



**UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration**

National Marine Fisheries Service

P.O. Box 21668

Juneau, Alaska 99802-1668

September 14, 2020

Colonel Damon Delarosa
U.S. Army Corps of Engineers
P.O. Box 6898
JBER, Alaska, 99506-0898

Re: Public Notice of Application for Permit POA-2018-00123, Bonanza Channel/Safety Sound

Dear Colonel Delarosa:

The National Marine Fisheries Service (NMFS) has reviewed IPOP's application to the U.S. Army Corps of Engineers (USACE) to produce gold from their mining claims in the Bonanza Channel/Safety Sound area near Nome, Alaska. IPOP plans to discharge 4,973,992 cubic yards of material into 172.7 acres of waters of the U.S. to construct and maintain an access channel, dredge disposal areas, mining channel, and a mine camp and staging area. Equipment to be used includes a single engine dredge vessel with a 36" diameter cutterhead, a 10" diameter dredge nozzle, two small tender boats, and a processing barge.

Section 305(b) of the Magnuson-Stevens Fishery Conservation and Management Act (MSA) requires Federal agencies to consult with NMFS on all actions that may adversely affect Essential Fish Habitat (EFH). NMFS is required to make EFH Conservation Recommendations, which may include measures to avoid, minimize, mitigate, or otherwise offset adverse effects. This consultation is officially initiated by the action agency with the submission of an EFH Assessment to NMFS.

We have reviewed the Draft EFH Assessment included with IPOP's application and provided preliminary early coordination comments to USACE on June 16, 2020. We have also raised EFH concerns during interagency teleconferences initiated by USACE and correspondence with USACE staff. The Draft EFH Assessment is not complete or accurate in its description of the project, analysis of impacts, or identification of EFH and federally managed species impacted. To initiate EFH consultation for these actions, we request a revised EFH Assessment that meets the requirements in Federal regulations (50 CFR 600.920(e)).

Further, we are concerned that this proposed Federal action to permit these mining activities has the potential for significant environmental impacts, and therefore request that USACE consider preparing an Environmental Impact Statement (EIS) under the National Environmental Policy Act (NEPA).

As part of early coordination, we are providing comments to assist USACE and the applicant in preparing an EFH Assessment.



1. EFH Assessment

Any action that may adversely affect EFH requires a clearly referenced EFH Assessment in either a separate document or a support document (50 CFR 600.920(e)). The Federal action agency completes the EFH Assessment and submits it to NMFS. Once an EFH Assessment is received by NMFS, we will then review it and offer EFH Conservation Recommendations, if applicable. The level of detail in an EFH Assessment should be commensurate with the complexity and magnitude of the potential adverse effects of the action.

The Draft EFH Assessment (Exhibit 3) is from 2018 and analyzes suction dredge activity, proposing to remove approximately 484,000 cubic yards of unconsolidated sediments per year from the nearshore. However, the current proposed activity is for suction dredging activities to remove approximately 900,000 cubic yards per year. Thus, the analysis provided in the Draft EFH Assessment is for an action that is very different from the currently proposed action. The species list in the Draft EFH Assessment is also not accurate, and the EFH maps are obsolete. Additionally, the lifetime of the project is described as 5 years in some parts of the application, and 10 years in other parts. In order to accurately assess the project's potential impacts on marine resources, we request the applicant clarify the anticipated lifetime of the project. It is not possible to assess the effects of the project without an accurate description of the size, scope, or duration of the action. We provide detailed suggestions to improve the EFH Assessment below.

1.1 Mandatory Contents of an EFH Assessment

The mandatory contents of an EFH Assessment should be labelled accordingly and include:

- A. A description of the action;
- B. An analysis of the potential adverse effects of the action on EFH and the managed species;
 - Note: in addition to EFH maps and ADF&G's Anadromous Waters Catalogue, text Descriptions from Fishery Management Plans should be used in EFH analyses (link provided in Section 1.2)
- C. the Federal agency's conclusions regarding the effects of the action on EFH;
 - Note: The assessment of impacts to EFH needs to include the nearshore areas adjacent to the impact area.
- D. Proposed mitigation, if applicable.

1.2 EFH References

- Essential Fish Habitat - Alaska Fact Sheet
 - provided to USACE and applicant
- Impacts to EFH from Non-fishing Activities in Alaska
 - <https://repository.library.noaa.gov/view/noaa/17256>
- Frequently Asked Questions: Essential Fish Habitat in Alaska
 - <https://www.fisheries.noaa.gov/alaska/habitat-conservation/frequently-asked-questions-essential-fish-habitat-alaska>
- NOAA National EFH Mapper
 - <https://www.habitat.noaa.gov/protection/efh/efhmapper/>
- NOAA Alaska EFH Mapper
 - <https://www.fisheries.noaa.gov/resource/map/alaska-essential-fish-habitat-efh-mapper>

- Alaska Anadromous Waters Catalog
 - <https://www.adfg.alaska.gov/sf/SARR/AWC/index.cfm?ADFG=main.interactive>
- Text Descriptions in NPFMC’s Fishery Management Plans (FMPs) - under ‘Fisheries’
 - <https://www.npfmc.org/>

2. Resources Affected - More Information Needed

NMFS has preliminarily determined the proposed mining activities have the potential to adversely affect EFH and are likely to have substantial adverse effects on federally managed marine resources. The EFH Assessment should, at a minimum, analyze impacts, including but not limited, to:

- A. Nearshore settling red king crab and potential for impacts such as entrainment of juvenile fish and crab in mining gears.
- B. Significant alterations, loss, or disruption of submerged aquatic vegetation (SAV) due to the deposition of dredged material, disruption of plants, and resuspension of fine sediments.
- C. Disruption of estuarine and riverine migratory corridors used by juvenile and adult salmon.
- D. Disruption or removal of prey resources, including herring, important to federally managed fish species and other marine resources, such as marine mammals.
 - a. More information is available on prey resources at <http://www.adfg.alaska.gov/index.cfm?adfg=commercialbyareanortonsound.main>

2.1 Juvenile Crab

The draft EFH Assessment did not include an analysis of potential impacts to red king crab. Red king crab are found as juvenile settling crab nearshore and as adults, in spawning aggregations, offshore in Norton Sound marine waters. In early spring (as ice retreats), female red king crabs release thousands of crab larvae. Larvae remain pelagic and drift with ocean and wind-driven currents. Red king crab larvae settle as tiny crab enstars along the nearshore of Norton Sound (driven there from net northerly currents). Red king crabs are associated with benthic sediments composed of silt, sand, sandy mud, muddy sand, and gravels. Juvenile red king crabs prefer high-relief habitats and nearshore areas with extensive biogenic assemblages. Additionally, sediment sampling is sparse in Norton Sound and are locally variable in northern areas along the coast (NPFMC 2011). Eventually, red king crab molt several times (a sensitive time for crab) and grow to become adult crab and migrate into deeper waters (Jewett 1999).

To assess impacts to red king crab, we request the EFH Assessment:

- Analyze any potential impacts to nearshore crab habitat adjacent to the project area.
- Assess the presence or absence of red king crab in the nearshore with eDNA sampling.
- Survey project area and adjacent nearshore crab habitat for baseline abundance as well as periodically during and after the project.

2.2 Submerged Aquatic Vegetation

‘Exhibit 2 - Eelgrass Study’ from IPOP’s application describes drone footage from 2018 and 2019 of the project area that “*leaves no doubt that these areas have minimal to no vegetation, being extremely shallow.*” However, the report ‘Bonanza Channel Bathymetric Mapping and Seagrass Study’ from August 13, 2020 states that “*the submerged aquatic vegetation community*

is robust in the study area.” According to that study, approximately 86.2 percent of the study area contains three dominant species of SAV, including the areas where the applicant intends to dispose dredged material - in the mining channel as well as around the access channel in the middle of Bonanza Channel. The applicant believes that their plan to mine with concurrent reclamation would “*establish an environment where wild eelgrass beds may take root.*” We are unaware of evidence to support this assertion.

SAV provides key EFH attributes of food, shelter, oxygen, and protection for spawning and rearing. These important ecological functions are especially vulnerable to coastal development and water quality degradation, and are difficult to replace. In general, we recommend avoiding disposing of dredged material in wetlands, SAV, and other special aquatic sites whenever possible.

To assess impacts to SAV, we request the EFH Assessment:

- Describe how the overall species distribution of SAV is expected to change throughout the life of the project.
- Provide science-based evidence that the applicant’s proposed mining and reclamation process will allow SAV to “*take root.*”
- Incorporate plans for annual monitoring and mapping throughout the life of the project to compare with pre-mining conditions. This includes consistent, scientific SAV surveys that can be repeated annually for comparable data.

2.3 Salmon Migratory Channels

The application states that “*there will be no dredging in, or impacts on, anadromous streams by the proposed mining operation. There are no anadromous fish spawning beds in the Bonanza Channel.*” However, the State of Alaska Anadromous Waters Catalog (AWC) shows anadromous points for coho presence and chum and pink salmon spawning in the project area in Bonanza Channel and upstream in Bonanza River; chum, coho, and pink spawning and coho presence and rearing in Solomon River; and presence of all 5 species of Pacific salmon, including chum and pink spawning, within Safety Sound. The application states: “*There is no evidence that turbidity events in the estuary would form a barrier to the migration of anadromous fish in and out of the River or otherwise adversely affect them, and the scope of operations will leave large undisturbed corridors adequate for passage of salmon and resident fish to bypass the operation, undisturbed.*” However, NMFS asserts that salmon migration is likely to be severely impeded by the applicant’s mining and dredged material disposal plan: Juveniles that usually migrate close to shore are likely to be entrained in mining equipment or otherwise impeded by activity (Wenger et. al 2017), and adults migrating between Safety Sound and Bonanza Channel (returning to natal spawning areas) could be blocked from migration by dredged material disposal near the middle of Bonanza Channel, as well as noise and activity from the mining operation.

The application also states that “*Alaska’s Department of Fish & Game acknowledges a dearth of scientific studies or data concerning the effects of estuarine or marine turbidity on salmonid species and whether or not turbidity would interfere with the migration of anadromous fish (Green, 2019). IPOPOP notes that even if turbidity did periodically impair migration, suction dredging enhances the food supply and water oxygenation.*” In addition to the increased

turbidity's effect on salmon migration in freshwater streams, NMFS notes that increased turbidity also has the potential to impede physiological processes (e.g., photosynthesis, respiration) to aquatic organisms (Arruda et al. 1983, Cloern 1987, Dennison 1987, Barr 1993, Benfield and Minello 1996, Nightingale and Simenstad 2001), thus having adverse impacts on salmon EFH.

We request the EFH Assessment:

- Assess the impacts of the proposed mining activities on salmon migration.
- Provide a plan for nearshore fish passage that could accommodate migration between Safety Sound and Bonanza Channel by adult and juvenile salmonids.
- Provide evidence that supports the applicant's assertion that "*suction dredging enhances food supply and water oxygenation.*"
- Provide evidence and/or scientific studies that relate to the project area for the proposed efficacy of the applicant's proposed turbidity curtain. The information provided is a case study from Maine and seems to be part of a sales brochure.

2.4 Disruption or removal of prey resources

Prey species, such as herring and invertebrates, are critical for EFH species and marine mammals throughout their life history. The physical impacts of the proposed project may result in:

- A. The removal of substrates that serve as habitat for fish and invertebrates
- B. Habitat creation or conversion in less productive or uninhabitable sites, such as anoxic holes or silt bottom
- C. The burial of productive habitats, such as in nearshore disposal sites
- D. The release of harmful or toxic materials either in association with actual mining or in connection with machinery and materials used for mining
- E. The creation of harmful turbidity levels
- F. Adverse modification of hydrologic conditions so as to cause erosion of desirable habitats.
- G. Alteration of behavior of marine organisms as a result of the disposal of mine tailings in or adjacent to the nearshore.

We request the EFH Assessment:

- Assess the impacts of the proposed mining activities on prey species in, or adjacent to, the project area.

3. Impacts from mining operations

The process for mineral extraction involves exploration, mine development, mining (extraction), processing, and reclamation. Each step of this process requires a plan that includes an analysis of potential and likely impacts: tailings and reclamation, dredge material and sedimentation processing, the construction of a boat launch and support facilities, and oil spill prevention, and hazardous materials control plan. Without an adequate analysis of potential adverse impacts to EFH, it is difficult to determine if a mining operation will alter the channel morphology, hydraulics, lateral migration, or natural channel meanders; increase the channel incision and bed degradation; disrupt the pre-existing balance of suspended sediment transport and turbidity; cause direct impacts to fish spawning, nesting habitats, and migrations; disrupt or remove prey resources; simplify in-channel fluvial processes and deposition; alter surface and groundwater

regimes and hydrogeomorphic and hyporheic processes; or cause destruction of the riparian or estuary zones during extraction/construction operations.

3.1 Tailings/ Reclamation Plan

The Applicant's plan is to mine "*with concurrent reclamation, re-establishing the estuary as close to the original pre-mining extent and depth as possible, with temporary dredge material disposal sites reclaimed by the end of the project.*" Tailings from the dredging operation will be re-deposited into the bottom of the estuary.

To assess impacts of the tailings/reclamation plan, we request the EFH Assessment:

- State how long dredged material will remain in 'temporary' material disposal sites.
- Provide science-based evidence and/or precedence that an estuary can be re-established to pre-mining conditions with this type of mining and reclamation process.
 - Consider SAV and other benthic organisms such as juvenile crab and prey species.
- Develop a thorough reclamation plan that describes how the storage and reclamation will affect the benthic environment.

3.2 Dredged Material / Sedimentation Plan

Material disposal and filling activities can directly remove important habitat, alter the habitat surrounding the developed area, and generally have adverse effects on benthic and water column habitats. The discharge of dredged materials or the use of fill material in aquatic habitats can result in the covering or smothering of existing submerged substrates, loss of habitat function, alteration of water quality parameters (i.e., temperature, oxygen concentration, turbidity, and flow), and adverse effects on benthic communities (Limpinsel et al. 2017). The applicant's proposed plan discharges dredged material into an area with SAV and would significantly alter the bathymetry and flow regime of Bonanza Channel.

To assess impacts of dredged materials and sedimentation, we request the EFH Assessment:

- Assess all options, including upland disposal sites, for the disposal of dredged materials and select disposal sites that minimize adverse effects to EFH.
- Conduct a thorough analysis on how the dredged material disposal site in the middle of Bonanza Channel will affect:
 - Bathymetry and flow regimes
 - Benthic environment
 - Salinity - consider saltwater intrusion
- Include a plan to test sediment compatibility for open-water disposal per Environmental Protection Agency and USACE requirements for inshore and offshore, unconfined disposal.
- Include a plan to ensure that disposal sites are properly managed (e.g., disposal site marking buoys, inspectors, the use of sediment capping and dredge sequencing) and monitored (e.g., chemical and toxicity testing, benthic recovery) to minimize impacts associated with dredged material.
- Acquire and maintain disposal sites for the entire project life when long-term maintenance dredging is anticipated.

- Encourage beneficial uses of dredged materials. Consider using dredged material for beach replenishment and construction. When dredging material is placed in open water, consider the possibilities for enhancing marine habitat.
- Develop a thorough erosion control plan.
- Develop models and descriptions for size and duration of sediment plumes caused by dredging and how effective the applicant expects silt curtains to be in reducing plumes.
- Describe long-term impacts on oxygen and other physical characteristics within estuaries.
- Develop a plan for catastrophic failure of silt curtains as a result of storm, storm surge, or other event.

3.3 Boat Launch / Support Facilities

Some maps included in the application include a location for ‘Camp and Boat Launch’ near an offshore upland berm, but no detailed plans are included for construction of a boat launch. The EFH Assessment should include an analysis of the impacts of this facility on EFH.

To assess impacts of the boat launch facility, we request the EFH Assessment:

- Consider use of the boat ramp at Solomon River (included in Action Alternative 2) over construction of a new boat launch facility.
- Provide detailed construction plans for any boat launch facility or other facilities the applicant plans to build.

3.4 Oil Spill Prevention and Response/ Hazardous Materials Contingency Plans

The application does not consider mitigation measures such as an oil spill response plan or hazardous material contingency plan. The EFH Assessment must include an analysis of the potential for oil spills or hazardous material spills and the impacts of a spill on EFH.

To minimize the adverse impacts from oil spills or hazardous material spills, we request the EFH Assessment consider the following measures:

- Develop spill responses strategies for potential oil spills and accidental discharges of metal concentrates or any other mining-related materials in the project area.
- Ensure operators are familiar with updated Alaska’s Geographical Response Strategies (GRSs, <https://dec.alaska.gov/spar/ppr/response-resources/grs/nw-arctic/>) to reduce and minimize risk of an oil and hazardous materials spill.
- Ensure mining facilities are designed to include practical measures for reducing, containing, and cleaning up hazardous material spills.
- Stage oil and hazardous spill response equipment at adequate capacities to respond based on projected volumes of materials stored or handled in the project area.
- Monitor turbidity during dredging operations and cease operations if turbidity exceeds predetermined threshold levels.

4. Conclusion

NMFS looks forward to reviewing the environmental analyses prepared by IPOP and USACE. NMFS is concerned about moving forward without adequate analysis of the impacts of the proposed mining activities on the marine resources in the action area, and we request USACE incorporate these and our previously submitted early coordination comments into the EFH Assessment.

If you have any questions regarding our comments, please contact Lydia Ames at lydia.ames@noaa.gov or (907) 271-5002 or Seanbob Kelly at seanbob.kelly@noaa.gov or (907) 271-5195.

Sincerely,


for James W. Balsiger
Administrator, Alaska Region

CC:

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