

**KEEPERS OF THE DEEP
VIDEO TRANSCRIPT**

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NARRATOR

Marine debris has become one of the most widespread pollution problems facing the world's oceans and waterways.

Improper disposal and accidents, as well as natural disasters, pollute the oceans with 1 billion pounds of trash every year.

Even remote and uninhabited areas are affected by human debris carried for years by ocean currents, killing wildlife, and jeopardizing ecosystems along the way.

NARRATOR

And while it has long been a plague on the surface, a team of NOAA scientists lead by Mary Yoklavich are now finding its impact goes much deeper.

NARRATOR

The research vessel *Velero* launches the *Delta* - a two person submersible. With the release of the cable, the battery-powered submersible is now on its own...

SUBMERSIBLE PILOT

Delta dive #5761...Roger. 25 meters

NARRATOR

Logging over 600 dives and more than 1,000 hours underwater, the scientists descend once more to the dark, cold ocean seabed.

SUBMERSIBLE PILOT

We're on the bottom. Depth is three, zero, zero. Three hundred meters. We're on a sediment slope, outcrops, cobbles, boulders.

NARRATOR

Now in a world reminiscent to outer space, the aquanauts must navigate along transects, identifying and counting all the organisms and their habitats.

[Submarine video...soundtrack...fish spotting]

SCIENTIST IN SUBMERSIBLE

...*Sebastomus* was 15...

MARY YOKLAVICH

Many of these deep-water areas have never been directly visited by humans before now, and yet even at these depths we see signs of human debris.

SUBMERSIBLE SCIENTIST

...inside that piece of garbage is a rockfish...

MARY YOKLAVICH

Some of this marine debris is seemingly harmless - for instance...a teapot sitting on soft sediment...or the kitchen sink...

MILTON LOVE

We don't know what happens to a lot of this debris. Some of what we see underwater is clearly habitat now...

SUBMERSIBLE PILOT

We have a cowcod here and a 50-gallon drum.

MILTON LOVE

...But in other cases animals are dying.

NARRATOR

This lost prawn cage is a deathtrap to any creature caught inside...and this snagged net, continues to kill sea life as it lays abandoned at the bottom of the ocean.

SUBMERSIBLE SCIENTIST

See all those box crabs tangled, they're all going to die. This net is still fishing.

MARY YOKLAVICH

We have items down there that have been accumulating for many, many years and they've now become virtually habitat for many organisms. We've seen large artillery shells on the sea floor, and you don't really know if they're live or not... So when you think about removing those items, first of all it's not easy, second of all it may do more harm than good to take all of that out - the nets, the traps, whatever, and the organisms that are associated with them that are now living on those items.

MARY YOKLAVICH [making observations from the submersible]

...*simulator* 10...that's a bait can...

MILTON LOVE

The most dangerous debris are the plastics that float or semi-float and then break up into pieces. Then you wind up with turtles eating it, larval fish eating it, and birds eating it. That's truly hazardous and I'm sure causes untold damage to marine life.

SUBMERSIBLE SCIENTIST

...a tire...

SUBMERSIBLE NAVIGATOR (on underwater radio)
Roger. You're clear to surface.

NARRATOR

The *Delta* returns to the surface after a two-hour exploration. Once on board the *Velero*, the video is digitized and all data logged for further analysis.

MARY YOKLAVICH

This is the first year we're looking at our information on marine debris in a quantitative way.

One of the things we've found is that the density of marine debris is much higher closer to fishing ports and then declines as you move away from the fishing port.

Other kinds of debris are household items - lots and lots of household items - but the household items are largely in southern California, interestingly, and not so many in Central California, and I think that's probably because of the shipping industry and the recreation boating industry... not so much fishing, but people just out on the water in southern California.

Our next step in this program is to compare the persistence of the debris, the changes in types of debris, and transformation of the debris over the last 15 years.

NARRATOR

For these researchers, ongoing exploration of deep ocean habitats will one day be able to reveal the impact deep-sea marine debris has on the environment.

MARY YOKLAVICH

Deep-water ecosystems are extremely fragile, and it's all of our jobs... it's up to all of us... to take care of them.

MILTON LOVE

Marine debris is not an act of nature. It's caused by humans, and anything that is caused by humans can be ended by humans. This is merely a matter of will.

END

NARRATOR

For more information on how you can help protect the oceans visit

GRFX: www.marinedebris.noaa.gov

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