

Comment Invited on Proposal to Protect the Bristol Bay Watershed

July 2014

U.S. Environmental Protection Agency Region 10 requests comment on a proposal to protect one of the world's most valuable salmon fisheries, in Bristol Bay, Alaska, from the risks posed by a mine at the Pebble deposit. Development of this mine would result in one of the largest open pit copper mines in the world and would threaten one of the world's most productive salmon fisheries.

The Bristol Bay watershed (See Map 1) is an area of unparalleled ecological value, boasting salmon diversity and productivity unrivaled anywhere in North America. It provides intact, connected habitats — from headwaters to ocean — that support abundant, genetically diverse wild Pacific salmon populations. These salmon populations, in turn, maintain the productivity of the entire ecosystem, including numerous other fish and wildlife species. Bristol Bay natural resources support commercial, subsistence, and recreational fisheries that are worth hundreds of millions in economic yield each year. Simply put, this is a uniquely large mine in a uniquely important place.

Please add your voice to this important discussion about the future of the Bristol Bay watershed. The comment period is open until 8:00 p.m. Alaska time on **September 19**, 2014. Please find additional details about how to submit comments on page 6 of this fact sheet.

Our Proposal to Protect the Bristol Bay Watershed

Region 10's proposal to protect the Bristol Bay watershed outlines restrictions that would protect waters that support salmon in and near the Pebble deposit area. The geographic restrictions of this proposal cover only the mining claims surrounding the Pebble deposit. See Map 2. No other lands or developments are subject to these restrictions.

EPA Region 10 has initially concluded that mining the Pebble deposit would affect the South Fork Koktuli River, North Fork Koktuli River, and Upper Talarik Creek watersheds. The proposed restrictions are outlined in a document called the Proposed Determination. These restrictions are based on the construction and routine operation of a 0.25-billion-ton mine at the Pebble deposit. The 0.25 size mine was the smallest of the three mine scenarios EPA analyzed in the Bristol Bay Assessment and is significantly smaller than mines contemplated by Northern Dynasty Minerals.

The EPA proposes to restrict the discharge of dredged or fill material related to mining the Pebble deposit that would result in any or all of the following:

- **Loss of streams:** The loss of five or more miles of streams with documented salmon occurrence (coho, Chinook, sockeye, chum, pink); or the loss of 19 or more miles of streams where salmon are not currently documented, but that are tributaries of streams with documented salmon occurrence

- **Loss of wetlands, lakes, and ponds:** The loss of 1,100 or more acres of wetlands, lakes, and ponds that connect with streams with documented salmon occurrence or tributaries of those streams
- **Streamflow alterations:** Streamflow alterations greater than 20 percent of daily flow in nine or more linear miles of streams with documented salmon occurrence

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Our Proposal to Protect the Bristol Bay Watershed

According to EPA records, losses of the nature and magnitude listed on the previous page would be unprecedented for the Clean Water Act Section 404 regulatory program in the Bristol Bay region, as well as the rest of Alaska and the nation.

Degradation of these aquatic resources is likely to be even more pronounced, given the extensive

cumulative impacts expected with successive stages of mine expansion.

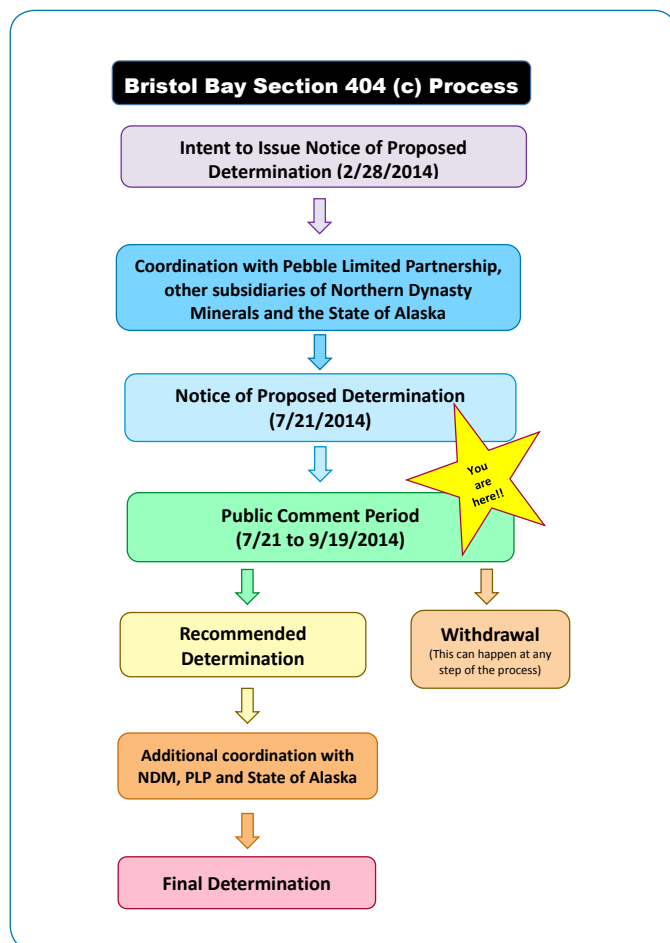
If these restrictions are finalized, proposals to mine the Pebble deposit that have impacts below each of these restrictions would proceed to the Section 404 permitting process with the U.S. Army Corps of Engineers.

Section 404(c) of the Clean Water Act

The Clean Water Act generally requires a Section 404 permit from the U.S. Army Corps of Engineers before any person places dredged or fill material into certain streams, wetlands, lakes and ponds. Section 404 directs EPA to develop the environmental criteria used to make permit decisions.

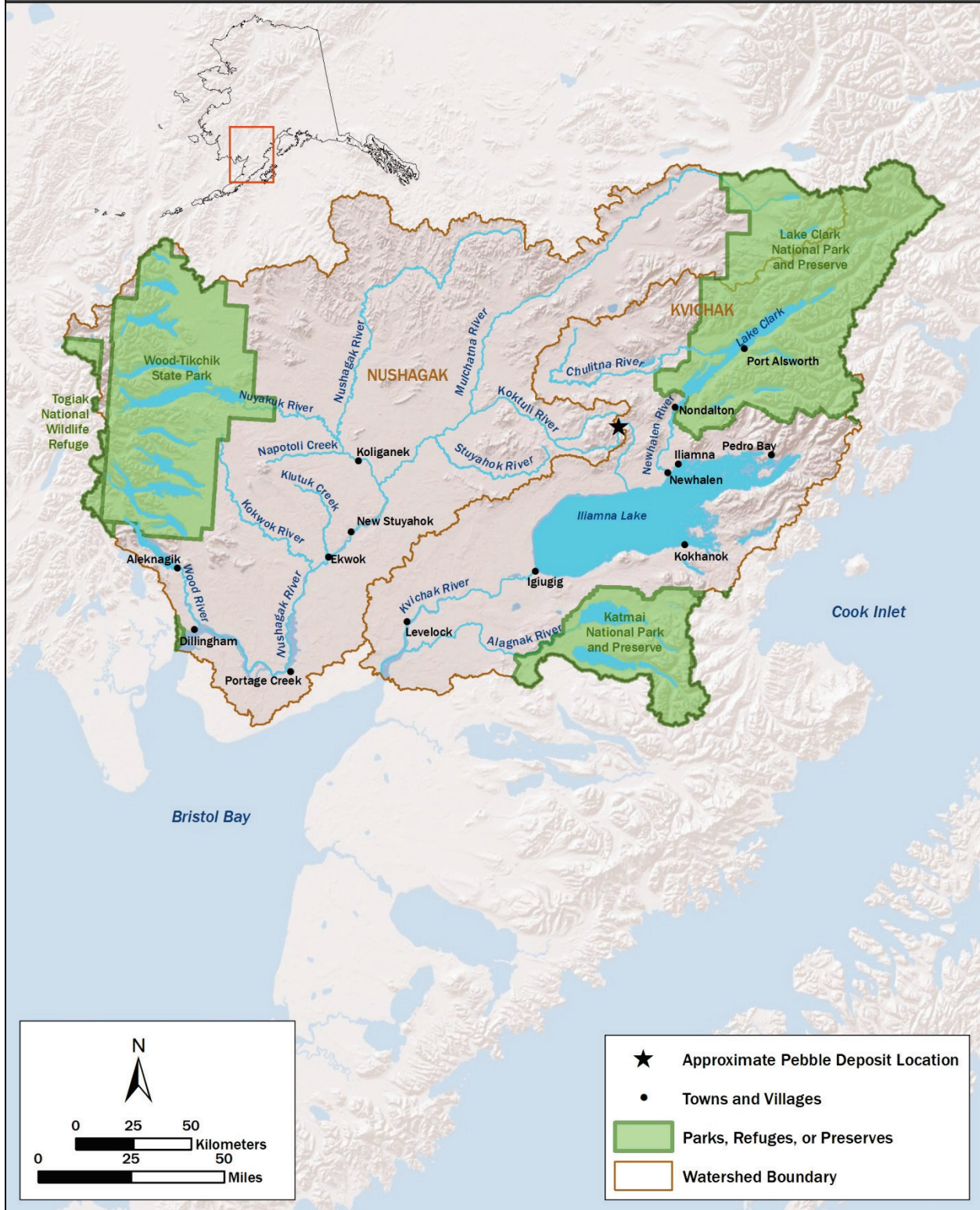
The U.S. Army Corps of Engineers authorizes thousands of Section 404 permits every year, and the EPA works with the Corps and developers to resolve environmental concerns so projects can move forward. However, the Clean Water Act, specifically Section 404(c), also authorizes the EPA to prohibit or restrict fill activities if EPA determines a project would have unacceptable adverse effects on fishery areas.

The EPA has used its 404(c) authority sparingly, beginning the process in 30 instances and issuing final determinations only 13 times. The EPA's use of the authority has typically involved major projects with significant impacts on some of America's most ecologically valuable waters. The Section 404(c) process (See Figure ⇨) allows for substantial input from the public, the tribes, Alaska Native Claims Settlement Act Corporations, the state, and the mining companies involved with the Pebble deposit.



US EPA Region 10 Photo

Map 1. The Nushagak and Kvichak River watersheds.



Why EPA Region 10 is initiating this action to protect the Bristol Bay Watershed

In 2010, several Bristol Bay Alaska Native tribes, fishers, and other stakeholders requested that EPA take action to protect the Bristol Bay watershed and salmon resources from development of the proposed Pebble Mine using its authority under Clean Water Act Section 404(c).

EPA Region 10 is proposing this action because the Clean Water Act requires the agency to protect the nation's waters, including the protection of fisheries. The Bristol Bay watershed is an area of exceptional ecological value with salmon fisheries unrivaled anywhere in North America. Development of a mine at the Pebble deposit would result in one of the largest open pit copper mines in the world and would threaten this valuable resource.

The region's streams, wetlands, lakes and ponds provide intact habitat that support all five species of Pacific salmon found in North America: coho, Chinook, sockeye, chum, and pink. The salmon populations are critical to the health of the entire ecosystem, which is home to more than 20 fish species, 190 bird species, and more than 40 terrestrial mammal species, including bears, moose, and caribou.

Bristol Bay supports commercial, subsistence, and recreational fisheries that are worth hundreds of millions in economic yield each year and create thousands of jobs. Bristol Bay's fishery resources have supported a subsistence-based way of life for Alaska Natives for over 4,000 years.

After careful consideration of available science in the recently completed multi-year Bristol Bay Watershed Assessment and other available information, including extensive materials provided by Northern Dynasty Minerals and Pebble Limited Partnership, EPA Region 10 decided to proceed under its Clean Water Act Section 404(c) regulations to protect Bristol Bay resources from the adverse environmental effects of mining the Pebble deposit.

EPA has received over 850,000 requests from citizens, tribes, Alaska Native corporations, commercial and sport fishers, jewelry companies, seafood processors, restaurant owners, chefs, conservation organizations, members of the faith community, sport recreation business owners, elected officials and others asking EPA to take action to protect Bristol Bay.

How Mining the Pebble Deposit Would Affect the Bristol Bay Watershed

Based on information provided by Northern Dynasty Minerals to investors and the U.S. Securities and Exchange Commission, mining the Pebble deposit is likely to result in:

- A mine pit nearly as deep as the Grand Canyon. EPA estimates the mine would require excavation of the largest open pit ever constructed in North America and would cover nearly seven square miles at a maximum depth of over 3/4 of a mile. The maximum depth of the Grand Canyon is about one mile.
- Mine waste that would fill a large football stadium up to 3,900 times if the largest mine were built. This includes mine tailings and waste rock.
- Massive mine tailings impoundments that would cover approximately 19 square miles and waste rock piles that would cover nearly nine square miles in an area with productive streams and wetlands.

- A mining operation that would cover an area larger than Manhattan. This includes all three mine components the EPA considered (mine pit, tailings impoundments, and waste rock piles).

The construction of a mine would also require other infrastructure, such as a major transportation corridor, pipelines, a power-generating station, wastewater treatment plants, housing and support services for workers and administrative offices.

Although preliminary plans could change, any mining of the Pebble deposit would require similar components. The EPA's analysis included a mine size smaller than what Northern Dynasty Minerals has articulated to investors.

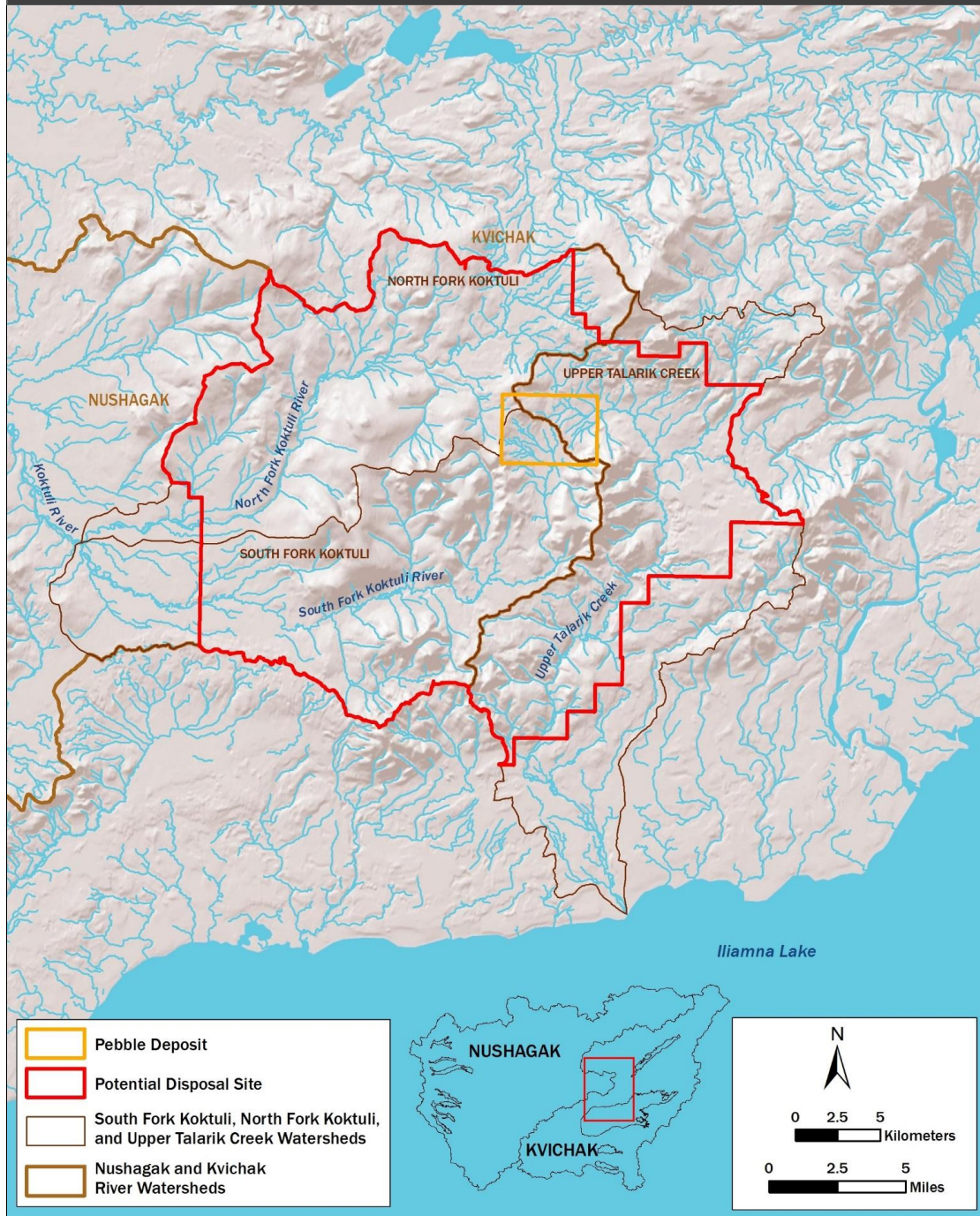
Even this smaller mine size would have significant, unacceptable impacts on salmon spawning and rearing areas

Next Steps

EPA Region 10 invites engagement with Alaska Native tribes and corporations. The Bristol Bay region is home to 31 Alaska Native Villages. Residents of the area depend on salmon both as a major food resource and for their economic livelihood. Nearly every household in the Nushagak and Kvichak watersheds uses salmon resources.

Public comment will be accepted until **September 19, 2014**. EPA Region 10 will consider all input on its proposal and consider the next steps in the process, which could include moving toward a Recommended Determination to the EPA Assistant Administrator for Water at EPA Headquarters in Washington, D.C.

Map 2. Potential disposal site delineated in the proposed determination.




Your Comments Matter!

The EPA would like your input on all aspects of the proposed determination. Here are some questions to consider when preparing your comments:

- Do you think the Proposed Determination should be recommended and finalized? Why or why not?
- Do you have additional information on potential impacts on the North Fork Koktuli River, South Fork Koktuli River and Upper Talarik Creek watersheds, and downstream reaches of the Nushagak and Kvichak Rivers resulting from mining of the Pebble deposit? Specifically information about:
 - Fish and other ecological resources
 - Water quality, flora, fauna and hydrology
 - Wildlife species
 - Recreation
 - Drinking water
- Can you suggest potential mitigation actions that could compensate for the damage caused by mining the Pebble deposit?
- Should the discharge of dredged or fill material be completely prohibited, restricted as proposed, restricted in another manner or not restricted at all at this time?

How to Submit Comments to the EPA Public Docket for Bristol Bay

- Submit comments online at www.regulations.gov. Specify Docket # EPA-R10-OW-2014-0505. This is the preferred method.
 - Send comments via e-mail to: OW-Docket@epa.gov. Include EPA-R10-OW-2014-0505 in the subject line.
 - Send a letter to the EPA Bristol Bay Docket at: Water Docket # EPA-R10-OW-2014-0505
U.S. Environmental Protection Agency
Mail Code: 2822T
1200 Pennsylvania Ave., N.W.
Washington, DC 20460
 - Testify at public hearings in Alaska; **August 12–15, 2014.**
 - Make a request to accommodate language or other special needs by contacting Judy Smith at smith.judy@epa.gov or 503-326-6994.
-  TDD or TTY users, please call 1-800-877-8339 and give the operator Judy's phone number.

Public Hearings

(Please check the EPA Bristol Bay website for meeting updates)

Anchorage: Tuesday, **August 12** at 2 p.m.
Egan Center – Cook and Artegan Rooms

New Stuyahok: Wednesday, **August 13** at 5 p.m.
Cetuyaraq Community Center

Nondalton: Wednesday, **August 13** at 5 p.m.
Nondalton Community Center

Kokhanok: Thursday, **August 14** at 5 p.m.
Location to be announced

Dillingham: Thursday, **August 14** at 5 p.m.
Middle School Gymnasium

Iliamna: Friday, **August 15** at 12 p.m.
Community Center

Igiugig: Friday, **August 15** at 12 p.m.
Tribal Hall

For More Information

Website: www2.epa.gov/bristolbay

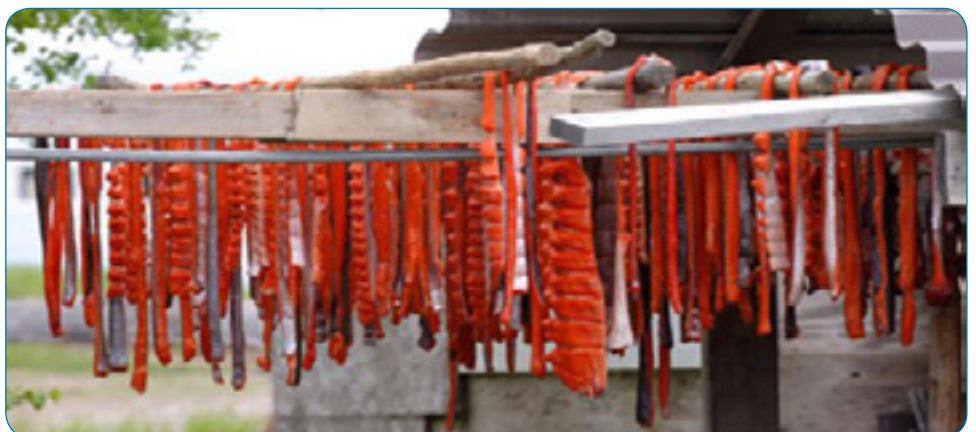
Email: r10bristolbay@epa.gov

Join the Bristol Bay listserv to get regular e-mail updates about the EPA's work by clicking on the link on the web page or sending an e-mail message to smith.judy@epa.gov.

Community Involvement Coordinator: Judy Smith ☎ 503-326-6994 📧 smith.judy@epa.gov

Tribal Liaison: Tami Fordham ☎ 907-271-1484 📧 fordham.tami@epa.gov

Management Lead: Richard Parkin ☎ 206-553-8574 📧 parkin.richard@epa.gov





***EPA Region 10 Invites Comment on
Proposal to Protect the Bristol Bay Watershed***

Look Inside for

- ***Why EPA is Initiating This Action***
- ***How Mining the Pebble Deposit would Impact the Bristol Bay Watershed***
- ***How to Submit Comments to the EPA Public Docket for Bristol Bay***