

Ensuring Seafood Safety After a Disaster

Co-Hosted by the Environmental Law Institute
& the DC Bar Section of Environment, Energy, and Natural Resources
Webinar

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Recent coastal and marine disasters like the April 2010 *Deepwater Horizon* oil release in the Gulf of Mexico and the Fukushima Daichii nuclear disaster following the March 2011 Japanese earthquake and tsunami have drawn particular attention to procedures for assessing seafood safety in the aftermath of a major disaster.

This seminar, the first of a two-part webinar series highlighting challenges in seafood safety and traceability, brought together government, non-governmental, and industry experts to discuss the impacts of recent natural disasters on finfish and shellfish. Paying particular attention to the role of the federal government in orchestrating response efforts and to how commercial enterprises react and respond to these disasters, panelists explained the framework for responding to, assessing, and communicating potential contamination from these disasters. Issues highlighted in this session include the importance of interagency cooperation immediately following a disaster, the long-lasting influence of public perception on commercial industry trends, and the way governments and businesses can manage public perception.¹

MODERATOR:

- **Jordan Diamond**, Co-Director, Ocean Program, Environmental Law Institute

PANELISTS:

- **Peter Koufopoulos**, Chief, Seafood Processing and Technology Policy Branch, Center for Food Safety & Applied Nutrition, U.S. Food & Drug Administration
- **Harlon Pearce**, Owner, Harlon's LA Fish and Former Chair, Louisiana Seafood Promotion & Marketing Board and **Ewell Smith**, Former Executive Director, Louisiana Seafood Promotion & Marketing Board
- **Timothy Fitzgerald**, Marine Scientist/Senior Policy Specialist, Environmental Defense Fund

¹ To access a recording of the webinar and speaker biographies, please visit www.eli-ocean.org/seminars.

Mr. Koufopoulos began with a presentation on the multi-agency response following the *Deepwater Horizon* oil spill. The U.S. Food and Drug Administration (FDA) worked collaboratively with the National Oceanic and Atmospheric Administration (NOAA), the U.S. Environmental Protection Agency (EPA), and state agencies to take preventive measures. These agencies projected how waters in the Gulf of Mexico could potentially be affected by the oil. From there, they tested the waters both inside and outside closed areas in order to verify the closures were appropriately placed. In addition, the FDA performed hazard analysis and critical control points inspections at primary seafood processors and wholesalers across the Gulf Coast.

Mr. Koufopoulos then outlined the protocol for re-opening fisheries after the oil spill. He stated that the approach taken after *Deepwater Horizon*, which focused on monitoring closed areas, was similar to approaches taken after tank-related spills. He also noted that *Deepwater Horizon* highlighted the need to create criteria for consistently evaluating closed state and federal waters. The way to do this, he observed, was to look at the past history of dealing with large amounts of contaminants in the environment, which could provide the basis for choosing the factors to review in order to ensure multiple levels of safety.

In the six-to-nine week period following the *Deepwater Horizon* spill, FDA consulted the departments of health and wildlife and various state toxicologists in all five Gulf states to gain input and solidify information at multiple levels. In this way, FDA could ensure their criteria for re-opening were appropriate and that it was safe to move forward.

Mr. Koufopoulos noted that while testing to re-open waters for fishing, FDA tested seafood from state waters and NOAA tested seafood from federal waters. All seafood was tested using organoleptic evaluation, an abbreviated chemical analysis, and chemical testing for dispersant markers (specifically, they looked for sodium dioctylsulfosuccinate, an ingredient of Corexit 9500).

In conjunction with state governments all around the Gulf Coast, FDA collected finfish, shrimp, and crab samples. Mr. Koufopoulos noted that the states were integral to maintaining closures, collecting samples and helping FDA and NOAA personnel perform sensory evaluations before samples were sent away for further testing. In the hundreds of test samples that were collected, polycyclic aromatic hydrocarbon levels were found to be 100 to 1000 times below levels of concern; dispersant levels in all test samples were found to be below the limit of detection in the majority of samples, and greater than 1000 times below the level of concern when it was detected.

The FDA also worked with 118 primary seafood processors and wholesalers across the Gulf Coast to ensure hazard analysis and critical control points controls were in place. Through this extended surveillance and testing plan, they ensured that seafood harvested from the Gulf was safe to eat. States also worked to help facilitate this research through separate grants. Mr. Koufopoulos again highlighted the importance of state interagency coordination to help streamline the process and create a uniform protocol for reviewing seafood safety.

Mr. Koufopoulos then discussed the March 2011 Fukushima Daichii accident. He noted that the FDA was able to project which areas in Hawaii were likely to be flooded after the earthquake and subsequent

tsunami, allowing their investigators to anticipate where potentially contaminated product would be located. One additional source of information was EPA's RadNet monitoring system, which tracked radiation from air and rainwater monitoring stations throughout the U.S. and its Pacific territories. The information gathered at these posts allowed the FDA to assess risk levels and provide a plan for screening imports from Japan. He highlighted the multi-tiered safety mechanism in place, with the Japanese government first testing over 1000 samples a day before sending products abroad, allowing the US to narrow its import alert. Upon entry of the produce in the United States, the FDA performed a second radiology test. Of the 200 seafood product samples analyzed, he notes, none so far have detectable levels of radiation.

Mr. Harlon Pearce, with assistance from Mr. Ewell Smith, next gave an overview of the effects of the *Deepwater Horizon* incident on the Gulf of Mexico seafood industry. He noted that Hurricanes Katrina and Rita provided a foundation for dealing with disasters by causing a group of industry members to create the Louisiana Seafood Recovery Commission, which documented damages, needs, and infrastructure requirements to get the industry running again. He emphasized the importance of industry members collaboratively working to take care of the situation and monitor media coverage post-disaster.

Mr. Smith concurred, mentioning the enormous effort required for all industry members to work cooperatively with state and federal agencies to get factual information out to the public. Only after assessing damages was it then possible to create a public relations strategy, which in this case culminated in the Louisiana Seafood News program. Mr. Smith noted that it took two years to overcome the perception of toxic seafood in Louisiana, and that this highlights the importance of conveying information in a clear and concise manner. Letting people and government agencies know that seafood was safe played a crucial part in recovering the economy post-disaster.

Mr. Pearce then explained that due to the immediacy of the problem, protocol had to be changed to allow greater efficiency in obtaining accurate information, addressing misconceptions and misinformation, and making sure industry members could access and understand the information. He mentioned that precautionary disclosures may have hurt public perception initially, but also ensured that the seafood was safe. He noted, however, that the public may not realize that shrimp, crab, and other groups of sea life metabolize chemical compounds very quickly; the perceived "toxic soup" was not a reality because the Gulf's harvested species were generally able to remove pollutants from their systems quickly. Mr. Pearce also emphasized the need to ensure the public understood that seafood safety is a priority in the region, and that dissemination of accurate information is key to promoting the seafood economy. Mr. Smith and Mr. Pearce both emphasized the need to lay out a framework for expedient, collaborative mechanisms in dealing with disasters in the future.

Mr. Tim Fitzgerald closed with a presentation on enhancing consumer confidence in seafood after environmental disasters, paying particular attention to the Environmental Defense Fund's (EDF) work with fishermen and industry to develop a program to enhance consumer awareness. Mr. Fitzgerald also discussed EDF's interaction with information flow, as well as what staff saw and heard from consumers about the messaging from industry about seafood safety. He noted that given the complexity of

seafood's origins, there tends to be confusion over what seafood is "good" or "bad." He also observed that quality and safety are always top concerns for consumers when it comes to seafood, which may explain why seafood safety was an issue for some time after the *Deepwater Horizon* disaster.

Mr. Fitzgerald noted that when FDA collaborated with the five Gulf of Mexico states after the oil disaster, testing was primarily focused on invertebrates and nearshore fish. Given the number of samples that had to be screened, most samples were evaluated with a sniff test, while a subset of samples received more extensive testing. He noted the economic impact of the ongoing fisheries closure on the commercial fishing industry, stating that EDF estimated impacts of hundreds of millions of dollars in lost economic revenue to the fishing industry.

Mr. Fitzgerald then observed that part of the reason consumer skepticism was so high following the incident was due to the jarring images of oil spilling into the Gulf that were prevalent in the media. In addition, federal and state agencies trusted that the public would believe agency assertions that Gulf seafood was safe to eat; however, this assumption wasn't entirely correct. This was part of the cause of the two-year public perception problem that Mr. Pearce and Mr. Smith outlined earlier.

Recognizing that there was a sense of panic post-*Deepwater Horizon* about the future of Gulf seafood industry, EDF partnered with the red snapper and grouper fisheries in the Gulf to create a program called Gulf Wild. The comprehensive seafood assurance campaign was created to reassure people of regional seafood safety, traceability, and authenticity. Fishermen voluntarily participated in a simplified sampling and testing protocol, which tested for polycyclic aromatic hydrocarbons, oil dispersant, arsenic, cadmium, and mercury. The tests were used to build a robust database of seafood safety results that were specific to each fishery (and all samples tested under the Gulf Wild program were well below government thresholds for acceptable levels of contaminant). In addition, the program implemented a fish tracking procedure to show consumers where the fish they were purchasing had been caught. Mr. Fitzgerald noted that the Gulf Wild's partnership with various service providers, chefs, and technology corporations were critical to the program's success.

Mr. Fitzgerald concluded by stating that food safety remains a major consumer issue and that people are often wary of government reassurances; because of this, even though the government may be taking the appropriate steps, the public may not interpret their message correctly. Mr. Fitzgerald noted that this is both a challenge and an opportunity for industry to grow.

Questions and Answers

Ms. Diamond gave an opportunity for panelists to offer final comments.

Mr. Koufopoulos reiterated the importance of communication and interaction between relevant agencies. For example, the FDA relies heavily on EPA, NOAA, and countless other state partner agencies. Mr. Pearce stated that timely information and accurate data must be available so that members of industry as well as the public may understand and react accordingly.

Mr. Smith echoed Mr. Koufopoulos' sentiment, saying that bettering communication between agencies is crucial and can influence public perception. For example, as the *Deepwater Horizon* incident was occurring, images of oil in the Gulf were constantly showcased both on television and on the web. This contributed to the ensuing crisis for the seafood industry. He stated that in the future, industry needs to be prepared to address an emerging issue and get information out to consumers in a timely way.

Could you provide additional information about how the agencies coordinate in these scenarios?

Mr. Koufopoulos stated that FDA and NOAA have a Memorandum of Understanding that establishes a mechanism for the two agencies to share information and mobilize coordinated resources. In the case of the *Deepwater Horizon* disaster, there was much collaborative input as both agencies structured their responses. Based on this initial collaboration, FDA and NOAA created a basic framework which they put forth to the Gulf states to ultimately create a plan for re-opening the waters. In Japan, the Japanese government provided a lot of information from their inspection programs.

Taking into account the broad role of coordination, not just between federal agencies but between federal, state, and non-governmental players, are there any ways to strengthen that framework? Is there any specific protocol for ensuring coordination, or is this done on an ad-hoc basis?

Mr. Pearce stated that while such coordination is mostly undertaken on an ad-hoc basis, there should be an established protocol to identify the problem and then work toward solutions via open communication across all sectors and organizational levels. Mr. Koufopoulos observed that it's often necessary to rely on individuals in the field for information about an incident. He also noted that, in regard to the efforts Mr. Pearce mentioned, there are regional directors for the FDA who help coordinate with state agencies to respond to emergencies and obtain and relay accurate information.

Is Gulf Wild something that can be replicated under different circumstances in the future?

Mr. Fitzgerald responded that the program is certainly replicable. He noted that the most important issue on the part of the fishermen was to complement federal and state testing efforts with their own sampling. Unfortunately, he notes, testing for some environmental contaminants can be very expensive and thus it can be difficult to obtain a meaningful dataset. He also emphasized that the traceability aspect is very important. Ultimately, Mr. Fitzgerald hopes that for future events, affected fisheries will already have a system in place and will not have to build their testing program from scratch. Finally, marketing and communications needs are highly variable, but generally tend to be the single biggest expenditure of such programs.

Mr. Pearce also stated that in order for fisheries to grow they have to be globally-minded, and that there is a need to create overseas markets in order to add U.S. products to the global marketplace.

What are some funding challenges these agencies have encountered, and some they anticipate facing in the future?

Mr. Fitzgerald noted that EDF's past work with the fishing industry made it easier to find funding for this work, and further observed that EDF's reliance on public health experts to guide the program was also helpful. He stated that bringing in the right partners and skillsets and expertise was critical to the success of Gulf Wild.

Mr. Pearce reiterated Mr. Fitzgerald's points, and highlighted the need to for effective personnel placement and management. He also stated that real-time data processing is sorely needed in order to create plans, but today's agencies may not have the personnel available to create the type of datasets needed to maintain sustainable fisheries in the Gulf.

Does FDA have ability to track fish that are caught in Japan but sold by another country?

Mr. Koufopoulos answered that while the FDA reviews labeling, industry operations are also required to provide information to the FDA about where each product comes from.

What are some key lessons learned either from Deepwater Horizon, Hurricane Katrina, or other disasters, and how might they be integrated into future response efforts?

Mr. Koufopoulos discussed the need to ensure there are standard operating procedures to document information as response efforts move forward. He stated that the government needs a better documentation system, which may allow agencies to be timelier, more consistent with information, and more capable of dealing with future disasters. He also notes the need to find proper messaging that actually exhibits the rationale behind agency decision making, the need to illustrate the procedures and practices for product sampling, and the need to work closely with local groups to tailor messaging at a local level.

Mr. Pearce reiterated the need for interagency cooperation, and emphasized the need for a science-based process to assessing safety.

Mr. Fitzgerald noted that transparency is not enough; the testing, research, and analysis aspects of disaster response can be perfect, but if the public is not interpreting results correctly, agency efforts will not be effective. He highlighted the need to put as much emphasis on interpretation and communication of information as on the gathering of information.

Mr. Smith remarked that it is important for state and federal government agencies to quickly disseminate accurate data in order for communicators to begin relaying that information to the public.