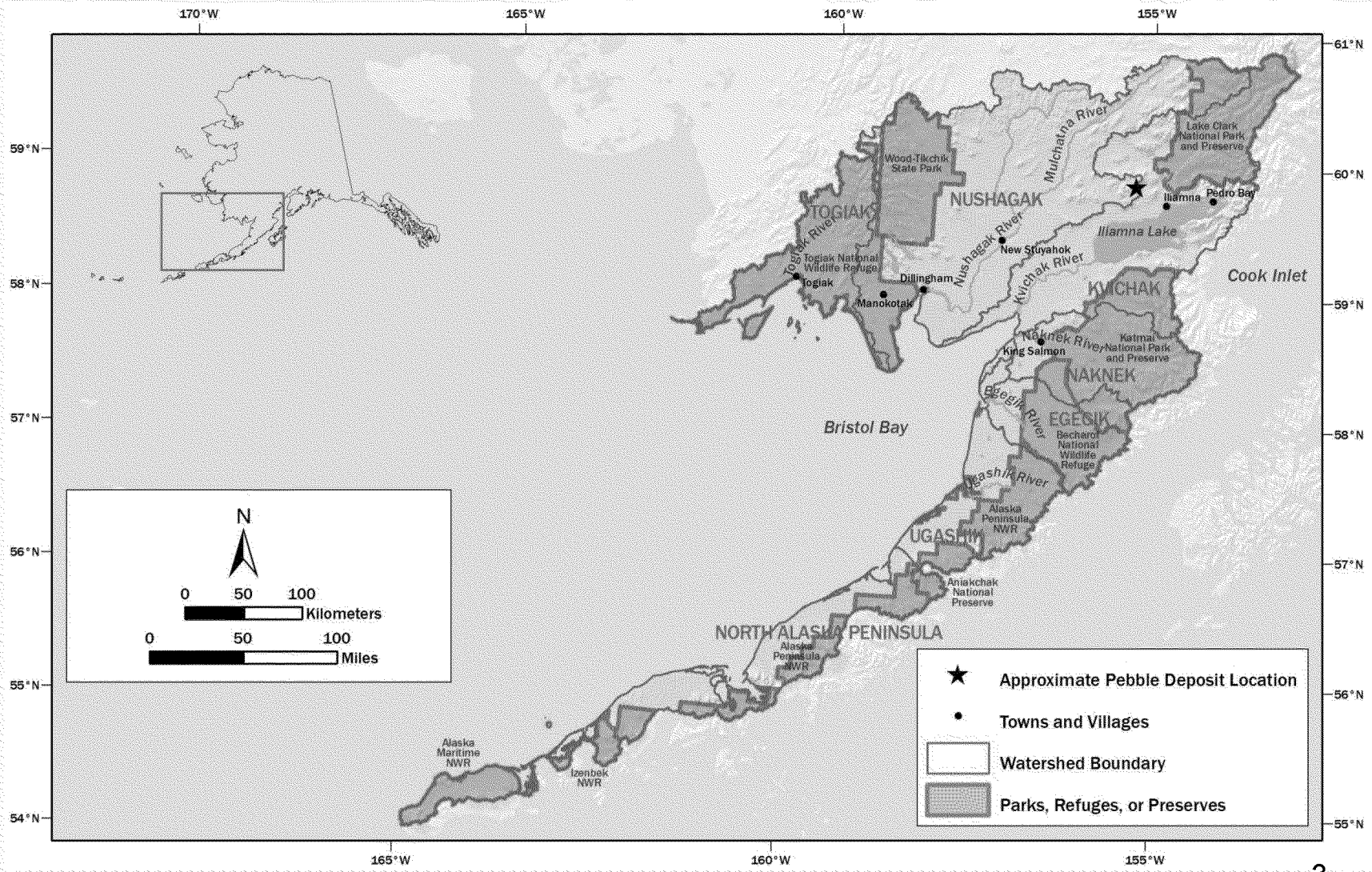
Bristol Bay Watershed Assessment & CWA 404(c) Proposed Determination: *Pebble Deposit Area, Southwest Alaska*

February 2017

Overview

- History
- Science
  - Bristol Bay Watershed Assessment
- Regulatory Response
  - Clean Water Act Section 404(c) Proceeding
- Litigation

Bristol Bay Watershed



Pre-Assessment History

- Since 2001, Northern Dynasty Minerals (NDM) and Pebble Limited Partnership (PLP) have been exploring mine development at Pebble deposit
- EPA has worked with NDM/PLP since 2004 in pre-application phase
- 2010 – EPA received competing sets of requests
  - Requests to immediately use Clean Water Act § 404(c) authority to protect Bristol Bay fishery from impacts of large-scale mining, specifically Pebble Mine
  - Requests to wait for mine to be reviewed during § 404 permit review process
- Instead in February 2011, EPA initiated scientific assessment to inform any future decision-making

EPA-4880-000875

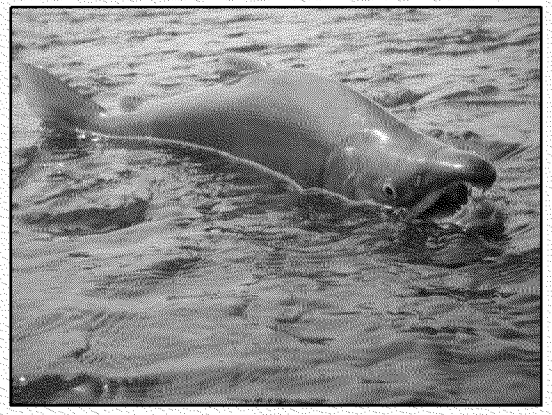
Bristol Bay Watershed Assessment

- Scientific assessment independent of a regulatory process
- Conducted pursuant to Clean Water Act § 104
- Conducted by: Office of Research and Development, Office of Water, Region 10

Bristol Bay Watershed Assessment

- Purpose:
  - Characterize the biological and mineral resources of the Bristol Bay watershed
  - Increase understanding of the potential impacts of large-scale mining on the region's fish resources
  - Inform future decision-making

- Scientific Ecological Risk Assessment evaluating potential impacts associated with:
  - Large-scale mine construction and operation
  - Accidents and failures



- Three-year scientific assessment effort
  - Independent external peer review
  - Stakeholder and public engagement
    - 8 public meetings
    - 2 rounds of public comment – over 1.1 million comments
  - Tribal consultations

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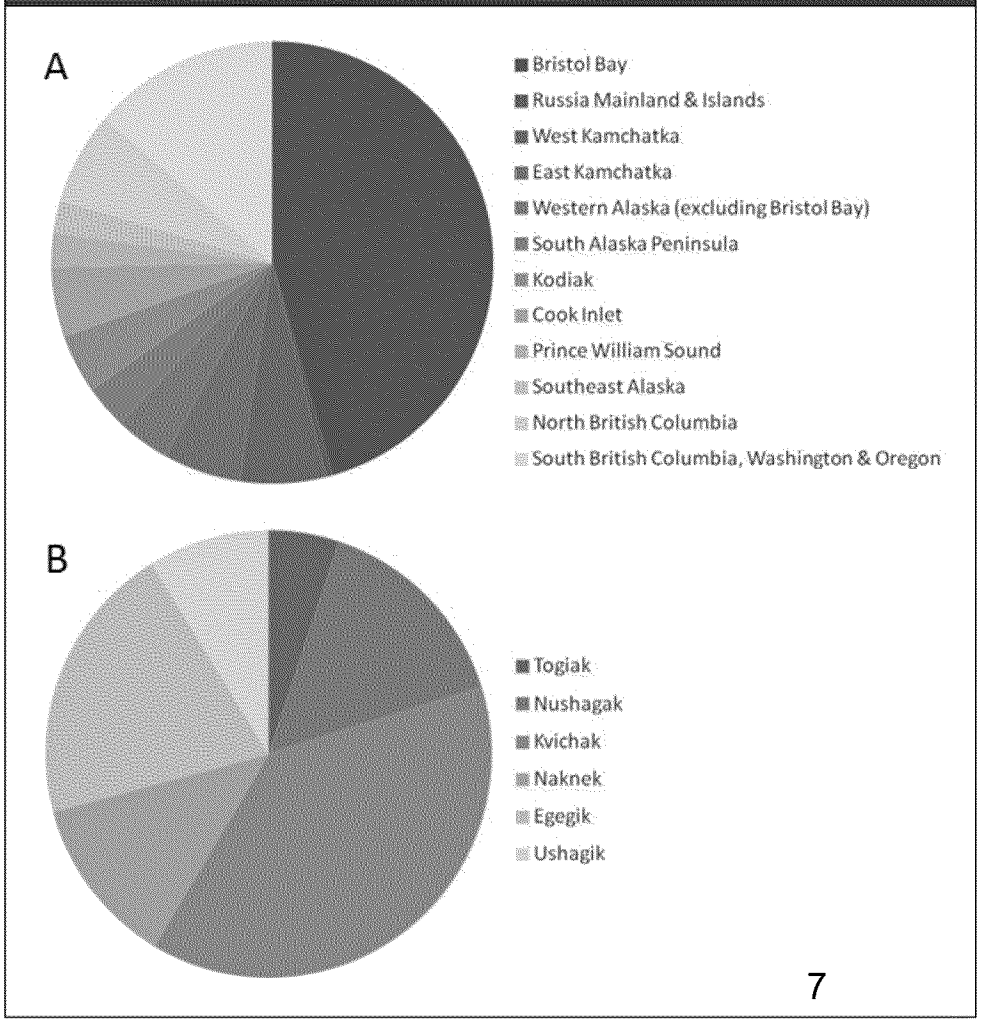
Bristol Bay Watershed Assessment

- Fishery resources:
  - Bristol Bay produces almost half of world's sockeye salmon
  - Kvichak watershed world's largest producer of sockeye salmon
  - Nushagak watershed frequently at or near world's largest producer of Chinook salmon
- Fishery supports:
  - 14,000 jobs, generates $480 million in direct economic expenditures and sales
  - 4,000-year-old subsistence fishery for Alaska Natives

Figure ES-3. Total sockeye salmon run sizes by (A) region and (B) watersheds within the Bristol Bay region (as defined in Chapter 2 of the assessment). Values are averages from 1956-2005 and 1956-2010 for A and B respectively (see Appendix A, Tables A2 and A3).



Bristol Bay Watershed Assessment

- Mining scenarios informed by Northern Dynasty Minerals plans submitted to U.S. Securities and Exchange Commission (SEC) in 2011
- Uses 3 potential stages of mine development at Pebble deposit
  - 0.25-billion-ton mine (worldwide median size porphyry copper deposit)
  - 2.0-billion-ton mine (smallest mine size proposed by NDM to SEC)
  - 6.5-billion-ton mine (largest mine size proposed by NDM to SEC)
- NDM says deposit is nearly 12 billion tons

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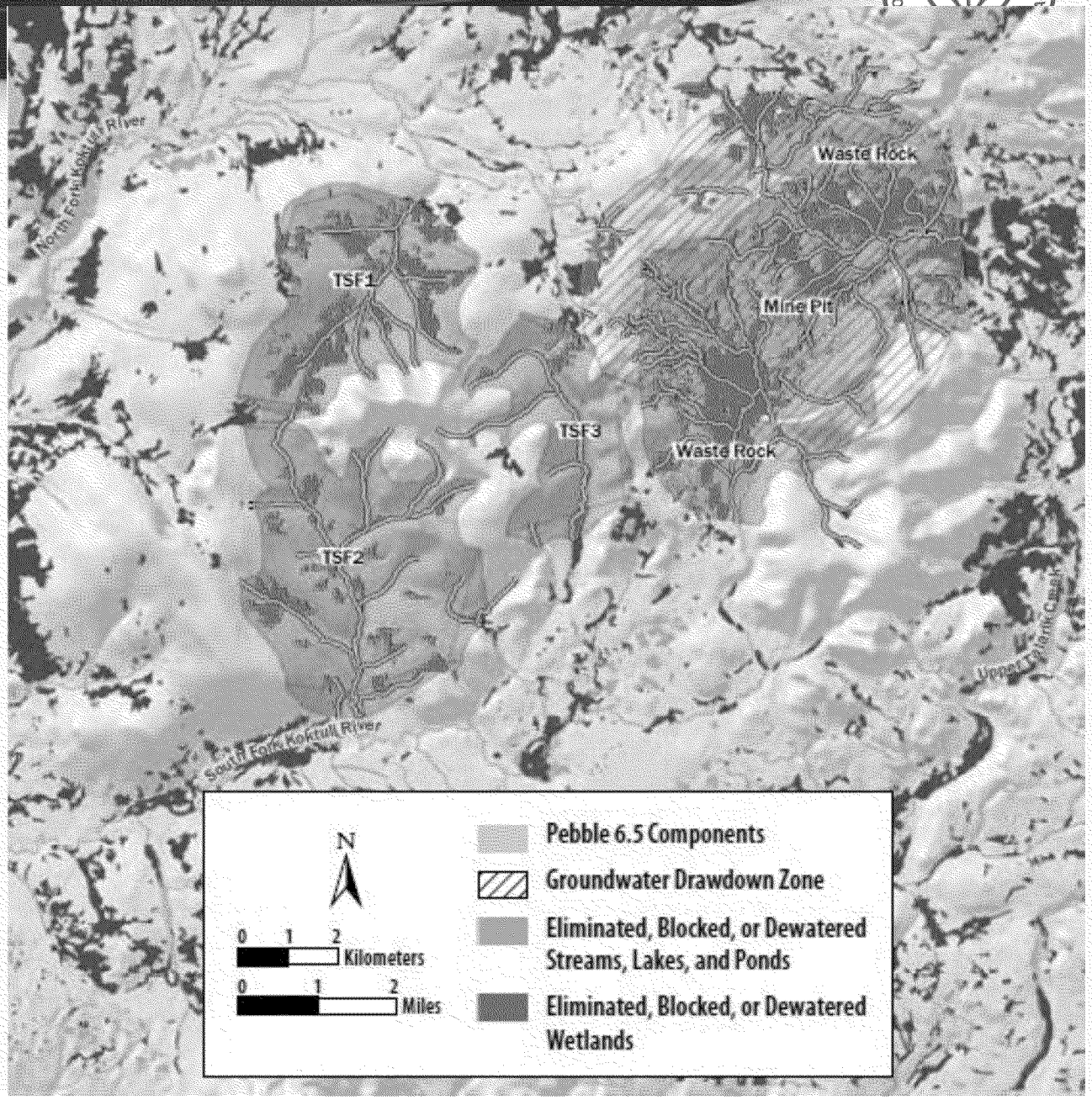
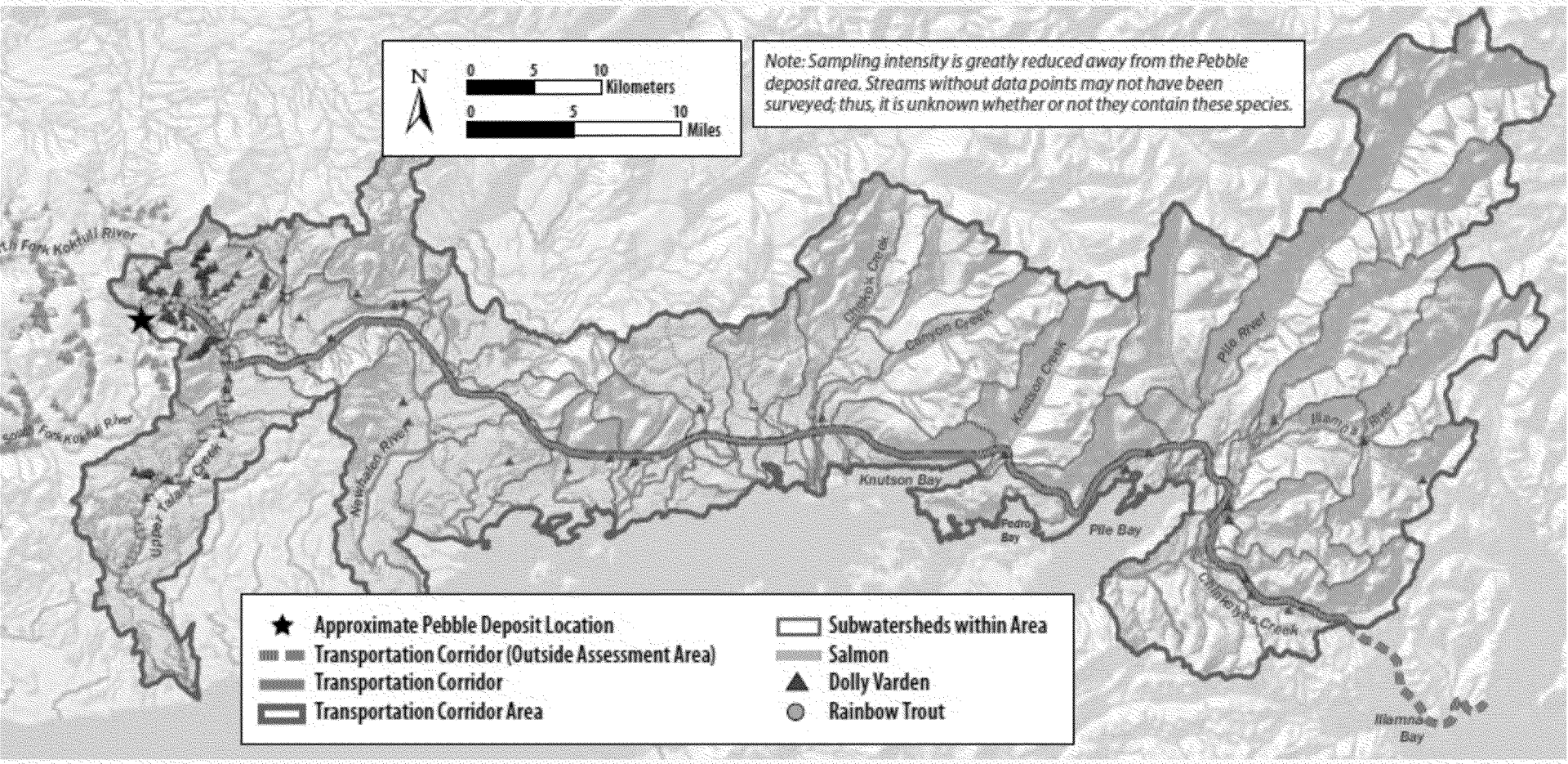
Impacts from Mining



Impacts from Mining



Impacts from Routine Operations

- **Mine footprint** would eliminate, block, or dewater 38 to 151 km (24 to 94 miles) of streams.
- **Mine footprint** would cause loss of 4.5 to 18 square km (1,200 to 4,900 acres) of wetlands and 0.4 to 1.8 square km (100 to 450 acres) of ponds and lakes.
- **Streamflow alterations** exceeding 20% would adversely affect habitat in an additional 15 to 53 km of streams.
- **Leakage** of tailings and waste rock leachates during routine operations would result in instream copper levels sufficient to cause direct effects on fish and invertebrates in 21 to 82 km of streams.

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Impacts Along Transportation Corridor

- **Transportation corridor** would cross approximately 64 streams, many supporting anadromous fish, and multiple wetlands.
- **Risks to salmon from blocked culverts** is very likely, especially after mine closure.
- **Chemical spills** from truck accidents could be very likely during mine operation.
- **Pipeline failures** are very likely and would release product concentrate, diesel fuel, or return water into streams or wetlands.

Upper Talarik Creek, which flows into Iliamna Lake.

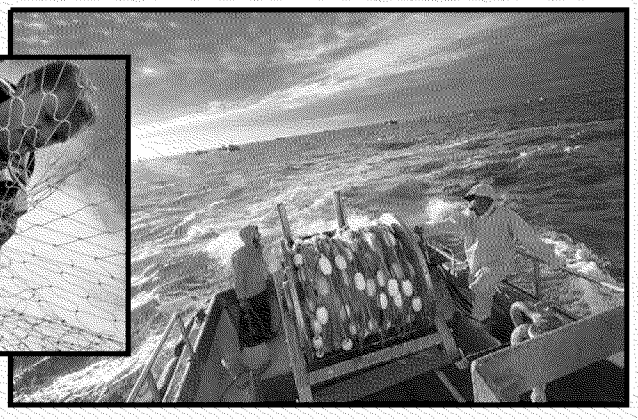
Clean Water Act Section 404

- § 404(a) authorizes the Secretary of the Army to issue **permits**
  - For the discharge of dredged or fill material into waters of the U.S. at specified disposal sites

- Subject to § 404(c), § 404(b) directs the Secretary of the Army to apply **environmental criteria** developed by EPA when specifying disposal sites
  - § 404(b)(1) Guidelines [40 CFR Part 230]

Section 404(c)

- Authorizes EPA to prohibit, deny or restrict (withdraw) the placement of dredged or fill material at defined sites in waters of the U.S
- Unacceptable adverse effect(s) on:
  - Municipal water supplies; or
  - **Shellfish beds and fishery areas**; or
  - Wildlife; or
  - Recreation areas.



Final 404(c) Actions Since 1972

Year Finalized	COMPLETED 404(c) Actions	Resources Protected
2011	Spruce No.1 Surface Mine, WV	**6.6 miles** of high-quality headwater streams – some of the last remaining high-quality habitat in the Coal River basin
2008	Yazoo Backwater Pumps, MS	**67,000 acres** of highly productive wetlands in the Lower Mississippi Delta, including bottomland hardwood forests
1990	Two Forks Reservoir, CO	**30 miles** of South Platte River, including 14 miles of State Designated "Gold Medal" trout stream
1990	Big River Reservoir, RI	**575 acres** of exceptional and diverse natural wetlands with habitat for an assemblage of wildlife species
1989	Ware Creek Reservoir, VA	**425 acre** mosaic of high quality aquatic resources in Chesapeake Bay watershed including critical fish nurseries
1988	Lake Alma, GA	**1,000 acres** of bottomland hardwood wetlands providing important habitat for an assemblage of species
1988	Henry Rem Estates, FL	**432 acres** of Everglades wetlands with significant fish & wildlife habitat including potential Florida panther habitat
1988	Russo Development Corp., NJ	**57.5 acres** of wetlands within the Atlantic Flyway used by a multitude of State threatened and endangered species
1986	Attleboro Mall (Sweeden's Swamp), MA	**45 acres** of New England red maple forested swamp including high-quality habitat for a variety of wildlife
1985	Bayou aux Carpes (Creppel), LA	**3,000 acres** of essential wetlands including habitat for osprey and American alligator
1985	Jack Maybank, SC	**900 acres** of coastal intertidal marsh including valuable spawning and nursery grounds for blue crab and shrimp
1984	M.A. Norden Co., Inc., AL	**25 acres** of forested and emergent wetland - one of the last remaining wetlands in the Mobile area
1981	North Miami, FL	**103 acres** of wetlands and other aquatic resources including essential nursery grounds for marine fish and invertebrates

Pebble Deposit 404(c) Process

Step 1

- 2/28/14**: Initiation by EPA Region 10 – "15-day letter"**
- Consulted with Corps, NDM/PLP, and State

Step 2

- 7/18/14: **Proposed Determination** released (PD) by EPA Region 10
- 8/12-15/14: 7 public hearings in Alaska
- Comment period closed 9/19/14

Step 3

- EPA Region 10 will withdraw PD *or* prepare **Recommended Determination** (RD)

Step 4

- **Final Determination (FD) by EPA Assistant Administrator for Water**
- Consult again with Corps, NDM/PLP, and State
- Within 60 days of receipt of RD, issue FD affirming, modifying, or rescinding RD

What Are the Proposed Restrictions?

Restrict the discharge of dredged or fill material related to mining the Pebble deposit into waters of the U.S. that would, individually or collectively, result in the following:

1. **Loss of Streams.**
   a. The loss of 5 or more linear miles of streams with documented anadromous fish occurrence; **or**
   b. The loss of 19 or more linear miles of streams where anadromous fish are not currently documented, but that are tributaries of streams with documented anadromous fish occurrence; **or**

2. **Loss of Wetlands, Lakes, and Ponds.** The loss of 1,100 or more acres of wetlands, lakes, and ponds contiguous with either streams with documented anadromous fish occurrence or tributaries of those streams; **or**

3. **Streamflow Alterations.** Streamflow alterations greater than 20% of daily flow in 9 or more linear miles of streams with documented anadromous fish occurrence

EPA-4880-000888

Status of Proposed Determination

- EPA Region 10 received approximately 670,000 written public comments and oral testimony from over 300 public hearing participants

- On November 25, 2014, the United States District for the District of Alaska entered a preliminary injunction in *Pebble Limited Partnership v. EPA*

Response to Proposed Determination

- Challenge to EPA's Statutory Authority to Act Pre-Permit
  - Case dismissed for lack of final agency action. Dismissal upheld by 9th Circuit.
- Office of Inspector General (OIG) Review
  - 1/13/16: 17-month in-depth evaluation found no evidence of bias or a pre-determined outcome, and that all assessment policies and procedures were appropriately followed, but noted one possible misuse of position by a former Region 10 employee who commented on tribal petitions from outside parties prior to submission.
- Freedom of Information Act (FOIA) Litigation
  - Court granted summary judgment on adequacy of search
  - Court upheld majority of redactions
  - Request for attorneys' fees currently before court
    - Paused until March 20, 2017
- Broad FOIA Requests
  - Over 550K documents
  - Paused until March 20, 2017
- Federal Advisory Committee Act (FACA) Litigation

FACA Case

- Allegations of unauthorized “de facto” federal advisory committees providing advice to the Agency in violation of the Federal Advisory Committee Act (FACA)

- Case about Agency’s contacts with third parties and use of contractors and SEEs, primarily during development of the Assessment

Status of FACA Case

- DOJ and EPA actively considering settlement and mediation.

- Currently stayed until 3/20/17 "*so that the parties may continue to pursue ways to resolve this case without the press of litigation, including through the continued exploration of mediation.*"

Ex. 5 - Attorney Work Product

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Options – Before March 20, 2017

Ex. 5 - Attorney Work Product