



American Fisheries Society

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September 6, 2022

Mr. Michael S. Regan
Administrator
Environmental Protection Agency
Mail Code 2822T, 1200 Pennsylvania Avenue NW
Washington, D.C. 20460

via regulations.gov

Re: Proposed determination to restrict the use of certain waters in Alaska's Bristol Bay watershed as disposal sites for discharge of dredged or fill material in association with mining the Pebble deposit; Docket No. EPA-R10-OW-2022-0418-0001 (Proposed Determination)

Dear Administrator Regan:

On behalf of the members of the American Fisheries Society (AFS) and the Alaska Chapter of AFS, we respectfully submit the following comments regarding the Proposed Determination to restrict the use of certain waters in the North Fork Kaktuli River (NFK), South Fork Kaktuli River (SFK), and Upper Talarik Creek (UTC) watersheds in southwest Alaska as disposal sites for dredged or fill material in connection with mining of the Pebble deposit; Docket ID No. EPA-R10-OW-2022-0418-0001.

The American Fisheries Society and the Alaska Chapter of AFS fully support the EPA's use of its authority under section 404(c) of the Clean Water Act to restrict the use of certain waters in the NFK, SFK, and UTC watersheds in southwest Alaska as disposal sites for dredged or fill material in connection with mining the Pebble deposit due to unacceptable adverse effects on anadromous fish. Large-scale mining in the watershed would cause irreversible impacts to this pristine habitat and the valuable fisheries it supports. We have long-standing concerns about the development of a mine in Bristol Bay, a project whose impacts to fisheries and the watershed cannot be adequately reduced or mitigated.

The American Fisheries Society represents over 7,500 professional fishery scientists and resource managers who work in the private sector, in academic institutions, and in tribal, state, and federal agencies. The Alaska Chapter of AFS has more than 400 members. Our common mission is to improve the conservation and sustainability of fishery resources and

aquatic ecosystems by advancing fisheries and aquatic science and promoting the development of fisheries professionals.

Bristol Bay is a global treasure (Woody 2018). The high diversity and connectivity of aquatic habitats in the Bristol Bay watershed make it one of the most productive regions for Pacific salmon in the world (Bjornn and Reiser 1991; Wobus et al. 2015). Bristol Bay is home to the world's largest wild Sockeye Salmon fishery, supporting half the global catch (Cline et al. 2019; Tiernan et al. 2021). Along with Sockeye Salmon, Bristol Bay supports one of the largest wild Chinook Salmon runs as well as healthy runs of Coho Salmon, Chum Salmon, and Pink Salmon (Johnson and Blossom 2018). These salmon support major commercial, subsistence, and sport fisheries, providing jobs and food security to rural communities and thousands of people, and are a vital cultural element for Alaska Native peoples (Halas and Neufeld 2018; Tiernan et al. 2021). High salmon production also brings marine-derived nutrients to the Bristol Bay watershed, providing crucial food sources through eggs and carcasses to a variety of aquatic and terrestrial wildlife (Cederholm et al. 2011; EPA 2014). Due to the cyclical nature of salmon life histories, it could take years before harm from a mine to salmon populations becomes detectable. Within that time, undetected irreparable harm could affect generations of salmon populations and have significant impacts on the people and wildlife that depend on them.

The EPA makes four independent unacceptability findings that support restricting the use of certain waters in the NFK, SFK, and UTC watersheds in southwest Alaska as disposal sites for dredged or fill material in connection with mining of the Pebble deposit.

They are (1) the pristine condition and productivity of anadromous habitat throughout the SFK, NFK, and UTC watersheds; (2) the large amount of permanent loss of anadromous fish habitat; (3) the degradation of additional downstream spawning and rearing habitat for Coho, Chinook, and Sockeye salmon resulting from the loss of ecological subsidies provided by the eliminated streams, wetlands, and other waters; (4) and the resulting erosion of both habitat complexity and biocomplexity within the SFK, NFK, and UTC watersheds, which are key to the abundance and stability of salmon populations within those watersheds.

These findings are consistent with the best-available science and our prior comments to the agency on the significant harm that would result to Bristol Bay's anadromous and resident fish and fisheries from large-scale mining activities. In 2014, AFS objected to the agency's withdrawal of the 404(c) Proposed Determination for many of these reasons and others.

In addition to the EPA's unacceptability findings, Pacific salmon are already facing very real threats from climate change throughout their ranges (Muñoz et al. 2019). Protecting the pristine waters of Bristol Bay is critical for maintaining their unique populations and their resilience to climate change (Cline et al. 2019). As temperatures continue to rise, it is likely that the hydrological conditions of the Bristol Bay watershed will change. Uncertainty in how they would change, and what that would mean for salmon, increases the magnitude of

risks associated with the development of the Pebble Mine (Wobus et al. 2015). The high diversity of aquatic habitats and high quality of hydrological conditions in the Bristol Bay watershed has resulted in high degrees of phenotypic and genotypic diversity across the region's salmon populations (Hilborn et al. 2003; Schindler et al. 2010). The introduction of the mine would erode that resilience, threatening the salmon populations and everyone who depends on them (Muñoz et al. 2019)

We appreciate the opportunity to provide comment on the Proposed Determination and the opportunity to voice our support for Bristol Bay's prolific, sustainable, all-wild salmon fisheries. We encourage the EPA to move quickly to finalize this process to ensure that these valuable resources are protected.

Sincerely,

A handwritten signature in black ink, appearing to read "Douglas J. Austen". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Douglas J. Austen, Ph.D.
Executive Director
American Fisheries Society

REFERENCES

Bjornn, T. C., and D. W. Reiser. 1991. Habitat requirements of salmonids in streams. Pages 83–138 *in* W. R. Meehan, editor. Influences of forest and rangeland management on salmonid fishes and their habitats. American Fisheries Society, Special Publication 19, Bethesda, Maryland.

Cederholm, C. J., M. D. Kunze, T. Murota, and A. Sibatani. 2011. Pacific salmon carcasses: essential contributions of nutrients and energy for aquatic and terrestrial ecosystems. *Fisheries* 24(10):6–15

Cline, T. J., J. Ohlberger, and D. E. Schindler. 2019. Effects of warming climate and competition in the ocean for life-histories of Pacific salmon. *Nature Ecology and Evolution* 3:935–942.

EPA (U.S. Environmental Protection Agency). 2014. An assessment of potential mining impacts on salmon ecosystem of Bristol Bay, Alaska. EPA, Report 910-R-14-001, Washington, D.C.

Halas, G., and G. Neufeld. 2018. An overview of the subsistence fisheries of the Bristol Bay area. Alaska Department of Fish and Game, Division of Subsistence, Special Publication BOF 2018-04, Anchorage.

Hilborn, R., T. P. Quinn, D. E. Schindler, and D. E. Rogers. 2003. Biocomplexity and fisheries sustainability. *Proceedings of the National Academy of Sciences of the United States of America* 100:6564-6568

Johnson, J., and B. Blossom. 2018. Catalog of waters important for spawning, rearing, or migration of anadromous fishes—southwestern region. Alaska Department of Fish and Game, Special Publication 18-06, Anchorage.

Muñoz, N. J., J. D. Reynolds, J. W. Moore, and B. D. Neff. 2019. Salmon in clear and present danger. *Science* 366:582.

Schindler, D. E., R. Hilborn, B. Chasco, C. P. Boatright, T. P. Quinn, L. A. Rogers, and M. S. Webster. 2010. Population diversity and the portfolio effect in an exploited species. *Nature* 465:609–612

Tiernan, A., T. Elison, T. Sands, J. Head, S. L. Vega, and T. Lemons. 2021. 2019 Bristol Bay annual management report. Alaska Department of Fish and Game, Fishery Management Report 21-04, Anchorage.

Wobus, C., R. Prucha, D. Albert, C. Woll, M. Loinaz, and R. Jones. 2015. Hydrologic alterations from climate change inform assessment of ecological risk to Pacific salmon in Bristol Bay, Alaska. *PLoS (Public Library of Science) ONE* 10(12):e0143905.

Woody, C. A. 2018. Bristol Bay, Alaska: natural resources of the aquatic and terrestrial ecosystems. J. Ross Publishing, Plantation, Florida.