



Photo credit: NOAA

Tug *Western Mariner* Diesel Spill Natural Resource Damage Assessment Preassessment Phase Update: Results of May 2022 Bivalve Sampling



Photo credit: USFWS

On March 21, 2022, the tug *Western Mariner* collided with its freight barge *Chichagof Provider* while traveling through Neva Strait approximately 18 miles northwest of Sitka, Alaska. The collision pushed the tug onto the beach, resulting in a release of diesel. Within the following eight days, the spill was controlled, and the vessel was refloated and removed from the site. Staff from federal and state agencies (Trustees) are conducting a preliminary [Natural Resource Damage Assessment](#) (NRDA) to determine if impacts to fish, wildlife, their habitats, and the human uses of these natural resources have occurred and if it is appropriate to proceed with restoration planning. If found to be appropriate, the Trustees will initiate restoration planning to quantify the injuries to natural resources, demonstrate how the injuries were caused by the spill, and determine the type and amount of restoration warranted to offset those harms. The Trustees and Responsible Party are working cooperatively, following the federal regulations for NRDA under the Oil Pollution Act of 1990.

What is the current status of the Tug *Western Mariner* NRDA?

The preliminary steps taken during a NRDA are collectively called the Preassessment Phase. The Trustees are considering information from the emergency response to the oil spill, such as aerial photos, shoreline oiling data, wildlife observations, herring spawning observations, and information about potential impacts to human uses of natural resources. In addition, the Trustees conducted field assessments in March and May 2022 to collect information about oil exposure and injury to natural resources. These included surveys for potentially impacted wildlife and evaluations of intertidal ecosystem health at oiled shorelines. Mussels and clams were collected and sent to a laboratory to check for oil contamination in their tissues. This update provides results for the samples collected in May.

Where were mussels collected and what were the results?

NATURAL RESOURCE TRUSTEES FOR THE TUG WESTERN MARINER NRDA

U.S. Department of the Interior:
U.S. Fish & Wildlife Service and
the Bureau of Indian Affairs

U.S. Department of Commerce:
National Oceanic and
Atmospheric Administration
(NOAA)

U.S. Department of Agriculture:
U.S. Forest Service

Alaska Department of
Environmental Conservation

Alaska Department of Law

Alaska Department of Fish and
Game

Alaska Department of Natural
Resources

The Shoreline Cleanup Assessment Technique (SCAT) team working on the spill response observed diesel oil persisting in intertidal sediments at several beaches in Neva Strait in April and May 2022. (See the Alaska Department of Environmental Conservation's [webpage](#) for spill response information.) To evaluate whether persisting oil may be impacting the intertidal ecosystem, on May 16-17, 2022, Trustee scientists collected samples of live bivalves (mussels, clams, and cockles) from Highwater Island and the tug grounding site, as well as from one unoiled area in northern Krestof Sound for comparison (see map). Bivalves, being filter-feeders, are commonly used for monitoring the presence, bioavailability, and concentrations of oil chemicals in the environment. They are also an important part of the intertidal community and a potential food source for birds, marine and terrestrial mammals, and people. The clams and cockles collected from the two oiled sites were found alive on the surface of the beach during low tide with their shells open to the air (see photo). Since this is odd behavior for clams that are normally buried in the sediments during low tide and because such behavior can be caused by exposure to toxic substances, some of these clams were collected for analysis. All bivalve samples were analyzed for several petroleum hydrocarbons (oil chemicals), including polyaromatic hydrocarbons (PAHs), which can be toxic to natural resources. The samples were not collected for the purpose of evaluating seafood safety, but the data were provided to the State of Alaska Department of Health for its consideration. The chemical results show

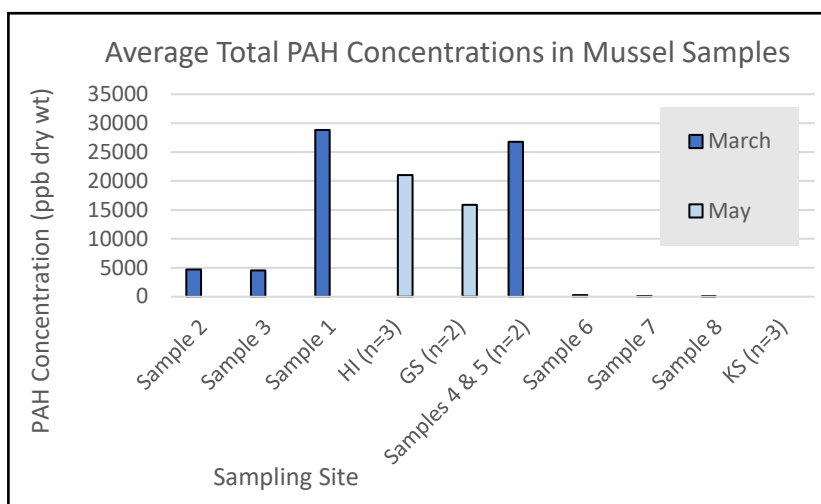
continued elevated PAH concentrations in all bivalves collected in May from the oiled sites in Neva Strait, while the bivalves from the unoiled site in Krestof Sound did not contain any detectable amounts of PAHs. The detailed chemistry data from these bivalve samples are available for download through [NOAA's DIVER web portal](https://www.diver.orr.noaa.gov/recent-datasets) (<https://www.diver.orr.noaa.gov/recent-datasets>).



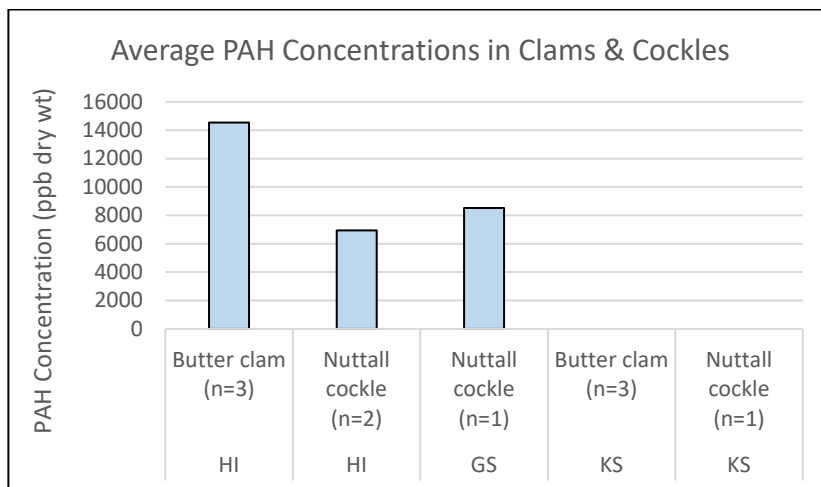
Base map credit: Earthstar Geographics, State of Alaska, Esri Canada, Esri, HERE, Garmin, SafeGraph, USGS, EPA, NPS, USDA, NRCAN, Parks Canada

For both graphs: Concentrations are depicted as the sum of 72 individual PAH compounds, with units of parts per billion in the dry weight of bivalve tissue. PAH compounds that were not detected in samples (i.e., below method detection limits) were not included in the sums.

HI=Highwater Island GS=Grounding Site KS=Krestof Sound



Concentrations in March mussel samples 6, 7, and 8 were so low that they may not be easily visible in the above graph. PAHs were not detected in mussels from May site KS. Each mussel sample consisted of several individual mussels. Only one mussel sample was collected from each site in March, while May sampling included more than one sample (n = number of samples from that site).



All clams and cockles were collected in May 2022. PAHs were not detected in clams collected from May site KS.

What are the next steps for the Western Mariner NRDA?

The Trustees continue to evaluate and collect information about the spill's impacts on natural resources and the human uses of those resources, with the goal of determining whether a restoration planning effort is appropriate. If restoration planning is deemed warranted, the Trustees will publish a Notice of Intent to Conduct Restoration Planning and create a draft Restoration Plan that will be made available for public review and input. Throughout the process, the Trustees welcome information from the public.

Who should I contact to obtain more information or to share my information?

For NRDA information, contact the Federal Lead Administrative Trustee, Sarah Allan at 907-202-1859 or sarah.allan@noaa.gov.

For information on seafood safety, contact Sarah Yoder, Alaska Department of Health, at 907-269-8054 or sarah.yoder@alaska.gov