2-603 -A Site Summary- Bulls Head Marsh and Pacheco Creek 2-603 -A

		Thomas Guide Location	Latitude N	Longitude W
County:	Contra Costa		3 8 03	122 07
USGS Quad:	Vine Hill	NOAA Chart: 18656 Suisun Bay		

Last Page Update : 1/1/2000

SITE DESCRIPTION:

Site extends from Benicia-Martinez Bridge to the Avon Wharf and includes the tidal marshes tributary to Suisun Bay and Pacheco Creek (also called Walnut Creek and Avon Slough) landward to Hwy 4. There are two extensive marshes south of Waterfront Road (Marina Vista Rd): McNabney Marsh (tributary to Peyton Slough and owned by East Bay Regional Parks) and an unnamed marsh tributary to Pacheco Creek. The marshes north of Waterfront Rd between Hwy I-680 and Pacheco Creek are connected to the south shore of Suisun Bay by several small waterways. The marshes south of Waterfront Rd are mostly pickleweed-tule-saltgrass marshes with emergent growths along the edges of waterways and occasional patches of cattail marshes, whereas marshes to the north are dominated by tules and sedges, particularly near the water front and slough margins. Pacheco Creek is very fresh in its more upstream reaches, particularly during high rainfall periods. Salmon and Steelhead are common in Pacheco Creek but do not spawn in the system. There are various dikes and flood control channels throughout the marsh. Pacheco Creek is extremely shallow, has an even shallower bar across its mouth, and has marsh encroaching along its length. The other marsh channels tend to be deep. Regardless, the entire marshfront is mudflats at very low tides. There are three refineries, a chemical plant, and several tank farms adjacent to and tributary to this site.

SEASONAL and SPECIAL RESOURCE CONCERN

The marshes are an "A" priority all year

RESOURCES OF PRIMARY CONCERN

The marshes have a rich flora and range from high pickleweed-spartina marsh to cattail to emergent tule marsh on prograding shorelines and channel margins. Much of the marsh has been manipulated with dike and mosquito abatement channels. Much of the marsh beyond the tidal channels is flood only on high tides and during the rainy season.

A variety of wading and marsh birds use this area year-round and it provides winter habitat for migratory birds and ducks. The endangered California clapper rail uses this habitat.

This is also habitat for the endangered saltmarsh harvest mouse and the saltmarsh ornate shrew.

CULTURAL, HISTORIC, and ARCHEOLOGICAL SENSITIVITIES

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

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

Type	Name / Title	Organization	Phone
B		NOAA, National Marine Fisheries Service	(562) 980-3232
	24hr Operator	Mountain View Sanitary District	(925) 346-0030
	EBRPD Dispatch EBRP	East Bay Regional Park District	(510) 881-1833
	John Henderson F/W Biologist	US Fish & Wildlife Service, Environmental Contam	(916) 414-6595

ADDITIONAL SITE SUMMARY COMMENTS:

County and Thomas Guide Location	NOAA CHART	Latitude N	Longitude W
Contra Costa	18656 Suisun Bay	3 8 03	122 07

Last Page Update : 10/1/2005

CONCERNS and ADVICE to RESPONDERS:

Prime concern is oil being carried into the interior marsh via tidal channels and oiling of marsh margins. So, the first priority is to exclude oil from tidal channels and openings. Secondarily, there is a plan to collect oil at the Pacheco Creek shoreline to prevent its free spread and movement. As time and priority allow, the entire marsh shoreline may be protectively boomed. Avoid trampling the marsh vegetation and be aware that small endangered mammals are present. Avoid trampling oil into the mud.

HAZARDS and RESTRICTIONS:

This area is very shallow and exposed mudflats at low tide.

SITE STRATEGIES

Strategy 2-603.1 Objective: Exclude oil from entering Pacheco Creek, Peyton Slough and four other tidal channels on flood currents

Deploy exclusion booms in a chevron configuration in front of each tidal slough, securing boom ends well up and downstream from the openings to avoid entrainment and short-circuiting. Anchors will be necessary to keep chevron formation. Boom ends may be anchored at shore with stakes.

a) 1000' 9x9+ harbor boom at the mouth of Pacheco Slough with 22# anchors

b) At Peyton Slough and the other four tidal inlets west of Pacheco Creek, use 4X4+ in lengths of 50' and 100'. Back with sorbent boom.

c) If boat passage into launch ramp in Pacheco Creek for response activities, it may be necessary to have boom tending or cascades.

Strategy 2-603.2 Objective: For flood tides, deflect oil to collection site in Pacheco Creek on Avon refinery shoreline to prevent oil spread to other marsh sites, to collect it, and prevent its free movement.

Create a collection site at the northerly most exteme of the levee road on refinery treatment pond east of Pacheco Creek.

a) First, deploy two diagonal barriers of swamp (river) boom (700' 4X4+) to direct the oil from the mouth of the Creek to the collection site. Use stakes to anchor and maintain shape. (If response boat passage into Pacheco Creek is necessary, boom tending may be required.)

b) Then line the marsh along the east bank with swamp (river) boom (1100') and tie the boom into the exclusion boom at the mouth. Use stakes to anchor and maintain shape.

c) After the collection pocket boom is in place (a & b above), deploy a deflection boom (2700' 9x9+ harbor boom total) from the Shore Terminals Wharf to the east side of Pacheco Slough mouth to funnel the oil into collection on the flood tide. Usually exclusion strategy (2-603.1) will have been deployed first, and 1000' of boom will already be at the mouth and must be repositioned as part of the deflection (so the amount of boom needed will be 1000 ft more if that boom is not already onsite.) Use multiple anchors with heavy chain to hold the boom in position in the currents.

d) Improve the shoreside collection site as necessary. Consider excavating a pocket and seek approval from IC. Place plywood or other walking sureface at work site to prevent oil being trampled into muds.

Strategy 2-603.3 Objective: Marsh front protective booming: If there is threat of heavy oiling and saturation of the marsh front, and when such use will not preclude defending other sites with Strategic Objectives 5 and 6 action (seek concurrence of the trustee strategist).

Deploy protective boom along the marsh front from the Benicia Bridge to the Pacheco Slough, using 9,000 ft of harbor boom. If there are high energy wave conditions, a second layer of swamp boom may be required. (A strategy for the deployment of exclusion boom at this site is illustrated in Potential Oil Spill Protection Strategies for San Francisco Bay, CA (Hayes and Montello, 1994).)

Strategy 2-603.4 Objective: Collection/ containment of upstream threats: If oil is moving down Pacheco Slough from an inland spill, deploy a containment collection as in strategy 2-603.2

Create a collection site at the southerly most convenient site on the windward shore, such as the Waterfront Road Pacheco Creek bridge or launch ramp. Most convenient deployment of boom from shore using skiffs, due to shallows.

a) First, deploy two diagonal barriers of swamp (river) boom (600' 4X4+) to direct the oil in the Creek to the collection site. Use stakes to anchor and maintain shape. (To permit boat passage into Pacheco Creek, it may be necessary to have boom tending.)

b) Line the marsh along the east bank with swamp (river) boom (1000'). Use stakes to anchor and maintain shape.

c) Improve the shore side collection site as necessary. Consider excavating a pocket and seek approval from IC. Place plywood or other walking sureface at work site to prevent oil beng trampled into muds.

Strategy 2-603.5 Objective: Back-up for .1 exclusion in case of over-wash threat

Deploy second layer of exclusion booms in a chevron configuration in front of each tidal slough just behind first layer. As with primary exclusion, secure boom ends well up and downstream from the openings to avoid entrainment and short-circuiting.
a) 1000' 4x4+ swamp (curtin) boom will be needed at the mouth of Pacheco Slough;
b) At Peyton Slough and the other four tidal inlets use 4X4+ in lengths of 50' and 100'.

Table of Response Resources

strategy number	harbor boom	swamp boom	Other boom type	sorb boom	Anchoring no	Anchoring type and gear	Boom boat	Skiffs punts	Skimmers No	Skimmers Type	Special Equipment or comment No	Special Equipment or comment and kinds	staff deploy	Staff tend
2-603.1	1000	400		1000	19	4/22+ & 5/12+/danforths + chain 10 stake	1	2				bboat: strandable, shallow water, stakes	7	
2-603.2	1800	2700		300	5	5/22+/danforth + chain	2	2	1	SSS		stakes, bboat: strandable, shallow water	8	
2-603.3	9000				14		3	1					11	
2-603.4	0	1600			6	6/12+ and stakes		1	1	SSS			3	
2-603.5	0	1400	0	0	0		0	0	0		0			

LOGISTICS

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

Exit Hwy I-680 to Marina Visa / Waterfront Road at Martinez (exit just south of Benicia Martinez Bridge) and proceed east. There is access to the shoreline from Shore Terminal's wharf, from the Tosco Avon Refinery, and at the Bridge over Pacheco Creek. By boat, proceed east from the Martinez Marina about a mile to the area east of the Martinez-Benicia Bridge. Site extends from Benicia-Martinez Bridge to the Avon Wharf and includes the tidal marshes tributary to Suisun Bay and Pacheco Creek (also called Walnut Creek and Avon Slough) landward to Hwy 4.

LAND ACCESS: only at Tosco and Shore Terminal wharf; otherwise foot only

WATER LOGISTICS:
Limitations: depth, obstruction: exceedingly shallow - mud at low tide

Launching, Loading, Docking and Services Available: launch at Tosco to Pacheco Creek during higher tides only, otherwise Martinez Marina and Benicia Marina. Full service at Martinez and Benicia.

FACLITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

Best staging is at Martinez because of the amount of services available. Benicia is also a good staging site. Locally, equipment may be staged at Tosco at Pacheco Creek or at Shore Terminal wharf.

COMMUNICATIONS PROBLEMS: none known

ADDITIONAL OPERATIONAL COMMENTS:


Carquinez Strait
2-603.2
2-603.1
2-603.2
2-603.1
2-603.1
Point Edith Wildlife Area (CDFW)
Pacheco Slough
2-603.4
Avon Refinery
Marina Vista Rd.
680
0 0.25 0.5 1
Miles
N
CDFW - OSPR & USCG Site: 2-603 Name: Bulls Head Marsh and Pacheco Creek
G.Ewing (OSPR) & C. Haffner (OSPR) Date: 05/23/2014
Offshore Containment Recovery
Harbor Boom
Swamp Boom
sss / sfs
Sorbent Boom
Other Boom
tsa / sps
Dike or Berm
Filter Fence
tba / voo
Imagery: NAIP 2010 (Summer) 4-Band
DRAFT