

APPENDIX E: STATEMENT OF FINDING FLOODPLAIN MANAGEMENT (EXECUTIVE ORDER 11988: FLOODPLAIN MANAGEMENT)

STATEMENT OF FINDINGS

Description of Site:

Bonanza Creek is an integral part of the Chisana Historic Mining Landscape which was listed on the NRHP in 1998. The NPS has chosen to manage the Gold Hill area and Bonanza Creek for its historic value and therefore preservation and restoration of the historic landscape take precedent over natural resources and processes. Multiple historic features and structures have been identified within the drainage. Wooden remnants of boomer dams and linear hand-stacked tailings rows are situated within the active floodplains and channel. These adversely impact the floodplain function and associated natural resource character and associated values within the Bonanza and Little El claim groups. At present, the floodplain consists of the upper perennial stream channel and intermittently flooded channel and bank gravel bars. Floodplain bars contain scrub-shrub wetlands in various stages of development. The channel width of Bonanza Creek ranges from 10 to 35 feet within the Bonanza claim blocks. The floodplain is widest on Bonanza claim #1, where the alluvial fan of Bonanza Creek is located. During times of high water the entire floodplain may be covered on Bonanza claims 2 – 6. Periodic flooding increases the volume and size of the bed load and spreads it over the floodplain. This scours the stream bottom and riparian area, slows the establishment of aquatic and terrestrial vegetation, and often alters the physical characteristics of the stream channel.

Natural processes are slowly reclaiming the disturbed landscape. Floodwaters periodically alter the historic landscape and its component features. Loss of vegetation and soils on the floodplain have increased the ability for floodwaters to cause erosion. All historic cabins and the established mining support facilities are located outside the frequently flooded area. Some historic features and artifacts have been lost due to erosion and natural processes; however, due to the small size of the drainage, moderate peak discharge values and location of permanent structures far from the active channel, flood risks and threats to historic features are minor.

Preferred Alternative:

The scope of the preferred alternative is described in detail as Alternative B of an Environmental Assessment (EA). The EA analyzes the environmental consequences in detail of two alternatives for floodplains and related resources including water resources, vegetation, soils, and wetlands. Under the preferred alternative, the NPS would authorize the Mining Plan of Operations that was originally proposed, but monitor operations and attach stipulations to that proposed plan. These stipulations would modify the scope and ensure a higher level of protection to park resources and values and minimize and/or avoid potential adverse impacts to the floodplain.

Suction dredge placer mining operations would be, by necessity, conducted within the frequently active floodplain of Bonanza and Little Eldorado Creeks. Mining operations affect the frequently active floodplain by processing channel and bank gravel bars and temporarily altering local stream channel configuration and flow. Impacts generally consist of disturbance of channel morphology by extracting and mixing the stream substrate by dredge and by hand and laying the alluvium back during discharge and reclamation. Some highbanker operations would occur in sparsely vegetated floodplain. These mining operations would have low intensity effects on the existing condition of the floodplain and stream channel because it is a barren floodplain over most reaches of the stream within the claim blocks. Most proposed suction dredging will occur in previously disturbed areas of the Bonanza and Little Eldorado floodplains. Additionally, the floodplain substrate is primarily gravel and cobbles with very little riparian vegetation.

Approximately 15,020' of floodplain along Bonanza and Little Eldorado Creeks could be mined under the proposed MPO. However, based on anticipated progression of mining described in Section 2.2.2 (Proposed Mining Plan of Operations), mining in the floodplain would occur at a rate of 200 – 400 linear feet per year. This equates to a disturbance area of approximately 6,000 square feet (or .137 acres) per year.

Operations as proposed would result in a negative, but temporary degradation to a disturbed and impacted floodplain caused by re-mining the stream bottom and channel. Previous mining directly and indirectly impacted natural processes, channel morphology and all of the floodplain within the proposed mining area. No "pristine" floodplain reaches would be disturbed. Impacts to the floodplain would be controlled by NPS stipulations and monitoring. The following stipulations would be attached to prevent loss of soil and erosion, restore and/or improve fluvial conditions and facilitate revegetation of the floodplain and disturbed areas:

- Construction of small dams to provide sufficient water depth to keep the suction dredge intake nozzle beneath the water is permitted if the dam construction does not significantly reduce water flow downstream or cause increased stream bank erosion. Maximum dam height is restricted to 2.5 feet.
- Construction of water diversions is not permitted. Water pumping in support of suction dredge and/or high-banker operation is permitted as these practices essentially return water immediately to the stream and/or floodplain.
- Reclamation at the end of the season shall include spreading the gravel used in dam construction, and any accumulated piles of processed gravel, on the stream bottom to eliminate any obstruction to the stream. Excavated pits shall be filled with tailings. Original stream gradients shall be reestablished. Reclamation of all dams, mined areas and prospect pits upon cessation of operations at that site and by the end of the season is required.

The NPS would monitor operations and require compliance with NPS reclamation standards. This would minimize any direct or indirect impacts to the floodplain and prevent unnecessary degradation. There would be temporary impacts to the floodplain while mining some areas

during operations due to dams, excavations and stockpiling materials. By keeping the mine footprint small and reclaiming as operations proceed up drainage, impacts to the floodplain would be minimized.

Non-historic tailings and features that currently negatively impact the floodplain and natural processes would remain after mining. This would result in continued minor long-term impacts to floodplain function. NPS stipulations would provide protection to the historic features. The Bonanza/Little El Support Camp is located on an elevated terrace well above any frequently occurring flood level. The camp has existed on this location for more than 70 years without flood damage. All fuels, waste, and the latrine would be located outside of the 100-year floodplain.

Justification for Use of Floodplain:

Alternatives Considered:

Two alternatives were considered (Alternatives A and B) in the Environmental Assessment. These include a no action and the mining plan of operations with stipulations to control impacts. The claimants have legal right to exercise, and do not want to sell the claims so acquisition is not feasible at this time. There would be no risk to property, natural or cultural resources or humans from flooding. The proposed mining action was chosen over no action because there is no practicable alternative that allows the miners to exercise their mineral rights without operating in the floodplain. There is no increased risk to NPS property or human health and safety associated with the preferred alternative. NPS monitoring and stipulations minimize potential impacts associated with the floodplain action.

Floodplain Determination:

The proposed action would occur within the 100-year Regulatory Floodplain. The action proposed, a placer mining operation cannot be successfully carried out unless it is located in or near the stream channel. Most of the direct disturbance would occur within a non-to sparsely-vegetated gravel and cobble zone of the active streambed and floodplain below ordinary high water. We do not anticipate any measurable, long-term changes in natural and beneficial values of the greater floodplain area such as ecosystem quality, soils, vegetation, and wildlife habitat or ground water recharge.

We do not anticipate that any adverse short and long-term impacts would likely result in any long-term threat to property and/or cultural/historic resources. The preferred alternative does not pose any potential for negative long-term impacts. This preferred alternative is consistent with NPS guidance for compliance with Executive Order 11988 (Floodplain Management).

The objective of the preferred alternative is to allow the legal exercise of privately held mineral rights while minimizing impacts the natural and beneficial floodplain values.

The operator would be required to reclaim mine disturbances to a condition that approximates existing historic landscape concurrent with operations or as soon as feasible but within a one-year period from the original disturbance. The miner would also be required to keep his unreclaimed disturbed footprint to a minimum. Non-historic features and tailings piles would be removed. Restoration would allow for natural processes to facilitate reestablishment of the floodplain within the historic context.

Summary:

There is no practicable alternative to authorizing mining on the Bonanza/Little El claim groups on Bonanza Creek, which are located in the Regulatory, 100-year Floodplain. The greater floodplain was impacted by mining in the past. Existing historic tailings piles and dam structure continue to impact floodplain function. The preferred alternative would not pose any significant threats to NPS property or human life. Although temporary, minor impacts to the floodplain system would occur, they will be minimized through application of NPS stipulations, and disturbed areas will be restored.