

2-222-A Site Summary - Bolinas Lagoon**2-222-A****County:** Marin**ACP Division/Segment:** MR - M - S003**NOAA Chart:** 18649**Map Book:** Marin County**Decimal Degrees:** 37.909052 -122.679503**Site Description:**

This site includes all of Bolinas Lagoon, mudflats, and salt-marshes adjacent to the communities of Bolinas and Stinson Beaches. Shorelines are under NPS Management. The site lies with Greater Farallones National Marine Sanctuary. A large natural coastal lagoon/estuary with extensive tidal mudflats, saltmarsh, and riparian habitat along freshwater inflows. The lagoon mouth is open all year. Currents at the mouth may exceed 5 knots and protective strategies are designed further into the lagoon where currents slow to a collection point.

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

9A Sheltered tidal flats

9B Vegetated low banks

List of Resources at Risk:

	Resource Name	Status	Presence	Sensitivity
Birds	California black rail	FP, ST		
Birds	California Ridgeway's rail	FE, SE		
Birds	Western snowy plover	FT, SSC		
Fish	steelhead - Central/Northern California	FT		
Fish	coho salmon - south of Punta Gorda	FE, SE		
Mammals	harbor seal	FP		
Plants	showy rancheria clover	FE	Year-round	Apr-Jun

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

List of Key Contacts:

Type	Name/Title	Organization	Phone
C	/Coordinator	Native American Heritage Commission	(916) 373-3710
C	/Coordinator	Northwest Information Center	(707) 588-8455
E	/Office	Sea Drift Association	(415) 868-9043
E	/Dispatch, 24-hr	US National Park Service, Golden Gate NRA	(415) 561-5505
O	/Dispatch, 24-hr	Bolinas Fire Department	(415) 499-6717
O	/Agency Representative, 24-hr	California Coastal Commission	(415) 693-8375
O	/Emergency Service Coordinator	Marin County Office of Emergency Services	(415) 250-0267
O	/Dispatch, 24-hr	Marin County Parks, Open Space District	(415) 479-2311
O	/Dispatch, 24-hr	Marin County Sheriff's Department	(415) 479-2311
O	/Emergency Contact (24hr)	Stinson Beach Fire Department	(415) 488-4321
T	/Agency Representative	California Department of Fish and Wildlife	(707) 445-5365
T	/Agency Representative	Golden Gate National Recreation Area	(415) 561-4731
T	/Agency Representative, 24-hr	Greater Farallones National Marine Sanctuary	(650) 678-4943
T	/Agency Representative, 24-hr	Greater Farallones National Marine Sanctuary	(650) 479-5311

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

Additional Site Summary Comments:

A wide variety of bird species inhabit the area along with several sensitive plant species.

Concerns and Advice to Responders:

The concerns are oil contamination and response activity impacts to wetlands, rare and endangered species, and other vulnerable plants and wildlife which are present throughout the year. The primary objective is to keep oil from entering and spreading in the lagoon. Secondary concern is to minimize response activities impacts. Avoid trampling wetlands, sand dunes, sensitive plants and animals, and soft mudflats; causing penetration of oil into the sediments; and harassing seals, birds, and wildlife.

Hazard and Restrictions:

Shallow water/mudflats inside lagoon and strong currents (>5 knots) at the mouth. Heavy surf and strong currents exist outside the lagoon entrance and along the outer beach.

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

Strategy: 2-222.1 Objective: Objective: Primary – Use chevron (.a and .b) to Divert oil from Eastern Channel to Collections at SeaDrift and Kent Island. (.c) Exclude oil from Western channel between Bolinas and Kent Island

Strategy: a) 1st leg of chevron. Diverts oil from south flow of eastern channel to collection pocket at Sea Drift Boat Ramp. Deploy 2400+ ft. of river boom (4" flotationx6"skirt), at a 10-15 degree angle into the incoming tidal current, from the Sea Drift Community Boat Ramp to 80' SW of the eastern most channel mooring buoy (cascading legs may be needed if strong current is present). Create a skimming pocket at the Boat Ramp, wrap boom back against shore toward entry, and prepare the pocket to collect oil initially with sorbents and pompoms, if collectable quantities of oil present, advise Incident Command of skimmable oil and request skimmer (see 222.5).

b) 2nd leg of chevron. Diverts oil from north flow of eastern channel to collection pocket on Kent Island. Deploy 1380 ft. of deflection river boom (4" flotationx6"skirt) from northern end of .1a boom to eastern end of Kent Island at a 20-25 degree angle, to divert oil out of eastern channel onto the high tide sand beach of Kent Island.

c) Exclude oil from Western Channel next to Wharf Rd to Western end of Kent Island. Deploy 600 ft. of deflection river boom (4" flotationx6"skirt) from northern end of western side of the main channel, along house pilings, to divert oil heading up west channel onto the high tide sand beach of Kent Island. Anchor on land with a 22+ # anchor or two stakes. Local responders can deploy .1c.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Swamp	6x6 inch		4400	feet	
Boom	Sorbent			200	feet	
Boom	Oil Snare (pom-pom)			50	feet	
Anchor	Danforth	22 lb		25		
Vessel	Skiff			3		
Staff	Staff to Deploy			8		

Strategy: 2-222.2 Objective: Objective: Backup Strategy to .1. Use chevron to Divert and Collect oil from Eastern Channel to Collection at SeaDrift Boat Ramp and Kent Island.

Strategy: a) 1st leg of chevron. Deploy 600' of river boom (4" flotationx6"skirt) from the SeaDrift Boat Ramp at a 20-25 degree angle toward .1a boom. Create collection pocket at Boat Ramp, and prepare the pocket to collect oil initially with sorbents and pompoms, if collectable quantities of oil present, advise Incident Command of skimmable oil and request skimmer (see 222.5).

b) 2nd leg of chevron. Deploy 1650' river boom (4" flotationx6"skirt) from west end of .4a) boom to eastern tip (above high water line) of Kent Island. Deploy at best achievable angle to flood current. Create a collection pocket by wrapping boom back along Kent Island shoreline. Local responders can deploy .2a and b.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Swamp	6x6 inch		2250	feet	
Boom	Sorbent			200	feet	
Anchor	Danforth	22 lb		8		
Vessel	Skiff			1		
Staff	Staff to Deploy			5		

Strategy: 2-222.3 Objective: Prevent oil from entering northern and southern interiors of lagoon

Strategy: Both legs are very shallow water deployments, crossing exposed mud flats at low tide and small secondary channels. Close and parallel to Highway 1 shoreline are deep water channels. Boom must be angled across channel at 20-25 degrees. Collection pockets should be established on Highway 1 shoreline. Several small channels may be encountered in mudflats and boom should be properly angled and backed with sorbent boom.

a) Deploy 3250' of river boom (4x6) from Highway 1 shoreline to eastern end of Kent Island (above high tide line). Both legs are very shallow water deployments, crossing exposed mud flats at low tide until close to Highway 1 shoreline when deeper water channels are reached. Boom then must be angled across channel at 20-25 degrees to then establish collection pockets on Highway 1 shoreline. Create a skimming pocket against sand beach on the Highway 1 side, wrap boom back against shore toward entry, and prepare the pocket to collect oil initially with sorbents and pompoms, if collectable quantities of oil present, advise Incident Command of skimmable oil and request skimmer (see 222.5).

b) Deploy 3750' of river boom (4x6) from SeaDrift Boat Ramp to Highway 1 shoreline. Both legs are very shallow water deployments, crossing exposed mud flats at low tide until close to Highway 1 shoreline when deeper water channels are reached. Boom then must be angled across channel at 20-25 degrees to then establish collection pockets on Highway 1 shoreline. Create a skimming pocket against sand beach on the Highway 1 side, wrap boom back against shore toward entry, and prepare the pocket to collect oil initially with sorbents and pompoms, but if collectable quantities of oil present, advise Incident Command of skimmable oil and request skimmer (see 222.5). Local responders can deploy .3a and b.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Swamp	6x6 inch		7000	feet	
Boom	Sorbent			400	feet	
Anchor	Danforth	22 lb		25		
Vessel	Skiff			2		
Staff	Staff to Deploy			8		

Strategy: 2-222.4 Objective: Capture and Recover oil at entrance channel to Bolinas Lagoon

Strategy: Place and anchor 400-1000' of oil snare lines along inside of channel entrance on Stinson and Bolinas shores, running angled to channel as conditions permit. Local responders can deploy.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Boom	Oil Snare (pom-pom)			1000	feet	
Anchor	Danforth		22 lb	11		
Staff	Staff to Deploy			6		

Strategy: 2-222.5 Objective: Shoreside Recovery of skimmable oil in collection/exclusion boom

Strategy: When skimmable quantities of oil are present, deploy shoreside skimming system (SSS) to operate with 222.1 and 222.2 and 222.3 collection points as needed. Consider use of Self Propelled Skimmer if conditions warrant.

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: From Hwy 101 in Marin County, take Hwy 1 from Sausalito to Stinson Beach; or from San Rafael take Sir Francis Drake Blvd west to Hwy 1, then south to Bolinas or Stinson Beach. To reach south side of lagoon mouth and boat ramp; in Stinson Beach turn on Calle del Arroyo, proceed to Sea Drift Community gate. Once in the community go to end of Sea Drift Rd. To get to north/west side of lagoon mouth pass through Stinson Beach to upper end of lagoon on Hwy 1; turn left on Olema-Bolinas Rd., proceed into the town of Bolinas, turn left on Wharf Rd. and go to end of road.

Land Access: Large trucks okay, no tractor-trailer rigs.

On-Water Limitations: Heavy surf and strong currents outside, shallow inside. Boat ramp to lagoon at Sea Drift Community on Stinson Beach spit - accessible only during high tides.

Facilities, Staging Areas, Command Posts, Available Equipment: Staging on south spit at end of Sea Drift Rd and at boat ramp. Space very limited in Bolinas. Equipment and helo pad available at Bolinas Fire Station a few miles away.

Communications Problems: Cell reception varies on outer coast.

Additional Operational Comments:

