

# Researchers make surprising discovery

**By Laura Robertson**

Last Thursday, researchers aboard the *R/V Sikuliaq* zoomed in from Port Clarence to give a Strait Science presentation. Katrin Iken, a marine biology professor at University of Alaska Fairbanks and Lee Cooper of the University of Maryland Chesapeake Biological Lab were on board the *Sikuliaq* for an annual Arctic Collaborative Ecosystem Cruise, which studies shifting ecosystems in the Chukchi and Northern Bering Seas through a wide variety of metrics.

The cruise ran from August 11 to August 29.

The biggest surprise of the trip was a Hanasaki king crab (*Paralitho-*

*des brevipes*) that the researchers found hidden in a mooring at around 71 degrees north, approximately the latitude of Utqiagvik.

Iken said that it was the first time the researchers had found an adult king crab that far north, at least to the best of her knowledge.

“That king crab was really a surprise,” said Cooper. “I think about all these people in Wainwright and Utqiagvik who kind of start think about harvesting king crab,” he added with a laugh. “There’s some changes. Seeing these organisms come in that we haven’t seen before, fish moving

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further north, species that are south-eastern Bering Sea showing up in the Northern Bering Sea. A lot of things that are biologically surprising.”

The researchers gave a broad overview of environmental conditions during the cruise. They explained that they’d measured surface temperature and surface salinity at several locations throughout the cruise. The results generally followed an expected pattern: warmer temperatures in the south and colder ones in the north. Towards the coast, there were warmer waters. They said they had run into ice, and the surface of the water had a fair amount of sea ice melt, making the water both colder and fresher in those places.

As in the past, the researchers kept an eye out for harmful algal blooms. On August 16, they found an elevated amount of *Alexandrium* in water northeast of Gambell, but it didn’t qualify to issue an advisory. As they continued northwards through the Strait, they did not see any levels that would warrant an advisory. As they came southbound, the same was true.

The researchers used a variety of methods to look at the animals at the base of the food web, including krill, copepods and amphipods. The amphipods are important to grey

whales. Cooper said that the amphipods that used to be present north of St. Lawrence Island has “really disappeared and become a much small area.” North of the strait, he said, there is still “a lot” of food.

Throughout the cruise, they did mooring operations, deploying and receiving the instruments which stay in the water year-round taking measurements. A lot of the data from the moorings—which included recordings of marine mammal sounds and environmental measurements—has not been processed yet, but they were able to give a “sneak peak”: There was a humpback whale sound from late July, a bowhead whale song from February, and bowhead and bearded seals in late April.

The also measured the amount of CO<sub>2</sub> which had dissolved in the water. They said that some animals had shells with carbonate in them, and that an environment with certain levels of carbon dioxide might be corrosive to some of those shells. They said there were some places where there were corrosive conditions, especially at depth.

Asked what the greatest change in the waters were, Cooper responded that the disappearance of sea ice was driving a lot of the other changes in the ecosystem.

## First observation!

Adult blue king crab found hidden in a mooring at 71 °N

Previously detected adults in northern Bering Sea and juveniles at DBO3



*Screenshot from Strait Science presentation*  
**SURPRISE CRAB—** Researcher Christoph Gabaldo shows the adult Hanasaki king crab found in a mooring at latitude 71°North during the Sikuliaq’s research cruise.