

The Loop: Episode 12

<music up>

David Levin: You're listening to The Loop, an audio series about the mud, microbes, and mammals in the Gulf of Mexico. I'm David Levin. What if we could deal with oil spills *before* they happen? Engineer Andrew Zigweid says it's possible.

Andrew Zigweid: Bringing scientists together with technologists is really a place where we can flourish and grow and learn a lot more.

Levin: So *how* could do that? Stay tuned.

<music out>

<AMBI: Music at Jackson Square; crowds cheering>

Levin: In the heart of the French Quarter, in New Orleans, brass bands are warming up for the crowds. Their notes echo over the Mississippi river, which flows by the levee just behind them. It mingles with the sound of container ships steaming by, bound for the Gulf of Mexico.

The brass bands are getting ready for another Mardi Gras season. But this February, the Gulf itself will be the main event at two big conferences across town. The first, called Underwater Intervention, is the nation's biggest gathering for undersea oil and gas tech companies.

The second is the Gulf of Mexico Oil Spill and EcoSystem Conference, or GoMOSES for short. It's a huge collection of scientists working to understand the effects of oil on the Gulf environment.

At first glance, the two conventions don't seem to overlap much.

Zigweid [00:20:24] They are two separate things entirely.

Levin: Andrew Zigweid is a technologist and oceanographer for the firm ASV global. He says this separation is slowly dissolving thanks to a small side conference called TechSurge, which started in 2018. It brings scientists, government regulators, and oil engineers together. And when TechSurge reconvenes this February, these groups will collaborate on new ideas and technology.... And to plan for a threat everyone is concerned about— oil spills.

Rick Spinrad: What we're trying to accomplish is really trying to stimulate engagement between the scientific community and the engineering slash technological community.

Levin: Rick Spinrad is an Oceanographer at Oregon State University. He's also president of the Marine Technology Society.

Spinrad: So often the disconnect between those communities results in assumptions being made about what new technology is most appropriate or what scientific problem is the highest priority.

Levin: It means that oil companies and researchers tend to misunderstand each others' needs. Scientists have to have data about the Gulf's waters to understand its ecosystem. Oil companies are often out there trying to get similar data, but they use it to do what they do best: extract crude. So.... why not bring the scientists and oil engineers together, to get the information they *all* need?

Susan Roberts: [00:04:26] it's taken a while I think for the academic community to come up to speed on the work that the oil spill response industry had been undertaking for years.

Levin: This is Susan Roberts.

Roberts: I'm the director of the ocean studies board at the National Academy of Sciences Engineering and Medicine.

Levin: She's studying the effects of dispersants on the Gulf after the 2011 Deepwater Horizon spill. When the next big disaster hits, she hopes that the conversations starting at TechSurge will lead to a better, coordinated ways of responding to spills—without leaving the Gulf ecosystem reeling.

Susan Roberts: [00:05:27] I'd love to see if something really novel and that we couldn't even in our wildest dreams imagine that would be a really effective response. // And some day, you know, the next time there's a spill we'll be able to clean up and recover more of the oil than we are now.

Levin: It's not so far-fetched an idea. The oil industry is developing powerful new technology for monitoring equipment, pipelines, and infrastructure. Some of that can help prevent spills before they start. But if a spill *does* happen, stopping the oil will mean knowing exactly where it is, and where it's going – even while it's hidden under the surface.

Spinrad: I think more the challenge is the sooner you can characterize the physical characteristics of a particular spill or a particular leak, The sooner you're going to be able to // say, 'OK, this is what it's going to do.' //

Levin: Again, Rick Spinrad.

Spinrad: The unfortunate thing right now is it requires //observing a particular spill for an amount of time that gives you enough data to say here's what we think the trajectory and the fate and evolution of that particular spill might be. So earlier detection or earlier characterization probably leads to improved mitigation response.

Levin: That's where partnerships formed at TechSurge will be especially useful. New oil production technology—like drones or robotic boats—could be used to sniff out spills before they grow to huge proportions.

That's something scientists *and* oil companies would both want to see happen—although for different reasons. The ability to respond quickly to a spill would reduce its impact on the environment... but would also give oil companies a way to recover lost product. Again, Andrew Zigwied.

Zigwied: And that's kind of a different way to think about it because now there's a vested interest from those who've lost their product to recover an asset rather than face the penalties for //the damage caused by their spill. [00:15:32]

Levin: In the end, though, it doesn't really matter if the goal of new technology is to protect the environment, or protect an investment... as long as the end result is the same: a cleaner Gulf. And that, says Rick Spinrad, is the point of conferences like TechSurge.

Spinrad: [00:01:55] All too often we tend to think that those are diametrically opposed motivations. They're not. There is an intersection of the economic and the environmental objectives. That's really what we're talking about here.

Levin: Granted, the conference isn't a cure-all. But it's a step in the right direction. By bringing together scientists that study the effects of oil—and engineers that service the oil industry—it gives them a chance to find common ground. And *that* could lead to a healthier Gulf of Mexico.

<Music up>

For The Loop, I'm David Levin.

Funding for the Loop, and for C-IMAGE, is provided by grants from BP and the Gulf of Mexico Research Initiative. The Loop is a production of the University of South Florida.
