Delta 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 is an extensive marshland complex with sensitive shorelines and sensitive species. Once oil enters these embayments, it will be nearly impossible to collect, cleanup or rehabilitate. The strategies are aimed at keeping oil out of the salt-marshes. Operations should be aware that rare species are present and should avoid damaging salt-marsh vegetation and tracking oil into marshes and sediments.

Hazard and Restrictions:

Numerous uncharted snags and submerged obstacles exist in this area. Air traffic beware of high wires in vicinity.

Site Strategies:

Site Validation Level: II

Strategy: 2-730.1 Objective: Exclude oil from entering open waters of Dutch Slough, Big Break and west flooded area by exclusion/diversion boom openings.

Strategy: Close the three openings to the extended site:

1. Boom the mouth of the west side marsh with 400' 9X9+ exclusion/deflection boom configured in a shallow chevron "V" using a mid-boom anchorage.
2. Boom the opening to Big Break with 3000' 9X9+ exclusion boom from the mouth of Big Break Marina channel to the islands at the mouth of Dutch Slough.
3. From the island at the mouth of Dutch Slough, deploy 1500' 9X9+ collection/exclusion boom at a long diagonal to the Jersey Island shore. Use 2 to 4 mid-boom anchors to keep the boom from relaxing into a catenary curve. Establish a land-based skimming operation at the Jersey Island levee. Back this collection with second layer of boom, sorbent and/or water-based skimmers, if first collection boom fails to intercept the oil.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Harbor	9x9 inch		4900	feet	
Boom	Sorbent			1500	feet	
Anchor	Danforth	22 lb		15		
Vessel	Boom Boat			2		
Vessel	Skiff or Punt			1		
Staff	Staff to Deploy			8		

Strategy: 2-730.2 Objective: Deflection on ebb: Deflect oil away from entrance to Dutch Slough and Big Break into main channel to deter oil from entering.

Strategy: Above the entrance to Dutch Slough, Cascade enough 200'- 500' segments of harbor boom from Jersey Island to deflect oil into deep channel and away from Dutch Slough mouth.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Harbor	9x9 inch		2500	feet	
Anchor	Danforth	22 lb		15		
Vessel	Boom Boat			1		
Vessel	Skiff or Punt			1		
Staff	Staff to Deploy			5		

Strategy: 2-730.3 Objective: Protective booming of marsh front: west side marshes

Strategy: Deploy 3600' 6X6+Swamp boom along the salt-marsh shoreline east of marinas at the toe of the Antioch Bridge. Link this boom with the 9x9+ exclusion boom at the opening to the west flooded area.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Swamp	6x6 inch		3600	feet	
Anchor	Danforth	22 lb		8		
Vessel	Boom Boat			1		
Vehicle	Skiff or Punt			1		
Staff	Staff to Deploy			5		

Strategy: 2-730.4 Objective: Deflection On Flood: deflection to past site and keep it in the main channel

Strategy: For oil approaching site from west, cascade 200'- 500' segments of 9X9 Harbor boom beginning near the Antioch Bridge out toward and in front of shallow water and salt-marsh islands. Keep oil deflected into main channel of river.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Harbor	9x9 inch		2500	feet	
Anchor	Danforth	22 lb		6		
Vessel	Boom Boat			1		
Vessel	Skiff or Punt			1		
Staff	Staff to Deploy			5		

Logistics:

Directions: Access primarily by water from the San Joaquin River, Dutch Slough or Big Break Marina. Limited land access via a few roadways on the southerly margin: Take hwy 4 toward Oakley, turn N on Big Break Road to Big Break Marina.

Land Access: Land access is poor with the exception of Jersey Island.

On-Water Limitations: Good access via water, just beware of submerged hazards. Launch is available at all marinas near Antioch Bridge and at Big Break Marina.

Facilities, Staging Areas, Command Posts, Available Equipment: There are several good sites for staging: Dutra Dredge at Big Break Marina, area marinas. Marine and other facilities are abundant nearby.

Communications Problems: Good cell reception in area.



2-734-A Site Summary - Dutch Slough East**2-734-A****County:** Contra Costa **ACP Division/Segment:****NOAA Chart:** 18661 Sacramento / San Joaquin River **Map Book:****Decimal Degrees:** 38.013746 -121.645933**Site Description:**

Dutch Slough from east of Marsh Creek to Sand Mound Slough including the berm islands at the mouth of Taylor Slough, Emerson Slough, and the south fork of Dutch Slough. Dutch Slough consists of a rip-rapped channel with many salt-marsh fringe habitat. Various portions of this site are very developed with private residential docks.

Resources at Risk:

- ESI and Habitat:* 8C Sheltered riprap
 8B Sheltered solid man-made structures
 9B Vegetated low banks

List of Resources at Risk:

	Resource Name	Status	Presence	Sensitivity
Birds	Swainson's hawk	FP, ST		Mar-Sep
Fish	delta smelt	FT, SE		Mar-May
Plants	Mason's lillaeopsis	SR		Apr-Nov
Plants	Suisun marsh aster	SSSP		May-Nov
Reptiles	western pond turtle	SSC		May-Jul
Reptiles	giant garter snake	FT, ST		Jul-Oct

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

List of Key Contacts:

Type	Name/Title	Organization	Phone
C	/Coordinator	Native American Heritage Commission	(916) 373-3710
C	/Coordinator	Northwest Information Center	(707) 588-8455
E	/Dispatch, 24-hr	Contra Costa Water District	(925) 688-8374
E	/Office	Dutch Island Reclamation District	(209) 943-5551
E	/Office	Hotchkiss Tract Reclamation District	(925) 684-2398
E	/24-hr number	Jersey Island Reclamation District	(925) 625-2279
S	/Dispatch, 24-hr	Contra Costa County Office of the Sheriff	(925) 646-2441
T	/Environmental Program Manager	CA Dept. of Fish & Wildlife, Bay Delta Region	(707) 576-2837
T	/Spill Response Coordinator	USFWS, SF Bay-Delta 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 stopping oil from spreading through the channel to other Delta areas. Secondary concerns are oiling of emergent marshes along margins and on channel islands and penetration of oil into riprap and into levees via animal burrows. Small endangered plants are common on Delta Islands. Minimize trampling of vegetation and oil into sediments.

Hazard and Restrictions:

Vessels beware of submerged objects and shallows at margins.

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

Strategy: 2-734.1 Objective: For product originating within this site, diversion to collection as close to source as possible.

Strategy: Use skimmers with sufficient harbor boom in V formation (estimate 1500' 6X6+) to recover oil as close to source as possible, most likely at the bridge or on either side of the tule island at the confluence of Taylor Slough and Dutch Slough. Use more than one skimmer if necessary on both sides of island or bridge.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Swamp	6x6 inch		1500	feet	
Anchor	Danforth	22 lb		4		
Vessel	Boom Boat			1		
Vessel	Skiff or Punt			1		
Staff	Staff to Deploy			5		

Strategy: 2-734.2 Objective: For oil threats from Big Break side, deploy multiply collection/exclusion booming to collect at Jersey Isl land skimming sites.

Strategy: Deploy 600' 6X6+ Sboom from south bank to north bank (Jersey Isl levee) for land-based 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. Use 2-3 mid boom anchors to keep boom from lapsing into a catenary curve and encouraging entrainment. Back with sorbent boom if there is oil entrainment. Repeat as necessary.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Swamp	6x6 inch		600	feet	
Boom	Oil Snare (pom-pom)			50	feet	
Boom	Sorbent			100	feet	
Anchor	Danforth	22 lb		3		
Vessel	Boom Boat			1		
Vessel	Skiff or Punt			1		
Staff	Staff to Deploy			5		

Strategy: 2-734.3 Objective: Exclusion at east end for oil threats from Sand Mound Slough.

Strategy: Deploy 700' 6X6+ Sboom across mouth at Sand Mound Slough. If oil is escaping, back with second layer of boom at a more favorable angle or back with sorbent boom.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Swamp	6x6 inch		700	feet	
Anchor	Danforth	22 lb		8		
Vessel	Boom Boat			1		
Vessel	Skiff or Punt			1		
Staff	Staff to Deploy			5		

Strategy: 2-734.4 Objective: Oil Recovery with Shoreside skimming

Strategy: Deploy skimmer when oil accumulates in skimmable quantities. Consult with IC prior to initiate this strategy. Identify best locations for skimming/collection/removal under prevailing conditions.

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 provide limited access to island margins. Access is primarily by boat from marinas on Bethel Island or Antioch.

Land Access: Avoid levee roads when saturated.

On-Water Limitations: Water depth is good except near shorelines. Many boat launch and marine support facilities are available on Bethel Island or in Antioch.

Facilities, Staging Areas, Command Posts, Available Equipment: There are complete facilities/though limited facilities on Bethel Island. Brentwood, Oakley and Antioch have complete range of facilities. The Delta Sportsmen's Club house on Bethel Island may be adequate for a small IC Center.

Communications Problems: Good cell reception throughout area.



County: Contra Costa **ACP Division/Segment:****NOAA Chart:** 18661 Sacramento / San Joaquin River **Map Book:****Decimal Degrees:** 38.05845 -121.674**Site Description:**

False River is bounded by Bradford Island on the north bank and Jersey Island on the south bank. This site begins at its confluence with the San Joaquin River and ends at the mouth of Piper Slough. The channel is a main conduit to the central-south Delta. The channel is steep and deep and currents are strong which bears a large volume from the San Joaquin River to Frank's Tract and Old River. The channel itself is rip-rapped and sensitive site resources are primarily aquatic species.

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

8C Sheltered riprap

9B Vegetated low banks

List of Resources at Risk:

	Resource Name	Status	Presence	Sensitivity
Birds	Swainson's hawk	FP, ST		Mar-Sep
Fish	chinook salmon - Winter-run	FE, SE		Oct-May
Fish	delta smelt	FT, SE		Mar-May
Plants	Mason's lilaeopsis	SR		Apr-Nov
Plants	Suisun marsh aster	SSSP		May-Nov
Reptiles	western pond turtle	SSC		May-Jul
Reptiles	giant garter snake	FT, ST		Jul-Oct

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

List of Key Contacts:

Type	Name/Title	Organization	Phone
C	/Coordinator	Native American Heritage Commission	(916) 373-3710
C	/Coordinator	Northwest Information Center	(707) 588-8455
E	/Dispatch, 24-hr	Bethel Island Municipal Improvement District	(925) 684-2210
E	/District Administrator	Bradford Island Reclamation District	(925) 209-5480
E	/24-hr number	Jersey Island Reclamation District	(925) 625-2279
E	/Office	North Delta Water Agency	(916) 446-0197
S	/Dispatch, 24-hr	Contra Costa County Office of the Sheriff	(925) 646-2441
T	/Environmental Program Manager	CA Dept. of Fish & Wildlife, Bay Delta Region	(707) 576-2837
T	/Spill Response Coordinator	USFWS, SF Bay-Delta 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 to prevent oil spread through this channel to interior Delta from the San Joaquin by the strong tidal currents and large volume flow. The key is to keep oil from entering the channel mouth. Within site oil control will be challenging. Concern for oiling of levees and banks is secondary.

Hazard and Restrictions:

Vessels beware of submerged objects and shallows at margins.

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

Strategy: 2-735.1 Objective: Deflection/exclusion booming at the mouth False River from the San Joaquin.

Strategy: Deploy deflection/exclusion boom at the mouth by setting 2400' 9x9+ Hboom in a shallow chevron "V" configuration. Anchor at apex and mid-boom legs to minimize entrainment. Set 500' 9X9+ Hboom upstream from mouth to redirect oil into main channel away from mouth. Deploy 400' 9X9+ Hboom downstream to intercept oil moving toward the mouth near the banks of Jersey Island. 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		3300	feet	
Boom	Oil Snare (pom-pom)			50	feet	
Boom	Sorbent			100	feet	
Anchor	Danforth	22 lb		10		
Vessel	Boom Boat			1		
Vessel	Skiff or Punt			1		
Staff	Staff to Deploy			5		

Strategy: 2-735.2 Objective: Back-up deflection to collection of oil which has entered False River.

Strategy: When oil is likely to enter False River, deploy 2 or more collection-exclusion booms inside the channel using a long diagonal (1500' 9x9+) to the most favorable location for land-based recovery (Jersey shore has best land access and current seems to eddy a little at southeast margin); these deployments will require 2-4 mid-boom anchors to counter catenary tendency and resultant entrainment. Use 50ft of Oil Snare (OS) and 100 ft 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		3000	feet	
Boom	Oil Snare (pom-pom)			50	feet	
Boom	Sorbent			100	feet	
Anchor	Danforth	22 lb		9		
Vessel	Boom Boat			1		
Vessel	Skiff or Punt			1		
Staff	Staff to Deploy			5		

Strategy: 2-735.3 Objective: Oil recovery with shoreside skimming

Strategy: Deploy shoreside skimmers if oil accumulates in skimmable quantities. Oil recovery as a result of strategy 735 .1: intercept/collect oil moving toward the mouth near the banks San Joaquin River of Jersey Island with land-based skimming. Oil recovery as a result of strategy 735.2: set shoreside skimmers on Jersey Island shore (Bradford Island shore is more difficult to support because of access.)

If these interception fail, deploy two layers of sorbent boom or Oil Snare, and evaluate self propelled skimmer(s) deployment in False River intercepts to catch by-pass.

Table of Response Resources

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

Logistics:

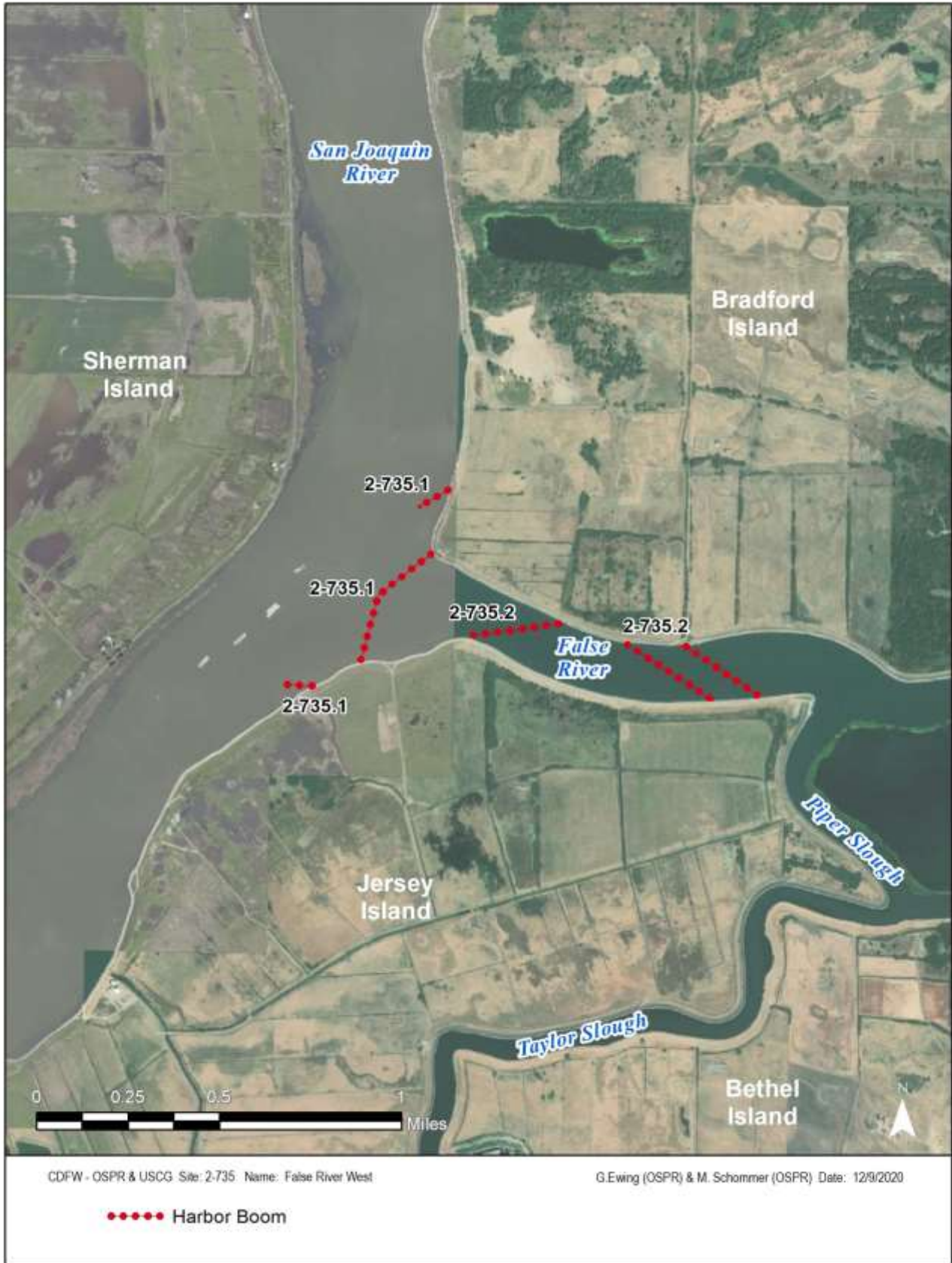
Directions: Land access is by Jersey Island Road (Hwy 4 to E Cypress Rd left (N) on J I Rd) and then gated levee roads provide limited access to island margins (contact Contra Costa County Sanitary District). Access by boat from marinas on Bethel Island and at Antioch. The north levees (Bradford Island and Webb Tract) are accessible only by ferry.

Land Access: Levee roads are good when dry, avoid them when saturated.

On-Water Limitations: 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. Lessor 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: Cell coverage may be spotty throughout Delta.



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 meandering, relatively narrow, rip-rapped channel with agriculture on Jersey Island bank, rural residential and private docks on Bethel Island bank, and salt-marsh berm islands scattered along its length. Remnant levee of Little Frank's Tract is in natural salt-marsh and shrub-scrub habitat.

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

9B Vegetated low banks

10A Salt - and brackish-water marshes

List of Resources at Risk:

	Resource Name	Status	Presence	Sensitivity
Birds	Swainson's hawk	FP, ST		Mar-Sep
Fish	delta smelt	FT, SE		Mar-May
Fish	longfin smelt	ST		Nov-May
Fish	steelhead - Central/Northern California	FT		Nov-Apr
Plants	Mason's lilaeopsis	SR		Apr-Nov
Plants	Suisun marsh aster	SSSP		May-Nov
Plants	Delta tule pea	SSSP		May-Jul
Reptiles	giant garter snake	FT, ST		Jul-Oct

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

List of Key Contacts:

Type	Name/Title	Organization	Phone
C	/Coordinator	Native American Heritage Commission	(916) 373-3710
C	/Coordinator	Northwest Information Center	(707) 588-8455
S	/Dispatch, 24-hr	Contra Costa County Office of the Sheriff	(925) 646-2441
T	/Environmental Program Manager	CA Dept. of Fish & Wildlife, Bay Delta Region	(707) 576-2837
T	/Spill Response Coordinator	USFWS, SF Bay-Delta 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:

Beware of busy ferry traffic terminals and do not boom their pathway.

Concerns and Advice to Responders:

Primary concerns are oiling of salt-marsh margins and penetration into levees though riprap and animal burrows.

Hazard and Restrictions:

Riprap poses potential slip, trip and fall hazards. Strong currents on steep tidal changes.

Site Strategies:

Site Validation Level: III

Strategy: 2-736.1 Objective: For local spills, halt oil movement at the source and recover as close to source as possible. Prevent further spread in slough.

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>
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: Exclusion boom mouth of Taylor (but only if False River deployments fully supplied) for threats from False River.

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	Swamp Boom	6x6 inch		800	feet	<i>Strategy Updated:</i> 11/28/2017
Anchor	Danforth	22 lb		5		<i>Last Test:</i> 11/28/2017
Vessel	Boom Boat			1		
Vessel	Skiff or Punt			1		
Vac truck				1		
Staff	Staff to Deploy			5		

Strategy: 2-736.3 Objective: Oil Recovery by Shoreside skimming

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: Some levees are paved, stay off levees when saturated.

On-Water Limitations: 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

2-736-B Site Strategy - Taylor Slough and West Piper Slough

2-736-B

Island, Mokelumne, Bethel Island, and Antioch.

Communications Problems: Cell reception may be spotty throughout Delta.



County: Contra Costa **ACP Division/Segment:****NOAA Chart:** 18661 Sacramento / San Joaquin River **Map Book:****Decimal Degrees:** 38.050611 -121.646288**Site Description:**

Little Franks Tract is bounded on its west and south side by Piper Slough. False River bounds the north side. The water of (Large) Franks Tract is on the eastern side. The levees have failed and the area is now a recreation area under CA State Parks jurisdiction. The failed levees are heavily vegetated with emergent salt-marsh habitat.

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

9B Vegetated low banks

10A Salt - and brackish-water marshes

List of Resources at Risk:

	Resource Name	Status	Presence	Sensitivity
Fish	delta smelt	FT, SE		Mar-May
Fish	longfin smelt	ST		Nov-May
Fish	steelhead - Central/Northern California	FT		Nov-Apr
Plants	Mason's lilaeopsis	SR		May-Jul
Plants	Suisun marsh aster	SSSP		May-Nov
Plants	Delta tule pea	SSSP		May-Jul
Reptiles	giant garter snake	FT, ST		Jul-Oct
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	/Coordinator	Native American Heritage Commission	(916) 373-3710
C	/Coordinator	Northwest Information Center	(707) 588-8455
O	/Public Safety Superintendent	California State Parks, Diablo Range District	(925) 890-4403
S	/Dispatch, 24-hr	Contra Costa County Office of the Sheriff	(925) 646-2441
T	/Environmental Program Manager	CA Dept. of Fish & Wildlife, Bay Delta Region	(707) 576-2837
T	/Spill Response Coordinator	USFWS, SF Bay-Delta 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:

Beaware of busy Ferry Traffic. DO NOT boom, anchor or run lines in their pathway.

Concerns and Advice to Responders:

Primary concern is escapement of oil through the site to central Delta and oiling of berm island salt-marsh habitat at this and neighboring sites.

Hazard and Restrictions:

Use care on the north side of Jersey Island Levee Road. There are potential sand traps.

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

Strategy: 2-737.1 Objective: Deflection-collection boom to strand oil on Bradford Tract shore for collection, if exclusions at False River faulter.

Strategy: Execute False River and Fishermans Cut strategies. Deploy 1000+'of 9x9+ collection-deflection boom from tip of Jersey Island at Taylor Slough or other advantageous site to divert oil to Webb Tract shore for collection. To collect accumulated oil 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	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: 2-737.2 Objective: Oil Recovery by Shoreside skimming

Strategy: Deploy skimmer if oil accumulates in skimmable quantities. Consult 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: Take Hwy 4 to Bethel Island for boat launching access. Little Franks Tract can be seen from Bethel Island Levee Road; however Bethel Island Fire Department (510-684-2211) should be contacted for access through gates. Jersey Island Levee Road has public access, and Little Franks Tract can be seen from this road as well. This road ends at the Bradford/Webb Tract ferry system. See hazard section regarding this road.

Land Access: Levee are great while dry, stay off them while saturated.

On-Water Limitations: 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: Cell reception may be spotty in the Delta.



County: Sacramento ACP Division/Segment:

NOAA Chart: 18661 Sacramento / San Joaquin River Map Book:

Decimal Degrees: 38.087419 -121.644978

Site Description:

River and berm islands from Old River to Antioch Bridge. Includes San Joaquin margins of Sherman, Twitchell, Jersey, Bradford, Bouldin, Webb, and Andrus Islands downstream from the mouth of the Mokelumne River to Sevenmile Slough berms (site 2-743). This is a broad section of the San Joaquin River with heavily rip-rapped shoreline and occasional berm and emergent patches particularly along Sherman Island and Webb Tract. This is deep, open water. Barrow channel islands are throughout the river reach and those on the windward shores are suffering from wave erosion. DWR has invested significant effort and dollars to protect and restore these berm islands. From a response stand-point, there are resources at risk within the site, of particular concern are the salt-marsh islands, but even more significantly, this channel is a conduit for delta-wide spreading of oil through various side channels.

Resources at Risk:

- ESI and Habitat: 6B Riprap
- 9B Vegetated low banks
- 10A Salt - and brackish-water marshes

List of Resources at Risk:

	Resource Name	Status	Presence	Sensitivity
Birds	Swainson's hawk	FP, ST		Mar-Sep
Fish	chinook salmon - Winter-run	FE, SE		Oct-May
Fish	delta smelt	FT, SE		Mar-May
Fish	longfin smelt	ST		Nov-May
Fish	steelhead - Central/Northern California	FT		Nov-Apr
Plants	Mason's lilaeopsis	SR		Apr-Nov
Reptiles	giant garter snake	FT, ST		Jul-Oct

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

List of Key Contacts:

Type	Name/Title	Organization	Phone
C	/Coordinator	Native American Heritage Commission	(916) 373-3710
C	/Coordinator	Northwest Information Center	(707) 588-8455
E	/Superintendent	Brannan-Andrus Reclamation District	(916) 952-9967
E	/Office	Mandeville Island Reclamation District	(209) 946-0268
E	/Office	Sherman Island Reclamation District	(925) 978-0583
E	/Office	Webb Tract Reclamation District	(209) 943-5551
O	/Dispatch, 24-hr	California Department of Water Resources	(916) 574-2714
S	/Dispatch, 24-hr	Contra Costa County Office of the Sheriff	(925) 646-2441
S	/Dispatch, 24-hr	Sacramento Co. Office of Emergency Services	(916) 875-6900
T	/Environmental Program Manager	CA Dept. of Fish & Wildlife, Bay Delta Region	(707) 576-2837
T	/Restoration Ecologist	US Department of Agriculture	(530) 304-2304
T	/Spill Response Coordinator	USFWS, SF Bay-Delta 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:

The main side channels for delta spreading in addition to the upper San Joaquin are Threemile Slough (2-790), False River (2-735), Old River (2-900), Potato Slough (2-070) and to a lesser degree Fishermans Cut (2-742), Mokelumne River mouth (2-870) and Sevenmile Slough.

Concerns and Advice to Responders:

General Primary concern is oil spreading throughout the Delta along this stem channel and the many branching channels. Also of concern is oiling the barrow sloughs and islands. State agencies have invested money in an effort to preserve the islands for wave damage.

Hazard and Restrictions:

Several obstructions and shallows along shorelines. Aircraft beware of overhead power wires.

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

Strategy: 2-740.1 Objective: Diversion to confinement/collection at windfall locations along shore to reduce degree of spread and oiling.

Strategy: Where ever oil is tending to collect at the shoreline as a result of wind and eddies, enhance collection by deploying collection booms and skimming operations. Use 50ft of Oil Snare (OS), 100ft of sorbent boom to collect any oil that may accumulate. Contact IC if oil begins to accumulate in skimmable quantities.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Harbor	9x9 inch		2000	feet	
Boom	Oil Snare (pom-pom)			50	feet	
Boom	Sorbent			100	feet	
Anchor	Danforth	22 lb		7		
Vessel	Boom Boat			1		
Vehicle	Skiff or Punt			1		
Staff	Staff to Deploy			5		

Strategy: 2-740.2 Objective: Exclude/protect berm islands & barrow channels

Strategy: Deflect oil into main channels and away from vegetated islands, side channels and shorelines by deploying deflection booms from levee out into channel using deflection booms. Also, exclude oil from entering protected barrow channels between channel islands and levees by blocking (and backing with sorbent) openings and mouths which would admit oil. If oil is eminent threat to channel exposures of islands, then the exposed margins will need protective booming with small skirted boom or sorbent boom or both. Here are the four channel island groups in this reach and their boom requirements:

- islands along the Sherman Island shore (G21-G25) - 300' 6X6+ deflection at each end, 900' 6X6+ to close two mouths and one large opening, 9000' of 6X6+ or sorbent for shore protection;
- island at north end of Bradford Island (G29-G33) - 300' 6X6+ deflection boom at each end, 400' 6X6+ for mouth closures, shore protection 3300' 6X6+;
- islands at the northeast corner of Webb Tract (R38-G39) - 1000' 6X6+ to close mouths and opening, 2400' 6X6+ shore protection;
- island string around northeast corner of Webb Tract (G43-R52) - deflection at west end 500' 6X6, mouth closures 1000' 6X6+, shore protection 6000' 6X6+ and 1000' sorbent.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Swamp	6x6 inch		25100	feet	
Boom	Sorbent			1000	feet	
Anchor	Danforth	22 lb		51		
Vessel	Boom Boat			12		
Vessel	Skiff or Punt			3		
Staff	Staff to Deploy			36		

Strategy: 2-740.3 Objective: Oil Recovery by Shoreside skimming

Strategy: Deploy skimmers if oil accumulates in skimmable quantities at collection booms (2-740.1). Most levees provide good access in all but very wet weather, for land-based skimming (alternatively shallow water skimmers could visit collection pockets).

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: Public access roads to island margins available on Sherman and Andrus Islands. Webb Tract, Jersey, Bradford, Twitchell, Bouldin, and Venice Islands have private access levee roads to island margins. Access by boat from launch points at Brannon Island State Park, Antioch, and mouth of Mokelumne River.

Land Access: Good access to levees when dry, avoid when saturated.

On-Water Limitations: Brannon Island State Park, Antioch, Sevenmile Slough marinas, marinas at mouth of Mokelumne River.

Facilities, Staging Areas, Command Posts, Available Equipment: Staging sites are available on adjacent islands and levees. Services and facilities (water, lodging, marine service, food..) on Andrus Island near mouth of Mokelumne make that locale desirable staging area. Brannon Island State Park may serve as a C command post for this area.

Communications Problems: Cell reception varies.



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. Several large snags are submerged near the confluence of False River and may interfere with anchoring booming strategies.

Resources at Risk:*ESI and Habitat:* 8C Sheltered riprap

10B Freshwater marshes

9B Vegetated low banks

List of Resources at Risk:

	Resource Name	Status	Presence	Sensitivity
Birds	Swainson's hawk	FP, ST		Mar-Sep
Fish	chinook salmon - Winter-run	FE, SE		Oct-May
Fish	delta smelt	FT, SE		Mar-May
Fish	longfin smelt	ST		Nov-May
Fish	steelhead - Central/Northern California	FT		Nov-Apr
Plants	Mason's lilaeopsis	SR		Apr-Nov
Reptiles	giant garter snake	FT, ST		Jul-Oct
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	/Coordinator	Native American Heritage Commission	(916) 373-3710
C	/Coordinator	Northwest Information Center	(707) 588-8455
E	/Superintendent	Brannan-Andrus Reclamation District	(916) 952-9967
E	/Office	Twitchell Island Reclamation District	(209) 946-0268
E	/Office	Webb Tract Reclamation District	(209) 943-5551
S	/Dispatch, 24-hr	Contra Costa County Office of the Sheriff	(925) 646-2441
T	/Environmental Program Manager	CA Dept. of Fish & Wildlife, Bay Delta Region	(707) 576-2837
T	/Spill Response Coordinator	USFWS, SF Bay-Delta 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:

Suisun marsh aster is a sensitive plant that occurs in the area.

Concerns and Advice to Responders:

Primary concern is oil transport/spreading to central Delta from San Joaquin River. The salt-marsh islands 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: III**

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	<i>Strategy Updated:</i>
Anchor	Danforth	22 lb		4		<i>Last Test: 2/24/2020</i>
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 provide good access when dry, avoid when saturated.

On-Water Limitations: 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

Lesser 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: Good cell reception.



2-743-A Site Summary - Sevenmile Slough**2-743-A****County:** Sacramento **ACP Division/Segment:****NOAA Chart:** 18661 Sacramento / San Joaquin River **Map Book:****Decimal Degrees:** 38.107315 -121.613778**Site Description:**

This site includes the shallow slough between Twitchell and Andrus Islands from the Twitchell Island bridge east of Hwy 160 to the confluence with the San Joaquin River and the tule islands at the mouth of the slough on the San Joaquin River. The first 1.5 miles are continuous with the San Joaquin River, while the central 3 miles is behind at flood gate. This site includes salt-marsh along the length of the slough, particularly the eastern end. Riparian trees and shrub-brush occur on banks and berm islands. Tule islands exist at the mouth of the slough in the San Joaquin River. The Southwest leg area has extensive marina development.

Resources at Risk:*ESI and Habitat:* 8C Sheltered riprap

9B Vegetated low banks

8B Sheltered solid man-made structures

List of Resources at Risk:

	Resource Name	Status	Presence	Sensitivity
Fish	delta smelt	FT, SE		Mar-May
Fish	longfin smelt	ST		Nov-May
Fish	steelhead - Central/Northern California	FT		Nov-Apr
Reptiles	qiant qarter snake	FT, ST		Jul-Oct

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

List of Key Contacts:

Type	Name/Title	Organization	Phone
C	/Coordinator	Native American Heritage Commission	(916) 373-3710
C	/Coordinator	Northwest Information Center	(707) 588-8455
E	/Office	Mandeville Island Reclamation District	(209) 946-0268
E	/Office	Webb Tract Reclamation District	(209) 943-5551
O	/Dispatch, 24-hr	California Department of Water Resources	(916) 574-2714
S	/Dispatch, 24-hr	Sacramento Co. Office of Emergency Services	(916) 875-6900
T	/Environmental Program Manager	CA Dept. of Fish & Wildlife, Bay Delta Region	(707) 576-2837
T	/Restoration Ecologist	US Department of Agriculture	(530) 304-2304
T	/Spill Response Coordinator	USFWS, SF Bay-Delta 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:

The major concern is spread of oil into the inner reaches of the slough behind river front islands and behind the flood gates: oiling of extensive emergent salt-marshes and islands. Many marinas and boats are vulnerable as well.

Hazard and Restrictions:

Vessels beware of submerged objects and shallows at margins.

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

Strategy: 2-743.1 Objective: Exclude oil from moving into protected channels inside channel islands which front the slough mouth and protect the islands also.

Strategy: Use 6X6+ exclusion boom to close all openings between channel islands and mouths to inside channel (600') and back with sorbent boom. Front the channel islands with 6X6+ protective boom or sorbent boom (3000'). Ensure a tidal seal at shore closures. Good levee roads enable shore deployments. Close tide gate to stop flow to western portion of slough (cross road to Twitchell Island).

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Swamp	6x6 inch		3600	feet	
Boom	Sorbent			3000	feet	
Anchor	Danforth	22 lb		8		
Vessel	Boom Boat			2		
Vessel	Skiff or Punt			1		
Staff	Staff to Deploy			8		

Strategy: 2-743.2 Objective: Deflection to collection/confinement on Andrus Island shore if substantial oil patches are threatening the Andrus or Twitchell Island shoreline.

Strategy: If oil is moving along this east shoreline, then set 200' collection booms. Such booming will probably be needed at each end to deal with both ebb and slack tide movement. If a lot of oil is bypassing the collection, then deflect oil away from Sevenmile Slough and islands: 600' 6X6+ Swamp boom anchored from shore out into channel. Good levee roads enable shore deployments. Use 50ft of Oil Snare (OS), 100ft of sorbent boom to collect any oil that may accumulate. If oil accumulates in skimmable quantities contact the IC for shoreside skimming deployments per 2-743.3 per IC direction.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Swamp	6x6 inch		1200	feet	
Boom	Oil Snare (pom-pom)			50	feet	
Boom	Sorbent			100	feet	
Anchor	Danforth	22 lb		5		
Vessel	Boom Boat			1		
Vessel	Skiff or Punt			1		
Staff	Staff to Deploy			5		

Strategy: 2-743.3 Objective: Oil Recovery with shoreside skimming

Strategy: Deploy skimmer 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:

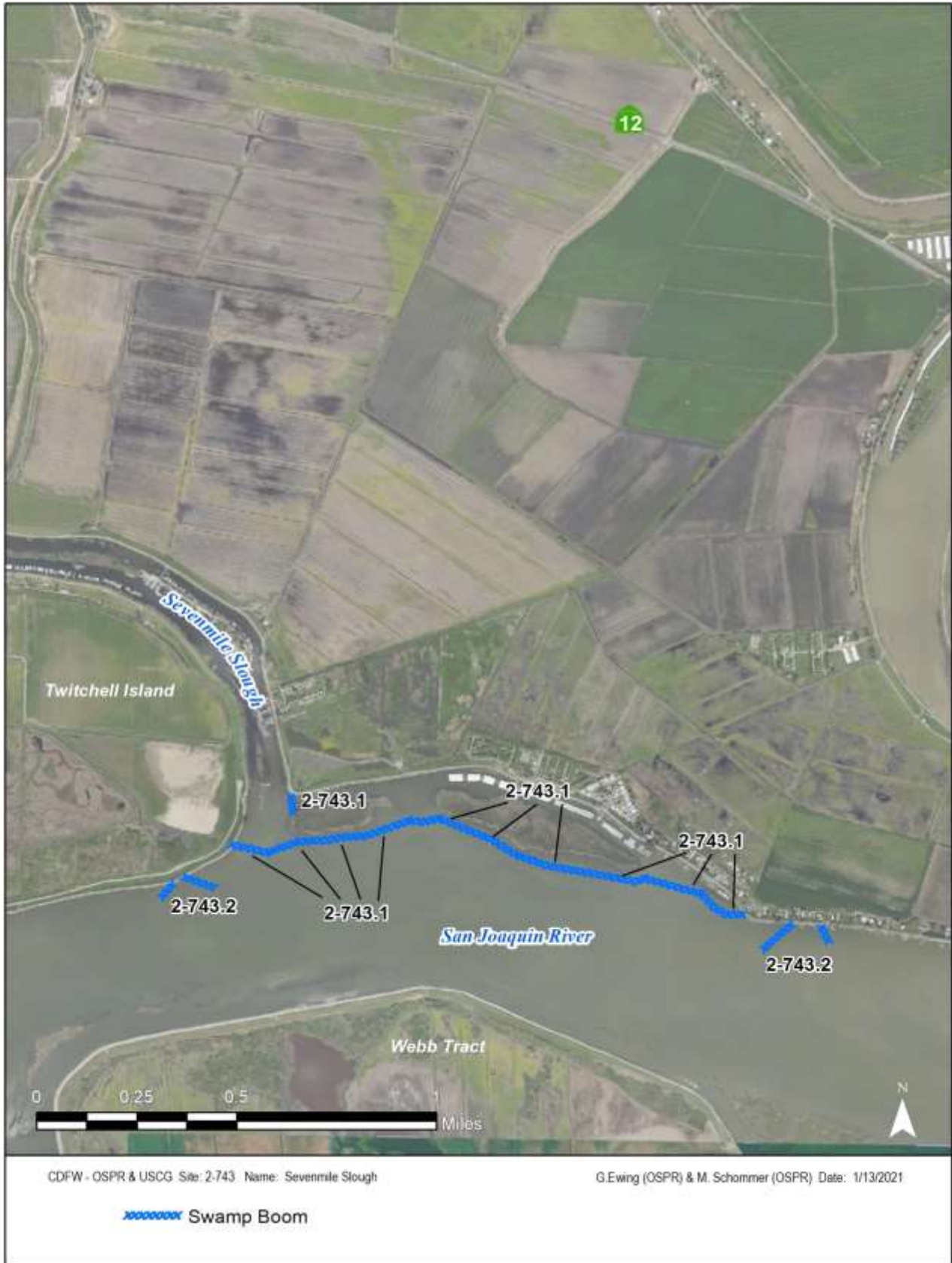
Directions: Take Hwy 160 to Twitchell Island levee roads (about 5 mi south of Hwy 12) or levee roads from Hwy 12 at Mokelumne River. By water, the site is accessible from local marinas.

Land Access: Good access via levees. Avoid levees when saturated.

On-Water Limitations: Boat launch available at Brannon Island State Park and marinas at Sevenmile Slough and mouth of Mokelumne.

Facilities, Staging Areas, Command Posts, Available Equipment: Brannon Island State Park is a possible IC or staging area. Diverse facilities (including space, water, power, marine support, food, sewage and some camping) at mouth of Mokelumne would support a staging area or an IC. Delta levees at site provide ready local land-water deployment.

Communications Problems: Cell reception varies throughout Delta.



2-752-A Site Summary - Chips Island, Southern Side**2-752-A****County:** Solano **ACP Division/Segment:** SO - P - S01**NOAA Chart:** SUISUN BAY
18652/18656**Map Book:****Decimal Degrees:** 38.050777 -121.913713**Site Description:**

This site is the southerly exposure of Chips Island to Suisun Bay and all the associated interior island channels. The entire margin of the island is emergent saline marsh. Some exposed portions are eroding but most margins are accreting. There are about a dozen pockets and inlets along this two mile length of shoreline. Some of these openings lead to extensive inner channels or to interiors of salt-marshes. These are paths which, if left open, would permit widespread impacts. This is excellent salt-marsh habitat for a wide variety of marsh species including several Special Status Species.

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

9B Vegetated low banks

9A Sheltered tidal flats

List of Resources at Risk:

	Resource Name	Status	Presence	Sensitivity
Birds	California black rail	FP, ST		Mar-Aug
Fish	longfin smelt	ST		Nov-May
Fish	steelhead - Central/Northern California	FT		Nov-Apr
Mammals	salt-marsh harvest mouse	FE, SE		
Plants	Mason's lilaepsis	SR		Apr-Nov
Plants	Delta tule pea	SSSP		May-Jul
Plants	Suisun marsh aster	SSSP		May-Nov

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

List of Key Contacts:

Type	Name/Title	Organization	Phone
C	/Coordinator	Native American Heritage Commission	(916) 373-3710
C	/Coordinator	Northwest Information Center	(707) 588-8455
O	/Dispatch, 24-hr	California Department of Water Resources	(916) 574-2714
T	/Environmental Program Manager	CA Dept. of Fish & Wildlife, Bay Delta Region	(707) 576-2837
T	/Restoration Ecologist	US Department of Agriculture	(530) 304-2304
T	/Spill Response Coordinator	USFWS, SF Bay-Delta 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:

Beware of submerged hazards near shorelines.

Concerns and Advice to Responders:

Primary concern is oil entering the interior marsh channels (which parallels the island margin) and interior marshes. Oiling of emergent salt-marshes and banks on outer margins is secondary concern. Avoid trampling vegetation: small endangered plants and animals are present.

Hazard and Restrictions:

Vessels beware of submerged objects and shallows at margins.

Site Strategies:

Site Validation Level: II

Strategy: 2-752.1 Objective: Exclude oil from entering inner channels and marshes by exclusion booming of the openings of the outer levee.

Strategy: Place 6X6+ Sboom across each of the 9 openings. Anchor near shore but leave a trailing end to maintain tidal seal. Use 300' Harbor boom (9X9) or double boom or back with sorbent to catch escaping oil for west tip where wind chop is likely to lift oil over the boom flotation.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Harbor	9x9 inch		300	feet	
Boom	Swamp	6x6 inch		1200	feet	
Boom	Sorbent			300	feet	
Anchor	Danforth	22		18		
Vessel	Boom Boat			1		
Vessel	Skiff			1		
Staff	Staff to Deploy			5		

Strategy: 2-752.2 Objective: Protect emergent marsh at east tip and pocket cove near west tip against oil penetration

Strategy: This strategy is based on the predominant winds which blow waves away from this shore rather than onto it: if waves are from the south or southwest, larger boom (9x9+) and double booming will be necessary. Under mild wind exposures, lay 600 ft of 6X6+ Sboom across pocket cove mouth which is 1000 ft east of west end. Lay 2500 ft of 6X6 Sboom from east tip to west along the edge of the emergent vegetation and shore: (this protective boom should be linked to protective strategy for Spoonbill Creek east mouth). Run boom ends landward to complete a tidal seal.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Swamp	6x6 inch		3100	feet	
Anchor	Danforth	22 lb		7		
Vessel	Boom Boat			1		
Vessel	Skiff or Punt			1		
Staff	Staff to Deploy			5		

Logistics:

Directions: Site has only water access. Water access is one mile west from Pittsburg or 2 miles east of McAvoy's.

Land Access: Access to shoreline is by vessel only.

On-Water Limitations: Launch and complete marina facilities are available at Harris' or McAvoy's Marinas 2 miles west, and at Pittsburg Marina and public ramp to east.

Facilities, Staging Areas, Command Posts, Available Equipment: Both Pittsburg and Harris' or McAvoy's provide excellent staging or deployment sites. Diverse facilities are available at both. Security can be an issue at Pittsburg.

Communications Problems: Cell coverage may be spotty.



2-755-A Site Summary - Spoonbill Creek**2-755-A****County:** Solano **ACP Division/Segment:** SO - P - S02**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. 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 booming strategies. The easterly mouth of Spoonbill Creek is an extensive salt-marsh. The waterway has salt-marsh fringe with openings to a borrow channel that is separated from Suisun Bay by emerging salt-marsh islands.

Resources at Risk:

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

List of Resources at Risk:

	Resource Name	Status	Presence	Sensitivity
Birds	California black rail	FP, ST		Mar-Aug
Fish	longfin smelt	ST		Mar-May
Fish	chinook salmon - Winter-run	FE, SE		Oct-May
Fish	delta smelt	FT, SE		Mar-May
Mammals	salt-marsh harvest mouse	FE, SE		
Plants	Mason's lilaeopsis	SR		Apr-Nov
Plants	Delta tule pea	SSSP		May-Jul
Plants	Suisun marsh aster	SSSP		May-Nov

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

List of Key Contacts:

Type	Name/Title	Organization	Phone
C	/Coordinator	Native American Heritage Commission	(916) 373-3710
C	/Coordinator	Northwest Information Center	(707) 588-8455
O	/Office	Suisun Resource Conservation District	(707) 425-9302
T	/Environmental Program Manager	CA Dept. of Fish & Wildlife, Bay Delta Region	(707) 576-2837
T	/Spill Response Coordinator	USFWS, SF Bay-Delta 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:

Shallow water at entrance into Spoonbill Creek, submerged obstructions likely especially at southern confluence.

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 salt-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/out Spoonbill Creek.

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

Strategy: 2-755.1 Objective: Exclude oil from entering the southern end of Spoonbill Creek by deploying deflection boom in the Sacramento-San Joaquin River channel just south of the creek mouth.

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: Back-up to exclusion, diversion to shore-side collection out of current (usually Chipps shore) to prevent movement toward Honker Bay.

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: An alternative to the previous collection strategy is to collect oil entering Spoonbill Creek with a vessel mounted skimming system.

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 District Warden can arrange for access over graded private roads.

Land Access: Van Sickle Island levee road.

On-Water Limitations: 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. There are moorage and docks and small amounts of support including water and power.

Communications Problems: Cell coverage varies.



2-757-A Site Summary - Van Sickle Island**2-757-A****County:** Solano **ACP Division/Segment:** SO - P - S03 SO - P - S05**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 salt-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
 9B Vegetated low banks
 6B Riprap

List of Resources at Risk:

	Resource Name	Status	Presence	Sensitivity
Birds	California black rail	FP, ST		Mar-Aug
Fish	longfin smelt	ST		Nov-May
Fish	delta smelt	FT, SE		Mar-May
Mammals	salt-marsh harvest mouse	FE, SE		
Plants	Mason's lilaeopsis	SR		Apr-Nov
Plants	Suisun marsh aster	SSSP		May-Nov
Plants	Delta tule pea	SSSP		May-Jul
Reptiles	giant garter snake	FT, ST		Jul-Oct

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

List of Key Contacts:

Type	Name/Title	Organization	Phone
C	/Coordinator	Native American Heritage Commission	(916) 373-3710
C	/Coordinator	Northwest Information Center	(707) 588-8455
O	/Office	Suisun Resource Conservation District	(707) 425-9302
T	/Environmental Program Manager	CA Dept. of Fish & Wildlife, Bay Delta Region	(707) 576-2837
T	/Spill Response Coordinator	USFWS, SF Bay-Delta 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:

Beaware of submerged hazards near shoreline such as old pier pilings.

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:

Vessels beware of submerged objects and shallows at margins.

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

Strategy: 2-757.1 Objective: Exclude oil from small sloughs and from slough behind berm island at mouth and deploy protective boom to along emergent marshes.

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: 10/22/2015</i>
Anchor	Danforth	22 lb	8			<i>Last Test: 10/22/2015</i>
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 access by land, only via vessel.

On-Water Limitations: 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. There are moorage and docks and small amounts of support including water, power, and food.

Communications Problems: Cell reception varies.



2-760-A Site Summary - Montezuma Slough - East Mouth**2-760-A****County:** Solano **ACP Division/Segment:** SO - P - S004 SO - Q - S001**NOAA Chart:** SUISUN BAY 18652/18656 **Map Book:** **Decimal Degrees:** 38.071111 -121.864923**Site Description:**

This site extends from the easterly mouth of Montezuma Slough about one mile to the DWR flow control structures. The Slough connects Grizzly Bay with eastern Suisun Bay and runs along the northeastern margin Van Sickle Island. There is a well developed emergent salt-marsh at the easterly mouth, and the channel is lined with emergent salt-marsh. There are pocket sloughs along part of its length with emerging salt-marsh habitat.

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

8C Sheltered riprap

9B Vegetated low banks

List of Resources at Risk:

	Resource Name	Status	Presence	Sensitivity
Fish	delta smelt	FT, SE		Mar-May
Fish	longfin smelt	ST		Nov-May
Fish	steelhead - Central/Northern California	FT		Nov-Apr
Mammals	salt-marsh harvest mouse	FE, SE		
Plants	Mason's lilaopsis	SR		Apr-Nov
Reptiles	giant garter snake	FT, ST		Jul-Oct

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

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T	/Restoration Ecologist	US Department of Agriculture	(530) 304-2304
T	/Spill Response Coordinator	USFWS, SF Bay-Delta 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:

Several sensitive plant species reside in the area.

Concerns and Advice to Responders:

Major concerns are spreading of oil to other sites and to extensive salt-marsh margins throughout length. Penetration of oil into levees via animal burrows is also a concern.

Hazard and Restrictions:

Shallows and submerged obstacles near shorelines.

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

Strategy: 2-760.1 Objective: Stop oil entrainment into slough by stopping through current.

Strategy: Contact Dept. Water Resource Control of the water check dam and request complete closure to stop through flow.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Personnel	OSPR Staff ES			1		

Strategy: 2-760.2 Objective: Exclude oil from entering mouth by configuring exclusion boom to fend oil away from mouth as to exclude.

Strategy: Deploy 9x9+ Hboom well out from the mouth in a shallow chevron "V" to encourage oil to slide past mouth as well as to exclude entry. Run an extended boom length along the wetland to the east of the mouth. Anchor west end near the Spinner Island shore 200 yards west of mouth. Put sorbent boom across the mouth.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Harbor	9x9 inch		3000	feet	
Anchor	Danforth	25 lb		7		
Vessel	Boom Boat			1		
Vessel	Skiff or Punt			1		
Staff	Staff to Deploy			5		

Strategy: 2-760.3 Objective: Backup strategy to above exclusion if oil circumvents exclusion.

Strategy: 1) Close mouth of inside slough at Van Sickle margin with 100' 6X6+ boom backed with sorbent. 2) Set 400 ft 6x6+ Sboom across channel near the mouth in a manner most favorable (a diagonal) to conditions on incoming tide. Back with sorbent boom as needed.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Swamp	6x6 inch		500	feet	
Anchor	Danforth	25 lb		3		
Vessel	Boom Boat			1		
Vessel	Skiff or Punt			1		
Staff	Staff to Deploy			5		

Logistics:

Directions: Access from the Van Sickle Island shore on private roads from Collinsville. By water, the site is a mile north of Pittsburg.

Land Access: Levee roads when dry. Avoid when saturated.

On-Water Limitations: Boat launch is available at South Shore (Contra Costa) 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. There are moorage and docks and small amounts of support including water, phones, power, and food.

Communications Problems: Cell reception varies in area.



2-765-A Site Summary - Montezuma Island and Collinsville**2-765-A****County:** Solano **ACP Division/Segment:** SO - Q - S002 SO - Q - S006**NOAA Chart:** SUISUN BAY
18652/18656**Map Book:****Decimal Degrees:** 38.074591 -121.844164**Site Description:**

This site includes Montezuma Island and the salt-marsh margins on the Collinsville shore including Marshall Cut. Montezuma Island is high ground and unleveed. However, the margin, particularly the north margin is a wide expanse of emergent salt-marsh. Also there are several emergent channel marshes and a well developed salt-marsh around Marshall Cut. The westerly part of the mainland shore is rip-rapped. West of Montezuma Island there is a long cut which runs inland to some commercial facilities and at and inside the mouth there is an emergent salt-marsh.

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

	Resource Name	Status	Presence	Sensitivity
Fish	longfin smelt	ST		Nov-May
Fish	delta smelt	FT, SE		Mar-May
Mammals	salt-marsh harvest mouse	FE, SE		
Plants	Mason's lilaeopsis	SR		Apr-Nov
Plants	Delta mudwort	SSSP		Apr
Plants	Suisun marsh aster	SSSP		May-Nov
Plants	Delta tule pea	SSSP		May-Jul
Reptiles	qiant qarter snake	FT, ST		Jul-Oct

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

List of Key Contacts:

Type	Name/Title	Organization	Phone
C	/Coordinator	Native American Heritage Commission	(916) 373-3710
C	/Coordinator	Northwest Information Center	(707) 588-8455
O	/Dispatch, 24-hr	California Department of Water Resources	(916) 574-2714
S	/Dispatch, 24-hr	Sacramento Co. Office of Emergency Services	(916) 875-6900
T	/Environmental Program Manager	CA Dept. of Fish & Wildlife, Bay Delta Region	(707) 576-2837
T	/Restoration Ecologist	US Department of Agriculture	(530) 304-2304
T	/Spill Response Coordinator	USFWS, SF Bay-Delta 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:

Concern is for oiling of emergent marshes at margins of Montezuma Island and shore line northeast of Collinsville. Also be aware of penetration of oil into riprap or onto levees via animal burrows.

Hazard and Restrictions:

shallows at margins. Rip rap has slip, trip, & fall hazards.

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

Strategy: 2-765.1 Objective: At the east end of Montezuma Island, deflect oil away from mouth and exclude it from entry to north side of channel.

Strategy: Set Hboom from the east tip of Montezuma Island due east to Montezuma Island (1200 ft. 9x9+). Anchor near shore leaving trailing ends for tidal seal. At Montezuma Landing, set 2 (300 ft each) cascading deflection booms to deflect oil away from the mouth of the channel towards the main channel.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Harbor	9x9 inch		2000	feet	
Anchor	Danforth	25 lb		5		
Vessel	Boom Boat			1		
Vessel	Skiff or Punt			1		
Staff	Staff to Deploy			5		

Strategy: 2-765.2 Objective: Deflect oil away from shoreline and close north side channel mouth at the west end of Montezuma Island,

Strategy: Deploy 1000' of 9x9+ Hboom from the west tip of Montezuma Island due west to the opposite shore. Anchor near shore leaving a trailing boom length to ensure tidal seal. Just west of dead-end channel set deflection booms west of Collinsville (2) cascading from the shore to divert easterly moving oil back into the channel.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Harbor	9x9 inch		1500	feet	
Anchor	Danforth	25 lb		4		
Vessel	Boom Boat			1		
Vessel	Skiff or Punt			1		
Staff	Staff to Deploy			5		

Logistics:

Directions: Land access by Collinsville Road from Hwy 12. Only water access to Montezuma Island, from Collinsville or, one mile North of Pittsburg.

Land Access: Access via vessel only.

On-Water Limitations: Boat launch is available at South Shore (Contra Costa) location 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. There are moorage and docks and small amounts of support including water, phones, power, and food.

Communications Problems: Cell reception varies in area.



2-770-A Site Summary - Chain Island**2-770-A****County:** Sacramento **ACP Division/Segment:** SO - Q - S09 SO - Q - S10**NOAA Chart:** SUISUN BAY
18652/18656**Map Book:****Decimal Degrees:** 38.069496 -121.853818**Site Description:**

This small salt-marsh island is located at the mouth of Montezuma Slough (east mouth) near the confluence of the Sacramento and San Joaquin Rivers. The island has low levees around its perimeter. However, the site is a silt accreting site and extensive mud flats surround the island and emergent salt-marsh has extended well beyond the original margin of the island. The surrounding water is extremely shallow.

Resources at Risk:

ESI and Habitat: 10A Salt - and brackish-water marshes
9B Vegetated low banks
5 Mixed sand and gravel beaches

List of Resources at Risk:

	Resource Name	Status	Presence	Sensitivity
Fish	longfin smelt	ST		Nov-May
Fish	steelhead - Central/Northern California	FT		Nov-April
Fish	delta smelt	FT, SE		Mar-May
Mammals	salt-marsh harvest mouse	FE, SE		
Plants	Mason's lilaeopsis	SR		Apr-Nov
Plants	Suisun marsh aster	SSSP		May-Nov
Plants	Delta tule pea	SSSP		May-July
Reptiles	giant garter snake	FT, ST		Jul-Oct

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

List of Key Contacts:

Type	Name/Title	Organization	Phone
C	/Coordinator	Native American Heritage Commission	(916) 373-3710
C	/Coordinator	Northwest Information Center	(707) 588-8455
O	/Dispatch, 24-hr	California Department of Water Resources	(916) 574-2714
S	/Dispatch, 24-hr	Sacramento Co. Office of Emergency Services	(916) 875-6900
T	/Environmental Program Manager	CA Dept. of Fish & Wildlife, Bay Delta Region	(707) 576-2837
T	/Restoration Ecologist	US Department of Agriculture	(530) 304-2304
T	/Spill Response Coordinator	USFWS, SF Bay-Delta 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:

There are extensive tidal salt-marshes at each end of the island. The objective is to protect marsh from oil penetration into emergent marshes AT EACH END and perimeter. Endangered species occur here: responders should minimize disturbance of salt-marsh vegetation and avoid tracking oil into marshes and sediments.

Hazard and Restrictions:

Extreme shallows based on tidal range.

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

Strategy: 2-770.1 Objective: Deflect oil away from the emergent marshes at each end and away from the Island.

Strategy: Deploy chevrons of protective boom at each end of the island at about the 5 ft. depth contours to fend oil past the island. Chevrons should be 1500' on each leg and well anchored at each apex. Run sorbent or swamp boom from the tips of the chevron to shore to stop oil from getting behind the boom. Boom remaining exposed island flanks with sorbent or swamp boom.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Harbor	9x9 inch		6000	feet	
Boom	Swamp	6x6 inch		4500	feet	
Anchor	Danforth	22 lb		28		
Vessel	Boom Boat			4		
Vessel	Skiff or Punt			1		
Staff	Staff to Deploy			14		

Logistics:

Directions: Water access only: site is one mile north of Pittsburg Marina.

Land Access: Access by vessel only.

On-Water Limitations: Boat launch is available at South Shore (Contra Costa) locations including Pittsburg, Antioch, and Bay Point Marinas. Water is very shallow near shorelines.

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: Cell reception varies in area.



2-780-A Site Summary - Lower Sherman Island - Sherman Lake Complex**2-780-A****County:** Sacramento **ACP Division/Segment:** SA - A - S01 SA - A - S02**NOAA Chart:** 18661 Sacramento / San Joaquin River **Map Book:****Decimal Degrees:** 38.047891 -121.820948**Site Description:**

Lower Sherman Island is a 3000 acre Dept of Fish & Wildlife Reserve Area which is bounded by the Sacramento River, Mayberry Slough, Mayberry Cut, Cabin Slough and the San Joaquin River. This flooded island is a network of waterways and emergent vegetation with some well developed riparian growth on the high ground. There is high ground at the west tip, and old levees along the sloughs. There are cabins on the levee along Cabin Slough (south eastern margin). On flood tides flow tends to come from the Sacramento River side and flow across the site to the San Joaquin and the opposite on the ebb.

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

6B Riprap

9B Vegetated low banks

List of Resources at Risk:

	Resource Name	Status	Presence	Sensitivity
Birds	California black rail	FP, ST		Mar-Aug
Fish	delta smelt	FT, SE		Mar-May
Fish	longfin smelt	ST		Nov-May
Fish	steelhead - Central/Northern California	FT		Nov-Apr
Mammals	salt-marsh harvest mouse	FE, SE		
Plants	Mason's lilaeopsis	SR		Apr-Nov
Reptiles	giant garter snake	FT, ST		Jul-Oct

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

List of Key Contacts:

Type	Name/Title	Organization	Phone
C	/Coordinator	Native American Heritage Commission	(916) 373-3710
C	/Coordinator	Northwest Information Center	(707) 588-8455
O	/Dispatch, 24-hr	California Department of Water Resources	(916) 574-2714
S	/Dispatch, 24-hr	Sacramento Co. Office of Emergency Services	(916) 875-6900
T	/Environmental Program Manager	CA Dept. of Fish & Wildlife, Bay Delta Region	(707) 576-2837
T	/Restoration Ecologist	US Department of Agriculture	(530) 304-2304
T	/Spill Response Coordinator	USFWS, SF Bay-Delta 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:

Delta tule pea and Suisun marsh aster are sensitive plants that occur in the area.

Concerns and Advice to Responders:

Primary concern is spread of oil from main channels of Sacramento and San Joaquin Rivers to interior of area with subsequent broad scale oiling of extensive salt-marshes. Minimize collateral impacts from cleanup: trampling of vegetation and trampling oil into sediments.

Hazard and Restrictions:

Shallows and obstructions. Aircraft beware of powerlines in the vicinity.

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

Strategy: 2-780.1 Objective: Primary: Exclusion by chevron boom for oil threat from San Joaquin River side: deflection-exclusion booming on outside

Strategy: Set a shallow deflection-exclusion in a chevron "V" configuration to encourage oil to slide past the mouth. Use 500 ft. 9X9+ Hboom with large anchor at peak apex

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Harbor	9x9 inch		500	feet	
Anchor	Danforth	44 lb		3		
Vessel	Boom Boat			1		
Vessel	Skiff or Punt			1		
Staff	Staff to Deploy			5		

Strategy: 2-780.2 Objective: Primary for Sacto oil threat: exclude and deflect oil away at Sacto River openings to Sherman Lake

Strategy: For oil moving from the west, set two 400' 9x9+ cascading deflection booms 30 yards west of the opening. Then deploy 3000' of 9x9+ exclusion boom across the opening. A secondary layer of sorbent boom or smaller skirted boom may be necessary depending on conditions: if wind chop is likely to lift oil over boom, then the second layer will be necessary.

Also, if oil is moving down the Sacramento along the Sherman Island shore, set collection booms and skimmers along the Sherman levee upstream from Lower Sherman.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Harbor	9x9 inch		3800	feet	
Anchor	Danforth	22 lb		9		
Vessel	Boom Boat			2		
Vessel	Skiff or Punt			1		
Staff	Staff to Deploy			8		

Strategy: 2-780.3 Objective: Backup to San Joaquin exclusion (2-780.1) - when oil entrains past primary exclusion.

Strategy: Deploy a collection boom inside: make a continuous pocket on the inside by lining the margins and islands with 1500' of 6X6+ Sboom. A skimmer may be permanently assigned to collection or occasionally sweep the pocket. Back with oil snare and sorbents.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Swamp	6x6 inch		1500	feet	
Boom	Oil Snare (pom-pom)			100	feet	
Boom	Sorbent			500	feet	
Anchor	Danforth	22 lb		9		
Vessel	Boom Boat			1		
Vessel	Skiff or Punt			1		
Staff	Staff to Deploy			5		

Logistics:

Directions: Land access to the north margin of the site via levee road west off of Hwy 160 and private levee maintenance roads. By boat either use Serman Lake WL Area launch ramp at end of levee road or launch from Antioch across San Joaquin River. There is a small marina on Mayberry Slough.

Land Access: Access from Hwy 160 to levee roads.

On-Water Limitations: Boat launching is available from south shore at Antioch Marina or north corner of Sherman Lake Launch.

Facilities, Staging Areas, Command Posts, Available Equipment: Good staging/deployment site to south is Antioch Marina. To the north, the Lower Sherman Island Launch is an excellent staging/deployment area. Limited facilities including some camping are available there. Full facilities are available at Antioch.

Communications Problems: Cell reception varies in area.



County: Sacramento **ACP Division/Segment:** SA - A - S03 SA - A - S08**NOAA Chart:** 18661 Sacramento & San Joaquin River **Map Book:** **Decimal Degrees:** 38.027826 -121.817142**Site Description:**

This site includes Kimball Island, SW shore of Shermin Island, Cabin Slough, and channel berm islands at each end of Cabin Slough. Kimball & Sherman Isles have very low, eroding levees, but over half its area is unleveed and has multiple finger channels into its emergent salt-marsh. Cabin Slough has mid-channel islands throughout its length and particularly at its east mouth. The water depth throughout Cabin Slough is relatively navigable but water depths vary greatly. Both ends of Kimball island are very shallow (tide dependent). There are several private dwellings and docks consistent with a no wake zone to minimize shoreline erosion.

Resources at Risk:

ESI and Habitat: 10B Freshwater marshes
 9B Vegetated low banks
 8B Sheltered solid man-made structures

List of Resources at Risk:

	Resource Name	Status	Presence	Sensitivity
Fish	longfin smelt	ST	Year-round	Nov-May
Fish	steelhead - Central/Northern California	FT	Year-round	Nov-Apr
Fish	chinook salmon - Winter-run	FE, SE	Year-round	Oct-May
Fish	delta smelt	FT, SE	Year-round	Mar-May
Plants	Mason's lilaepsis	SR	Year-round	Apr-Nov
Plants	Suisun marsh aster	SSSP	Year-round	May-Nov
Reptiles	giant garter snake	FT, ST	Year-round	Jul-Oct

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

List of Key Contacts:

Type	Name/Title	Organization	Phone
C	/Coordinator	Native American Heritage Commission	(916) 373-3710
C	/Coordinator	Northwest Information Center	(707) 588-8455
O	/Dispatch, 24-hr	Contra Costa Water District	(925) 688-8374
S	/Dispatch, 24-hr	Sacramento Co. Office of Emergency Services	(916) 875-6900
T	/Environmental Program Manager	CA Dept. of Fish & Wildlife, Bay Delta Region	(707) 576-2837
T	/Spill Response Coordinator	US Fish and Wildlife Service, Bay-Delta Office	(479) 233-9241

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 concerns are spreading of oil into salt-marshes of Cabin Slough and penetration of oil into emergent marshes and tidal channels at each end of both Sherman & Kimball Islands.

Hazard and Restrictions:

Shallows, submerged obstructions, sunken vessels.

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

Strategy: 2-783.1 Objective: Exclude oil entry at westerly end of Cabin Slough - wind chop is a problem here.

Strategy: Deploy Hboom at a very acute angle to wind across the westerly mouths. Deploy 1600' 9x9+ exclusion boom from the west tip of Kimball Island northwesterly to the Sherman Island shore. Mid-reach anchoring will be necessary for maintaining an effective configuration. Be sure to provide a near shore seal. Back with sorbent as needed. Use 150' containment boom for a collection pocket at easterly end, deploy self-propelled skimmer to collect pooled product as necessary.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Harbor	9x9 inch		1750	feet	<i>Strategy Updated: 6/19/2023</i>
Boom	Sorbent			1750	feet	<i>Last Test: 5/12/2023</i>
Anchor	Danforth	22lb lb		7		
Vessel	Boom Boat			1		
Vessel	Skiff or Punt			1		
skimmer	SSS/SPS			1		
Staff	Staff to Deploy			8		

Strategy: 2-783.2 Objective: Deflection/Exclusion booming of marsh at west end of Kimball Island and fend oil past.

Strategy: From the mid-length anchor of the above boom, deploy a double layer of Swamp boom on a 3000' perimeter of the west tip marsh. Ensure a tidal seal a east boom ends.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Swamp	6x6 lb		6000	feet	
Anchor	Danforth	25 lb		13		
Vessel	Boom Boat			2		
Vessel	Skiff or Punt			1		
Staff	Staff to Deploy			8		

Strategy: 2-783.3 Objective: Exclude oil at east end of Kimball Island, from penetrating marshes, channels, pockets and Cabin Slough

Strategy: Deploy a 9x9+ Hboom from the east tip of Kimball Island near Old Levee, 3500' easterly following the 10 ft. depth contour to the Sherman Island Bank. As oil impacts site watch carefully to assess need for backup exclusion booming across slough mouths. Place sorbent boom across slough mouths.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Harbor	9x9 inch		3500	feet	
Boom	Sorbent			600		
Anchor	Danforth	25 lb		8		
Vessel	Boom Boat			1		
Vessel	Skiff or Punt			1		
Staff	Staff to Deploy			8		

Logistics:

Directions: There is no land access. The site is across the river from Antioch Marina.

Land Access: The only access to Kimball Island is by vessel.

On-Water Limitations: Very shallow with obstructions (tide dependent). Launch from Antioch Marina.

Facilities, Staging Areas, Command Posts, Available Equipment: Staging and facilities are available at Antioch Marina or Pittsburg Waterfront.

Communications Problems: Good cell reception throughout area.

Additional Operational Comments: 5 MPH no wake zone within Cabin Slough.



2-786-A Site Summary - Mayberry Slough - Donlon Island**2-786-A****County:** Sacramento **ACP Division/Segment:** SA - A - S09 SA - A - S012**NOAA Chart:** 18661 Sacramento & San Joaquin River **Map Book:** **Decimal Degrees:** 38.032727 -121.777223**Site Description:**

This site is located a mile west of the Antioch Bridge and includes Donlon Island, Mayberry Slough and Mayberry Cut. This 400 acre submerged Island is part of DFW Lower Sherman Wildlife Area. Donlon Island is a flooded island which has emergent salt-marshes with meandering channels. It has three major openings to the main channel which it borders on the south side. Mayberry Slough separates this island from Sherman Island to the north and Mayberry Cut is a parallel channel which separates Donlon Island from Lower Sherman Island (Sherman Lake). Both channels are fringed with emergent marsh and have channel islands. The margin on the San Joaquin is very porous. Currents here tend to be from the San Joaquin into these waterbodies on the ebb only.

Resources at Risk:

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

List of Resources at Risk:

	Resource Name	Status	Presence	Sensitivity
Birds	double-crested cormorant	FP		May-Jul
Fish	longfin smelt	ST		Nov-May
Fish	steelhead - Central/Northern California	FT		Nov-Apr
Fish	delta smelt	FT, SE		Mar-May
Plants	Mason's lilaeopsis	SR		Apr-Nov
Plants	Suisun marsh aster	SSSP		May-Nov
Plants	Delta tule pea	SSSP		May-Jul
Reptiles	giant garter snake	FT, ST		Jul-Oct

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

List of Key Contacts:

Type	Name/Title	Organization	Phone
C	/Coordinator	Native American Heritage Commission	(916) 373-3710
C	/Coordinator	North Central Information Center	(916) 278-6217
E	/Dispatch, 24-hr	Contra Costa Water District	(925) 688-8374
E	/Office	North Delta Water Agency	(916) 446-0197
E	/Office	Sherman Island Reclamation District	(925) 978-0583
S	/Dispatch, 24-hr	Sacramento Co. Office of Emergency Services	(916) 875-6900
T	/Environmental Program Manager	CA Dept. of Fish & Wildlife, Bay Delta Region	(707) 576-2837
T	/Spill Response Coordinator	USFWS, SF Bay-Delta 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:

The major concern is spreading of oil from the San Joaquin to interior salt-marshes of Donlon Island and Lower Sherman Island (Sherman Lake). This is of great concern on the ebb tide when strong currents are induced into Donlon's Island.

Hazard and Restrictions:

Shallows and obstructions at the margins and interior of the island.

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

Strategy: 2-786.1 Objective: On the EBB: Exclude / deflect oil at Mayberry Slough and Mayberry Cut mouths and at three large openings into Donlon Isl.

Strategy: a) at Mayberry Slough deploy 1200 ft. of deflection boom outside mouth from east side of mouth. B) at Mayberry Cut deploy 2 legs of 300 ft. 9x9+ deflection booms in series to the east of Mayberry Cut. Run a 200 ft. exclusion boom from the west side of Mayberry Cut (just west of levee break) to connect with the nearest deflection boom to form a chevron exclusion.

C) There are three major openings into Donlon Island Each should be protected by exclusion-deflection shallow chevron "V" boom configurations. Openings will require about 550, 100 and 350 ft; each configuration will require a secure anchor at apex to form the chevron. Each must have a backup of sorbent.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Harbor	9x9 inch		3000	feet	
Boom	Sorbent			1000	feet	
Anchor	Danforth	22 lb		7		
Vessel	Boom Boat			2		
Vessel	Skiff or Punt			1		
Staff	Staff to Deploy			8		

Strategy: 2-786.2 Objective: Exclude oil entry to interior of Donlon Island through porous southern levee

Strategy: Deploy 6X6+ Sboom along San Joaquin River margin of Island to stop oil from moving into island with ebb flow. Use stakes and anchors to position boom.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Swamp	6x6 inch		4500	feet	
Boom	Sorbent			1000	feet	
Anchor	Danforth	22 lb		10		
Vessel	Boom Boat			2		
Vessel	Skiff or Punt			1		
Staff	Staff to Deploy			8		

Strategy: 2-786.3 Objective: On the EBB at Mayberry Slough mouth : Backup deflection/exclude to shoreside collection/confinement by deflection on outside and exclusion collection inside.

Strategy: Inside mouth, divert to containment/collection at the Sherman Island shore. Use 50ft of Oil Snare (OS), 100 ft of sorbent boom to collect any oil that may accumulate. Contact IC if oil accumulates in skimmable quantities.

a) inside mouth where channel turns to northwest, 400 ft diagonal 6X6 Sboom and line shoreline collection area.

b) to the west of this catchment deploy a second 400 ft diagonal 6X6 Sboom. Back with sorbent.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Swamp	6x6 inch		1000	feet	
Boom	Oil Snare (pom-pom)			50		
Boom	Sorbent			100		
Anchor	Danforth	22 lb		5		
Vessel	Boom Boat			1		
Vessel	Skiff or Punt			1		
Staff	Staff to Deploy			5		

Strategy: 2-786.4 Objective: Oil recovery with shoreside skimming when heavy oil or other skimmable quantities of oil occur

Strategy: Set up a land-based skimmer on the Sherman Island levee at collections points resulting from strategy 786.3.

Table of Response Resources

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

Logistics:

Directions: There is land access to the northerly margin of this site on the adjacent levee of Sherman Island. By water, the site is northeast of Antioch about a mile from the public launch ramp.

Land Access: Access only by vessel .

On-Water Limitations: Boat launch and marine facilities are readily available at Antioch Marinas. There is a public launch at Lower Sherman Island Wildlife Area.

Facilities, Staging Areas, Command Posts, Available Equipment: There are limited facilities and camping at Lower Sherman Wildlife Area. All manner of services are available at Antioch. Good deployment sites include Sherman Island Levee, Antioch Marina, Antioch Public Ramp.

Communications Problems: Cell reception may vary.



2-789-A Site Summary - West Island**2-789-A****County:** Sacramento **ACP Division/Segment:** SA - A - S013 SA - A - S014**NOAA Chart:** 18661 Sacramento & San Joaquin River **Map Book:** **Decimal Degrees:** 38.022695 -121.782118**Site Description:**

This island is east of the Antioch Bridge and across the San Joaquin River shipping channel from Donlon Island. This is a partially leveed island. The west end of the island is emergent salt-marsh, and the perimeter of the island is tule marsh. Some riparian shrub growth exists on the island.

Resources at Risk:

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

List of Resources at Risk:

	Resource Name	Status	Presence	Sensitivity
Fish	delta smelt	FT, SE		Mar-May
Fish	longfin smelt	ST		Nov-May
Fish	steelhead - Central/Northern California	FT		Nov-Apr
Plants	Mason's lilaeopsis	SR		Apr-Nov
Plants	Suisun marsh aster	SSSP		May-Nov
Reptiles	giant garter snake	FT, ST		Jul-Oct

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

List of Key Contacts:

Type	Name/Title	Organization	Phone
C	/Coordinator	Native American Heritage Commission	(916) 373-3710
C	/Coordinator	Northwest Information Center	(707) 588-8455
O	/Dispatch, 24-hr	California Department of Water Resources	(916) 574-2714
S	/Dispatch, 24-hr	Sacramento Co. Office of Emergency Services	(916) 875-6900
T	/Environmental Program Manager	CA Dept. of Fish & Wildlife, Bay Delta Region	(707) 576-2837
T	/Restoration Ecologist	US Department of Agriculture	(530) 304-2304
T	/	US Fish and Wildlife Service, Endangered Species	(916) 414-6700

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 spread to interior channels of west part of island and oiling of interior salt-marsh and marshes of west tip and margins.

Hazard and Restrictions:

Aircraft beware of overhead power lines.

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

Strategy: 2-789.1 Objective: Exclude oil from entering interior island marshes and from penetrating marshes along western apex.

Strategy: Deploy 4000' Hboom along the northwest side of West Island from an anchorage point about 200' west of western tip. From that same anchorage deploy 500 ft 9X0+ Hboom along the south western tip. Ensure a tidal seal at shorefall of boom ends. Anchor a deflection peak in the boom across the mouth of the slough and back that with sorbent.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Harbor	9x9 inch		4500	feet	
Anchor	Danforth	25 lb		10		
Vessel	Boom Boat			1		
Vessel	Skiff or Punt			1		
Staff	Staff to Deploy			8		

Logistics:

Directions: Access by water only from the San Joaquin River. Launch across the river at Antioch Marina.

Land Access: None. Access via vessel only.

On-Water Limitations: Boat launching is available from south shore at Antioch or at north corner of Sherman Lake Launch.

Facilities, Staging Areas, Command Posts, Available Equipment: Good staging/deployment site to south is Antioch Marina. To the north, the Lower Sherman Island Wildlife Area Launch is an excellent staging/deployment area. Limited facilities, including some camping, are available there. Full facilities are available in Antioch.

Communications Problems: Cell reception varies.



2-790-B Site Summary - Three Mile Slough - San Joaquin River**2-790-B****County:** Sacramento **ACP Division/Segment:** SA - C - S02 SA - C - S11**NOAA Chart:** 18661 Sacramento & San Joaquin River **Map Book:** **Decimal Degrees:** 38.090082 -121.685679**Site Description:**

This Slough is about 3.5 mile long from its mouth on the Sacramento River to its mouth on the San Joaquin River. Site also includes the westerly end of Sevenmile Slough. This swift flowing channel is rip-rapped on most of its steep banks. There are pockets of riparian vegetation. Brannan Island State Park borders its northwestern edge. There are pockets of emergent growth along its length, particularly in the Sevenmile Slough channel at the Park. More significant is the role this reach plays in Delta circulation: it is a key control point to prevent oil spreading from one side of the Delta (Sacramento River vs San Joaquin River) to the other on flood tides.

Resources at Risk:

ESI and Habitat: 10A Salt - and brackish-water marshes
 8C Sheltered riprap
 9B Vegetated low banks

List of Resources at Risk:

	Resource Name	Status	Presence	Sensitivity
Birds	greater sandhill crane	FP, SSC		
Fish	longfin smelt	ST		Nov-May
Fish	steelhead - Central/Northern California	FT		Nov-Apr
Fish	chinook salmon - Winter-run	FE, SE		Oct-May
Fish	delta smelt	FT, SE		Mar-May
Plants	Mason's lilaeopsis	SR		Apr-Nov
Reptiles	giant garter snake	FT, ST		Jul-Oct

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

List of Key Contacts:

Type	Name/Title	Organization	Phone
C	/Coordinator	Native American Heritage Commission	(916) 373-3710
C	/Coordinator	North Central Information Center	(916) 278-6217
E	/District Administrator	Bradford Island Reclamation District	(925) 209-5480
E	/Office	North Delta Water Agency	(916) 446-0197
E	/Office	Sherman Island Reclamation District	(925) 978-0583
E	/Office	Twitchell Island Reclamation District	(209) 946-0268
S	/Dispatch, 24-hr	Sacramento Co. Office of Emergency Services	(916) 875-6900
T	/Environmental Program Manager	CA Dept. of Fish & Wildlife, Bay Delta Region	(707) 576-2837
T	/Oil Spill Point of Contact	NOAA National Marine Fisheries Service	(707) 480-3496
T	/Spill Response Coordinator	USFWS, SF Bay-Delta 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:

Several sensitive plant species occur in the area.

Concerns and Advice to Responders:

The big concern here is oil movement from San Joaquin to Sacramento: there is a big cross-flow which this strategy attempts to confront by exclusion at mouth and diversion to collection for any entraining oil.

Hazard and Restrictions:

Steep eroded banks and areas of thick vegetation. Narrow road and narrow shoulders creates a hazardous situation. Traffic control should be implemented at this site.

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

Strategy: 2-790.1 Objective: Primary exclude at mouth on San Joaquin to prevent spreading to Sacramento River side. Oil can move through slough on ebb or flood

Strategy: Deploy 3000' 9X9+ Hboom across the San Joaquin River mouth of 3-mile Slough. Anchor in a shallow chevron configuration to encourage oil to slide past the mouth. Boom can be delivered to site from shore from Sherman Island Levee Road.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Harbor	9x9 inch		3000	feet	
Anchor	Danforth	44 lb		11		
Vessel	Boom Boat			1		
Vessel	Skiff or Punt			1		
Staff	Staff to Deploy			5		

Strategy: 2-790.2 Objective: Diversion to shoreside confinement for collection

Strategy: Backup the capture system with two layers of collection boom(s) (3000' 9x9+) diagonally across the slough to favorable collection points for land-based collection. Both levees (west on Sherman Island has paved road and east side on Twitchell Island is all weather) will support a skimming operation - use the favorable shore based on wind and current. Boom can be deployed from the levee.

Use 50ft of Oil Snare (OS), 100ft sorbent boom to collect any oil that may accumulate. If oil accumulates in skimmable quantities, contact IC to activate skimmers as directed per 790.3 .

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Harbor	9x9 inch		3000	feet	
Boom	Oil Snare (pom-pom)			50	feet	
Boom	Sorbent			100	feet	
Anchor	Danforth	44 lb		9		
Vessel	Boom Boat			1		
Vessel	Skiff or Punt			1		
Staff	Staff to Deploy			5		

Strategy: 2-790.3 Objective: Oil Recovery when heavy oil threatens and skimmable oil accumulates

Strategy: Deploy self-propelled skimmers (SPS) near the San Joaquin River mouth of Three Mile Slough if oil is threatening in skimmable quantities. Deploy shore-side skimming at diagonally deployed booms; both levees will support a skimming operation - use the favorable shore based on wind and current.

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: This site is easily accessible from either Sacramento or San Joaquin Rivers since it is a major cross link. Also, the boat ramp at Brannon Island State Park is on the Slough. Levee Roads and Hwy 160 provide vehicle access:

2-790-B Site Strategy - Three Mile Slough - San Joaquin River

2-790-B

Sherman Island Road is an all weather, paved road; Twitchell Island levee roads are private (DWR).

Land Access: Good access from either side using levee roads. Most convenient access from north side levees thru Brannan Island State Recreational Area.

On-Water Limitations: Launching facilities available at Brannan Island State Recreational Area.

Facilities, Staging Areas, Command Posts, Available Equipment: Staging area available on river side and slough side at Brannan Island Recreational Area. Facilities including parking, restrooms, electricity, and water available.

Communications Problems: Good cell reception in area.



9820.2 Response Summary Tables

A summary of the response resources is listed by site and sub-strategy next.

Summary of ACP 2 GRA 7 Response Resources by Site and Sub-Strategy

<i>Site</i>	<i>Site Name</i>			
Sub-Strategy	PREVENTION OBJECTIVE OR CONDITION FOR DEPLOYMENT			
	Equipment	Sub-Type	Size/Unit	QTY/Unit
2-702	Stake Point Marshes			
.1 - Exclusion at mouths of 6 tidal channels to inner marshes.				
	Boom	Sorbent		600 feet
	Vessel	Skiff or Punt		1
	Boom	Harbor	9x9 inch	2000 feet
	Anchor	Danforth	22 lb	6
	Staff	Staff to Deploy		5
	Vessel	Boom Boat		1
.2 - Protective booming of bayfront emergent marsh margin from oil penetration				
	Staff	Staff to Deploy		14
	Vessel	Skiff or Punt		1
	Vessel	Boom Boat		4
	Anchor	Danforth	22 lb	21
	Boom	Swamp	6x6 inch	10000 feet
2-705	Mallard Island			
.1 - Exclude oil from entering inner sloughs using exclusion booming of slough mouths.				
	Anchor	Danforth	22 lb	6
	Boom	Sorbent		400 feet
	Vessel	Skiff or Punt		1
	Boom	Harbor	9x9 inch	2200 feet
	Vessel	Boom Boat		1
	Staff	Staff to Deploy		5
.2 - Collection strategy for oil from east after implement the primary protection/exclusion strategy.				
	Staff	Staff to Deploy		5
	Boom	Harbor	9x9 inch	300 feet
	Boom	Oil Snare (pom-pom)		50 feet
	Boom	Sorbent		200 feet
	Anchor	Danforth	22 lb	4
	Vessel	Boom Boat		1
	Vessel	Skiff or Punt		1
	skimmer	self propelled		1
.3 - Protective booming of emergent marsh frontage on Suisun Bay side of Mallard Island by deploying one or more layers of boom.				
	Anchor	Danforth	22 lb	8
	Staff	Staff to Deploy		5
	Boom	Swamp	6x6 inch	3200 feet
	Vessel	Skiff or Punt		1
	Vessel	Boom Boat		1

Sub-Strategy **PREVENTION OBJECTIVE OR CONDITION FOR DEPLOYMENT**

Equipment	Sub-Type	Size/Unit	QTY/Unit
2-710 Brown's Island			
.1 - Exclusion Booming if oil is moving from east or south side toward site: Deploy exclusion booming at Middle Slough, small openings and channels, and marshy southeast corner.			
Boom	Swamp	6x6 inch	2000 feet
Staff	Staff to Deploy		8
Boom	Oil Snare (pom-pom)		50 feet
Vessel	Boom Boat		2
Boom	Harbor	9x9 inch	2400 feet
Boom	Sorbent		2000 feet
Anchor	Danforth	22 lb	12
Vessel	Skiff or Punt		1
.2 - Exclusion Booming: if oil is moving from west toward site: Deploy exclusion booming from Pt. Emmet to the creek mouth on the northwest shore of Brown's Island, and at all inlets on the remaining shoreline.			
Boom	Oil Snare (pom-pom)		50 feet
Vessel	Boom Boat		1
Staff	Staff to Deploy		7
Vessel	Skiff or Punt		1
Boom	Sorbent		600 feet
Boom	Swamp	6x6 inch	2000 feet
Boom	Harbor	9x9 inch	600 feet
Anchor	Danforth	22 lb	8
.3 - Oil Recovery by Shoreside skimming			
skimmer	self propelled		1
Staff	Staff to Deploy		3

2-712 Winter Island

.1 - Extend exclusion-deflection chevron to fend past Pt. San Joaquin Marsh and Mudflats from oil threats from the west			
Boom	Harbor	9x9 inch	6000 feet
Anchor	Danforth	22 lb	13
Vessel	Boom Boat		2
Vessel	Skiff or Punt		1
Staff	Staff to Deploy		8
.2 - Exclusion for oil threats from east- exclude oil entry to north cross channel and easterly barrow channel with small boom segments.			
Boom	Swamp	6x6 inch	700 feet
Staff	Staff to Deploy		5
Vessel	Boom Boat		1
Vessel	Skiff or Punt		1
Anchor	Danforth	22 lb	4

Sub-Strategy **PREVENTION OBJECTIVE OR CONDITION FOR DEPLOYMENT**

Equipment	Sub-Type	Size/Unit	QTY/Unit
2-715 Pittsburg-Antioch Marsh (Dow Wetlands)			
.1 - Exclude oil from entering the marshes: booming levee breaches at Antioch Pt. & and small openings, mouth of Contra Costa Canal, Dowest Slough, & unnamed slough.			
Boom	Swamp	6x6 inch	350 feet
Boom	Sorbent		800 feet
Anchor	Danforth	22 lb	7
Vessel	Boom Boat		1
Vessel	Skiff or Punt		1
Staff	Staff to Deploy		5
Boom	Harbor	9x9 inch	800 feet
.2 - Deflect oil away from sensitive areas on Flood tide			
Boom	Harbor	9x9 inch	1000 feet
Staff	Staff to Deploy		5
Vessel	Skiff or Punt		
Anchor	Danforth	22 lb	6
Vessel	Boom Boat		1
.3 - Deflection on Ebb tide: deflect oil away from and past sensitive areas.			
Boom	Harbor	9x9 inch	600 feet
Anchor	Danforth	22 lb	4
Vessel	Boom Boat		1
Vessel	Skiff or Punt		1
Staff	Staff to Deploy		5
.4 - Protective booming of shoreline of marsh to the east of Antioch Marina.			
Staff	Staff to Deploy		5
Boom	Swamp	6x6 inch	800 feet
Anchor	Danforth	22 lb	5
Vessel	Skiff or Punt		1
Vessel	Boom Boat		1
2-718 Antioch Dunes National Wildlife Refuge			
.1 - On water skimming using mobile skimmers and towed skimming arrays.			
Staff	Staff to Deploy		6
Boom	Swamp	6x6 inch	100 feet
Vessel	Skiff or Punt		2
skimmer	self propelled		1
.2 - Deflect oil away from this shoreline			
Staff	Staff to Deploy		5
Boom	Swamp	6x6 inch	500 feet
Anchor	Danforth	22 lb	10
Vessel	Boom Boat		1
Vessel	Skiff or Punt		1
.3 - Diversion to collection when heavy amounts of oil are moving along shore, deploy nearshore containment just outside the site.			
Staff	Staff to Deploy		2
Vessel	Skiff or Punt		1
Anchor	Danforth	22 lb	6
Boom	Oil Snare (pom-pom)		50 feet
Boom	Harbor	9x9 inch	100 feet
Boom	Sorbent		100 feet
Boom	Swamp	6x6 inch	50 feet

2-719 Antioch Dunes and Quarry Canyon

.1 - NEAR SHORE CONTAINMENT AND RECOVERY - Shoreside skimming			
Staff	Staff to Deploy		2
Boom	Sorbent		100 feet
Boom	Harbor	9x9 inch	300 feet
Boom	Oil Snare (pom-pom)		50 feet
Vessel	Skiff or Punt		1
Anchor	Danforth	22 lb	6

Sub-Strategy **PREVENTION OBJECTIVE OR CONDITION FOR DEPLOYMENT**

Equipment	Sub-Type	Size/Unit	QTY/Unit
2-730 Big Break Complex			
.1 - Exclude oil from entering open waters of Dutch Slough, Big Break and west flooded area by exclusion/diversion boom openings.			
Vessel	Skiff or Punt		1
Staff	Staff to Deploy		8
Vessel	Boom Boat		2
Anchor	Danforth	22 lb	15
Boom	Sorbent		1500 feet
Boom	Harbor	9x9 inch	4900 feet
.2 - Deflection on ebb: Deflect oil away from entrance to Dutch Slough and Big Break into main channel to deter oil from entering.			
Anchor	Danforth	22 lb	15
Vessel	Boom Boat		1
Vessel	Skiff or Punt		1
Staff	Staff to Deploy		5
Boom	Harbor	9x9 inch	2500 feet
.3 - Protective booming of marsh front: west side marshes			
Vessel	Boom Boat		1
Vehicle	Skiff or Punt		1
Boom	Swamp	6x6 inch	3600 feet
Anchor	Danforth	22 lb	8
Staff	Staff to Deploy		5
.4 - Deflection On Flood: deflection to past site and keep it in the main channel			
Boom	Harbor	9x9 inch	2500 feet
Anchor	Danforth	22 lb	6
Vessel	Boom Boat		1
Vessel	Skiff or Punt		1
Staff	Staff to Deploy		5
2-734 Dutch Slough East			
.1 - For product originating within this site, diversion to collection as close to source as possible.			
Boom	Swamp	6x6 inch	1500 feet
Anchor	Danforth	22 lb	4
Vessel	Boom Boat		1
Vessel	Skiff or Punt		1
Staff	Staff to Deploy		5
.2 - For oil threats from Big Break side, deploy multiply collection/exclusion booming to collect at Jersey Isl land skimming sites.			
Vessel	Boom Boat		1
Vessel	Skiff or Punt		1
Boom	Swamp	6x6 inch	600 feet
Boom	Sorbent		100 feet
Boom	Oil Snare (pom-pom)		50 feet
Anchor	Danforth	22 lb	3
Staff	Staff to Deploy		5
.3 - Exclusion at east end for oil threats from Sand Mound Slough.			
Boom	Swamp	6x6 inch	700 feet
Anchor	Danforth	22 lb	8
Vessel	Boom Boat		1
Vessel	Skiff or Punt		1
Staff	Staff to Deploy		5
.4 - Oil Recovery with Shoreside skimming			
skimmer	self propelled		1
Staff	Staff to Deploy		3

Sub-Strategy **PREVENTION OBJECTIVE OR CONDITION FOR DEPLOYMENT**

Equipment	Sub-Type	Size/Unit	QTY/Unit
2-735 False River			
.1 - Deflection/exclusion booming at the mouth False River from the San Joaquin.			
Boom	Oil Snare (pom-pom)		50 feet
Staff	Staff to Deploy		5
Boom	Sorbent		100 feet
Anchor	Danforth	22 lb	10
Vessel	Boom Boat		1
Vessel	Skiff or Punt		1
Boom	Harbor	9x9 inch	3300 feet
.2 - Back-up deflection to collection of oil which has entered False River.			
Staff	Staff to Deploy		5
Boom	Oil Snare (pom-pom)		50 feet
Boom	Sorbent		100 feet
Anchor	Danforth	22 lb	9
Vessel	Skiff or Punt		1
Boom	Harbor	9x9 inch	3000 feet
Vessel	Boom Boat		1
.3 - Oil recovery with shoreside skimming			
skimmer	self propelled		1
Vessel	Skiff or Punt		1
Staff	Staff to Deploy		3
2-736 Taylor Slough and West Piper Slough			
.1 - For local spills, halt oil movement at the source and recover as close to source as possible. Prevent further spread in slough.			
Vehicle	Skiff or Punt		1
Staff	Staff to Deploy		5
Vessel	Boom Boat		1
Boom	Swamp	6x6 inch	400 feet
Boom	Sorbent		100 feet
Boom	Oil Snare (pom-pom)		50 feet
Anchor	Danforth	22 lb	4
.2 - Exclusion boom mouth of Taylor (but only if False River deployments fully supplied) for threats from False River.			
Vac truck			1
Anchor	Danforth	22 lb	5
Vessel	Boom Boat		1
Vessel	Skiff or Punt		1
Staff	Staff to Deploy		5
Boom	Swamp Boom	6x6 inch	800 feet
.3 - Oil Recovery by Shoreside skimming			
skimmer	self propelled		1
Staff	Staff to Deploy		3
2-737 Little Franks Tract			
.1 - Deflection-collection boom to strand oil on Bradford Tract shore for collection, if exclusions at False River falter.			
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
.2 - Oil Recovery by Shoreside skimming			
Staff	Staff to Deploy		3
skimmer	self propelled		1

Sub-Strategy **PREVENTION OBJECTIVE OR CONDITION FOR DEPLOYMENT**

Equipment	Sub-Type	Size/Unit	QTY/Unit
2-740 San Joaquin River, Sherman-Webb Reach			
.1 - Diversion to confinement/collection at windfall locations along shore to reduce degree of spread and oiling.			
Boom	Harbor	9x9 inch	2000 feet
Boom	Oil Snare (pom-pom)		50 feet
Boom	Sorbent		100 feet
Anchor	Danforth	22 lb	7
Vessel	Boom Boat		1
Vehicle	Skiff or Punt		1
Staff	Staff to Deploy		5
.2 - Exclude/protect berm islands & barrow channels			
Anchor	Danforth	22 lb	51
Staff	Staff to Deploy		36
Boom	Sorbent		1000 feet
Vessel	Boom Boat		12
Vessel	Skiff or Punt		3
Boom	Swamp	6x6 inch	25100 feet
.3 - Oil Recovery by Shoreside skimming			
Staff skimmer	Staff to Deploy self propelled		3 1
2-742 Fishermans Cut			
.1 - Exclude oil from entering from San Joaquin and protect berm islands.			
Anchor	Danforth	22 lb	5
Vessel	Boom Boat		1
Vessel	Skiff or Punt		1
Staff	Staff to Deploy		5
Boom	Harbor	9x9 inch	1600 feet
.2 - Divert to confinement within cut any oil entering form either end - do not allow escape to Frank's Tract.			
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
.3 - Oil Recovery by Shoreside skimming			
Staff skimmer	Staff to Deploy self propelled		3 1
2-743 Sevenmile Slough			
.1 - Exclude oil from moving into protected channels inside channel islands which front the slough mouth and protect the islands also.			
Boom	Swamp	6x6 inch	3600 feet
Boom	Sorbent		3000 feet
Anchor	Danforth	22 lb	8
Vessel	Boom Boat		2
Vessel	Skiff or Punt		1
Staff	Staff to Deploy		8
.2 - Deflection to collection/confinement on Andus Island shore if substantial oil patches are threatening the Andrus or Twitchell Island shoreline.			
Vessel	Boom Boat		1
Boom	Swamp	6x6 inch	1200 feet
Boom	Oil Snare (pom-pom)		50 feet
Anchor	Danforth	22 lb	5
Vessel	Skiff or Punt		1
Staff	Staff to Deploy		5
Boom	Sorbent		100 feet
.3 - Oil Recovery with shoreside skimming			
Staff skimmer	Staff to Deploy self propelled		3 1

Sub-Strategy **PREVENTION OBJECTIVE OR CONDITION FOR DEPLOYMENT**

Equipment	Sub-Type	Size/Unit	QTY/Unit
2-752 Chips Island, Southern Side			
.1 - Exclude oil from entering inner channels and marshes by exclusion booming of the openings of the outer levee.			
Vessel	Skiff		1
Vessel	Boom Boat		1
Anchor	Danforth	22	18
Boom	Sorbent		300 feet
Boom	Swamp	6x6 inch	1200 feet
Staff	Staff to Deploy		5
Boom	Harbor	9x9 inch	300 feet
.2 - Protect emergent marsh at east tip and pocket cove near west tip against oil penetration			
Staff	Staff to Deploy		5
Vessel	Boom Boat		1
Anchor	Danforth	22 lb	7
Boom	Swamp	6x6 inch	3100 feet
Vessel	Skiff or Punt		1
2-755 Spoonbill Creek			
.1 - Exclude oil from entering the southern end of Spoonbill Creek by deploying deflection boom in the Sacramento-San Joaquin River channel just south of the creek mouth.			
Anchor	Danforth	22 lb	7
Staff	Staff to Deploy		7
Vessel	Skiff or Punt		1
Boom	Harbor	9x9 inch	3000 feet
Vessel	Boom Boat		2
.2 - Back-up to exclusion, diversion to shore-side collection out of current (usually Chipps shore) to prevent movement toward Honker Bay.			
Vessel	Boom Boat		1
Boom	Swamp	6x6 inch	1500 feet
Anchor	Danforth	22 lb	4
Vessel	Skiff or Punt		1
Staff	Staff to Deploy		5
.3 - An alternative to the previous collection strategy is to collect oil entering Spoonbill Creek with a vessel mounted skimming system.			
Staff	Staff to Deploy		8
Vessel	Boom Boat		1
Boom	Harbor	9x9 inch	1000 feet
Vessel	Skiff or Punt		1
skimmer	self propelled		1
Boom	Sorbent		500 feet
Anchor	Danforth	22 lb	5
2-757 Van Sickle Island			
.1 - Exclude oil from small sloughs and from slough behind berm island at mouth and deploy protective boom to along emergent marshes.			
Boom	Swamp	6x6 inch	3500 feet
Anchor	Danforth	22 lb	8
Vessel	Boom Boat		2
Vessel	Skiff or Punt		1
Staff	Staff to Deploy		8
2-760 Montezuma Slough - East Mouth			
.1 - Stop oil entrainment into slough by stopping through current.			
Personnel	OSPR Staff ES		1
.2 - Exclude oil from entering mouth by configuring exclusion boom to fend oil away from mouth as to exclude.			
Anchor	Danforth	25 lb	7
Staff	Staff to Deploy		5
Vessel	Boom Boat		1
Boom	Harbor	9x9 inch	3000 feet
Vessel	Skiff or Punt		1
.3 - Backup strategy to above exclusion if oil circumvents exclusion.			
Boom	Swamp	6x6 inch	500 feet
Anchor	Danforth	25 lb	3
Vessel	Boom Boat		1
Vessel	Skiff or Punt		1
Staff	Staff to Deploy		5

Sub-Strategy **PREVENTION OBJECTIVE OR CONDITION FOR DEPLOYMENT**

Equipment	Sub-Type	Size/Unit	QTY/Unit
2-765 Montezuma Island and Collinsville			
.1 - At the east end of Montezuma Island, deflect oil away from mouth and exclude it from entry to north side of channel.			
Staff	Staff to Deploy		5
Anchor	Danforth	25 lb	5
Vessel	Boom Boat		1
Vessel	Skiff or Punt		1
Boom	Harbor	9x9 inch	2000 feet
.2 - Deflect oil away from shoreline and close north side channel mouth at the west end of Montezuma Island,			
Anchor	Danforth	25 lb	4
Vessel	Boom Boat		1
Vessel	Skiff or Punt		1
Staff	Staff to Deploy		5
Boom	Harbor	9x9 inch	1500 feet
2-770 Chain Island			
.1 - Deflect oil away from the emergent marshes at each end and away from the Island.			
Staff	Staff to Deploy		14
Boom	Harbor	9x9 inch	6000 feet
Boom	Swamp	6x6 inch	4500 feet
Anchor	Danforth	22 lb	28
Vessel	Boom Boat		4
Vessel	Skiff or Punt		1
2-780 Lower Sherman Island - Sherman Lake Complex			
.1 - Primary: Exclusion by chevron boom for oil threat from San Joaquin River side: deflection-exclusion booming on outside			
Anchor	Danforth	44 lb	3
Staff	Staff to Deploy		5
Boom	Harbor	9x9 inch	500 feet
Vessel	Boom Boat		1
Vessel	Skiff or Punt		1
.2 - Primary for Sacto oil threat: exclude and deflect oil away at Sacto River openings to Sherman Lake			
Boom	Harbor	9x9 inch	3800 feet
Anchor	Danforth	22 lb	9
Vessel	Boom Boat		2
Vessel	Skiff or Punt		1
Staff	Staff to Deploy		8
.3 - Backup to San Joaquin exclusion (2-780.1) - when oil entrains past primary exclusion.			
Vessel	Skiff or Punt		1
Boom	Sorbent		500 feet
Staff	Staff to Deploy		5
Boom	Oil Snare (pom-pom)		100 feet
Anchor	Danforth	22 lb	9
Boom	Swamp	6x6 inch	1500 feet
Vessel	Boom Boat		1

Sub-Strategy **PREVENTION OBJECTIVE OR CONDITION FOR DEPLOYMENT**

Equipment	Sub-Type	Size/Unit	QTY/Unit
2-783 Kimball Island - Cabin Slough			
.1 - Exclude oil entry at westerly end of Cabin Slough - wind chop is a problem here.			
Boom	Harbor	9x9 inch	1500 feet
Boom	Sorbent		500 feet
Anchor	Danforth	44 lb	6
Vessel	Boom Boat		1
Vessel	Skiff or Punt		1
Staff	Staff to Deploy		5
.2 - Deflection/Exclusion booming of marsh at west end of Kimball Island and fend oil past.			
Staff	Staff to Deploy		8
Vessel	Skiff or Punt		1
Anchor	Danforth	25 lb	13
Boom	Swamp	6x6 lb	6000 feet
Vessel	Boom Boat		2
.3 - Exclude oil at east end of Kimball Island, from penetrating marshes, channels, pockets and Cabin Slough			
Vessel	Boom Boat		1
Boom	Harbor	9x9 inch	3500 feet
Boom	Sorbent		600
Anchor	Danforth	25 lb	8
Staff	Staff to Deploy		8
Vessel	Skiff or Punt		1
2-786 Mayberry Slough - Donlon Island			
.1 - On the EBB: Exclude / deflect oil at Mayberry Slough and Mayberry Cut mouths and at three large openings into Donlon Isl.			
Staff	Staff to Deploy		8
Boom	Sorbent		1000 feet
Anchor	Danforth	22 lb	7
Vessel	Boom Boat		2
Vessel	Skiff or Punt		1
Boom	Harbor	9x9 inch	3000 feet
.2 - Exclude oil entry to interior of Donlon Island through porous southern levee			
Vessel	Skiff or Punt		1
Boom	Swamp	6x6 inch	4500 feet
Staff	Staff to Deploy		8
Vessel	Boom Boat		2
Anchor	Danforth	22 lb	10
Boom	Sorbent		1000 feet
.3 - On the EBB at Mayberry Slough mouth : Backup deflection/exclude to shoreside collection/confinement by deflection on outside and exclusion collection inside.			
Boom	Swamp	6x6 inch	1000 feet
Vessel	Skiff or Punt		1
Boom	Oil Snare (pom-pom)		50
Anchor	Danforth	22 lb	5
Vessel	Boom Boat		1
Staff	Staff to Deploy		5
Boom	Sorbent		100
.4 - Oil recovery with shoreside skimming when heavy oil or other skimmable quantities of oil occur			
skimmer	shoreside		1
Staff	Staff to Deploy		3
2-789 West Island			
.1 - Exclude oil from entering interior island marshes and from penetrating marshes along western apex.			
Staff	Staff to Deploy		8
Boom	Harbor	9x9 inch	4500 feet
Anchor	Danforth	25 lb	10
Vessel	Boom Boat		1
Vessel	Skiff or Punt		1

Sub-Strategy **PREVENTION OBJECTIVE OR CONDITION FOR DEPLOYMENT**

Equipment	Sub-Type	Size/Unit	QTY/Unit
2-790 Three Mile Slough - San Joaquin River			
.1 - Primary exclude at mouth on San Joaquin to prevent spreading to Sacramento River side. Oil can move through slough on ebb or flood			
Anchor	Danforth	44 lb	11
Vessel	Boom Boat		1
Vessel	Skiff or Punt		1
Staff	Staff to Deploy		5
Boom	Harbor	9x9 inch	3000 feet
.2 - Diversion to shoreside confinement for collection			
Boom	Harbor	9x9 inch	3000 feet
Boom	Sorbent		100 feet
Anchor	Danforth	44 lb	9
Vessel	Boom Boat		1
Vessel	Skiff or Punt		1
Staff	Staff to Deploy		5
Boom	Oil Snare (pom-pom)		50 feet
.3 - Oil Recovery when heavy oil threatens and skimmable oil accumulates			
skimmer	self propelled		1
Staff	Staff to Deploy		3

9820.3 Lists of Economic Resources Susceptible to Oiling

A summary of Human Health and Safety Sites and Economic Resources is listed by GRA next. Refer to Section 9804 for more information.

Economic Sites - GRA 7

Site Information	Site Number & Location	Lat/Long & Priority
New Bridge Marina 6325 Bridgehead Rd Antioch CA 94509 Phone: 925-757-1500 Site Description:	Site Number: 2-7-CC-105-D Operational Division:	Public Marinas and Harbors D Lat/Long: 38.02 -121.75
Pittsburg Marina 51 Marina Blvd Pittsburg CA 94565 Phone: 925-439-4958 Site Description:	Site Number: 2-7-CC-100-D Operational Division:	Public Marinas and Harbors D Lat/Long: 38.04 -121.88
Antioch Marina Harbor 1 Marina Plz Antioch CA 94509 Phone: 925-779-6957 Site Description:	Site Number: 2-7-CC-110-D Operational Division:	Public Marinas and Harbors D Lat/Long: 38.02 -121.82
Driftwood Marina 6338 Bridgehead Rd Oakley CA 94561 Phone: 925-757-9449 Site Description:	Site Number: 2-7-CC-115-D Operational Division:	Public Marinas and Harbors D Lat/Long: 38.02 -121.75
Llyod's Holiday Harbor Antioch CA 94509 Phone: Site Description:	Site Number: 2-7-CC-120-D Operational Division:	Public Marinas and Harbors D Lat/Long: 38.02 -121.76
Woods Harbor Marina 3307 Wells Rd Oakley CA 94561 Phone: 916-795-4644 Site Description:	Site Number: 2-7-CC-125-D Operational Division:	Public Marinas and Harbors D Lat/Long: 38.01 -121.63
Big Break Marina 100 Big Break Rd Oakley CA 94561 Phone: 925-679-0900 Site Description:	Site Number: 2-7-CC-130-D Operational Division:	Public Marinas and Harbors D Lat/Long: 38.01 -121.73
Sunset Harbor Marina 3040 Dutch Slough Rd Oakley CA 94561 Phone: 925-453-941 Site Description:	Site Number: 2-7-CC-135-D Operational Division:	Public Marinas and Harbors D Lat/Long: 38.01 -121.64
Bethel Island Marina 6050 Bethel Island Rd Bethel Island CA 94511 Phone: 925-666-8906 Site Description:	Site Number: 2-7-CC-140-D Operational Division:	Public Marinas and Harbors D Lat/Long: 38.01 -121.64
Hennis Marina 3205 Wells Rd Oakley CA 94561 Phone: 925-684-333 Site Description:	Site Number: 2-7-CC-145-D Operational Division:	Public Marinas and Harbors D Lat/Long: 38.01 -121.64

Economic Sites - GRA 7

Site Information	Site Number & Location	Lat/Long & Priority
<p>Brown's Island Regional Shoreline Brown's Island Pittsburg CA Phone: 510-544-3122 Site Description:</p>	<p>Site Number: 2-7-CC-150-D Operational Division:</p>	<p>Parks, Beaches, Recreational Areas D Lat/Long: 38.04 -121.88</p>
<p>Franks Tract State Recreation Area Piper Rd Bethel Island CA 94511 Phone: 916-777-6671 Site Description:</p>	<p>Site Number: 2-7-CC-155-D Operational Division:</p>	<p>Parks, Beaches, Recreational Areas D Lat/Long: 38.05 -121.64</p>
<p>Bethel Harbor 3405 Harbor Rd Bethel Island CA 94511 Phone: 925-684-2141 Site Description:</p>	<p>Site Number: 2-7-CC-160-D Operational Division:</p>	<p>Public Marinas and Harbors D Lat/Long: 38.04 -121.63</p>
<p>Willowest Harbor 3215 W Willow Rd Bethel Island CA 94511 Phone: 925-684-9041 Site Description:</p>	<p>Site Number: 2-7-CC-165-D Operational Division:</p>	<p>Public Marinas and Harbors D Lat/Long: 38.04 -121.63</p>
<p>The Rusty Porthole Marina 3893 N Willow Rd Bethel Island CA 94511 Phone: 925-684-3607 Site Description:</p>	<p>Site Number: 2-7-CC-170-D Operational Division:</p>	<p>Public Marinas and Harbors D Lat/Long: 38.05 -121.64</p>
<p>Russo's Harbor 3995 Willow Rd Bethel Island CA 94511 Phone: 925-684-2024 Site Description:</p>	<p>Site Number: 2-7-CC-175-D Operational Division:</p>	<p>Public Marinas and Harbors D Lat/Long: 38.05 -121.64</p>
<p>Anchor Marina Inc 1970 Taylor Rd Bethel Island CA 94511 Phone: 925-684-9148 Site Description:</p>	<p>Site Number: 2-7-CC-180-D Operational Division:</p>	<p>Public Marinas and Harbors D Lat/Long: 38.01 -121.64</p>
<p>Riverview Park 2 Riverview Dr Pittsburg CA 94565 Phone: 925-252-4842 Site Description:</p>	<p>Site Number: 2-7-CC-185-D Operational Division:</p>	<p>Public Marinas and Harbors D Lat/Long: 38.04 -121.9</p>
<p>Eddo's Harbor and RV Park 19530 Sherman Island East levee Rd Rio Vista CA 94571 Phone: 925-757-5314 Site Description:</p>	<p>Site Number: 2-7-CC-190-D Operational Division:</p>	<p>Public Marinas and Harbors D Lat/Long: 38.05 -121.7</p>