



DEPARTMENT OF THE ARMY
ALASKA DISTRICT, U.S. ARMY USACE OF ENGINEERS
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JBER, AK 99506-0898

CEPOA-ZA

15 April 2024

RECORD OF DECISION

SUBJECT: Review of the application by Pebble Limited Partnership (POA-2017-00271) in light of the prohibitions and restrictions imposed by the *Final Determination of the U.S. Environmental Protection Agency Pursuant to Section 404(c) of the Clean Water Act – Pebble Deposit Area, Southwest Alaska (January 2023)*

1. Background

a. Project Description: In 2017, the United States Army Corps of Engineers (USACE), Alaska District (POA) Regulatory Division received an application from applicant Pebble Limited Partnership (PLP) for a Department of the Army (DA) authorization to develop a copper, gold and molybdenum mine in the headwaters of the tributaries to Iliamna Lake and ultimately, Bristol Bay, approximately 200 miles southwest of Anchorage. The closest communities would be the villages of Iliamna, Newhalen, and Nondalton, each approximately 17 miles from the deposit. The proposed project consisted of four main components: the mine site, the Diamond Point port, the transportation corridor, and the natural gas pipeline that was proposed to cross Cook Inlet.

USACE, as the lead federal agency, determined that an Environmental Impact Statement (EIS) level of analysis would be required. POA conducted an extensive, multi-year EIS process with cooperating agencies and the public.

Throughout the application review process and development of the accompanying EIS, PLP revised its application consistent with proposed avoidance and minimization measures. In the final revised June 2020 Mine Plan, PLP proposed to develop the Pebble deposit as a surface mine at which 1.3 billion tons of ore would be mined over 20 years. The 2020 Mine Plan consisted of four primary elements: (1) the mine site situated in the South Fork Kaktuli River (SFK), North Fork Kaktuli River (NFK), and Upper Talarik Creek (UTC) watersheds; (2) the Diamond Point port; (3) the transportation corridor, including concentrate and water return pipelines; and (4) the natural gas pipeline and fiber optic cable. The first element, a fully developed mine site, was proposed to include an open pit, bulk tailings storage facility (TSF), pyritic TSF, a 270-megawatt power plant, water management ponds (WMPs), water treatment plants (WTPs), milling and processing facilities, and supporting infrastructure. Under the 2020 Mine Plan, PLP would proceed with four distinct mine phases: construction, operations (also referred to as production), closure, and post-closure. The construction period would last approximately four years, followed by

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20 years of operation. Closure, including physical reclamation of the mine site, was projected to take approximately 20 years. Post-closure activities, including long-term water management and monitoring, was proposed to last for centuries.

POA, with input from the U.S. Fish and Wildlife Service and U.S. Environmental Protection Agency (EPA) determined that the Least Environmentally Damaging Practicable Alternative (the 2020 Mine Plan) would cause significant degradation to the Kaktuli River Watershed. The USACE determined the project would also be contrary to the public's interest and the USACE issued a Record of Decision in November 2020 denying the permit application.

b. Project Purpose: To produce commodities from the Pebble Deposit.

c. Project Impacts (as stated in the Record of Decision (ROD) issued November 2020): “Direct and indirect impacts caused by discharges into aquatic resources at the mine site totaling 2,825 acres of wetlands, 132.5 acres of open waters, and 129.5 miles of streams. Direct and indirect impacts associated with the transportation corridor and port site total 460 acres of wetlands, 231.7 acres of open waters, and 55.5 miles of streams.”

d. Appeal: In January 2021 the appellant (by definition in 33 CFR 331, an appellant is an “affected party”), Pebble Limited Partnership, LLC, filed an appeal of the decision to deny the permit application. An appeal conference was held in July 2022. In April 2023, the USACE Pacific Ocean Division (POD) issued an Administrative Appeal Decision (AD) remanding certain issues raised in the appeal back to POA for reconsideration.

2. EPA Decision

In January 2023, prior to the issuance of POD's AD, the EPA issued their *Final Determination of the U.S. Environmental Protection Agency Pursuant to Section 404(c) of the Clean Water Act – Pebble Deposit Area, Southwest Alaska (January 2023)*. With this 404(c) determination (also referred to as “veto”), the EPA “[prohibited] the specification of and restrict[ed] the use for specification of certain waters in the Bristol Bay watershed as disposal sites for certain discharges of dredged or fill material associated with development of a mine at the Pebble deposit.” The memorandum transmitting the AD specifically stated: “The EPA's veto decision must be evaluated to determine its effect on how POA proceeds in this matter.” The EPA decision included two parts, a Prohibition and a Restriction.

a. Prohibition: The EPA determined that the discharges of dredged or fill material associated with the construction and routine operation of the mine site at the Pebble deposit as identified in the applicant's 2020 Mine Plan would have “unacceptable

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adverse effects on anadromous fishery areas in the SFK and NFK watersheds”. The 404(c) determination identifies the following aquatic resources losses and streamflow changes that would result from the proposed discharges associated applicant’s 2020 Mine Plan, based on information EPA gathered in the applicant’s DA permit application, the FEIS, and the ROD:

(1) The loss of approximately 8.5 miles (13.7 km) of documented anadromous fish streams (Section 4.2.1 of the 404(c) determination).

(2) The loss of approximately 91 miles (147 km) of additional streams that support anadromous fish streams (Section 4.2.2 of the 404(c) determination).

(3) The loss of approximately 2,108 acres (8.5 km²) of wetlands and other waters that support anadromous fish streams (Section 4.2.3 of the 404(c) determination).

(4) Adverse impacts on approximately 29 additional miles (46.7 km) of anadromous fish streams resulting from greater than 20 percent changes in average monthly streamflow (Section 4.2.4 of the 404(c) determination).

EPA also determined that any other development to mine the Pebble deposit within the SFK and NFK watersheds which would result in discharges of dredged or fill material of the same or greater levels of loss or streamflow changes identified above would have also have unacceptable adverse effects on anadromous fishery areas in these watersheds, because such discharges would involve the same aquatic resources evaluated under the applicant’s 2020 Mine Plan. EPA found that each of the losses or streamflow changes independently would have unacceptable adverse effects on anadromous fishery areas, so future proposals to construct and operate a mine to develop the Pebble deposit that result in any one of the losses or streamflow changes detailed by EPA would be subject to the prohibition.

The Defined Area for Prohibition identifies the geographic boundary within which the prohibition applies to waters of the United States. EPA identified the Defined Area for Prohibition (Figure 5-1 of the 404(c) determination) by outlining a contiguous area around the portions of the mine site footprint identified by PLP (2020b) that are located within the SFK and NFK watersheds.

The Defined Area for Prohibition encompasses certain headwaters of the SFK and NFK watersheds. The Defined Area for Prohibition is approximately 24.7 square miles (63.9 km²) and is delineated by the entirety of the Public Land Survey System (PLSS) quarter sections where mine site discharges were proposed by PLP (2020b) within the headwaters of the SFK and NFK watersheds. Figure 5-1 of the *Final Determination of the U.S. Environmental Protection Agency Pursuant to Section 404(c) of the Clean*

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Water Act – Pebble Deposit Area, Southwest Alaska (January 2023), and the description of the Defined Area for Prohibition following Figure 5-1, detail the exact area of the prohibition.

b. Restriction: EPA determined that discharges of dredged or fill material associated with future proposals for developing the Pebble deposit would “have unacceptable adverse effects on anadromous fishery areas (including spawning and breeding areas) anywhere in the SFK, NFK, and UTC watersheds if the adverse effects of such discharges are similar or greater in nature and magnitude to the adverse effects of the 2020 Mine Plan described in Sections 4.2.1 through 4.2.4” of the 404(c) determination.

Discharges of dredged or fill material within the Defined Area for Restriction associated with developing the Pebble deposit would individually be subject to the restriction if such discharges, from a single proposal, would result in any one of the losses or streamflow changes identified by the EPA (Section 2.a.1-4 under the “Prohibition” section above). Discharges of dredged or fill material within the Defined Area for Restriction associated with developing the Pebble deposit would cumulatively be subject to the restriction if the effects of such discharges together with other discharges within the Defined Area for Restriction associated with developing the Pebble deposit combine to result in any one of the above losses or streamflow changes in the SFK, NFK, and UTC watersheds. In evaluating whether the restriction would apply on a cumulative basis, EPA stated that they would consider losses and streamflow changes associated with developing the Pebble deposit that have occurred or that are authorized to occur. The restriction would apply to discharges of dredged or fill material associated with developing the Pebble deposit cumulatively, whether multiple proposals are submitted by the same entity, such as when discharges are proposed over multiple phases of the same project, or by different entities.

The Defined Area for Restriction identifies the geographic boundary within which the restriction applies to waters of the United States. EPA has determined that certain discharges of dredged or fill material associated with developing the Pebble deposit will have unacceptable adverse effects on anadromous fishery areas anywhere within the SFK, NFK, and UTC watersheds. EPA identified the Defined Area for Restriction by outlining a contiguous area within the boundaries of the SFK, NFK and UTC watersheds that includes the areas that have the potential to be disposal sites for the discharge of dredged or fill material associated with developing the Pebble deposit.

The Pebble deposit is wholly located within the SFK, NFK, and UTC watersheds. To identify areas within the boundaries of the three watersheds with the potential to be a disposal site for the discharge of dredged or fill material associated with developing the Pebble deposit, EPA identified the location of mine claims in and around the Pebble deposit within the three watersheds. Alaska state law specifically recognizes

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the opportunity for mineral claims to be converted to leases to use the State's surface land for mining activity, including for a mill site, tailings disposal, or another use necessary for mineral development, making the surface lands above mineral claims areas with potential to be disposal sites for the discharge of dredged or fill material associated with mining. Accordingly, the areas within the boundaries of the three watersheds where mine claims are currently held and areas where mine claims are available represent locations that have the potential to be a disposal site for the discharge of dredged or fill material associated with developing the Pebble deposit. The Defined Area for Restriction encompasses certain headwaters of the SFK, NFK, and UTC watersheds. The size of the Defined Area for Restriction is approximately 309 square miles (800 km²). Figures 5-2 & 5-3 of the 404(c) determination, and the description of the Defined Area for Restriction prior to Figures 5-2 and 5-3 detail the exact area of the restriction.

3. 2020 Mine Plan Hydrology

The applicant's proposed 2020 Mine Plan straddles a large swath of watersheds for the entirety of the proposed project, as depicted in the attached maps. The hydrology for each portion of the applicant's 2020 Mine Plan are detailed below.

a. Mine Site Hydrology: The Pebble Deposit straddles the upper reaches of the SFK and UTC drainages. The headwaters of the NFK are immediately north of the Pebble Deposit. The SFK drains south from the Pebble Deposit area, and then west and northwest, where it joins the NFK, which flows west from the Pebble Deposit area. At the confluence, these streams form the Koktuli River, which flows into the Mulchatna River, a tributary to the Nushagak River. The Nushagak River flows into Bristol Bay near the city of Dillingham. The UTC flows south from the Pebble Deposit area and then southwest into Iliamna Lake, which is the source of the Kvichak River.

(1) Koktuli River: The NFK and SFK are two of 24 tributaries of similar or larger size in the 315-mile-long Nushagak River system. The north and south forks of the Koktuli River flow for 36 and 40 miles, respectively, to the main stem Koktuli River. The Koktuli River flows for approximately 39 miles before entering the Mulchatna River, which flows another 44 miles before entering the Nushagak River. The Nushagak River flows about 110 miles before it empties into Bristol Bay southwest of Dillingham. The total distances from the NFK and SFK headwaters to Bristol Bay are 228 miles and 232 miles, respectively.

(2) Kvichak River: The UTC drainage¹ is in the 225-mile-long Kvichak River system. The headwaters of the Kvichak River system are approximately 109 miles

¹ As stated in the FEIS and used here in the same context: "drainage basins (synonymous in this document with catchments, watersheds, and sub-catchments)". FEIS Page 3.16-1.

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northeast of the Pebble Deposit at the source of the Tlikakila River at Lake Clark Pass. UTC flows approximately 39 miles to Iliamna Lake. The lake empties into the Kvichak River, which flows approximately 70 miles to Bristol Bay. The total distance from the headwaters of UTC, across the lake, and to Bristol Bay is approximately 140 miles.

b. Transportation Corridor Hydrology: The 80-mile-long access corridor crosses numerous streams within the Bristol Bay and Cook Inlet watersheds. The corridor originates in the at the mine site and traverses along the north shore of Iliamna Lake. Both are within the greater Bristol Bay watershed. The corridor terminates at Diamond Point in the Tuxedni-Kamishak Bays watershed of the greater Cook Inlet watershed.

c. Diamond Point Port Hydrology: The Cook Inlet basin is an expansive watershed surrounding the 180-mile-long Cook Inlet waterbody. Covering more than 38,000 square miles of southern Alaska, it receives water from six major watersheds and many smaller ones. More than ten percent of the basin is covered by glaciers and suspended sediment loading in glacier fed rivers without lakes is significant, leading to a high suspended sediment load in portions of Cook Inlet.

Lower Cook Inlet is connected to the Pacific Ocean southwest through Shelikof Strait, and southeast by the Gulf of Alaska and demonstrates complex circulation on variable timescales. The region has the fourth largest tidal range in the world; tidal fluctuations in Iliamna Bay average 16 feet ranging as high as 23 feet. When the tide drops from mean high to mean low water, the inlet loses almost 10 percent of its volume, and exposes approximately 8 percent of its surface area. Most of these tidally exposed areas are in the arms at the north end of Cook Inlet and along the west side of the waterbody.

The natural gas pipeline connects the mine site and the port site to the Cook Inlet gas supply infrastructure. It ties to an existing pipeline near Anchor Point on the Kenai Peninsula, connecting to a compressor station, which is located on private land owned by the University of Alaska. The pipeline crosses state and federal Outer Continental Shelf waters in Cook Inlet to Ursus Cove, crosses Ursus Head before crossing Cottonwood Bay to the port site north of Diamond Point. It parallels the transportation corridor to the mine site for most of its length before diverging from the road to cross directly to the power plant.

4. Analysis

As proposed in the 2020 Mine Plan, the entire mine site and portions of the transportation and pipeline corridor fall within the EPA's Defined Area of Prohibition and the Defined Area of Restriction. As a result, there are no available areas for disposal of dredged or fill material. Any associated infrastructure in the 2020 Mine Plan outside of the Defined Area of Prohibition or the Defined Area of Restriction do

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not have separate utility and would not meet the purpose and need of the project, and therefore cannot be authorized separately even though they may fall outside of the boundaries of the defined areas under the 404(c) determination.

5. USACE FINAL AGENCY DECISION: Upon review of the applicant's final 2020 Mine Plan permit application in full consideration of the EPA's 404(c) determination, I have determined that because the mine site falls within the EPA's Defined Area of Prohibition and Defined Area of Restriction, the EPA's determination is a controlling factor that cannot be changed by a USACE decision maker and the application is hereby denied without prejudice.



JEFFREY S. PALAZZINI
COL, EN
Commanding

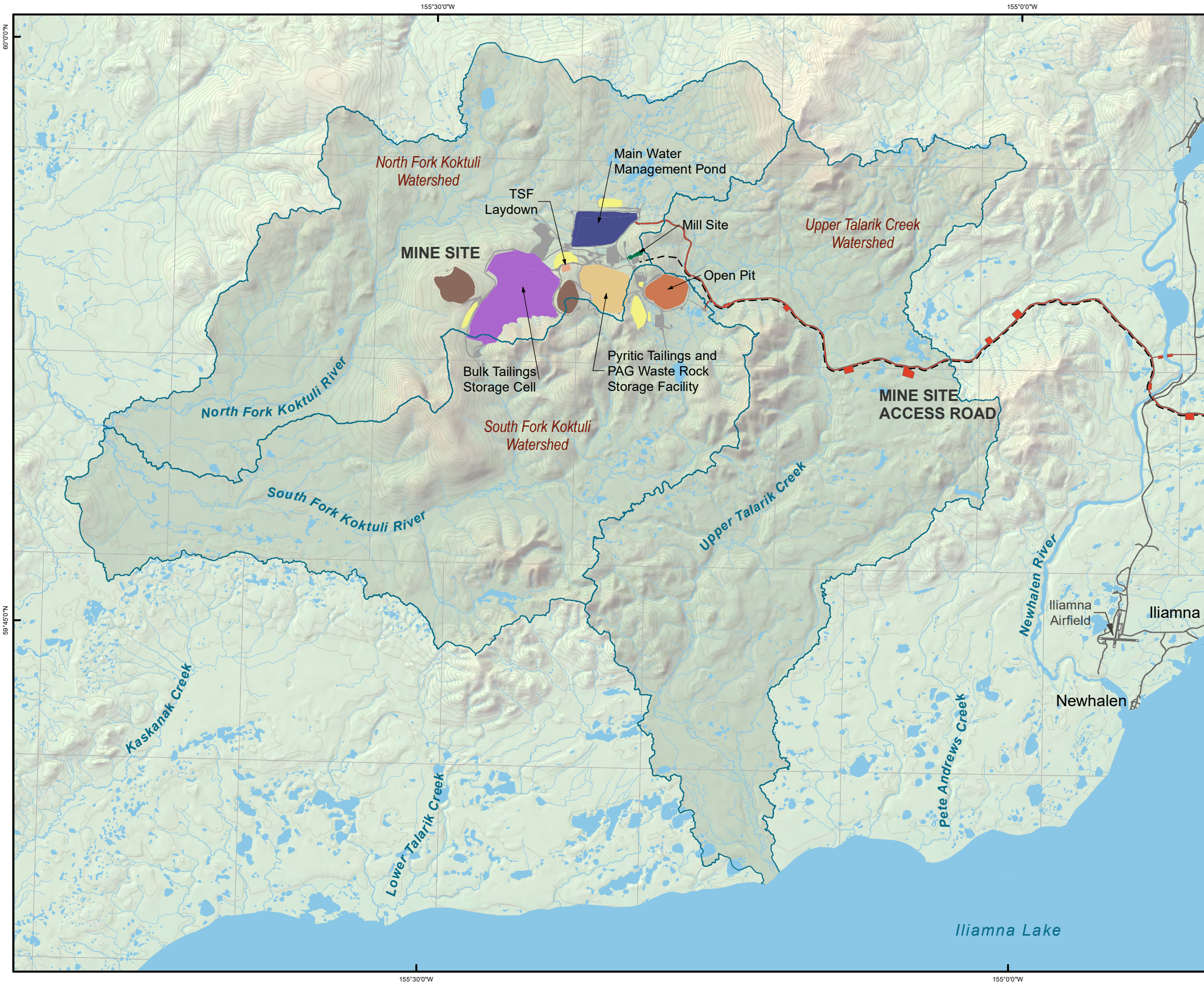
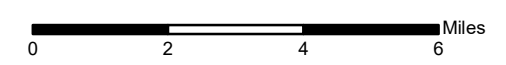
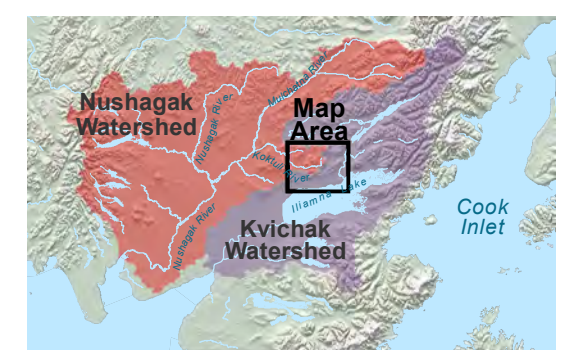


FIGURE 2-1
Mine Site Hydrography

- Bulk Tailings Storage Cell
- Water Management Pond
- TSF Laydown
- Pyritic Tailings and PAG Waste Rock Storage Facility
- Open Pit
- Overburden Stockpiles
- Mill Site Process Plant
- Quarry
- Watershed Boundary
- Access Road
- Natural Gas & Concentrate Pipelines
- Township Boundary



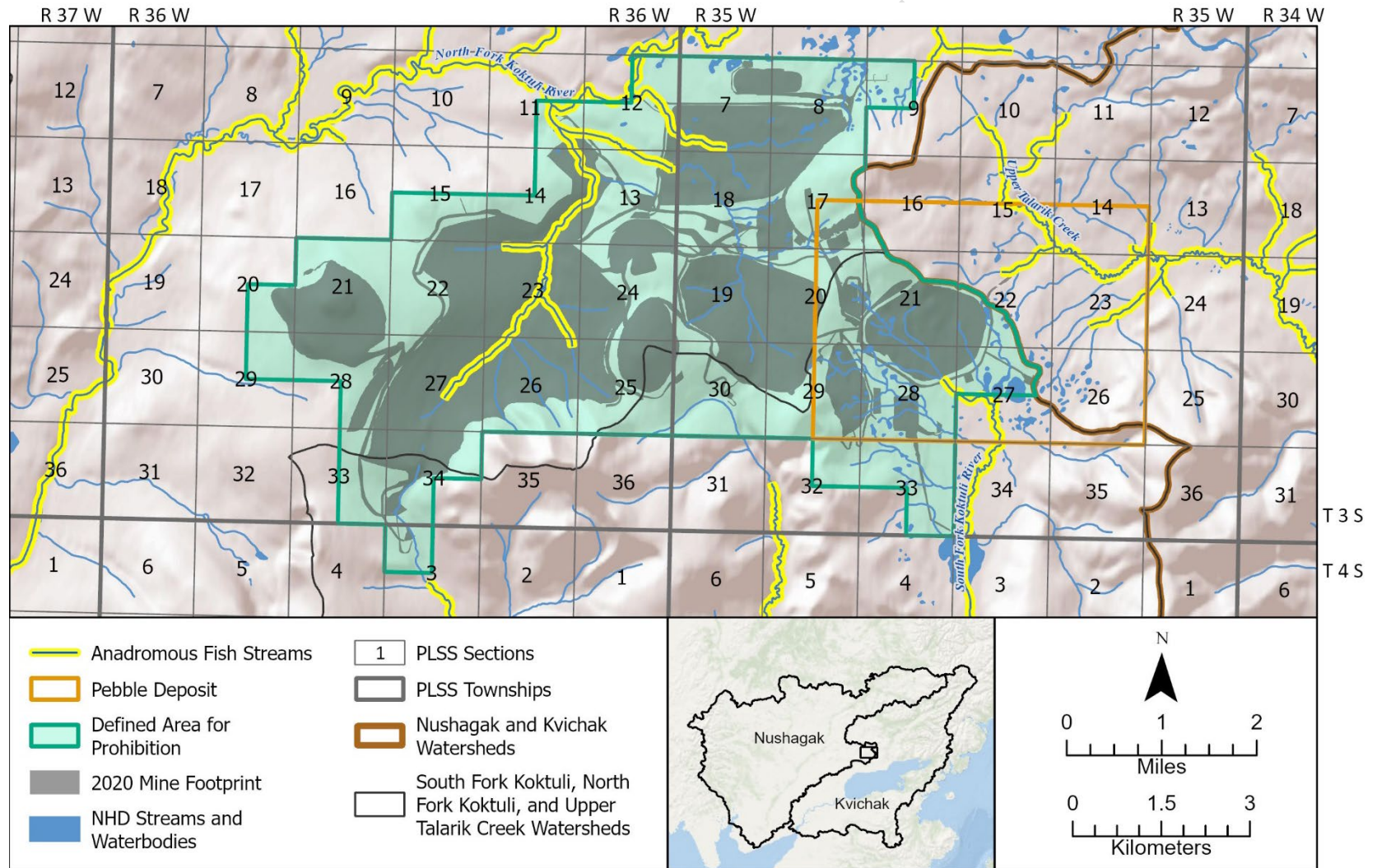
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Alaska State Plane Zone 5 (units feet)
1983 North American Datum



File: PLP_PD_2_1_MineSiteHydrography_Alt3.mxd	Date: 4/7/2020
Version: x	Author: HDR

Document Path: G:\GIS\PLP_GIS4_MXD\ProjectDescription\Figures\PLP_PD_2_1_MineSiteHydrography_Alt3.mxd

Figure 5-1. The Defined Area for Prohibition. Figure based on information from PLP (2020b), USGS (2021a), and USGS (2021b).



The description of the Defined Area for Prohibition (Figure 5-1) is as follows:

Beginning in the northeast corner at the intersection of the north-south half-section line and the northern boundary of Section 9, Township 3 South, Range 35 West, Seward Meridian (S003S035W09), at approximately latitude 59.938 north (59.938 N) and longitude 155.305 degrees west (155.305 W), it extends 3 miles westward, along the northern boundary of S003S035W09, the entire northern boundaries of S003S035W08 and S003S035W07 to the north-south half-section line of S003S036W12; then south approximately 0.5 mile along the north-south half-section line of S003S036W12 to the east-west half-section line of S003S036W12; then west approximately 1.0 mile along the east-west half-section lines of S003S036W12 and S003S036W11 to the north-south half-section line of S003S036W11; then south approximately 1.0 mile along the north-south half-section line of S003S036W11 and S003S036W14 to the east-west half-section line of S003S036W14; then west approximately 1.5 miles along the east-west half-section lines of S003S036W14 and S003S036W15 to the western boundary of S003S036W15; then south approximately 0.5 mile along the western boundary of S003S036W15 to the northern boundary of S003S036W21; then west approximately 1.0 mile along the northern boundary of S003S036W21 to the western boundary of S003S036W21; then south approximately 0.5 mile along the western boundary of S003S036W21 to the east-west half section line of S003S036W20; then west approximately 0.5 mile along the east-west half-section line of S003S036W20 to the north-south half-section line of S003S036W20; then south approximately 1.0 mile along the north-south half-section line of S003S036W20 and S003S036W29 to the east-west half-section line of S003S036W29; then east approximately 1.0 mile along the east-west half-section line of S003S036W29 and S003S036W28 to the north-south half-section line of S003S036W28; then south approximately 1.5 miles along the north-south half-section line of S003S036W28 and S003S036W33 to the southern boundary of S003S036W33; then east approximately 0.5 mile along the southern boundary of S003S036W33 to the western boundary of S004S036W03; then south approximately 0.5 mile along the western boundary of S004S036W03 to the east-west half-section line of S004S036W03; then east approximately 0.5 mile along the east-west half-section boundary of S004S036W03 to the north-south half-section line of S004S036W03; then north approximately 1.0 mile along the north-south half-section line of S004S036W03 and S003S036W34 to the east-west half-section line of S003S036W34; then east approximately 0.5 mile along the east-west half-section line of S003S036W34 to the eastern boundary of S003S036W34; then north approximately 0.5 mile along the eastern boundary of S003S036W34 to the southern boundary of S003S036W26; then east approximately 3.5 miles along the southern boundaries of S003S036W26, S003S036W25, S003S035W30, and S003S035W29 to the north-south half-section line of S003S035W32; then south approximately 0.5 mile along the north-south half-section line of S003S035W32 to the east-west half-section line of S003S035W32; then east approximately 1.0 mile along the east-west half-section line of S003S035W32 and S003S035W33 to the north-south half-section line of S003S035W33; then south approximately 0.5 mile along the north-south half-section line of S003S035W33 to the southern boundary of S003S035W33; then east approximately 0.5 mile along the southern boundary of S003S035W33 to the eastern boundary of S003S035W33; then north approximately 1.5 miles along the eastern boundary of S003S035W33 and S003S035W28 to the east-west half-section line of S003S035W27; then east approximately 0.84 mile along the east-west half-section line of S003S035W27 to the intersection with the border between the Nushagak and Kvichak watersheds at approximately latitude 59.888 N and longitude 155.266 W; then generally northwest approximately 3.60 miles along the boundary between the Nushagak and Kvichak watersheds to the northernmost intersection of the watershed boundary with the eastern boundary of S003S035W17 at approximately latitude 59.922 N and longitude 155.319 W; then north approximately 0.64 mile along the eastern boundary of S003S035W17 and S003S035W08 to the east-west half-section line of S003S035W09; then east approximately 0.5 mile along the east-west half-section line of S003S035W09 to the north-south half-section line of S003S035W09; then north approximately 0.5 mile along the north-south half-section line of S003S035W09 to the northern boundary of S003S035W09, the initial starting point.

Figure 5-2. The Defined Area for Restriction and Defined Area for Prohibition overlain on wetlands from the National Wetlands Inventory (USFWS 2021).

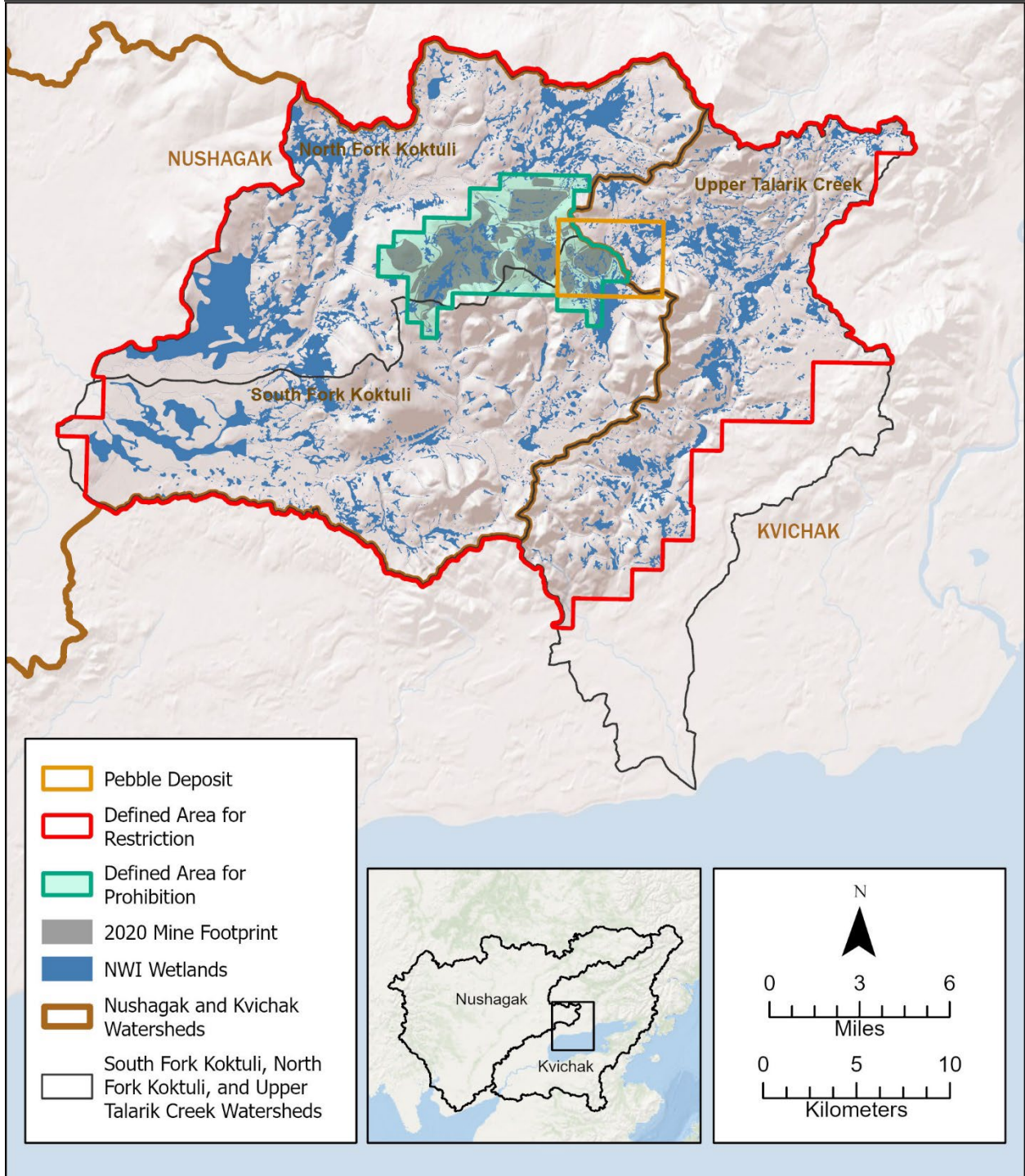
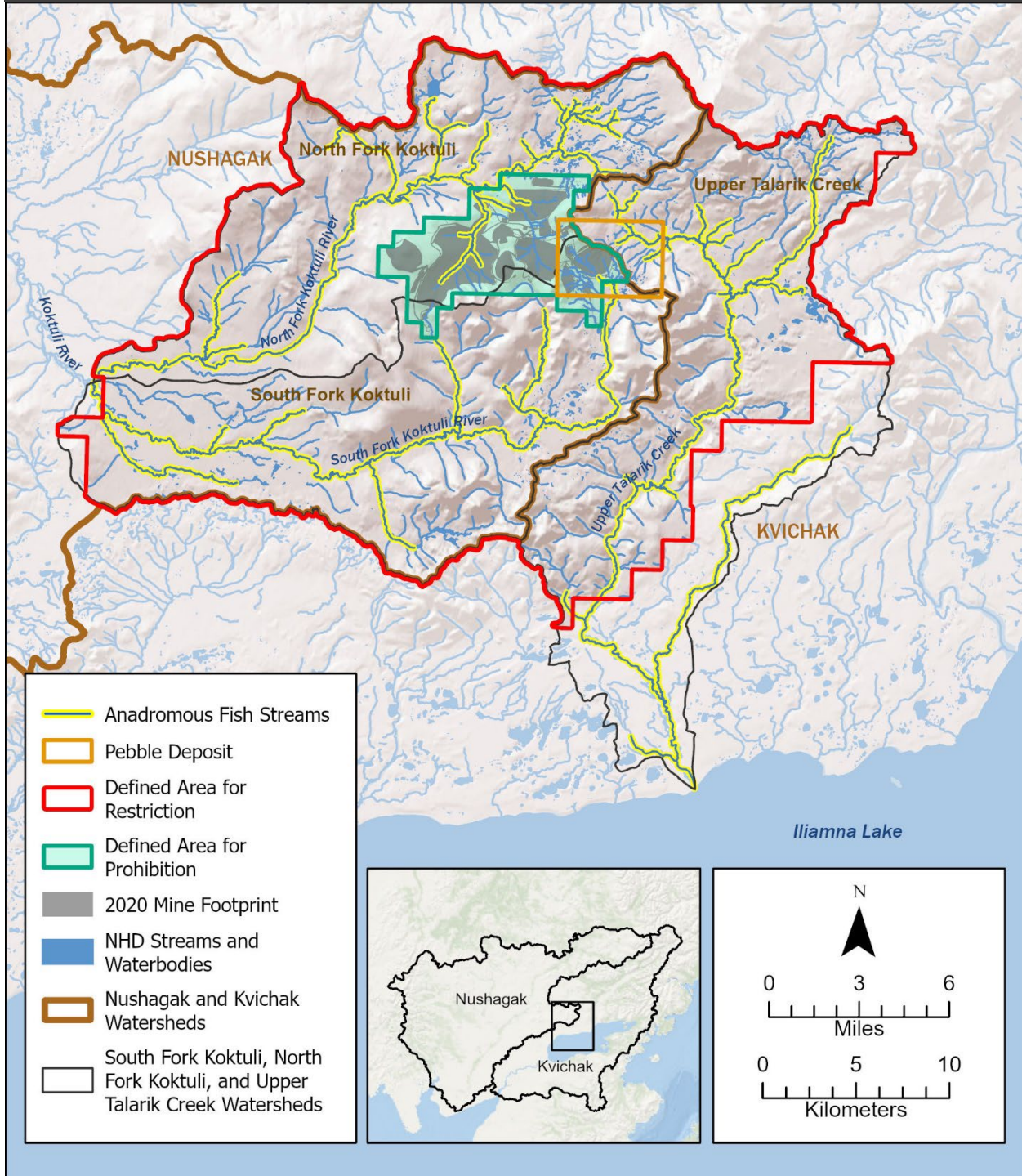


Figure 5-3. The Defined Area for Restriction and Defined Area for Prohibition overlain on streams and waterbodies from the National Hydrography Dataset (USGS 2021b).



The Defined Area for Restriction encompasses certain headwaters of the SFK, NFK, and UTC watersheds. The size of the Defined Area for Restriction is approximately 309 square miles (800 km²). The description of the Defined Area for Restriction (Figures 5-2 and 5-3) is as follows:

Beginning in the northeast at the intersection between the Upper Talarik Creek, Newhalen River, and Chulitna River watersheds, at approximately latitude 59.955 degrees north (59.955 N) and longitude 154.994 degrees west (154.994 W), it extends generally westward, along the boundary between the Upper Talarik Creek and Chulitna River watersheds to the intersection between the Upper Talarik Creek, Chulitna River, and Kaktuli River watersheds, at approximately latitude 59.972 N and longitude 155.193 W; then generally west along the boundary between the Kaktuli River and Chulitna River watersheds to approximately latitude 59.979 N and longitude 155.583 W; then generally southward along the boundary between the North Fork Kaktuli River and mainstem Kaktuli River watersheds, to the south boundary of Section 11, Township 4 South, Range 38 West, Seward Meridian (S004S038W11), at approximately latitude 59.837 N and longitude 155.774 W; then east approximately 0.38 mile along the south section line of S004S038W11 to the north-south half-section line of S004S038W14 at approximately latitude 59.837 N and longitude 155.763 W; then south, approximately 1.5 mile, along the north-south half-section lines of S004S038W14 and S004S038W23 to the center of S004S038W23 at approximately latitude 59.816 N and longitude 155.763 W; then west approximately 1.09 mile along the east-west half-section line of S004S038W23 and S004S038W22 to the boundary between the Upper Kaktuli River and Middle Kaktuli River subwatersheds at approximately latitude 59.816 N and longitude 155.794 W; then generally southwest, approximately 0.46 mile, along the boundary between the Upper Kaktuli River and Middle Kaktuli River subwatersheds to the west boundary of S004S038W22 at approximately latitude 59.812 N and longitude 155.806 W; then south along the section line, approximately 0.26 mile, to the south boundary of S004S038W22, at approximately latitude 59.808 N and longitude 155.806 W; then east along the south section line, approximately 1.0 mile to the east boundary of S004S038W27 at approximately latitude 59.808 N and longitude 155.777 W; then south approximately 2.0 miles along the east section line of S004S038W27 and S004S038W34 until the south boundary of S004S038W34 at approximately latitude 59.780 N and longitude 155.777 W; then west along the south section line, approximately 0.04 mile, until the boundary between the Kaktuli River and Stuyahok River watersheds at approximately latitude 59.780 N and longitude 155.778 W; then generally southeast, approximately 0.59 mile, along the watershed boundary between the Kaktuli River and Stuyahok River watersheds until the intersection between the Kaktuli River, Stuyahok River, and Kaskanak Creek watersheds at approximately latitude 59.775 N and longitude 155.764 W; then generally east along the boundary between the Kaktuli River and Kaskanak Creek watersheds, approximately 4.14 miles, to the north boundary of S005S037W06 at approximately latitude 59.780 N and longitude 155.645 W; then east, approximately 0.09 mile, along the north section line of S005S037W06 to the north-south half-section

⁹⁸ 11 Alaska Administrative Code 86.600.

⁹⁹ The boundaries of mine claims are defined by the PLSS (ADNR 2022d).

line of S005S037W06 at approximately latitude 59.780 N and longitude 155.642 W; then south along the north-south half-section line of S005S037W06, approximately 0.07 mile, to the boundary between the Koktuli River and Kaskanak Creek watersheds at approximately latitude 59.778 N and longitude 155.642 W; then generally eastward, along the watershed boundary between the Koktuli River and Kaskanak Creek watersheds until the intersection between the Koktuli River, Kaskanak Creek, and Iliamna Lake watersheds at approximately latitude 59.767 N and longitude 155.541 W; then generally eastward, along the boundary between the Koktuli River and Iliamna Lake watersheds to the intersection of the Koktuli River, Iliamna Lake, and Upper Talarik Creek watersheds at approximately latitude 59.762 N and longitude 155.363 W; then generally southeastward, along the boundary between the Upper Talarik Creek and Iliamna Lake watersheds, to the south boundary of S005S036W24, at approximately latitude 59.722 N and longitude 155.329 W; then east along the south section line approximately 0.52 mile to the east section line of S005S036W24, at approximately latitude 59.722 N and longitude 155.314 W; then north along the section line 1.0 mile to the south boundary of S005S035W18, at approximately latitude 59.736 N and longitude 155.314 W; then east along the south section line 2.0 miles to the east boundary of S005S035W17, at approximately latitude 59.736 N and longitude 155.259 W; then north approximately 1.0 mile along the east section line of S005S035W17 to the south boundary of S005S035W09, at approximately latitude 59.751 N and longitude 155.259 W; then east approximately 1.0 mile along the south section line of S005S035W09 to the east section line of S005S035W09, at approximately latitude 59.751 N and longitude 155.230 W; then north approximately 1.0 mile along the east section line of S005S035W09 to the south boundary of S005S035W03, at approximately latitude 59.765 N and longitude 155.230 W; then east approximately 1.0 mile along the south section line of S005S035W03 to the east section line of S005S035W03, at approximately latitude 59.765 N and longitude 155.202 W; then north approximately 1.0 mile along the east section line of S005S035W03 to the south boundary of S004S034W31, at approximately latitude 59.780 N and longitude 155.202 W; then west approximately 0.09 mile along the south section line of S004S034W31 to the west section line of S004S034W31, at approximately latitude 59.780 N and longitude 155.204 W; then north approximately 2.0 miles along the west section line of S004S034W31 and S004S034W30, to the south boundary of S004S034W19, at approximately latitude 59.808 N and longitude 155.204 W; then east approximately 1.0 mile along the south section line of S004S034W19 to the east section line of S004S034W19, at approximately latitude 59.808 N and longitude 155.176 W; then north approximately 1.0 mile along the east section line of S004S034W19 to the south boundary of S004S034W17, at approximately latitude 59.823 N and longitude 155.176 W; then east approximately 3.0 miles along the south section lines of S004S034W17, S004S034W16, and S004S034W15 to the east boundary of S004S034W15, at approximately latitude 59.823 N and longitude 155.090 W; then north approximately 2.0 miles along the east section line of S004S034W15 to the south boundary of S004S034W02, at approximately latitude 59.852 N and longitude 155.090 W; then east approximately 2.64 miles along the south section lines of S004S034W02, of S004S034W01, and of S004S033W06 to the boundary between the Upper Talarik Creek and Newhalen River watersheds, at approximately latitude 59.852 N and longitude 155.014 W; then generally north along the watershed boundary until the east boundary of S003S034W12 at approximately latitude 59.936 N and longitude 155.032 W; then north approximately 1.15 mile along the section line to the south boundary of S002S033W31 at approximately latitude 59.953 N and longitude 155.032 W; then east approximately 1.23 mile along the section line to the boundary between the Upper Talarik Creek and Newhalen River watersheds, at approximately latitude 59.953 N and longitude 154.997 W; then generally north, approximately 0.17 mile, along the watershed boundary to the starting point, at the intersection between the Upper Talarik Creek, Newhalen River, and Chulitna River watersheds (coordinates above).