

# Incident Specific Preparedness Review (ISPR) M/V *Cosco Busan* Oil Spill in San Francisco Bay

## PART II AND FINAL REPORT 7 May 2008





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# EXECUTIVE SUMMARY

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## Executive Summary

The Incident Specific Preparedness Review (ISPR) for the response to the *Cosco Busan* oil spill was convened pursuant to a Charter issued by the Chief of Staff, U.S. Coast Guard on November 14, 2007. The ISPR process is outlined in Section 4.C of the Coast Guard Marine Safety Manual (COMDTINST M16000.14) which establishes requisite reporting criteria. The Charter provides direction for ISPR Team membership, scope of the review and reporting deadlines. The Charter directs the Team to review oil spill preparedness and response operations in two phases. The first phase covers the initial two weeks of response operations. The Team delivered its report for the first phase on January 11, 2008. It is available to the public electronically at [www.uscg.mil/FOIA/Reading\\_Room.asp](http://www.uscg.mil/FOIA/Reading_Room.asp)

This is the second report on the response to the *Cosco Busan* oil spill and, like the first report, it provides an analysis of preparedness planning requirements and the actual response. This report is meant to supplement the first report, and should be used within that context. It is intended to:

- assess longer term issues that span beyond the initial two weeks;
- address issues that required more time to research; and
- provide clarification to statements in the Part I report, based on feedback.

The ISPR Team invited agencies to suggest issues that the Team might consider for the second and final report. Not all of the suggested issues were selected by the ISPR team. In total, 12 new focus issues were identified and constitute the bulk of this report.

A spreadsheet listing all recommendations from ISPR Report Part I and Part II is included as Appendix A, which is intended to help facilitate efforts to improve preparedness and response. While many of the recommendations listed in Appendix A have direct application to specific levels (local, regional, state and national), some recommendations have general application at all levels. This report also includes the recommendations from the 1996 M/V *Cape Mohican* spill ISPR (the most recent ISPR prior to this one) in a separate spreadsheet, Appendix B, for historic reference.

In preparation for this report, the ISPR Team:

- Conducted a site visit of the San Francisco Vessel Traffic Service (VTS) on Yerba Buena Island, and interviewed staff;
- Conducted a site visit of the State of California Oiled Wildlife Care Network (OWCN) facility in Cordelia, California, and interviewed representatives of the California Office of Spill Prevention and Response (OSPR), staff of the OWCN and the International Bird Rescue and Research Council (IBRRC);
- Interviewed Commander, Eleventh Coast Guard District;
- Interviewed the FOSC who participated in spill response operations after November 13, 2007;
- Interviewed officers of National Response Corporation Environmental Services; and
- Interviewed officers of the RP insurer's representative.

The Team met for a second and final plenary session in April to finalize the report. In addition to these plenary meetings, individual team members also held interviews as part of their research for each issue assigned.

For each issue listed in the report, the Team addressed any lessons learned and provided recommendations. It is important to note that the number of lessons learned and recommendations gleaned from this ISPR (see Appendix A) are not unique to the *Cosco Busan* event. Other spill events and exercises subjected to this level of review would likely result in a similar number of recommendations. These recommendations were not intended to be prescriptive. However, the ISPR Team is aware that many of its initial recommendations have been or are in the process of being implemented.

## EXECUTIVE SUMMARY

While the report focuses on specific recommendations for a variety of issues, there were several common themes that surfaced throughout the ISPR process.

Several interviewees mentioned the exceptional safety record that responders and convergent volunteers achieved during response efforts. Only one minor injury was reported out of thousands of hours of response operations. Given the poor visibility conditions early in the spill response and the number of people involved, this is an exceptional safety record.

San Francisco Bay comprises one of the largest and most productive estuaries on the Pacific Coast and is a high-volume oil port where a large oil spill can threaten 400 miles of sensitive shoreline, and potentially affect nine counties, a national recreation area, two national marine sanctuaries, a national wildlife refuge and a vast system of regional shoreline parks.

During the ISPR review, two general themes emerged as meriting attention and recommendations for improvement: partnership with local stakeholders and communication. The public response to the M/V *Cosco Busan* oil spill highlighted the tremendous importance of building and maintaining effective, ongoing partnerships among federal, state and local governments and other key stakeholders in preparing for oil spills.

To ensure coordination during a response, the ISPR team recommends that available local resources and decision-making authority be identified, coordinated and tested through the Area Contingency Planning process, and that highly-trained local personnel be pre-identified for appropriate ICS positions in future oil spill responses.

Unfortunately, many of the recommendations found in this report echo similar findings and recommendations (see Appendix B) of the M/V *Cape Mohican* spill ISPR conducted 12 years ago. In part, this is a reflection of the tendency for regional interest in oil spill preparation to wane during the years between significant oil spills. Nevertheless, the ISPR Team is optimistic that the recommendations in this report will receive more attention than those in the past. Already, many of the recommendations from Part I are being discussed or adopted at the Federal and State level. To help ensure the most effective response to future oil spills, local agencies, non-governmental organizations and other stakeholders are strongly encouraged to become – and remain – active in the Area Contingency Planning process.

Finally, the ISPR Team provided its best effort to identify, and report on, the preparedness and response issues surrounding the *Cosco Busan* incident. Sources of information came in several and diverse forms, including meteorological data, tape transcriptions, lab reports, Unified Command documentation, personal logs and personal interviews, to name a few. The ISPR Team made every effort to validate sources of information, verify the accuracy of the information and seek multiple sources of information where possible. ISPR Team members interviewed responders who had a different perspective of events that occurred and were reported in the first report. For this reason, a portion of this report contains clarifications necessary to maintain the highest level of accuracy possible.

The report's observations, lessons learned and recommendations are those of the ISPR Team and do not necessarily represent the views of the U.S. Coast Guard or any of the employers of the ISPR Team members. By delivering this report, the ISPR Team has fully complied with terms of the initial Charter and ceases to function as an entity. References, notes and other documentation acquired or developed as part of the ISPR process is in the custody of the *Cosco Busan* ISPR sponsor in Coast Guard Headquarters. Questions affecting this report or the report covering the first phase of the *Cosco Busan* response should be directed to:

Commandant (CG-533), U.S. Coast Guard, 2100 Second Street, SW, Washington, DC 20591

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### Best Achievable Protection (BAP) and Best Achievable Technology (BAT)

#### Sources

[Lempert, Keene, Seastrand Oil Spill Prevention and Response Act](#); “The Feasibility of Requiring New Technology for Oil Spill Prevention and Response”; California DFG Report to the Legislature, Jan. 1, 1995.; [USCG NAVIGATION AND VESSEL INSPECTION CIRCULAR NO. 01-05](#); CALIFORNIA CODE OF REGULATIONS, TITLE 14, DIVISION 1; SUBDIVISION 4, OFFICE OF OIL SPILL PREVENTION AND RESPONSE; CHAPTER 3. OIL SPILL PREVENTION AND RESPONSE PLANNING; SUBCHAPTER 4. OIL SPILL CONTINGENCY PLANS, NONTANK VESSELS SECTIONS 825.01 - 827.02; Yvonne Addassi, Judd Muscat and Chris Klumpp, CA OSPR; Todd Roloff, NRCES; Steve Ricks, MSRC; Brian Walsh, AeroVironment, Inc.

#### Observation

During and subsequent to the *Cosco Busan* incident, questions were raised in the media and at public hearings as to whether the resources available to respond to the spill were adequate in terms of protection of the environment and wildlife as well as whether equipment deployed was the best available to accomplish response and clean up objectives.

The terms BAP and BAT are codified terms in the CA Oil Spill Prevention and Response Act.

Federal statutes do not employ those terms, and there have been no Federal regulations promulgated for non-tank vessels. However, USCG NVIC 01-05 lists criteria for plan holder requirements in terms of oil spill response equipment used for on-water recovery, boom and shoreline protection.

#### Discussion

BAP is defined in California statute as a requirement to be satisfied by plan holders, either directly or through their contracted spill responders identified in their contingency plan. It includes BAT as a component, but also applies to other aspects of response such as manpower levels, training procedures and operational methods. It is reflected in the requirements placed on the plan holder as listed in 14 CCR 817 for facilities, 14 CCR 818 for tank vessels and 14 CCR 825-827 for non-tank vessels.

California regulations do establish explicit criteria and metrics for some aspects of contingency plans, such as on-water recovery capabilities, boom and oil storage; however these are predicated on performance standards rather than specific requirements for equipment type or operational methods. Instead, OSPR depends on inspection, drills and exercises to assess and verify to their satisfaction (based on regulatory performance standards) that equipment, training and operational methods meet the BAP and BAT standards.

Both of the OSROs identified in the *Cosco Busan* California non-tank vessel contingency plan and deployed in the response received satisfactory ratings from OSPR.

OSPR has informal procedures and ongoing research programs in place to review and assess new technologies, training methods and operational procedures; however, there is no statutory or regulatory framework for measuring that effort, such as mandatory reporting, beyond the overlying BAP/BAT requirements in statute. The last report to the Legislature generated by OSPR on technologies for oil spill prevention and response was done in 1995.

## PREPAREDNESS

OSPR is involved in assessing new technologies and practices, which include:

- Sponsorship of technology seminars every other year as well as organizing ad hoc work groups between agencies, industry and public stakeholders;
- Attendance and participation in semi-regular industry, trade and inter-agency conferences and work groups, both in California and other states;
- Participation in testing of new technologies at the Ohmsett facility operated by Minerals Management Service; and
- Beta testing of new detection and mapping technologies using a combination of satellite imaging (Canadian Sat I & Sat II) and multi spectral photo imaging for detection and mapping in limited visibility scenarios.

The OSROs involved in the response have somewhat similar informal procedures for developing and assessing new technologies and operational procedures through involvement and attendance in industry and inter-agency conferences and work groups, including Regional Response Team exercises. Both companies have internal departments that monitor and keep abreast of new technologies. Through their contracts and responsibilities to plan holders, they are required to own and maintain multiple types of equipment to respond in many different geographical and hydrological conditions and scenarios. This will include booming and skimming for shallow water sensitive sites, high current waterways and high seas conditions. Each of these scenarios calls for specialized equipment and operational methods.

The USCG relies on specific equipment and procedural metrics to satisfy preparedness standards outlined in regulation (33 CFR 154 and 155) for facilities and tank vessels and guidance as reflected in NVIC 01-05 Ch. 1 for non-tank vessels. The USCG National Strike Force Coordination Center manages the OSRO classification program, including equipment inspection and verification.

### Lessons Learned

As one OSPR representative commented, BAP is viewed as an aspirational goal, and in that respect never actually achieved, but instead serves as leverage for continual improvement.

Although OSPR does have an ongoing program for BAP and BAT, there are no formal procedures to outline that process. Since the *Cosco Busan* incident, OSPR has convened an internal work group to review the existing process for development and assessment of new technologies. Should OSPR make a determination that technologies or operational methods are available and should be incorporated in contingency plans, they would likely achieve this requirement by placing more stringent performance standards in regulation based upon their assessment of BAP/BAT rather than an explicit requirement for a particular technology or practice.

There has been a marked decline in R&D dollars spent on new technologies at both government and industry levels.

The OSRO industry, being competitive in nature, has an inherent interest in keeping abreast of new technologies. Conversely, replacing existing equipment with newer more modern equipment directly impacts their bottom line. In addition, the testing of new technologies and operational methods through drill or exercises poses a dilemma in that an OSRO will be hesitant to stray from using established equipment and methods when plan holder requirements or their own OSRO rating is at stake.

There are technologies in development or in use in other areas of the world that are not in use today in California. One example is detection and mapping technologies such as those being tested by OSPR. The use of slow flying aerial multi-spectral reconnaissance drones for rapid deployment offers promise, and the two OSROs responding to the *Cosco Busan* have contracts to use this technology; however, existing FAA regulations forbid their use in any practical scenario. Fast-current boom technology has been touted by some vendors as an improvement over some boom deployed in this incident.

## PREPAREDNESS

### Recommendations

More formal procedures within OSPR to assess and report on BAP and BAT will facilitate their assessment of BAP and BAT. This could lead to amended performance standards for plan holders based upon those findings.

Additional R&D dollars for technology development, through either private or public funding, will speed improvements in technology.

Provisions should be made in drills and exercises to allow the pre-arranged testing of new and untested technologies or operational methods without penalizing the plan holder or OSRO for limitations discovered in these technologies.

Develop a clearinghouse for sharing information relative to oil spill R&D at national, international and industry levels as it becomes available.



### **Cosco Busan Oil Spill (FOR RELEASE)**

SAN FRANCISCO – Workers deploy boom in an attempt to contain oil discharged from the vessel *Cosco Busan*. (Coast Guard Photo by CWO Scott Epperson)

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## Oiled Wildlife Recovery and Transport

### Sources

Beach Search Effort Logs; ACP; Cindy Murphy, OSPR; Mike Ziccardi, UC Davis, OWCN; Rebecca Dmytryk, IBRRC; Kirsten Gilardi; Jay Holcomb, IBRRC; Steve Hampton, OSPR; Diana Humple, PRBO; Yvonne Addassi, OWCN; Greg Massey, OWCN; Group interview (included above plus Laird Hinkle, IBRRC or OWCN) and tour of recovery center; OWCN Hotwash notes

### Observation

There is a lack of clarity or agreement on what techniques and equipment are needed to achieve the Best Achievable Care standard for oiled wildlife response.

#### *Personnel*

Once the scale of the spill was ascertained by the OWCN reconnaissance teams, it was determined that additional trained and experienced Search and Collection personnel should be deployed.

While many personnel with appropriate wildlife handling expertise and oil spill experience were available for deployment, the State's 24-hour HAZWOPER training requirement had not been met by those potential responders. The lifting of that requirement several days into the response enabled the deployment of many additional trained teams. The one-time exception to the interpreted California HAZWOPER standard was employed allowing pre-existing HAZCOM training or a four-hour spill specific training to suffice for Search and Collection team members. This bolstered the roles of wildlife responders several days into the spill.

The presence of members of the public in the field near oiled wildlife threatened the success of wildlife recovery efforts and the security of field personnel.

Additional law enforcement members were placed on shoreline areas to assist capture teams and to enforce beach closures to allow effective recovery of oiled wildlife.

The staff and volunteers of land managers and NGOs are a valuable resource for Search and Collection efforts.

#### *Public Interface with Oiled Wildlife*

Uninformed but well-meaning members of the public caused inadvertent hazing (flushing) of birds, seriously impacting the ability of Search and Collection teams to successfully capture oiled birds. Members of the public also exposed themselves to hazards associated with oiled bird contact.

Some land managers were unaware of the OWCN and conducted their own Search and Collection operations without UC knowledge or direction until being brought into the coordinated process on Day Five.

#### *Equipment*

The Recovery and Transport Supervisor's cell phone number was released to the public, inundating the Supervisor with calls from the public, hampering the ability to converse with field personnel and to discuss reports of oiled birds and strategy for future deployment.

The current California Wildlife Response Plan includes a tiered concept to communicate generally what would be needed in a response, but the list of recommended equipment is not specific to particular environments. There was confusion among some Search and Collection team members as to whether the equipment listed in the Plan was available and whether it was required to be available.

## PREPAREDNESS

The OWCN Hotwash notes and interviewees discussed the need for additional equipment to be inventoried and readily available for Search and Collection.

### **Discussion**

Experts within OWCN have a variety of opinions on how to prioritize collection of oiled birds on the water and on shorelines, and on which capture techniques best meet the standard of Best Achievable Care. Some interviewees were concerned that the standard may not have been met during this response and that additional exploration to define the standard and prioritize actions is necessary. Search and collection experts in the network expressed an interest in sharing experiences of successful on-the-water capture in previous oil spills, though there was a concern that additional resources would be needed to achieve the standard.

### *Personnel*

OWCN reported that OSPR initially requested four people to do Search and Collection of oiled wildlife impacted by the *Cosco Busan* spill. Once OWCN's reconnaissance team realized the scale of the spill, in the late afternoon of Day One (six to eight hours after initial notification), OWCN decided to deploy additional reconnaissance teams. If OWCN had sent additional reconnaissance teams or been able to use a network of trained observers along the Bay's shorelines, OWCN would have been able to ramp up the stabilization trailer sooner and deploy a larger contingency of Search and Collection teams on Day Two. Ultimately, more Search and Collection teams were mobilized than in any previous California spill. However, it took several days to mobilize all the teams, partly because of the delay in being able to ascertain the correct scale of the spill.

Most interviewees agreed that more people with training (including HAZWOPER) and bird search and rescue experience are needed to respond to similar events. Though many areas were visited at least once daily, it appears that some heavily impacted sensitive sites were not covered in the first two days of the spill, and some sites were not visited twice daily as desired. A complement of personnel available for night shifts would bolster nighttime operations, with clearance from the Safety Officer, as needed to collect wildlife.

Interviewees indicated that based on their understanding of State regulations, the California OSHA HAZWOPER training requirement has severely limited the ability of the OWCN to recruit non-paid personnel for Search and Collection. Specifically, there was agreement that the number of hours required for training wildlife Search and Collection teams was onerous and that the trainings included topics beyond what was necessary to perform the job safely (i.e., hazardous materials handling). Interviewees indicated that a one-time position-specific training course for Search and Collection personnel, along with a brief spill-specific refresher course focused on the particular oil spill hazards, affected species behavior, site safety plans and general risks associated with the position would meet the intent.

### *Inadvertent Hazing of Oiled Birds*

Members of the public and SCAT teams caused inadvertent hazing of birds, impacting the ability of Search and Collection teams to successfully capture oiled birds, especially early in the response. In addition, Search and Collection teams were exposed to angry members of the public. Security in the field and at the stabilization trailer became a serious concern. Assistance from land managers in restricting access to beaches while birds are being captured and to avoid hazing would increase the birds' prognosis. The existing NGO network may be a good resource for reaching out to the public, educating them on oiled wildlife needs and funneling volunteers into the most appropriate activities, including oiled beach cleanup.

Birds have a better prognosis if they are captured earlier, while they are still on the water. While it is ideal to capture them before they wash ashore, it can be very difficult and labor intensive to do so, leading to tradeoffs in the availability of resources for capturing larger numbers of beached birds. There was a variety of opinions on how capture methodologies should be prioritized, but there was general agreement that the dedication of additional resources would aid in rescuing birds.

## PREPAREDNESS

### *Mechanisms for Coordinating with SCAT Teams and Land Managers*

Assistance from land managers and enforcement officers in closing beaches several days into the spill aided Search and Collection teams in capturing oiled birds.

Coordination between the Wildlife Branch Director and SCAT alleviated early problems with conflicting activities on beaches with oiled wildlife. A plan to facilitate coordination would reduce hazing of birds earlier in the response.

### *Equipment*

The OWCN Hotwash identified a list of equipment that should be made available for Search and Collection teams in the future, including: maps, binoculars (made for low-visibility conditions), computers for entering data from field; flash lights, batteries, and redundant equipment. Some interviewees indicated that additional types of netting could be helpful in capturing groups of oiled birds.

It was noted by the Wildlife Branch Director that the centralized equipment cache at the stabilization center did not support mobilization for remote teams. OWCN is considering pre-deploying equipment caches in six or seven places in the State, and examining whether maps, Beach Search Effort Log forms and updated reports of bird sightings can be posted and accessed online. The OWCN is examining how to train the staff and volunteers of NGOs in the network to expand the pool of trained Search and Collection teams available for field operations.

### **Lessons Learned**

It is important for the OWCN and OSPR to identify what techniques and levels of resources are necessary to meet the Best Achievable Care standard.

The Recovery and Transport Supervisor position was tasked with interfacing with the public and responding to questions in stabilization operations. Additional support staff would enable the Supervisor to focus primarily on communicating and strategizing with field personal on Search and Collection priorities. Additional staff support for the Recovery and Transport Supervisor would allow greater focus on assessing oiled wildlife reports and coordinating Search and Collection teams.

In the absence of information on the scale and trajectory of a spill, the observations of reconnaissance teams deployed on Day One are important in deciding the number of Search and Collection teams that should be deployed and where they should be assigned.

Many people from outside the existing OWCN network are trained in wildlife observation and capture and are available to bolster the network of reconnaissance and Search and Collection teams.

Coordination between the Wildlife Branch and SCAT teams aided in successful capture of oiled birds.

Early coordination between all responders and the Wildlife Branch director could avert hazing of birds prior to collection.

Land managers unaware of the ICS structure or the existence of the OWCN initiated shoreline patrols to search for and capture oiled wildlife. This led to some confusion and redundant efforts, as well as a lack of formal reporting of beach search efforts in the first few days of the spill. However, by Day Five communication between the Recovery and Transport Supervisor and land managers significantly improved coordination and reporting worked well during the remainder of the response. Advance training of trustee agency staff and coordination through the Area Committee could expand the available resources and lead to less confusion in future spills. Some areas covered by either OWCN Search and Collection teams or land managers are not reflected in the Beach Search Effort logs, although birds collected by the agencies and taken to stabilization are reflected in OWCN's records.

## PREPAREDNESS

Land managers and enforcement personnel played a key role in controlling access to shorelines so birds could be captured safely.

### **Recommendations**

OWCN experts should convene discussions on effective capture techniques and identify priorities and resources needed for providing the most effective wildlife rescue response.

The California Wildlife Response Plan should be revised according to specific types of environments and wildlife populations to match the needs of specific Search and Collection teams. OSPR/OWCN should consider developing an inventory of equipment that is pre-deployed and available for dedicated use in wildlife response.

OWCN should work with California OSHA to determine the most appropriate training requirement to meet the intent of both HAZWOPER and HAZCOM standards. Ensure all hazards are addressed in training including field experience in wildlife behavior, capture and handling for Search and Collection personnel.

OWCN should coordinate with area NGOs and land managers to pre-train and pre-register personnel to deploy for reconnaissance and Search and Collection operations in future spills.

The ACP should facilitate planning and coordinating wildlife operations with SCAT operations and land managers to control beach access during Search and Collection operations.

The Recovery and Transport Supervisor should have a dedicated communication link (i.e., cell phone) with Search and Collection team communications.



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## Response Management Structure

### Sources

OPERATING FACILITY CHANGE ORDER (OFCO) NO. 061-05, R 141845Z JUL 05 COMDT COGARD WASHINGTON DC//CG-8T/CG-2/CG-612/CG-8/CG-81/CG-83/G-O/G-M/CG-4/CG-1/G-OCS/G-MRP//; Letter of Delegation – Incident Specific Federal On-Scene Coordinator (FOSC); ACP; RCP; Incident Management Handbook; MOU between San Francisco and OSPR; LT Rob Roberts, OSPR; Barry McFarland, IC for RP; Rob Dudgeon, City of San Francisco Division of Emergency Services

### Observation

#### *Initial Set-up*

From the perspective of government representatives, the command post took an unusually long time to get organized, resulting in a chaotic environment.

Consistent with the ACP and State and local agreements, the RP had the regulatory responsibility for appropriately filling key ICS positions during the Cosco Busan incident. Characteristically, the spill management team provided by the RP had pre-designated personnel to fill key ICS positions. In California, as seen in this incident, the State provides pre-designated personnel for many ICS positions.

A basic tenet of ICS is that positions should be filled by individuals trained in ICS who are the most qualified, without regard to rank or position within an organization, and who possess the necessary regulatory authority.

Local government, NGO and other trained personnel were available with appropriate training that could have filled ICS positions focused on coordinating local resources but were not used because they are not well known in the local oil spill response network.

#### *Beyond the initial set-up*

The UC spent a significant amount of time dealing with issues that could have been delegated had the ICS structure been expanded and/or adjusted to manage the evolution of the event.

The Command and General staff wore vests for identification, as did the RP IC. The FOSC and SOSC never wore ID vests, nor did the vast majority of personnel working in the ICP.

After the first few days, the UC was showing signs that there was more organization including the use of appropriate ICS message forms. Universal identification was not truly established until late in the response when they required photo ID to control access rather than just providing functional identification.

#### *FOSC*

A week into the response, the Eleventh Coast Guard District Commander signed a “Letter of Delegation – Incident Specific Federal On-scene Coordinator (FOSC)” to delegate the FOSC authority to the PACAREA Chief of Prevention. This letter delegated the responsibilities and authority of FOSC for the incident involving the M/V COSCO BUSAN specifically as part of the Unified Command on Treasure Island, San Francisco, California.

# RESPONSE

## Discussion

Since 9/11, Federal requirements associated with Homeland Security grants have resulted in ICS training with State and local government representatives in the UC becoming widespread through not only public safety agencies, but through all aspects of local government and service agencies.

### *Initial Set-up*

The ICS is an inherently flexible system designed to allow incident managers to build an organization best suited to the needs of an event while still maintaining the benefits of the system. The Incident Management Handbook provides pre-scripted guidance for responders, including organizational charts, job descriptions, action-oriented checklists and standardized meeting agendas.

The MOU between the City of San Francisco and OSPR states that the ICS, as well as SEMS, will be utilized during a response and describes the role of local government in the Unified Command Structure. OSPR, the USCG and TOG are trained in the ICS and use the system on a regular basis. Refer to ISPR Part I report, pages 23, 27, 37, 47, and 119 for previous discussions of the interface between local governments and the UC.

Early in the response the UC was confronted with several challenges that consumed time and distracted them from conducting the clean up efforts. Many of those challenges came from local government requests for information, action and volunteer deployment. Rather than adjust the ICS structure or request assistance from outside the pollution response community, the UC elected to absorb the added work. The end result was increased tension between the UC and local government representatives, which has transcended the actual response and continues to result in political repercussions.

As discussed in the ISPR Part I report, the LO staff could have included qualified local government representatives. This is an example of reaching outside the pollution response community for assistance. The approach could have been utilized when confronted with the demands for volunteer utilization as discussed in the initial ISPR report. Had the UC created a volunteer branch and staffed it with a blend of State and local government personnel, it would have reduced the demand on their time.

Further, during the first several days of the event, the command post environment had been described as chaotic. This was a result of a poor command post facility (in terms of physical space and communications infrastructure), lack of identifying vests and signage and lack of uniform communications pathways. While ancillary, these seemingly minor details have tremendous impact on the overall success or failure of an operation.

When every member of a management team wears identification that clearly identifies his or her role within the organization and the spaces within the ICP are clearly labeled as to section and branch or division, the tenor is set for a more orderly response. Those coming into the ICP are able to see who is working on what, and which areas of the facility are dedicated to a specific function, thereby reducing the need to continually interrupt workers and ask directions. It suggests order and tends to help people remain focused and calm. This simple act leads directly to another aspect of ICS utilization – common and uniform communication pathways.

The MOU and ACP describe an incident command structure that includes an organized MAC group which should select an LGR to interact with the SOSC and represent the interests of the MAC to the UC. This never materialized. There was a weak effort on the part of the first LO to form a MAC, but without consistent and accurate information sharing and perceived unresponsiveness to local needs on the part of the UC, the effort failed. An LGR was never selected to provide direct access to the UC. All local and outside agency issues were funneled through the LO, which is inconsistent with the MOU.

Discussed in Phase I, but worth revisiting here, is the fact that the ACP does not contemplate interaction with the regional organization of OES and the fact that a natural local government MAC already exists.

## RESPONSE

### *Beyond the initial set-up*

There is no question that the SMT was well trained in and utilized the ICS. The Incident Management Handbook was prevalent in the ICP and tools, such as the standardized ICS forms and process, were utilized on a regular basis. Basic competence with ICS most likely contributed to overall success of the cleanup efforts. There was evidence that more practice and greater practical understanding of ICS in this scenario would have been a more powerful tool to manage unexpected and complex problems without unduly increasing the demands on the FOSC, SOS, and RP IC.

A noted limitation within the ICP from a local government perspective was the reluctance of the SMT to engage local government with requests for incident management assistance. In the MOU between San Francisco and OSPR (a standard template) the organizational chart identifies several positions within the agreed-upon structure where local government personnel could be utilized. Additionally, incident management and proficient use of the ICS is not necessarily predicated upon being an oil spill responder, depending upon the assignment.

ICS defines communications pathways and provides tools to accomplish the act of passing messages vertically and horizontally. However, the first thing a person must be able to do is identify who is working on what in order to determine the most appropriate path. Second, there must be discipline enforced with regard to the receipt, response and tracking of messages. Message forms should be utilized and logged; each branch or division should have someone identified to track them. This is especially true of resource requests.

### *FOSC*

Following a recent Coast Guard reorganization that merged USCG Marine Safety Offices (MSO) with USCG Groups/Air Stations (search & rescue, law enforcement, etc.), creating Sectors, Sector Commanders are responsible for a much wider range of federal authorities including that of the pre-designated FOSC. During the Cosco Busan response, the FOSC maintained responsibilities including Search and Rescue Mission Controller (SMC), Sector Commander (SC), Federal Maritime Security Coordinator (FMSC), and Officer in Charge, Maritime Inspection (OCMI) for San Francisco.

The new Sector concept establishes three key departments (Response, Logistics, and Prevention) in addition to a Planning Section which collectively oversee the marine safety and all other Coast Guard missions. During this transition, the mid level officers, including the department heads, have a mix of expertise and not necessarily in marine safety.

### **Lessons Learned**

#### *Initial set-up*

ICS allows for flexibility in structure and staffing while still maintaining the benefits of the system.

Volunteer management could have benefited from establishing a specific ICS group or branch within the parameters established in the CG Incident Management Handbook.

#### *Beyond initial set-up*

Local government and NGO representatives could have been utilized to augment the SMT and increase the pool of qualified personnel in the response management structure.

Oil spill response management should be adjusted to embrace local and regional emergency management structures to improve UC-local government interaction in a manner that is consistent with both SEMS and ICS.

Signage, functional/position identification and other visual cues would have improved effective communications in the ICP.

## RESPONSE

### *FOSC*

Delegating FOSC authority during a specific incident is not a common practice but an option that should be explored in preparing for future responses.

### **Recommendations**

#### *Initial set-up*

In building the structure and staffing of ICS, there should be an assessment of needs, establishment of spill response objectives and a review of available resources.

#### *Beyond initial set-up*

Revise area and local plans to include regional CA OES (or equivalent state emergency management offices in other states) and the regional structure of emergency management as the method to interact with local governments and outside agencies.

Procure and utilize signage and vests for use in incident command posts.

Train with and increase the use of local representatives to supplement the response organization with emphasis on those positions key to local coordination, such as Liaison and Logistics staff.

Invite local government personnel to participate in spill response and exercises in order to improve relationships and build trust.

### *FOSC*

Sectors should plan for and train officers at the Department Head level to be prepared to act as the Deputy FOSC and serve at the same level of competency and authority as the FOSC during a spill response. They should also be familiar with the procedures of officially delegating this authority if necessary.

Additionally, the Coast Guard should make continuing oil spill and hazardous substance response training a priority for Response and Prevention Department Heads, Incident Management Division Chiefs, and Planning Section Chiefs as well as junior officers to prepare them for the FOSC deputy or delegate role. This includes training opportunities by Coast Guard, NOAA, other agencies and industry partners [e.g., USCG Crisis Management Course, NOAA Science of Spills, California's Environmental Response Oil Spills (EROS) course, USCG Oil Spill Response Training (OSRT), Texas A&M University National Spill Control School, and other USCG NSF Training opportunities] and consistent involvement in Area Contingency planning committees and Regional Response Team subcommittees in addition to relevant conference participation. Sectors should continue to give qualified junior officers (FOSCRs and Command Duty Officers) more responsibility during spill responses, with appropriate oversight and mentorship. Another option that should be considered to increase the experience level is to send these officers to participate in spills of opportunity outside their AOR.

The Coast Guard should also continue to request assistance from and make better use of special teams identified in the NCP, specifically Strike Teams and the Scientific Support Coordinator, to reduce the burden on the FOSC during the a response. These resources should be considered direct advisors to the FOSC and USCG and secondarily to the UC.

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## Pre-Restoration Activities During Response and NRDA Coordination with Incident Command

### Sources

USCG Incident Management Handbook, August 2006; COMDTPUB P3120.17A; Matthew Zafonte, California OSPR; Mike Anderson, OSPR; Steve Hampton, OSPR; Janet Whitlock, Chief, NRDAR Branch, U.S. Fish & Wildlife Service; Gary Mauseth, Polaris Applied Science; Ian Zelo, Lisa DiPinto & Jordan Stout, NOAA; Karen Purnell & Helen Chapman, ITOFF

### Observation

Although the topic of emergency restoration actions was discussed during the response, no such actions were requested by the NRDA groups.

Few, if any, opportunities for restoration-targeted response actions were identified, or indeed available, in this incident.

Coordination between NRDA and response was accomplished through the designation of a NRDA Liaison. This Liaison insured the sharing of logistics, planning, data and scientific expertise in a successful manner.

The NRDA effort was organized by resource category, and those assigned to each subgroup would interface with different experts, both within and outside the ICP, as needed.

There were some communications problems between the NRDA teams and the Safety Officer, as well as with the Shoreline Cleanup Assessment Teams (SCAT), but these problems were resolved by the NRDA Liaison and minimal loss of ephemeral data resulted.

### Discussion

#### *Overview*

The NRDAR process has been an integral part of spill response for the past two decades, taking a more restoration-focused approach since the mid-1990s. The overall goal of NRDAR is to make an injured resource (natural, recreational, cultural or economic) whole and to achieve, to the best degree possible, status quo ante or the condition of the resource prior to the injury. This is typically a three-stage process (response notwithstanding) of injury assessment, damage assessment and restoration. Injury assessment is the study and quantification of the loss to the resource, including lost use and lost future use of a habitat or shoreline (for example, lost use for a recreational beach would be diminished visitation by the public). This should be a science-based assessment with studies that are mutually agreeable to the responsible party and the government trustees. Damage assessment is the assignment of some cost to those injuries, either in monetary terms or as a function of an agreed restoration plan designed to make whole the injuries identified. Here, the damages and restoration plan can be as simple as the replanting of an injured marsh or as creative as the purchase of nesting habitat hundreds of miles away in order to enhance a population of loons (see “North Cape Oil Spill Restoration Plan”). Finally, the restoration plan is carried out.

In recent years, both sides of the response effort, spill mitigation and NRDAR, have begun thinking about how to make the activities of response through to restoration a continuum rather than separate entities. As result, emergency responders and injury assessment coordinators have worked more closely and communicated better. Where possible, when this cooperative effort works best, actions can be taken in the emergency phase of a response that benefits or expedites the achievement of status quo ante. The faster a resource is restored, the less lost use is experienced.

## RESPONSE

It should be pointed out that there is a difference between “emergency restoration,” as defined by OPA 90 (as amended) and so-called “restoration-targeted response decision-making.” The former is an action initiated by the trustees, in consultation with the OSC (if response actions are still underway) and is designed to “minimize continuing or prevent additional injury” (OPA 90). An example is the replanting of a marsh in order to reduce predicted erosion. The latter is a coordinated effort between response and NRDAR (trustees and RP) designed to aid in the final restoration of a habitat, species or coastal area. An example is using the resources and authorities during a response to build habitat on an adjacent island in order to increase the nesting potential of an endangered bird impacted by the same spill. One is born of necessity, the other of opportunity.

The discussion below, and this issue paper in general, examines the opportunities available and actions taken toward this goal. This paper does not speak to the NRDAR process as applied to the *Cosco Busan* oil spill or make any judgments relative to the science or the approach. The NRDAR process has only just started and will continue for many more months, long beyond this review.

### *The Cosco Busan Experience*

Given that one of the key goals of response is to minimize injury to natural and other resources, efforts were being taken at the Command Post level to assist restoration. However, few specific actions were taken that could be considered outside “normal response” and geared toward final restoration. The Environmental Unit did consider potential impacts of spill response activities on the herring spawning season (November to March). These sites were given higher priority relative to treatment in order to minimize impacts on these fish. NRDA specialists were also consulted during the discussion of using a chemical shoreline cleaning agent.

Clearly the topic of emergency restoration actions was discussed during the response, yet no such actions were requested by the NRDA groups. This statement reflects less on effort and more on opportunity. All indications are that the response elements and the NRDA elements of the response developed a good working relationship, sharing data and expertise, coordinating logistics and maintaining a nexus through an established NRDA Liaison. It is a circumstance of this incident (like many) that opportunities for emergency restoration or response planning designed to aid non-emergency restoration were not obvious and perhaps did not exist. Such opportunities are rare. However, given the level of cooperation between these historically separate groups, were restoration potentials available, they would likely have been well exploited.

It was difficult to adequately staff the NRDA liaison position in the first two days of the spill; this was due in part to the fact that OSPR's NRDA organizational unit had staff assigned to the UC for response activities (i.e., SCAT and/or bird search and recovery). After the first two days, the NRDA Liaison position was staffed on a rotating basis with NOAA staff. After a few more days, the NRDA Team was able to permanently assign someone to the position, and our contacts reported that communications improved further. The NRDA Liaison interacted with Logistics regarding boats and wildlife overflights, as well as with the Environmental Unit regarding coordination with the SCAT teams.

The NRDA efforts were headquartered at the NOAA National Marine Sanctuaries Office at the Presidio, which had adequate space for subgroup meetings and displays. While this reduced opportunities for spatial conflicts with response operations, it also increased the pressure on the NRDA Liaison to maintain regular communications between this location and the ICP on Treasure Island.

The NRDA effort was organized into resource subgroups such as recreational uses, mammals, bird, fish and shoreline habitats. Each subgroup interfaced with different experts or elements of the response as needed. For instance, those assigned to the bird subgroup interfaced with the wildlife Search and Collection teams, with the OWCN and with the Wildlife Branch in Operations. NRDA activities necessarily rely on individuals who have knowledge of the local resources; in the case of the *Cosco Busan* spill, many of these local experts worked for local Trustee agencies, so interface with these local experts was outside of response operations. In contrast, other subgroups were in frequent contact with the EU.

## RESPONSE

If a NRDA Team needed to go into a “hot zone” they sought clearance from the Safety Officer. There was some confusion, however, regarding what level of HAZWOPER training the teams needed in order to enter “hot zones.” This was exacerbated by changes in Safety Officer personnel resulting in varying answers. The NRDA Liaison was finally able to clarify the requirements.

There were also some communications problems regarding which samples were being collected by the SCAT teams; NRDA teams felt they needed this information in order to fill any data gaps. Again, the NRDA liaison was able to resolve this problem.

### Lessons Learned

Although NRDA activities are generally separate from spill response efforts, they often parallel response activities in time and location. As a result, effective communications and coordination is crucial to the success of both types of effort. This is particularly important during the Ephemeral Data Collection phase of NRDA, which occurs in the early states of setting up a response operation.

While opportunities to maximize future restoration efforts through response decisions are not always present, open discussion of these possibilities between response and NRDAR scientists is advantageous to the ultimate outcome.

### Recommendations

The role of the NRDA liaison (Representative) should be further clarified in the Incident Management Handbook and reconciled with the NCP. The Coast Guard is encouraged to work with the West Coast JAT to accomplish this objective.

Job aids should be developed jointly by response scientists and restoration specialists that help the UC recognize restoration-targeted opportunities during the emergency phase. In addition, expedited regulatory approvals (e.g., dredging permits) and RP restoration credit agreements should be examined so that more restoration opportunities can be considered during the emergency phase.

Examine SCAT protocols for applicability to the NRDAR data needs. Where practical and not intrusive to the SCAT objectives, NRDAR data should be collected.

Establish minimum safety standards for NRDAR field scientists, accounting for their previous level of professional and technical training, in order that they experience as little delay in their ephemeral data collection as possible.

Interface between NRDA and response operations should be included in the design of NPREP drills.



### Oil Recovery North of Rodeo Beach (FOR RELEASE)

(Nov. 27, 2007) MARIN COUNTY, Calif. – Cleanup crews for the *Cosco Busan* oil spill work together to scale a cliff north of Rodeo Beach here on Tuesday, to recover bags of oil left on the beach. (Coast Guard photo by Petty Officer Jonathan R. Cilley)

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## Shoreline Protection Activities Information Sharing

### Sources

USCG Incident Management Handbook, August 2006; COMDTPUB P3120.17A; Jeff Rubini, USCG; Bill Weber, TOG; Cheryl Surface, TOG

### Observation

There is no formal ICS process to document the implementation status of assignments on the 204s.

There was confusion about the completion/status of assignments described in the 204s.

### Discussion

According to conventional ICS guidance, the EU in the Planning Section recommends shoreline protection and other response priorities such as GRAs using the “Resources at Risk Summary,” also known as the ICS 232 form. The EU learns from the Status Display Board or daily briefings what has already been accomplished.

Based on the priorities listed in the 232s, the Resource Unit in the Planning Section then assigns specific resources using the “Assignment List,” known as the ICS 204 form. Sections 7 and 8 of the 204 indicate what work is to be done with the assigned resources, as well as any special instructions. The 204s implement the Incident Planning Objectives and the Operations Section Chief is expected to provide input and, along with the Planning Section Chief, to approve the 204s.

Division or Group Supervisors use the “Unit Log,” or ICS 214 form, to indicate whether the 204 assignments were completed and, if not, the reason why and what alternative actions (if any) were taken.

The Situation Unit in Planning is responsible for preparing the “Incident Status Summary Form” (ICS 209), which reflects the progress of the response. The Situation Unit also maintains the Status Display Board and participates in daily situation briefings. The Situation Unit is expected to track the information in Section 7 of the 204 as part of these efforts.

What is often used for boom deployment reporting on the Form 232 is assigning the number zero to completed sites.

As noted on page 8-7 of the U.S. Coast Guard’s Incident Management Handbook, in the section describing the duties of the Documentation Unit Leader, “Thorough documentation is critical to post-incident analysis.” Or, as one oil spill specialist has stated it, “If it was not documented, then it did not happen.”

When the ISPR Team attempted to track booming activities carried out during the first two weeks of the response, the team had access to the 232s, the 204s, and 209s; but the information on the 209s only indicated how many feet of boom were deployed and was not tied back to specific 232 or 204 assignments. It was difficult, therefore, to track which Site Response Strategies from the ACP had actually been implemented. Indeed, it was clear from ISPR Team interviews with various responders that some of the GRAs (which include Site Response Strategies in the San Francisco Bay Area) were difficult or impossible to implement. Thus, the ISPR Team made the following Recommendation in their Phase I report (page 104): “There needs to be a process by which booming activities can be verified and reported back to the UC and displayed and evaluated. Develop procedures to document spill response actions to implement Site Response Strategies listed in the ACP. Include information on the success of such strategies as well as recommendations for change.”

## RESPONSE

During Phase II, the ISPR team continued to research this issue in order to understand whether such a process already existed. As noted in the process outlined under “Observations” above, the feedback loop does exist. ISPR Team interviews indicated that Field Supervisors may make notes on the 204s in addition to using the 214s to document field actions. The team was also told that the 214s are turned into the Ops Chief at the end of the day, and that this was done on a regular basis. In addition to notes made on the 204s and the 214s filed at day’s end, information from the field also came in verbally throughout the day to the Environmental Unit (SCAT), Operations Section (aerial observations) and the Situation Unit (field observers).

The SITL further explained that the information on the 214s was given to the GIS staff to be recorded on the Situation Display Board. The Planning Section Chief noted that the Display Board was one of the best she has seen, but she also noted that it was a big picture, and did not have the degree of detail one finds on the 204s. The SITL explained that the Display board included weather information, tides and currents, overflight information, the daily objectives and the ICS 207 (organization chart), as well as other information. GIS maps on booming and beach cleanups were updated in the morning and again in the evening. The SITL noted that the Display board is a “snapshot” of what is happening in the field at the time of the last update, and was updated two to four times/day. All material taken off the board was given to the Documentation Unit to file.

The Planning Section Chief stated that operations assigned on the 204s were carried out, although there were a few sites that needed frequent attention, to reset boom for example. However, without documentation, this is difficult to confirm.

The Planning Chief also stated that any private boom which had been deployed was not shown on the display board, although it was eventually tracked. When overflights noted boom where they had not directed deployment, staff were sent out to verify that it was privately owned, since the process of shoreline boom removal and decontamination was beginning. (This was the 11/16 boom matrix referenced on page 102 the ISPR Phase I report.)

### **Lessons Learned**

As noted in the process outlined under “Discussion,” a verbal feedback loop regarding implementation of 204s does exist, but it does not require specific documentation of the success or failure of efforts to implement Site Response Strategies.

It is also clear from ISPR Team interviews that information exchange between Planning and Operations went well during the *Cosco Busan* response, but it depended in large part on the daily briefings and on the Situation Display Board, and thus, the information was not always captured in standard ICS forms for later evaluation.

Although the Planning Section Chief agreed that the *Cosco Busan* response was unique in her experience with regard to the extensive deployment of private boom, it is also clear that documentation of deployment of private boom is not addressed in the standard ICS response/planning/operations/documentation paradigm. Considering the potential for cooperative planning and operations, as well as the need to determine boom ownership when entering the phase of boom recovery, a process for coordination is needed.

### **Recommendations**

Develop NIMS procedures to document the completion and result of spill response actions taken to implement Site Response Strategies listed in the ACP. Include information on the results of such operations as well as any necessary recommendations for changes to strategies during spill response operations and for inclusion in the ACP at a later date.

## RESPONSE

Consider assigning a staff person to record the daily briefing sessions during the response.

In future responses, photographically document the Situation Display Board prior to each update. Such photos should include the date/time they were taken and should be filed by the Documentation Unit.

Field observers should be used to assess and document the status of field assignments (204s).

Work more closely with local representatives to coordinate and document private booming activities with the Planning Section.



### **Cosco Busan Oil Spill (FOR RELEASE)**

SAN FRANCISCO – Contractors work to cleanup oil from shore after the container ship *Cosco Busan* leaked oil after striking the Bay Bridge. (Coast Guard Photo by CWO Scott Epperson)

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## Shoreline Treatment Termination Endpoints

### Sources

*M/V Cosco Busan Response: Shoreline Treatment Inspections, Methods & Endpoints*; NOAA ResponseLink reports; USCG POLREPs; Randy Imai, California OSPR; Jordan Stout, NOAA; Jacqui Michel, RPI; Arex Avanni, USCG; Heather Parker-Hall, Polaris Applied Science; Ed Owens, Polaris Applied Science

### Observation

The initial process for developing the treatment termination endpoint document involved a broad and appropriate level of participation including the UC, trustee and stakeholder representation.

The first termination document was submitted to the UC for signature on Thanksgiving Day, which surprised many working on the document. This action was perceived by some as a breach of trust on the part of the RP. Concern was expressed to the UC regarding this action.

The termination document was reworked through the Endpoints Subcommittee and delivered to the UC for signature on Dec. 7 in the form of the *M/V Cosco Busan Response: Shoreline Treatment Inspections, Methods & Endpoints*.

There was some disagreement over operations-driven endpoint decisions versus criteria-driven endpoints in proceeding from Phase Two (“cleanup of oil to the lowest practical level”) to Phase Three (“maintenance and monitoring”). Ultimately it was agreed that the shoreline cleanup workers would determine when they had reached “the lowest practical level” of oil cleanup for a particular segment of shoreline. This opinion would then be confirmed or refuted by a SCAT team observation.

Measures were taken to maintain consistency of SCAT team membership, thereby ensuring that “calibrated” observations were made. In addition, stakeholders were added to the teams along appropriate segments (land managers, trustees, community reps.), particularly for the final sign-off.

The termination and sign-off program made good use of the existing Beach Watch Program and data where available. As this program has been operating since 1994, background data was available as to tarball contamination. Only data from 2003 – 2005 were used due to the significant skew of the *M/V Luckenbach* oil. The *M/V Luckenbach* is a freighter that sank in the Gulf of the Farallones in 1953 and slowly released oil until it was located and remediated in 2003. Aside from many oiled birds, the ship caused many beaches in the area to experience tarball contamination for years. Once the oil was removed, events of tarball impacts dropped dramatically. A data stream as short as a couple of years would typically not be considered a reliable indication of background, however, this data set, short as it might be, is better historic data than is enjoyed at most spills and should be considered a real benefit.

Final sign-off procedures, particularly the timing of the inspections, were interpreted differently, causing some confusion and thus dissention among the participants (see “Final Sign-Off Timing” in the Discussion section below).

In general, the termination agreement is quite complete and thorough with little ambiguity. It works on a phased approach, using four phases to move from gross oil removal to final segment sign-off.

# RESPONSE

## Discussion

### Overview

The treatment termination endpoints or so-called “how clean is clean,” determination represents the end of visible activity on the shorelines and, for all practical purposes, the end of the response phase of the spill (the NRDA and restoration process will proceed for months and years, but the activity is far less visible to the public and stakeholders). These endpoints, while informed by previous cleanups around the country, are determined on a case-by-case basis by consensus of key decision-makers and stakeholders, including the RP. There is no official federal guidance as to the determination of “clean” and even when state law identifies maximum contamination standards, these are rarely helpful for the treatment of gross oil contamination and speak more to post-natural attenuation conditions. While it might seem prudent to establish these termination endpoints well in advance of a release, here the process is as important as the product.

The development of endpoints necessarily involves both responders (the UC) and key stakeholders. As it represents the end of the response for many, it can involve emotionally charged meetings between those wishing to “go home” and those concerned about lingering oil on their resources. Often hidden agendas are suspected from both sides. Stakeholders fear the RP is trying to reduce their costs and the RP fears the stakeholders are being punitive. Usually neither is the case completely. Nevertheless, the activity of having both parties work through the process with open dialogue, in the best of circumstances, building an uneasy trust along the way, seems to work the best. As in all human endeavors, however, once trust is perceived to have been broken, regaining it is very difficult.

In general, there are several guiding principles in the development of a treatment termination endpoint agreement. First, unless extraordinary circumstances exist (e.g., the presence or imminent arrival of an endangered species), treatment activity will be terminated where and when the activity itself poses a greater threat to the resource than the remaining contaminant. The best example is that of oiled vegetation where activity can drive the oil into the root system and threaten the seasonal re-growth of the perennial. Second, sheen emanating from the shoreline must be controlled until it stops. Third, human exposure must be minimized in areas of human use. Finally, and perhaps most critically, shoreline treatment will not occur if doing so jeopardizes worker safety. Again, there is typically no formal guidance for these criteria; rather, they are in the record of many, if not most, previous spills. The remainder of the agreement is usually based on the potential user of the habitat and minimizing the impact of the remaining oil. (In all spills, some oil remains in the environment after active treatment is terminated. This remaining oil will be naturally degraded over time, aided by the physical processes affecting that piece of the environment: natural weathering, storm activities and the senescence and re-growth of vegetation. Eventually, most of this oil is consumed at a microbial level, which is a natural process. Of course the time involved in this natural attenuation process differs dramatically from location to location. In Prince William Sound, Alaska, many areas still contain oil from the *Exxon Valdez* spill in 1989. Debate continues to rage as to whether this oil represents a threat to local organisms and if so, how it can be alleviated without causing greater injury.)

NOTE: At this time not all shoreline segments in the *Cosco Busan* spill response have been signed off.

The development and implementation of the treatment termination endpoint document for the *Cosco Busan* response had difficulties similar to most such documents. Key among these difficulties were differences in the method of determining the endpoint (whether to use specific written criteria or not between Phase One and Phase Two) and may have given the stakeholders the perception that the RP had violated their trust. This latter point came to a head twice, first when the initial document was taken to the UC for approval on Thanksgiving Day, when most of the Endpoint Subcommittee was not present, and again when the timeline for final sign-off inspections was accelerated. Whether these were intentional actions designed to advantage the RP or simply missteps is unclear, but in any case they caused considerable stress in a tenuous situation and were ill advised. In particular, the decision to sign what is perhaps the most complicated agreement of a response on a major Federal holiday set a negative tone and left the stakeholders skeptical as to the motives of the RP.

## RESPONSE

The document itself, once revised and agreed to by the Endpoint Subcommittee and signed on December 7, 2008, addresses the endpoints clearly for each of the impacted shoreline types. With the exception of the timing of the final sign-offs, the procedures are clear and detailed and leave little room for interpretation outside those of the inspection teams on site. While there can be disagreement over the endpoints chosen, there is little doubt that the instrument itself is good work.

Final sign-off, Phase Four in the document, was to begin following several consecutive reports by the M&M surveys indicating NOO and a period to allow for “natural weathering processes.” The document expressed expectation that these final inspections would begin some time “late spring/early summer 2008.” When the RP began seeing segments in early winter with consistently NOO, they began requesting final sign-off inspections. State, trustee and stakeholder representatives saw this as a violation of the agreement and scheduling problem. The RP has the responsibility of scheduling participation from land managers and other stakeholders. When the timeframe changed from spring/early summer 2008 and final sign-off inspections took on a greater urgency, scheduling participation by stakeholders became an issue. The argument was made that had the timeframe remained as expected, there would have been adequate time to ensure stakeholder participation. This was aggravated by difficulties identifying the proper land representative for particular segments. The RP saw the reluctance of the state, trustees and stakeholders to inspect sites as an unnecessary delay and expense as it required the continuation of M&M team inspections on what they felt were Phase Four segments. Ultimately, this was resolved through UC-initiated meetings and negotiation between involved parties.

### **Lessons Learned**

The process of developing a shoreline cleanup termination endpoints document, while difficult and often painful, is critical to the end result. Termination endpoints can assist the UC in logistical decisions about shoreline treatment technology, manpower requirements and treatment aggressiveness.

While the cleanup or treatment termination endpoints agreement is by no means a legal contract, it should be approached as one. It should be expected that, in particular, stakeholders who are inexperienced in the variability of oil spill responses will consider this a binding and inviolate document. Therefore, the agreement should be specific and should provide for a consensual process by which conditions in the agreement can be changed, even to the extent that it involves an arbitrator of some kind (often the FOSC).

Establishing one or several inspection spokespersons to represent the land managers and/or the communities would have alleviated many of the scheduling concerns. This person(s) could be a trusted consultant paid for by the response or an experienced NGO representative or a state agency. Reducing the number of different individuals who must participate on the sign-off inspections will greatly increase scheduling flexibility and reduce delays in sign-off. It is important, however, that the individual chosen or hired to represent the stakeholder(s) is fully empowered to speak for that stakeholder and runs no risk of being second-guessed.

### **Recommendations**

Begin the endpoint discussion as early as possible.

Establish a working group for the treatment termination endpoints agreement (as was done for the *Cosco Busan* response) that effectively represents the key stakeholder and land managers in the impact area.

Establish a phased approach to treatment inspection criteria with basic, but not prescribed, termination endpoints based on shoreline users.

Maintain clear and frequent communications and avoid at all costs surprises that could jeopardize trust.

Clearly identify conditions under which either timelines or treatment criteria might change (e.g., a more intense storm season might accelerate natural attenuation and thereby move sign-off inspections forward).

## RESPONSE

When possible, incorporate the cleanup termination endpoint discussion and consensus building effort into large-scale exercises. Include trustees and key stakeholders in order to increase realism, even if these roles are “played” by other individuals.

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## Closure and Reopening of Beaches

### Sources

San Francisco Hotwash Meeting Minutes; OES Hotwash Meeting Minutes; OSPR Hotwash Meeting Minutes; OWCN Staff Group Interview

### Observation

The ACP does not have clear protocols for opening and closing beaches to the public in the event of a spill, and there is no guidance for information on beach closure signage.

The UC did not have authority to close or reopen beaches. Only land managers had authority to close beaches, which were not managed in a systematic manner. For the beaches that were closed, there was difficulty in enforcing the closures.

For those beaches that were closed but lacked clear signage or adequate enforcement of the closure, numerous people continued to use the beaches for jogging, dog walking and other activities, potentially exposing themselves to oil and endangering wildlife.

### Discussion

The UC did not have authority to close or reopen beaches, although myriad and multiple land managers (cities, counties, National Park Service, etc.) hold the authority for closing beaches. Land managers reported in hot-washes that there were notification problems, lack of regular updates (particularly on the scale and location of the spill) and uncertainties as to who was supposed to post signs and what they should say. Little information was forthcoming from the liaison, creating what the counties called in the hot-wash a “perception of a level of secrecy.” As a result, closures, re-openings, closure signs and warning signs were inconsistent and uncoordinated in terms of timing, area, protocols, sign placement, sign text and languages used, etc. across the different agencies involved.

### Lessons Learned

It is critical to ensure that correct, timely information reaches local decision-makers, particularly in the San Francisco Bay Area, where local, State and Federal beaches and parks were affected.

Failure to effectively close beaches to the public may adversely impact wildlife protection, oiled wildlife recovery and public safety.

Information from the UC is essential for local land managers to make the most appropriate closure decisions. Such information should include current and predicted status of oiled beaches and response activities scheduled for those beaches.

Without clear signage and prompt closures as needed, the public may assume the beach is safe and use it at potential risk to their health. The UC has no authority over closures but has an important role to play in communicating information to the myriad entities that do have that authority. This makes beach status communication extremely important.

Land managers may look to the UC for information relative to beach management.

## RESPONSE

### Recommendations

Local land managers should determine the information they need in order to make beach closure decisions and incorporate those needs in the local government plans, which are coordinated through the ACP.

Local plans should include beach closure, cleanup, reopening and signage protocols.

Beach closure protocols should be included in drills and exercises.



### Muir Beach Cleanup

MUIR BEACH, Calif.- Cleanup crews sift through sand on Muir Beach, Calif., in search of oil. The San Francisco Bay area became polluted after the M/V *Cosco Busan* collided with a fender on the Bay Bridge in San Francisco. (UC photo by Petty Office Second Class Prentice Danner)

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## Closure of Commercial Fisheries

### Sources

Interviews (see below). <http://www.incidentnews.gov/incident/7708/browse?group=maps> – NOAA overflight maps in the days following the spill, showing oil outside three miles from shore. <http://gov.ca.gov/index.php?/press-release/8085/> - Governor’s Executive Order suspending fishing as of 11-15 (S-14-07), issued in press release dated 11-13-07. <http://www.dfg.ca.gov/news/news07/07082.html> - DFG’s news release of fishing closures, containing map of closure area (dated 11-14-07). [http://www.dfg.ca.gov/ospr/spill/incidents/cosco\\_busan/sfbay\\_fish\\_open.pdf](http://www.dfg.ca.gov/ospr/spill/incidents/cosco_busan/sfbay_fish_open.pdf) - DFG’s lifting of the fisheries closure. [http://skytruth.mediatools.org/content/images/photo.acs?photo\\_id=15048&object\\_id=11286&size=lg](http://skytruth.mediatools.org/content/images/photo.acs?photo_id=15048&object_id=11286&size=lg)

Testimony of Zeke Grader, PCFFA to U.S. House of Representatives Subcommittee on Coast Guard & Marine Transportation, 11-19-07; Testimony of John McCammon, DFG, to Assembly Committee on Natural Resources, 11-15-07 Yender, R. et. al. 2002. Managing Seafood After An Oil Spill. NOAA/ORR; NOAA ResponseLink Reports; Yender, R. Improving Seafood Safety Management After An Oil Spill. IOSC 2003.

### Observation

The purpose of the ISPR review is to “examine the implementation and effectiveness of the Area Contingency Plan and its integration with other applicable contingency plans at the federal, state and local levels, as well as conduct an analysis of the Coast Guard’s . . . communication with key federal, state, local and industry partners concerning the response.” As noted in the charge given to the ISPR Team, this ISPR process included specific direction to “evaluate the effectiveness of the Coast Guard’s oil spill response and communications efforts after the . . . collision with the bridge.”

The Sector San Francisco ACP states that “[e]ach Area Committee is . . . responsible for working with State and local officials to pre-plan for joint response efforts, including . . . protection, rescue and rehabilitation of fisheries and wildlife.” (Section 1100, Introduction/Authority). Though numerous other references to fish and fisheries run through the ACP, the ACP provides little in the way of guidance with respect to communication of information in the possession of the UC that is needed for accurate decisions on closing and reopening fisheries in the event of a spill.

Timely, accurate information about oil spill amounts and trajectories is essential for appropriate fishery closure decisions by the Director of the Department of Fish and Game and/or the Governor. However, the Acting Director of DFG may not have had current information that was made available to the UC by NOAA as to the sighting of oil beyond three miles, which resulted in inaccurate DFG testimony before the California Assembly committee reviewing the closure. The Acting Director also testified at the same public hearing that DFG had made its fishery closure decision at three miles in part because oil had not been sighted outside three miles. This was contrary to information provided to the UC by NOAA.

The ACP does not have clear protocols for opening and closing fisheries in the event of a spill, or for informing the appropriate decisionmakers about spill size and trajectories so that they can make such decisions. No one in the UC had direct line authority to close or reopen fisheries (DFG-OSPR is the State Incident Commander, but it is the Director of DFG or the Governor who makes fishery closures decisions in the event of a spill). Regardless, information from the UC on the size and trajectory of the spill through the liaison, and from DFG-OSPR to DFG, is essential for the actual decisionmakers to make the most appropriate closure decisions.

The NOAA Scientific Support Team discussed fisheries and seafood issues with NMFS, OPSR, and state public health officials as early as November 9 and began drafting guidelines on risks to seafood and management options.

## RESPONSE

It was suggested that state officials coordinate with the Chief of the NOAA National Sensory Science Section for further advice and engage their services, if necessary.

The fishery was closed by the Governor on November 13, by executive order, and following a vote by local fishermen to postpone the Dungeness crab (*Cancer magister*) season to address possible risk to human health.

There was no analytical data available prior to the closure (or after) that indicated a human health risk from crab harvested in the vicinity of the spill.

Once the fishery was closed, State resource and health officials worked to reopen the harvest and reassure the market and general public.

### Discussion

The UC does not have the authority to close or reopen fisheries. This authority resides within regulatory agencies of the state government for waters within 3 miles of shore, and the National Marine Fisheries Service for waters beyond three miles from shore. However, information from the UC is key in decision making by other agencies and the Governor with regard to closing fisheries.

The oil spill occurred just before the opening of the crab season in San Francisco Bay, a short but critically lucrative season for both local and out-of-state fishermen. Fishermen concerned about potential health and consumer confidence issues associated with the oil voted unanimously to request a postponement of the opening of the crab season until the crab had been definitively tested and found safe. The Governor's Office issued an Executive Order on November 13 suspending all fishing for human consumption in the areas affected by the oil spill beginning November 15, 2007 until December 1, 2007, or when the DFG and state health officials determined the fishing season could be opened. The Governor's closure order stated that fishing was suspended because "the oil spill continues to threaten marine life in the area, including marine mammals, birds, crabs, herrings and other fish populations" and "the human health risk posed by the human consumption of crab, herring and other marine life caught in the oil spill area is unknown." DFG then issued a closure notice that defined the area of the closures, which extended only out to three miles. For the concerns noted above, fishermen reacted strongly against DFG's closure boundaries, stating that oil had been sighted past three miles, and that boats bringing crab in from that area also would come into contact with oil slicks closer to shore. DFG officials stated that oil had not spread past three miles, contrary to NOAA over flight data provided to the UC but apparently not to DFG.

There are two milestones with regard to a closed fishery; the closing and the reopening, both of which require careful thought, informed by science and aided by experience, by the State entities involved in the decision making (the UC did not make closure decisions and so this issue is not explored in significant detail here). Once an area is closed for a stated hazard, a mechanism must be either in place or devised to reopen the area that quantitatively demonstrates the absence of that hazard. Unfortunately, this frequently takes a great deal of time, analysis and deliberation. There are, however, a variety of techniques that can be used to either temporarily restrict fishing or inform the fishing community to take necessary precautions. Among these are "fishing advisories."

Once resource managers decide that a closure is necessary, the extent and duration of the closure must be determined. This can range from closures based on oil maps and trajectories to specific fisheries species to more systematic, risk based models. The references provided at the top of this issue paper provide useful background information for decision makers.

### Lessons Learned

DFG, the Governor's Office and federal trustees responsible for the regulation of fisheries must look to the UC, particularly the State Incident Commander for information on oil spill amounts and trajectories, which they then will use in determining when and if fisheries should be closed. Simply stating that the UC does

## RESPONSE

not have the authority to make those decisions results in the UC appearing to be unhelpful and contributes to confusion and uninformed decision making. The recognized oil spill experts should be prepared to provide necessary data and guidance to fisheries decision makers in the event of a spill.

Expeditious tests and information are needed on assessing the human health impacts of spills on fish and fisheries, particularly with respect to making a decision to reopen a fishery.

NMFS, the State Incident Commander and health officials were in consultation with the scientists in the UC as to fisheries management prior to the closure. The Governor's Office, making the decision to close the crab fishery, may not have directly benefited from those discussions.

Fisheries closures or restrictions during an oil spill for purposes of "market confidence" or potential for taint are appropriate, but require concerted communication efforts on the part of fisheries regulating agencies.

While the full UC does not have authority to manage fisheries impacted by an oil spill, expertise and data within the UC should be expressly and readily provided to fishery management decision-makers in a timely manner.

Fishery resource managers and health officials should aggressively seek input from the expertise with the UC in order to take advantage of all science generated during a spill. This will ensure that any closures are science-based, data-rich and well considered.

### **Recommendations**

Develop and include in the ACP protocols specific to ensuring that regular and timely oil spill amount and trajectory information are made available to and acquired by fishery decision makers (both DFG and the Governor's office) and agencies in charge of assessing potential health impacts.

Although the greatest fishery management authority rests with the state, *planning* for the orderly advisory, restriction or closure of a fishery and the subsequent lifting of that action can be the purview of the Area Committee or the Regional Response Team. Much literature is available on the subject (several cited above) as well as previous spill experience. By utilizing these resources and consulting experts among the fishing community, regulators and health professionals, impacted fisheries management plans and protocols can be developed which will speed actions during an emergency. Because the ACP and the RCP are transparent plans, such emergency fishery planning can also help reassure fishermen, wholesalers and consumers that the actions taken were deliberated well in advance of the event.

Engage the fishing community, regulators, and other experts to develop clear, deliberative emergency fisheries management plans in the event of a spill that may impact a fishery (including aquaculture). This may require state legislation or regulation rather than ACP amendments.

Investigate further the need to develop expedited tests as needed to check whether impacted fish are a health risk.

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## Cascading Equipment and Personnel

### Sources

NCP; San Francisco ACP; [USCG NAVIGATION AND VESSEL INSPECTION CIRCULAR NO. 01-05](#); CALIFORNIA CODE OF REGULATIONS, TITLE 14, DIVISION 1; SUBDIVISION 4, OFFICE OF OIL SPILL PREVENTION AND RESPONSE; CHAPTER 3. OIL SPILL PREVENTION AND RESPONSE PLANNING; SUBCHAPTER 4. OIL SPILL CONTINGENCY PLANS, NONTANK VESSELS SECTIONS 825.01 - 827.02; M/V *Cosco Busan* CA Non-tank Vessel Contingency Plan; CA Senate Committees on Governmental Organization and Natural Resources and Water Hearing; CAPT W. Uberti, USCG; CAPT P. Gugg, USCG; Todd Roloff, NRCES; Lt. Rob Roberts, OSPR; Barry McFarland, TOG/QI/RP/SMT; Bud Leland, OSPR; Steve Ricks, MSRC

### Observation

In the *Cosco Busan* response the cascading system worked as is typical in most oil spills.

Resources deployed in the *Cosco Busan* response included dedicated equipment and personnel situated locally, as well as non-dedicated resources from other locations within and outside of the state.

Some private spill response equipment and personnel situated in the local vicinity of San Francisco were not deployed in responding to the incident. The contracted responders made decisions about what equipment and personnel to use. Being national response organizations, they have access to resources from around the country.

Comments in the media and at hearings convened by policy makers questioned why equipment and personnel from outside of the immediate geographic area were used for on-water containment and recovery, shoreline protection and clean up as opposed to utilizing resources situated locally.

The majority of cascading occurred from Day Two onward in the response.

Because San Francisco is a high volume oil port, both of the OSROs that were identified in the vessel contingency plan satisfied the six-hour on-water containment and recovery standards in a shorter period of time with dedicated equipment and personnel situated locally.

### Discussion

The concept of mutual aid is recognized in the NCP and is a fundamental component of virtually any type of emergency response, be it a major oil spill, earthquake, flood or forest fire. Resources are cascaded into an incident area to augment, complement or back-fill those resources dedicated to a specific location pursuant to the magnitude of the incident and at the discretion of the incident command. This allows maximization of local dedicated response resources spread out to cover many different geographic areas while simultaneously allowing these areas to pool resources as incidents require. Balanced against this is the need to have sufficient dedicated resources located proximate to each established area of responsibility to meet immediate regulatory response standards based on State regulation and Federal policy.

From a regulatory perspective, the *Cosco Busan's* CA Non-tank Vessel Contingency Plan established the most stringent requirements in terms of response standards for the *Cosco Busan* incident. Those standards establish a six-hour response requirement for on-water recovery, containment boom and storage. In addition, California has regulations for sensitive site protection that set the bar for planning and serve as a performance standard for rating OSROs when tested. These regulations require the UC to look at trajectories for deciding which sites must be protected within two to six hours for various locations. Both

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OSROs stated that all immediate response requirements for plan holders contracting with them, up to the six hour limit, were and are satisfied with dedicated equipment and personnel located in the immediate geographic vicinity.

Both of the OSROs that were identified in the vessel contingency plan satisfied the six-hour on-water containment and recovery standards in a shorter period of time with dedicated equipment and personnel situated locally.

The San Francisco ACP identifies sensitive sites that should be protected. However, in the event of a spill the UC, based on recommendations from the State biologists and others, will identify which sites are to be protected. Those sites protected in the first day of the *Cosco Busan* spill were done so with dedicated resources situated in the area.

Beyond the requirements established for immediate to six-hour response, responders will mobilize and cascade resources from outside of the immediate location, based on their own assessment of the incident and its response requirements or based on demands made by the UC and for personnel rotation. Both OSROs have stated that early in the response they alerted their respective resources located in other areas to the possibility of required mobilization. This was done in spite of the low initial spill quantity reported. During Day One it became obvious to the responders that the magnitude of the spill was greater than first reported. This prompted the responders to begin mobilization and deployment of outside resources, both equipment and personnel. These resources began arriving in the latter part of day one and on subsequent days as needed.

Resources for response from Day Two onwards, such as administrative staff and field personnel for clean up, are not bound by geographical proximity and lend themselves to cascading protocols.

Both USCG FOSCs stated that at no time did they perceive the response being limited by resources. The SOSC stated that he would have preferred to have additional biologists but that otherwise there were no resource limitations. The SMT in the UC echoed these assessments. Both the FOSC and the SOSC have the ability to intervene in the response if they perceive that insufficient resources are being provided. As with the RP, their options for augmenting existing resources may require the utilization of mutual aid agreements and cascading of resources.

As the number of major spills has declined over time, the availability of personnel experienced in oil spill response has seen a similar decline. It is difficult for spill responders to maintain part-time spill response staff. For immediate response requirements, dedicated resources situated geographically to meet response standards are essential. For response requirements beyond the immediate standards, cascading personnel allows for more experienced responders to lend their expertise. Similarly, cascaded equipment can maximize the economic efficiency of the response. This also allows the RP to better control the cost of the response, provided that the response is performed to the satisfaction of the FOSC and SOSC and meets all prevailing statutory and regulatory requirements.

### **Lessons Learned**

Cascading resources increases worker experience and helps to maintain a higher state of National readiness.

While other resources may assist in the response, cascading resources maintains a reliable response standard.

### **Recommendations**

The Federal and State UC representatives should continue to be vigilant in monitoring resources provided and be prepared to intervene to ensure that the resources are augmented if needed.

A catalogue of local and regional resources will assist the UC in making decisions for resource deployment.

## Commercial Fishing Vessels for Cleanup Operations

### Sources

<http://www.incidentnews.gov/incident/7708/browse?group=maps> – NOAA overflight maps in the days following the spill; <http://gov.ca.gov/index.php?/press-release/8085/> - Governor’s Executive Order suspending fishing as of 11-15 (S-14-07); <http://www.dfg.ca.gov/news/news07/07082.html> - DFG’s news release of fishing closures, containing map of closure area (11-14-07); [http://www.dfg.ca.gov/ospr/spill/incidents/cosco\\_busan/sfbay\\_fish\\_open.pdf](http://www.dfg.ca.gov/ospr/spill/incidents/cosco_busan/sfbay_fish_open.pdf) - DFG’s lifting of the fisheries closure; San Francisco Hot-wash Meeting Minutes – 11/28/07; Testimony of Zeke Grader, PCFFA, to U.S. House of Representatives Subcommittee on Coast Guard & Marine Transportation, 11-19-07; OSPR Hot-wash Meeting Notes (3/12/08); Bud Leland, DFG OSPR; Maria Voikovich, DFG; Zeke Grader, PCFFA; Larry Collins, Captain, F/V *Autumn Gale* and Crab Boat Owners Association; Steve Ricks, MSRC (ISPR Interview); Barry McFarland, The O’Brien’s Group (ISPR Interview); CAPT Uberti, USCG, FOSS (ISPR Interview)

### Observation

Commercial fishermen impacted by an oil spill may have available time for cleanup/response, especially if the spill is followed by a fishery closure.

Fishermen have important local knowledge of tides, conditions, etc. that could be particularly useful in spill response.

Several years ago there was an established alliance for fisherman for compensated oil spill response but this disbanded when the center administrator was no longer able to remain active.

The responders did not separate collected oil by source so the quantity recovered from fisherman is not known.

### Discussion

A commercial fishing group representative stated that he personally notified the Coast Guard a day after the Cosco Busan spill that there were fishing vessels at Fisherman's Wharf capable of assisting in the oil spill containment and clean-up. He indicated to the Coast Guard that many of the vessel owners had previous training, but it was not current, and their certificates had lapsed due to the program ending several years ago. During this conversation, the fishing group representative was told by the Coast Guard that it did not need any help and that fishermen could join other volunteers in cleaning birds.

The Port of San Francisco made an offer to use fishing vessels to assist in the cleanup. Crews did not have HAZWOPER training, so the UC put trained HAZWOPER personnel on each of the commercial fishing boats, which were then used to collect oil. The Port paid the fishing vessel operators and supplied their fuel. About 20 vessels were used; they picked up oil sheens with sorbent boom. Two vessels started the Saturday (Day Four) immediately following the spill and the rest started Sunday (Day Five).

The fishing boats were outfitted with sorbent boom and oil snare (pom poms), both designed to recover, as opposed to corral, oil. They were told to “drag them through the water,” which is an appropriate technique. Nevertheless, the fishermen changed the protocol to great effect by using their fishing skills to create a purse seine-like configuration. By increasing the buoyancy of the snare by combining it with the sorbent boom, the fishermen reported greater efficiency.



**Cosco Busan Oil Spill (FOR RELEASE)**  
SAN FRANCISCO – A fishing vessel assists with oil spill cleanup efforts. (Coast Guard Photo by CWO Scott Epperson)

## RESPONSE

The fishing boats worked for a total of four days; two were hired to stay on longer. The added presence of the fishing vessels increased oil recovery capacity throughout the Bay, including nearshore areas, and was enhanced by the fishermen's familiarity with the Bay and its currents.

Attempts were made by the fishermen to determine their effectiveness. They reported that after first being told this information would be available, they later were told there was no way for the company to determine the amount of oil picked up by the fishing fleet. The ISPR Team cannot determine whether the fishermen's efforts were cost-effective but they clearly increased oil recovery capacity. In addition, their participation was important to promoting community goodwill.

Prior to the 1996 *Cape Mohican* Oil Spill, Clean Bay (now MSRC) started a chartered but loosely-administrated program that involved the local fisherman through the fisherman's association. The training took place at the California Maritime Academy at Vallejo and involved 24 hours of instruction over a three-day period. They spent one day each year in training to maintain their certification. A list of these trained fishermen was maintained as a resource for response. This alliance formed a private response organization named Pacific Link Environmental Inc. and was a sub-contractor to Clean Bay who provided, among other things, administration of the fishermen response program. Clean Bay cancelled the contract with Pacific Link Environmental when their president could no longer perform his duties due to health problems.

At the time of the spill, commercial fishermen, particularly those who had been trained in the past, expressed a strong interest in assisting with cleanup, although not all passed the Coast Guard safety inspection and they were not included as a resource in the ACP.

California regulations requiring dedicated resources for the first six hours of a response prohibit relying on "as available" resources, such as local fishermen, during that period of response. They do not prohibit the use of trained, "as available," local fishermen to supplement a response after six hours.

The fishing industry has expressed interest in continuing to be a resource in oil spill response, as had been the case until several years ago, and has requested Congress to support their participation in all future oil spill prevention, containment and clean-up programs. At least one county also stated in a hot-wash that the UC "should have used fishermen earlier as active participants to response."

Although the ISPR team concentrated its attention on the commercial fishing vessel fleet, there may be other vessels of opportunity that can also provide these services, such as charter sport fishing boats, whale watching boats or tour boats.

### **Lessons Learned**

Commercial fishermen can have important local information that may not be possessed by the UC. Based on the history of the Pacific Link program and the Bay Area, dedicated administration may be key to program effectiveness.

Regular HAZWOPER training of and clear protocols for the use of commercial fishermen in spill response is essential to maximize their effectiveness.

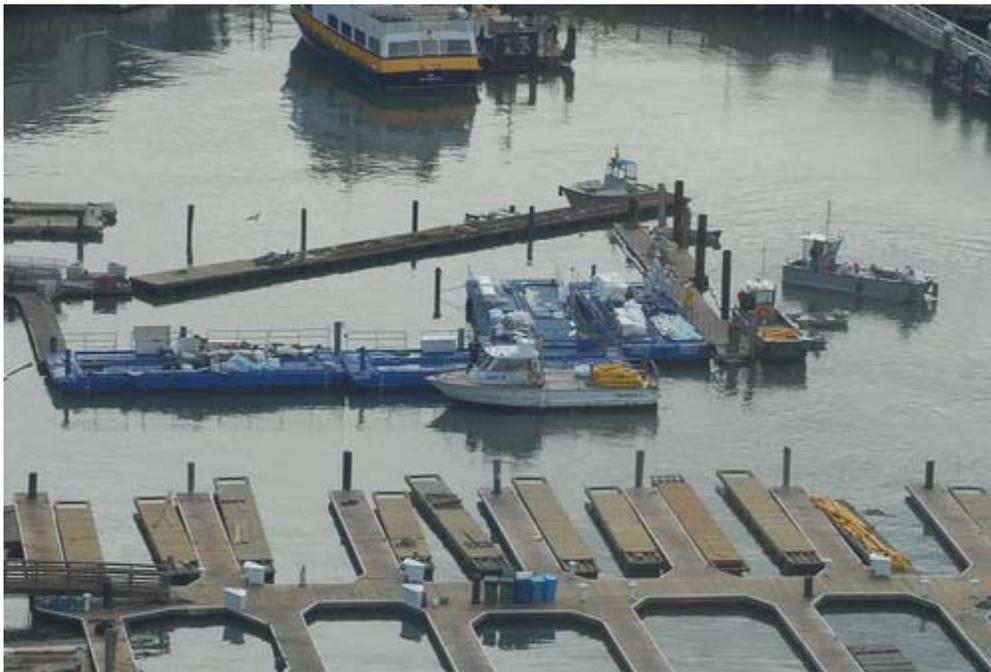
### **Recommendations**

The Area Committee should explore the use of commercial fishing vessels and other vessels of opportunity as potential oil spill recovery resources (as available).

The Area Committee should examine the previous experience with Pacific Link Environmental in the Bay area as well as existing models in Southern California, Alaska and British Columbia.

## RESPONSE

Further investigation should be undertaken to assess the fishermen's response effectiveness in the *Cosco Busan* spill and evaluate the benefit of investing in regular HAZWOPER training of fishermen for future spills.



### **Cosco Busan Oil Spill (FOR RELEASE)**

SAN FRANCISCO – Boom deployment vessels prepare to get underway to contain an oil spill caused by the vessel *Cosco Busan* after it struck the Bay Bridge. (Coast Guard Photo by CWO Scott Epperson)

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## Oiled Wildlife Response

### Sources

Beach Search Effort Logs; ACP; Cindy Murphy, OSPR; Mike Ziccardi, U.C. Davis, OWCN; Jay Holcomb, IBRRC; Rebecca Dmytryk, Search and Collection team member; Steve Hampton, OSPR; Diana Humple, Greg Massey and Yvonne Addassi, OSPR

### Observation

There were some problems in keeping accurate medical records with birds throughout their processing and care. The OWCN staff has prioritized training and techniques to alleviate such problems in future spills.

There is general agreement among interviewees that while the separation of medical records from some birds caused confusion and inefficiency, there was probably minimal impact on the medical care received by the birds and their ultimate prognoses.

The OWCN (facilities and staff) is one of the premiers of its kind in the country. See description in ISPR Phase I report on page 52.

### Discussion

Interviewees cited several problems in keeping medical records with some birds, particularly when large numbers were being processed at once: 1) incorrect use of a new form and subsequent confusion among bird processing volunteers; 2) the difficulty of keeping paper records physically with the large number of birds as they moved through the system; and 3) that flat-legged species, such as grebes, may lose identification bands during processing.

In response to problems with flat-legged bird losing bands during previous oil spill recovery processing, new bands were tried during the *Cosco Busan*. The bands performed better, but to ensure that birds can be connected with intake logs and medical records, the OWCN has undertaken additional training of staff in using the new bands and is considering using subcutaneous ID tags in future spills.

### Lessons Learned

Keeping bands on birds is an issue faced in many spills. Attempts to develop effective techniques are ongoing.

### Recommendations

OWCN should continue to conduct training and test new techniques for ensuring that medical records stay with birds during processing.

## Internet Communication

### Sources

Blog Herald, "Blog Count for July: 70 million blogs," July 19, 2005 <http://www.blogherald.com/2005/07/19/blog-count-for-july-70-million-blogs/> (Accessed April 6, 2008); Wikipedia, "Blogs," <http://en.wikipedia.org/wiki/Blog> (Accessed April 1, 2008); Sitemeter, "Instapundit Site Summary," 2007, <http://www.sitemeter.com/default.asp?action=stats&site=s11instapundit> (April 6, 2008); YouTube, <http://www.youtube.com/t/about>; Kill the Spill, <http://sfoilspill.blogspot.com>; International Bird Rescue Research Center, <http://intbirdrescue.blogspot.com>; Tree Hugger, [www.treehugger.com](http://www.treehugger.com); Yvonne Addassi, OSPR; Mark Holmes, Ocean Conservancy; Jordan Stout, NOAA SSC; PA1 Alan Haraf and PA1 Anastasia Devlin, D11 Public Affairs

### Observation

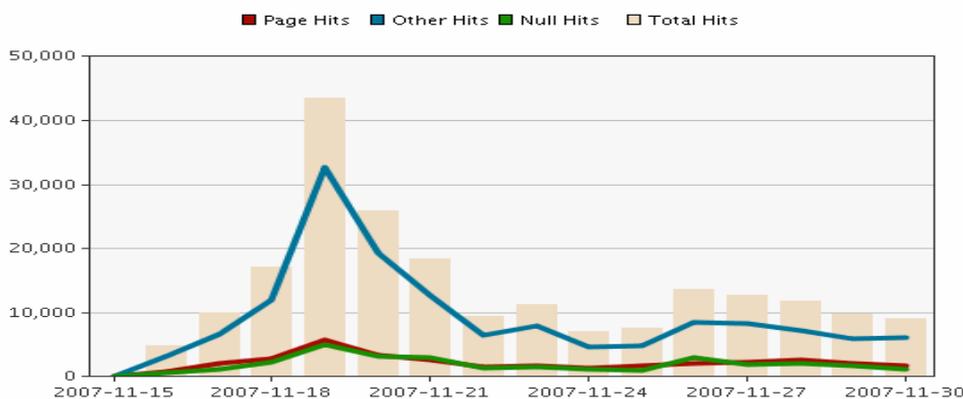
From November 7 through the 14, the Coast Guard Public Affairs representatives in the JIC posted press releases using Coast Guard letter head on the District 11 website for public information. The media and public assumed all information was from the Coast Guard exclusively because there was no visual indication that other agencies were represented in the JIC.

In the month of November 2007 alone, the D11 (Alameda/SF) site received 1.01 million hits. The first week, November 7-13, D11's site received more than 571,000 hits.

From November 15, 2007 through February 6, 2008 the Coast Guard Public Information Emergency Response (PIER) system maintained a *Cosco Busan* specific website on-line. This website did not look visually tied to the Coast Guard exclusively and the letterhead on the posted press releases included all agencies logos to represent the JIC as the source of information.

Since November 2008, the *Cosco Busan* PIERS website has received 1.38 million hits while online.

From February 6-13, 2008 (after the website went off-line) the site still got 4,118 hits, with the majority being null hits (see discussion section). From February 13 through mid-April 2008 the site has had about 988,000 hits, although it was not online.



Graph 1: Number of hits to the PIER *Cosco Busan* website per day immediately following its posting on-line.

NOAA posted information on their password protected Response Link website, which proved extremely valuable for responders, but was not accessible to the public. The SSC posted specific pieces of information on Incident News, a publicly accessible part of the Response Link system, after coordinating with the JIC.

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The State of California maintained a website specific to the *Cosco Busan* incident. One example of its use included a press release posted on the website at 4:00 pm announcing an 8:00 am meeting the next day to provide information on OSPR's role and offer volunteer training. The following morning, approximately 500 people responded in person. A large number of these individuals found out about the meeting by receiving email communications from San Francisco Baykeeper, a local NGO.

During the *Cosco Busan* spill, many individuals and groups hosted blogs. Below is a small sampling:

- Kill the Spill (<http://sfoilspill.blogspot.com>) – Created in Nov. 2007 and maintained by a private citizen after the spill, this blog was designed to keep readers apprised on coordination, updates and information regarding the oil spill and subsequent contamination. The blog organized and solicited volunteers for unauthorized cleanup efforts.
- IBRRC (<http://intbirdrescue.blogspot.com>) – Maintained by Russ Curtis for the IBRRC, this blog provided news and photos from the organization, which treated many of the birds oiled during the spill. It also provided links to the IBRRC's official website, which also listed updates on the organization's oil spill response efforts.
- Tree Hugger ([www.treehugger.com](http://www.treehugger.com)) – Tree Hugger is a media outlet dedicated to the pursuit of sustainability. While it mentioned the spill in a posting, the blog itself was not devoted to covering the event. However, with 13,000 posts and 2,628 unique visitors per day, this blog does reach a broad audience.

During the *Cosco Busan* spill, many groups used YouTube to upload video:

- Ocean Conservancy's San Francisco, CA office posted video of Warner Chabot, Vice President for Campaign Strategies, testifying before the State Legislature on examining and modifying future oil spill response efforts.
- Multiple individuals posted videos of unauthorized volunteers demonstrating cleanup techniques, cleaning up oil spills and encouraging others to do the same. Other videos showed authorities removing these "volunteers" from closed beaches. Many of the comments posted about the video supported the volunteers' efforts and chastised attempts by authorities to get people off the beaches.

Contributors posted information on the *Cosco Busan* spill on Wikipedia.org. The page discussed criticisms (both attributed and non-attributed) of the response efforts, environmental and economic effects, volunteer training and affected areas.

Internet communication continues to allow the spread of information, both accurate and inaccurate. In some instances, contributors to blogs and other reference-based websites can edit or post information without attribution.

### Discussion

Websites are the original method of online communication. By posting information, graphics, videos and other digital media on a homepage (which serves as a common root for other linked webpages with additional material), individuals, corporations, organizations and agencies can keep readers apprised of news, events and more. However, while still integral to overall web-based communication, simple information posts have recently been surpassed by other means. Below is a listing of several of the most popular and useful technologies, with a brief explanation of their purpose and some pros/cons.

In reference to the information provided in the observation section on the *Cosco Busan* website hits, the number of "hits" is a way the website administrator can measure the interest in the site. Null hits represent

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when people try to access the main address or click the link of an old press release. It will bring them to the "login" page when a website is no longer on-line.

### *Blogs*

Blogs, or web logs, are specialized websites that allow people (individuals, companies, groups, etc.) to share a running online journal with audiences. They are typically updated frequently (daily or weekly) and can include text, images, video and sound. Unlike traditional websites, blogs can be interactive, allowing users to directly respond to and engage in online dialogue about posted topics (personal, political, etc.). In recent years, blogs have grown immensely in popularity and have become a means of instant mass-audience commentary.

As of July 2005, there were 70 million blogs in existence. Consequently, blogs are much harder to monitor than broadcast or even print media.

Since 2002, blogs have gained increasing notice and coverage for their role in breaking, shaping and spinning news stories. While in most cases blogs are forums for partisan gossip and opinions, bloggers are sometimes the leaders in bringing information to the public.

As a communication tool, blogs disseminate information rapidly and very broadly. For example, in 2007, the blog called Instapundit.com averaged over 2.7 million visits per week and had totaled more than 270 million visits since its creation in 2002. Today many people get their news and information from blogs.

While it is an interactive medium, people must seek out blogs in order to view the information. With tens of millions of blogs available to today's Internet users, bloggers face much competition to get their message heard.

### *Really Simple Syndication (RSS)*

RSS is an online technology that notifies readers when updates have been made to a website, blog, podcast or Internet TV channel. RSS feeds typically contain either a summary of the updated content from the website or the full text. RSS is offered as a subscription to readers, so only those who sign up will receive updates. Most news sites offer this feature.

RSS is an efficient way to disseminate information and keep interested audiences engaged. This technology is much more proactive than simply posting updates or information on a website. It gets past the "waiting for readers to come to us" syndrome.

NRCES received RSS feeds from OES, which notified the organization of the spill in San Francisco Bay and acted on this information to self-deploy. See page 60 in the initial ISPR Phase I report for more information.

### *YouTube.com and Wikipedia.org*

Founded in February 2005, YouTube is an online video site, and a popular destination to watch and share original videos worldwide through a Web experience. YouTube allows people to upload and share video clips on www.YouTube.com and across the Internet through websites, mobile devices, blogs and email. In addition, people can leave comments on each video posting (much like a blog). YouTube does not release the number of uploads, but it is fair to guess it could be in the millions.

Wikipedia is a free, multilingual, web-based encyclopedia project. Content is derived from volunteer writers from around the world. Specialized training or education in a particular subject is not required to post information. In fact, anyone can – and is encouraged to – contribute or make edits to articles on Wikipedia. The site relies on collective editing and re-editing from users for content accuracy. This editing process takes time, with the result that immediately following an event a high-level of accuracy may not have been achieved. There is an assumption that Wikipedia is an authoritative source, which can lead to misinformation being taken as fact. Still, since its creation in 2001, the site has become one of the largest

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and most popular web references. It attracted at least 684 million visitors in 2008 and has over 75,000 contributors producing more than 10 million articles in more than 250 languages.

### *Email Newsletters*

Email newsletters are similar to RSS feeds in that they provide news, updates and solicitations to readers who have subscribed to the service via email. Each article or update typically provides a link to the related webpage, driving readers to the organization's website. While email newsletters can be used to circulate time-sensitive information (requests to sign petitions, etc.) their production is more time consuming and therefore they are not distributed as frequently as RSS feeds. They also lack the interactive abilities of blogs (subscribers can only receive information; they cannot respond in an ongoing dialogue).

The San Francisco oil spill was the first to receive significant attention on the web; prior to *Cosco Busan*, the majority of information on spill incidents was released by authorized sources through traditional news outlets (print, television, and radio). As a result, response organizations were not prepared for the incessant amount of web coverage (both professional and private) their actions received. Society has grown accustomed to living on a 24-hour news cycle and expects coverage of an event to be available almost instantly (even while the event is still occurring). When response groups could not supply the public with real-time information, many people saw the delay in communication as a signal that the response was not being conducted properly or fast enough, which created a very difficult dynamic for responders.

### **Lessons Learned**

Bay Area residents were expecting to receive continuous, real-time information through web-based services and used established sites to discuss the response.

Responders attempted to use web-based tools to communicate with the public during the spill response. Representatives from OSPR logged into an online chat room to answer questions. The site received thousands of hits simultaneously, locking up the computer and preventing people from logging back on.

If pertinent news/information is not posted online promptly, and a blog/website does not adequately address the public's interest, then trust issues can be exacerbated and ultimately be more detrimental.

Response organizations need to prepare for using Internet communication prior to an incident.

Responders must realize that what is read in the media is written and seen through the lens of the reporter or blogger.

During a response, organizations cannot respond to all web-based information, but they can establish their own controlled website.

The Cosco Busan PIERS website was visited over a million times while on-line. The public was still interested in visiting this site even after it was off line three months after the incident happened.

### **Recommendations**

The UC should designate one official website to represent the response efforts, provide answers to the public's questions and address issues raised through other media sources. One option is to continue to use the PIER system for creating this type of website. Based on the number of null hits received after the website was off-line, the JIC should consider monitoring continued interest and consider keeping the website on-line longer than a few months.

Responders should monitor the information being posted on other websites, blogs and chat rooms. Questions, concerns or misinformation spotted on other websites, blogs and chatrooms should be addressed on the official website.

## RESPONSE

The official website can offer RSS feeds that inform subscribers of the latest online updates.

Consider creating an objective in the next area exercise that addresses the use of web-based communication. Encourage response organizations to train and practice using these web tools so staff will be able to better respond to public concerns for the next incident.

Include potential Internet tool options, like PIER system in ACPs.



### **Incident Command Post (FOR RELEASE)**

(Nov. 10, 2007) SAN FRANCISCO – The unified command (UC) here on Saturday for the Motor Vessel Cosco Busan oil spill. (Coast Guard video by Petty Officer Jonathan R. Cilley)

# CLARIFICATIONS

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## Clarifications

The following are clarifications to statements made in the ISPR Part I report:

### **CG Pollution Investigator Experience and Initial Quantification**

*General statement for all references to CG Pollution Investigator activities*

All actions taken by the qualified Pollution Investigators (PIs) were according to the Coast Guard's Standard Operating Procedures (SOPs) at the time. These standard operating procedures were recently amended to prompt PIs to engage marine inspectors for quantification assistance during spill responses.

### **Chief Engineer's Involvement in Initial Quantification**

*ISPR Part I, Pages 11 and 89*

The ISPR Part I report states that the M/V *Cosco Busan's* Chief Engineer "was not helpful to the initial pollution investigation team in the calculation of the amount of fuel spilled." The report also states that the State OSPS "felt that the Chief Engineer knew the calculation before the first PI team arrival." Both statements reflect apparent frustration over the severe communication gap which existed that day between the Chief Engineer and the Coast Guard pollution investigators. That is to say, the Chief Engineer apparently could not proficiently speak nor understand the English language and was thus unable to convey information critical to quantifying the spill amount. Further, unlike the OSPS later in the day, the Coast Guard pollution investigators were not able to probe successfully for the critical information. The ISPR Team realizes that it may not have a full and complete record involving the initial efforts to quantify the amount spilled; however, this report is not intended to suggest that the Chief Engineer was purposely withholding information from the Coast Guard pollution investigators.

### **State Quantifier's Wait for Transportation**

*ISPR Part I, Pages 2 and 16*

Based on personal interviews, the ISPR Part I report states that the OSPS from OSPR arrived at YBI at 0945 and had to wait until 1205 before he could find transportation to perform detailed spill quantification analysis aboard M/V *Cosco Busan*.

In preparing for the ISPR Part II report, the ISPR Team found additional information from other sources relating to these events. The Coast Guard could find no record of any reported contact with the OSPS until 1050. Also, one written statement indicates that at approximately 1120 Coast Guard Sector San Francisco personnel asked the OSPS for assistance in quantifying the spill. Sector San Francisco has no information indicating that the OSPS requested transportation to the *Cosco Busan* prior to 1120. After asking the OSPS for assistance, the Coast Guard took steps to provide transportation as soon as possible, providing a boat at approximately 1205.

### **State Quantifier's Job Aid**

*ISPR Part I, Page 89*

The ISPR Part I report refers to the OSPS's "100 questions to ask" sheet, which is meant to help "accurately quantify the spilled amount during incidents." While this sheet may help accurately quantify the spilled amount, most of its questions pertain to vessel navigation and operation.

### **Preparedness: Area Contingency Planning: SF ACP: Available Resources: Discussion Section**

*ISPR Part I, Page 23*

In 2005, all Area Contingency Plans in California revised their local plans. Much of the information was pulled out of the local plans and put into a Regional Plan. This revision also reorganized the document into

## CLARIFICATIONS

standardized sections determined by CG Headquarters and mirrored ICS terminology. Following this revision, California ACPs no longer contained information that was common throughout the State. This information was moved into a Regional Contingency Plan (RCP). The bulk of the local plans are the sensitive site information, maintained by CA OSPR, in Section 9800.

OSPR does not own or deploy boom, boom deployment vessels or skimming vessels and therefore would not have any resources to list. The Wildlife Response Plan, itself an appendix to the RCP, includes “Appendix ID – Specialized Wildlife Operations (WO) Equipment: Dedicated versus Non-dedicated Resources – OSPR” which lists OSPR spill response equipment.

### **Preparedness: Area Contingency Planning: SF-ACP – Priority Protection Area Identification:**

#### ***Recommendation***

#### ***ISPR Part I, Page 33***

The ISPR Team would like to clarify its recommendation to “[d]evelop a series of standing 232 forms for the first 24 hours of the response based on risk, proximity to equipment and manpower and protection strategies.” The ISPR Team intended to suggest a re-examination of priority protection areas based on available response resources and time-to-deploy calculations for the first 24 hours of an incident. While the development of 232 forms may be a result, they are not necessarily the ultimate goal of the planning recommended. It was the finding of the team that the 232 forms submitted in the first three days of the response were unrealistic with respect to local response capacity. Employment of existing prioritization models and methodologies at the ACP level may better target response activity on the first day. One of the objectives of most ACPs, GRAs and GRPs is to be a self-guiding response shock absorber designed such that OSROs understand the top protection priorities with a given geographic or temporal framework (i.e., priorities within counties or within the first 24 hours). This recommendation is not designed to be proscriptive, but to suggest a further refinement of priorities within the GRA.

### **CA OSRO Certification Program: Dedicated Response Personnel**

#### ***ISPR Part I, Page 45***

While several interviewees indicated that additional field biologists may have improved the response, the ISPR team came to a decision to not recommend specific staffing increases throughout the report. This statement should have been an observation and not a recommendation.

### **Liaison Role Training: Spill Management Team (with emphasis on the Liaison): *Observation***

#### ***ISPR Part I, Page 47***

The statement that “the inability of the liaison to gain the trust of local stakeholders hindered the entire response for many days if not weeks,” does not necessarily represent actions taken by all liaison officers throughout that time period.

### **Preparedness: Training: Responder Training: Local**

#### ***ISPR Part I, Page 49***

In conjunction with NOAA, OSPR scientists offer a free course two times per year on Environmental Response to Oil Spills (EROS) that includes field training in Shoreline Cleanup and Assessment Techniques (SCAT). These courses can be expanded if local interest and funding is increased.

### **Response: Bird Rescue: *Observations***

#### ***ISPR Part I, Page 76***

During research for the first phase of the ISPR, not all interviewees were asked whether they observed birds landing in the oil in Bonita Cove. A difference of opinion emerged during subsequent interviews, with one trained observer confirming that he observed many scoters landing in the oil in Bonita Cove. Notes do not support the observation of brown pelicans at this site.

## CLARIFICATIONS

### **Response: Unified Command: Shoreline Cleanup Assessment Teams (SCATs): Discussion** *ISPR Part I, Page 95*

Because an initial SCAT calibration exercise was not conducted with the SCAT Unit as a whole, initial expectations were indeed not met. The SCAT calibration exercise should have occurred with the entire SCAT Unit prior to conducting SCAT. This would have eliminated the discrepancies in data. NOAA's "Shoreline Assessment Job Aid" cited in the Sector San Francisco's 2005 ACP states that the Team (SCAT) Coordinator, "Leads reporting requirements and ensures that teams use proper terminology and apply guidelines uniformly."

Once the SOS-SCAT Representative initiated coordination with the SCAT Data Manager to discuss the specific data quality needs, corrective actions were implemented and a data QA/QC exercise by the SCAT team was initiated. Regularly scheduled meetings by the key EU members were conducted in the form of subcommittee meetings, including the SCAT Coordinator.

Transfer of information and discussions were at the EUL and SCAT Coordinator level. The physical separation between the core EU members and SCAT team members was two to three feet. There were a number of EU subcommittee meetings (endpoint documents, resources at risk, vessel cleanup, beach closure, alternative response technology, etc.) and the key personnel representing the interest of the FOSC, SOS & RP-IC were present or were invited to be present.

### **Response: Unified Command: Shoreline Cleanup Assessment Teams (SCATs): Lessons Learned** *ISPR Part I, Page 97*

Where State regulation or practice does not come in conflict, it is not uncommon for the RP to provide a qualified SCAT coordinator.

### **The Role of the Insurer's Representative** *ISPR Part I, Pages 43, 85 and 113*

Following release of the ISPR Part I report, the ISPR Team received feedback from an RP representative regarding statements in the Part I report pertaining to actions of the "underwriter" and its "auditors"/"auditing company"/"audit team." The "auditors" referred to in the report, subsequently met with and submitted written comments to the ISPR Team regarding the statements made in the Part I report. The "auditors" described their role during the Cosco Busan response as "insurer's representative" (IR).

The ISPR Team understands that BAP is a term pertaining to prevention and thus should not have been used in the ISPR Part I report in the spill response context. Further, "necessary" and "reasonable" are spill response funding standards cited in federal regulations.

Regarding the perception that the IR may have interfered with field response operations by issuing contrary "orders," the IR reported that it is unaware of any such "orders" being given. The IR did report, however, that its field personnel were instructed to raise concerns to SMT field supervisors if they observed a condition or practice that could jeopardize the safety of individuals or lead to damage to equipment or to the environment.

Interviews of UC staff conducted by the ISPR Team in preparation of the Part II report reaffirm earlier observations that the insurer's representatives may have distracted UC decision makers at times during the response. Given that at least two authoritative Cosco Busan spill response officials reported these observations, the ISPR Team continues to believe that the IR may have distracted UC decision makers during the response. The Team acknowledges that this may have been caused by a general lack of familiarity with the role of the IR.

## CLARIFICATIONS



### **Cosco Busan Leaves Bay Area (FOR RELEASE)**

(Dec. 20, 2007) SAN FRANCISCO – The Motor Vessel *Cosco Busan* leaves the San Francisco Bay today after hitting the Bay Bridge on Nov. 7. (Coast Guard photo by Petty Officer Jonathan R. Cilley)

# ACRONYMS

## Acronyms

AC – Area Committee  
ACP – Area Contingency Plan  
AIS – Automatic Identification System  
ANT – Aids to Navigation Team (USCG)  
AOR – Area Of Responsibility  
API – American Petroleum Institute  
ART – Applied Response Technology  
ASSF – Air Station San Francisco (USCG)  
BAP – Best Achievable Protection  
BAT – Best Achievable Technology  
bbl – barrel (42 gallons)  
BCDC – (San Francisco) Bay Conservation & Development Commission  
BNTM – Broadcast Notice To Mariners  
CAC – Common Access Card (DOD)  
CALTRANS – California Department of Transportation  
CB – Cosco Busan  
CCR – California Code of Regulations  
CDFG – California Department of Fish & Game (see also DFG)  
CDPR – California Department of Parks & Recreation  
CDO – Command Duty Officer  
CeNCOOS – Central & Northern California Ocean Observing System  
CFR – Code of Federal Regulations  
CG – Coast Guard (see also USCG)  
CGAAP – Coast Guard After Action Program  
CIC – Critical Incident Communications  
COCMP – Coastal Ocean Current Monitoring Program (CA)  
CODAR – COastal raDAR  
COFR – Certificate Of Financial Responsibility  
COTP – Captain Of The Port (USCG)  
CPS – Contingency Planning System (USCG)  
DFG – Department of Fish & Game (see also CDFG)  
DHS – Department of Homeland Security  
DOG – Deployable Operations Group  
DUP – Dispersant Use Plan  
EDRC – Effective Daily Recovery Rate  
EOP – Emergency Operations Plan  
EPA – Environmental Protection Agency  
ERD – Emergency Response Department (NOAA)  
ESI – Environmental Sensitivity Index  
EU – Environmental Unit  
FAA – Federal Aviation Administration  
FOSC – Federal On-Scene Coordinator  
FOSCR – Federal On-Scene Coordinator Representative  
FRT – Field Response Team (OSPR) *or* First Response Team (FEMA)  
GIS – Geographic Information System  
GNOME – General NOAA Oil Modeling Environment  
GPS – Geographic Positioning System  
GRA – Geographic Response Area  
HAZCOM – Hazard Communication  
HAZWOPER – Hazardous Waste Operations & Emergency Response  
HSEEP – Homeland Security Exercise and Evaluation Program  
IAP – Incident Action Plan

## ACRONYMS

IBRRC – International Bird Rescue Research Center  
IC – Incident Command; also Incident Commander  
ICP – Incident Command Post  
ICS – Incident Command System  
ICS 204-CG – Assignment List form  
ICS 204a-CG – Assignment List Attachments form  
ICA 207-CG – Incident Organization Chart form  
ICS 209-CG – Incident Status Summary form  
ICS 214-CG – Unit Log form  
ICS 215-CG – Operational Planning Worksheet form  
ICS 215a-CG – Hazard/Risk Analysis Worksheet form  
ICS 232-CG – Resources at Risk Summary form  
IMAT – Incident Management Assistance Team  
IR – Insurer’s Representative  
ISPR – Incident Specific Preparedness Review (USCG)  
ITOPF – International Tanker Owners Pollution Federation  
JAT – Joint Assessment Team  
JIC – Joint Information Center  
LGR – Local Government Representative  
LIDAR – Light Detection and Ranging  
LKS – Lempert-Keene-Seastrand Oil Spill Prevention and Response Act (California)  
LO – Liaison Officer  
M&M – Monitoring & Maintenance  
MAC – Multi-Agency Coordination  
MOU – Memorandum of Understanding  
MRC – Media Relations Course (USCG)  
MSRC – Marine Spill Response Corporation  
MT – Metric Ton  
NCP – National Contingency Plan  
NGO – Non-Governmental Organization  
NIMS – National Incident Management System  
NOAA – National Oceanic & Atmospheric Administration *or* National Organization of  
NOO – No Oil Observed  
NPREP – National Preparedness for Response Exercise Program  
NRC – National Response Center  
NRCES – National Response Corporation Environmental Services  
NRDA – Natural Resource Damage Assessment  
NRDAR – Natural Resource Damage Assessment and Restoration  
NRP – National Response Plan  
NRT – Navigation Response Teams (NOAA)  
NSFCC – National Strike Force Coordination Center (USCG)  
NTVRP – Nontank Vessel Response Plan  
NVIC – Navigation and Vessel Inspection Circular (USCG)  
OES – Office of Emergency Services  
OPA 90 – Oil Pollution Act  
OSC – On-Scene Coordinator  
OSHA – Occupational Safety & Health Administration  
OSLTF – Oil Spill Liability Trust Fund (USCG)  
OSPR – Office of Spill Prevention & Response (CA)  
OSPS – Oil Spill Prevention Specialist  
OSRO – Oil Spill Response Organization  
OSRV—Oil Spill Response Vessel  
OWCN – Oiled Wildlife Care Network  
PFO – Principal Federal Official

## ACRONYMS

PI – Pollution Investigator (USCG)  
PIAT – Public Information Assist Team  
PIER – Public Information and Emergency Response system  
PIO – Public Information Officer  
POLREP – Pollution Report  
PQS – Position Qualification Standards (USCG)  
PRBO – Point Reyes Bird Observatory  
PRFA – Pollution Response Funding Authorization (USCG)  
PSGP – Port Security Grant Program  
PST – Pacific Strike Team (USCG)  
QI – Qualified Individual  
R&D – Research & Development  
RCP – Regional Contingency Plan  
RECP – Regional Emergency Coordination Plan  
RP – Responsible Party *or* Responding Party  
RPM – Remedial Project Manager  
RRI – Response Resources Inventory  
RRT – Regional Response Team  
RSS – Really Simple Syndication  
RWQCB – Regional Water Quality Control Board  
SCAT – Shoreline Cleanup & Assessment Team  
SDO – Sector Duty Officer  
SERC – State Emergency Response Commission (state level LEPCs)  
SEMS – Standardized Emergency Management System (California)  
SITL – Situation Unit Leader  
SF – San Francisco  
SMT – Spill Management Team  
SOSC – State On-Scene Coordinator  
SSC – Scientific Support Coordinator (NOAA)  
SSEP – Sensitive Site Exercise Program (OSPR)  
STA – Station (USCG)  
SUC – Situation Unit Controller (USCG Operations Controller)  
TAD – Temporary Assigned Duty (military)  
TAMS – Template And Management System (USCG)  
TOG – The O’Brien’s Group  
TOPOFF – TOP OFFicials (DHS)  
TRATEAM – Training Team (USCG)  
TTX – Table Top eXercise  
UC – Unified Command  
USCG – United States Coast Guard (see also CG)  
VOSS – Vessel of Opportunity Skimming System  
VRP – Vessel Response Plan  
VTS – Vessel Traffic Service (USCG)  
YBI – Yerba Buena Island

# Charter Team Members

## **ISPR Chairman** \_\_\_\_\_

**RADM Carlton Moore, USCGR (Ret)**



Rear Admiral, U.S. Coast Guard Reserve, retired. Emphasis in Port Security and Expeditionary Warfare, which involved three overseas deployments, three unit commands and two Group commands. During the recall to active duty in response to events of September 11, 2001, assumed the position of Deputy Commander, Coast Guard Atlantic Area, one of two operational commands in the Coast Guard. Awards include the Legion of Merit, Coast Guard Distinguished Service, among others. In civilian employment, Governor Schwarzenegger appointed him as Administrator, California Office of Spill Prevention and Response, responsible for a comprehensive environmental protection and response organization, 188 employees, \$22.5 million operating budget, four operational programs (enforcement, scientific, planning and administration). He administered various maritime programs at State level, including Harbor Safety Committees in all California major ports, cooperative programs with Coast Guard and other federal counterparts, safety/compliance programs for the shipping industry, maritime towing companies and port authorities, and responded to oil spills or other hazardous materials on State waters. He is now retired. He is past President of the Sacramento Chapter of the Navy League (400 members) and served as Vice President, Sacramento Optimist Club, supporting programs for disadvantaged youth. He is an active member of the California State Bar.

## **NOAA SSC Representative** \_\_\_\_\_

**Steve Lehmann, NOAA OR&R**



Mr. Lehmann has served as the NOAA Scientific Support Coordinator (SSC) for the New England region since 1990, providing training, contingency planning support and coordinating scientific advice to the US Coast Guard, state agencies and others. He has acted as the SSC for every notable marine pollution emergency in the region during that time. In addition, Mr. Lehmann has coordinated on-scene scientific support on major spills around the country and internationally including; the Exxon Valdez, the Persian Gulf War Spills, TWA 800 crash, Bouchard-120, Selendang Ayu, and the spills associated with hurricane Katrina. Mr. Lehmann is currently the NOAA representative to Regional Response Teams for regions 1, 5 and 7, the Joint US/Canada Response Team and is the chairman of the National Response Team's Science and Technology Committee.

## **State of California Representative** \_\_\_\_\_

**Lisa Curtis, Administrator, California Office of Spill Prevention and Response**



Governor Arnold Schwarzenegger appointed Ms. Lisa Curtis as the Administrator of the Office of Spill Prevention and Response (OSPR) on July 10, 2006. Prior to Ms. Curtis' appointment as Administrator, she was appointed as Deputy Administrator on November 9, 2004 and served as "Acting" Administrator from September 22, 2005 until her appointment as Administrator. Curtis held the position of Chief of the Office of Spill Prevention and Response's Enforcement Branch from October of 2001 to November 2004. In this capacity, she oversaw the Department's statewide pollution response and enforcement efforts. She served in different management capacities with the Department of Fish and Game from 1997 to 2001. This included managing the sport and commercial fishing enforcement efforts, public outreach, and hunter education in southern California. From 1991-1996, she was responsible for being the Incident Commander for moderate and large marine oil spills. She also was responsible for reviewing and enforcing regulations affecting oil spill response organizations, tug escorts, oil transfers, oil spill contingency plans, and financial responsibility requirements. Additionally, she worked directly with the United State Coast Guard's Eleventh District in a one year assignment in 1993 where she developed the protocols to implement the Memorandum of Agreement. The protocols define how the Department and the United State Coast Guard

work together for marine oil spill response and preventions efforts to minimize duplication and protect California's resources and interests.

Lisa Curtis was one of the founding members of the Standardized Oil Spill Response Management System (STORMS) Task Force that created and produced a spill response field operations guide in 1995. The field operations guide is still currently used by federal, state, local and oil industry personnel. In 1995, she was awarded a United States Coast Guard Public Service Commendation and a Department of Fish and Game letter of Commendation for this effort. She also earned the Office of Spill Prevention and Response's Officer of the Year award in 1995. She has a variety of experience related to California's coastal oil spill prevention and response efforts.

Lisa Curtis possesses a B.S. degree in Criminal Justice and a M.A. degree in Organizational Management. She is a graduate of the F.B.I. National Academy. She has been with the California Department of Fish and Game since 1987.

#### **State of California Alternate**

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**Capt. Paul Hamdorf**, Patrol Captain OSPR

Paul Hamdorf is currently assigned to the Office of Spill Prevention and Response (OSPR) in Southern California. His area of responsibility spans the coastline from San Luis Obispo to the Mexican Border. Hamdorf is responsible for supervising and directing all OSPR enforcement and investigations in Southern California. He represents the OSPR Administrator as the pre-designated state on scene coordinator for all moderate and large marine spill responses in Southern California. Hamdorf has worked for the State of California since 1982 and has extensive experience with resource crime investigation, public safety issues, and oil spill response duties. He received his Bachelor of Arts degree from the University of California, Santa Barbara. Hamdorf has participated in a variety of oil spill response planning activities, is currently the Co-chair for the Los Angeles ACP Committee, and was the Los Angeles area representative for OSPR during the planning process for SONS 2004. He holds a USCG Master's License and is a current member of the Department of Fish and Game Dive Team. Hamdorf has been recognized for his service to the Department of Fish and Game and has received awards including: Lifesaving, Director's Superior Achievement, and Officer of the Year (Marine Region).

#### **Oil Spill Policy Representative**

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**Jean R. Cameron**, Executive Coordinator, Pacific States/British Columbia Oil Spill Task Force



Jean Cameron has served as the Executive Coordinator for the Pacific States/British Columbia Oil Spill Task Force since 1993. Jean's responsibilities include project management, annual and strategic planning, meeting planning and facilitation, stakeholder outreach, and overall administration. More information on Task Force projects and products is available at <http://www.oilspilltaskforce.org>. Jean served as a member of the Navigation Safety Advisory Council to the US Coast Guard from 1999 to 2006. Jean has presented papers on Oil Spill Task Force projects at the 1995 Marine Log Tanker Legislation Conference, to the Oceans '96 Conference, the 1997 Clean Gulf Conference, the 1998 International Pilotage Conference, API's 2004 Tanker Conference, 2004 Prevention First, the 2007 American Salvage Association conference, and the International Oil Spill Conferences of 1993, 1997, 1999, 2001, and 2003. Jean received the Oregon Environmental Council's Distinguished Service Award in 1993, the US Coast Guard's Meritorious Public Service Award in 2000, and both a Certificate of Merit and a Public Service Commendation from the US Coast Guard in 2002. Jean's Bachelor of Science degree in Resource Development and Environmental Management was received summa cum laude from the Department of Planning, Public Policy, and Management at the University of Oregon.

### **Environmental Coalition**

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**Linda Sheehan**, Executive Director, California Coastkeeper Alliance (CCKA)



As Executive Director of CCKA, Ms. Sheehan works statewide to preserve and expand upon the advances made by California's 12 Waterkeeper groups in protecting water quality and coastal ecosystems. Ms. Sheehan brings to CCKA almost 20 years of experience in environmental law and policy matters. She has achieved notable success in protecting the health of coastal and marine waters off California by passing landmark legislation to control polluted runoff, improve water quality monitoring, increase oversight fees on pollution dischargers, and limit the introduction of harmful invasive species from ships into coastal waters. Ms. Sheehan has been involved in litigation over the release of invasive species in ships' ballast water, restoration of needed flows in coastal rivers and streams, and regulation of once-through cooling systems in coastal power plants. She is also active in working on statewide policy and permits before the State Water Resources Control Board. Ms. Sheehan is a Senate appointee to the Technical Advisory Committee of the Office of Oil Spill Prevention and Response, and serves on the Alameda County Local Agency Formation Commission, a regional planning agency. Past appointments include terms as a Vice-Chair of the Global Ocean Observing System Steering Committee and as a member of the National Invasive Species Advisory Committee. Ms. Sheehan holds a B.S. in chemical engineering from the Massachusetts Institute of Technology; an M.P.P. from the University of California, Berkeley's Graduate School of Public Policy, where she was a Berkeley Policy Fellow; and a J.D. from the University of California's Boalt Hall School of Law.

### **Environmental Coalition Alternate**

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**Deb Self**, Executive Director, San Francisco Baykeeper



Deb Self is Executive Director of San Francisco Baykeeper, founded in 1989 to protect the water quality of the San Francisco Bay's watershed and near shore coastal waters. In addition to on-the-water patrolling of the Bay, her work for Baykeeper has included regulatory advocacy and enforcement actions on all of the Bay's major pollution problems, including invasive species released from ship ballast water, urban storm water pollution, sewage overflows, agricultural runoff from the Central Valley, pollution from historic industrial and mining operations, and discharges to the water and air from active Bay Area industries, including oil refineries. Ms. Self has over 25 years of experience in environmental regulatory and policy analysis, including environmental compliance auditing at Oak Ridge National Laboratory, research for ORNL on the efficacy of various chemical accident notification protocols, and assisting numerous community groups with permit review and compliance monitoring under federal environmental laws. She holds a B.S. in Geology and an M.A. in Environmental Sociology, both from the University of Tennessee.

### **Industry Representative**

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**John Berge**, Vice President, Pacific Merchant Shipping Association



John Berge is Vice President of the Pacific Merchant Shipping Association (PMSA), a regional maritime industry trade association headquartered in San Francisco. Joining PMSA in 2000, John has over 27 years experience working in the maritime industry. PMSA is active in many aspects of maritime trade and has been involved in the development of navigational risk reduction and response programs, regulations and best practices. John sits on the Harbor Safety Committee of the San Francisco Bay Region as an appointee of the Governor, representing dry cargo ocean carriers.

### **San Francisco City Representative**

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**Ms. Laura Phillips**, Executive Director, Department of Emergency Management, Division of Emergency Services



Laura Phillips is the Executive Director of the Department of Emergency Management for the City & County of San Francisco providing leadership and oversight of the Division of Emergency Communications and Division of Emergency Services (formerly OES). Her 30 year career includes both public and private sector leadership in Public Safety Communications, 911 Operations, technical services management and emergency preparedness/homeland security programs. Laura Phillips serves as the Chair of the SUASI (Super Urban Area Security Initiative), which along with leaders from the super urban areas, oversees homeland security and emergency preparedness/response programs for the Bay Area. She is an active member of the Communications Interoperability Working Group for the SUASI which is collaborating on numerous projects that promote communications interoperability initiatives within the SUASI area; this includes a multi-county effort for voice/data interoperability connecting East Bay, West Bay, and South Bay Areas (SVRCS). She is currently serving as a Director for the Northern California Chapter of the Association of Public Safety Communications Officials (APCO) and has held numerous posts within APCO and other professional organizations, including President, over the last 16 years. She has served as the Co-Project Director for the Silicon Valley Regional Interoperability Project from 1998-2003 including chair of the Technical Subcommittee for Radio Interoperability. Ms. Phillips holds a Bachelor of Science in Criminal Justice with a concentration in management. She has earned executive management certifications in Emergency Medical Dispatch (EMD) and Earthquake Management. Nationally she has presented numerous presentations on communications interoperability, grants, governance issues and regional collaboration.

### **City of San Francisco Alternate**

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**Mr. Rob Dudgeon**, EMT-P Manager of Plans and Operations



Rob Dudgeon is the Manager of Plans & Operations for the City of San Francisco's Department of Emergency Management. Mr. Dudgeon holds a BA in Management and is a licensed paramedic with experience ranging from first response to managing the City's emergency operations center. Since he began his career in 1987 he has continually expanded his horizons in emergency services through education, teaching and serving on a wide variety of workgroups and committees. Currently he serves on a FEMA workgroup rewriting plan development guidance for local and state government.

Since the mid-1990's he has conducted incident investigations following quality improvement doctrine. Responsible for clinical quality, he investigated and analyzed prehospital care incidents in three northern California counties as well as managed the subsequent improvement plans and licensure actions. In 2005 he joined the Department of Emergency Management and assumed leadership of the Plans & Operations staff. This group of emergency managers and first responders is responsible for coordinating the City's multi-disciplinary response to emergencies, developing emergency plans, managing the City's exercise program and public education campaigns.

### **Executive Assistant/Legal Advisor**

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**LCDR Ross Sargent, USCG, CG MLCPAC (1)**



LCDR Sargent is Assistant Chief of the Operations Law Branch at the USCG Maintenance and Logistics Command, Pacific. He has served in the Coast Guard since 1995 (mainly in the Bay Area) in a variety of operational and staff positions such as marine casualty and violation investigator, chief of port safety and security, chief of waterways management, and executive officer of a vessel traffic service. LCDR Sargent earned a B.A. in History and a J.D. from the University of California, Davis.

**Recorder** 

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**LT Kelly Dietrich, USCGR, COMDT (CG-533)**

LT Dietrich has a background as a civilian Environmental Health and Safety Specialist and Marine Safety Professional Officer in the United States Coast Guard. She obtained a B.S. in Environmental Health / Industrial Hygiene (1998) from Bowling Green State University in Ohio and Master's in Environmental Science (2001) from the Medical University of South Carolina. Her civilian profession focused on environmental hazard assessment, mitigation, and control including occupational safety and health, exposure assessment, training, and program maintenance. While on active duty almost 5 of the last 7 years, she qualified as a FOSCR, Pollution Investigator, Contingency Planner, Harbor Safety Officer and nearly Port State Control Boarding Officer. She served as Sector San Diego Area Contingency Plan Coordinator and Command Duty Officer for the last two years. She was the lead designer for the 2007 PREP Table Top Exercise in San Diego which help facilitate CA Places of Refuge Pre-planning, hazardous substance preparedness, communications, wildlife response, and applied technologies. She has been an active member in the RRT 9 subcommittees and quarterly meetings.

**Assistant Recorder** 

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**ENS Sara B. McPherson, USCGR, Sector San Diego**

ENS McPherson has a civilian background as an environmental writer, with an emphasis on ocean conservation and related issues. She has written for a variety of environmental, educational and science-based organizations, including National Geographic News, Scholastic, Consortium for Ocean Leadership, NOAA, San Diego Coastkeeper and Ocean Conservancy. For nearly six years, she served as managing editor of Ocean Conservancy's award-winning member magazine. As a Reservist on temporary active duty, she led efforts to revise the San Diego ACP in 2008. She earned a B.A. in History (1996) from Mary Washington College in Virginia.

**Incident Specific Preparedness Review  
M/V Cosco Busan Oil Spill in San Francisco Bay**

**PART II AND FINAL REPORT  
07 May 2008**

The following individuals participated in completing this Incident Specific Preparedness Review (ISPR) report and have fully reviewed its contents for accuracy:

  
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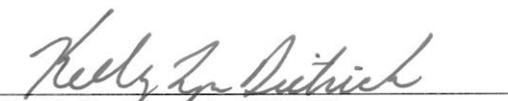
  
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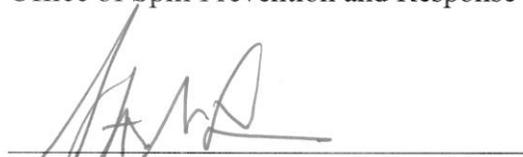
  
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**APPENDIX A**

**ISPR RECOMMENDATIONS: PREPAREDNESS**

No.	Focus Issue	Recommendation	Is Change at Local, State, Regional or National Level	Applicable in Multiple Areas	Page ID (Part I/II & Page No.)
1	SF ACP: Available Resources	Itemize resources per San Diego ACP model.	Local	Yes	PI; 23
2	SF ACP: Available Resources	Pac Strike Team, other Special Teams, state and local resources should be included in the ACP, with protocols to access them.	Regional	Yes	PI; 23
3	SF ACP: Command Post & Logistics	Define minimum requirements for an ICP, ID potential ICPs, plot on maps.	Local	Yes	PI; 25
4	SF ACP: Command Post & Logistics	Review who is in charge of choosing a location for an ICP and practice in an exercise.	Local		PI; 25
5	SF ACP: Low Vis Responses	Explore low visibility technology and re-organize ACP to reflect updates.	Local	Yes	PI; 26
6	SF ACP: Low Vis Responses	Pre-identify sensitive locations for booming based on known behavior of the bay and known collection areas.	Local	Yes	PI; 26
7	SF ACP: Low Vis Responses	Ensure ACP addresses wildlife collection in low visibility.	Local	Yes	PI; 26
8	SF ACP: Low Vis Responses	Add a process to track and quantify a spill in low visibility environment to ACP.	Local	Yes	PI; 26
9	SF ACP: Low Vis Responses	Include low visibility injects during exercises.	Local	Yes	PI; 26
10	SF ACP: Other Local Plans	Update ACP to incorporate Local Plans, include local reps in planning.	Local	Yes	PI; 28
11	SF ACP: Other Local Plans	Ensure local reps in next PREP exercise design team.	Local		PI; 28
12	SF ACP: Other Local Plans	Consider HSEEP and PREP integration.	National		PI; 28
13	ACP: Committee Representation	Pursue aggressive stakeholder outreach by Committee Representation.	Local	Yes	PI; 31
14	ACP: Committee Representation	Define the structure of the Area Committee. Pre-identify positions for representatives from existing committees.	Local	Yes	PI; 31

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15	ACP: Committee Representation	Develop user friendly communications methods.	Local	Yes	PI; 31
16	ACP: Committee Representation	Utilize CG HOMEPOR (or similar technology) to provide virtual participation.	Local	Yes	PI; 31
17	Priority Protection Area Identification and testing	Re-examine the use of the NOAA TAP model as a planning tool.	National/Local		PI; 33
18	Priority Protection Area Identification and testing	Develop standing 232 forms for the first 24 hours of the response.	Local	Yes	PI; 33
19	Priority Protection Area Identification and testing	Continue testing strategies in the field with OSROs and document the results.	Local		PI; 34
20	Exercises: Federal	Include local groups.	State/Local	Yes	PI; 35
21	Exercises: Federal	Design future exercises to address spill response basics and evaluate the tactical decisions made.	Local	Yes	PI; 35
22	Exercises: State	Include local groups.	State	Yes	PI; 36
23	Exercises: State	Continue to develop and track expanded drills and exercise program.	State	Yes	PI; 36
24	Exercises: State	Include stakeholders at all levels of exercise planning.	State	Yes	PI; 36
25	Exercises: State	Ensure consistency of local spill plans and ACP.	Local	Yes	PI; 36
26	Exercises: State	OSPR Drill Coordinators should attend ACP meetings & publicly announce planned drills.	State		PI; 36
27	Exercises: State	Educate local stakeholders re: planning process.	State	Yes	PI; 36
28	Exercises: Local Government Drills	Local stakeholders should attend AC Meetings.	Local	Yes	PI; 37
29	Exercises: Local Government Drills	All levels of government and stakeholders should participate in drills.	Regional	Yes	PI; 37
30	Exercises: Local Government Drills	Local plans should be updated after drills.	Local	Yes	PI; 37
31	Exercises: Local Government Drills	The State should investigate funding methods to facilitate local participation in drills.	State		PI; 37

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32	Ship-Specific Plans (Non-tank Vessel [NTV] Response Plan and VCP)	CG expedite NTV regulations.	National		PI; 40
33	CA OSRO Certification	All rated OSRO equipment should be placed in a database that can be sorted based on a number of variables.	National/State/Local		PI; 41
34	CA OSRO Certification	All databases listing OSRO pre-positioned equipment need to be verified and updated to produce an accurate and readily available resource list.	National/State/Local		PI; 42
35	CA OSRO Certification	OSRO over-reporting of equipment should be penalized.	National/State/Local		PI; 42
36	CA OSRO Certification Program: Best Achievable Protection /Technology	Drill regularly for scenarios that occurred in COSCO BUSAN spill that are not normally the subject of spills (e.g. no ICP, unknown quantity).	State		PI; 44
37	CA OSRO Certification Program: Best Achievable Protection /Technology	Develop a process to affirmatively ensure that its BAP standard for technology is constantly being implemented. Equipment identified as BAP should be implemented into OSRO plans immediately.	State		PI; 44
38	CA OSRO Certification Program: Best Achievable Protection /Technology	OSPR regulations should be revised as needed to reflect BAP standards for OSRO equipment.	State		PI; 44
39	CA OSRO Certification Program: Dedicated Response Personnel	All rated OSRO equipment should be placed in a database that can be sorted based on a number of variables.	State		PI; 45
40	CA OSRO Certification Program: Dedicated Response Personnel	OSROs should report their capability for working at night.	State		PI; 45
41	CA OSRO Certification Program: Dedicated Response Personnel	Communications staff and biologists should be hired by DFG/Coast Guard and /or contracted through OSROs and should be trained to specifically respond to oil spills.	State		PI; 45

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42	CA OSRO Certification Program: Dedicated Response Personnel	Rated OSRO drills should include personnel readiness as an inject, and the Coast Guard and other effected local agencies should participate in a fixed percentage of these drills.	State		PI; 45
43	Training: OSRO	Efforts should be made to train w/stakeholders at all levels whenever possible.	State/Local	Yes	PI; 46
44	Training: Spill Management Team (w/emphasis on Liaison)	Intensive effort must immediately start to train effective Liaison Officers.	Local	Yes	PI; 47
45	Training: Spill Management Team (w/emphasis on Liaison)	SMT needs to meet the California OES incident command qualification.	State		PI; 47
46	Training: All others including Polluiton Investigator (PI), Federal On Scene Coordinator Representative (FOSCR), and Command Duty Officer (CDO)	PI/FOSCR personnel should cross-train with Strike Teams and participate in Spills-of-Opportunity outside of their AORs, to gain experience, consider mentorship program.	National/Local	Yes	PI; 48
47	Training: All others including Polluiton Investigator (PI), Federal On Scene Coordinator Representative (FOSCR), and Command Duty Officer (CDO)	Continue to require qualifications to fill certain positions.	Local		PI; 48
48	Training: All others including Polluiton Investigator (PI), Federal On Scene Coordinator Representative (FOSCR), and Command Duty Officer (CDO)	Establish mentorship programs that include interagency opportunities to train new Coast Guard Pis with state and local responders.	Local	Yes	PI; 48

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49	Training: All others including Pollution Investigator (PI), Federal On-Scene Coordinator Representative (FOSCR), and Command Duty Officer (CDO)	Train responders to recognize their own limitations and to request assistance with situations that exceed their trng. The ACP should maintain a contact list of state/local responders w/PI expertise.	Local	Yes	PI; 48
50	Responder Training: Local	Update ACP and local plans to include local responder trng info.	Local	Yes	PI; 49
51	Responder Training: Local	ACP and basic oil spill response training should be offered by the ACP chair agencies.	Local	Yes	PI; 49
52	Volunteers: Convergent Non-wildlife Responder Training	Use the OWCN volunteer program & other available models for developing an organized volunteer program in SF Bay Area.	Local	Yes	PI; 50
53	Volunteers: Convergent Non-wildlife Responder Training	Planners should develop a uniform approach to use convergent volunteers for oil spill response.	Local	Yes	PI; 50
54	Volunteers: Convergent Non-wildlife Responder Training	NRT develop generic guidance for ACs to develop convergent volunteer sections in local ACPs.	National		PI; 50
55	Volunteers: Convergent Non-wildlife Responder Training	Integrate training, experienced organizations into the ACP and drills to assist with volunteer coordination and to be an outlet for volunteer interest.	Local	Yes	PI; 51
56	Volunteers: Responder Training for Wildlife Care	The volunteer coordinator staffing should be re-evaluated.	Local		PI; 53
57	Volunteers: Responder Training for Wildlife Care	Ensure that an industrial hygienist is assigned as the safety officer to wildlife care facilities.	Local	Yes	PI; 53
58	Volunteers: Responder Training for Wildlife Care	Pursue engagement of local officials and NGOs in Volunteer Subcommittee of AC.	Local	Yes	PI; 53
59	Volunteers: Responder Training for Wildlife Care	Place wildlife hotlines in a condition where they can easily be activated and staffed w/volunteers as soon as possible after an incident.	Local	Yes	PI; 53

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60	Best Achievable Protection (BAP) and Best Achievable Technology (BAT)	Establish more formal procedures within OSPR to assess and report on BAP and BAT to facilitate definition of BAP and BAT.	State	Yes	PII; 6
61	Best Achievable Protection (BAP) and Best Achievable Technology (BAT)	Provide additional R&D dollars, through either private or public funding, for technology development.	Local		PII; 6
62	Best Achievable Protection (BAP) and Best Achievable Technology (BAT)	Allow pre-arranged testing of new and untested technologies or operational methods without penalties to plan holder or OSRO for any discovered limitations.	Local		PII; 6
63	Best Achievable Protection (BAP) and Best Achievable Technology (BAT)	Develop a clearinghouse for sharing information relative to oil spill R&D at national, international and industry levels.	National	Yes	PII; 6
64	Oiled Wildlife Recovery and Transport	Convene OWCN experts to discuss effective capture techniques and identify priorities and resources needed to meet the Best Achievable Care standard.	Local	Yes	PII; 10
65	Oiled Wildlife Recovery and Transport	Revise the CA Wildlife Response Plan according to specific environment types and wildlife populations.	Local	Yes	PII; 10
66	Oiled Wildlife Recovery and Transport	Determine the most appropriate training requirements to meet intent of HAZWOPER and HAZCOM standards.	Local	Yes	PII; 10
67	Oiled Wildlife Recovery and Transport	Coordinate with NGOs and land managers to pre-train and pre-register reconnaissance and search/collection personnel.	Local	Yes	PII; 10
68	Oiled Wildlife Recovery and Transport	Facilitate planning and coordination of wildlife operations with SCAT operations and land managers in the ACP.	Local	Yes	PII; 10
69	Oiled Wildlife Recovery and Transport	Provide dedicated communication link between Recovery and Transport Supervisor and search/collection teams.	Local	Yes	PII; 10
70	Shoreline Treatment Termination Endpoints	Begin the endpoint discussion as early as possible.	Local	Yes	PII; 13
71	Shoreline Treatment Termination Endpoints	Establish working group for treatment termination endpoints that represents key stakeholders and land managers.	Local	Yes	PII; 13

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**ISPR RECOMMENDATIONS: PREPAREDNESS**

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72	Shoreline Treatment Termination Endpoints	Establish a tiered approach to treatment inspection criteria with basic termination endpoints based on shoreline users.	Local	Yes	PII; 13
73	Shoreline Treatment Termination Endpoints	Maintain clear and frequent communications.	Local	Yes	PII; 13
74	Shoreline Treatment Termination Endpoints	Clearly identify conditions that may change timelines or criteria.	Local	Yes	PII; 13
75	Shoreline Treatment Termination Endpoints	Incorporate cleanup termination endpoint discussion and consensus-building effort into large-scale exercise (when possible).	Local	Yes	PII; 13

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**ISPR RECOMMENDATIONS: RESPONSE**

No.	Focus Issue	Recommendation	Is Change at Local, State, Regional or National Level	Applicable in Multiple Areas	Page ID (Part I/II & Page No.)
76	Initial Response: RP	Follow up with the M/V COSCO BUSAN re: notification drills.	State		PI; 57
77	Initial Notification: USCG	Sector standard operating procedure should allow for one experienced PI on duty or on recall status.	Local	Yes	PI; 62
78	Initial Notification: USCG	Evaluate feasibility of formal notification to NRT special team assets.	National		PI; 62
79	Initial Notification: USCG	VTS should adopt oil-response protocols, taking into account notifications, continual updates on slick position.	Local		PI; 62
80	Initial Notification: State OES & Local Government	Review notification protocols between the CA OES, the Regional OES areas and county OES depts. Wrt protocols with the ACP and other local plans.	State		PI; 64
81	Initial Notification: State OES & Local Government	Marin County recommends an annual unannounced drill	State	Yes	PI; 65
82	Media	The Coast Guard should establish minimum requirements for public affairs training for senior Personnel and all personnel expected to interact with the media.	National		PI; 69
83	Media	The Coast Guard should consider at least 1 public affairs billet at each Sector in a a major media market.	National		PI; 69
84	Media	Resident PAOs should have a working knowledge of PIAT resources and availability.	Local		PI; 69
85	Media	The Coast Guard should adopt a policy of not giving spill release numbers until they are relatively certain of the scale and potential of the spill.	National	Yes	PI; 69
86	Media	The Coast Guard should consider cross training personnel to allow PAOs a better understanding of public affairs resources in the District.	National	Yes	PI; 69
87	Media	OSPR response personnel need early access to trained media relations personnel with knowledge fo oil spill operations.	State		PI; 69
88	Media	ICP should be pre-designated to provide for JIC and all UC functions.	Local	Yes	PI; 69
89	Media	Prepare generic information packets for the media.	Local	Yes	PI; 69

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**ISPR RECOMMENDATIONS: RESPONSE**

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90	Media	Have press representatives deal with press when response activities are still dynamic.	Local	Yes	PI; 69
91	Volunteers: Incident Specific Training	Update ACP Section 9730.2 to provide a process and protocols for convergent volunteers to assist with beach cleanup.	National/Local	Yes	PI; 72
92	Volunteers: Incident Specific Training	Volunteer management should be staffed at UC.	Local	Yes	PI; 72
93	Volunteers: Incident Specific Training	Integrate trained, experienced organizations into the ACP planning process and oil spill drills to assist with volunteer coordination.	Local	Yes	PI; 72
94	Volunteers: Incident Specific Training	Develop a mechanism to allow the public to provide input to the UC to make oil and oiled wildlife observations.	Local	Yes	PI; 73
95	Volunteers: Incident Specific Training	Update ACP to include activities such as the use of volunteers for reporting the status of areas already addressed by oil spill responders.	Local	Yes	PI; 73
96	Volunteers: Incident Specific Training	Ensure Liaisons build relationships within the local community.	Local	Yes	PI; 73
97	Volunteers: Incident Specific Training	Develop policies across local jurisdictions to provide consistent health and safety messages.	Local	Yes	PI; 73
98	Volunteers: Responder Training Wildlife Care	Evaluate volunteer coordinator staffing capacity.	Local	Yes	PI; 74
99	Volunteers: Responder Training Wildlife Care	Ensure that an industrial hygienist as safety officer is assigned to wildlife care facilities.	Local		PI; 74
100	Volunteers: Responder Training Wildlife Care	Aggressively pursue engagement by local officials and NGOs in Volunteer Subcommittee of AC.	Local	Yes	PI; 75

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**ISPR RECOMMENDATIONS: RESPONSE**

No.	Focus Issue	Recommendation	Is Change at Local, State, Regional or National Level	Applicable in Multiple Areas	Page ID (Part I/II & Page No.)
101	Response: Bird Rescue	Additional teams should be recruited and trained for oiled wildlife collection and recovery operations.	Local	Yes	PI; 76
102	Initial Response Action: Oil Spill Removal Organizations (OSROs)	OSROs should work with the Coast Guard and OSPR to develop strategies for low visibility responses.	State/Local		PI; 77
103	Initial Response Action: Oil Spill Removal Organizations (OSROs)	There should be constant communications b/t the UC and OSROs if the RP is not present at the response.	Local	Yes	PI; 77
104	Initial Response Action: Oil Spill Removal Organizations (OSROs)	OSROs, the Coast Guard, and OSPR should explore the use of "scripted responses" to certain scenarios. These responses would include a series of shoreline protection strategies.	State/Local	Yes	PI; 78
105	Initial Response Actions: Sector San Francisco/COTP	A highly trained, experienced boarding team, made up of civilian, state, and local government experts, in incidents requiring complicated analysis.	Local	Yes	PI; 79
106	Initial Response Actions: Sector San Francisco/COTP	Ensure key oil spill response factors are listed in quick response cards (QRCs).	Local	Yes	PI; 80
107	Initial Response Actions: Sector San Francisco/COTP	Investigators and responders should be given priorities from the IC/UC.	Local	Yes	PI; 80
108	Initial Response Actions: Sector San Francisco/COTP	The response should begin quickly and aggressively. Decisions should be made by the CG/State until the RP arrives.	Local	Yes	PI; 80

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109	Sector Command Center (SCC) Information Coordination / VTS as a resource	Enhance training, cross-training and familiarization programs b/t SCC and VTS personnel (including supervisors).	National/Local	Yes	PI; 82
110	Sector Command Center (SCC) Information Coordination / VTS as a resource	Emphasize VTS involvement in oil spill response planning & exercises.	Local	Yes	PI; 82
111	Sector Command Center (SCC) Information Coordination / VTS as a resource	Regulation for OSRV/emergency vessels to have AIS installed	Local	Yes	PI; 82
112	Initial Response Actions: CA State	Liaison Officers should participate in ACP meetings. They should meet with the locals stakeholders before emergencies occur.	Local	Yes	PI; 84
113	Initial Response Actions: CA State	UC need for Technical Expert as soon as possible during oil spill responses.	Local	Yes	PI; 84
114	Initial Response Actions: CA State	Need for dedicated State transport vsl for oil spill response.	State	Yes	PI; 84
115	Initial Response: RP	Need for early comms with OSROs (what are they seeing onscene).	Local	Yes	PI; 85
116	Initial Response: RP	Need for physical presence of RP rep at ICP/UC.	Local	Yes	PI; 85

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117	Initial Response: RP	ACPs/RRPs need to minimize influence of financial auditors on response.	Local	Yes	PI; 85
118	Spill Volume Quantification	Need for all responders/SCCs to have oil spill quantification training.	National/Local	Yes	PI; 90
119	Spill Volume Quantification	Need for professional quantification personnel.	Local	Yes	PI; 90
120	Spill Volume Quantification	Practice quantification validation in future oil spill exercises (intentionally low estimates)	Local	Yes	PI; 90
121	Spill Volume Quantification	UC/SCC/IMD ensure FOSC is aware of most current oil spill quantification info & its variability/ reliability.	Local	Yes	PI; 90
122	Spill Volume Quantification	Ensure injects that test FOSC's ability to give credibility to new quantification estimates.	Local	Yes	PI; 90
123	Remote Sensing	NOAA develop aerial observer training for CA OSPR using Santa Barbara oil seeps for real experience.	Regional	Yes	PI; 92
124	Remote Sensing	Evaluate remote sensing technologies for real time data on oil spills	National	Yes	PI; 92
125	Remote Sensing	Evaluate remote sensing technologies for non-real time info	National	Yes	PI; 92
126	Remote Sensing	Determine status of CG Air Eye system and similar systems worldwide.	National	Yes	PI; 92
127	On Water Recovery	Sector SF examine impacts of vessel movement in oiled waters and consider traffic control patterns during oil spill responses/esp in poor vis conditions.	Local	Yes	PI; 94

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128	Shoreline Assessment Cleanup Teams-SCAT	Formally recognize SCAT method be adopted for use in ACPs.	National/Local	Yes	PI; 97
129	Shoreline Assessment Cleanup Teams-SCAT	Recognize the difference between shoreline field observers and SCAT in the ACP.	Local	Yes	PI; 97
130	Shoreline Assessment Cleanup Teams-SCAT	Adequately train & equip reconnaissance teams.	Local	Yes	PI; 97
131	Shoreline Assessment Cleanup Teams-SCAT	Reconnaissance teams should include trained OSPR personnel with local knowledge.	State/Local	Yes	PI; 97
132	Shoreline Assessment Cleanup Teams-SCAT	Adopt effort to segment shorelines as part of planning process into ACP to reduce confusion between observers, SCAT and operations.	Local	Yes	PI; 97
133	Shoreline Assessment Cleanup Teams-SCAT	Reconcile shoreline oiling maps daily.	Local	Yes	PI; 98
134	Unified Command-Booming Strategies	Develop a process to report, verify, and display booming status	Local	Yes	PI; 104
135	Unified Command-Booming Strategies	Continue and accelerate the OSRO testing program, to include bad wx or extreme conditions, as safety allows.	State/Local	Yes	PI; 104
136	Unified Command-Booming Strategies	Research technology to find oil in limited visibility.	Local	Yes	PI; 104
137	Unified Command-Booming Strategies	Incorporate local government response capabilities into plans.	Local	Yes	PI; 104
138	Unified Command-Trajectory Models	NOAA/ERD should develop a training program for OSPR overflight.	State	Yes	PI; 106
139	Unified Command-Trajectory Models	Improve understanding of near surface circulation of floating heavy oils.	Local		PI; 106

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140	Unified Command-Trajectory Models	Increase the level of training for key decision makers.	Local	Yes	PI; 106
141	Unified Command-Trajectory Models	Re-establish the concept of the NOAA SST as described in the NCP.	National		PI; 107
142	Weather as a Factor for Response	Update ACP to include different weather conditions specific to SF in the appropriate section.	Local	Yes	PI; 108
143	Resource Management: Available Assets Not Used	Weigh the decision to incorporate outside assets.	Local		PI; 110
144	Resource Management: Available Assets Not Used	Co-locate VTS and SCC to facilitate more seamless communications.	Regional	Yes	PI; 110
145	Resource Management: Available Assets Not Used	Evaluate the need to update the ACP and include protocols for requesting the use of all NCP special teams.	Local	Yes	PI; 110
146	Resource Management: Assets Used	Have trained liaison officer on scene.	State	Yes	PI; 114
147	Resource Management: Assets Used	Ensure that the QI/RP is integrated physically into the UC at the earliest possible time.	Local	Yes	PI; 114
148	Communications between Field and UC	Establish protocols in the ACP for OSROs to promptly communicate observations to the UC or FOOSC. If not provided, the UC/FOOSC should request.	Local	Yes	PI; 116
149	Relocating the ICP	Pre-designate an ICP and drill there to ensure it is the appropriate location. List facility in ACP.	Local	Yes	PI; 118

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150	Unified Command: Liaison Officer	Make liaison training a high priority.	Local	Yes	PI; 119
151	Unified Command: Liaison Officer	The State should explore assigning liaison officers to first responder teams.	State	Yes	PI; 119
152	Unified Command: NGOs	Include NGOs in drills and planning.	Local	Yes	PI; 120
153	Unified Command: NGOs	Evaluate the value of providing additional CeNCOOS coverage inside SF Bay proper.	Local	Yes	PI; 120
154	Unified Command: NGOs	Investigate coordination with the other California ocean observing systems.	State	Yes	PI; 120
155	Response Management Structure	Assess needs, establish spill response objectives and review available resources when building and staffing ICS.	Local	Yes	PII; 18
156	Response Management Structure	Revise area and local plans to make regional OES method of interaction with local government and outside agencies.	Local	Yes	PII; 18
157	Response Management Structure	Procure and utilize signage and vests for use in ICP.	Local	Yes	PII; 18
158	Response Management Structure	Train with and increase use of local representatives to supplement response organization.	Local	Yes	PII; 18
159	Response Management Structure	Invite local government personnel to participate in spill response exercises.	Local	Yes	PII; 18
160	Response Management Structure	Sectors should train officers to step in as Deputy FOSC.	Local	Yes	PII; 18
161	Response Management Structure	Coast Guard should make continuing oil spill and hazardous substance response training a priority for Response and Prevention Department Heads, Incident Management Division Chiefs and other junior officers.	National	Yes	PII; 18
162	Response Management Structure	Coast Guard should make better use of special teams identified in the NCP, Specifically Strike Teams and the Scientific Support Coordinator, to reduce the burden on the FOSC.	National	Yes	PII; 18
163	Pre-Restoration Activities During Response and NRDA Coordination with Incident Command	Clarify the role of the NRDA liaison in the Incident Management Handbook and rectify in the ACP.	National	Yes	PII; 21

**APPENDIX A**

**ISPR RECOMMENDATIONS: RESPONSE**

No.	Focus Issue	Recommendation	Is Change at Local, State, Regional or National Level	Applicable in Multiple Areas	Page ID (Part I/II & Page No.)
164	Pre-Restoration Activities During Response and NRDA Coordination with Incident Command	Scientists and restoration specialists should develop job aides to help the UC recognize restoration-targeted opportunities during emergency phase.	Local	Yes	PII; 21
165	Pre-Restoration Activities During Response and NRDA Coordination with Incident Command	Examine SCAT protocols for applicability to NRDAR data needs.	Local	Yes	PII; 21
166	Pre-Restoration Activities During Response and NRDA Coordination with Incident Command	Establish minimum safety standards for NRDAR field scientists.	Local	Yes	PII; 21
167	Pre-Restoration Activities During Response and NRDA Coordination with Incident Command	Include interface between NRDA and response operations in design of NPREP drills.	Local	Yes	PII; 21
168	Shoreline Protection Activities: Information Sharing	Develop NIMS procedures to document completion and result of spill response actions taken to implement Site Response Strategies listed in the ACP.	National	Yes	PII; 23
169	Shoreline Protection Activities: Information Sharing	Consider assigning staff person to record daily briefing sessions during the response.	Local	Yes	PII; 24
170	Shoreline Protection Activities: Information Sharing	Photographically document Situation Display Board prior to each update.	Local	Yes	PII; 24
171	Shoreline Protection Activities: Information Sharing	Use field observers to assess and document status of field assignments.	Local	Yes	PII; 24
172	Shoreline Protection Activities: Information Sharing	Work closely with local representatives to coordinate and document private booming strategies with Planning Section.	Local		PII; 24

**APPENDIX A**

**ISPR RECOMMENDATIONS: RESPONSE**

No.	Focus Issue	Recommendation	Is Change at Local, State, Regional or National Level	Applicable in Multiple Areas	Page ID (Part I/II & Page No.)
173	Closure and Reopening of Beaches	Local land managers should determine needed information to make beach closure decisions and incorporate those needs into local government plans.	Local	Yes	PII; 26
174	Closure and Reopening of Beaches	Local plans should include beach closure, cleanup, reopening and signage protocols.	Local	Yes	PII; 26
175	Closure and Reopening of Beaches	Beach closure protocols should be included in drills and exercises.	Local	Yes	PII; 26
176	Closure of Commercial Fisheries	Develop and include specific protocols in the ACP that ensure regular and timely oil spill amount and trajectory information are available to fishery decision makers.	Local	Yes	PII; 29
177	Closure of Commercial Fisheries	Plan for the orderly advisory, restriction or closure of a fishery and subsequent lifting of that action.	Local	Yes	PII; 29
178	Closure of Commercial Fisheries	Engage the fishing community, regulators and other experts to develop clear, deliberative emergency fisheries management plans in the event of a spill that impacts a fishery.	Local	Yes	PII; 29
179	Closure of Commercial Fisheries	Further investigate the needs to develop expedited tests to check whether impacted fish as a health risk.	Local	Yes	PII; 29
180	Cascading Equipment and Personnel	Federal and State UC representatives should continue to vigilantly monitor provided resources and intervene to augment them if necessary.	Local	Yes	PII; 32
181	Cascading Equipment and Personnel	Create a catalog of local and regional resources to assist UC in deploying resources.	Regional/Local	Yes	PII; 32
182	Commercial Fishing Vessels for Cleanup Operations	Area Committee should explore the use of commercial fishing vessels and other vessels of opportunity as potential oil spill recovery resources.	Local	Yes	PII; 34
183	Commercial Fishing Vessels for Cleanup Operations	Area Committee should examine other models of commercial fishing vessel use in recovery, such as those in Southern California, Alaska and British Columbia.	Local	Yes	PII; 34
184	Commercial Fishing Vessels for Cleanup Operations	Further investigation should be undertaken to assess the fishermen's response effectiveness in the Cosco Busan spill and evaluate the benefit of investing in regular HAZWOPER training of fishermen for future spills.	Local	Yes	PII; 35

**APPENDIX A**

**ISPR RECOMMENDATIONS: RESPONSE**

No.	Focus Issue	Recommendation	Is Change at Local, State, Regional or National Level	Applicable in Multiple Areas	Page ID (Part I/II & Page No.)
185	Oiled Wildlife Response	OWCN should continue to conduct training and test new techniques to keep medical records with birds during processing.	Local	Yes	PII; 36
186	Internet Communication	The UC should designate one official website to represent response efforts, provide answers to questions and address issues raised through other media sources.	Local	Yes	PII; 40
187	Internet Communication	Responders should monitor information posted on other websites, blogs and chat rooms. Address questions, concerns or misinformation spotted on these sites on the official website.	Local	Yes	PII; 41
188	Internet Communication	Offer RSS feeds from the official website.	Local	Yes	PII; 41
189	Internet Communication	Create an objective in the next area exercise to address the use of web-based communication.	Local	Yes	PII; 41
190	Internet Communication	Include potential Internet tool options in ACPs.	Local	Yes	PII; 41

## CAPE MOHICAN SPILL ISPR RECOMMENDATIONS (1996)

No.	Focus Issue	MV <i>Cape Mohican</i> Oil Spill ISPR (October 1996) Recommendations
1	Opening of Oil Spill Liability Trust Fund (OSLTF)	Commandant (G-MOR) should issue clear guidance that delineates current restrictions on access to the Fund when a public vessel is the source, and there is a reluctance or hesitation on the part of the responsible public agency.
2	Opening of Oil Spill Liability Trust Fund (OSLTF)	Navigation and Vessel Inspection Circular (NVIC) - Commandant (G-MOR) should develop a NVIC setting out guidance on Fund availability for response efforts during a public vessel spill. This NVIC should include a nonstandard distribution to all OSROs to alleviate any concerns pertaining to reimbursement.
3	Opening of Oil Spill Liability Trust Fund (OSLTF)	Drills - Public vessel spill scenarios need to be exercised, engaging potential responsible agencies whenever possible.
4	Liability Issues	Memorandum of Understanding (MOU) - Establish an MOU between the Coast Guard and agencies owning or operating public vessels. This MOU should address such areas as: the availability of a spill management team, the need for a claims adjudication team, and the development of a claims reimbursement mechanism.
5	Liability Issues	Legislation - Initiate legislation governing the use of the Fund, ensuring that all aspects of OPA are available for spills from public vessels.
6	ICS Implementation	Deeper Training - More responder training is needed to balance the competing obligations of simultaneously assessing and controlling a complex oil spill.
7	ICS Implementation	Earlier Help - Policy and culture should encourage the first responder to implement a deeper ICS structure than seems warranted by the quantity of oil seen in the water. If this organization exceeds the need, the ICS can be scaled back and staff sent home. Conversely, once the response organization has "lost the bubble," catch up is extremely difficult. An earlier and deeper implementation of the ICS structure guards against getting caught behind and chasing the oil. (See "Launch the World?")
8	ICS Implementation	Type Teams - Even with more first responder training, ICS implementation at complicated spills requires the assistance of specialized personnel. Predesignated and highly trained teams of various sizes should be made available to respond to a given "type" or size of oil spill. To be practical, these teams should be made up of existing specialists. (See "ICS Generalists vs Specialists.")

## CAPE MOHICAN SPILL ISPR RECOMMENDATIONS (1996)

No.	Focus Issue	MV <i>Cape Mohican</i> Oil Spill ISPR (October 1996) Recommendations
9	ICS Generalists vs Specialists	Type Teams - It is not practical to turn general duty spill responders, who often carry many collateral duties, into deeply trained ICS experts. Consequently, it is recommended that a combination of policy and training be developed to advance the use of mobile specialist teams who, in concert with local personnel familiar with the local environment, meet the complexity of quickly ramping up a sophisticated spill response organization. These teams could be designated by the type (magnitude) of spill they fit, and be made up of individuals selected from the body of specialists that now exist variously in government and industry.
10	Environmentally Sensitive Area Protection Decision	Develop a "Process" - The decision making process regarding the protection of sensitive areas should be clearly delineated in the ACP. The ACP should outline, to the maximum extent possible, who should be making these decisions, and how these decisions should be implemented and documented.
11	Ranking Environmentally Sensitive Areas	Ranking Sensitive Areas - Sensitive area rankings should be as specific as possible in order to better identify a realistic "priority." Sensitive areas which are clustered together within a small geographic area should be ranked relative to each other whenever possible.
12	Ranking Environmentally Sensitive Areas	Stakeholder Identification - Stakeholders associated with sensitive areas should be pre-identified in the ACP.
13	Ranking Environmentally Sensitive Areas	Exercises - Training and exercises should emphasize rapid, incident specific decision making on sensitive area prioritization.
14	Clean up Resources	Groundtruth Resources - Area Committees should better "groundtruth" available resources and how these resources will respond.
15	Clean up Resources	Learning Opportunities - Create opportunities during drills, smaller events, or simple meetings to better understand the capabilities of local contractors. Exercise contractors' cascade plans to the fullest extent possible during a drill.
16	Joint Information Center	Overreact - Overreact and stand up a JIC at the first indication that a spill is generating moderate media interest.
17	Joint Information Center	Ensure JIC Accessibility - Ensure the JIC is readily accessible to the media.

## CAPE MOHICAN SPILL ISPR RECOMMENDATIONS (1996)

No.	Focus Issue	MV <i>Cape Mohican</i> Oil Spill ISPR (October 1996) Recommendations
18	Joint Information Center	Use Photo Ops - Take advantage of unique photo opportunities -- whether of large recovery vessels or shoreline clean-up efforts -- both to garner positive press coverage and to educate the public.
19	Joint Information Center	Pre-designate Assignments - Pre-designate the JIC structure and staffing, including the lead PLO and JIC manager.
20	Joint Information Center	Ensure Local Representation - Ensure all key stakeholders within the affected community (federal, state, local) are represented in the JIC.
21	Joint Information Center	Exercise JIC - Regularly exercise the JIC in spill scenarios.
22	Joint Information Center	Engage PIOs - Engage various public information officers between exercises.
23	Launch Triggers	Seek Assistance - FOSCs are encouraged to request the assistance of experienced National Strike Force personnel or other "specialist teams" early on in a response effort, to specifically obtain an accurate assessment of the overall severity of the spill and the appropriate level of resources necessary to effectively respond.
24	Launch Triggers	Recognize Where Oil Hides - The response community should recognize that oil spilled in the way of major docks, piers, and wharves has a tendency to avoid initial detection and, therefore, should expect and plan for a release of significant amounts of oil during tidal cycles.
25	Launch Triggers	Overreact - With the very high expectations that currently exist on the part of the public, media, and (to a lesser degree) the response community itself as to its capability to effectively respond to an oil spill, FOSCs should be encouraged to "overreact" with a liberal use of resources, quickly demobilizing elements subsequently deemed unnecessary.
26	Launch Triggers	Clarify Policy - Commandant (G-MOR) and the National Pollution Funds Center should address and eliminate the apparent conflict that exists between the operational "shoot first" policy and fiscal "last resort" policy as it applies to public vessels.
27	Launch Triggers	Use Trained Overflight Personnel - The response community should ensure that trained personnel are included on oil spill assessment overflights who are familiar with the geographic area, knowledgeable of the requested overflight plan and, as needed, experienced in the use of new technologies (e.g., infrared camera).

## CAPE MOHICAN SPILL ISPR RECOMMENDATIONS (1996)

No.	Focus Issue	MV <i>Cape Mohican</i> Oil Spill ISPR (October 1996) Recommendations
28	Launch Triggers	Beware Urban Spills - Area Committees should recognize the existence of and plan for heightened environmental sensitivities, with a concomitant enhancement of response posture, when an oil spill occurs adjacent to a large metropolitan area.
29	ICS Integration of Local Area Entities	Participate - Local area entities should participate more within Area Committees and in exercises, and gain a better understanding of the ICS through training and face to face meetings with the oil spill response community.
30	ICS Integration of Local Area Entities	Engage - Area Committees need to engage these local area entities, encourage their participation in planning meetings, and exercise with them, occasionally filling ICS positions with local area resources.
31	Semi-Orphan Spill	Orphan Drills - Government responders should increase the number of orphan spill exercises to better prepare to manage the response in the absence of a fully engaged RP. The degree of training necessary should include the assumption that specialist teams, such as the Coast Guard's strike teams, will be available.
32	Semi-Orphan Spill	Pre-designate Government Assignments - Government responders should pre-designate the ICS positions that they will cover. Each agency should endeavor to build expertise in their pre-designated ICS roles.
33	Semi-Orphan Spill	OSROs in Management - Government responders should guard against the tendency to so fully staff an orphan spill response with a government team that OSRO experts are relegated to tactical work, losing important expertise in the management of the response.
34	Shipyard Response Plans	Risk Analysis - A risk analysis should be undertaken to assess the oil pollution threat posed by shipyard and drydock operations in the United States. This analysis should seek to determine whether shipyard response plans are adequate for the vessels they contractually receive at their facilities.
35	Shipyard Response Plans	Plan and Train - Shipyard response plans should be more specific regarding appropriate steps to take to formulate and implement a site safety plan in the event of an oil spill. The shipyard should also train on the implementation of this site safety plan.