KUSKOKWIM RIVER MITIGATION BANK

Image 1. Fuller Creek Valley on far side of Kuskokwim River (Photocredit: June McAtee)

PROSPECTUS

May 19, 2016

POA-2014-28

CALISTA CORPORATION

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ANCHORAGE, AK 99503

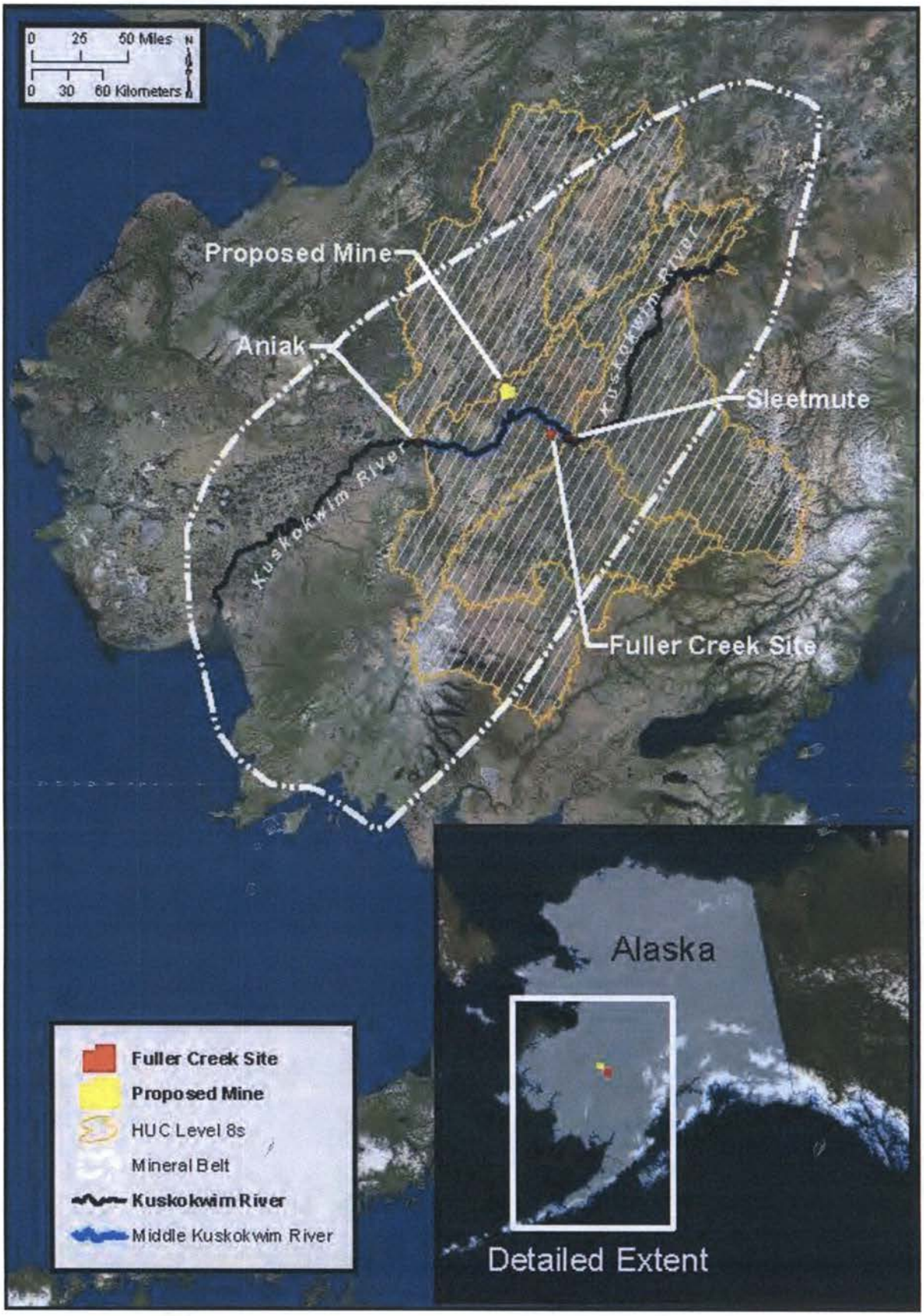

Figure 1. Orientation Map

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1 INTRODUCTION

1.1 Scope of Document

Calista Corporation (Calista) submits this prospectus for an umbrella mitigation bank pursuant to 33 CFR Part 332 (2008 Rule) to provide credits as compensatory mitigation for wetland impacts within the proposed service area. As required by the 2008 Rule, this prospectus addresses the ecological and watershed objectives of the proposed mitigation bank, how the bank will be established and operated, the need for and technical feasibility of the bank, ownership arrangements and long-term management plans, qualifications of the bank sponsor, the ecological suitability of the bank site to achieve the established objectives, and hydrological influences to support long-term sustainability. Because the proposed bank relies on preservation of the bank site to meet its objectives, the prospectus also addresses the five criteria defined in the 2008 Rule for using preservation as compensatory mitigation. Following an affirmative evaluation by the U.S. Army Corps of Engineers (Corps) and the Interagency Review Team (IRT), this prospectus will serve as the basis for creating the Bank's draft mitigation banking instrument (MBI).

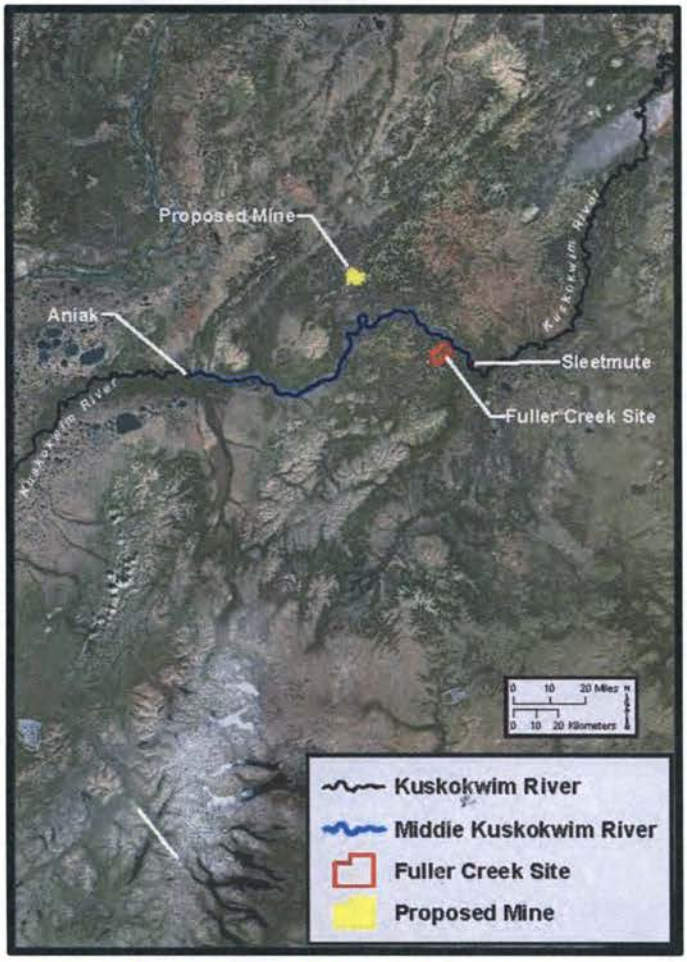

Figure 2. Map showing the Middle Kuskokwim River, the proposed Donlin Gold mine, and the Fuller Creek Parcel.

The proposed bank, to be called the Kuskokwim River Mitigation Bank (Bank), will initially include the 10,857-acre Fuller Creek Parcel, which lies within the Aniak 8-digit HUC (19030501) and the Kuskokwim Mountain ecoregion as shown in Figure 1. **Calista owns the Fuller Creek Parcel in fee simple (i.e., both surface and subsurface) and is the sponsor of the Bank.** Similar sites owned by Calista within the Kuskokwim Mineral Belt (see Figure 3 on page 6) may be proposed in the future under this umbrella bank.

1.2 About Calista

Calista was established as one of the thirteen Alaska Native Regional Corporations created under the Alaska Native Claims Settlement Act of 1971 and has a long-standing history of successful land and business management. Calista represents more than 12,000 shareholders and the Calista Region includes 56 villages, incorporated into 46 village corporations. The Yup'ik, Cup'ik and Athabaskan cultures of the Region are the most intact indigenous cultures in Alaska. Many residents in the Region still commonly speak their traditional languages, and most still practice a subsistence lifestyle, heavily dependent on the Kuskokwim River fishery and its contributing habitat. It is a cherished way of life, vital to the survival of this Alaska Native culture.

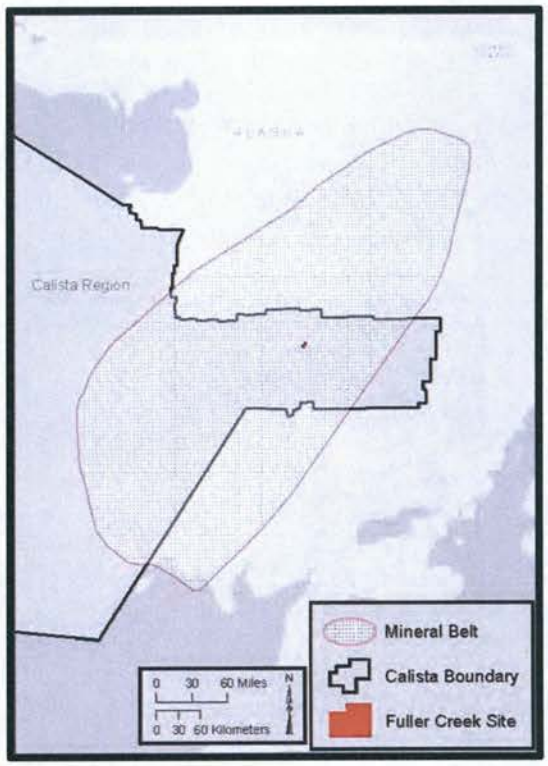

Figure 3. Map of Calista Region and Kuskokwim Mineral Belt

2 OBJECTIVES OF THE BANK

2.1 Objectives of the Bank

The objective of the Bank is to utilize a conservation easement to permanently protect the 10,857-acre Fuller Creek Parcel from mineral development. Such mineral development would be detrimental to coho salmon rearing habitat in Fuller Creek and to the middle Kuskokwim fishery in general.

Absent the Bank's proposed easement protection, the adverse consequences from potential mineral development of the Bank site are first to coho salmon rearing habitat in Fuller Creek and second to the broader middle Kuskokwim River fishery that is already under human consumption advisories from bioaccumulation of mercury in certain fish tissue. The watershed needs met by the Bank (salmon rearing habitat and mercury bioaccumulation abatement) are addressed below.

2.2 Watershed Needs

There is no single, cohesive watershed plan for the Kuskokwim River, but studies have identified needs for various sections of this 700-mile long river. The *Draft Alaska Wildlife Action Plan 2015*[1] ("2015 AWAP") identifies Alaska species of greatest conservation need,

[1]http://www.adfg.alaska.gov/static/species/wildlife_action_plan/draft_alaska_wildlife_action_plan_2015.pdf

several of which are found in the middle Kuskokwim watershed, the identified watershed of the proposed Fuller Creek Bank site.

The middle Kuskokwim watershed can be defined as the 114-mile section of the river between Aniak and Sleetmute, traversing the Kuskokwim Mountains in a 100- to 400-ft-deep gorge that is incised in an older valley about 1,000 feet deep and 2 to 8 miles wide.[2] It has a drainage area of 6650 square miles.[3]

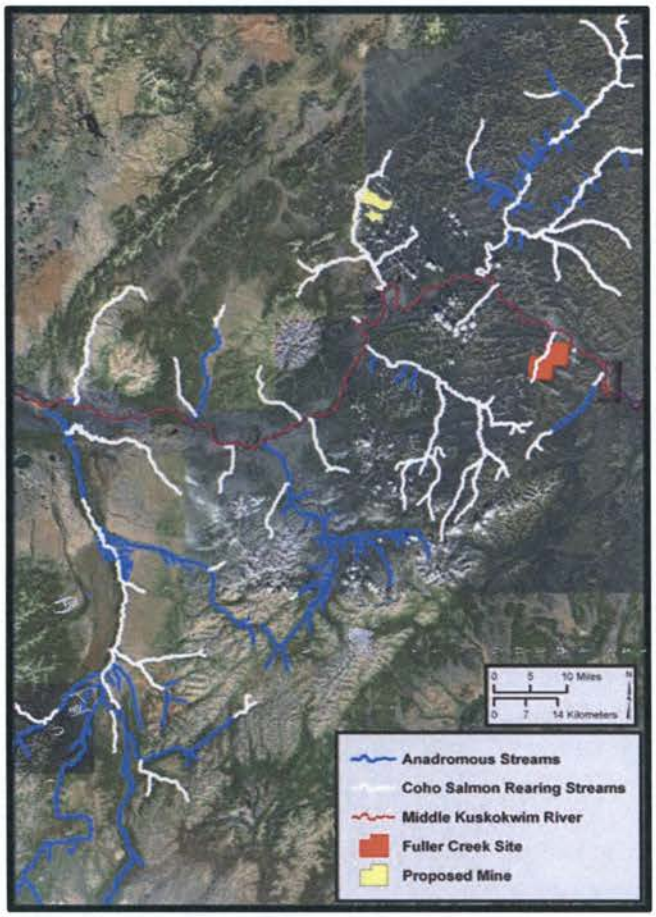

Figure 4. Map of Anadromous Streams highlighting coho salmon rearing streams

2.2.1 Coho Salmon Fishery

The Kuskokwim River is a significant salmon fishery and serves as the migration pathway for chinook, chum, sockeye, pink, and coho salmon. Salmon rearing habitats occur only at certain locations in the middle Kuskokwim River, and Fuller Creek is documented in the Alaska Anadromous Waters Catalogue (AWC) for coho rearing.[4] Juvenile coho salmon are adapted to rearing in relatively slow moving water and pools. [5] Figure 4 shows the anadromous streams of the middle Kuskokwim River, highlighting the fact that coho rearing habitats occur in streams off the main channel. The 2015 AWAP identifies coho salmon as a Species of Greatest Conservation Need, a Stewardship Species, as well as a species of cultural and economic importance. The Kuskokwim River subsistence salmon fishery is one of the largest subsistence fisheries in the state, with more than 1500 households currently fishing and many others involved in processing. Subsistence salmon

[2] Wahrhaftig, Clyde. 1965. Physiographic divisions of Alaska. US Geological Survey Professional Paper 482. Washington, DC: US Geological Survey. 52 pp.
[3] Alaska Division of Geological and Geophysical Surveys. 1984. Summary data from selected streams, Sleetmute to Aniak.
[4] AWC nomination 335-20-16600-2780 is found at the following website: http://www.adfg.alaska.gov/sf/SARR/AWC/
[5] Lestelle, Lawrence C. 2007. Coho Salmon (Oncorhynchus kisutch) Life History Patterns in the Pacific Northwest and California. Final Report to U.S. Bureau of Reclamation Klamath Area Office, March 2007. Page xxvii of 122.

fishing defines the summer activities of most Kuskokwim River communities and is the predominate fishery on the river.

Kuskokwim salmon are also sold commercially, and the success of both the subsistence and commercial fisheries is dependent on the strength of the annual salmon run. In the words of Kuskokwim Management Biologist Aaron Poetter speaking of the silver (coho) salmon run last summer, "It really comes down to can we provide commercial opportunity? Commercial is a very important aspect of the fishery, especially in the lower river with a lot of participants. That income, while it may not be much compared to other salmon fisheries statewide, it's still very important economic stimulus within this region."[6]

Regarding habitat modification threats, the Alaska Department of Fish and Game states "land use activities associated with logging, road construction, urban development, mining, agriculture, and recreation have significantly altered fish habitat quantity and quality."[7] Mineral development on the Bank site would pose a threat to rearing habitat of coho salmon by the likelihood of increased turbidity, and thus reduced visibility in rearing streams. Coho salmon are sight feeders and reduced visibility from turbidity reduces their ability to grow and mature.[8] [9] The 2015 AWAP identifies the potential harm from large-scale mineral development as "increased erosion and sediment transport, along with a decrease in hydrological buffering which leads to high flows for short periods of time followed by longer periods of decreased flows."[10]

The National Marine Fisheries Service identifies mining (both hard rock and in stream mining) as a major threat to the recovery of the Evolutionarily Significant Unit (ESU) of coho salmon in Oregon and California, where the ESU is listed for protection under the Endangered Species Act. The primary deleterious effects are alteration of stream flow characteristics, increased turbidity and sedimentation.[11]

While the salmon run is important both to subsistence and commercial fisheries, salmon are also a keystone species in animal communities. When salmon spawn they fall prey to numerous species of terrestrial wildlife from bears to bald eagles. Carcasses are an important seasonal food source for many scavengers and provide import of marine-derived nutrients and energy to the riverine ecosystem. That importance is magnified by the periodicity of salmon runs on which many land and water species have evolved dependence.[12]

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[6] Reported by Ben Matheson, KYUK – Bethel, July 30, 2015
[7] http://www.adfg.alaska.gov/index.cfm?adfg=cohosalmon.main
[8] http://soundwaves.usgs.gov/2004/11/research2.html
[9] http://www2.epa.gov/sites/production/files/documents/mrsboappa.pdf
[10] http://www.adfg.alaska.gov/static/species/wildlife_action_plan/draft_alaska_wildlife_action_plan_2015.pdf p. 38
[11] National Marine Fisheries Service. 2014. Final Recovery Plan for the Southern Oregon/Northern California Coast Evolutionarily Significant Unit of Coho Salmon (Oncorhynchus kisutch). National Marine Fisheries Service. Arcata, CA. See page 3-63.
[12] Willson, Mary F. and Karl C. Halupka. 1995. Anadromous Fish as Keystone Species in Vertebrate Communities. Conservation Biology Vol. 9, No. 3. Pages 489-497

The first watershed objective of the Bank would be met by preventing harmful mineral development in the Fuller Creek watershed, which is 80% of the Bank site, and protecting documented habitat for coho salmon within Fuller Creek.

2.2.2 Mercury Bioaccumulation

Mercury bioaccumulation is the increase of mercury in the tissue of fish as it is absorbed from its contaminated environment. This bioaccumulation directly affects the people who depend on this fishery for subsistence fishing as the mercury is transmitted up the food chain to humans. In its methylated form, as it is found in fish tissue, mercury is acutely toxic to humans with a range of symptoms including cognitive impairments. The elevated levels of methylmercury in Kuskokwim River subsistence fish were first identified in peer-reviewed literature in 2007.[13]

Recent research by the Bureau of Land Management (BLM) demonstrated elevated levels of bioaccumulated mercury in local piscivorous (fish-eating) fish in the middle Kuskokwim.[14] The BLM study unequivocally demonstrated the source of mercury was historical mineral extraction sites, even though all the identified sites have been inactive for 40 – 60 years. Tributaries to the middle Kuskokwim where no mineral development has occurred were compared to Cinnabar Creek and Red Devil Creek where extraction of cinnabar, a mercuric sulfide (HgS) mineral, has occurred. The results showed elevated levels of tissue mercury in smaller fish and macroinvertebrates were found only in the streams of previously-mined watersheds, while streams in the unmined watersheds such as Fuller and McCally Creeks on the Bank site had normal background levels.

The drainage from these disturbed areas continues to produce methylmercury, which is found in high concentration in macroinvertebrate and fish tissue in the creeks receiving this drainage. According to U.S. Geological Survey (USGS) studies of the environmental geochemistry of mercury mines in Alaska, the continued pollution from these sites may be caused by the weathering of cinnabar.[15] The pathway to the food chain is described as follows: "The elevated mercury concentrations in fish near the mines indicate that mercury is being converted from inorganic mercury in the sediment to organic mercury that is more biologically available. Most of the organic mercury resides in the stream sediments and is then transferred to stream water and food sources for the fish, such as larvae, insects, and other small fish that live in and around the mercury-rich sediment."[16]

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[13] Jewett, Stephen C. and Lawrence K. Duffy. 2007. Mercury in fishes of Alaska, with emphasis on subsistence species. Science of the Total Environment 387 (2007) 3–27 http://www.journals.elsevier.com/science-of-the-total-environment

[14] Bureau of Land Management. 2012. Interim Report, "Mercury, Arsenic, and Antimony in Aquatic Biota from the Middle Kuskokwim River Region, Alaska, 2010-2011"

[15] http://pubs.usgs.gov/fs/fs-0072-94/

[16] *Ibid*

The source and pathways of persistent mercury bioaccumulation long after mining activities have ceased suggest that once cinnabar is exposed to weathering, the streams receiving drainage from the disturbed area may be burdened with high mercury levels for a very long time. This finding indicates that the threshold threat may be the exposure of cinnabar to weathering by the removal of overburden, even if modern care is taken in the processing of ore. Preservation of the Bank site would ensure that the protective overburden remains intact.

Mercury bioaccumulation is not just a localized problem, however. Due to biomagnification the larger, piscivorous fish in middle Kuskokwim River had elevated mercury levels, resulting from their feeding on smaller fish from creeks receiving drainage from previously mined areas. Thus, even though only two of the ten creeks tested in the middle Kuskokwim had elevated levels of mercury in smaller fish tissue, the adverse effect was seen throughout the middle Kuskokwim River.

Were mineral development of the Fuller Creek Site to occur, mercury bioaccumulation within the middle Kuskokwim would increase proportionately. Fuller and McCally Creeks are two of the eight streams identified in the middle Kuskokwim *without elevated mercury levels* in fish and macroinvertebrate tissue[17]. Thus the preservation of the Bank site offers a needed watershed benefit to the middle Kuskokwim River fishery.

Evidence of this watershed need is found in the following advisory currently in effect from the Alaska Department of Health and Human Services for the middle Kuskokwim River: "Some fish may not be safe for women of child-bearing age and young children to eat in large amounts because they contain mercury." The advisory recommends restricted consumption of certain piscivorous fish tissue along various sections the middle Kuskokwim River (in some stretches of the river to as little as four meals per month).[18]

2.2.3 Watershed Objective Conclusion

The threat from mining to coho salmon rearing in Fuller Creek would be removed by protection of the Bank site, which is under threat of potential mineral development discussed in section 10.4 below. In addition, protection of the Bank site would prevent the release of mercury into Fuller and McCally Creeks and the consequent threat of increased bioaccumulation of mercury in fish tissue in the middle Kuskokwim.

2.2.4 Secondary Watershed Benefits

The Alaska Department of Fish and Game regulates the allowed subsistence catch of anadromous fish each year to protect escapement (the number of fish avoiding commercial and recreational fishing and making it to spawning beds). In particular, Chinook salmon

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[17] Bureau of Land Management. 2012 . pp. 18 – 19.

[18] Alaska Department of Health and Social Services, Division of Public Health, Section of Epidemiology. 2011. Fact Sheet: Mercury in Burbot (Lush) and Pike from the Middle Kuskokwim River Area

catches have consistently been limited year after year, but other anadromous species, such as coho salmon, are also monitored and their catch limited based on the size of the annual run. When these restrictions are in place, subsistence users rely more on the local resident fish, such as pike and burbot.[19] In the middle Kuskokwim watershed, however, this reliance on alternative fish is now in question because of concerns about mercury consumption.

While the primary concern with bioaccumulation of mercury is to human health, the nearby Kuskokwim River bluffs provide nesting sites for a recovering population of peregrine falcons (*Falco peregrinus*). In 2004 Seppi[20] documented 19 nesting pairs along the middle Kuskokwim, along with observations of nesting rough-legged hawks (*Buteo lagopus*), foraging osprey (*Pandion haliaetus*) and bald eagles (*Haliaeetus leucocephalus*). According to USGS studies, birds seem to be especially sensitive to methylmercury, and most vulnerable in the embryonic life stage.[21] The potential danger to fish-eating predatory birds, such as bald eagles and osprey, as well as to other predatory birds, along the middle Kuskokwim underlines the importance of preventing mining activities on the Bank site to minimize the bioaccumulation of mercury. The 2015 AWAP lists bald eagles as Species of Greatest Conservation Need and as Stewardship Species.[22]

3 ESTABLISHMENT AND OPERATION

Calista owns the Fuller Creek Parcel in fee simple and will protect this Bank site in perpetuity by granting a conservation easement to a conservation-purposed, non-profit third-party entity. The easement will prevent surface and subsurface activity detrimental to the ecological value of the site, the two tributary streams (and their headwater watershed resources) contained therein, and the middle Kuskokwim River fishery habitat. By preserving the Bank site in perpetuity through the terms of this easement, the Bank will achieve the watershed objectives described above.

Calista has partnered with KRB/EarthBalance (EarthBalance) to permit and operate the proposed Bank. EarthBalance will provide technical and strategic consulting with respect to the long-term management and monitoring of the Bank. While EarthBalance will provide these management services, the project and underlying property will be owned by Calista, which will retain responsibility for the long-term stewardship of the Bank property.

More details regarding the conservation easements and the Bank establishment and operation are provided in Section 6 below.

Following approval of the prospectus, the establishment and operation of the Bank will be further detailed in the MBI; accordingly, the MBI will include information regarding the Bank's

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[19] Jewett, Stephen C. and Lawrence K. Duffy. 2007.
[20] Seppi, B.E. 2007. BLM Alaska Open File Report 117
[21] http://www.pwrc.usgs.gov/MissionAreas/EnvironHealth/MercuryBirds.pdf
[22] http://www.adfg.alaska.gov/static/species/wildlife_action_plan/draft_alaska_wildlife_action_plan_2015.pdf Appendix 1.

credit accounting procedures, reporting protocols, sponsor legal responsibility provisions, financial assurance mechanisms, closure provisions, adaptive management plan, credit release schedule, site protection features, and other information deemed necessary by the Corps and IRT.

An important operational feature of the Bank will be a reservation letter system with respect to its credits and their use by permit applicants. Accordingly, when an applicant desires to rely upon the Bank's credits as mitigation in its permit submissions to the Corps, the Bank will first have those credits reserved by the applicant once such an agreement has been reached. The Bank will confirm this reservation by a written letter to the applicant, with a copy delivered to the Corps. This reservation system will provide needed assurances as to the mitigation proposed by the applicant and will preclude miscommunication between the Bank, the Corps, and the applicant. Once the reservation is in place and confirmed by letter, the applicant is assured the credits will be available when needed and, as importantly, the Corps has the reasonable assurance that the required credits (1) have been transacted for, (2) will be reserved by the Bank, and (3) will actually be withdrawn from the Bank to offset the applicant's impacts in the manner permitted. In so doing, the Bank's reservation system will provide the Corps with an important supplement to its RIBITS ledger, which does not indicate the commitment of credits prior to their actual transfer. Thus, only if the Corps has received a relevant reservation letter from the Bank can the Corps be assured that the permittee has secured the needed credits (and thus the mitigation) stated in its applications. As set forth in the features outlined above, the reservation letter process allows for the most effective operation of the Bank in terms of the efficient management of its mitigation credit inventory and providing the assurance to the Corps required in § 332.3(k)(4).

4 PROPOSED SERVICE AREA

The service area for the Kuskokwim River Mitigation Bank would be the Aniak 8-digit HUC: 19030501 containing the Bank site and the adjacent 8-digit HUCs: 19040802, 19030404, 19030301, 19030501, 09030405, 19040803, and 19030403, as depicted in Figure 5 on page 13. The service area lies mostly within the Kuskokwim Mountains ecoregion and the Kuskokwim Mineral Belt.

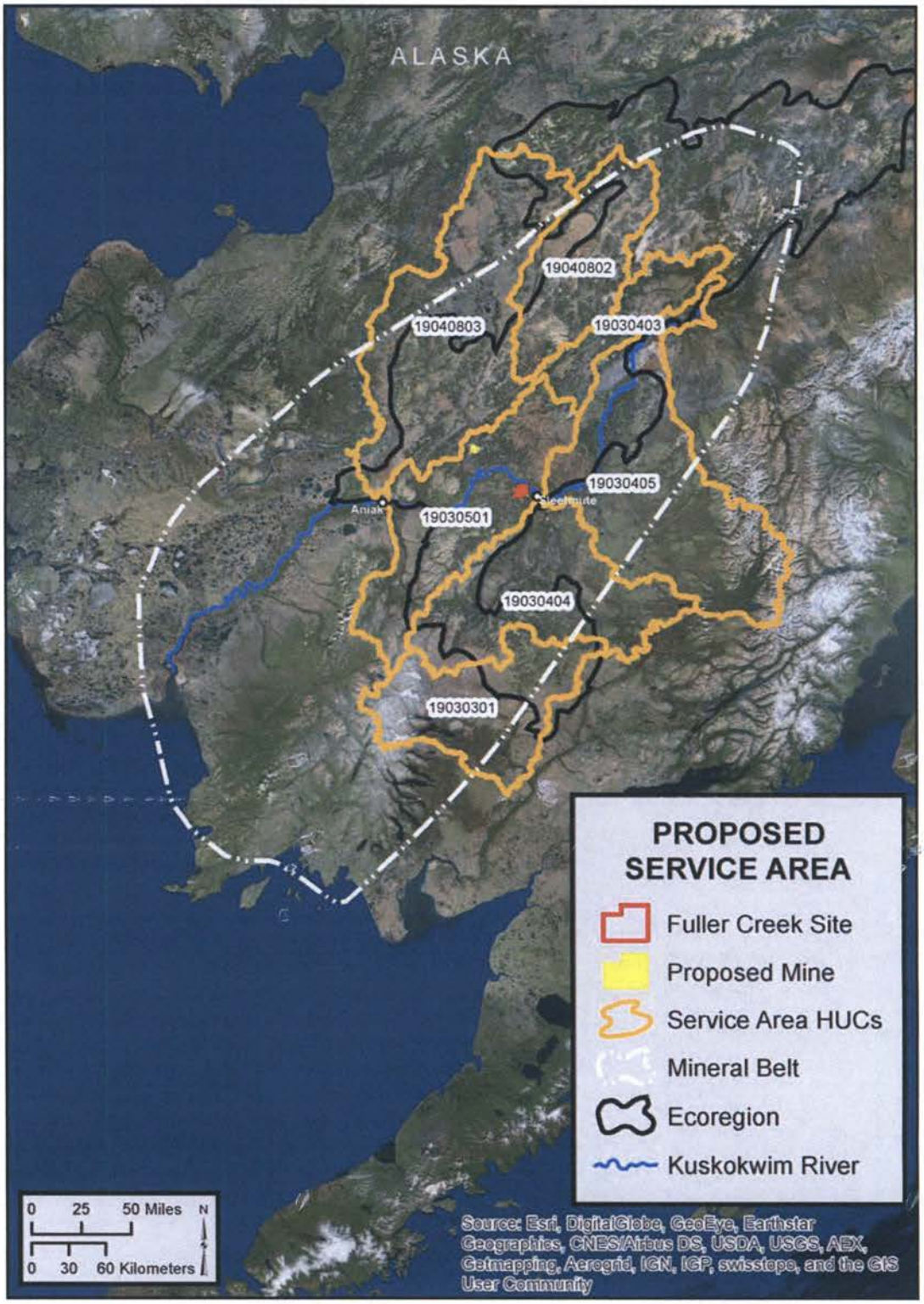

Figure 5. Map of proposed service area

5 NEED FOR AND TECHNICAL FEASIBILITY OF THE BANK

5.1 Need for the Bank

The watershed need for the bank has been discussed in subsection 2.2 above. The following addresses the need for mitigation credits to offset potential impacts.

Large-scale wetland impacts from mining activities are anticipated within the proposed service area of the Bank, including those that may be required by the Corps for the Donlin Gold project should it meet all of its permitting requirements. If the Donlin Gold project does require compensatory mitigation, secondary and cumulative impacts from this activity may also require mitigation offsets, including those expected from the proposed Donlin natural gas pipeline. Independent of the outcome of any specific mine permit, the Bank's service area contains an exceptionally large endowment of highly valuable mineral resources that are eventually expected to be extracted and thus potentially require large-scale mitigation.

Additional wetland impacts that may require mitigation are expected from public infrastructure projects such as runway extensions, road construction/widening, and public facility construction such as schools, sanitation and power generation facilities. The development of natural resources and public infrastructure is critical to the prosperity of the Calista Region. And the importance of such economic development, and the jobs that this development would bring, cannot be overstated. The Region as a whole is economically challenged, with over 21.5% of the population living below the poverty level when last measured. Unemployment in the area is high; while wage employment is increasing, it is not enough to fully support residents.

Currently, there are no mitigation banks for any watershed within the Calista Region. Further, apart from Calista owned lands, very little suitable private property is available to provide offsite mitigation for development-scale wetland impacts within the service area, whether in the form of permittee-responsible mitigation or, importantly, to fulfill the advance credits of permitted in lieu fee programs. This makes the proposed Bank a necessary option for off-site mitigation for all but smaller scale projects.

To understand the limits of suitable private mitigation property, consider that while the Calista Region encompasses 57,000 square miles (roughly the size of Illinois); the land entitlement to Calista is much smaller – 10,000 square miles – only about 20 percent of the land area. Approximately 75 percent of the land within the Region is owned by the U.S. Fish and Wildlife Service. Most of the remaining non-Native lands are held by federal and state governments, with only a very small amount privately owned. And for private land owned by Alaska Native Village Corporations, split estates are common. This lack of subsurface ownership creates an obvious obstacle to the site protection required by the 2008 Rule. Effectively then, Calista lands are the only practical source for large–scale offsite mitigation within the Region. Calista notes the hierarchy preference for mitigation banks set forth in the 2008 Rule and desires to use its lands to establish a mitigation bank as the preferred mitigation option within the relevant service areas.

5.2 Technical Feasibility of the Bank

Preservation of the proposed Bank site properties is highly feasible and practicable because of the following characteristics of the site:

- Combined Estates: Calista owns the full fee interest of the Bank site, including both the surface and subsurface rights. Ownership of all rights allows the conservation easements granted by Calista to fully protect the ecological value of the habitats and lands in perpetuity.
- Substantial Size: The Fuller Creek property is large enough to be self-buffering and self-sustaining.
- Pristine Condition: With the exception of records of surficial prospecting for minerals, there is no evidence of human use, and the site maintains full ecological functionality in a pristine state.

Image 2. Image of Fuller Creek's Eastern Tributary. ***(Photocredit: June McAtee)***

6 OWNERSHIP ARRANGEMENTS AND LONG-TERM MANAGEMENT

The Fuller Creek Bank site is owned in fee simple by Calista and is described as a 10,880 acre tract within the Fuller Creek watershed, comprising Sections 1, 2, 3, 10-17 inclusive, 20, 21, 22, 27, 28, 29, Township 19 North, Range 45 West, Seward Meridian, Alaska. This tract was conveyed to Calista Corporation in Patent Number 50-2013-0012.

Calista will remain the fee simple owner of the Bank site subsequent to the conveyance of the conservation easements and, as Bank sponsor, will be the party responsible for the successful long-term management. Calista intends to convey the easement to a conservation-purposed, non-profit third-party entity to hold and enforce in perpetuity. Positive preliminary

Image 3. Image of Fairview Ridge with Fuller Creek on the right. ***(Photocredit: June McAtee)***

discussions have occurred with The Great Lands Trust, which has experience holding conservation easements for other mitigation banks in Alaska.

The conservation easement will prohibit surface and subsurface uses that are inconsistent with maintenance of undisturbed natural ecosystems. (Thus, and importantly, subsistence use by Native Alaskans will be allowed, protected and preserved.) Proceeds will be set aside from credit sales into a long-term trust, the earnings of which will provide for the cost of maintaining the property in perpetuity.

The long-term management strategy is to preserve the Bank site with protective conservation easements and sufficient endowment to provide long-term monitoring, reporting, maintenance, and stewardship. In conjunction with the Corps and the IRT, details for the long-term management plan for the Bank site will be developed in the draft MBI as is prescribed in § 332.7(d).

7 QUALIFICATIONS OF THE SPONSOR

Calista Corporation is the sponsor of the Bank. Calista is the fee owner of the land being used by the Bank and is among the largest of the Alaska Native Regional Corporations.

Calista owns more than two dozen subsidiary companies held in five business lines, including companies that provide rural camp and military base services; rural and urban construction (including heavy civil and arctic construction); environmental remediation and range reclamation; ocean and shallow-draft river marine transportation; real estate investments; telecommunications, website development and security, and several more. In addition, for over forty years Calista has successfully managed thousands of square miles of Alaskan land and in so doing has developed extensive experience with all aspects of property management and sound stewardship. From these successful experiences, Calista has developed in-depth staff expertise in land management, budgeting, planning, field assessments, legal matters, financial analysis, and business management, partnering, and contracting. Based on its experience and expertise, as well as its deep understanding of regional issues, Calista is very well suited and qualified to serve as sponsor of the Kuskokwim River Mitigation Bank.

Calista has partnered with KRB/EarthBalance Corporation (EarthBalance) to permit and operate the proposed Bank. EarthBalance will also provide technical and strategic consulting for the Bank. Founded in 1985, EarthBalance is an environmental consulting firm specializing in mitigation analysis and mitigation banking, as well as comprehensive ecosystem restoration services. The company provides ecosystem maintenance, monitoring, and restoration services for its own mitigation bank, other private mitigation banks, the U.S. Fish & Wildlife Service, the National Park Service, the U.S. Army Corps of Engineers (Mobile, Jacksonville, and Charleston Districts), the U.S. Navy and U.S. Air Force and numerous local governments and special districts.

EarthBalance's professional consulting staff comprises degreed wetland scientists, ecologists, and biologists with diverse experience in ecosystem restoration and environmental consulting, including experience in Alaska. In addition to its broad environmental consulting expertise, EarthBalance has owned and operated four wetland mitigation banks, and is currently permitting its fifth and sixth. The Company provides all permitting, maintenance, restoration, monitoring, consulting, implementation, and marketing services for each of its mitigation banks. All EarthBalance banks have successfully earned credits based on preservation and performance-based ecological criteria, and each is in good standing with state and federal agencies. Additional information regarding EarthBalance is available at www.EarthBalance.com.

8 ECOLOGICAL SUITABILITY

As detailed below, the Bank site is ecologically suitable to achieve the objectives set forth in Section 2 of this Prospectus.

8.1 Bank Site Description

The Bank site is located in the Kuskokwim Mountains ecoregion (Figure 5, page 13) and lies in the Aniak 8-digit HUC (19030501). It contains 58.4 miles of headwater streams and more than 9,600 acres of wetlands, with the predominant wetland habitat being black spruce open forest and woodlands with concomitant shrub communities. Vegetation for the Bank site has been

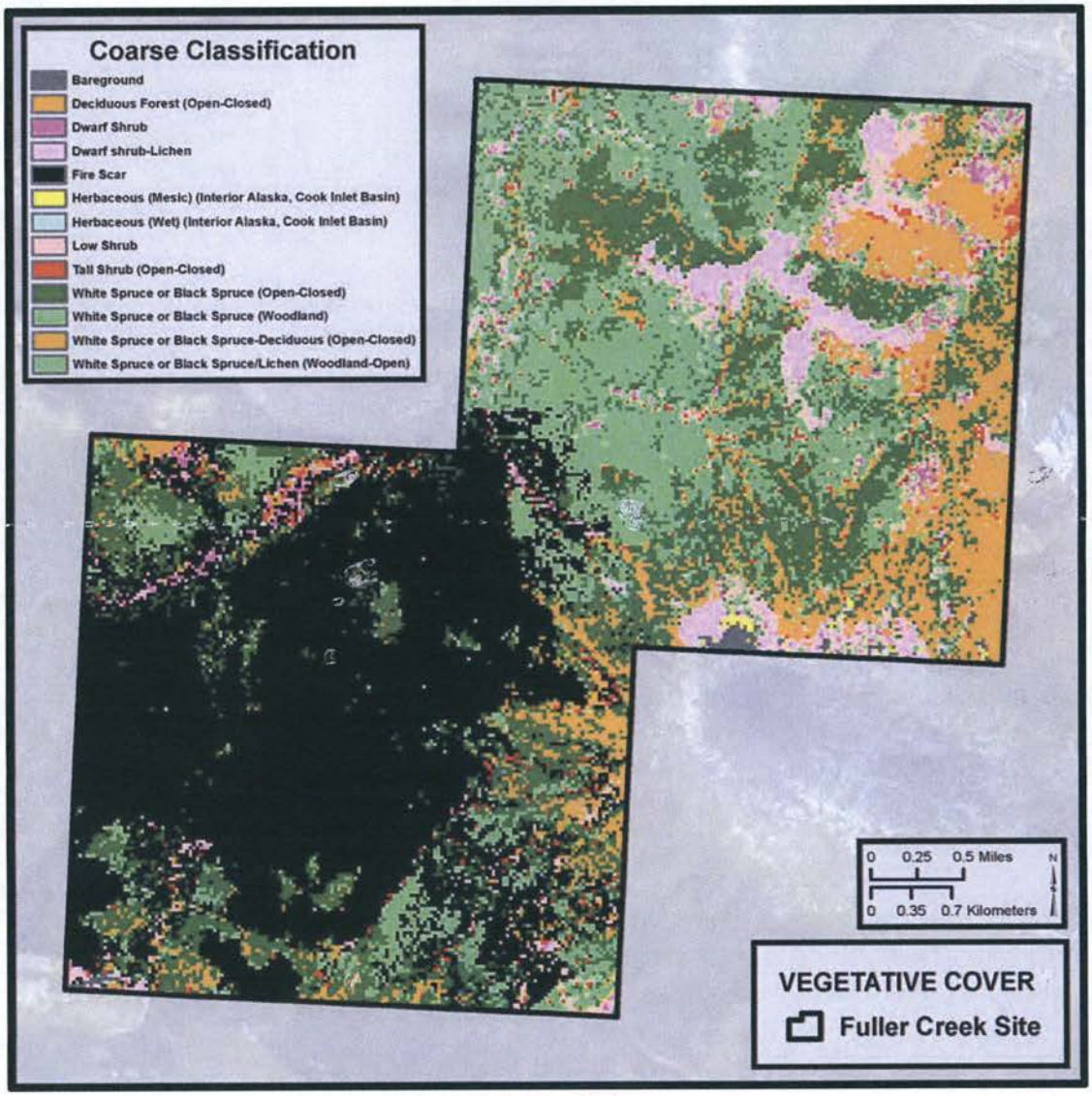

Figure 6. Map of land cover vegetation for the Bank

Table 1. Percent land cover

FULLER CREEK LAND COVER		
Coarse Class	Life Form	Percent
Bareground	BAREGROUND	21.9
Deciduous Forest (Open-Closed)	FOREST	8.7
Deciduous Forest (Open-Closed)	FOREST	7.9
Dwarf Shrub	DWARF SHRUB	4.9
Dwarf shrub-Lichen	DWARF SHRUB	0.3
Fire Scar	OTHER	6.1
Fire Scar	OTHER	4.4
Herbaceous (Mesic) (Interior Alaska, Cook Inlet Basin)	HERBACEOUS	1.1
Herbaceous (Wet) (Interior Alaska, Cook Inlet Basin)	HERBACEOUS	1.4
Low Shrub	LOW SHRUB	3.4
Low Shrub	LOW SHRUB	1.6
Tall Shrub (Open-Closed)	TALL SHRUB	2.9
White Spruce or Black Spruce (Open-Closed)	FOREST	0.0
White Spruce or Black Spruce (Open-Closed)	FOREST	0.1
White Spruce or Black Spruce (Woodland)	FOREST	0.1
White Spruce or Black Spruce (Woodland)	FOREST	0.5
White Spruce or Black Spruce/Lichen (Woodland-Open)	FOREST	26.2
White Spruce or Black Spruce/Lichen (Woodland-Open)	FOREST	8.4
White Spruce or Black Spruce-Deciduous (Open-Closed)	FOREST	0.0
White Spruce or Black Spruce-Deciduous (Open-Closed)	FOREST	0.0

mapped (See Figure 6, page 18) by Boggs et al.[23] based on classifications developed with various federal agencies (primarily, the Bureau of Land Management, and U.S. Fish and Wildlife Service) for most of Alaska using a variation of the Viereck et al. [24] classification.

The Fuller Creek Bank site is located on satellite imagery and a quadrangle map in Figures 7 & 8 (page 19 and 20), respectively.

Fuller Creek is approximately 12 miles in length and drops about 750 feet in elevation from headwaters to confluence with the Kuskokwim River. Most of the upper region of the creek, approximately 5.7 miles, is contained within the Bank site. McCally Creek is approximately 3 miles in length with nearly the entire watershed and 80 percent of the stream channel included in the Bank site.

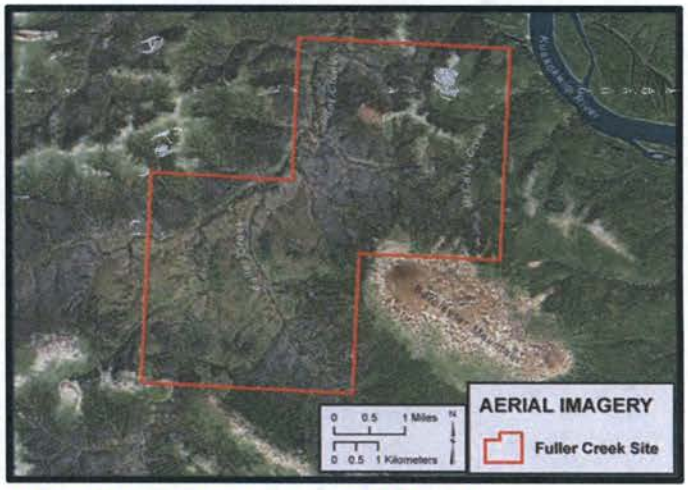

Figure 7. Fuller Creek site aerial (1999)

The Bank site is in a natural, undisturbed state where it provides subsistence hunting and fishing resources for Native Alaskans. All of the wetland systems and resources found within the properties are pristine and fully functioning. At 10,857 acres, the property is large enough to be self-buffering and self-sustaining. There is no historic or current use of the Bank property that conflicts with its preservation objective. (Note: there is no zoning ordinance, or even a zoning body, governing its use.)

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[23] Boggs, K., T.V. Boucher, T.T. Kuo, D. Fehringer, and S. Guyer. 2012. Vegetation map and classification: Northern, Western and Interior Alaska. Alaska Natural Heritage Program, University of Alaska Anchorage, Anchorage, Alaska. 88 pp

[24] Viereck, L.A.; Dyrness, C.T.; Batten, A.R.; Wenzlick, K.J. 1992. The Alaska vegetation classification. Gen. Tech. Rep. PNW-GTR-286. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station. 278 p.

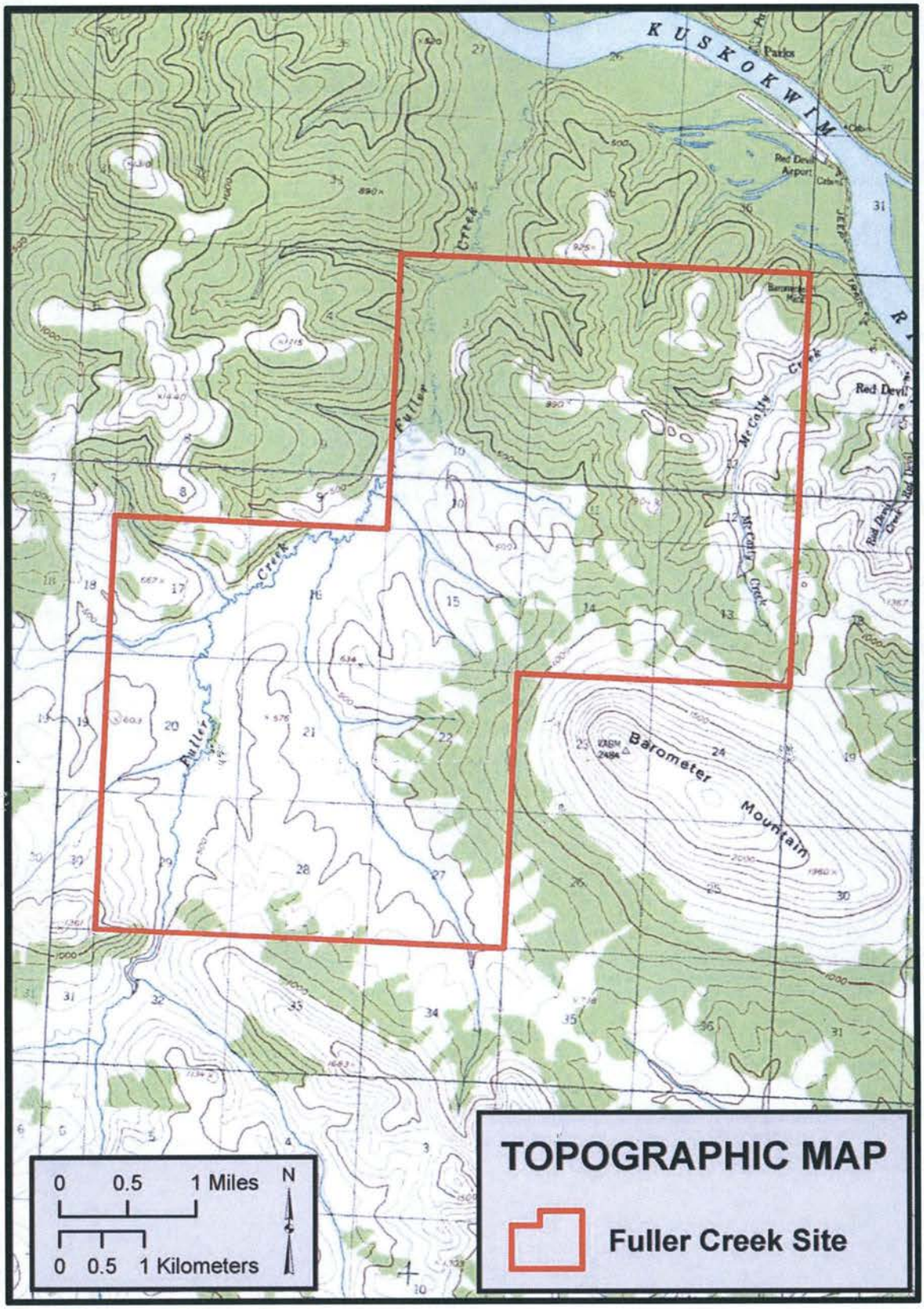

Figure 8. Topographic quadrangle map

8.2 Wetland and Stream Characteristics

Alaska Division of Geological and Geophysical Surveys (DGGS) personnel reconnoitered the Kuskokwim River and selected tributaries between the villages of Sleetmute and Aniak in southwestern Alaska in July 1982 and March 1983. Fuller Creek was reconnoitered in 1982 and these data are presented in tables 2-6.[25]

Table 2. Summary of observed data for Fuller Creek station (July, 1982)[25]

Slope	0.0008
Water Surface width (ft)	29
Cross-sectional area (ft^2)	41
Mean depth (ft)	1.3
Maximum depth (ft)	2.2
Mean velocity (fps)	1
Maximum velocity (fps)	1.9
Discharge (cfs)	58
Unit runoff (cfs/mi^2)	1.14

The Bank site helps protect the coho salmon rearing value of Fuller Creek in support of the middle Kuskokwim River salmon fishery. Headwater wetlands on the Bank site protect downstream water quality and hydrology by attenuating and filtering the release of runoff following precipitation and snowmelt and providing storage that modulates streamflow velocities and sediment loads, including woody debris that contributes to the function of the site's salmon rearing habitat. Filtering fine particles that can cause turbidity and interfere with sight feeding by juvenile salmon is especially important. Slow velocities and pools found in Fuller Creek are the preferred coho rearing habitat.[26]

Wetlands on the Bank site are both sinks and transformers of nutrients, which may enter wetlands through dry and wet deposition. The tributary creeks transform and export nutrients and organic carbon to Fuller Creek in ways that are beneficial to coho rearing. Juvenile coho depend on nutrients transformed into aquatic macroinvertebrates and terrestrial insects carried in stream flow ("invertebrate drift") as the food source they require to grow and smolt.[27]

Table 3. Summary of calculated bankfull characteristics and discharge for Fuller Creek[25]

Cross-sectional area (ft^3)	137
Water Surface width (ft)	38
Mean depth (ft)	3.6
Maximum depth (ft)	5.7
Mean velocity (fps)	2.4
Discharge (cfs)	328

The tributaries and wetlands in the Bank site are biologically linked through the movement of organisms or their reproductive propagules, either by drifting with current or by active movement. The headwater wetlands and creeks sustain the food supply for coho rearing. Uplands surrounding headwater and riparian wetlands and streams provide nutrients and organic carbon that build the food chains that support the salmon rearing

Table 4. Drainage basin characteristics for Fuller Creek[25]

Area (mi^2)	51
Mean annual precipitation (in)	22
Mean minimum temperature, January (°F)	-12
Percent of basin forested	33
Percent of basin under lakes	0

[25] Alaska Division of Geological and Geophysical Surveys. 1984.
[26] Lestelle, Lawrence C. 2007. Coho Salmon (Oncorhynchus kisutch) Life History Patterns in the Pacific Northwest and California. pp. 52 – 57.
[27] *Ibid.* p. 23

function of Fuller Creek.

Hydrologic data collected by DGGS on Fuller Creek in 1982 describe the flow characteristics and quality of the surface water within Fuller Creek. Discharge, water-quality, and stream-channel measurements were obtained and the information was used to assess runoff and base flow conditions and to estimate the year-round hydrologic regimen in both summer (high flow) and winter (low flow) conditions.

Table 5. Predicted streamflow characteristics[25]

Predicted flood year, 2 year (cfs)	534
Predicted 50 year flood (cfs)	1920
Froude number (August 1982 flow)[31]	0.16
Calculated slope-area discharge at observed July 1982 stage	66
Measured discharge July 1982 (cfs)	58

These baseline data shed light on the importance of Fuller Creek for coho salmon rearing. As previously cited, juvenile coho salmon are adapted to the slower velocities associated with pools. Of the 13 tributary streams to the middle Kuskokwim River surveyed in 1982-83 between Aniak and Sleetmute, Fuller Creek has the lowest measured discharge, lowest estimated two-year flood discharge, next-to-lowest calculated bankfull mean velocity. These characteristics support the rearing habitat required by coho salmon.

Fuller Creek's confluence occurs downstream from the community of Red Devil and from the long closed (1971) Red Devil Mine. Specifically, the surface of Fuller Creek leaving the Bank site is approximately 47 feet higher than its surface at its confluence with the Kuskokwim River. McCally Creek's confluence with the Kuskokwim River is between the community and the mine, but it is separated from the mine site by a ridge varying in elevation from 400 to 1,300 feet. Because the Bank site is elevated above its confluence with the Kuskokwim River and is separated from the Red Devil mine site by a prominent topographic feature, it is physically impossible for water or pollution from the Red Devil Mine to enter the Bank site. Not surprisingly then, the BLM studies of 2011-12 demonstrated that neither Fuller nor McCally Creek has elevated levels of arsenic, mercury, and antimony in macroinvertebrate and fish tissue.[28]

Table 6. Physical water quality data at Fuller Creek site[25]

Water temperature (°C)	11.3
Specific conductance (umho/cm at 25°C)	78
Dissolved oxygen (mg/l)	11
pH	7.5
Measured discharge July 1982 (cfs)	58

8.3 Land Encumbrances and Adjacent Land Uses

8.3.1 Land Encumbrances

The Fuller Creek bank site contains a reservation to the United States for a 50 foot wide trail easement (approximately 23 acres which is not counted in the site's acreage) along the northern part of the property for public access to public land. The easement is reserved pursuant to Section 17(b) of the Alaska Native Claims Settlement Act. Use of the easement is

[28] Bureau of Land Management. 2012.

restricted to travel by foot, dogsleds, animals, snowmobiles, two- and three-wheeled vehicles, small and large all-terrain vehicles (ATVs), tracked vehicles and four-wheel-drive vehicles. All other uses of the trail are prohibited. The acreage of the easement has been subtracted from the Bank. The easement is described in Patent No. 50-2013-0012 as:

> (EIN 15 D1) An easement fifty (50) feet in width for an existing access trail from Lot 2 of U.S. Survey No. 3771 (Red Devil Airport Conveyance) through Lots 4, 10, 13 and 19, running southwesterly to Sec. 1 of T. 19 N., R. 45 W., Seward Meridian, Alaska, then continuing westerly across Secs. 2 and 3, T. 19 N., R. 45 W, Seward Meridian, Alaska, to the right side of Fuller Creek in Sec. 3, proceeding southerly along the creek through Sec. 10 and emerging in public lands in Sec. 9 of T. 19 N., R. 45 W, Seward Meridian, Alaska. The uses allowed are those listed above for a fifty (50) foot wide trail easement.

The trail does not have any improvements and can be accessed chiefly in the winter by snowmobiles. There are no other easements or rights of way on the site. This easement is not currently in use and would not meaningfully impact the site if it were. There are no other easements or rights of way.

The property was conveyed to Calista Corporation by the U.S. Bureau of Land Management in fee title pursuant to the Alaska Native Land Claims Settlement Act of 1971 and is protected against liens by the Alaska Land Bank provisions of 43 U.S.C. §1636. There are no mortgages on undeveloped ANCSA land.

The property is not subject to any liens or mortgages.

8.3.2 Adjacent Land Uses

As shown in Figure 9 (page 24), the site adjoins Alaska Native Claims Settlement Act (ANCSA) Native Village land owned by The Kuskokwim Corporation along its northern border (and the middle fifth of its eastern border). Calista owns the subsurface rights for these lands. The remainder of the site is bounded by BLM owned lands, most of which are state selected. BLM land adjacent to the Bank, however, is currently protected by Public Land Order 5180 which withdrew unappropriated federal lands for ANCSA selections.

The Department of the Interior's Public Lands Policy (updated October 23, 2015) addresses its landscape-scale mitigation policy. The first tier of the mitigation hierarchy is avoidance. The new policy clearly requires a landscape approach to avoid resources "considered important, scarce, sensitive, or otherwise suitable to achieve goals as identified through landscape-scale strategies, plans, and approaches."[29] The Bank sponsor believes that this policy creates a high deterrence to any use of adjacent BLM land that would create jeopardy to an anadromous stream, especially one protected by a conservation easement and used as compensatory mitigation.

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[29] Department of the Interior, Departmental Manual, Public Land Series, Part 600, Chapter 6, Section 6.6. B.

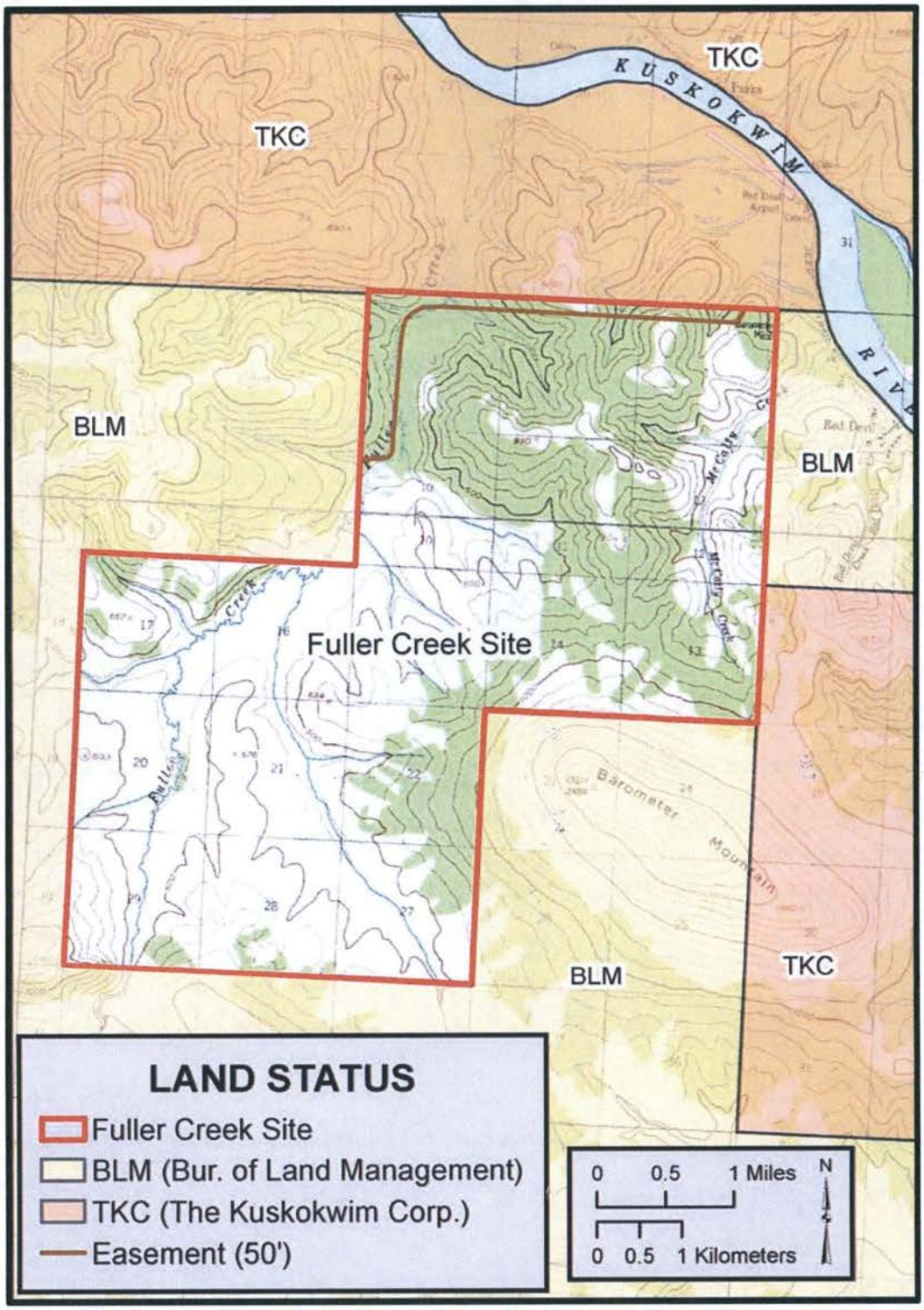

Figure 9. The Bank adjoins Alaska Native Claims Settlement Act (ANCSA) Native Village land owned by The Kuskokwim Corporation along its northern border (and the middle fifth of its eastern border)

9 HYDROLOGICAL INFLUENCES TO SUPPORT LONG-TERM SUSTAINABILITY

As the Bank site comprises primarily headwater streams, the predominant water source is precipitation. The wetland systems within the Bank site are undisturbed and fully functioning with no existing or anticipated hydrologic disturbances. Thus, there is no need for temporary or long-term structural management requirements (levees, weirs, culverts, etc.) to achieve hydrologic/vegetative restoration. No dams or stream diversions exist anywhere on Fuller Creek, including above and below the Bank boundaries. Taken together, the hydrologic features of the Bank site provide excellent support for their long-term sustainability.

In Alaska, water is a public resource belonging to the people of the state. All surface and subsurface waters on all lands in Alaska are reserved for common use and are subject to appropriation under the Alaska Water Use Act. Landowners do not have automatic rights to groundwater or surface water.

Water is managed by the Department of Natural Resources, Division of Mining, Land and Water. DNR grants water use rights, issues temporary authorizations for the beneficial use of water and facilitates maximum use of water resources consistent with the public interest. Under AS 46.15.145, DNR may grant a reservation of water for upstream use. A search of the DNR streams data base indicates that no water reservations or appropriations have been granted for Fuller Creek.

10 MEETING THE FIVE CRITERIA FOR PRESERVATION

The 2008 Rule lists five criteria for preservation to be used as compensatory mitigation.

The Bank site was selected based on two threshold criteria: 1) its ability to meet the five criteria for preservation (see below) as compensatory mitigation, and 2) its appropriateness on a watershed basis to offset potential impacts from mineral development and other activities in the proposed service area.

10.1 Provides important physical, chemical, or biological functions for the watershed?

Yes; please see Section 2 and Section 8 above.

10.2 Contributes significantly to the ecological sustainability of the watershed?

Yes; please see Sections 2 above and 8 above.

10.3 Preservation is determined by District Engineer to be appropriate / practicable?

In remote areas of Alaska when mitigation is required, there is often little alternative to preservation-based mitigation, as the vast majority of potential mitigation sites are pristine and undisturbed, offering no meaningful opportunity for restoration or enhancement. This is the case in the targeted Aniak HUC area where the Sponsor is not aware of sufficient restoration sites of the size and scale desired for the potential need that may be required for anticipated mining activities there. Thus we believe that the District Engineer should find preservation of the Fuller Creek site to be *appropriate* as mitigation, as this would contribute significantly to the needs of its watershed as outlined in Section 2 above. Subsection 5.2 above addresses why the preservation of the Bank site is *practicable* as mitigation.

10.4 Under threat of destruction or adverse modification?

Yes. The Fuller Creek Parcel, with surface and subsurface ownership both held by Calista, lies in a section of the Kuskokwim Mountains that is documented as mineralized. Thus its extensive wetland and headwater features, as well as its coho salmon rearing habitat, are under direct threat of destruction and adverse modification from mining activities and related development. The mineral character of the Fuller Creek tract is well established and exhaustively documented by numerous investigations conducted over the previous 75 years or more.

The Fuller Creek Bank site lies in Township 19N, Range 45W, Seward Meridian and coincides with Subunit 16c in the *Kuskokwim Area Plan for State Lands.*[30] Based on a history of mineral exploration and mining, the State of Alaska characterized the area as having high potential for mineral development and proposed selection of the Fuller Creek Subunit for state ownership under the *Alaska Statehood Act*. Concurrently, the Department of Natural Resources also recommended, following conveyance to the state, disposal of up to 600 acres along Fuller and McCally Creeks for private ownership and settlement. In order for the lands to be settled, easements would be required to access the parcels.

Independent of the state's proposed selection and planning process, the results of several modern geochemical exploration campaigns in the area demonstrate the mineral character of the tract and surrounding areas. Geochemical datasets collected by several mining and exploration companies, as well as Calista, show anomalous concentrations of gold (Au), silver (Ag), mercury (Hg), antimony (Sb) and arsenic (As) in surface samples of geologic material collected in the Fuller Creek and surrounding area. The presence of these metals in locally anomalous concentrations in and around the Fuller Creek parcel is shown on Figure 10 on page 27, and while the samples were collected in areas of convenient access (close to river access and from rock outcroppings), the anomalous concentrations are considered favorable

[30] Alaska Department of Natural Resources, 1988, Kuskokwim Area Plan for State Lands: Alaska Department of Natural Resources.

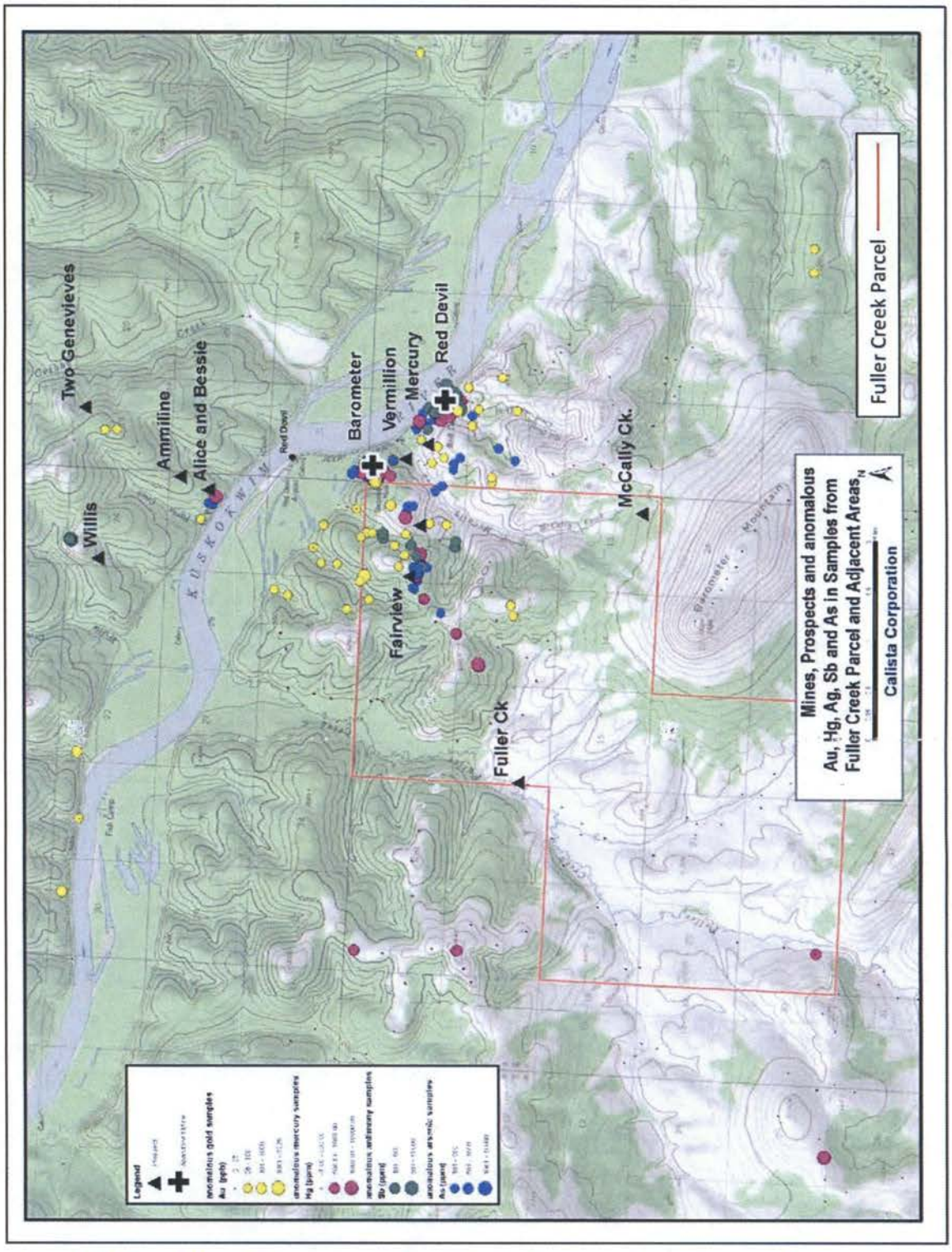

Figure 10. Mineral Map: The presence of metals in locally anomalous concentrations

indicators for the occurrence of epithermal, vein and intrusive-related mineral deposits in a broader area of the Kuskokwim Mineral Belt.[31,32]

Known mineral deposits and occurrences in the immediate area include the former Red Devil Mercury Mine located less than a mile east of the Fuller Creek Tract and numerous other mercury-antimony and gold prospects (Barometer, Mercury, McCally Creek, Vermillion, Fairview, and Fuller Creek, etc.)[33]. Thirty-six thousand (36,000) 76-lb flasks of mercury were produced from the Red Devil Mine, the largest mercury producer in Alaskan history, and lesser amounts were produced from smaller deposits in the Red Devil-Fuller Creek area, including the former Barometer Mine which produced about 16 mercury flasks. Both the Red Devil and Barometer Mines are closed.

The mercury-antimony deposits commonly contain anomalous gold values and are proposed to represent upper level expressions of deeper-formed intrusive-related precious and base metal deposits in the region. Based on the geology and geochemistry of soil and rock samples from the Red Devil and Barometer Mine, BHP-Utah recommended diamond drill testing of deep targets at the two sites for potential gold mineralization.[34] In addition to the mercury-antimony occurrences and deposits with associated gold mineralization, there are several placer and lode gold occurrences and prospects in the area.[35,36]

The Bank lies centrally located in the Kuskokwim Mineral Belt, which is the result of a major episode of epigenetic mineral deposit formation that occurred in Late Cretaceous time in what is now southwestern Alaska. Several large-scale tectonic factors came together during a

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[31] Calista Corporation, multiple years and ongoing, proprietary spatially related geochemical database containing geochemical data and sample descriptions generated by Calista during annual exploration and mineral assessment activities in the Calista region since circa 1980.

[32] Hunter, Dashevsky and Snyder, 1988, Field examinations of precious metal targets on Calista Native Corporation Lands and adjacent areas, southwest Alaska, unpublished American Copper and Nickel company report, 11 p., available from Calista Corporation.

[33] Bundtzen, T.K. and Miller, M.L., 1997, Precious metals associated with Late-Cretaceous-early Tertiary igneous rocks of southwestern Alaska, in Goldfarb, R.J. and Miller, L.D., eds., Mineral deposits of Alaska: Economic Geology Monograph 9, p. 242-286.

[34] Thole, R.H. 1990, 1989 Red Devil Progress Report, BHP-Utah International, Inc. Salt Lake City.

[35] Miller, M.L., Belkin, H.E., Blodgett, R.B., Bundtzen, T.K., Cady, J.W., Goldfarb, R.J., Gray, J.E., McGimsey, R.G., and Simpson, S.L., 1989, Pre-Field study and mineral resource assessment of the Sleetmute Quadrangle, southwestern Alaska, USGS Open-file Report 89-363, 115 p.

[36] Kurtak, J., Hoppe, J. and Ellefson, R., 2010, Mineral Occurrence and development potential report; locatable and salable minerals, Bering Sea-Western Interior Resource Management Plan, U.S. Bureau of Land Management Alaska Technical Report 60, 261 p.

relatively short time frame, leading to a widespread pulse of magmatism and mineralization, resulting in gold and mercury deposits throughout the ~190,000 km2 Kuskokwim Mineral Belt. The belt occupies a back-arc position along the north Pacific continental margin, about 350-450 km inboard of the present-day Aleutian subduction zone. The felsic intrusive rocks throughout the Sleetmute Quadrangle are of similar composition and age as the intrusive rocks at Donlin Gold mine site and all are genetically related.[37] Figure 11 on page 30 shows the presence of demonstrated mineral occurrence in the broad region surrounding the Bank site.

10.5 Permanently protected through appropriate real estate / other legal instrument?

Yes; Calista owns the Fuller Creek Bank site in fee simple and will protect this site in perpetuity by granting a conservation easement to a conservation-purposed, non-profit third-party entity. The easement will prevent surface and subsurface activity detrimental to the ecological value of the site, the two tributary streams (and their headwater watershed resources) contained therein, and the middle Kuskokwim River salmon fishery.

11 NAMES OF ADJACENT PROPERTY OWNERS

Fuller Creek Site:

Bureau of Land Management (BLM)
Anchorage District Office
4700 BLM Road
Anchorage, AK 99507

The Kuskokwim Corporation
Maver Carey, CEO
4300 B Street, Suite 207
Anchorage, Alaska 99518

[37] http://www.alaskageology.org/documents/08/08Marchabstract.pdf

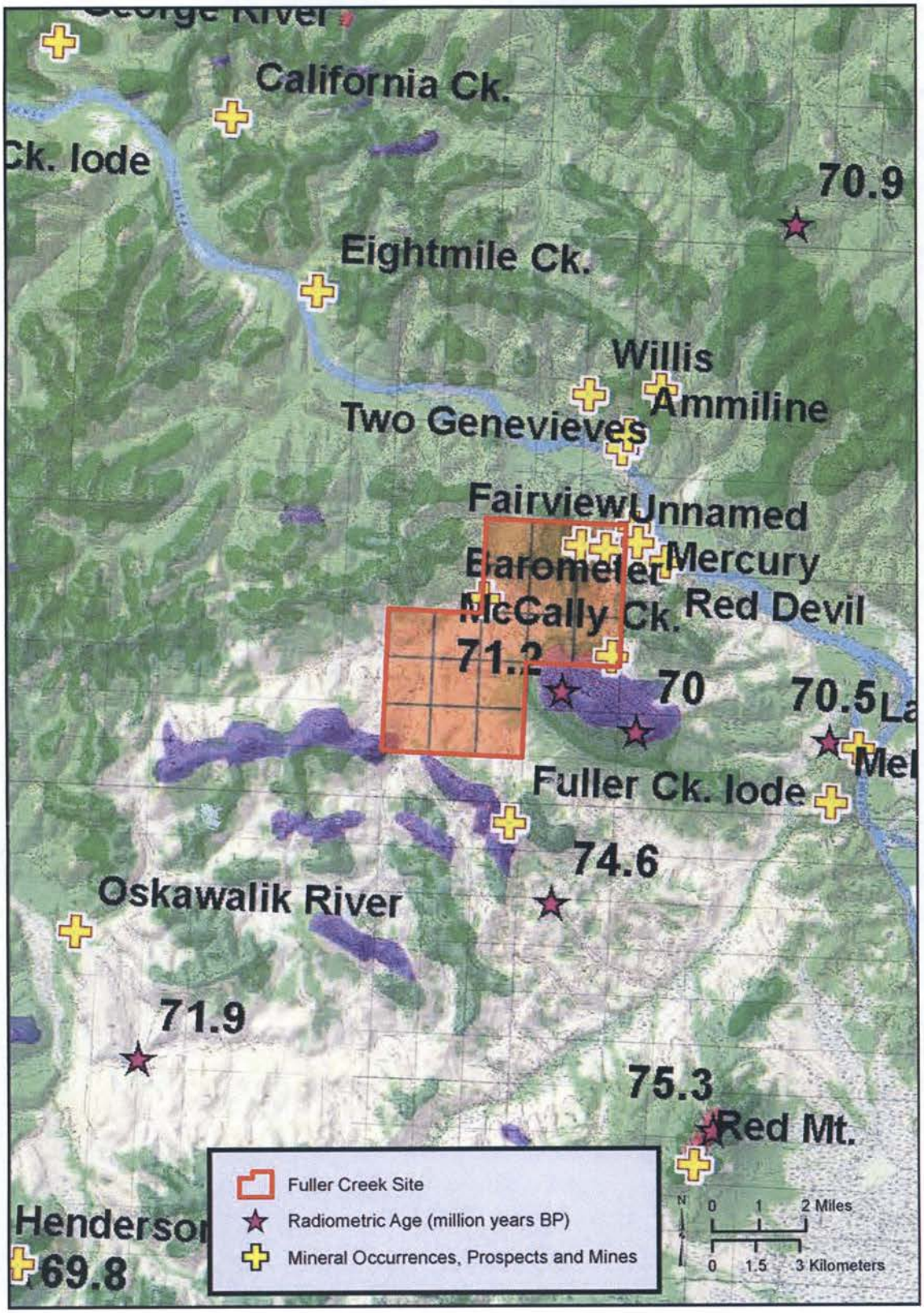

Figure 11: Radiometric Age and Mineral Occurrences in the Region of the Bank Site