Alaskan Oil Spill: Health Risks Uncovered

Oil soaked sea otters made compelling TV pictures, but humans face health consequences as well

Seattle

AS THE *Exxon Valdez* limped into port in San Diego last week, and cleanup crews continued their work in Prince William Sound, a troubling question was being raised by toxicologists and health officials meeting in Seattle to discuss the effects of the worst oil-tanker spill in U.S. history: with all the attention being paid to the disaster's effects on marine mammals and their environs, were the risks to humans being ignored?

Some say that the answer is yes. Scientists at the 28 to 30 July meeting—the first major symposium to discuss human effects of the spill—pointed out that crude oil and mammals don't mix. And sea otters weren't the only mammals bathed in Alaskan crude. Another species at risk from exposure to oil was cleanup workers.

In the days immediately following the spill, containment boom handlers worked for days at a stretch in the same oil-soaked clothes, literally up to their elbows in crude. At that time the most toxic volatile components were still present in the fresh oil and in the fumes coming off the slick. As the number of cleanup workers grew to the thousands, demand for protective suits threatened to outstrip the available U.S. supply, while confusion reigned over which protective wear was sufficiently impermeable to weathered crude oil.

The cleanup chaos raised concern among Laborers International Union officials, who pointed out that the Occupational Safety and Health Administration (OSHA) classifies petroleum as a toxic substance, and requires that workers exposed to it receive 40 hours of training and be supplied with protective clothing. But during the early weeks after the spill, cleanup workers received a mere 1 hour of training, and protective clothing was often unavailable.

Public concern for oil-drenched otters had a powerful effect on how priorities were set. Exxon spent $8 million for the helicopter rescue of 350 sea otters, of which 180 survived, and only 35 have been released to the wild. But labor union officials charge that the protection of cleanup workers received low priority. "These people have always been seen as expendable in our society, and this case is no exception," said Knut Ringen, director of the Laborers National Health and Safety Fund.

Just how dangerous is oil? Skin contact can cause acute dermatitis. And necropsies on dead otters revealed severe emphysema—presumably from breathing the fumes of the freshly spilled oil—as well as liver, kidney, intestinal, adrenal, and bone marrow abnormalities, similar to damage previously found in studies of laboratory rats.

The good news is that the highly toxic components—the polycyclic aromatic compounds—evaporated from the spilled oil within several days. Once the aromatic compounds are gone, "crude has a relatively low carcinogenic potential," concluded Roger Florky of Exxon. But that won't help workers who plunged into oily waters early on.

And it is little solace to the 1000 or so native Alaskans who live in heavily oiled areas. Oil components may be present at dangerous levels in fish and shellfish harvested from fouled waters by native subsistence fishermen. This may put the natives, who rely on seafood for 80 % of the protein in their diets at increased risk of cancer or other organ damage.

Wide World

Dirty cleanup: *Toxicologists fear some workers may be endangered.*

But no one knows for sure how serious the risk, because little funding is available to study the subsistence catch. The Alaskan response to possible petroleum residue in fish caught in Prince William Sound has also been driven by public relations concerns. By closing all oiled areas to commercial fishing in a plan it calls "zero tolerance," the state assured that all commercially caught fish would pass Food and Drug Administration (FDA) scrutiny for petroleum residue, therefore preserving the reputation of Alaskan seafood.

But such assurances are not available for the native villagers, whose limited fishing grounds have in some cases been heavily oiled. When the villagers ask about eating the fish, the FDA officials have been telling them that if the fish smells, looks, and tastes all right, it is probably safe to eat. The discrepancy between the zero tolerance program and that advice "has some racial overtones," said Thomas Nighswander of the Alaska Area Native Health Service.

"The money for funding [studies of the subsistence catch] is totally inadequate," said Robert Wolfe, of the Alaska Department of Fish and Game. "Nobody in the state gives a damn."

John French, a biologist at the University of Alaska at Kodiak, began analyses of petroleum levels in fish from contaminated as well as clean waters, an effort that could have addressed some of the native Alaskans' concerns. But he was forced to curtail his studies when his $200,000 grant request was among several long-term University of Alaska studies that were denied state funds for studying the impact of the spill. French says precious data will be lost forever if he doesn't find money soon.

On an optimistic note early in the conference, Ernie Piper, from the Alaska governor's office, called the *Valdez* spill "one big spill for Alaska, but one giant source of employment for science," noting the opportunity to learn lessons from this spill that can be put to use in the future. While opportunities may be missed at present, hope lies in an ambitious program proposed by the National Oceanic and Atmospheric Administration (NOAA). Called the Prince William Sound Extended Studies Program, it would spend $35 million over the next 5 years to study environmental recovery, fate of the oil, and the effectiveness of actions taken, and the cultural impact on Alaskan communities. How much is learned about both the human and environmental effects of the spill may wind up in the hands of Congress, when it is called upon to appropriate funds for the NOAA proposal.

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