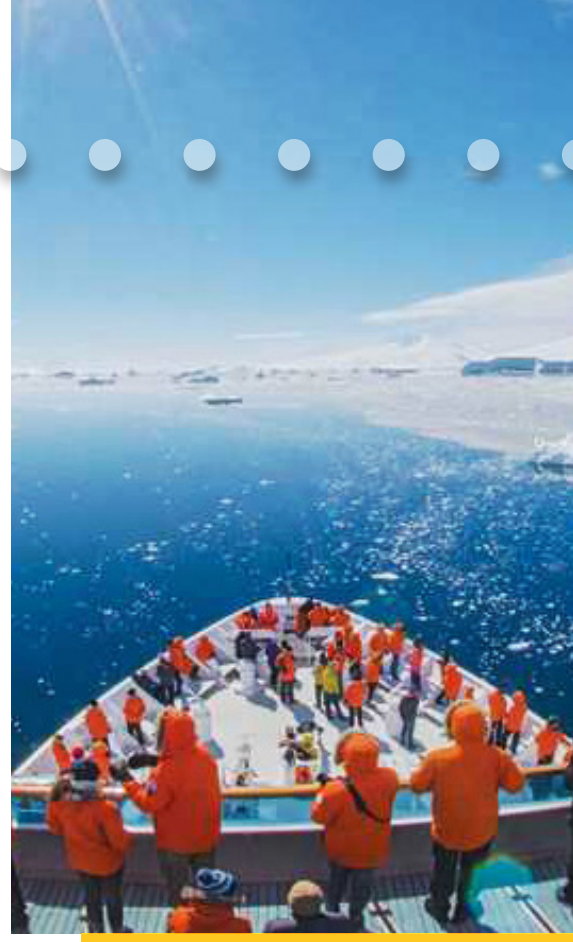
CASE STUDY

Researchers Using a VideoRay Underwater Robot Discover Unusually Dense Krill Population



Lindblad Expeditions is a travel company

that works in partnership with National Geographic on its ship-based voyages to inspire people to explore and care about the planet. The educationally oriented voyages enable guests to interact with and learn from leading scientists, naturalists and researchers while discovering stunning natural environments, above and below the sea, through state-of-the-art exploration tools.

Summary

With the help of a VideoRay underwater robotic system, researchers with Lindblad Expeditions found the densest population of krill they had ever witnessed at depth. This discovery will help the scientific community to better understand krill behavior and daily migrations.

Challenge

One of Lindblad's many unique experiences involves creative ways to bring their guests to nature or in this case nature to their guests. Their previous underwater robotic vehicles were too large and heavy to deploy and therefore were never used. Lindblad needed a solution that would enable their underwater specialists to easily deploy a vehicle that would bring the world below to their guests topside.

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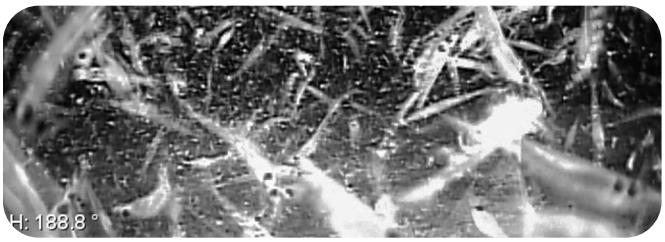
Solution

VideoRay recommended using a Mission Specialist inspection-class underwater system because it can handle extreme weather and not be affected by any water that might get on the topside control box. The light weight of the system makes it easy to transport to the ship for expeditions. Likewise, because of the light weight of the robot itself, deployment simply requires one person to heave the submersible by hand into the water.



Results

Onboard the *National Geographic Orion*, Paul North and Caitlyn Webster, both undersea specialists with Lindblad Expeditions and VideoRay certified operators, flew the underwater robotic system for three different dives during the expedition. On the second dive to 540 feet, they experienced the densest population of krill they had ever seen.

VideoRay is proud to have underwater robotic systems included in Lindblad's roster of tools for exploration and looks forward to future expeditions and many more discoveries.

> **We could not see farther than two inches in front of the camera. We did not know how close we were to the ocean floor, even while hovering a few feet above it, because of all the krill.**
>
> — Ian Tomcho, Expedition Equipment Specialist for Lindblad Expeditions

VideoRay

212 E. High St., Pottstown, PA 19464 USA | +1 (610) 458-3000 | sales@videoray.com | **VideoRay.com**