



Eastern Charlotte Waterways intends to deploy hydrophones at five locations in outer Bay of Fundy and Passamaquoddy Bay this year to collect data on underwater industrial noise that could affect marine life.

PHOTO: COURTESY OF EASTERN CHARLOTTE WATERWAYS

# Environmental group to gather underwater noise for research

Information could help researchers study how frequencies from shipping traffic affects whales in Bay of Fundy

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TELEGRAPH-JOURNAL

Eastern Charlotte Waterways plans to collect data this year on underwater noise pollution that could affect sea-life in the Bay of Fundy.

The not-for-profit environmental resource and research centre based in Blacks Harbour will use \$88,750 in federal funding to buy five hydrophones manufactured by Ocean Sonics Ltd. in Great Village, N.S., Eastern Charlotte Waterways executive-director Donald Killorn explained in an interview on Wednesday.

The group hopes to get further funding from the New Brunswick Environmental Trust Fund to buy other necessary equipment to deploy the devices and collect data from May 1 to Nov. 30 at five locations where industrial development could increase shipping and, therefore, noise in the water, Killorn said.

Scientists and researchers at Eastern Charlotte Waterways and the University of New Brunswick will use the hydrophones to gather baseline data and study underwater noise, how it is created, current levels and effects on wildlife, the news release announcing this grant states.

The project could help develop best industrial practices for ship traffic and habitat conservation strategies, the release states.

New Brunswick Southwest MP John Williamson announced the federal money earlier this month, on behalf of Environment Minister Leona Aglukkaq, for the Outer Bay of Fundy Fluctuating Industrial Noise Study under Ottawa's Gulf of Maine Initiative. (Geographers consider the Bay of Fundy an eastern extension of the Gulf of Maine).

The \$37 million in Gulf of Maine Initiative comes from the \$252 million for the National Conservation Plan that Prime Minister Stephen Harper announced in New Maryland in May.

The Gulf of Maine initiative aims to maintain a healthy eco-system that supports long-term sustainability and economic growth by supporting projects that enhance habitat conservation, provide information to ensure responsible development, increase understanding and monitoring of ecosystem health and identify and reduce key "stressors" to ecosystem health, according to a federal government backgrounder.

Killorn calls this industrial noise study "probably the most important initiative since I arrived" at Eastern Charlotte Waterways in 2012.

"We hope this will become our cornerstone marine project," he said, complementing Eastern Charlotte Waterways' outreach work on climate change, and watershed monitoring in river systems.

The hydrophones, anchored about five metres off the sea-floor, will be placed at the edge of the shipping channel into and out of Saint John, between Grand Manan and the Wolves Islands, between the Wolves and Campobello Island, in Head Harbour Passage between Deer Island and Campobello Island, and in Passamaquoddy Bay.

The devices will provide data from areas where shipping could increase if currently talked-about industrial projects go ahead, Killorn said. He cited specifically the Energy East Pipeline project in Saint John, and liquefied natural gas terminals in Saint John and Robbinston, Maine.

"All of these projects have a public profile," Killorn said. "We would want to be measuring noise pollution ... regardless of how our natural resources are being developed."

"We're concerned about shipping traffic and changes in shipping in the Bay of Fundy," Killorn said.

People will go out every four weeks to pull the hydrophones up to replace the batteries and download the data in the form of sound files to a laptop computer. The frequency and amplitude can be

analyzed, providing data for scientists to correlate with changes in marine life including, for example, whale behaviour.

Due to financial constraints Eastern Charlotte Waterways opted to buy hydrophones that record the lower frequencies that would affect finback, humpback, minke and the threatened Atlantic right whales. The hydrophones will be deployed during the time of year when large numbers of whales inhabit the bay, Killorn said.

These particular hydrophones might collect data useful for studying species other than whales, but not the higher pitches that would affect porpoises, he explained.

"We are not going to be drawing a lot of conclusions based on the data. We are collecting the data and making it available to researchers," Killorn said.

Eastern Charlotte Waterways hopes to collect data this year, then do it again several years from now. "This sort of work takes time," Killorn said. "We're very excited to be taking the lead in something we consider very important."

This data gap is very important to us regardless of what the future development of natural development holds," he said.

The hydrophones and related equipment take up little enough space that Eastern Charlotte Waterways can store them when they are out of the water.

Ocean Sonics Ltd. is a sister company to Instrument Concepts Inc., also in Great Village, on Cobequid Bay between Truro and Parrsboro. Instrument Concepts, an engineering firm started in 1998, formed Ocean Sonics in 2012 to manufacture hydrophones, operations manager Desirée Stockermans explained in an interview on Wednesday.

The two firms employ a total of 11 people including one in Houston, Texas.

Sales and marketing coordinator Pierre Almeida described Ocean Sonics' products as "the world's quietest hydrophones" with very little noise from the devices themselves.

Eastern Charlotte Waterways had yet to officially place its order as of Wednesday but Stockermans looked forward to hearing from the organization.