Technologies and Approaches to Assist with Social Media Outreach and Management & Principles of Risk Communication for Oil Spill Response

OSPR/Chevron Oil Spill Response Technology Workshop
March 1, 2017, Chevron Park, San Ramon, CA

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Oil spill communication missteps

(Prestige oil spill, Spain in 2002 http://www.upf.edu/pcstacademy/_docs/2007_ampera.pdf)

Missteps (Problems)

1. Unidirectional communication (lack of interaction with audience/stakeholders).
2. Contradictory messages between different governmental spokespersons.
3. Absence of an independent expert voice to justify the governmental actions.
4. No self-criticism in the message, minimizing the crisis and consequences.
5. No channels of direct communication with those affected in local area suffering from the accident.
6. Lack of online information and tailored to needs of media.
7. Crisis without a controlled end by the response authorities (no quick economical and environmental impact assessments).
8. Unclear messages: ambiguous and confusing terminology.

Suggested Potential Solutions

1. Stakeholder engagement
2. ICS + stakeholder engagement
3. Engage stakeholders who are trusted information sources (social networks)
4. Risk communication principles
5. Networking via social networks and social media
6. Social media, internet and messages
7. Technical and risk assessment
8. Risk communication principles

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Oil Spill Stakeholders

Source: Walker, A. H., "Oil Spills and Risk Perceptions" in *Oil spill science and technology*. 2016 Ed. M. Fingas, Gulf Professional Publishing. ISBN: 9780128094136

Stakeholder Group	Examples
Decision makers	Formal governmental authorities (international, national, regional, state, local, parish) Spiller (private or public) Compensation providers Resource trustees
Knowledge sources and advisors	Oil spill technical specialists (government and industry) Resource managers Energy and marine operators Academic researchers Public health agencies Tribal representatives Others with traditional knowledge (i.e., fishers and marine pilots)
Stakeholders affected by decisions	Local communities Fishers and seafood industry American Indians, Indigenous peoples Tourist industry Other businesses in the spill area Oiled property owners Designated resource managers Energy/oil, marine, and shipping industries
Communicators, influencers, and opinion leaders	Media (print, broadcast, and electronic) Elected officials and community leaders Academia Professional/Trade Associations Non-governmental Organizations (NGOs) Community health workers Social media bloggers/communicators

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Social Media

- Significant disaster and human-centered engineering systems researchers investigating the use of social media during emergencies
- Jeannette Sutton, Disaster Sociologist: research on the users of social media in crises and disasters
    - *People will use information from any number of sources to satisfy their needs and inform their actions in the face of disaster*
    - *Wide-scale interaction between members of the public has qualities of being collectively resourceful, self-policing and <u>will generate information that cannot otherwise be easily obtained</u>*

Recent Findings about Social Media & Rumors

- Official information sources … controlled, may be slow in addressing public questions, and concerned with suppressing rumoring activity, which may contain unverified or inaccurate information.
- Rumors in social media are part of collective sensemaking activities.
- Rumoring includes communications about facts or events of interest that occur outside of the formal, institutionalized process. Social scientists suggest factors that influence rumoring behavior include: perceived importance, level of uncertainty or ambiguity, and the potential to impact decision making.

Recent Findings

- Distinct types of uncertainty expressed in tweets which can be earlier indicator of rumors than denials or corrections that could improve the speed of detection
- Evidence from emergency responders and other crisis communicators can effectively shape social media discussions and dampen the spread of rumors by engaging in the online conversation.
  - To do so requires keeping pace with the rapid speed of social media

- Rumoring references: Spiro et al, 2012; Starbird et al, 2016; Andrews et al, 2016

CRRC Research Project:

Response Risk Communication Tools for Dispersants and Oil Spills

- Goal: Provide information that can be used in making oil spill and dispersant-related response, assessment and restoration decisions.
  - Assess public and stakeholder risk perceptions and information needs
  - Research on general public's understanding of oil spill response goals and strategies, including response options, tradeoff decision-making, environmental impacts, dispersant information needs and expectations, and recommendations for future preparedness and response planning
  - Surveys to identify key information gaps and areas of confusion and misunderstandings
  - Better methods to communicate scientific uncertainty and complexity with respect to response alternatives
  - Methods to effectively communicate and educate stakeholder groups and the general public on dispersants and oil spills, environmental trade-offs, human health, and seafood safety issues, including development of fact-based scenarios of outcomes of alternative response decisions

Funding for this project was provided by the University of New Hampshire's Coastal Response Research Center (NOAA Grant Number: NA07NOS4630143. Contract: 13-003)

CRRC Project - Research Products http://crrc.unh.edu/center-funded-projects

- Report and Online PowerPoint Training Module on CRRC website
- Series of 5 papers published in *Human and Ecological Risk Assessment: An International Journal* (2015)
  - Oil spill response risk judgments, decisions, and mental models: findings from surveying US stakeholders and coastal residents.
  - Communication practices for oil spills: Stakeholder engagement during preparedness and response
  - Methods for communicating the complexity and uncertainty of oil spill response actions and tradeoffs.
  - What-If Scenario Modeling to Support Oil Spill Preparedness and Response Decision-Making.
  - Social Media, Public Participation, and the 2010 BP Deepwater Horizon Oil Spill.

Funding for this project was provided by the University of New Hampshire's Coastal Response Research Center (NOAA Grant Number: NA07NOS4630143. Contract: 13-003)

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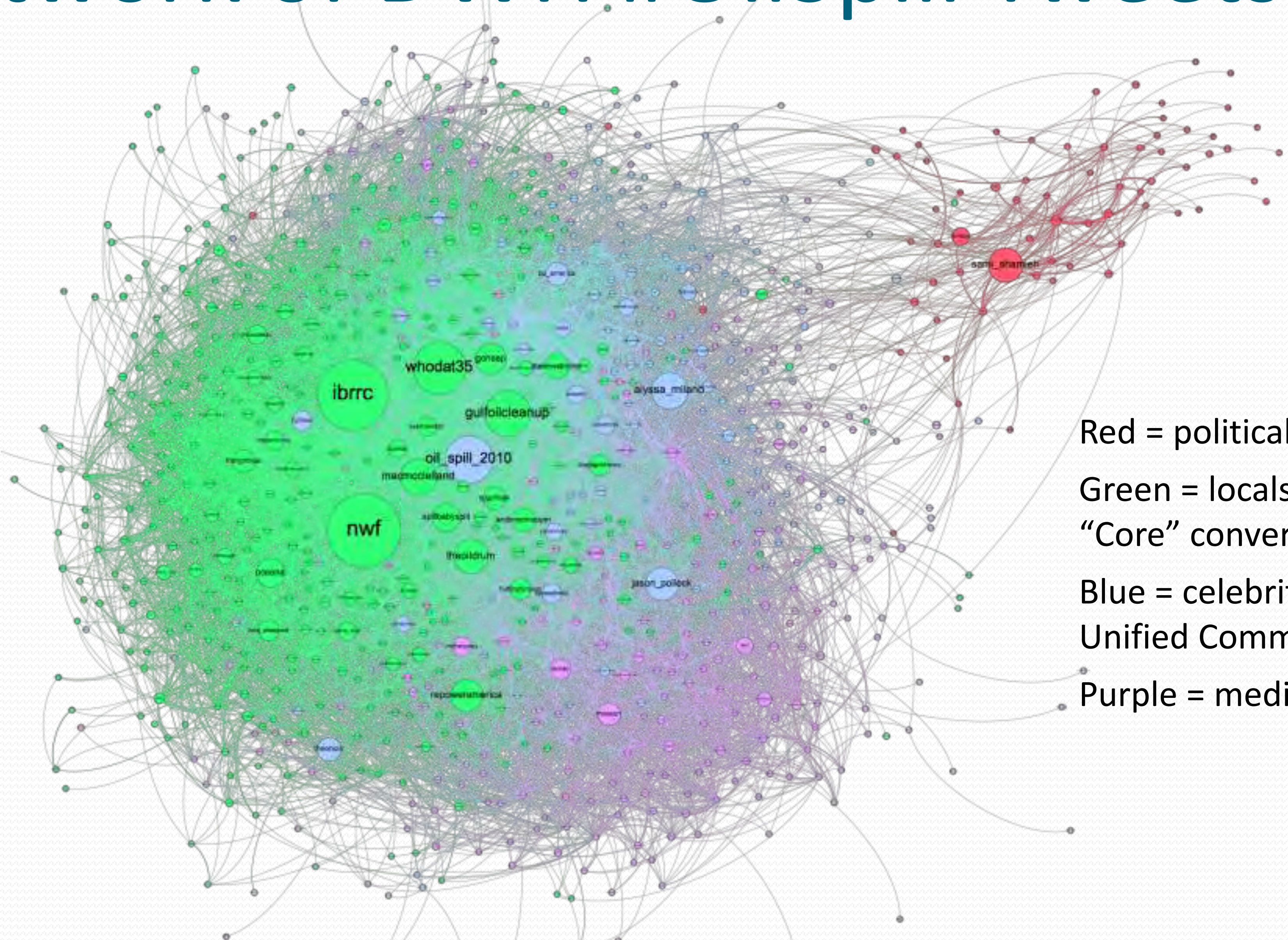
Twitter information flow and web link analysis from Deepwater Horizon oil spill: selected findings

- 693,409 #Oilspill tweets, 11,146 tweets mentioned dispersants—random subset analyzed.
- Tweet content: Dispersant-related tweets more likely than other #Oilspill tweets to concern clean-up strategy/efficacy [76% vs 9%], and health impacts [13% vs 2%].
- How Twitter was used: 69% of #OilSpill tweets contained a URL, much higher % than the average tweet.
- Tweet content, retweets, and linked-to websites show that Twitter users were working to make sense of the scientific complexity and that they valued the voices of scientists.

Twitter Analysis of stakeholder and public sensemaking about Oil Spill and Dispersants

- During the oil spill, in their information seeking and through their social media interactions, members of the public were actively trying to make sense of the situation and to reduce their uncertainty through *information seeking and social media interactions*.
- These findings demonstrate that social media users value academic sources and scientific information.

Network of DWH #OilSpill Tweets



Red = political blogosphere

Green = locals, NGOs, media, “Core” conversation

Blue = celebrities, media, Unified Command, BP

Purple = media, activists

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Twitter information flow and web link analysis from Deepwater Horizon oil spill: more selected findings

- Network analysis identifies primary influencers: Unified Command tweets 4th most retweeted.
- Several locals were also among the most retweeted.
- Analysis of locals accounts shows:
  - Anger at response efforts. Fear of environmental and health impacts.
  - Drive to contribute. Many posted tweets documenting oil impacts from their local beaches.
  - Struggle to deal with conflicting information and high uncertainty.
- The political blogosphere formed part of a *secondary* #OilSpill conversation with some connection to the main conversation.

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CRRC Project Suggestions for Using Social Media during oil spill response

1. Social media are interactional media; it promotes engagement.
    - Responders should **engage - if they can do it well**
2. Social media are a long-term commitment.
    - Responders who choose to engage should carefully consider how they structure that engagement in terms of tools, accounts, and Websites
3. Identify influencers.
    - It is possible and growing increasingly easy through the availability of online tools to generate network graphs of social media conversations to **identify influencers**. Network graphs can provide useful insight into communication patterns, influential accounts, and more

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Social Media Suggestions (continued)

4. Connect with local users and other influencers**.**
   - The social media crowd after a crisis event is a global one, but this research suggests that local voices are extremely important in shaping the conversation.
5. Integrate online volunteers into response. Tweet evidence supports a view that many **people** who are affected by a crisis **want to contribute in a productive way** to responding to the event.
6. This research suggests:
   - **Re-positioning of the crowd as participatory** (they are), and the intentional **structuring of "official" volunteer opportunities,** possibly through partner organizations, to be both safe and productive and **to align with the motivations, goals, and values of the public**.
   - Finding a way to **support citizen reporting may be a way of building trust** and engagement between responders and the local crowd.

Risk Communications for Oil Spills

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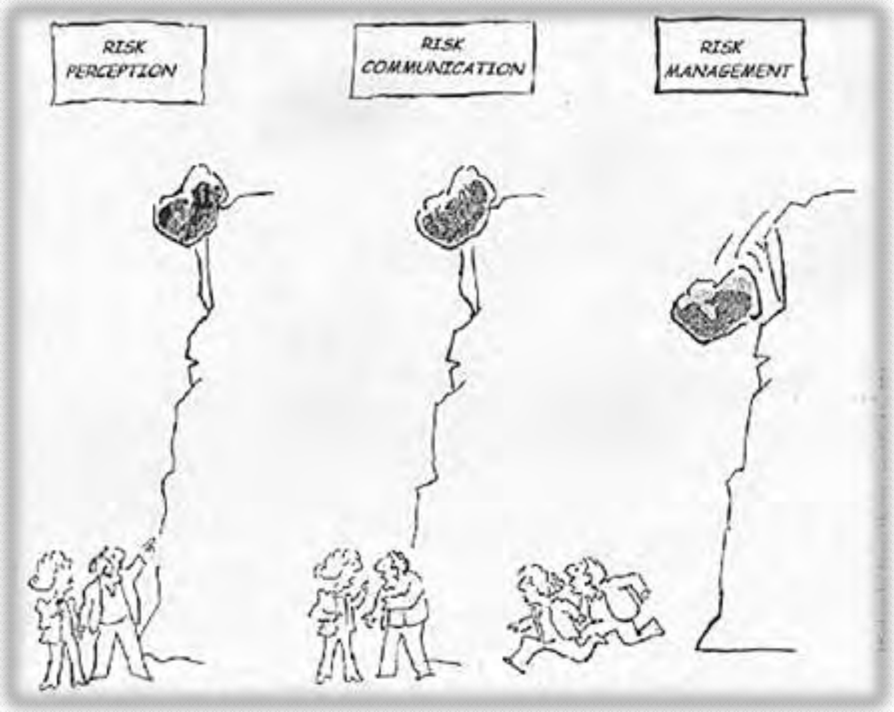
Risk and Affected Stakeholders

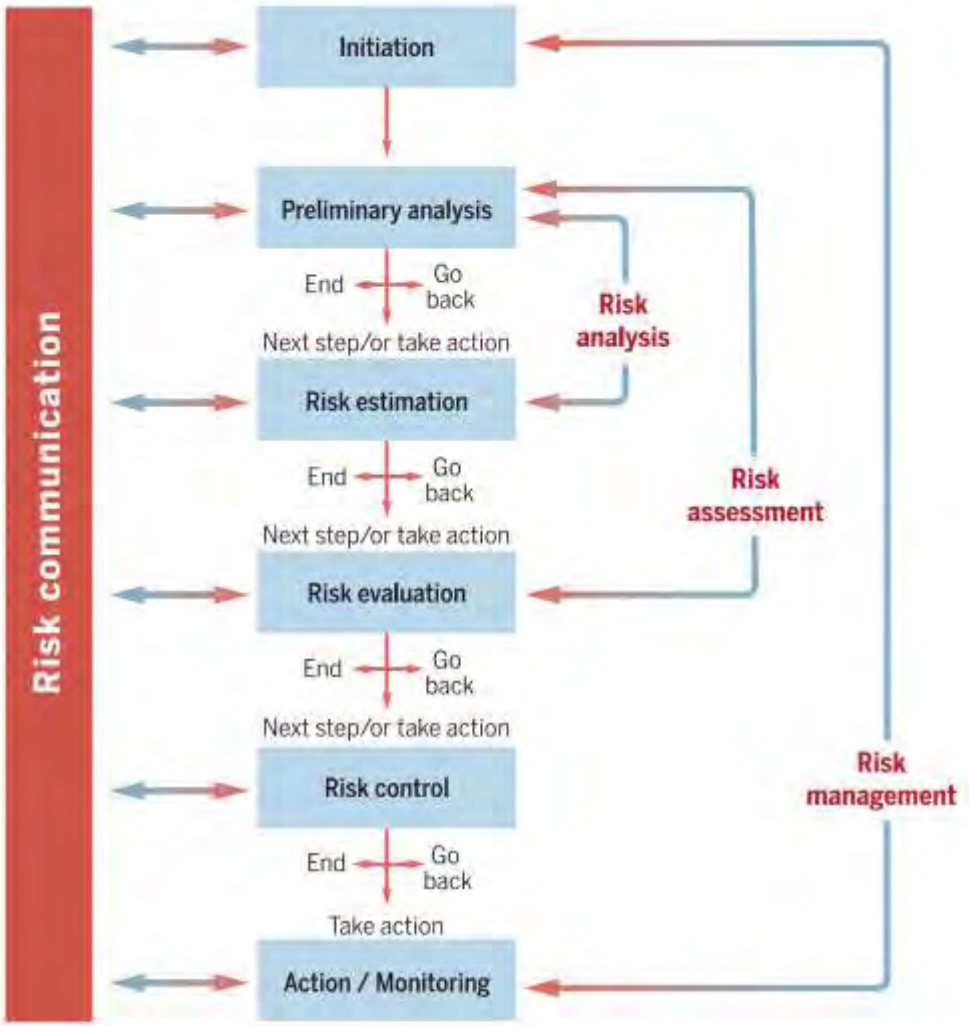
- Lack of clarity around controversial issues can lead to higher perceptions of risk and feelings of outrage by stakeholders

Risk Communications

Integral component of risk analysis, assessment and management

Much more than "outreach" (get the message out)





(Source – *Risk Management: Guideline for Decision Makers*, Canadian Standards Association, 1997)

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Use risk communication techniques

- To "supply lay people with the information they need to make informed, independent judgments about risks to health, safety, and the environment" (Morgan, Fischhoff, Bostrom, and Atman, 2002)
- To "exchange [..] information and opinions among individuals, groups, and institutions concerning a risk or potential risk to human health or the environment." (National Research Council, 1989)
- To "incorporate and respect the perceptions of the information recipients, and [..] to help people make more informed decisions about threats to their health and safety" (Ropeik, 2008)
- And ultimately, to improve risk management.

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Different Communications

Risk Communications

- Exchange of information about the nature of risk and risk management options
- Essential to manage potential risks
- Effective communication products
  - Take into account recipients' existing beliefs, including perceptions about risks
  - Address recipient decisions/judgments (opinions)

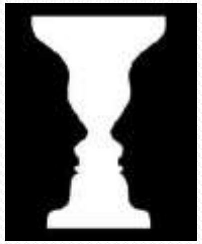
Crisis Communications

- More message driven
- Use media to influence public beliefs, opinions, and judgments
  - Regain control of the situation and conversation
  - Minimize impact on operations and target audiences
  - Minimize time spend on crisis
- Rapid response communications from external/public affairs

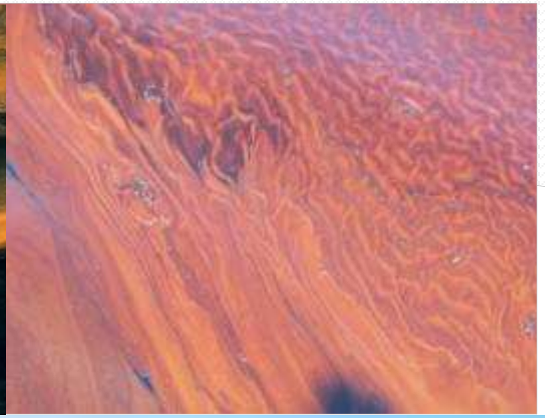
Aims of oil spill risk communications?

- Mitigate risks, and perceptions about risk, from oil spills and response actions
- Improve public understanding
- Increase stakeholder acceptance of the success of response actions
- Help speed resilience and recovery from the spill -
  - Ecological
  - Human (affected stakeholders)

Risk Perceptions are "drivers"



- Drive stakeholder questions, concerns, and gaps
- Subjective judgments of probable harm or loss
  - How something is regarded, understood, or interpreted
  - Derived from what people hear, know, or experience
  - Behavior depends on risk perceptions.
  - Expertise and information can have large effects on risk perceptions
- Stakeholders listen to those they trust and consider credible
  - Often those with whom they have an existing relationship

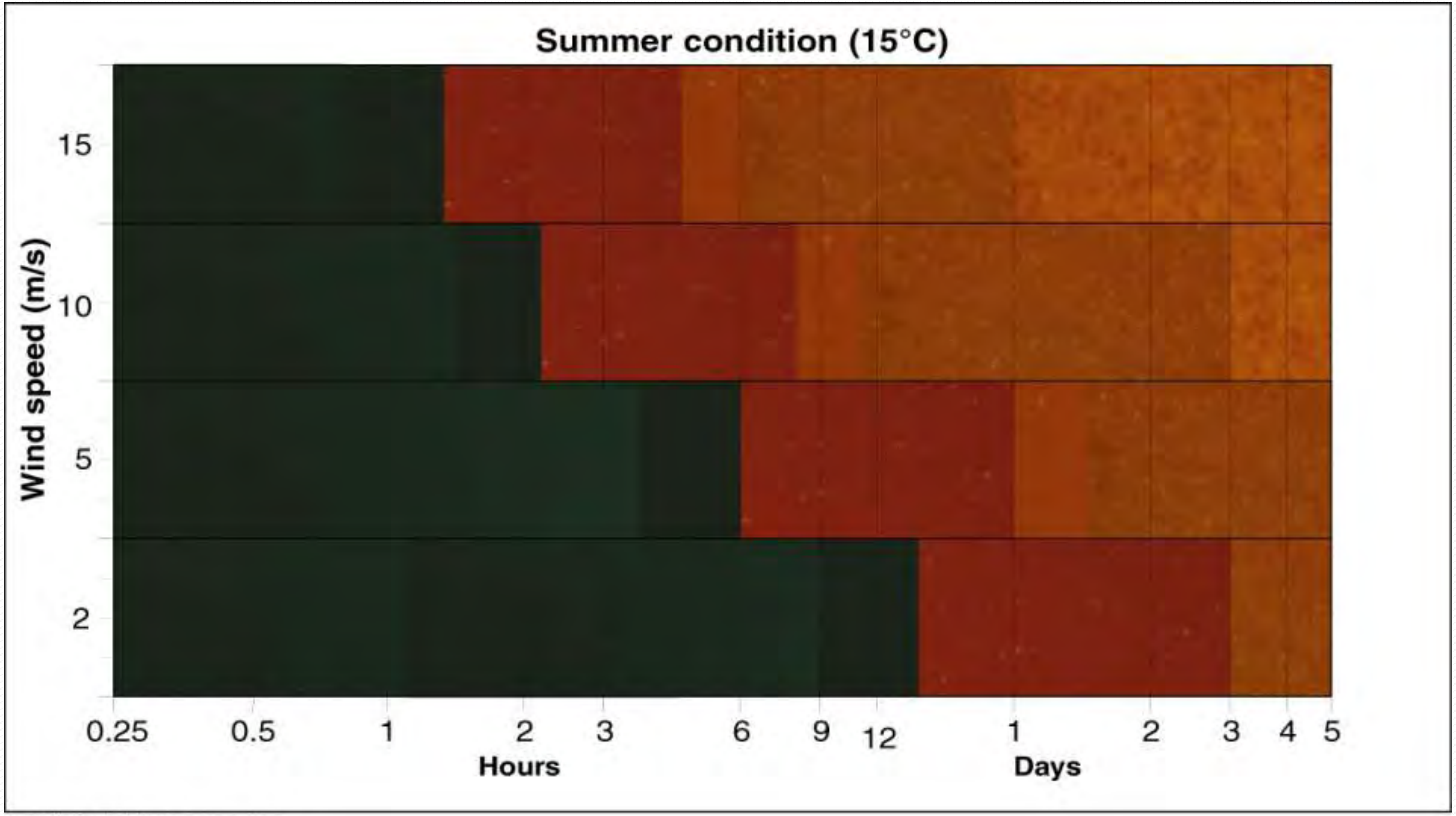




An example risk perception:
Red oil

The red color of Macondo oil was unfamiliar, and some citizens in the Gulf (mistakenly) attributed it to dispersants.

Information provided by oil spill scientists to explain the red oil:

Natural weathering changes oil color



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From SINTEF: Documented change in appearance with time on the sea surface for a light North Sea crude. Higher wind speed indicates higher wave action.

Another example of incident-specific risk perceptions about oil, dispersants, dispersed oil

Roadside Sign: Grand Isle, LA, 2010

For risk communication to be effective …

- Collaborate through social networks that are trusted, e.g., Sea Grant, trade associations
- Engage in active listening and dialogue, e.g., via social media
- Assess risk perceptions, risk situations
- Develop information to address new and unfamiliar issues, identified concerns, and stakeholder questions
  - Apply risk communication principles
- Review information and media messages *pre- and post-release* to confirm intended understanding
  - Risk communications and social media supplement, not replace, traditional media

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Provide Information to Stakeholders: Current, Relevant, & *Knowledge-based*

Develop pre-spill information sheets; update with incident-specific knowledge

- About the NCP
- Response Options: descriptions, risks and benefits
- About toxicity
- Spill sampling activities
- Waste disposal
- Alternative Response Technologies
- Wildlife
- Seafood safety

Format using risk communication principles- 2 pages, 3 take-away points, graphics, lay language, with date!

- About spilled pollutants: properties, hazards, appearance, behavior
- Vessel/platform design
- Safety Monitoring: Workers and Public
- Oil Budgets: Challenges and Realities
- Estimating extent of contamination
- Spill science and NEBA

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Stakeholder Information Sheets

- Identify topics and known risk perceptions pre-spill, then update during the spill
- Concise, lay language, technically-sound explanation about oil spill topics
  - Example pre-spill “fact sheets” – NOAA, API, ITOPF
  - Revise/update for special incident-specific conditions
- Summarize key “take away” points
- Credibility is supported with objectivity and references, avoid messages which are intended to persuade
- Note where to go for additional information
- Note that information is current of the date of preparation; may be updated as more information becomes available

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Information Sheets developed to address incident-specific issue: Subsurface and submerged oil

Deep Sea Subsurface Oil Assessment

September 2010

Subsurface oil refers primarily to offshore and deepwater oil that was released near the sea floor and is suspended in very small droplets below the water's surface. This includes chemically-dispersed oil from subsea injection and/or aerial application of dispersants on the water's surface. These droplets of oil typically are too small to be seen and do not sink. These oil droplets stay suspended in the water column or rise very slowly because of density differences, physical processes at sea, or because they mix with suspended particulates. Subsurface oil has an extremely low potential to land on the shore or in marshes.

Overview

The detection and monitoring of subsurface oil is a joint effort that includes NOAA, BP, EPA, academics and others, and is coordinated by the Subsurface Monitoring Unit (SMU) based in the Unified Area Command. Both federal and contracted vessels are currently sampling along grids for indicators of the subsurface oil. The data collected by onboard scientists are transmitted to shore, and the results and modeling are used to plan future areas to be sampled. Samples are analyzed on board, and additional water samples are sent to EPA labs for analysis.

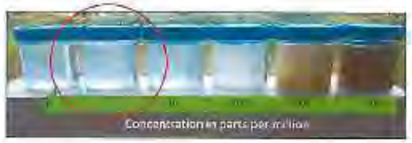
Looking for indicators of subsurface oil

One of the most useful tools in the search for dispersed oil underwater is the CTD (conductivity-temperature-depth), which is attached to a rosette containing Niskin bottles used to collect water. As the CTD rosette is lowered to depths as great as a mile or more, it records several important parameters: temperature, salinity, dissolved oxygen, and fluorescence. As it returns to the surface, the niskin bottles are programmed to collect water samples at certain depths. The water samples are sent to onshore labs for analysis of the presence of oil, rate of natural degradation and whether it is from the Deepwater Horizon (DWH) wellhead or from another source, such as naturally occurring seeps of oil from the ocean floor. These take a few weeks to analyze, but other results can be used more immediately to determine if oil might be present and to guide further sampling.

Things You Should Know About Deep Sea Oil

1. There is not a "river of oil" under the surface.

Presently most of the concentrations of submerged oil being found are less than 1 part per million (ppm)



2. The oil that is still present is a "cloud" of microscopic particles that are constantly changing.

This submerged oil is dispersed and rapidly changing in size and extent due to natural processes such as microbial and chemical degradation, diffusion, and dissolution. It is no longer present in concentrations that can be cleaned or removed at sea.

Near Shore Submerged Oil Assessment

September 2010

In the context of the BP Deepwater Horizon (DWH) oil spill in the Gulf of Mexico, submerged oil refers to near shore oil which has picked up sediments and become heavier than water and sunk. Without the addition of these sediments, extensive laboratory study has shown that this particular oil will not sink. The oil can be visible to the naked eye, but is not always easy to locate as it may be covered by sand and sediment, or in deeper water. Although it is common to use the terms submerged and subsurface interchangeably, they are actually distinct and result from very different physical and chemical processes.

In this spill, the oil was released more than 5,000 feet below the surface and some was either naturally or chemically dispersed in the process of degrading. Some of it rose to the surface and formed "slicks" and a smaller amount of it remained dispersed in the water column in the deep ocean as tiny droplets, most too small to be seen by the naked eye, to be consumed by naturally occurring bacteria. This remaining oil is referred to as subsurface oil. The rest of this fact sheet is about submerged oil and reflects sampling results to date.

Things You Should Know About Submerged Oil

1. Submerged oil is relatively uncommon: DWH oil is a light crude oil that floats. In some cases, weathered oil encounters sand or other types of sediment and organic debris that weigh it down and it sinks to the bottom in the very near shore and surf zone.
2. Submerged oil can be difficult to find: it can be covered by sediments; it can be in deeper or cloudy water and there are many things that look like submerged oil which are not, for example, sea grasses or organic matter.
3. Submerged oil can be difficult to recover: it requires significant skill to remove without risking response personnel and additional environmental impact.

Submerged oil is mostly in very near shore areas and the sampling to date confirms that DWH oil has been submerged only after be mixed with sand or other types of sediment or organic matter heavier than seawater. This is usually a result of waves moving oil over sandy areas.

Weathered oil (oil that has been exposed to the elements for days or weeks) can become sticky and is more susceptible to picking up small particles, adding enough weight to sink the oil. During the DWH spill response, as with most spills, there have been many reports of submerged oil, many of these end up being false, due to things like sargassum, algae and diatom blooms, being mistakenly thought to be submerged oil. Accurately identifying oil has always been a challenge during oil spills.

DWH Programs to Detect Submerged Oil

To address ongoing concerns about submerged oil, the Unified Area Command has implemented sampling, in the nearshore (depths of less than 200 ft deep) and in the deep water. The sampling has been carried out by NOAA, EPA, BP, and academic and consultant scientists, directed by the Unified Area Command, using both research vessels and vessels of opportunity.

Sampling teams are towing nets to detect and capture tar balls, taking water column and sediment samples at a variety of depths, placing sorbent material in the water column to detect any oil that might be carried toward land by currents and even deployed teams of skin divers to survey in the shallow water. Such measures are necessary because submerged oil can be very difficult to locate. However, because of the intensity and variety of sampling, we are becoming more confident that we understand the conditions under which this oil will submerge, the location we expect it to happen and extent it has happened.

Lay Language and Graphics

because various approaches can provide different results, which are of different scientific relevance (Markarian *et al.*, 1993).

Another complicating factor for those reading toxicity tests with oil products is how the concentration is expressed. Concentrations expressed as the total oil per unit volume (nominal concentration) are misleading because much of the oil is not soluble in the water and, therefore, not bioavailable to water column organisms. Using this nominal concentration will produce overestimates of exposure concentrations and toxicities (NRC, 1989; Lewis and Aurand, 1997). More realistic testing methods measure concentration based on the water-accommodated fraction (WAF) of the oil, which is the fraction of an oil product that remains in the water phase after mixing and settling (CONCAWE, 1983).

Although different species may react to toxic substances in unique ways, animal testing can be used to produce some basic categorizations about the toxicity of substances. Table 2 provides general guidance to the relative toxicity of substances.

Table 2. Relative toxicity of substances (from) USFWS, 1984; Hunn and Schnick, 1990). See sidebar for conversion to ppm.

Toxicity Rating	Aquatic 96-hour LC_{50}	Avian Oral 96-hour LD_{50} (mg/Kg)	Mammalian Oral 96-hour LD_{50} (mg/Kg)
Practically Nontoxic	100-1,000 mg/L	>5,000	>15,000
Slightly Toxic	10-100 mg/L	1,000-5,000	5,000-15,000
Moderately Toxic	1-10 mg/L	200-1,000	500-5,000
Highly Toxic	0.1-1.0 mg/L	40-200	50-500
Extremely Toxic	<0.1 mg/L	<40	5-50

An ***Endpoint*** is an observable or measurable biological or chemical event used as an index of the effect of a chemical on a cell, tissue, organ or organism, etc.

Lethal means resulting in death (e.g., lethal effects).

LD_{50} is the lethal dose required to kill 50% of the animals tested. "Dose" means that the substance is ingested directly by the animal, not mixed in the surrounding water as is the case with a lethal concentration.

mg/L can usually be converted directly to ppm (i.e., 1 mg/L ≅ 1 ppm) for rough approximations. Here is a general explanation of the math involved: One mg of water is 1 millionth of a liter (1 ppm). If a substance has the same density as water, the conversion is completely accurate. For substances with slightly different densities, such as oil, this conversion provides a quick estimation.

Section II: Exposure

Purpose of Part II, Section II

To explain what exposure is and how it may be affected by dispersant use.

What is Exposure?

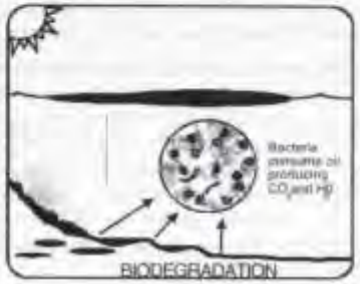
Exposure refers to the amount of contact an organism has with a chemical, physical, or biological agent. When assessing toxicity, it is necessary to know the exposure. The most significant factors are the kind, duration, and frequency of exposure, as well as the concentration of the

which have already separated from the whole oil during evaporation or dissolution. The ultimate fate of these by-products of photo-oxidation is removal to and dissipation into the atmosphere (evaporation) and the water column (dissolution). Water surface and water column organisms are exposed to the by-products through inhalation, direct contact, absorption, and direct and indirect ingestion.

Sedimentation and Shoreline Stranding

Whole oils, especially heavier oils or oil fractions, are sticky and tend to adhere to particles in the water column and on the sea floor. This results in sedimentation, which is simply the incorporation of oil within sediments. It usually occurs with medium and heavy-weight oil components that will not dissolve into the surrounding water. Sedimentation can also occur as organisms consume and process the oil into fecal matter, which may then settle to the bottom. Shoreline stranding is the visible accumulation of petroleum along the water's edge following a spill. This "beached" oil can also contribute to sedimentation, as the stranded oil becomes sediment laden and sinks or becomes buried along the shoreline. Water-column, bottom-dwelling, and INTERTIDAL resources can be exposed to the oil through direct contact and via direct and indirect ingestion.

Biodegradation



This process occurs when naturally occurring bacteria and fungi (microbes) use hydrocarbons as a food source and then ultimately excrete carbon dioxide and water as waste products. Biodegradation occurs on the water surface, in the water column, in sediments, and on the shore (Lewis and Aurand, 1997).

Intertidal littoral zone or foreshore refers to the strip of land along the shoreline that is covered by the highest normal tides and exposed by the lowest normal tides.

Oil Spill **Preparedness** : Stakeholder Engagement and Collaboration Opportunities

- Collaborate to jointly identify issues of concerns and solve problems with the oil spill community through activities such as:
  - Regional Response Team meetings
  - Area Committee meetings
  - PREP exercises
- The oil spill community should reach out to build a social information-sharing network with:
  - Those with established credibility, trusted and/or technical relationships, e.g., local emergency response officials, academia, physicians and community health workers on related issues, e.g., seafood safety

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Oil Spill **Response**: Stakeholder Engagement and Collaboration Opportunities

- Listen to/address risk perceptions about the situation:
  - Collaborate internally
    - Incident Command System information sharing
  - Collaborate externally, *for example*,
    - Tap into social information-sharing networks developed during preparedness to address incident-specific risk perceptions, questions and concerns
    - Activate incident-specific solutions to assess/address emerging issues, e.g.,
      - FOSC Advisory/spill assessment
      - Science and Technical Advisory Teams
      - World Café (aka Open House)

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Some guiding principles

- Spill preparedness and response specialists have valuable experience with pollutants in the field under different conditions and locations.
- Both the environment and people have the capacity to be resilient following an oil spill.
- Integrate the relevant natural, social, and health sciences, and local knowledge to address stakeholder questions and concerns.
- Research shows that lay people have the capacity to understand technical issues needed to make a well-informed judgment about risks, when given time, effort, and appropriate explanation using risk communication principles.
- Social media/networks can be self correcting
- If official channels are too slow to address questions, they will look elsewhere for answers so…

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Open Houses vs. Town Halls

Used during DHW in LA

- Large group method to "educate" on issues of concern, address questions, and learn about stakeholder perceptions and information
  - Encourages 2-way conversations
  - Increase participant knowledge and understanding
- Focus on common ground, rather than differences
- Promotes flat hierarchy
- Allows for conflict to be managed
- Shortfall: Limited scale

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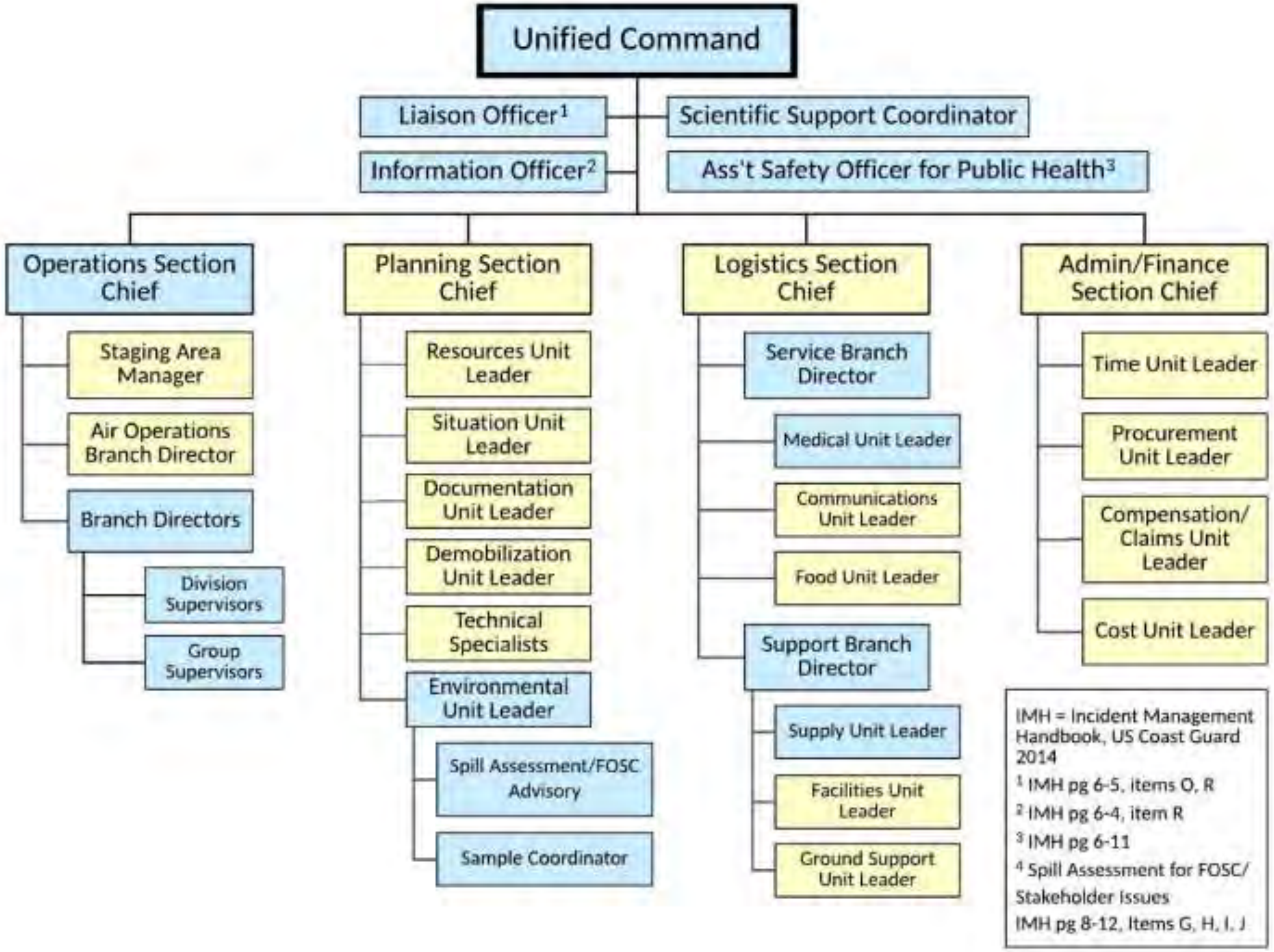
Admiral Thad Allen, the National Incident Commander for the Deepwater Horizon Oil Spill (November 2010):

“Social media and the 24-hour news cycle are part of a fundamental change in our sociological structure.

Adapt, manage, or suffer.

We all have to understand that there will never again be a major event in this country that won’t involve public participation. And the *public participation will happen whether it’s managed or not.”*

During response: Internal Collaboration to Address Risk Perceptions



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PIO and Liaison Officer: Discussion and Practicum

Yvonne Addassi and Ann Hayward Walker

Politics – can we "get ahead?"

- ICS has its limitations when events become politicized Buck, Dick A. et al., 2006
- Large, controversial, and/or politicized oil spills, benefit from collaborative decision making that moves beyond operational decision making in ICS. Collaborative decision-making involves both horizontal and vertical integration Tierney, K., 2009
- ICS weakness = cultural interoperability. Critical strategic decisions can fall to elected or appointed leaders who are outside the ICS Waugh and Tierney, 2007
- There does not seem to be any structural or systematic reason why ICS can not be implemented in a open, cooperative, and distributive way that would meet the needs of responding to a complex event. This openness could be facilitated during pre-spill planning by:
  - Specifically identifying the stakeholder concerns that can be reasonably anticipated to emerge during a significant and/or catastrophic event and identifying a mechanism to address those stakeholder concerns; and
  - Designing a contingency to accommodate unanticipated emergence during significant and/or catastrophic events. This flexibility can be enhanced by providing efficient information management to ensure feedback to the response organization, both on how well they are doing (effectiveness) and how well others think they are doing (success).
  - Walker, A. H. et al. (1994). Implementing an effective response management system. In *1995 International Oil spill Conference Technical Report IOSC-001.*

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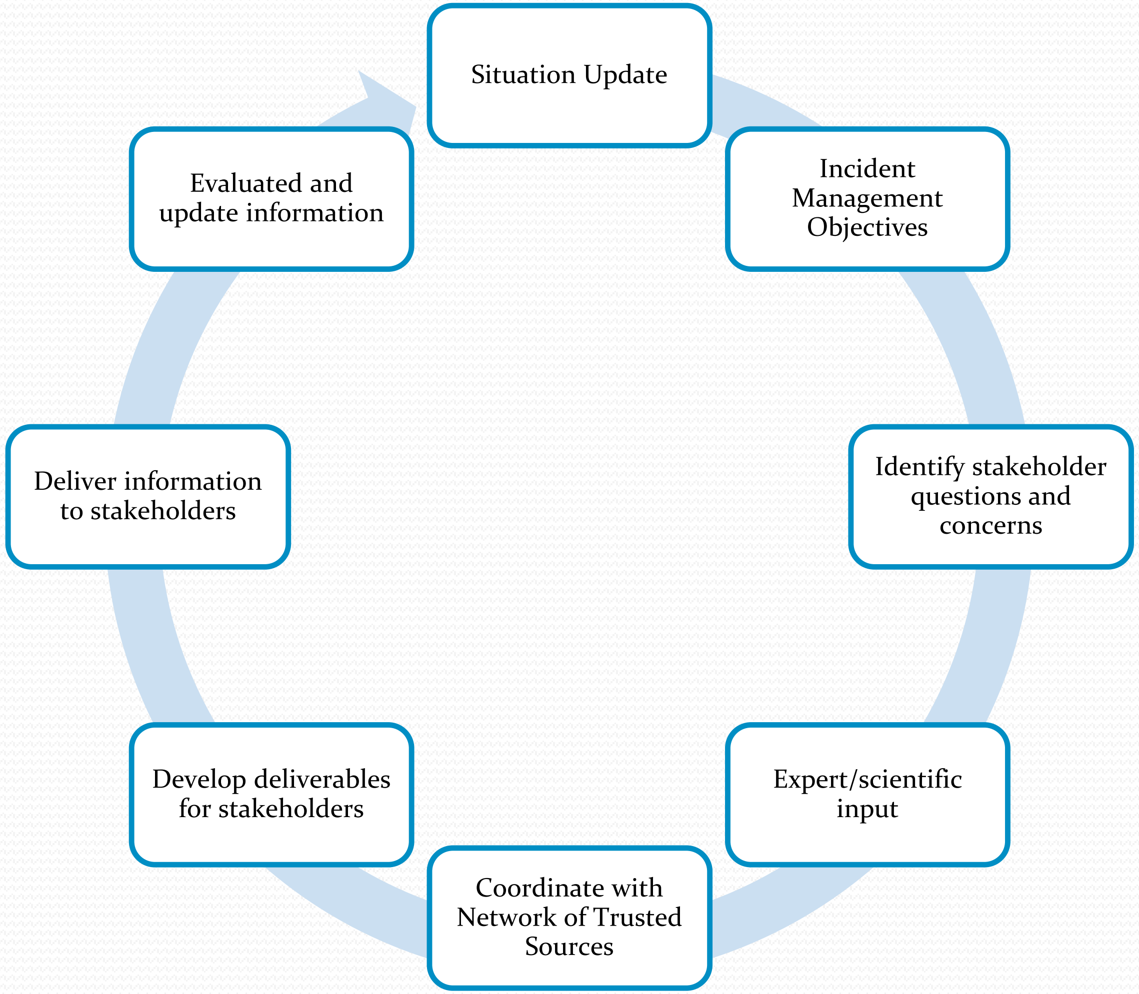
Incident Information Cycle



USCG IMH– Command Staff (2014)

- PIO page 6-3
  - C. Develop media strategy and public information plan.
  - H. Monitor and utilize social media as approved by the IC/UC.
  - R. Coordinate with the Environmental Unit Leader (ENVL) and LOFR to address media and stakeholder risk perceptions and obtain technical content for external messages
- LOFR page 6-4
  - G. Develop stakeholder coordination plan, including periodic public meeting schedules, if needed.
  - O. Coordinate with PIO on media and stakeholder communications about risk perceptions.
  - P. Coordinate information sharing and distribution with the PIO.
  - Q. Coordinate with PIO to develop and implement social media strategy by providing input on social media uses and interface with stakeholders and the public.
  - R. Coordinate with the ENVL to address stakeholder and public risk perceptions by assessing pollutant/hazard situation and obtaining technical content for stakeholder engagement.

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USCG IMH – Command Staff (cont'd)

- **ASSISTANT SAFETY OFFICER FOR PUBLIC HEALTH (ASOF)** – page 6-11, 12
  - If there is a significant risk to public health or high likelihood of public evacuation, the CG should immediately contact the state or local EOC for support regarding public health and request an ASOF for Public Health. The ASOF for Public Health supports the SOFR during complex incidents involving public health concerns by assessing and forecasting public health needs, performing environmental surveillance for public health, and develop public health communications. The ASOF for Public Health should be a public health generalist, preferably from a public health agency, with broad knowledge of public health disciplines exercised during incident response.
- The major responsibilities of the ASOF for Public Health are:
  - A. Establish liaisons to maintain situational awareness with all key public health organizations (e.g., federal, state, tribal, and local agencies, NGOs, and commercial entities) within the incident boundaries.
  - B. Provide immediate briefings to the SOFR and IC/UC regarding any public health emergencies or eminent threats.
  - C. Conduct public health surveillance, including mental and behavioral health and communicable and noncommunicable disease.
  - D. Develop risk communications and public health information including web content and social media.
  - E. Develop recommended general environmental health measures, to include hygiene, sanitation, waste management, food, water, shelter, safety and security, and population protective measures (e.g., evacuation vs. shelter in place).
  - F. Conduct environmental monitoring, including sampling, analysis, and interpretation, and ensure data is available to assess potential health impact on populations at risk.
  - G. Identify communicable and non-communicable disease issues.
  - H. Track status of public health resources and recommend additional resources that are needed to sustain public health work and operations.
  - I. Participate in planning processes as appropriate.
  - J. Provide public health input to situational reports.

USCG IMH Planning – ENVL page 8-11

- F. Support the development of the Information Management Plan to ensure appropriate tasking, data collection, assessment, validation, and dissemination of information is conducted.
- G. Develop an Environmental Risk Communications enclosure to the Information Management Plan to assess and address stakeholder perceptions and concerns about environmental, safety, health risks, and hazards.
- H. Coordinate with the LOFR, PIO, and SOFR to sample, compile, and assess data for stakeholder coordination plan, social media plan, and risk communications appendix (e.g., sample results, pollutant transport and fate, seafood safety, and dispersant).
- I. Coordinate with the SSC and LOFR to develop an academia coordination plan as needed to address pollutant transport, fate, extent of contamination, and potential hazards to the public.

Town Halls vs. Open Houses (World Café)

Used during DHW in LA

Ref: Fullerton and Palermo, 2008

- Large group method to “educate” on issues of concern, address questions, and learn about stakeholder perceptions and information
  - Encourages 2-way conversations
  - Increase participant knowledge and understanding
- Focus on common ground, rather than differences
- Promotes flat hierarchy
- Allows for conflict to be managed
- Shortfall: Limited scale

Distill and Organize Your Thoughts for the Media: Message Mapping

- Research-based structure
- Organize content and select the right words in advance of speaking or publishing
  - It’s difficult to deliver the perfect words spontaneously
  - Easiest to remember correctly: 27 words said in 9 seconds, with no more than 3 messages
  - Ask a non-scientist to review the draft. Do they hear the meaning the way it’s intended?
- Benefits
  - Clearly convey knowledge and understanding of the issue
  - Build trust and credibility
  - Technically inform beliefs, attitude, and decisions

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Message Map Template – Let's Practice

Source: V. Covello http://rcfp.pbworks.com/f/MessageMapping.pdf

Stakeholder: Question or Concern:		
Key Message 1	Key Message 2	Key Message 3
Supporting Information 1-1	Supporting Information 2-1	Supporting Information 3-1
Supporting Information 1-2	Supporting Information 2-2	Supporting Information 3-2
Supporting Information 1-3	Supporting Information 2-3	Supporting Information 3-3

Example from EPA: A Water Emergency

Audience/Stakeholder: Public/Media
Spokesperson: Water Utility, City Manager, or Police
Stage of Crisis: __ Possible **X Credible** __ Confirmed __ Remediation/Recovery

Question: Can you provide specifics about the potential water contamination incident?

Containers with [insert agent name] residue were found near the water reservoir at [insert location].

- [Insert chemical agent name] is a chemical affecting the central nervous system.
- Law enforcement and health officials have begun a full investigation.
- Law enforcement and public health will be providing continuous updates on the investigation. [Refer to law enforcement and public health].

We are testing the entire water system for [insert chemical agent name].

- The water utility is sampling the water in the reservoir and throughout the system.
- They are following testing procedures recommended by the U.S. Environmental Protection Agency.
- We will provide updates as results become available.

People should not use the water until the investigation is complete.

- Bottled water should be used for drinking, cooking, and bathing.
- Water distribution points will be set up at [insert location] by [insert time].
- People should call [insert number] or go to [insert Web site name] for additional information.

Thank you! Questions?