

The LOGBOOK of CSP²

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Is this the end of the Pebble Mine?



Frying Pan Lake, from the site of the proposed Pebble Mine

End of the Pebble Mine?

The Logbook has been periodically updating its readers on the status of the Pebble Mine for well over a decade. The latest news is from the US Environmental Protection Agency. On January 30, 2023, the EPA exercised its statutory authority under the Clean Water Act, and issued a “404(c) veto” on the mine. Many hail this as the death knell for the Pebble Mine. While this is at the very least a serious setback for the Northern Dynasty Minerals, the mine’s owner, it still has a couple of avenues to keep the mine alive.

Northern Dynasty, or the Pebble Partnership, its US surrogate, will certainly sue EPA over its 404(c) decision – and Northern Dynasty has the money to do this. They can also lobby a new administration to reverse the EPA decision. The Pebble Partnership was successful in lobbying the Trump administration in reversing an earlier EPA 404(c) determination, one that hadn’t reached the final stage. The law allows this. The present Alaska governor leads an administration that would pull any available strings to see the mine

move forward. They have continued to support the mine notwithstanding the latest EPA ruling, and despite opposition to the mine from all three of the present Alaska congressional delegation members.

Ultimately the decision whether to develop a mine, or not, is a political decision. Science informs the political process, but there are no hard and fast rules about what the final decision process must find. The only rules are about how the decision process must be conducted. Ultimately, as long as there are valuable minerals in the ground, and there is a legal process by which those minerals can be owned or leased by a mineral developer, a mine is a possibility.

What is a 404(c) veto?

The Clean Water Act, passed by congress in 1972, gives most responsibilities and authorities under the Act to the Environmental Protection Agency. For example, the Act gives the EPA the authority to issue permits for the discharge of pollutants into Waters of the United States. Waters of the US include lakes,

ivers, intermittent streams, wetlands, and the ocean. However, the Act gave the Army Corps of Engineers the responsibility for approving the discharge of fill material into Waters of the US. Under section 404 of the Clean Water Act, the Army Corps must issue a permit to fill/destroy wetlands. I have read several different interpretations of why congress chose to carry out most of the functions of the Clean Water Act through the EPA, but gave the Army Corps this one significant responsibility, but I can't repeat any of them with authority, so will leave it as a matter of fact.

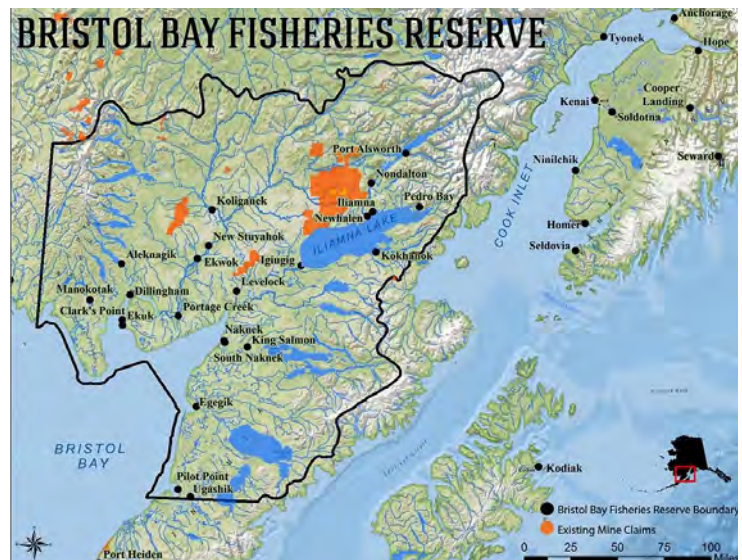
One concern about this division of authority of Clean Water Act enforcement functions is that the Army Corps is fundamentally an agency with the responsibility to build things in Waters of the US, not to protect Waters of the US from environmental harm. As a result, not only do the basic motivations of the Corps raise apprehensions, but the expertise of the Corps to assess and evaluate environmental effects is also of concern. To put it another way, biologists and environmental scientists fit well into the framework and focus of the EPA, but it is engineers and military officers that run the Army Corps.

The same section 404 of the Clean Water Act that gives the Army Corps the authority to issue permits for fill wetlands, also gives the EPA the responsibility to ensure that several clearly defined public resources are protected from harm. Section 404(c) gives EPA the authority to prohibit, or otherwise restrict, a site when it determines that the discharge of dredged or fill material is having or will have an "unacceptable adverse effect" on municipal water supplies, shellfish beds and fishery areas (including spawning and breeding areas), wildlife, or recreational areas.

Pebble 404(c) Veto

The EPA veto for the Pebble mine is clearly tied to potential impact to fisheries. In 2014, EPA completed a peer-reviewed Bristol Bay Watershed Assessment of the potential impacts resulting from the construction of a mine like Pebble being constructed in the upper drainages of the Kvichak and Nushagak rivers in southwest Alaska. It should also be noted that none of the studies used in the Environmental Impact Statement for the Pebble Mine were peer reviewed. Lack of peer review for critical studies in an EIS is weakness common to all EISs, not just the Pebble EIS, and is a flaw that administrations from both political parties have chosen not to address.

The January 30, 2023, final 404(c) veto contained four prohibitions that were developed in the Watershed Assessment, any one of which, if triggered,



Bristol Bay Fisheries Reserve

would constitute an "unacceptable adverse effect" to the Bristol Bay fishery. Those triggers are:

- 1) The loss of approximately 8.5 miles of documented anadromous fish streams.
- 2) The loss of approximately 91 miles of additional streams that support anadromous fish streams.
- 3) The loss of approximately 2,108 acres (3.3 mi²) of wetlands and other waters that support anadromous fish streams.
- 4) Adverse impacts on approximately 29 additional miles of anadromous fish streams resulting from greater than 20 percent changes in average monthly streamflow.

These are environmental triggers that can be used, but only for the location studied in the Watershed Assessment, not in any other location, even in Bristol Bay, only for the Pebble location. On the one hand, this does provide some guidance as to the type and amount of environmental disruption to prime fisheries habitat that might trigger a prohibition on mining from EPA in the future, but on the other hand it also suggests that the loss of 8 miles of stream habitat, or of 3 mi² of wetlands, might be acceptable. This is all food for thought.

The future of the Pebble Mine

Northern Dynasty Minerals is in a tough spot. It is difficult to overcome an administrative finding like a formal 404(c) Determination. But with friends in high places, or with judges who are willing to set new precedent, as many courts are doing today, resurrecting the Pebble Mine is always a possibility. Because there is so much money associated with the Pebble Mine, at least a half a trillion dollars, there are still plenty of investors who are willing to risk the long odds against the mine, for the many-fold

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returns they would get if the mine were to go forward at some point in the future. This means that Northern Dynasty Minerals has plenty of money to pay for litigation to slow things down, and to pay for lobbying when a more friendly political climate returns.

In 1972, the Alaska Legislature created the Bristol Bay Fisheries Reserve where legislative approval is required before oil exploration or drilling can proceed. In 2014, a citizen’s initiative passed that added a requirement of legislature to certify that large-scale sulfide mining “will not constitute danger to the fishery”. However, the Achilles Heel of this requirement can be seen in the Pebble Mine EIS, which found that there would be no significant risk to the fishery, despite the contrary finding of EPA’s Bristol Bay Watershed Assessment. A development-oriented legislature could use the EIS finding to defend legislative approval for large-scale mining in the Bristol Bay Fisheries Reserve.

This is just another reason that good science should be insured in the EIS process, which it is not at present. The Council on Environmental Quality, which has the responsibility for implementing environmental impact statements, has so far failed to address this issue, despite formal petitions to do so from a number of scientists. This is probably because including peer review in the EIS process would immediately be criticized as increasing regulatory delay, even though this should not be the case.

The science of analyzing the potential impacts should not be politicized, as it was in the Pebble Mine EIS, and many other EISs for mines. The place for politics is the decision making process for the permits, not in the science that is meant to inform that decision making process. At present, politics can influence the science in environmental analyses, and as long as this is the case, there is hope for those who want to see a Pebble Mine.

From the Executive Director

The long, bitter, struggle over the permitting process for the Pebble Mine shows not only how political the mine permitting process can be, but also how science can, and has been, misused in the critical environmental analysis that should inform the permitting process. Science does not drive permitting decisions, it is there to inform the permitting process. Nevertheless, permitting agencies and mining companies are rightfully uncomfortable when the science in an EIS says there will be significant impacts as the consequence of development actions. As a result, there is tremendous pressure for science performed by the mining company and its consultants to say there will be no significant impacts, despite conventional wisdom, and often contrary to existing scientific literature.



*Dave Chambers is the
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For these reasons, many of us have argued that critical determinations made in environmental impact statements should be peer-reviewed, even if only on a case-by-case basis. Lack of accountability can lead to scientifically unsupportable, even absurd, determinations by industry sector scientists that have a financial incentive to come up with a determination that will support development proposals, and provide their consulting companies with future work. This is clearly evident in the findings of the Environmental Impact Statement for the Pebble Mine. For example, the Pebble EIS found that there would be no significant impact to fisheries from mine development, while the EPA Watershed Assessment found exactly the opposite.

The Council on Environmental Quality and the EPA have known for decades that many predictions made in mining EISs are overoptimistic, yet they have chosen to ignore the fundamental issues that lead to these errors, despite petitions to change the process, or at least conduct a study of the process to determine where and how often these errors are being made.

The science required for environmental analyses should be subject to the same basic requirements, and processes, that is required for other scientific research.

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