

Competing perspectives about oil spill response objectives:

A comparison of stakeholders' views in four regions



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Social dimensions of oil spills

- Two projects
 - Assessing spill response
 - Establishing performance metrics for oil spill response recovery and restoration.
 - Social impacts from spills and response
 - Social disruption from oil spills and spill response: Characterizing effects, vulnerabilities, and the adequacy of existing data to inform decision-making.



Why assess a spill response?

- Why assess after?
 - Facilitate organizational learning
 - Determine adequacy of area contingency plans
 - Provide information for legal disputes



Assessing Response

goals - objectives - metrics - measures

- Assessment requires:
 - Reaching agreement about goals and objectives
 - Selecting metrics
 - A process for doing these
 - Finding data to measure performance on selected metrics
 - Making judgments about what is measured



Why is selecting metrics hard?

- What is easy to measure may not be relevant
- What is relevant may be hard to measure directly
- Disagreements about thresholds (“good” vs. “bad”)
- Paucity of data (including baseline data, uncertainties)
- Timing of measurement can affect assessment
- Disagreements about weightings and aggregation
- Finding the right metrics for different audiences (e.g., public, officials)



Why is defining goals and objectives hard?

- **Oil Pollution Act 1990**
 - Maintain safety of human life
 - Stabilize the situation to preclude it from worsening
 - Minimize adverse environmental and socioeconomic impacts by coordinating all containment and removal activities to carry out a timely, effective response



Why is defining goals and objectives hard?

- E.g., mitigation of ecological impacts means...?
 - ensure that areas or species pre-identified as sensitive are quickly protected
 - protect the adults of a species at risk
 - protect areas that have multiple resource values
 - protect species that are especially critical for the functioning of an impacted ecosystem
 - ensure that impacts from clean-up activities are minimized
 - remove enough oil so that impacted species and habitats can return to the way they were in a reasonable amount of time



Types of objectives

- Implement an effective and timely response
- Meet legal and regulatory requirements
- Establish a coordinated and effective response framework
- Protect worker and public health and safety
- Protect environment and mitigate environmental impacts
- Protect cultural resources
- Mitigate economic impacts
- Mitigate social nuisance impacts
- Address needs and concerns of the public
- Gain public support for the response



So, we asked:

Is there really agreement about objectives for spill response among people involved in spill response planning?



4 case studies

- Buzzards Bay (*Bouchard-120*)
 - 12 participants
- San Francisco Bay (before *Cosco Busan*)
 - 12 participants
- Delaware Bay (*Athos I*)
 - 12 participants
- Washington State
 - 13 participants



When you think about past oil spills, what do you think should be the objectives that guide responses to future oil spills in this area?

Sort the statements to indicate what you would be *most unlikely to emphasize* to *most likely to emphasize* in a future response.



And, we found that:

*Priorities among objectives
can be contested*



Archetype perspectives from cross-case analysis

- Perspective W: Implement a rapid, coordinated response guided by the contingency plan and gain public trust
- Perspective X: Protect ecological resources and gain public trust
- Perspective Y: Protect human health and safety by implementing a rapid response guided by the contingency plan
- Perspective Z: Protect human communities using high quality information to support decision-making



Perspective W: Implement a rapid, coordinated response guided by the contingency plan and gain public trust

- Be guided by the contingency plan
- Swiftly implement a highly coordinated response effort
- Integrate local responders/leaders quickly into the effort
- Establish a clear chain of command
- Get clean-up crews on-sight rapidly
- Inform the local community about the response effort, enhance trust, and manage expectations about what the response can actually accomplish
- But, don't emphasize mitigating socially disruptive impacts (e.g., economic, aesthetic)



Perspective X: Protect ecological resources and gain public trust

- Protect areas serving multiple purposes or values
- Protect areas especially critical for the functioning of an impacted ecosystem.
- Consider the long-term, both *recovery* and *restoration*
- Monitor response efforts
- Base response actions on a well-coordinated expert scientific effort that gathers decision-relevant information
- Inform the public with accurate and timely information and enhance trust
- But, don't emphasize mitigating socially disruptive impacts (e.g., economic, aesthetic)



Perspective Y: Protect human health and safety by implementing a rapid response guided by the contingency plan

- Avoid situations that could threaten health and safety
 - contamination of commercial seafood
 - exposures from subsistence fishing
 - additional harm from clean-up activities
- Implement the contingency plan
- Recovery and removal of oil offshore
- Set-up a clear chain of command
- Get clean-up crews on-site rapidly
- Monitor the effectiveness of response actions
- Protect important ecological resources



Perspective Z: Protect human communities using high quality information to support decision-making

- Mitigate economic impacts to local commercial fishermen
 - prevent consumption of contaminated seafood
 - address potential impacts that might arise from people's perceptions (e.g., shellfish tainting)
- But, individuals' health and safety receives rather weak attention
- Base response actions on a well-coordinated expert scientific effort that gathers decision-relevant information
 - accurate estimate of amount of oil spilled
- Establish clear definitions about endpoints and what constitutes "clean"



Index Scores for each archetype perspective

	Factor W	Factor X	Factor Y	Factor Z
Economic Impacts	-1.4	-1.54	-0.14	1.35
Health and Safety Risks	-0.06	-1.54	4.21	-1.80
Ecological Impacts	1.48	5.90	4.40	3.60
Establish Coordinated Response	3.07	2.33	2.46	3.15
Implement Timely Response	6.22	2.31	3.83	1.80
Address Community Needs	1.86	-1.28	-4.39	-0.45
Public Support	1.10	0.26	-1.71	-1.35
Cultural Impacts	-1.95	-1.79	-0.48	-1.35



Implementing the contingency plan vs. gathering information to inform response actions

	Factor W	Factor X	Factor Y	Factor Z
Implement the contingency plan.	1.37	-1.03	1.23	-1.80
Get a good estimate of the amount of oil spilled.	-0.51	0.51	0.09	0.90
A well-coordinated expert scientific effort should drive the gathering of decision-relevant information, not public concerns and perceptions.	0.23	1.03	-0.48	1.80



Implications for spill response

- Spill planners, managers, and responders emphasize different components of contingency plans and different response objectives.
- A small set of archetype perspectives describe how planners/responders think a response should be implemented.
- These differences emerged in both specific regions and across regions.
- They do not appear to be rooted in deeply held differences.
- Before stakeholders can fruitfully discuss performance metrics to guide planning for future responses or evaluate past spill responses there needs to be some agreement about which objectives are important to measure.



www.seri-us.org/projects/oilspill.html



Acknowledgement

Funding for this project was provided by
the Coastal Response Research Center

www.crrc.unh.edu



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