



EPA Bristol Bay Revised Draft Assessment

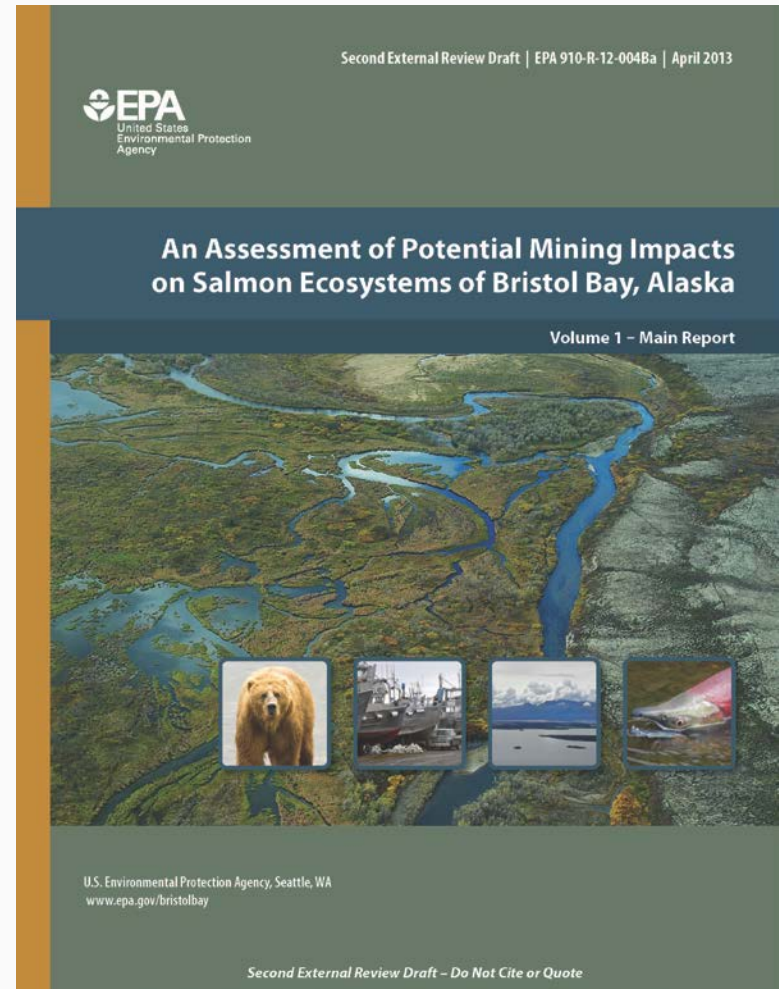
May 14, 2013
Webinar for
Tribal Governments¹

Photo courtesy of Thomas P. Quinn, University of Washington

In this Presentation We Will



- Review the purpose and scope of the revised draft assessment.
- Review the process to date.
- Discuss changes made as a result of tribal input, public comment and peer review.
- Discuss risks that were evaluated
- Talk about next steps



Review Why Did EPA Conduct an Assessment?



See
Chapter 1

- To characterize Bristol Bay resources and understand potential impacts of large-scale mining on the fishery
- As a technical resource on the risks from mining for the public and for federal, state, and tribal governments
- To provide EPA with information to make future decisions.

Review

The Draft Assessment is :



- ✘ **NOT** a regulatory decision
- ✘ **NOT** an assessment of ALL potential impacts from development.
- ✘ **NOT** a field investigation.
- ✓ **INTENDED** to provide information for decision-makers.

Review Scope of the Assessment:



- Potential impacts from **large-scale mining...**
- on **salmon.....**
- and **salmon-related impacts** on wildlife and Alaska Native culture.



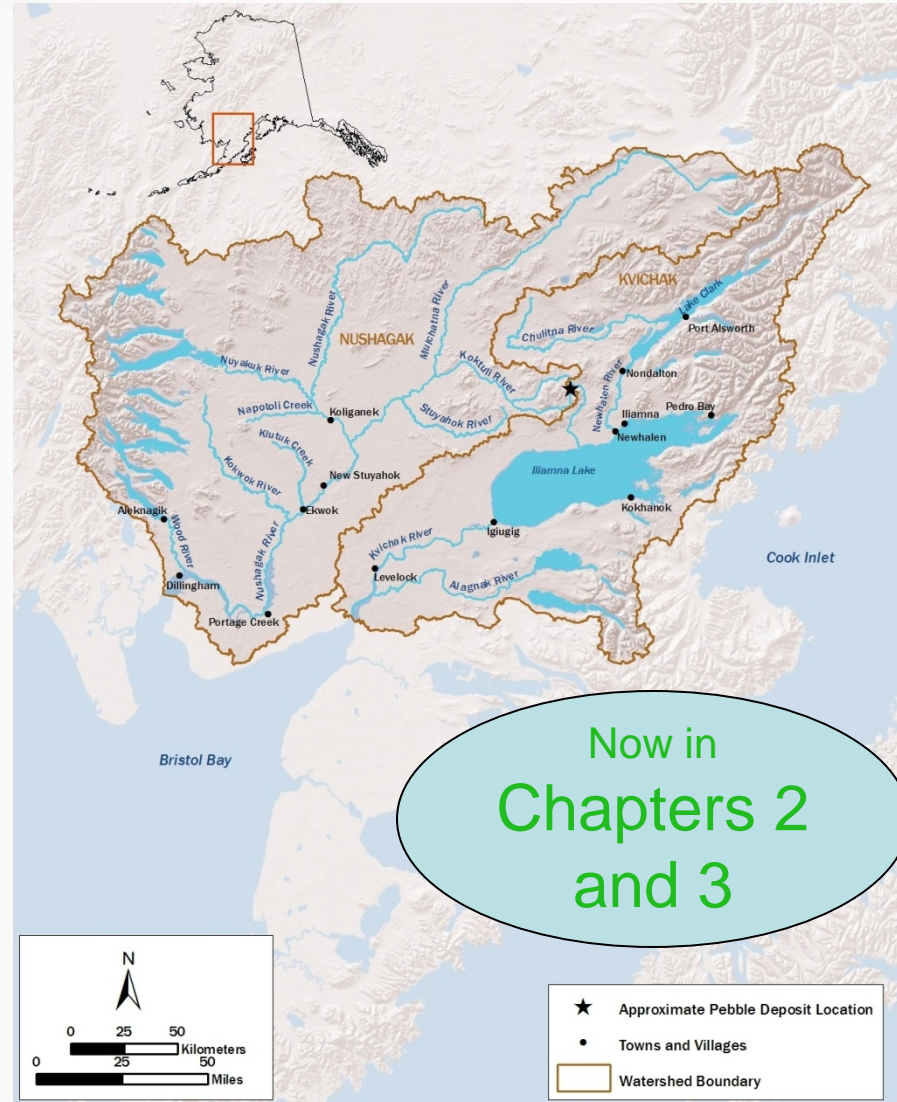
Now in
Chapter 2

Assessment Time Frame and Area



- Development and operation of the mine for (25 – 100 years)
- Post-mining: would need to be monitored and managed forever

Now in Chapter 4



Public involvement and peer review



- EPA has conducted an open and transparent assessment process
- EPA has incorporated traditional knowledge and local information
- Peer review experts reviewed draft to ensure we are using the best available science
- Public comment was invited from May 18 to July 23, 2012
- Peer reviewers met for open deliberations in Anchorage in August

Public Comment Opportunity in Anchorage, Alaska



Anchorage

Public Comment Opportunity in Bristol Bay Communities



Levelock



Igiugig



New Stuyahok



Dillingham

Public Comment Opportunities in Bristol Bay Communities



Naknek



Nondalton

Peer Review



- 12 reviewers representing a wide range of scientific disciplines were selected by an independent contractor
- The peer reviewers met in Anchorage during August, including public input and public viewing of deliberations
- Peer review was posted on the EPA website in November 2012
- Supplemental peer review was requested for scientific literature submitted during the public comment period
- The revised assessment is currently being reviewed by these expert peer reviewers.
- EPA will provide a response to peer review comments when the final assessment report is released

Tribal Consultation and Coordination



- Invited federally recognized tribes to enter government to government consultation with EPA
- Intergovernmental Technical Team
- Tribal Teleconference Calls
- Government to Government meetings with individual tribes or multiple tribes upon request
- Met with tribal corporations to receive their input.
- EPA will continue to be available for tribal government consultation and meetings with tribal corporations.

Information Used To Revise The Assessment



- 233,000 comments from the public by e-mail, mail and public meetings
 - Bristol Bay residents
 - commercial fisherman
 - seafood processors
 - the mining industry
 - sportsmen
 - members of the faith-based community
 - conservation organizations
 - many others
- Expert peer review comments
- Tribal consultation and coordination

What Changed?



- The assessment was reorganized to better reflect the ecological risk assessment approach
- The purpose and scope of the assessment were clarified -
Chapter 2

How the Revised Assessment Is Organized – Volume 1



- Description of the region – Chapter 3
- Type of development – Chapter 4
- Assessment Endpoints – Chapter 5
- Mine scenarios – Chapter 6
- Mine Footprint – Chapter 7
- Water Collection, Treatment and Discharge – Chapter 8
- Tailings Dam Failure – Chapter 9
- Transportation Corridor – Chapter 10
- Pipeline Failures – Chapter 11
- Fish Mediated Effects on Culture and Wildlife – Chapter 12
- Cumulative Effects of Large Scale Mining – Chapter 13
- Integrated Risk Characterization – Chapter 14

How the Revised Assessment Is Organized – Volume 2



Volume 2 – Appendices A - D

- Fishery Resources of the Bristol Bay Region – [Appx A](#)
- Non Salmon Freshwater Fishes of the Nushagak and Kvichak River Drainages – [Appx B](#)
- Wildlife Resources of the Nushagak and Kvichak River Watersheds – [Appx C](#)
- Ecological Knowledge and Cultures of the Nushagak and Kvichak Watersheds – [Appx D](#)

How the Revised Assessment Is Organized – Volume 3



Appendices E – J

- Baseline Levels of Economic Activity and Values – [Appx E](#)
- Bristol Bay Marine Estuarine Processes, Fish and Marine Mammal Assemblages– [Appx F](#)
- Foreseeable Impacts of Road and Pipeline Development – [Appx G](#)
- Geologic and Environmental Characteristics of Porphyry Copper Deposits – [Appx H](#)
- Conventional Mitigation Practices for Mine Design, Construction, Operation and Closure – [Appendix I](#)
- Compensatory Mitigation and Large Scale Hard rock Mining – [Appendix J](#)

What Changed?



- We added details about water loss and water quality impacts on stream reaches, drainage of waste rock leachate to streams, and mine site water balance to the assessment of potential mine impacts - **Chapter 8**
- We added an appendix to describe potential methods for compensating for impacts to wetlands, streams and fish – **Appendix J**

What Changed?: Culture and Traditional Knowledge



- More detailed information on subsistence – **Chapter 5 and 13**
- Added case studies of Alaska resource extraction projects impacts on culture - **Chapter 12**
- Expanded information on impacts to way of life – **Chapter 12**

What changed?: Mine Scenarios



Now in
Chapter 6

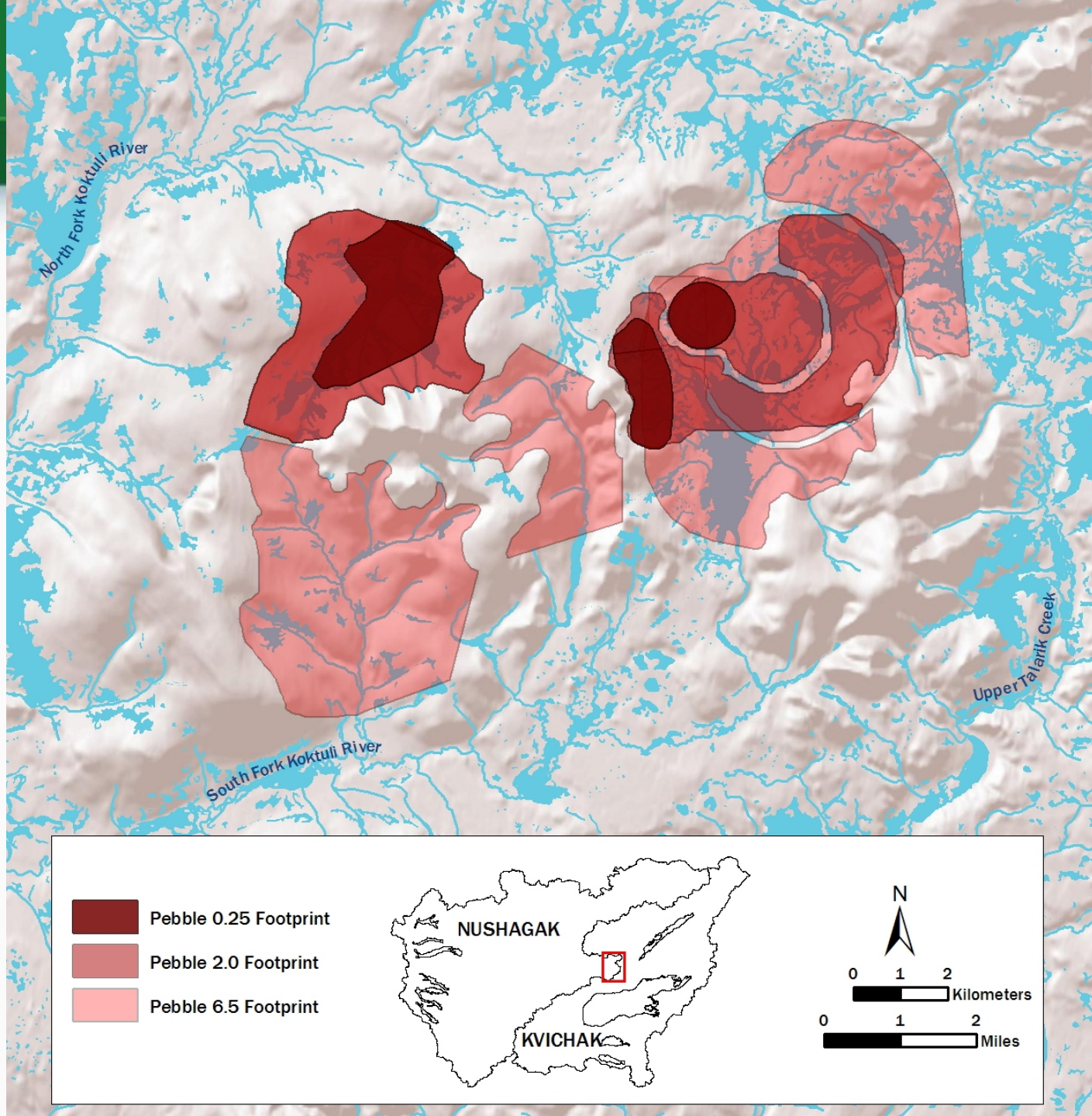
We clarified that the mine scenarios:

- Were based on worldwide industry standards for porphyry copper mining
- Drew from specific preliminary mine plans submitted to state and federal agencies by the Pebble Limited Partnership and Northern Dynasty Minerals and current mining industry information.
- Incorporated modern conventional mining practices and assumed that they are in place and working properly

What Changed?

Mine Scenarios

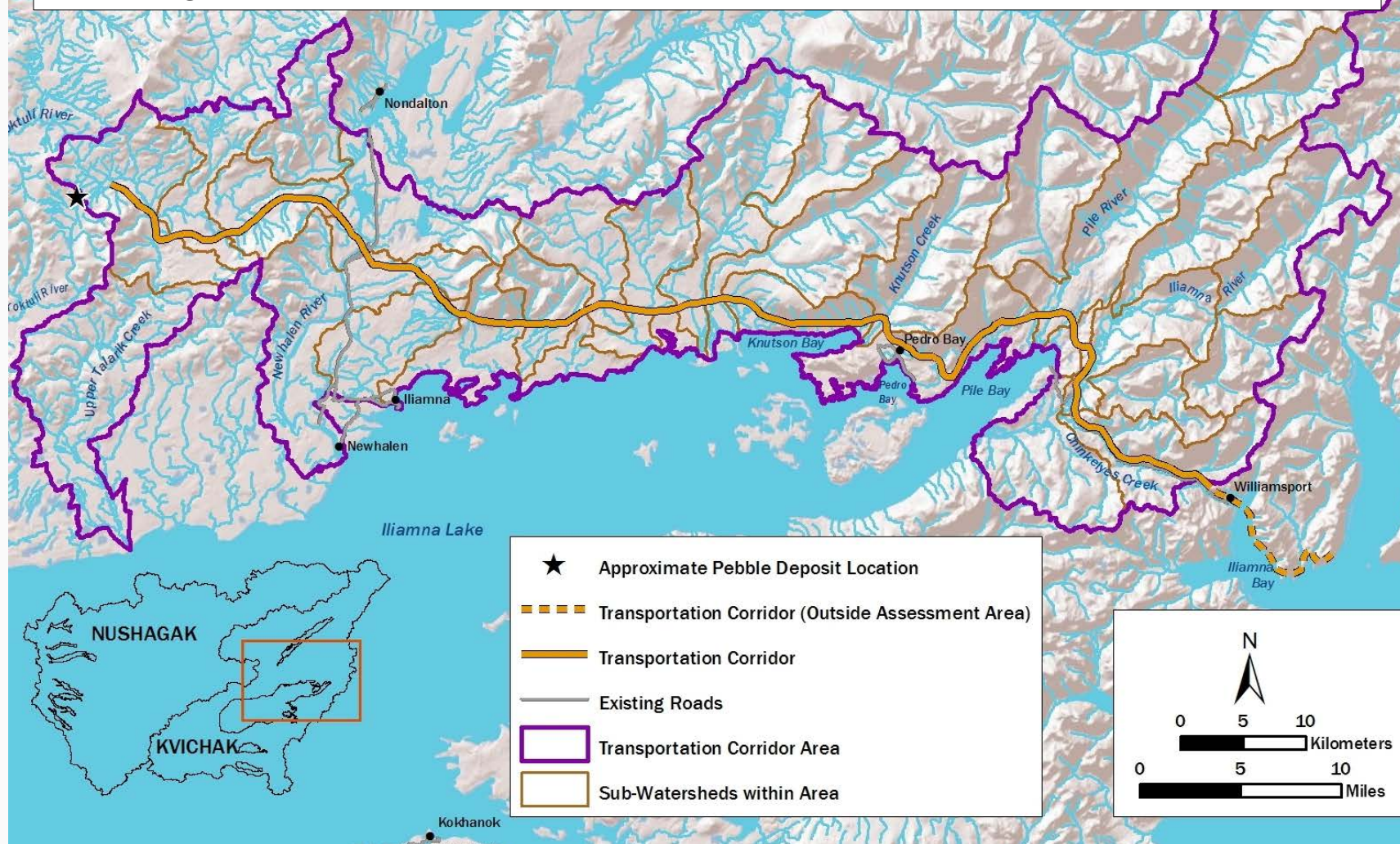
We added a third realistic mine scenario to make sure we could assess risk for a range of mine sizes and operating conditions



What Changed?: Transportation Corridor



We expanded information on the potential transportation corridor to include analysis of diesel pipeline spills, product concentrate spills, truck accidents involving process chemicals and culvert failures. – Chapters 10/11



Findings and Conclusions



Basic conclusions remain the same as in the 2012 assessment. The revised draft reinforces the preliminary findings. Additional risks were evaluated based on public, peer and tribal input.



Risks: Mine Footprint



Assuming there are no failures during normal operations, a single large mine is likely to cause:

- Loss of tens of miles of stream habitats and thousands of acres of wetlands due to mine pit, waste rock, and tailings storage facilities.
- Loss of additional stream habitat downstream of mine site is likely due to changes in hydrology.
- Loss of stream and wetland habitats will adversely impact local fish populations, alter wildlife, and impact subsistence hunting.

See tables in
Exec. Summary
17/18

Now in
Chapter 7

Risks: In the event of accident or failure



Some type of failure is likely during the life of the mine and during the centuries-long post closure period.

- We evaluated **risks from:**

- Leakage of acidic drainage and other contaminated waters from the waste rock, pit walls and tailings to surface water and groundwater. (Likely) – **Chapter 8**
- Water treatment failures. (Likely) – **Chapter 8**
- Failures of road culverts that block streams supporting anadromous fish. (Likely) – **Chapter 10**
- Pipeline failures that release toxic slurry or diesel. (Likely) – **Chapter 11**
- Failures of tailings dams. (Low annual probability) – **Chapter 9**



Cumulative Risk From Large Scale Mining

- Draft assessment considers development of mines at several different mineral deposits.
- Discusses induced development from mining.
- Risks from multiple mines would increase habitat loss.



Chapter 13

Next Steps



EPA's goal is to finalize the assessment in 2013 after:

- Providing opportunity for consultation and coordination with tribes
- Providing opportunity for meeting with ANCSA Corporations
- Considering input from expert peer reviewers
- Reviewing additional public comments
- Preparing response to comments document

We value your feedback on all aspects of the assessment, including:



- Endpoints for Salmon and Other Fishes, Wildlife and Alaska Natives - **Chapter 5**
- Fish mediated effects on wildlife and Alaska Natives – **Chapter 12**
- Cumulative Impacts – **Chapter 13**
- Integrated Risk Characterization – **Chapter 14**
- Ecological Knowledge and Cultures of the Nushagak and Kvichak Watersheds - **Appendix D**

An aerial photograph of a river delta system. The river branches out into numerous smaller channels, creating a complex, maze-like pattern. The surrounding land is covered in dense vegetation, with some areas showing autumnal colors of yellow and orange. The river channels are a deep blue color. The overall scene is a natural landscape with a prominent water feature.

Questions?

For More Information



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