

# Researchers seine for marine life off Roberts Bank port site

LARRY PYNN, VANCOUVER SUN 04.28.2016 |



[PNG Merlin Archive] *LARRY PYNN / VANCOUVER SUN*

California sea lions barking away in the waters surrounding Deltaport and Westshore Terminals try to steal the show. But it's the bottom of the marine food chain that a research team is seeking this day in the muddy shallows off Roberts Bank near Tsawwassen.

"We're trying to study how juvenile salmon are moving through and using the Fraser River estuary," explains University of Victoria

master's student Lia Chalifour, casting a seine net off a nine-metre fishing skiff. "There's a big hole in terms of what the salmon are doing."

Contracted skiff operator Lindsey Wilson, a Hwlitsum native who grew up in Canoe Pass on the lower Fraser, stops in waters less than two metres deep. He carves out a circle with the 40-by-three-metre net before it is drawn close to the boat and the bounty of small life forms is brought on board to be identified.

Catch of the day includes:

hooded nudibranch, with a tentacle-fringed oral hood and paddle-like appendages on the side, mostly translucent, up to 17.5 centimetres; tube-snout, slender and green, up to 18 centimetres; bay pipefish, camouflages itself in eelgrass, 33 centimetres, females court the males; sanddab, a flatfish, some only grow to 15 centimetres, changes pattern and colour to match surroundings; three-spined stickleback, torpedo-shaped fish, up to 10 centimetres, lives in oceans and lakes; kelp isopod, up to four centimetres, eats and gains protection from algae with which it associates; crescent gunnel, eel-like, orange-brown to olive-green, 25 centimetres; whitespotted greenling, fish with brownish-green body, grows to 50 centimetres, males aggressively guard eggs; baby sea star on a shrimp; starry flounder, a flatfish, grey-brown on top, grows to one metre.

"There is no delta quite like this in B.C.," Chalifour continues. "The flats are quite unique."

Wilson, who fishes commercially, is equally impressed. "Pretty cool, eh? All these wee things, I've never seen them before. If you're talking environment, this is where it starts. This is the real deal.

"One oil spill and what happens to the marsh, the water, the eelgrass? These are valid concerns."

Their research could not be more timely. The Port of Vancouver is proposing a

\$2-billion container-expansion plan at Roberts Bank,

providing  
an additional 2.4 million units of container capacity per year.  
In 2015, the port moved the equivalent of 3.1 million 20-foot  
container units — about half of those at Deltaport.

The UVic/Raincoast Conservation Foundation project is funded by the Pacific Salmon Foundation, Marine Environmental Observation Prediction and Response Network, and Pacific Institute for Climate Solutions.

Researchers — including Raincoast's Misty MacDuffee and Dave Scott, as well as UVic graduate student Josie Iacarella — are conducting twice-monthly seine tests from March to July and briefly again in fall at 14 sites on the lower Fraser River estuary, from south of the Tsawwassen ferry terminal to the waters north of the Iona sewage outfall.

Early seine results showed more juvenile salmon closer to the shoreline in protected channels, but recently they have been showing up more frequently farther offshore.

All species are identified, sized and counted, and the habitat noted. For example, the area between the causeways to the port and the ferry terminal has more eelgrass due to replanting by the port and protection from the Fraser River's murky plume.

One theory is that the causeways may also act as a barrier to the movement of juvenile salmon, forcing them to move out into deeper, saltier waters before they are ready.

DNA tests on chinook fin samples will determine the specific populations from which the fish originated. Microchemistry tests are used to confirm estimates based on growth patterns of the fish's otolith (ear bone) to estimate time spent in salt water.

The water is also tested for factors such as temperature, dissolved oxygen, turbidity, pH, and salinity.

Researchers have also repeatedly documented what appears to be streams of coal dust on the water surface off Westshore Terminals. The Vancouver Sun emailed company vice-president Nick Desmarais with one of the photos, but he declined to directly address it. Instead, he said the company has spent millions on environmental upgrades over the years, uses mobile air monitoring units, and publishes the air quality results — well below regulatory limits — on the company website. “Very little coal escapes from Westshore,” he insisted.

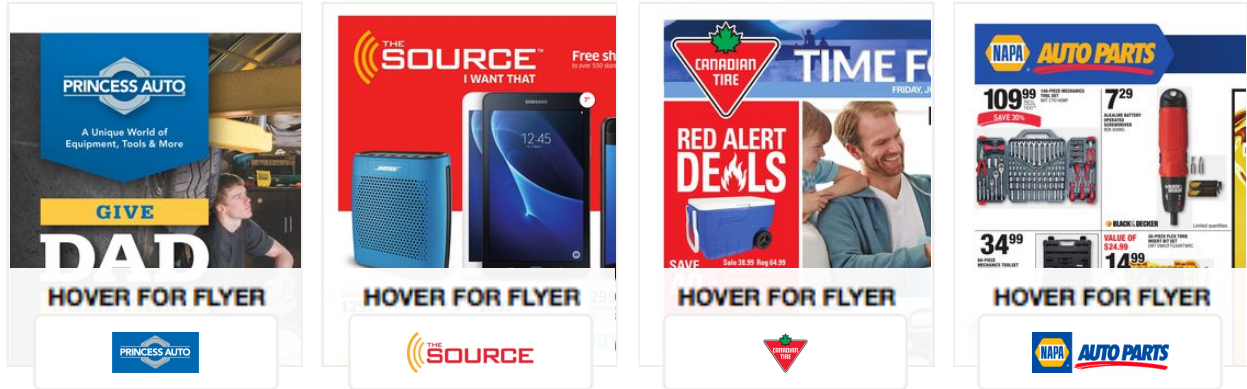
Not all lifeforms are on the water. “Look, those are all western sandpipers,” says MacDuffee, looking through binoculars. “The migration is moving through. Amazing.”

Hundreds of thousands of the birds fuel up on microscopic algae known as diatoms that thrive in spring on the Roberts Bank mudflats. The lower Fraser is a critical stopover on the birds’ northern migration.

The research is part of a five-year Salish Sea Marine Survival Project involving Canadian and U.S. researchers, aimed largely at investigating a decline in chinook and coho salmon over the years in the region.

[lpynn@postmedia.com](mailto:lpynn@postmedia.com) (<mailto:lpynn@postmedia.com>)

## Regina Flyers



## Comments

We encourage all readers to share their views on our articles and blog posts. We are committed to maintaining a lively but civil forum for discussion, so we ask you to avoid personal attacks, and please keep your comments relevant and respectful. If you encounter a comment that is abusive, click the "X" in the upper right corner of the comment box to report spam or abuse. We are using Facebook commenting. [Visit our FAQ page for more information.](#) (<http://www.leaderpost.com/news/story.html?id=7195492>)

0 Comments

Sort by **Oldest**



Add a comment...

Facebook Comments Plugin





[HTTP://WWW.POSTMEDIA.COM](http://www.postmedia.com)

© 2016 Postmedia Network Inc. All rights reserved.

Unauthorized distribution, transmission or republication strictly prohibited.