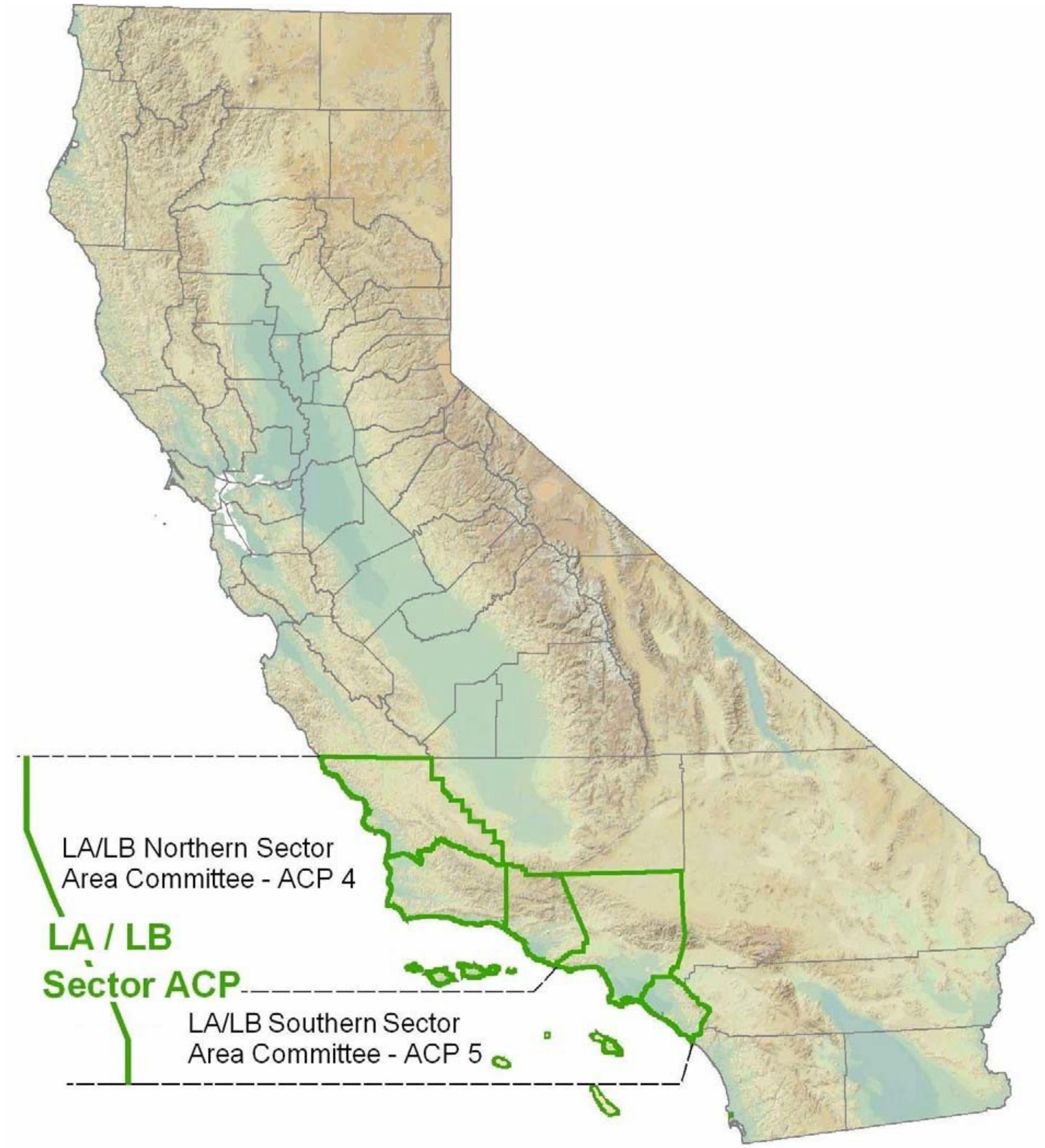
Sector LA/LB
Area Contingency Plans (ACP)
Volume II: Section 9800 - Area Committee Detail
for ACP 4 – LA/LB North
ACP 5 – LA/LB South



Emergency Spill Notification Numbers
National Response Center 1-800-424-8802
California Office of Emergency Services 1-800-852-7550

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9800 Local ACP Response Concerns and Preparedness for Environmental, Economic, and Cultural/Historic Resources

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Section 9800 Local ACP Response Concerns and Preparedness for Environmental, Economic, Cultural/Historic, and other Natural Resources

9800 Introduction

The main focus of spill response contingency planning is the identification and protection of environmental, cultural, and economic resources at risk. Section 9800 is a catalog of environmental, cultural, and economic concerns which have been identified by the Area Committees. Strategies to protect resources from oil and collateral impacts are included for many of these resources which may be at risk during a spill. During a spill, sites and resources which may be at risk and the measures which should reasonably be deployed to protect them are determined by the probable trajectory from the spill, prevailing conditions which may favor or constrain feasible deployments, the type of material released, and the threat the spilled material poses to the resources at risk. These, in combination with operational and geographic constraints that impact spill response measures at the respective locales, define the response need and focus response decisions.

9800.1 Organization of Section 9800

Section 9800 provides geographically organized information about environmental, cultural/historic, economic, and other significant resources that may be at risk from spills, for the two included ACPs: ACP 4 - San Luis Obispo, Santa Barbara, Ventura Counties; and ACP 5 – Los Angeles and Orange Counties.

The information in this section is grouped by Geographic Response Areas (GRAs). In some instances GRAs fall along political boundaries such as a county line, or may be delineated based on the geomorphology, and in other instances GRAs are based on local hydro-geographic areas, where contaminants such as oil are likely to circulate. Section 9800 is organized first by county or GRA and then into topical subsections for each county or GRA. The Statewide template for organization is shown below for each geographic grouping, though local variations accommodate the needs of each Area Committee (not all ACPs have all the topical subdivisions shown or in some cases have additional sections):

- 9800 ACP Domain
  - 9811 County or Geographic Response Area
    - 9811.1 Environmental Sensitive Sites
  - 9811.2 Cultural, Historic, and Other Resources at Risk
    - 9811.2.1 Cultural and Historic Resources
    - 9811.2.2 Essential Fish Habitat
    - 9811.2.3 Other Natural Resources at Risk
  - 9811.3 Economic Sites
  - 9811.4 Shoreline Operational Divisions

Each Area Plan subsection of 9800 has a table of contents following the general format above with each county or GRA having different section numbers.

9800.2 Response Prioritization

The Environmental Unit and the Environmental Unit Leader are responsible to provide environmental information, trajectory projections, and measures necessary to mitigate impacts. Foremost among these is to provide a prioritized list of protection strategies to protect resources at risk based on trajectory projections. A Resources at Risk Technical Specialist conducts sensitive site prioritization.

Protection prioritization in a spill event should be determined by two considerations: the driving consideration is how soon the oil will reach the sensitive site and the predefined protection priority associated with the site. This second consideration is applied only when there are insufficient response resources to protect all resources at risk before they are impacted by the oil. Responders should not assume that sensitive locales equidistant from the source of a spill are at equal risk from the oil. This means that the urgency to protect a key resource is first determined by the likelihood that it will be impacted in the near future before it can be protected by requisite response staff and equipment. If the sites are too numerous to protect with the response resources available within the projected times of impact, then triage of protection follows a prescribed order.

For the purpose of prioritization, "risk" is defined as "the probability of spilled oil reaching the vicinity of a sensitive site of concern." During an actual oil spill event, the relative likelihood of a site coming into contact with the oil is a function of the proximity of the spill to the site and whether prevailing conditions - the wind, current, and tides at the time of the spill, will move the oil toward or away from it. It is essential that at least a simple trajectory be developed to enable this assessment.

9800.21 Modeling Oil Spill Trajectories

During initial response “envelope trajectory” modeling is usually the most effective tool. As more assets and information becomes available, computer modeling provides better guidance. Computer models are very useful, but not often available in the initial critical hours and few spill responders are able to use them or have access to them. Recent reliable aerial observations if and when they become available, are helpful to correct projections whether from computer or envelope models. Regardless of projection method, predictions must be made on some modeling assumptions. Most spill responders have access to tide and current information and can use these to make simple trajectory estimates.

9800.22 Initial List of Site Protection Priorities

Using simple trajectory methods, the list of site protection priorities may be generated quickly by initial responders (typically OSPR Resources at Risk Technical Specialists) and relayed to Operations verbally over the phone or if information is incomplete, upon arrival at the ICP. The sites can be prioritized using the probable time of impact and the prioritization criteria below. Strategies most appropriate can be chosen from the ACP pages and listed in a priority-time of impact sequence. Responders with local knowledge may modify the priorities based on seasonal differences in plant and animal distribution and other local conditions. As soon as possible, more robust trajectory modeling should be initiated through the NOAA SSC as discussed below.

9800.23 Prioritization – Predefined Hierarchy of Protection in Statutes

State and Federal law establish three priority levels for dedication of emergency oil spill response resources.

First Priority – Protection of human health and safety
Second Priority - Protection of environmental resources
Third Priority - Protection of economic resources

Examples of resources that will receive a first priority response (human health and safety) include:

- Power plant intakes -desalinization plants
- Drinking water intakes -other health/safety intakes
- Public use areas at risk (e.g. fire departments)

Within the Second Priority – Environmental Resources – sites are ranked by sensitivity. This sensitivity may be useful in making priority decisions between two sites if both may bw impacted simultaneously but inadequate resources are available for concurrent protection.

9800.24 Further Considerations in Preparing Trajectory Projections

Trajectories and oil distribution maps may and should be corrected with reliable overflight information if and when it becomes available. If viewing conditions are poor, do not assume that the overflight information in better than envelope calculations; unreliable overflight information has resulted in regrettable consequences in past spills. Routine overflights provide the most insight if they are concurrent with high and low slack water since those times will show maximum extent of oil movement. Repeat envelope trajectory calculations with updated information until computer model results are available.

Real- time current measures can be helpful to improve envelope trajectories. Such real- time data are available for many locations through the Physical Oceanographic Real- Time System (PORTS®), CODAR (Cencoos or Socoos), and other online information sources.

Freshwater runoff can significantly change the time and velocity of tidal currents. Estimates of oil distribution will be improved by applying the previous day's deviation between real-time current measurements and the predicted tidal currents to estimate the deviation for today's predicted tidal currents.

Computer simulations are the preferred method to make trajectory projections. Responders should use computer predictions for periodic intervals over the short term future as soon as possible in the response. Computer simulations combined with current overflight information can provide projections which include scope as well as extent of spill expansion and have greater detail for some local current patterns. The projection images are very useful for determining which resources are most likely to be reached by the oil and therefore at most "risk". Computer simulations are effective for looking at advanced time intervals. For example, predictions are useful for every six hour increment (interval keyed to the maximum and minimum tides) for the first 36 to 48 hours and including any predicted changes the wind direction and/or speed and weather. Normally, computer projections are through the National Oceanic and Atmospheric Administration's Scientific Support Coordinator. Envelope trajectories may still be used to verify the output from simulations.

Wind has less effect upon the distribution of oil in a strong current (as in bays and estuaries.) First, since oil is moving at 100% of flow, currents are dominating oil dispersion in high current environments. Second, helical flow patterns in currents will usually keep oil in the main channel until slack tide. The helical flow will stop at slack tide and the oil will be blown directly down wind. Oil blown out of the channel during the slack before the ebb (at high tide) may be carried back into the channel by the ebb tide before it can impact shorelines, however, oil blown out of the channel during the slack before the flood (at low tide) will be blown directly downwind until it strands on the shoreline. In ocean environments, winds tend to be more dominant because currents tend to be more modest; however, recent CODAR information indicates that there may be periods of high velocity ocean currents of up to two knots in places along the California coastline.

9801 Environmental Sensitive Sites

Refer to each County/Channel Islands Environmental Sensitive Site section.

9802 Cultural and Other Resources at Risk

Refer to each County/Channel Islands Cultural and Other Resources at Risk section.

9803 Economically Sensitive Sites

Refer to each County/Channel Islands Economically Sensitive Sites section.

9804 Shoreline Operational Divisions

Refer to each County/Channel Islands Shoreline Operational Divisions section.

9805 Shoreline Access

Some Area Committees have provided detailed shoreline access to aid Planning and Operations Section managers in the rapid deployment of field response personnel and equipment on coastal beaches during the emergency phase of spill response. If this information is available for a particular Area Committee area of responsibility, it will be found in a separate, accompanying document such as the Environmental Response Management Application (ERMA).

9806 California Strategy Concepts, Systems Approach, and Nomenclature

Every geographic area has its own approach and a certain amount of variability in language. This section will aid responders unfamiliar with California response understand local methods, concepts, and vernacular.

9806.1 Booming Systems

Boom and booming systems are described here to enable planners and operations staff to better achieve their objectives. First, boom terminology used on the west coast is different than much of the rest of the U.S. and the World Oil Spill Catalog. In general, harbor boom (see definition below) is used as primary site protection in the San Francisco Bay/Delta Area, although some strategies call for swamp boom (river boom - see below). For response and planning purposes, harbor boom may be substituted for swamp boom and two consecutive layers of swamp boom are roughly equivalent to one layer of harbor boom. Swamp boom may be used in low energy applications: areas with little chop or waves and light currents.

However, responders should be aware of several issues and amend actions as necessary. Long-skirted booms in shallow channels can aggravate entrainment problems. In such instances, it may be inadvisable to substitute harbor boom for swamp boom.

Also, wherever oil accumulates against booms in rough or choppy conditions, there can often be the problem of oil washing over the flotation. This nullifies the booming. To avoid this problem, protective strategies are designed to avoid collection of oil in pockets (except for the purposes of skimming), and instead, are oriented to keep oil moving along booms to collection or deflection as much as the situation permits. Responders, both in operations and planning will need to adjust boom configurations to prevent excessive "pocketing" so as to minimize entrainment and over-wash. This may mean altering boom angles. This may also be unavoidable and require back-up layering of boom. Some strategies include this as a contingent alternative, but regardless, if over-wash is a problem, then a second layer should be viewed as the containment and deployed in the "shadow" of the becalming first layer. In some instances the lesser freeboard of swamp boom may provide adequate control once the wave has been broken.

Regardless of strategy design, deployment and adjustment remain key to successful booming. If strategies are not properly deployed, whether prescribed or amended, and maintained through proper anchoring and tending, the protective booming will be neutralized. Every effort by managers and responders should be made to ensure proper execution.

9806.2 Skimming Systems

This paragraph provides an introduction to skimming issues in site strategies. In the following strategies, the inclusion of self-powered skimming vessels is minimized in recognition that the first response resource priority is on-water skimming: the best protection for sensitive sites is to minimize oil impacting sites by best available means (ON WATER RECOVERY). However, shore-side skimming and defection offshore to skimming are integral parts of protecting the sensitive site or nearby sites at risk. The philosophy of strategy development includes the intent to leverage opportunities to control, capture, immobilize or collect oil at shorelines where possible. Once oil has been immobilized, either contained or confined near shore, oil skimming efficacy dramatically improves. Also, once oil has impacted a site, it may be a reasonable tactic to keep it at that locale rather than let it re-mobilize to impact yet another site.

Since there are a variety of skimming units that may be included in the strategy, this preamble provides an opportunity to define skimming systems so that the elaborate descriptive verbiage need not be repeated in each strategy. A number of acronyms for skimming systems are included in the Acronyms and Nomenclature section below: TSA, SFS, SPS, and SSS.

A skimming system includes four elements: a skimming device, storage for skimmed oil, a pumping devise to move captured oil from skimming device to storage, and a power supply capable of enabling all devices.

9807 Glossary of Acronyms and Nomenclature Used in Strategies

To minimize repetitious verbiage in protection strategies, the following acronyms and nomenclature may be used in strategies and in Strategy Pages (and SISRS database).

Anchoring Systems – Whether expressly stated or not, anchoring systems must be sufficient to hold boom in the aggressive currents where boom may be deployed. To insure successful anchoring, the anchoring system should include: anchors with anchor buoys to control placement, anchor chains which equal or exceed the weight of anchors indicated, enough line to produce adequate scope to hold anchors (rule of thumb is 3:1 (line to depth), but 5-7:1 for high current areas), and a buoy between anchor line and boom (crown buoys) to keep the anchor from sinking the boom under tension conditions.

BBE - boom boat equivalent – the capability of a vessel to transport and deploy 600 feet of Hboom or 1800 ft of swamp boom.

Boom boats - a boat suitable for transporting, towing and deploying large amounts of boom, usually crewed with a helmsman and two crew for deployment, usually referenced in terms of BBE. Boom boats must be capable of grounding without sustaining damage. (Also see Shallow Water Boom boats and Very Shallow Water Boom Boats.)
Bboats - see boom boat

Danforth - refers to "danforth anchors" with chain, typically presented as a number of anchors and minimal weight (e.g., 3/12+ - means three anchors of a minimum of 12 lbs each) with at least an equal weight of anchor chain weight whether specified or not. Without substantial anchor chain weight, anchors will not hold. Northill anchors are equivalent.

Hboom - see harbor boom

Harbor boom - an inland waters type boom (greater than 18" and less than 42" overall (flotation and skirt)) of a curtain boom design (skirted boom with solid flotation). Some strategies clarify boom size by indicating flotation and skirt as follows: 9X9+ which indicated a boom with at least 9" of flotation and 9" of skirt.

sorbm - sorbent boom, with or without a skirt

Shallow water boom boats - a boom boat capable of working in three feet of water or less, and should be able to withstand stranding without sustaining damage.

Skiff - a small two person craft able to operate in 3 foot waves or larger and capable of delivering personnel and equipment to shores.

Skf - see skiff

SFS - stationary floating skimmer - a floating platform supporting a skimmer and storage – which could be a VOSS.

SPS - self-propelled skimmer - a small to medium sized skimmer with its own propulsion and storage – which could be a VOSS.

SSS - shore side skimmer, includes a skimming unit, such as a rope-mop or weir skimmer and its support pack and a storage container such as a vacuum truck, baker tank, or other tank.

swpbm - see swamp boom

Swamp boom - a river boom type (less than 18" overall) of a curtain boom design

Towed skimming array - a skimming system with two boats towing collection booms which funnel oil to a skimming system

TSA - towed skimming array - an array with two boats towing collection booms which funnel oil to a skimming system

VOSS – Vessel of Opportunity Skimming System – a skimming system (skimming device, pump, power supply, and storage) place on a vessel which was not designed for skimming per se.

VSA – "V"-Skimming Array -Same as TSA

"V"-Skimming Array -Same as TSA

Very shallow water boom boats - a boom boat capable of working in two feet of water or less, and should be able to withstand stranding without sustaining damage.

xboom – is any boom other than harbor boom, swamp, or sorbent boom. This term is used to simplify equipment tables. A type designator should be used as well as a length. Type designators include:

TB or **TBB** – tidal barrier boom
OB – ocean boom
FB – fence boom
OS – oil snare
BB – bushy boom

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