

KENAI PENINSULA

SOCIAL & ECONOMIC IMPACTS

SOCIAL:

- There will be social impacts: “Resource extraction activities are primary activities and, as such, have social and economic impacts on communities involved in these activities.”¹
- EIS must include baseline data on health of community with regard to economic health, basic level educational attainment, social problems such as suicide, crime, homelessness, violence and substance abuse, and educational strain.²
- Baseline data and monitoring is needed (a) to measure social impacts of non-sustainable extractive economy and (b) implement mitigation policies regarding social impacts of a large-scale extraction economy.

ECONOMIC:

- The ecotourism economy across the Inlet includes trout fishing, wildlife viewing and sport fishing. This economy has a synergistic relationship with economies on the Peninsula that serve to the same population. Baselines and impacts to the following sectors on the Kenai Peninsula must be assessed:
 - Sport fishing
 - Outdoor recreation
 - The hospitality sector
 - Restaurants
 - Tourist shops

ENERGY

¹ *Social and Economic Impacts of Petroleum “Boom and Bust” Cycles*. By Ruth Seydlitz, Shirley Laska. June 1994. OCS Study MMS 94-0016 University Research Initiative.

² Data has shown that extractive economies impact social fabric: “Overall, the results [of research in Louisiana] imply that community economic health and basic level educational attainment temporarily improve while social problems and educational strain temporarily worsen due to increases in petroleum activity, especially in the highly involved and extraction parishes.” *Social and Economic Impacts of Petroleum “Boom and Bust” Cycles*. By Ruth Seydlitz, Shirley Laska. June 1994. OCS Study MMS 94-0016 University Research Initiative.

NATURAL GAS AVAILABILITY:

- Mine will need 230 MW of power. Homer Electric provides about 75 MW to power the entire Kenai Peninsula, so this will be a big draw.
- Need projections for 20+ years to show that there is enough gas supply for existing Railbelt PLUS 230 MW of new demand from Pebble, on top of additional demands from Donlin Mine and Nikiski LNG Fertilizer Plant.
- Pebble adds to peak demand challenges such as maintaining field pressure, typically in mid-winter. Need field pressure projections at peak demand times with a new 230 MW added plus pumping/compression from new load on west side of Cook Inlet.
- How much will Pebble use existing gas storage on the Kenai (CINGSA)? They should pay for this.
- If CINGSA is required to maintain pressure, how much will this cost? Pebble should pay for this.

PIPELINE IMPACTS:

- Noise, boat strike, habitat loss impacts of construction and operation to protected species, especially listed Cook Inlet Beluga Whales, listed Northern Sea Otter, Humpback Whales; also impacts to scallop beds, and salmon (see individual species impacts under COOK INLET IMPACTS for more).
- Past history of pipeline leaks/cracks/corrosion/collision in Cook Inlet.³
 - Need assessment of impacts of spills. Mitigation plans.
- Issues with new pipeline under Lake Iliamna: freezing, habitat destruction.
- Impacts to salmon and salmon habitat of buried pipeline along road. This road and pipeline are in very wet country, requiring 222 culverts: spill potential here. Need baselines and impact assessment. Is buried pipeline included in dredge and fill volume estimates (not specified)?

POWER PLANT IMPACTS:

- Water temperature impacts resulting from cooling post-combustion. Is this water then put back into local streams and wetlands? Salmon highly sensitive to water temp: How will it effect spawning when water temps are already rising?
- Must assess water temp impacts especially during critical times in salmon life-cycle. Does Pebble have the water rights needed for this? Who does?

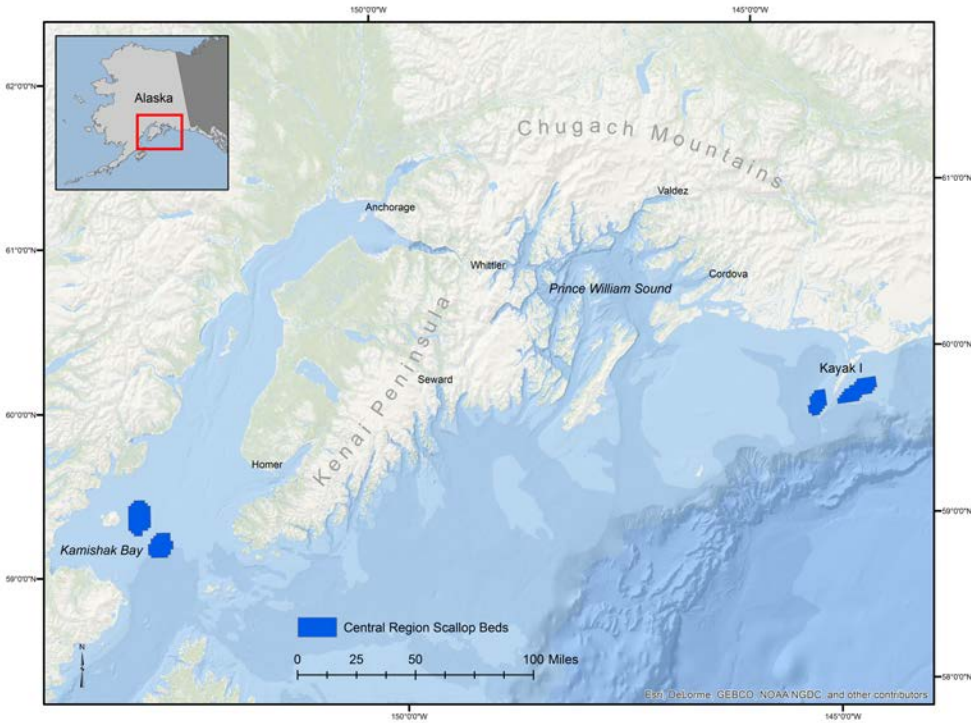
COMMERCIAL FISHERIES

³ Hilcorp natural gas leak in Cook Inlet 2017 went unstopped from February 7- May 20, 2017. This leak was caused by the collision of a boulder with the pipeline. Ice and currents make repairs difficult and dangerous. Scope of impact is unknown.

-
- Impacts to fish that need assessment:
 - mine dust and potential spill impacts to salmon and salmon forage in streams and waters around transportation corridor.⁴
 - habitat damage related to road construction (222 stream crossings)
 - habitat damage and loss related to burying pipeline along transportation corridor
 - discharge of warm water used to cool power plant and compression station
 - contamination related to discharge of ballast water at Amakdedori Creek.
 - impacts related to loss of habitat at Amakdedori Creek.
 - contamination due to spills of fuel and concentrate.
 - 97,500 sockeye salmon (387,000 pounds) harvested from the Chenik District and 28,800 sockeye and 84,500 pink salmon harvested from Bruin Bay subdistrict in 2017.
 - 85 Cook Inlet seine permit holders fish waters impacted by mine infrastructure.
 - Cook Inlet Aquaculture releases 250,000 sockeye fry annually into Kirschner Lake. Fish harvest by common property fleet, but also helps pay for China Poot sockeye, Res bay sockeye and coho, pike control, etc.
 - Natural gas pipeline appear sot cross one of two commercial scallop beds in Cook Inlet: biological and financial impacts must be assessed.
 - The Kamishak Bay sac roe fishery harvest peaked at 4,824 short tons in 1976. Crashed and closed 1979. Kamishak is still herring habitat.
 - How many jobs lost? How much money lost? Broader impacts to economy and ecosystem?

⁴ Project Description states, "Once inside the hold, the container lid will be opened and turned upside down to unload the concentrate into the ship's hold. The container will be lowered as close as possible to the bottom of the hold to minimize the drop distance and the potential for dust generation during ship loading. The empty containers will be cleaned of any residue on the outside while at the port, and then returned to the laydown pad. They will then be returned to the mine site and reused for transporting concentrate." Need impacts and alternatives.

MAP OF COMMERCIAL SCALLOP BEDS IN COOK INLET



From ADF&G Homer Commercial Fisheries Management

NATURAL GAS PIPELINE ROUTE



From the Project Description in the Application for Permit (POA-2017-271)

HOMER AS PORT

- Number and size of vessels during construction phase is not specified in application. We need this information to assess impacts.
- Need to know routes of vessels coming and going from mine during construction and operation.
- How often will vessels enter Kachemak Bay and the Harbor during construction and operation?
- Depending on answers to the above, it may be reasonable to expect that Homer harbor will need to be modified. How? Who will pay for this?

VALUE OF THE WILD

- What is the value of the wilderness to you?
- There are very few wild places left on the planet; the fewer there are, the more valuable they are.
- Based on the National Research Council panel on guidelines for valuation of ecosystem services, it is important to include intrinsic or passive use values (aka “non-use” values) in any net economic accounting of benefits – Just like you need to compensate someone if you want to build a road across their property, compensation should be assessed for the loss of value of the wilderness.
- Values might include: animal and plant habitat; carbon sequestration; subsistence living; cultural preservation; historic preservation; scientific discovery; educational development; personal physical health and growth; personal emotional health and growth; personal spiritual health and growth; community health and quality of life.⁵
- Goldsmith et al. (1998) estimated the existence and bequest value for the federal wildlife refuges in Bristol Bay at \$2.3 to \$4.6 billion per year (1997 dollars). There is considerable uncertainty in these estimates, as indicated by the large range of values. Goldsmith’s estimates for the federal wildlife refuges are based on the economics

⁵ List generated from the Forest Service: https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5352403.pdf

literature concerning what resident household populations in various areas are willing to pay to protect substantial tracts of wilderness.⁶

⁶ EPA's *An Assessment of Potential Mining Impacts on Salmon Ecosystems of Bristol Bay*. Volume 3- Appendices E-J. From Appendix E *Bristol Bay Wild Salmon Ecosystem Baseline Levels of Economic Activity and Values* (Final 2014). EPA 910-R-14-001C | January 2014.