

**Statement by Dr. Lisa J. Graumlich, Dean
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Good morning. I'm very pleased to be here representing the University of Washington's College of the Environment. Senator Cantwell, thank you for initiating this important discussion about our preparedness for disasters such as the one unfolding in the Gulf of Mexico.

It is painful to watch as, day after day, week after week, families and lives are devastated and yet another vast, rich ecological gem is fundamentally despoiled. How can it be that a nation that prides itself on its innovation and technological savvy was unprepared for the possibility of a flood of oil pouring into our waters and poisoning our communities? Like many things, it is a question of priorities and attention. The fact that major oil spill disasters are relatively rare allows us to turn our attention from them once they disappear from the headlines, when instead we should pour our determination and ingenuity into insuring that they never happen again. Following the Exxon Valdez disaster, we let funding for research and technology on oil spill prevention and clean-up fade along with our memories of the oil-soaked birds and beaches of Alaska.

As events unfold in the Gulf, we are painfully aware of what we do not know.

- We do not know how to adequately estimate the risks of a spill so that we are prepared when one happens.
- We do not know how to adequately estimate the size of a spill in deep water. If we don't know how much oil is in the water, we cannot tell how it will behave and what its impacts will be.
- We do not understand how oil moves underwater, which means we don't know where it's going or the extent of its effects on sea life.
- We do not know whether oil dispersants are effective or safe, or what their long-term biological effects will be.
- We do not know how the health of people helping with the clean-up will be affected in the long term. As local communities work to save the special places they call home, they could well be putting themselves at even further risk.
- And, in fact, the oceans are still such a mystery to us that we don't know enough about most underwater ecosystems in a healthy state to really understand what we are losing to the oil.

But, here is the good news. To gain the knowledge and solutions we need, we do not require dramatic breakthroughs in science or engineering. Rather, we need a sustained investment in research and development,

as well as a sustained effort to translate this research into technologies that can be mobilized for critical operations.

The Seaglider, here, is a good example. It is a robot that dives through the water collecting data and sending it back to researchers via satellites. It was developed on a limited budget by oceanographers in our College of the Environment as an instrument for basic research. There are gliders just like this one operating in the Gulf of Mexico right now, helping local scientists and the government identify and track underwater oil plumes. But the Seagliders were not developed to track oil, and they currently don't have enough power to carry hydrocarbon sensors. So we are making do with the technology we *have*, instead of the technology we *need*, and the Seagliders in the Gulf are trying to identify a proxy for oil instead of the oil itself. With more time and money, the Seaglider could become a much more effective tool in our oil spill arsenal.

Like our fellow citizens in the Gulf, here in Puget Sound our lives and livelihoods are fundamentally intertwined with the health of our waters. Here we, too, are at risk from an oil spill that could devastate our environment, economy and communities. But the good news is that we also have many things going for us.

- We have computer models that can reproduce how the waters of the region move and circulate, from Puget Sound to the coastal waters of Washington, Oregon and British Columbia.
- We have monitoring systems in place that can observe the quality and movement of some of our coastal waters in real time, supported by a mix of federal, state and private funds.
- And we have deep scientific capabilities in the fields that are needed to understand the complexity of the problem. For example, the trajectory of a surface oil spill in Puget Sound would largely be driven by tidal flows and winds, and we are fortunate to have some of the best scientific minds in oceanography and atmospheric science right here at the University of Washington. And based on that trajectory, we can tap into our extensive expertise in fisheries and resource economics to describe the potential impacts of a spill on both our marine environment and our economy.

We have seen the devastation from oil spills before, and we are seeing it again. This time, will we have the determination and focus to invest in the research and technologies that will minimize the damage from a future spill? Will we build on the strong scientific foundation we have, or will we again wait for an unthinkable accident to remind us of our priorities?

Senator Cantwell, I want to thank you for your ongoing support for academic research, and for your leadership on the importance of investment in the research and development that could insure the futures of the environment and economy here in Puget Sound and beyond.

Thank you.

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