Finding of No Significant Impact

Final Environmental Assessment

Linderman Dam Restoration on the Teton River, Lower Teton Division, Teton Basin Project, Teton and Fremont County, Idaho

U.S. Department of the Interior
Bureau of Reclamation
Columbia-Pacific Northwest Region
Snake River Area Office

PN FONSI # 20-4

Introduction

The Bureau of Reclamation (Reclamation) has prepared this Finding of No Significant Impact (FONSI) to comply with the Council of Environmental Quality (CEQ) regulations for implementing procedural provisions of the National Environmental Policy Act (NEPA). This document briefly describes the Preferred Alternative, other alternatives considered, the scoping process, Reclamation's consultation and coordination activities, and Reclamation's finding. The Final Environmental Assessment (EA) fully documents the analyses of the potential environmental effects of implementing the changes proposed.

Location and Background

Linderman Dam is located within both Teton and Fremont Counties. Surrounded by rugged, steep cliffs, the vegetated canyon walls have an apparent cut off where they were once inundated, and bare rock is still exposed beneath this watermark line throughout portions of the canyon. Linderman Dam was built in the late 1950s and early 1960s by local farmers to span the width of the Teton River approximately seven miles upstream from Teton Dam site. Due to the construction of Teton Dam and Reservoir in 1972, the operation of Linderman Dam was stopped, and portions of the dam were removed. After the failure of Teton Dam in 1976, the river more or less resumed its previous course and the footings of Linderman Dam were exposed once again.

Reclamation has management responsibility for approximately 9,300 acres of Federal lands (3,496 acres BLM land managed by Reclamation) for the Lower Teton Division of the Teton Basin Project in the vicinity of the Teton Dam Site in the Teton River Canyon and along the canyon rim in Fremont, Teton, and Madison Counties, Idaho. Management issues identified in the Teton River Canyon Resource Management Plan (RMP) Study Area are unique due to the failure of Teton Dam in 1976. Even though the rapid draining of the reservoir caused numerous landslides and habitat loss, the canyon still provides critical mule deer winter range and habitat for the Yellowstone Cutthroat trout (YCT). Access is limited, but recreation demands are increasing as growth soars in nearby communities.

These lands were privately owned and largely were being dry-farmed prior to their acquisition by the United States (through Reclamation and the BLM) for construction of the Teton Dam. After the failure of the dam, some of these lands were leased back to farmers for agricultural use. Reclamation maintains

several easements on private property in the RMP Study Area. Reclamation also provided authorization to private individuals and corporations to pump water up the canyon walls to their private lands. The authorizations included the right to construct and operate pump stations, pipelines, overhead powerlines, and access roads or to use existing Reclamation-constructed access roads. Authorization for the repair, operation and maintenance of Linderman Dam was issued in 1980 for 25-years, as part of a settlement agreement regarding damage to real and personal property and irrigation systems resulting from the construction and failure of Teton Dam.

Purpose and Need

The Teton River is used by irrigators, outfitter guides, recreationists and others. The remnants of Linderman Dam create a low head dam structure with a 30-foot-deep plunge pool on the downstream side. When water flows over this structure, it causes a turbulent hydraulic within the plunge pool which can continually entrap and recycle anything caught in the boil of the current. This situation can quickly lead to exhaustion, severe injury, or death of recreationists on the Teton River. This serious safety issue is being more frequently encountered as more boaters, kayakers, tubers, and other aquatic recreationists access the Teton River. Reclamation's focus on safety as a Columbia-Pacific Northwest Regional core value has caused this issue to rise in priority that must be remedied. The Linderman Dam structure is also an impassable diversion for native YCT causing limited access to natal fish grounds and impacts to distribution and abundance of the species in the Teton River Canyon. Reclamation's purpose for the proposed Linderman Dam removal and associated Teton River restoration are to:

- Eliminate the serious recreational hazard by removing parts of the Linderman Dam structure
- Restore Teton River continuity from above to below the Linderman Dam structure while maintaining current river surface elevation thereby improving the physical habitat for native YCT.

The pump station at the Linderman Dam site provides for the fulfillment of a perpetual water right. In remedying the recreational hazard, Reclamation must ensure water elevation at the Linderman Dam site would not hinder the fulfillment of water rights.

Alternatives Considered and Recommended Action

The range of alternatives developed for this Preferred Alternative is based on the purpose and need for the project, and the issues raised during internal, external, and Tribal scoping. The alternatives analyzed include a no-action alternative, the Preferred Alternative to construct a riffle downstream of Linderman Dam and the alternative to fill the scour hole below Linderman Dam. The no-action alternative does not meet the defined purpose and need for action but was evaluated because it provides an appropriate basis by which the recommended action is compared.

Summary of Environmental Effects

The following summarizes the effects the Preferred Alternative (Alternative B) would have on each resource category analyzed in the EA. For a full analysis and explanation of how each resource was evaluated, readers may reference Chapter 3 – Affected Environment and Environmental Consequences in the EA.

Biota-Vegetation, Wetland-Fish and Wildlife

Under the Preferred Alternative, the loss of terrestrial and riparian vegetation within the bypass channel would be considered a permanent loss as it currently exists but the area would be reseeded with native riparian vegetation post construction.

Terrestrial and Riparian Biota

This may affect terrestrial and riparian species using the area by displacing them for the duration of construction. In the long term, species using the terrestrial and riparian habitat should reestablish, adjust, and find new areas to use after the construction is complete.

Mammalian Communities

This may affect mammalian species using the area by displacing them for a short time period. In the long term these species should adjust and find new areas to use. The big game species such as mule deer, elk, and moose would continue using the food and water resources around the action area.

Avian Communities

This may affect waterfowl nesting and production in the impact area and would reduce the riparian habitat for shoreline bird species. Noise during construction would also cause short-term avoidance of the area. In the long term, species should adjust and find new areas to use as the construction noise stops and as the riparian zone reestablishes.

Fisheries and Wetlands

Long term, this should affect the fisheries in a positive way. The project was designed in part to improve the habitat in this reach of river by increasing flow and removing a structure that could be negatively affecting fish passage. During construction, the fish using the area would be displaced for a short time but would move downstream or upstream to avoid adverse water conditions and construction noise. In the long term, the fish species would benefit with improved habitat conditions from the river being returned to a more natural state, i.e., similar to pre-dam conditions. This project also aligns with an overarching long-term plan to improve the entire Teton river within the footprint of the inundated zone of the former Teton Dam project.

Amphibian and Reptile Communities

These activities would have an effect on amphibians, primarily frogs. Leopard frogs may be found around the Linderman Dam structure in the summer. The destruction of the shoreline habitat within the proposed project site could harm any northern leopard frog population that may occur in the area. The other amphibian and reptile species using the impact area would also be affected by the permanent habitat loss and they would be displaced for a short time period. In the long term, these species should adjust and find new areas to use as the riparian zone reestablishes itself.

Threatened and Endangered Species

Under the Preferred Alternative, any potential use of habitat in the action area by individual wolverines and yellow-billed cuckoo would likely be temporarily disrupted. The noise of heavy machinery and increased human activity inherent in the construction process would likely cause temporary displacement of mobile wildlife, including any Threatened and Endangered (T&E) species present, due to avoidant behavior. These behavioral changes would be limited to the duration of the construction timeframe. The Preferred Alternative would not significantly alter the overall character of habitat present in the action area, and infrequent periodic migratory use by T&E species would be expected to resume after the conclusion of construction. Therefore, the proposed alternative would cause no significant effect to T&E species.

Hydrology

Under the Preferred Alternative, the existing Linderman Dam would be improved to ensure the safety of recreators on the Teton River. The Preferred Alternative includes the construction of a rifle structure downstream which would submerge the current dam structure. Any protruding concrete, rebar and piping in and around Linderman Dam would be removed to ensure a hazard free environment for river recreation. The riffle would be constructed during low fall flows with a temporary bypass channel being formed to allow flow to pass around the construction site. Construction would occur over multiple years in a multi-phase process with flow that is diverted from the river being returned to the river. The resulting river levels would ensure that irrigation can still occur. When the riffle is complete, the temporary bypass channel would be filled to a finished grade elevation to function as a low-lying swale on the floodplain, and the crossing and temporary access road would be removed.

In the short term, construction efforts would work below the ordinary high-water mark. It is not anticipated that river hydraulics would be significantly impacted as the construction work is designed to rehabilitate the site to a safe condition without greatly impacting the normal water surface pool at Linderman Dam. The footprint of Preferred Alternative construction area closely resembles the existing Linderman Dam structure; therefore, it is not anticipated that river hydraulics would be affected in the long-term. Basin hydrology and river flows would be unaffected under the Preferred Alternative.

Water Quality

Effects to water quality in the Teton River are separated into two categories: short-term construction effects and long-term effects. Short-term construction effects are separated by construction phases and include direct and indirect effects during and immediately after the specific construction phase. Long-term effects include direct and indirect effects after the river channel has come to an equilibrium sometime after construction.

Short-term Construction Effects

Phase 1

Rehabilitation of the access road, rough grading of the staging areas, and road use for rip rap deliveries, could increase turbidity and sediment into the river during Phase 1 of construction. Proposed staging area (1.95AC) is a higher sediment source risk due to its close proximity to the river. Additionally, the construction and use of the temporary access road connecting the existing road to the staging areas would also be a potential sediment source near the river. To mitigate turbidity and sedimentation effects from these areas, BMPs would be implemented by the construction crew, including but not limited to watering the road to decrease dust during truck traffic. This would limit the amount of sediment entering the river to very minor amounts that occur infrequently due to wind action and would not be expected to exceed Idaho water quality standards for turbidity.

The effects from construction of the two bypass channels (B1 and B2) are similar (Figures 4 and 5 respectively in EA). Construction of B1, although shorter in length (approximately 500 feet) compared to B2 (900 feet), is closer in proximity to the river and poses a higher risk of sedimentation and increased turbidity to the river. Construction of B2 is slightly less risky because it is slightly further from the river, but the addition 400 feet of ground disturbance to construct the channel has more disturbed soil surface, increasing the risk of turbidity and sedimentation in the river. Effects from B1 and B2 bypass channels would be mitigated by BMPs such as watering down the newly disturbed channel to decrease dust.

This phase of construction is to occur in the summer and early fall. Sedimentation risk would be the highest during hot, dry, windy days until the ground freezes. Stochastic rain events could cause an increase in sedimentation from the newly disturbed areas. However, specific stormwater runoff plans would be produced by the contractor to implement BMPs to mitigate and prevent excess stormwater from the construction areas of reaching the river.

Phase 2

Grading the upstream and downstream connection of the temporary bypass channel (either B1 or B2) would disturb the soil, increasing the risk of turbidity and sedimentation. This would be similar to the effects identified in Phase 1 construction for the temporary bypass channel B1 and B2. These effects would be short-term because the bypass channel (either B1 or B2) would have a plastic liner installed after grading, preventing soil from being transported to the river. Once the bypass channel is opened and water from the river is flowing through it, no increases in sedimentation or turbidity from the bypass channel are expected because of the plastic liner would effectively create a water-tight barrier and prevent any soil from the bypass channel to erode.

The placement of the riffle material into the river channel would disturb the channel bottom and would cause a momentary increase in turbidity. The resulting sediment plume would dissipate downstream within minutes of entering the channel and would be distributed downstream based on mass of the individual sediment particles and flow velocity. In channel areas that experience direct flows, the water velocity has likely removed much of the lighter sediment and would experience less turbidity, while depositional areas that are protected from the direct current would experience more turbidity during the placement of fill. It is expected that turbidity during these periods may exceed 25 NTUs over background; these effects would not persist for more than 10 consecutive days because of the small amount of sediment disturbed by fill placement and how quickly it would dissipate downstream. By the same logic, turbidity should not at exceed background by more than 50 NTUs taken instantaneously. The fill material itself would not add to the sediment/turbidity because it would be cleaned before placement into the channel and any sediment on the fill would be very minor.

Removal of protruding excess concrete, rebar, and piping on the Linderman Dam structure is not likely to cause any effects to water quality. All excess concrete, rebar, and piping would be removed off-site and disposed of properly.

Phase 3

Reopening the upstream end of the temporary bypass channel to carry out needed repairs or improvements to the newly constructed riffle would have similar effects as stated in the Phase 2 construction for the same actions. Any disturbance in the river channel has the risk of dislodging sediment and increasing turbidity. However, those effects should be less in duration and intensity because riffle repairs should be much less intrusive than the initial riffle construction done in Phase 2 construction. Like in Phase 2 construction, turbidity during these periods may exceed 25 NTUs over background but would not persist for more than 10 consecutive days or 50 NTUs (above background levels) taken instantaneously because of the small amount of sediment disturbed by fill placement and how quickly it would dissipate downstream.

Filling in bypass channel, removing the temporary access road, and revegetating all disturbed areas with a mix of native riparian species would have no overall negative effects to water quality. The initial construction and filling in with topsoil, grading/leveling the area, and other soil disturbance activities could increase the chances of sediment/turbidity in the river, especially due to the close proximity to the

river. However, revegetation and restoration of the site to a functioning riparian floodplain would prevent and improve water quality by shading (cooling water temperature) with tall riparian shrubs, protection from erosion with deep-rooted riparian plants, and riparian vegetation can filter/catch upland sediments that have eroded before they deposit into the river.

The cumulation of the short-term construction effects (phases 1-3) are not expected to affect *E. coli* concentrations, water temperature, pH, dissolved oxygen (DO), or ammonia concentrations below, at, or above the construction site. No inputs associated with these contaminants are known to occur or are likely to occur due to construction.

Long-term Effects

Restoring the Teton River continuity from above to below the Linderman Dam structure would change the large pool condition to a more connective, river-like condition. The fluvial geomorphology would be changed to a continuous river corridor of flowing water. Functioning as such, light substrate and bed material would be redistributed and would be deposited based on sediment mass and flow velocity of the water. The connectivity would reduce the likelihood of erosional effects such as from a plunge-pool head-cutting. Riparian vegetation establishing in the disturbed areas along the river would stabilize the riverbanks and prevent erosion.

The river-like geomorphology would aid in DO stabilization by creating riffle-pool sequences that enhance and improve DO concentrations. Water temperature in the action area would return to a more natural condition and vary depending on diurnal and seasonal fluctuations. This would also affect the potential for *E. coli* contamination by flushing any bacteria and not allowing stagnant, warm water to collect. The overall water quality of this reach after construction, and after the site has been stabilized with vegetation, would be expected to meet or exceed IDEQ water quality standards.

Fluvial Geomorphology

The increase in base elevation of 4.5 ft as a result of the constructed riffle combined with partial dam removal is enough to smooth the water surface elevation across the dam during low flow conditions, removing hazards to recreators. During large storm events (greater than a 2-year recurrence interval flood), a hydraulic drop is still expected at the dam. However, the drop is expected to be less than one foot, and boating traffic is assumed to be small during these times. An increase in water surface elevation greater than 0.5 ft is expected within the pumping pond, which would allow Skyline Farms to continue pump operations. The existing 72-inch pipe culvert beneath the peninsula would be completely inundated; therefore, any water passage would have negligible impacts on the action area.

The proposed riffle would combine the current pools upstream and downstream of Linderman Dam, creating one large pool approximately 1,100 feet long. All existing concrete and rebar above 5154.5 ft in elevation would be removed. This could result in more sediment deposition particularly within the upstream extent and channel margins of the upstream pool, potentially encouraging more vegetation growth. The re-circulation zone found at the pumping pond inlet is not expected to change and sediment deposition would continue. With a higher pool elevation, the sedimentation may increase in thickness. Skyline Farms would need to continue their current maintenance activities and potentially conduct them more frequently in the future.

Given that a riffle consisting of landslide deposits has persisted at this site for nearly four decades, the landslide deposit acts as an erosion-resistant point on the channel bed and should provide a stable substrate for the design riffle foundation. Portions of the existing riffle would be excavated and backfilled

with rock to key in the design riffle. The backfill would contain boulders, cobbles, and gravels, some of which may be susceptible to sediment transport; however, this riffle is designed to be a permanent feature and should offer protection to the underlying material.

Landslide material along the left bank may be removed to create a more accessible floodplain on the south side of the river; two flat benches are proposed within the design slope. The lower proposed bench is meant to be accessed by the river during high flows. The upper design bench would be connected to the natural bench formed by the landslide deposit at 5200 ft elevation. The designed slopes between the benches could degrade with time. Material would most likely be deposited on the adjacent design benches but could potentially deposit some material into the river. As a portion of the natural landslide bench would remain, the proposed design is unlikely to destabilize material on the upper canyon walls. However, landslides within Teton Canyon are common within the geological record and future landslides cannot be ruled out, especially if any overburden material remains on the canyon walls.

In the short term, construction efforts include a bypass channel on the south floodplain. Assuming the bypass channel is appropriately filled and sealed after construction, no changes outside of the intended design are expected in the fluvial geomorphology.

Realty

Implementation of the Preferred Alternative would occur in the general vicinity of the improvements authorized by License, 11-07-14-LA716 and directly adjacent to private lands used for agricultural cultivation. Prior to implementation of any activities in the Action Area, all equipment would be cleaned of soil and plant debris and disinfected, and all procured materials certified free of disease and pests in accordance with IDAPA 02.06.26, 100. 01, Introduction of Pests. This would help to ensure that the project doesn't introduce and/or spread disease and pest(s), specifically the pale cyst nematode. Due to the high concern regarding the nematode, a representative from Skyline Farms (adjacent landowner) would inspect all equipment and procured riprap and fill material prior to entering the Seed and Potato Crop Management Area.

Repairs to the existing access roads would improve the overall access to the Action Area. Caution would need to be taken to protect the buried powerline within the portion of the road from the top of the canyon down to the pumping station. Access to the authorized improvements would be temporarily limited during road improvement; however, construction of the bypass channel and riffle would occur downstream from the authorized pumping plant.

The temporary access road to be constructed would cross the existing pipeline, where a minimum of 18 inches of cover would be required to protect and prevent crushing of the pipe. Construction of the temporary access road, rough grading of the staging areas, and shaping of the temporary bypass channel would result in the removal of vegetation and soil, as well as, soil compaction. However, these impacts would be temporary in nature as these disturbed areas would be rehabilitated and revegetated at the end of the project.

An easement would be acquired to allow the stockpiling and storage of the procured riprap and fill material at the top of the south rim of the canyon on about 3.45 acres of land owned by Skyline Farms. This acreage is for those portions of the three staging and stockpiling areas on the canyon rim that are located on the private property. The easement would be issued for a three-year term with an option to extend for an additional two years.

It's anticipated that the construction of the riffle and backed up water would result in a raised water level allowing for more optimal pumping operations at the pump station, a beneficial effect. Also, with the elimination of the hydraulic jump at the dam structure and removal of the protruding excess concrete, rebar, and piping the need for portage would no longer exist. Therefore, Skyline Farm's concerns with trespass, site contamination, and security issues at the pump station would be reduced.

Best management practices would be followed during implementation of Preferred Alternative to protect the existing authorized improvements. However, if any damages were to occur to any of the improvements, Reclamation would be responsible for promptly repairing the damage.

Socioeconomics

Under the Preferred Alternative, the need for material from the local area could have short-term (up to the 10-week duration of the project) economic gains to the local area through the contracting process. However, due to the project's relatively short overall duration, no significant effects to local demographics or employment and income trends would be expected to occur as a result of the Preferred Alternative.

Recreation

Work at the dam under Preferred Alternative is expected to take place without affecting the main boating season. Since there is administrative access only on the road to Linderman Dam and Public access is not allowed in the project work area, recreation access in the Teton River should not be reduced or affected.

The flow bypass channel during construction would be for water passage and blocked by boulders that would prevent boating through the construction site. The bypass channels for the construction would likely affect recreation in the short-term by causing the "boaters" to get around the construction during the project. The water channel would basically be split, which could possibly cause problems for people using large rafts or drift boats during construction. Early and repeated publication of closure periods, especially notice to outfitters and posting river access points, would need to be done. Construction is expected to take place when the river is low and typically during the off-season, August to October and therefore, is not expected to reduce boating use to any extent. Long term, this alternative would improve the general safety climate for recreators in this area, increasing the potential to save lives on the Teton River.

Unaffected Resources

The Preferred Alternative would not cause any short- or long-term direct, indirect, or cumulative effects to the following resource categories:

- Indian sacred sites
- Cultural resources
- Tribal Interests including:
    - Indian trust assets
    - Treaty Rights
- Environmental Justice

Consultation, Coordination, and Public Involvement

In compliance with Section 106 of the National Historic Preservation Act of 1966 (as amended in 1992), Reclamation consulted with the Idaho State Historic Preservation Office to identify cultural and historic properties in the area of potential effect. Consultation was initiated in January 2019, and the State Historic Preservation Office concurred with the finding of no adverse effect to historic properties February 2019 (Final EA Appendix B).

Reclamation mailed Tribal and public recipients scoping letters with a project information package enclosed on October 7 and October 15, 2019 respectively. Reclamation received four comment from the scoping period. The mailing list, scoping letters and comments received are presented in Appendix C of the Final EA.

Finding

Based on the analysis of the environmental effects presented in the Final EA and consultation with potentially affected agencies, tribes, organizations, and the general public, Reclamation concludes that implementation of the Preferred Alternative will not have a significant impact on the quality of the human environment or natural and cultural resources. The effects of the Preferred Alternative will be minor, temporary, and localized. Therefore, preparation of an Environmental Impact Statement (EIS) is not required.

Decision

Based on the analysis in the EA, it is my decision to select for implementation the Preferred Alternative (Alternative B). The Preferred Alternative will best meet the Purpose and Need identified in the EA.

Recommended:

ROCHELLE OCHOA Digitally signed by ROCHELLE OCHOA
Date: 2020.05.26 10:18:16 -06'00'

Rochelle Ochoa
Natural Resources Specialist
Snake River Area Office, Boise, Idaho

Date

Approved:

BRYAN HORSBURGH Digitally signed by BRYAN HORSBURGH
Date: 2020.05.23 05:14:48 -06'00'

Bryan Horsburgh
Acting Snake River Area Manager
Columbia-Pacific Northwest Region, Boise, Idaho

Date

BUREAU OF RECLAMATION

Environmental Assessment

Linderman Dam Restoration on the Teton River

Lower Teton Division, Teton Basin Project, Teton and Fremont Counties, Idaho

Columbia-Pacific Northwest Region

Mission Statements

The Department of the Interior conserves and manages the Nation's natural resources and cultural heritage for the benefit and enjoyment of the American people, provides scientific and other information about natural resources and natural hazards to address societal challenges and create opportunities for the American people, and honors the Nation's trust responsibilities or special commitments to American Indians, Alaska Natives, and affiliated island communities to help them prosper.

The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

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Acronyms and Abbreviations

Acronym or Abbreviation	Definition
APE	Area of Potential Effect
BLM	Bureau of Land Management
BMP	Best Management Practice
BP	Before Present
cfs	Cubic Feet per Second
CFR	Code of Federal Regulations
CWA	Clean Water Act
DOI	Department of the Interior
EA	Environmental Assessment
EIS	Environmental Impact Statement
EO	Executive Order
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
FONSI	Finding of No Significant Impact
ft.	Feet
GLO	General Land Office
IA	Interagency Agreement
IDEQ	Idaho Department of Environmental Quality
IDFG	Idaho Department of Fish and Game
IDL	Idaho Department of Labor
IPaC	Information for Planning and Consultation
ITAs	Indian Trust Assets
m	Meters
NAT	Natural Resources
National Register	National Register of Historic Places
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NTU	Nephelometric Turbidity Unit
OHWL	Ordinary High-Water Level
RAV	Recreation, Access, and Visual Quality

Acronym or Abbreviation	Definition
Reclamation	Bureau of Reclamation
RM	River Mile
RMP	Resource Management Plan
ROD	Record of Decision
SHPO	State Historic Preservation Officer
T&E	Threatened and Endangered
TMDL	Total Maximum Daily Load
USFWS	U.S. Fish and Wildlife Service
VE	Value Engineering
YCT	Yellowstone Cutthroat Trout

Chapter 1 Purpose and Need

1.1 Introduction

The Bureau of Reclamation (Reclamation) prepared this Environmental Assessment (EA) in accordance with the National Environmental Policy Act (NEPA). This EA analyzes the potential environmental effects that could result from the proposed construction activities necessary for the restoration of Linderman Dam at River Mile (RM) 9.7 of the Teton River.

This EA serves as a tool to aid the authorized official in making an informed decision that is in conformance with applicable Federal laws and regulations. The Preferred Alternative and additional alternatives are described in Chapter 2 of this document, and the effects (direct, indirect, and cumulative environmental effects) of each alternative are evaluated for each of the affected resource areas in Chapter 3 of this document.

The NEPA process requires analysis of any Federal action that may have an impact on the human environment. This EA is being prepared to assist Reclamation in finalizing a decision on the Preferred Alternative, and to determine whether to issue a Finding of No Significant Impact (FONSI) or a notice of intent to prepare an Environmental Impact Statement (EIS).

1.2 Location, Background, and Action Area

1.2.1 Location

Linderman Dam is located in Teton and Fremont Counties, Idaho. Surrounded by rugged, steep cliffs, the vegetated canyon walls have an apparent cutoff where they were once inundated, and bare rock is still exposed beneath this watermark line throughout portions of the canyon. Linderman Dam was built in the late 1950s and early 1960s by local farmers to span the width of the Teton River approximately seven miles upstream from Teton Dam site (Figure 1). Due to the construction of Teton Dam and reservoir in 1972, the operation of Linderman Dam was stopped and portions of the dam were removed. After the failure of Teton Dam in 1976, the river more or less resumed its previous course and the footings of Linderman Dam were exposed once again.

1.2.2 Background

Reclamation has management responsibility for approximately 9,300 acres of Federal lands (including 3,496 acres Bureau of Land Management (BLM) land managed by Reclamation) for the Lower Teton Division of the Teton Basin Project in the vicinity of the Teton Dam Site in the Teton River Canyon and along the canyon rim in Fremont, Teton, and Madison Counties, Idaho. Management issues identified in the Teton River Canyon Resource Management Plan

(RMP) Study Area are unique due to the failure of Teton Dam in 1976. Even though the rapid draining of the reservoir caused numerous landslides and habitat loss, the canyon still provides critical mule deer winter range and habitat for the Yellowstone cutthroat trout (YCT). Access is limited, but recreation demands are increasing as growth soars in nearby communities.

These lands were largely privately owned dry-land farms prior to their acquisition by the United States (through Reclamation and the BLM) for construction of the Teton Dam. After the failure of the dam, some of these lands were leased back to farmers for agricultural use. Reclamation maintains several easements on private property in the RMP Study Area. After the dam failure, Reclamation provided authorization to private individuals and corporations to pump water up the canyon walls to their private lands. The authorizations included the right to construct and operate pump stations, pipelines, overhead powerlines, and access roads or use existing Reclamation-constructed access roads. Authorization for the repair, operation, and maintenance of Linderman Dam was issued in 1980 for 25 years as part of a settlement agreement regarding damage to real and personal property and irrigation systems resulting from the construction and failure of Teton Dam.

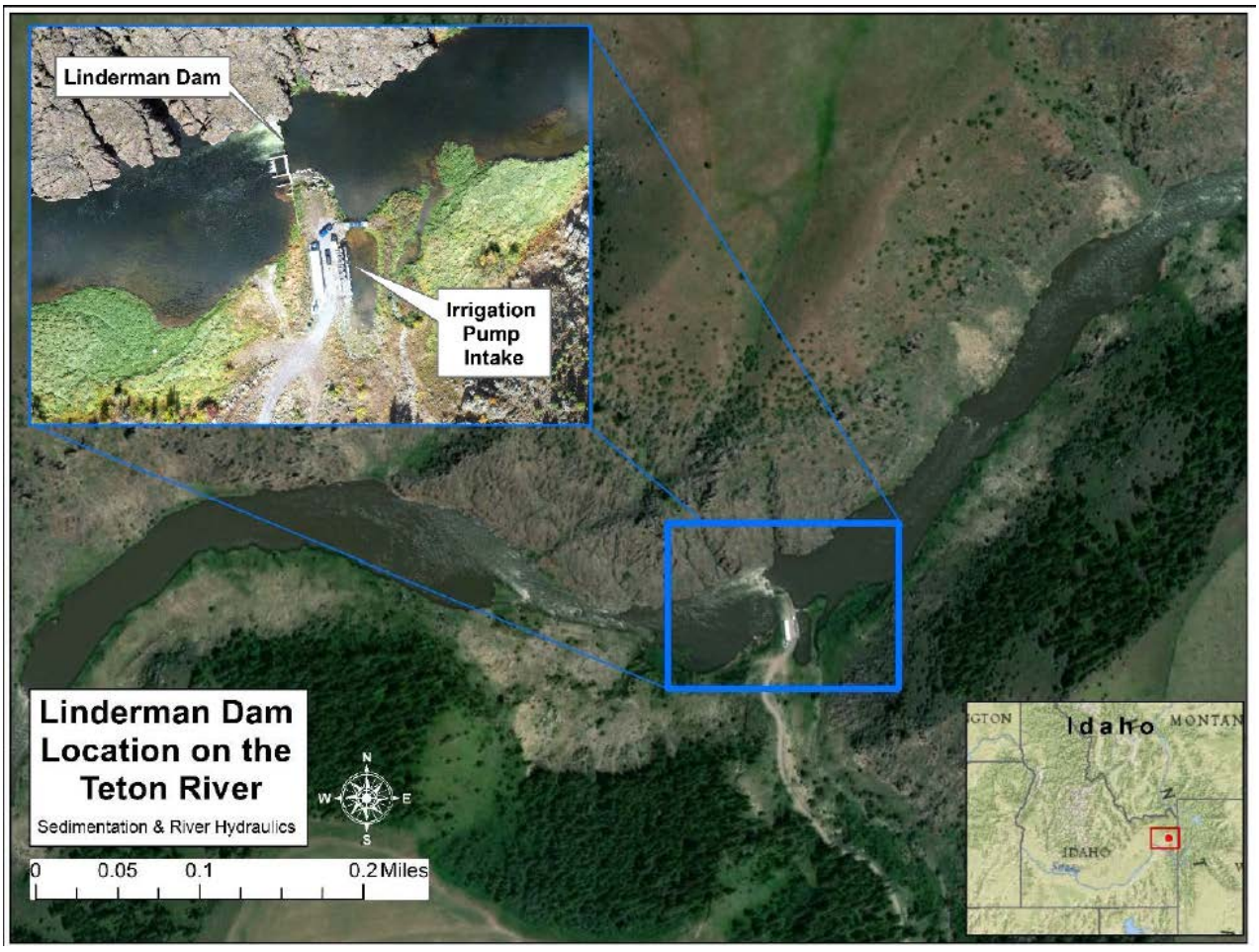

Figure 1. Linderman Dam location map

1.2.3 Action Area

The Action Area lies in a region of moderate climate with warm, dry summers and cool, wet winters. Annual precipitation is generally about 13 inches. The geologic setting of the Teton River Canyon is influenced by the tectonic forces that produced the volcanic activities in the Yellowstone area. The steep walls of the Teton River Canyon rise 300 to 500 feet (ft.) above the river in the 17-mile stretch above the Teton Dam Site. At the community of Clementsville, Idaho, a dirt access road begins and winds from Highway 33 through agricultural fields on the higher elevation land above the canyon. The road extends for approximately 3.5 miles and crosses over private property before it drops down into the canyon from the south wall. Exposed rocks and uneven ground currently make the descent into the canyon slow and relatively difficult. Linderman Dam itself is at the confluence of the Teton River and Milk Creek. The right abutment of the remaining dam structure is in volcanic rock forming the vertical canyon wall; the left abutment and much of the foundation is on the Milk Creek alluvial fan delta (Figure 2).

Figure 2. Location of Milk Creek alluvial fan delta; Linderman Dam's left abutment sits on this material

1.2.4 Teton River Water Surface Elevation Changes & Associated Hazards

Over the years, the hydraulics over the low-head Linderman Dam have scoured out a 30-foot deep hole downstream of the spillway. Based on contour elevations from the 1972 Teton Reservoir basin topographic map, the hydraulic drop across Linderman Dam (while in operation) was 10 ft. The drop formed a pool that backed up water 3,600 ft. upstream (Reclamation 2000). In 1972, the water surface elevation just upstream from Linderman Dam was approximately 5,165 ft. at a discharge of 1,000 cubic feet per second (cfs). After the Teton Dam failure in 1976, portions of the Linderman Dam were exposed, creating a safety hazard for boaters. Four vertical pipes protruded a few feet out of the water along the lower weir. On river left, a horizontal concrete beam extended across a portion of the river at about the water surface, which could form a dangerous undercurrent during high flows (Reclamation 2000).

With Linderman Dam now partially breached, the average water surface elevation just upstream from the dam is 5161 ft. at a discharge of 1,000 cfs. This indicates that the water surface elevation just upstream from Linderman Dam is about 4 ft. lower today than in 1972. The current hydraulic drop through Linderman Dam is only 2.2 ft. A 3-foot pipe was installed sometime in the last few years on top of the existing dam wall, increasing the water surface elevation in the upstream pond by the pump station to facilitate water diversion. The increase in drop over the structure has created a dangerous roller over the 50-foot crest length of Linderman Dam (Figure 3).

Figure 3. Looking upstream at Linderman Dam on October 3, 2018. There was a 2.2-foot drop over the structure while the river was flowing at approximately 734 cfs.

1.2.5 Pump Station

The 25-year authorization issued in 1980 by Reclamation for the repair, operation, and maintenance of Linderman Dam included a pumping station located on an approximate 15-foot by 15-foot concrete pad located on the south shore of the Teton River and an access road (which included a buried powerline and an above-ground irrigation pipeline) that traversed the

south canyon wall. This 25-year authorization expired in 2005, with most of the improvements remaining in place, i.e., the concrete pad, access road, powerline, and pipeline.

In 2011, Reclamation authorized the construction, operation, and maintenance of a pump station, access road, pipeline, and powerline for 20 years. The new pump station consists of five 600-horsepower pumps placed on a 30-foot by 10-foot concrete wall structure constructed adjacent to the existing 15-foot by 15-foot concrete pad on the south side of the river. The pump intakes are located within an alcove to the east of the pump stations. A 3-foot diameter pipe is used to check water up to the forebay and into the alcove. The current owner has problems maintaining the required head at the pump intakes. Most of the previous access road was still in existence other than a portion of the lower section that was re-constructed. The existing pipeline was replaced with a 30-inch diameter pipeline and remains above-ground along the south canyon wall. The powerline is buried within the access road. No changes to the river were authorized.

1.2.6 Nematode

Equipment and supplies entering the seed potato crop areas to access the Linderman Dam are of high risk for exposure and infestation of invasive species, including nematodes. Accordingly, and throughout construction of the proposed Linderman Dam restoration project, all parties, including Reclamation, potential contractors, and partners, will have to operate within the relevant Idaho Administrative Rules (IDAPA Title 06 Chapter 26 02.06.26 – Rules Concerning Seed Potato Crop Management Areas, adopted under the legal authority of Sections 22-505, 22-2004, and 22-2006 of the Idaho Code). As stated in Section 050-04-Equipment, all ground working, earth moving, or potato handling equipment shall be cleaned of soil and plant debris and disinfected before entering the Seed Potato Crop Management Areas in order to prevent the introduction of disease(s) or pest(s) of concern. This project falls within the boundaries of the Teton and Portions of Madison County Seed Potato Crop Management Area, which includes: all of Teton County; that portion of Madison County located in Township 6 North and Township 7 North lying East of Canyon Creek; and that portion of Madison County located in Township 6 North, Range 42 East which includes portions of Sections 11 and 13 located south of Highway 33 and all of Sections 14, 15, 23, and 24.

1.3 Purpose and Need

The Teton River is used by irrigators, outfitter guides, recreationists, and others. The remnants of Linderman Dam create a low head dam structure with a 30-foot-deep plunge pool on the downstream side. When water flows over this structure, it causes a turbulent hydraulic within the plunge pool which can continually entrap and recycle anything caught in the boil of the current. This situation can quickly lead to exhaustion, severe injury, or death of recreationists on the Teton River. This serious safety issue is being more frequently encountered as more boaters, kayakers, tubers, and other aquatic recreationists access the Teton River. Reclamation's focus on safety has caused this issue to be prioritized for remediation. The Linderman Dam structure is also an impassable diversion for native YCT, causing limited access to natal fish grounds and

impacts to distribution and abundance of the species in the Teton River Canyon. Reclamation's purpose for the proposed Linderman Dam removal and associated Teton River restoration includes:

- Eliminating the serious recreational hazard by removing parts of the Linderman Dam structure; and
- Restoring Teton River continuity above and below the Linderman Dam structure while maintaining current river surface elevation, thereby improving the physical habitat for native YCT.

The pump station at the Linderman Dam site provides for the fulfillment of a perpetual water right. In remedying the recreational hazard, Reclamation must ensure water elevation at the Linderman Dam site would not hinder the fulfillment of water rights.

1.4 Authorities

The Teton Basin Project was authorized by the Act of September 7, 1964 (78 Stat. 925, Public Law 88-583). The authorized purposes of the Teton Basin Project were irrigation and hydroelectric generation and, as incidental to those purposes, to enhance recreational opportunities and provide for the conservation and development of fish and wildlife resources. However, failure of the Teton Dam led to a lack of fulfillment of the intended purposes. For this reason, the Teton River Canyon is unique among Reclamation's projects. An RMP was created in 2006 for the Teton River Canyon (Reclamation 2006) as specifically authorized in Title 28 of Public Law 102-575. This is a 15-year plan to provide management direction for lands and waters under Reclamation jurisdiction in the vicinity of the Teton River Canyon. Within Chapter 5 of this plan are detailed descriptions of the goals, objectives, and management actions associated with the plan. The goals, objectives, and management actions that relate to this EA include the following elements:

- GOAL Natural Resources (NAT) 1: Conserve, restore, and enhance natural ecosystems;
- GOAL Recreation, Access, and Visual Quality (RAV) 1: Provide for recreation use within Reclamation's authorities with natural and cultural resource management objectives; and
- GOAL RAV 2: Preserve and enhance existing scenic quality.

1.5 Regulatory Compliance

The following major laws, executive orders, and secretarial orders apply to the Preferred Alternative, and compliance with their requirements is documented in this EA:

- National Environmental Policy Act (NEPA);
- Endangered Species Act (ESA);

- National Historic Preservation Act (NHPA);
- Clean Water Act (CWA);
- Executive Order (EO) 11990 Wetlands;
- EO 13007 Indian Sacred Sites;
- EO 12898 Environmental Justice;
- EO 13175 Consultation and Coordination with Tribal Governments;
- Secretarial Order 3175 Department Responsibilities for Indian Trust Assets (ITAs); and
- Secretarial Order 3355 Streamlining National Environmental Policy Act Reviews and Implementation of Executive Order 13807, "Establishing Discipline and Accountability in the Environmental Review and Permitting Process for Infrastructure Projects."

1.6 Scoping Summary

The scoping process provides an opportunity for the public, governmental agencies, and Tribes to identify their concerns or other issues and aids in developing a full range of potential alternatives that address meeting the project's purpose and need as stated in this document. To accomplish this, Reclamation provided information to the public through a mailed preliminary information package; solicited comments from the public, governmental agencies, and potentially affected Tribes; and conducted cooperating stakeholder meetings on September 10, 2019 and February 13, 2020. Details regarding the public and agency scoping are presented in Chapter 4.

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Chapter 2 Description of Alternatives

2.1 Introduction

This chapter describes the three alternatives analyzed in this EA: Alternative A-No Action Alternative, Alternative B-Linderman Dam Restoration and Riffle Construction (Preferred Alternative), and Alternative C-Linderman Dam Restoration.

2.2 Alternative Development

The alternatives presented in this chapter were developed based on the purpose and need for the project, as described in Chapter 1, and the issues raised during internal, external, and Tribal scoping. The alternatives analyzed in this document include the No Action Alternative, the Preferred Alternative to construct a riffle downstream of Linderman Dam, and the alternative to fill the scour hole below Linderman Dam. A no action alternative is evaluated because it provides an appropriate basis to which the other alternative is compared. No new alternatives were identified during the scoping process. A summary of alternatives considered but not carried forward can be found in section 2.6.

2.3 Alternative A – No Action

The No Action Alternative presents continuation of current conditions associated with the existing Linderman Dam structure. The Linderman Dam structure would not be removed and no improvements or restoration to the Teton River would occur. The current river hazard created by Linderman Dam would continue to exist and be a safety concern to water recreators. The Reclamation signage encouraging the public boaters to portage Linderman Dam would still exist above the hazard. The YCT habitat would remain the same and lack direct connectivity above Linderman Dam. The current water surface elevation would remain as an elevation not ideal for operation of the pump station.

2.4 Alternative B -Linderman Dam Restoration and Riffle Construction (Preferred Alternative)

Alternative B includes construction of a rock and riprap riffle structure approximately 450 ft. downstream of the Linderman Dam in the Teton River. The proposed structure and its location would slow flow and back water up the channel to an elevation that completely submerges the

existing Linderman check dam structure. This would effectively eliminate the hydraulic jump below Linderman Dam. The protruding excess concrete; rebar; and piping in and around Linderman Dam would be removed, allowing boat passage through the existing structure without hazards. The riffle would be constructed 'in the wet' or without use of a coffer dam during low flows. The material needed to construct the riffle must be large and able to lock together to form a stable fill during placement in actively flowing water, with typical summer flows at about 1000 cfs and September flows at about 629 cfs. Therefore, the proposed approach involves large boulders or riprap material. The rock and riprap material would be acquired from an outside commercial source and stockpiled on the south side of the river either on the low-lying terrace or at the top of the canyon. Construction of the riffle would occur during late summer to early fall. A Section 404 Permit from the Army Corps of Engineers would be obtained by Reclamation prior to construction activities.

A bypass channel would be excavated south of the Teton River and lined with a flexible plastic liner to help divert flows from the area during riffle construction. One of two bypass channel options would be selected based on Reclamation's project manager and contractor decision. Bypass channel option 1 (B1), shown in Figure 4, is approximately 500 ft. long and shorter in length. It would cut through the low-lying terrace and leave room for construction equipment on the north side of the bypass for placement of large rock and riprap material.

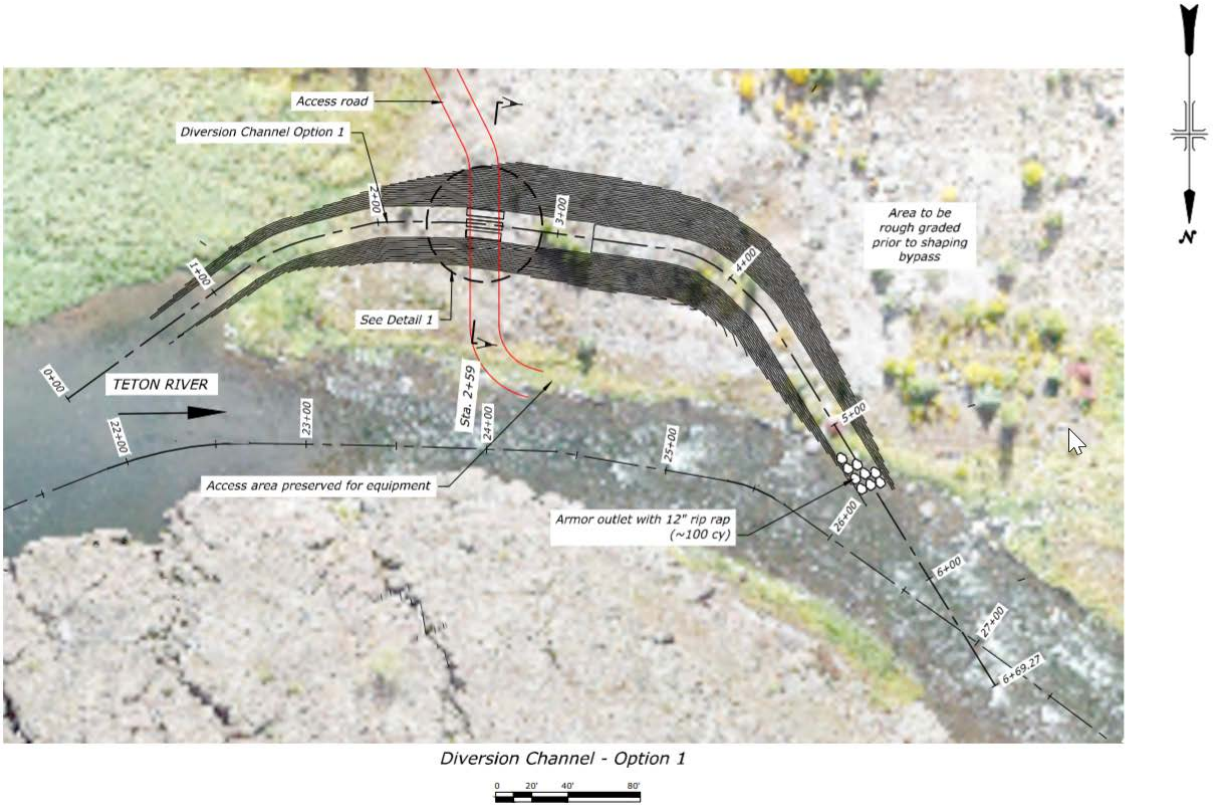

Figure 4. Bypass channel option 1 (B1)

Bypass channel option 2 (B2), shown in Figure 5, is approximately 900 ft. long and closely follows the toe of the canyon slope to avoid a large material pile on site and reduce associated earthwork.

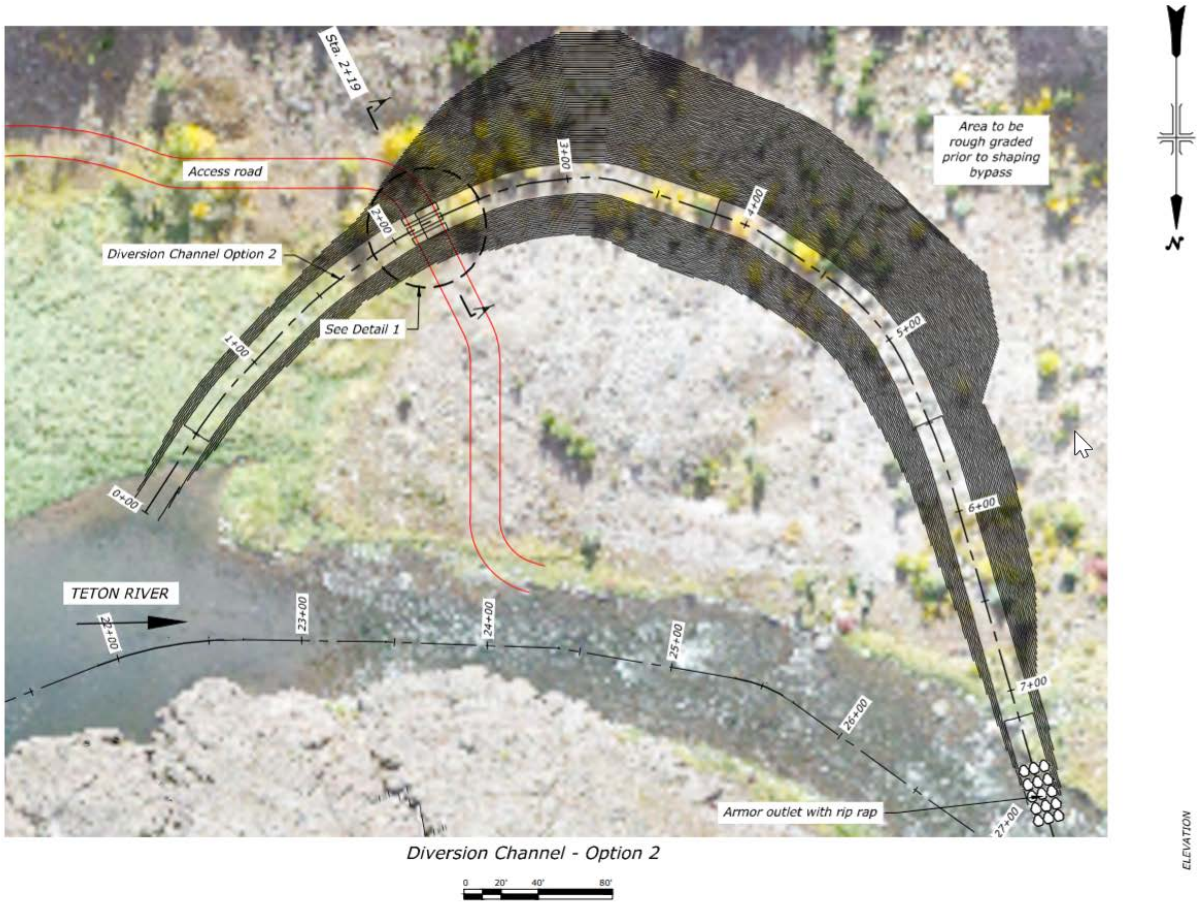

Figure 5. Bypass channel option 2 (B2)

Both option B1 and option B2 would need temporary bypass crossing structures which would be composed of three 20-foot by 4-foot culverts spaced 2 ft. apart. This crossing structure would allow large trucks and machinery to access the staging and stockpiling areas north of the proposed bypass channel. Construction in the channel would occur during late summer to early fall.

2.4.1 Phases of Construction

The construction schedule associated with this alternative would be over several years and be very flexible in nature. The unforecastable weather during the fall and winter months could possibly restricting access, as well as, the material composing the riffle being possibly mobile within the Teton River. There would be three phases of construction that would each occur consecutively depending on the caveats above.

Phase 1

Phase 1 of construction would take place within the summer and early fall of 2021. This phase may include all or some of the tasks below. If tasks are not completed during Phase 1, they will be encompassed in Phase 2:

- Riprap delivery and stockpiling;
- Rehabilitation of access roads;
- Rough grading the staging areas; and
- Shaping of the bypass channel.

Access Roads

The existing road from the highway to the canyon rim would undergo repairs as necessary and appropriate dust-prevention best management practices would be used during construction. The existing access road from the canyon rim down to the pumping station would be repaired as needed to ensure safe passage of rock trucks and heavy equipment onsite. A temporary gravel access road, approximately 800 ft. long, would be constructed to connect the existing road to a staging area located on the south side of the river west of the Linderman Dam structure upon a low-lying terrace.

Staging Areas

The staging areas west of the low-lying terrace would be rough graded to allow for stockpiling and heavy machinery. Riprap and fill materials would be procured by Reclamation and hauled in by the awarded vendor and stockpiled at the south rim of the Teton canyon between summer and fall of 2020 (Figure 6). Due to the nematode concern in the area, all material would need to be from an approved source without contamination and be brought in by clean, uncontaminated vehicles. A temporary easement would be acquired by Reclamation for those portions of the staging and stockpiling areas located on private lands owned by Skyline Farms.

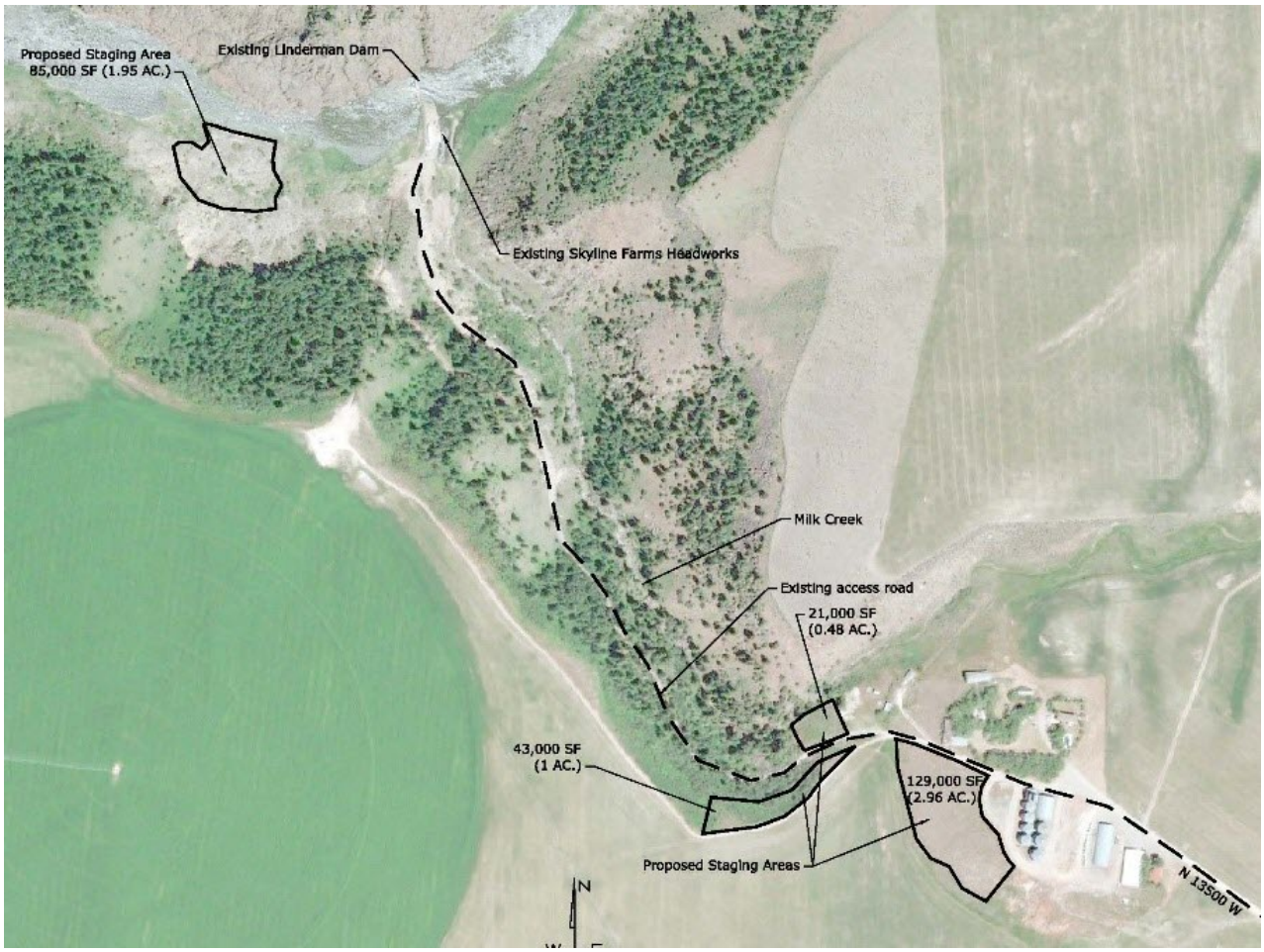

Figure 6. Stockpile and staging areas for fill material and machinery

Bypass Channel

The shaping of the temporary bypass channel would exclude the upstream and downstream connection to the river. The excavation to connect the temporary bypass would take place in Phase 2. Materials from excavation of other parts of the project that meet specifications may be used in the riffle.

Phase 2

Phase 2 of construction would include work below the Ordinary High-Water Level (OHWL), such as grading the upstream and downstream connection of the temporary bypass channel and placement of the riffle material. When the riffle is completed and the temporary bypass channel is no longer needed, the bypass channel would be plugged at the upstream end to prevent overtopping. The temporary access road and crossing would remain in place to allow access to the riffle the following year for any repairs or improvements that may be needed.

Construction of the riffle would occur during a 10-week window in late summer to early fall of 2021 or 2022 when Teton River flows reach a suitable level. Once the riffle construction is completed and the resulting raised water levels ensure that irrigation can still occur, the removal of protruding excess concrete, rebar, and piping would take place. The remaining construction

includes ensuring the riffle stays in place; this would occur in the late summer to early fall of the following 1 to 3 years, depending on how the riffle performs.

Phase 3

Phase 3 would involve removal of bypass options and road rehabilitation. This would reopen the upstream end of the temporary bypass channel to carry out needed repairs or improvements to the riffle. After any needed repairs or improvements to the riffle are completed, the temporary bypass channel would be filled to a finished grade elevation to function as a low-lying swale on the floodplain. The crossing and temporary access road would be removed. All disturbed areas, including the temporary access roadbed, would be vegetated with a mix of native riparian species. Any topsoil found on site would be stockpiled and used in the rehabilitation and revegetation of the disturbed areas at the end of construction. Phase 3 work is expected to occur in late summer to late October of 2023 or 2024 but the timing would be heavily dependent on the performance of the riffle. Fire restrictions, fires in the area, early snowfall, and unusual stream flows and/or weather could all have an impact on the anticipated project schedule.

2.5 Alternative C – Linderman Dam Restoration

This alternative would consist of demolishing the parts of the Linderman Dam structure that protrude above the inundated concrete dam crest: excess concrete; rebar; and piping.

The actual concrete dam crest or check structure is inundated and would remain intact and incorporated within a constructed riffle to fill the scour hole. The concrete materials removed from the dam structure would either be used as fill material in the river channel, if suitable, or removed from the site. Following the removal of the protruding structures, a riffle would be constructed using fill materials from an offsite commercial borrow source. The staging and stockpiling areas and need for an easement would be the same as in the Preferred Alternative (Figure 6). The large riprap fill material would be placed within the downstream scour hole to create a rock ramp riffle going downstream of the existing concrete dam crest. Smaller material from the riprap mix would be used to shape the transition up to the dam crest on the upstream side. A 72-inch pipe culvert beneath the peninsula to the south currently changes the flow of the river and would be filled with a grout plug to ensure no water passes. Sections of the pipe culvert that are exposed beyond the peninsula on the downstream side would be removed to make way for riffle placement.

The existing access road would be repaired to ensure safe passage of rock trucks and heavy equipment onsite. A temporary access road would be created to connect the existing road to the staging areas just west of the road upon a low-lying terrace. The road from the highway into the canyon rim would undergo repairs as necessary, and appropriate dust-prevention best management practices would be used during construction. Road rehabilitation would be the same as in the Preferred Alternative.

Reclamation's Provo Area Office force account construction crew would do the majority of the construction work. As with the Preferred Alternative, a Section 404 Permit from the Army

Corps of Engineers would be obtained by Reclamation prior to construction activities. Construction would occur during a 10-week window in late summer to early fall, once Teton River flows reach a suitable level.

2.6 Alternatives Considered but Eliminated from Further Study

In the early stages of proposal development, Reclamation explored the feasibility of multiple approaches to eliminate the scour hole below Linderman Dam while maintaining water elevation for irrigation. Concepts involved adding much greater amounts of fill material into the river to expand the southern peninsula; others included placing enough material in the river to create an island for irrigation diversion. However, the same backwatering condition that occurs now at Linderman Dam would extend farther upstream if any of these alternatives were implemented. This result may not be ideal if future habitat enhancement projects are proposed in this reach. Also, many of these alternatives was deemed not feasible due to a high estimated expense required for successful implementation and were eliminated from further consideration.

Upon the completion of the 60 percent design analysis, the project had reached the monetary threshold for a Value Engineering (VE) Study to be conducted. The goal of a VE Study is to achieve the most appropriate and highest value solution for the project. This study was completed in October 2019. Table 1 includes the proposals considered in this study and the reasons for their dismissal.

Table 1. Alternatives considered as a result of the VE study but eliminated from further study

Proposal	Proposal Description	Reason for Dismissal
Remove Pipe Weir, Remove Existing Concrete, Modify Pumping System	Remove dam structure and lower irrigator's pump intakes to new water elevation. This requires significant modification to the irrigators pump intakes.	Economically infeasible
Permanent Upstream Cofferdam, Modify Turbine Bay to Pass Normal Flows	All water would be redirected by a newly placed cofferdam in front of the old Linderman Dam structure to flow through the old turbine bay and a newly created diversion tunnel.	Does not meet purpose and need
Remove Linderman Dam and Replace with Riffle Structure Upstream	A riffle would be constructed upstream of Linderman Dam structure to maintain pool elevation. Linderman Dam structure would be removed. Sedimentation issues could occur at irrigation pump intakes.	Economically infeasible

Proposal	Proposal Description	Reason for Dismissal
Build Structure Upstream to Require Portage	A structure would be installed upstream to make portage a requirement. A path would be created to guide recreators around the dam structure and re-enter the water safely below.	Does not meet purpose and need
Blasting Right Cliff to Fill Scour Hole	Blasting cliff to get material to fill scour hole and eliminate dangerous hydraulic.	Ecologically infeasible

2.7 Actions Considered for Cumulative Effects

Cumulative Effects are defined in 40 CFR 1508.7 as the effect on the environment that results from the incremental effects of the action when added to other past, present, and reasonably foreseeable future actions. The Council on Environmental Quality interprets this regulation as referring only to the cumulative effect of the direct and indirect effects of the proposed action and its alternatives when added to the aggregate effects of past, present, and reasonably foreseeable future actions. Cumulative effects can result from individually minor but collectively significant actions taking place over a period of time.

Past, present, and reasonably foreseeable actions identified in the area (public or private) that could adversely affect the same resource areas evaluated in this EA would be additive effects to the proposed project. However, there are no projects identified in the general vicinity of Linderman Dam planned within the next 5 years or beyond. No projects were identified as a result of scoping or under other Federal agencies that manage areas within the Teton Canyon. This absence of projects in the present or foreseeable future is likely due to the remote nature of the Teton Canyon and the fact that large portions are already developed as agricultural lands.

Chapter 3 Affected Environment and Environmental Consequences

3.1 Introduction

The Affected Environment chapter evaluates the environmental consequences of implementing each of the alternatives described in Chapter 2. The level and depth of the environmental analysis corresponds to the context and intensity of the impacts anticipated for each environmental component (resource). The affected environment (proposed action area) addressed in this EA is defined in varied contexts depending on the affected resource being analyzed.

In its broadest sense, the affected environment could include the stretch of the Teton River from the project location to the Teton Dam site. However, each resource with the potential to be affected is analyzed on an applicable individual scale.

Resources evaluated in this document and analyzed in Chapter 3 were selected based on: Reclamation requirements; compliance with laws, statutes, and executive orders; public and internal scoping; and the potential for resources to be affected by the Preferred Alternative.

3.2 Biota – Vegetation, Wetlands, and Fish and Wildlife

3.2.1 Affected Environment

Habitat – Terrestrial and Riparian Vegetation

The analysis area includes Reclamation-managed lands adjacent to and within Teton Canyon and the vicinity of the Milk Creek and Teton River confluence NW of Rexburg, Idaho. The vegetation within the canyon was altered by Teton Dam construction activities and the rapid draining of the reservoir. Prior to the reservoir, the south-facing slopes were covered with sagebrush, bitterbrush, and rabbitbrush, which offered winter forage for large game and the large shrubs and juniper offered cover habitat (Herrig et al. 1980). These south-facing slopes were the most important habitat for the large game animals who wintered in the area (Reclamation 2003). The north-facing slopes had larger trees, including Douglas fir and aspen; this vegetation provided food and cover for game during the milder winters. The riparian area along the river, mainly in the downstream reaches but also in smaller areas along the upper reaches, had cottonwood, alder, and willow, which provided habitat for game and small animals (Herrig et al. 1980; Reclamation 1965, 1968, 1977, and 1981).

During construction of the dam, trees and larger shrubs were removed from the riparian area and the hillslopes up to the reservoir fill line. As the reservoir filled, many of the remaining plants died due to the inundation. All of the shrubs died after one day of inundation, but many

perennial grasses were able to survive at the higher elevations where they were covered with less than 90 ft. of water (Monsen 1976). After dam failure, sagebrush and rabbitbrush were able to reestablish in many places but there was very little bitterbrush reestablishment (Reclamation 2003). Landslides affected the vegetation as well; slides and slumps disrupted the soil profiles and, with a lack of soil and native seed stock, the recovery was slow (Reclamation 1965, 1968, 1977, and 1981).

Shortly after the dam failure, reseeding of the area was done to help recover vegetation and stabilize the slide deposits and hillslopes. Reed canary grass (*Phalaris arundinacea*) was one of the plants that was seeded to stabilize the exposed sediments. Reed canary grass now dominates the riverbanks. Unfortunately, it does not provide much riparian shading, riparian cover, or habitat itself, and it outcompetes other vegetation that would provide these benefits. This is a non-native and highly invasive plant which is excellent at erosion prevention (Monsen 1976). This grass persists today and outcompetes most native plants. It also grows too densely to provide habitat for most animals.

A study titled *Comparison of vegetation on historically inundated and non-inundated south-facing slopes in the Teton River Canyon, Fremont County, Idaho; Implications for Mule Deer Winter Habitat* was completed 23 years after the dam failure to assess the recovery of the vegetation (Reclamation 2003). This study found that on the south-facing slopes, the total shrub density was higher on the inundated, non-sliding slopes. The study also found that species richness was higher on these slopes compared to the inundated slopes that failed after the reservoir drained. On the north-facing slopes, it was noted that there was a large reduction in Douglas fir and juniper shrubs (Reclamation 2001, as cited in Reclamation 2003).

Noxious Weeds

Noxious weeds have been actively controlled by Reclamation natural resource staff in coordination with Idaho Department of Fish and Game (IDFG) fishery and habitat biologists. Control measures include proper land management practices such as biological control, physical removal, and use of domestic goats. The five main weed species being controlled are musk thistle (*Carduus nutans*), Canada thistle (*Cirsium arvense*), salt cedar (*Tamarix*), leafy spurge (*Euphorbia esula*), and Russian olive (*Elaeagnus angustifolia).* Additionally, monitoring and active control of aquatic noxious weeds has been conducted on the Teton River since 2008 with the Idaho Department of Agriculture. Annual salt cedar surveys are also conducted by Reclamation specialists and the IDFG.

The long-term noxious weed control objective is to eliminate most of the chemical control and rely on biological weed control in the canyon. Reclamation started biological control for Canada and musk thistle on much of the Federal land in the early 1980s. Chemical control is still used on infestations found along roadways, in areas on top of the canyon, and around the dam. However, bio-control and rapid revegetation of disturbed soil prior to noxious weed infestation is the preferred management option because of the remoteness of the canyon. Bio-control is used as an alternative to chemical spraying. The decision to use this alternative approach was determined by Reclamation's Upper Snake Field Office.

Wildlife - Mammals

During the winter months, a large concentration of mule deer (*Odocoileus hemionus*) congregate on the south facing slopes of the canyon adjacent to Linderman Dam and a small population of Shiras moose (*Alces americanus*) occupy the general area year-round. Predators that may be encountered include mountain lion (*Felis concolor*), bobcat (*Lynx rufus*), numerous coyotes (*Canis latrans*), gray wolf (Canis lupus), and black bears (*Ursus americanus*). Grizzly bear (*Ursus arctos horribilis*) have occasionally been documented in the canyon in recent years. Some abundant or common mammal species that can be found in the analysis area are listed in Table 2.

Table 2. Common mammals found on Federal lands within Teton Canyon near Linderman Dam

Common Name	Scientific Name
Mule Deer	*Odocoileus hemionus*
Shiras Moose	*Alces*
Elk	*Cervus elaphus*
Mountain Lion	*Felis concolor*
Bobcat	*Felis rufus*
Coyote	*Canis latrans*
Red Fox	*Vulpes*
Gray Wolf	*Canis lupus*
Black Bear	*Ursus americanus*
Grizzly Bear	*Ursos arctos*
Yellow-bellied marmot	*Marmota flaviventris*
American beaver	*Castor canadensis*
American mink	*Neovison vison*
American marten	*Martes americana*
Weasel	*Mustela spp.*
Racoon	*Procyon lotor*
Skunk	*Mephitis*
Badger	*Taxidea taxus*
Porcupine	*Erethizon dorsatum*
Several rodent spp.	*Peromyscus maniculatus spp.*
Several bat spp.	*Vespertilionidae*
Several squirrel spp.	*Sciuridae*

Sources: Reclamation 2003; Groves et al. 1997

Wildlife - Birds

The peregrine falcon (*Falco peregrinus*) is known to occur in eastern Idaho (Levine et al. 1998), although none nest in the immediate Linderman Dam analysis area. There are several nests within 100 miles of the analysis area and peregrines certainly pass through during migration and juvenile dispersal. Numbers of nesting waterfowl are low in the immediate analysis area. Mallards (*Anas platyrhynchos*) and Canada geese (*Branta Canadensis)* are the most common species within the river corridor, along with a few trumpeter swans (*Cygnus buccinator*). Many bald eagles (*Haliaeetus leucocephalus*) nest along the side of the canyon and use the canyon to feed year-round. A few of the more common avian species include those listed in Table 3 as well as many neotropical migrants.

Table 3. Common birds found on Federal lands within Teton Canyon near Linderman Dam

Common Name	Scientific Name
Mallard	*Anas platyrhynchos*
Canada geese	*Branta Canadensis*
Trumpeter swans	*Cygnus buccinator*
Bald eagle	*Haliaeetus leucocephalus*
Golden eagle	*Aquila chrysaetos*
Northern harrier	*Circus cyaneus*
Red-tailed hawk	*Falco sparverius*
Mourning dove	*Zenaida macroura*
Black-billed magpie	*Pica pica*
Sharptailed grouse	*Tympanuchus phasianellus*
Common nighthawk	*Chordeiles minor*
Hummingbirds	*Trochilidae*
Killdeer	*Charadrius vociferus*
Sandpipers and allies	*Scolopacidae*
Osprey	*Pandion haliaetus*
Several owl spp.	*Strigidae*
Several woodpecker spp.	*Picidae*
American robin	*Turdus migratorius*

Sources: Reclamation 2003; Groves et al. 1997

Wildlife - Amphibians and Reptiles

Some of the more common amphibians and reptiles and listed in Table 4. Those that could occur in the analysis area include the western rattlesnake (*Crotalus viridus lutosus*), yellow-bellied racer (*Coluber constrictor mormon*), western terrestrial garter snake (*Thamnophis elegans*), common garter snake *(T. sirtalis*), gopher snake *(Pituophis melanoleucus deserticola*), sagebrush lizard (*Sceloporus graciosus*) rubber boas (*Charina bottae*), and northern leopard frogs (*Rana pipiens*).

Table 4. Common amphibians and reptiles found within Teton Canyon near Linderman Dam

Common Name	Scientific Name
Western rattlesnake	*Crotalus viridus lutosus*
Yellow-bellied racer	*Coluber constrictor mormon*
Western terrestrial garter snake	*Thamnophis elegans*
Common garter snake	*T. sirtalis*
Gopher snake	*Pituophis melanoleucus deserticola*
Sagebrush lizard	*Sceloporus graciosus*
Rubber boas	*Charina bottae*
Northern leopard frogs	*Rana pipiens*
Boreal chorus frog	*Pseudacris maculata*
Columbia spotted frog	*Rana luteiventris*

Fisheries and Wetlands

Some of the most abundant or common fish species found in the analysis area are listed in Table 5. The most vulnerable and aggressively managed fish species is the YCT (*Oncorhynchus clarkii bouvieri*)**.** YCT are found in the Snake River watershed above Shoshone Falls and in the Yellowstone River watershed (Gresswell 2009). Prior to the Teton Dam construction and subsequent failure, the canyon section of the river, which became the reservoir area, was important habitat for this salmonid. After the inundation and draining of the reservoir, this area still remains a species stronghold for YCT even though it is altered from the pre-dam conditions.

Table 5. Common fish species found within Teton Canyon near Linderman Dam

Common Name	Scientific Name
Yellowstone cutthroat trout	*Oncorhynchus clarkii bouvieri*
Rainbow trout	*Oncorhynchus mykiss*
Cutbow (cutthroat-rainbow trout hybrid)	*Oncorhynchus clarkii x O. mykiss*
Brown trout	*Salmo trutta*

Common Name	Scientific Name
Brook trout	*Salvelinus fontinalis*
Mountain whitefish	*Prosopium williamsoni*
Sucker spp.	*Catostomus*

The geomorphic changes resulting from the landslides triggered from the rapid drawdown of the reservoir were substantial. Mainstem riffle-pool habitat was converted to a series of 27 larger, steeper rapids, backing up long, deep, and slow-moving pools that have altered how the YCT use the channel. There is no longer any mainstem spawning habitat, so fish are spawning in the tributaries where there are gravels and shallow water (Schrader and Jones 2004). Badger Creek and Bitch Creek both have excellent spawning habitat that was not affected by the dam inundation or irrigation diversions. Canyon Creek is also important spawning habitat, but the lowest 3 miles were inundated by the reservoir, causing land sliding with similar affects and consequence as the mainstem Teton River (IDFG 2007). These deposits have not been drastically altered since the event because the flows are not sufficient enough to move the larger sediment size classes.

The change from lotic (fast moving) stream conditions to more lentic-like (slow moving) stream conditions has also had negative effects on water quality and food production. The slow-moving pools and lack of riparian vegetation have resulted in increased water temperatures (Reclamation 1999), which can lead to increased stress for fish and susceptibility to diseases (Schrader 2004). The deep pools likely provide refugia from the warm temperatures, but the stagnant, non-complex conditions are not the ideal habitat for the cutthroat trout. Lentic conditions are not ideal for food production, either; macroinvertebrates thrive in shallow gravel riffles which provide lots of oxygen, making the current conditions on the Teton less desirable for macroinvertebrates and therefore less desirable for fish to feed in.

3.2.2 Environmental Consequences

Alternative A- No Action

Terrestrial and Riparian Biota

Under the No Action Alternative, the habitat and human activity within the analysis area would remain the same. The present distribution of riparian and wetland habitat in the area around and within the analysis area would remain unchanged and there would be no adverse impacts on the following communities:

- aquatic and terrestrial biota;
- mammalian communities;
- avian community; and
- amphibian and reptile communities.

Alternative B – Linderman Dam Restoration and Riffle Construction (Preferred Alternative)

Overall effects (direct and indirect) to terrestrial biota, avian, mammalian, fisheries, amphibian, and reptile communities in the short term (1 year) within the Action Area would be permanent. Effects associated with the proposed Alternative B and effects, if any, are presented below. The loss of terrestrial and riparian vegetation within the bypass channel would be considered a permanent loss as it currently exists, but the area would be reseeded with native riparian vegetation post-construction.

Terrestrial and Riparian Biota

Under Alternative B description, the current Linderman Dam structure would be demolished and a bypass channel would be created on the south side of the river which would involve removing terrestrial and riparian vegetation in the area for approximately a year while the construction on the main river took place. This may affect terrestrial and riparian species using the area by displacing them for the duration of the project. In the long term, species using the terrestrial and riparian habitat should reestablish, adjust, and find new areas to use after the construction is complete.

Mammalian Communities

This may affect mammalian species using the area by displacing them for a short time period. In the long term, these species should adjust and find new areas to use. The big game species such as mule deer, elk, and moose would continue using the food and water resources around the Action Area.

Avian Communities

This may affect waterfowl nesting and production in the impact area and would reduce the riparian habitat for shoreline bird species. Noise during construction would also cause short-term avoidance of the area. In the long term, species should adjust and find new areas to use as the construction noise stops and as the riparian zone reestablishes.

Fisheries and Wetlands

In the long term, this alternative should affect fisheries in a positive way. The project was designed in part to improve the habitat in this reach of river by increasing flow and removing a structure that could be negatively affecting fish passage. During construction, the fish using the area would be displaced for a short time but would move downstream or upstream to avoid adverse water conditions and construction noise. In the long term, the fish species would benefit with improved habitat conditions from the river being returned to a more natural state, i.e., similar to pre-dam conditions. This project also aligns with an overarching long-term plan to improve the entire Teton River within the footprint of the inundated zone of the former Teton Dam project.

Amphibian and Reptile Communities

These activities would have an effect on amphibians, primarily frogs. Leopard frogs may be found around the Linderman Dam structure in the summer. The destruction of the shoreline habitat within the proposed project site could harm any northern leopard frog population that may occur in the area. The other amphibian and reptile species using the impact area would also be affected by the permanent habitat loss and they would be displaced for a short time period. In the long term, these species should adjust and find new areas to use as the riparian zone reestablishes itself.

Alternative C – Linderman Dam Restoration

Overall effects (direct and indirect) to terrestrial biota, avian, mammalian, fisheries, amphibian, and reptile communities in the short term (one year) within the Action Area would be permanent. Effects associated with the proposed Alternative C and effects, if any, are presented below.

Under Alternative C, the current Linderman Dam structure would be demolished, earthen fill would be placed in the river just below the dam, and a new structure would be built so that water can continue to be pumped out of the river. The loss of terrestrial and riparian vegetation around the current structure would be considered a permanent loss.

Under Alternative C, the following communities would see the same effects as for Alternative B:

- Terrestrial and riparian biota;
- Mammalian communities;
- Avian communities;
- Fisheries and wetlands; and
- Amphibian and reptile communities.

3.3 Threatened and Endangered Species

3.3.1 Affected Environment

A corridor along the Teton River was delineated for analysis, extending from just above the current Linderman Dam site downstream to below the old Teton Dam site, including areas of Teton, Madison, and Fremont Counties in Idaho. This area was identified as the area of potential effect because the Preferred Alternative would affect construction access routes into the canyon, the riparian area in the immediate vicinity of the current Linderman Dam site, and upland areas identified for materials staging further downstream near the old Teton Dam site (identified in the maps shown in Figure 1 and Figure 7. Since the overall management of water diversions at the site of the current Linderman structure would continue as it has historically been conducted, regardless of which alternative is selected, downstream riparian (terrestrial) habitat would not be expected to be affected and therefore was not analyzed.

A preliminary report generated through the U.S. Fish and Wildlife Service's (USFWS) Information for Planning and Consultation (IPaC) site indicated that three listed species could be present in the Action Area for this proposed project: the North American wolverine (*Gulo luscus*); the yellow-billed cuckoo (*Coccyzus americanus*); and the Ute ladies'-tresses (*Spiranthes diluvialis*) (USFWS 2018). No proposed or designated critical habitats associated with any listed species overlap with the project's area of influence. Each species identified is discussed in further detail below and the full IPaC report is included as Appendix A.

North American Wolverine (Gulo gulo luscus)

Species Life History and Distribution

The North American wolverine (*Gulo gulo luscus*) is the largest member of the Mustelidae family. Wolverines occur in alpine, boreal, and arctic habitats including boreal forests, tundra, and western mountains. The wolverine has a relationship with persistent spring snow that is obligate at the den scale; that is, the wolverine requires deep (greater than 1.5 meters (m) deep), stable, and persistent spring snow for successful denning and reproduction. Due to this habitat requirement for conditions cold enough to support persistent snow, the southern portion of their range (California, Colorado, Idaho, Montana, Washington, and Wyoming) is limited to high-elevation alpine habitats. In Idaho, natal den sites are known to occur only in locations above 2,500 m (8,200 ft.). This species is currently listed as Threatened per the USFWS Environmental Conservation Online System species profile (USFWS 2018).

Occurrence in Action Area

Due to the relatively low elevation range of the Action Area (1,575 m or 5,165 ft.) and the lack of suitable alpine or boreal habitat conditions required by this species, denning populations of wolverines would not be expected to be present. However, wolverines are known to occasionally travel long distances between patches of suitable habitat. Therefore, although unlikely, it is possible that individuals could infrequently utilize habitat in or adjacent to the Action Area as a migration corridor.

Yellow-billed cuckoo (Coccyzus americanus)

Species Life History and Distribution

The western yellow-billed cuckoo (*Coccyzus americanus occidentalis*) is a neo-tropical migrant bird that winters in South America and summers in North America, where breeding, nesting, and rearing occur from June through August. In the North American part of its range, the species is a riparian obligate, nesting exclusively in willow-cottonwood complexes greater than 50 acres (20 hectares) in extent that occur adjacent to water (Hughes 1999). Smaller patches of habitat are utilized in migration by this species as stopover and foraging habitat.

While the yellow-billed cuckoo is common east of the Continental Divide, biologists estimate that more than 90 percent of the bird's riparian habitat in the West has been lost or degraded as a result of conversion to agriculture, dams and river flow management, bank protection, overgrazing, and competition from exotic plants such as tamarisk. It is currently listed as

Threatened (USFWS 2018). Critical Habitat has been proposed for this species, but no proposed critical habitat units are located within or adjacent to the Action Area.

Occurrence in Action Area

Riparian habitat in eastern Idaho represents the northernmost edge of the species' occupied breeding and nesting range. Although no reliable population trend data exist for the species, it has been theorized that from fewer than ten to a maximum of a few dozen breeding pairs of yellow-billed cuckoo breed annually in Idaho (Taylor 2000). A species assessment completed by the USFWS concluded that "the yellow-billed cuckoo appears to be hanging on precariously in Idaho" and that it could easily become extirpated from the state (USFWS 2004).

Yellow-billed cuckoo have been very infrequently historically detected near the town of Newdale, Idaho (Reclamation 2017), so it is reasonable to assume that this species may occasionally be present in riparian habitat on the Teton River in or near the Action Area. In the Action Area, no habitat patches sizeable enough to be considered suitable for nesting exist. Therefore, any sporadic occurrences of yellow-billed cuckoo would be attributable to non-nesting individuals moving through the area during migration to and between nesting sites.

Ute ladies'-tresses (Spiranthes diluvialis)

Species Life History and Distribution

The Ute ladies'-tresses (*Spiranthes diluvialis*) is a perennial forb that occurs at low elevations in the moist soils of wet or mesic riparian meadows near springs, lakes, or perennial streams. This plant is a shade intolerant orchid that primarily occurs where co-occurring vegetation is relatively open and is known to establish on seasonally-flooded gravel bars and other riparian edges. It is also known to establish in previously heavily disturbed sites (e.g., heavily grazed riparian edges or revegetated gravel pits). This species requires rooting sites with sufficient seasonal connection to the water table but is not tolerant of prolonged inundation. The Ute ladies'-tresses is highly susceptible to impacts from grazing and may also be negatively affected by upstream pesticide and herbicide applications for both agricultural and noxious weed control, both directly through exposure and indirectly through adverse impacts to the bumblebee, its primary pollinator (USFWS 2018).

Occurrence in Action Area

Although many known element occurrences of the species exist relatively nearby along the South and Henrys Forks of the Snake River, no historic detections of Ute ladies'-tresses exist on the Teton River. Reclamation biologists performed a survey of the Action Area in accordance with existing USFWS protocols (USFWS 1992) on September 4, 2019. The timing of the survey was selected based on concurrent flowering of the nearest known populations of Ute ladies'-tresses (on the South Fork of the Snake River) and information from a U.S. Forest Service botanist familiar with the species in the area (Lehman 2019). This survey found that most of the riparian habitat in the Action Area is not suitable for this species due to a lack of appropriate hydrologic conditions and/or to vegetation community composition and overstory densities that would preclude successful establishment or persistence of the species. No occurrences of this species were detected. The full survey documentation is included in Appendix A.

3.3.2 Environmental Consequences

Alternative A – No Action

Direct and Indirect Effects

Current riparian and upland habitat conditions in the Action Area would remain unchanged under the no-action alternative. Individual wolverines and yellow-billed cuckoo would continue to potentially utilize habitat in the Action Area for infrequent migratory passage. There would be no effect to Threatened and Endangered (T&E) species from the No Action Alternative.

Alternative B – Linderman Dam Restoration and Riffle Construction (Preferred Alternative)

Direct and Indirect Effects

Under Alternative B, any potential use of habitat in the Action Area by individual wolverines and yellow-billed cuckoo would likely be temporarily disrupted. The noise of heavy machinery and increased human activity inherent in the construction process would likely cause temporary displacement of mobile wildlife, including any T&E species present, due to avoidant behavior. These behavioral changes would be limited to the duration of the construction timeframe. Alternative B would not significantly alter the overall character of habitat present in the Action Area, and infrequent periodic migratory use by T&E species would be expected to resume after the conclusion of construction. Therefore, Alternative B would cause no significant effect to T&E species.

Alternative C – Linderman Dam Restoration

Direct and Indirect Effects

Impacts associated with this alternative are the same as those identified in Alternative B.

3.4 Hydrology

3.4.1 Affected Environment

Linderman Dam is located on the main stem of the Teton River at RM 39 upstream of the confluence with the Henrys Fork. The total drainage area of the Teton River at Linderman Dam is 710 square miles. Just upstream of Linderman Dam is the confluence of the Milk Creek tributary, with a total drainage area of 29 square miles, and the Teton River. As seen in Figure 7 and detailed in Table 6, the majority of the Teton River drainage basin is located upstream of Linderman Dam. Linderman Dam provides limited head in the Teton River to allow the pump station located on the upstream side of the Milk Creek alluvial fan to provide water to irrigated lands on the south rim of the Teton Canyon. Flow in the Teton River is largely unchanged by flow pumped from the river.

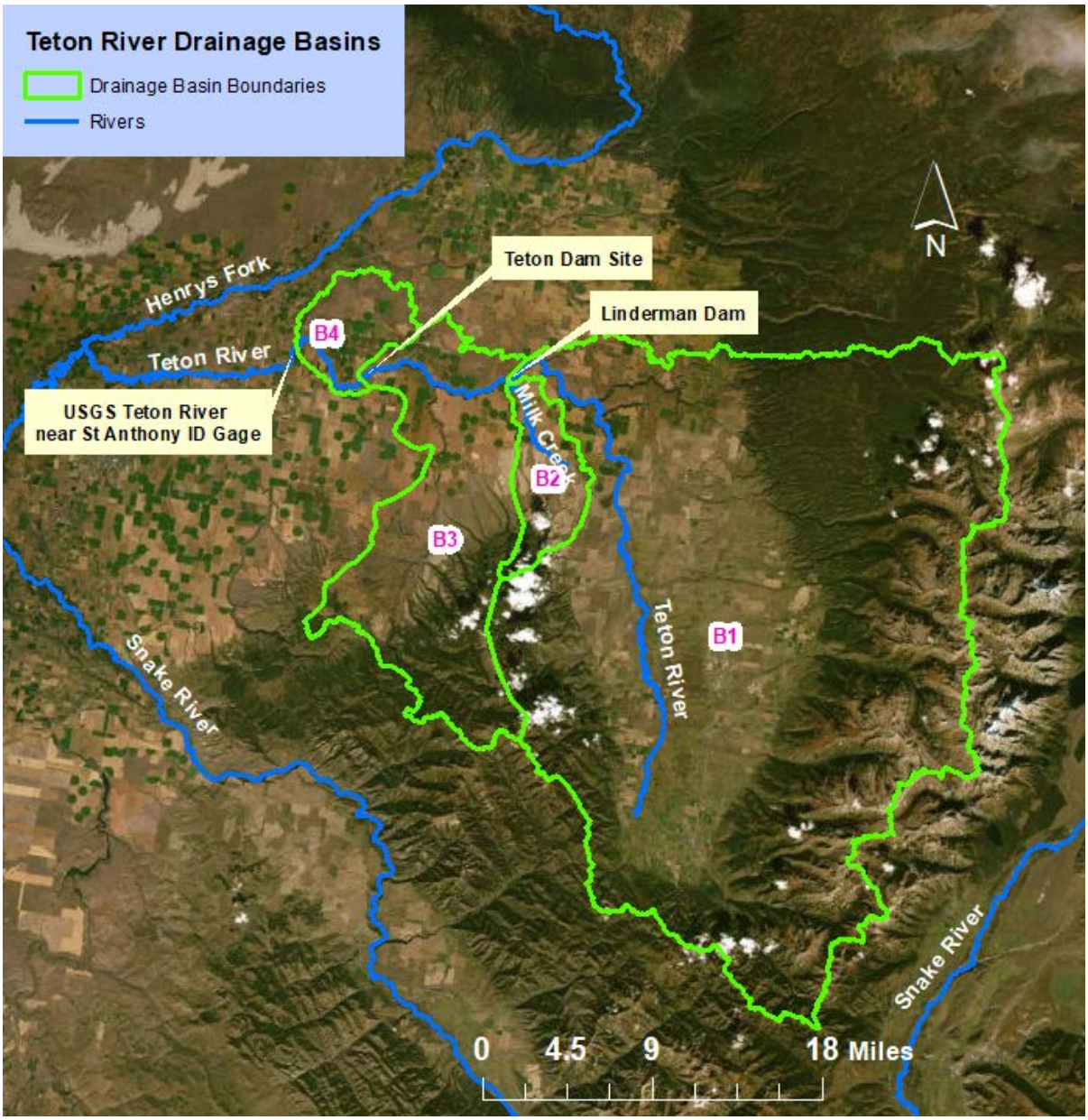

Figure 7. Teton River drainage basins

Table 6. Teton River drainage basin areas

Basin	Drainage Area (square miles)
B1	681
B2	29
B3	141
B4	27

The majority of the Teton River flow reaches Linderman Dam, as a small portion of the Teton River is diverted in the Teton Valley, seen in the large valley area in basin B1 in Figure 7. Through the Teton Canyon, there are several pump stations that transfer water up the canyon walls to reach irrigated lands. These pump stations divert a small portion of the total flow in the Teton River, with most of the river flow reaching the USGS gage on the Teton River near St. Anthony, Idaho, which is located approximately 16 miles downstream of Linderman Dam. Figure 8 shows daily flow data for the USGS Teton River near the St. Anthony gage located downstream of Linderman Dam and illustrates the general seasonal flow seen in the Teton River.

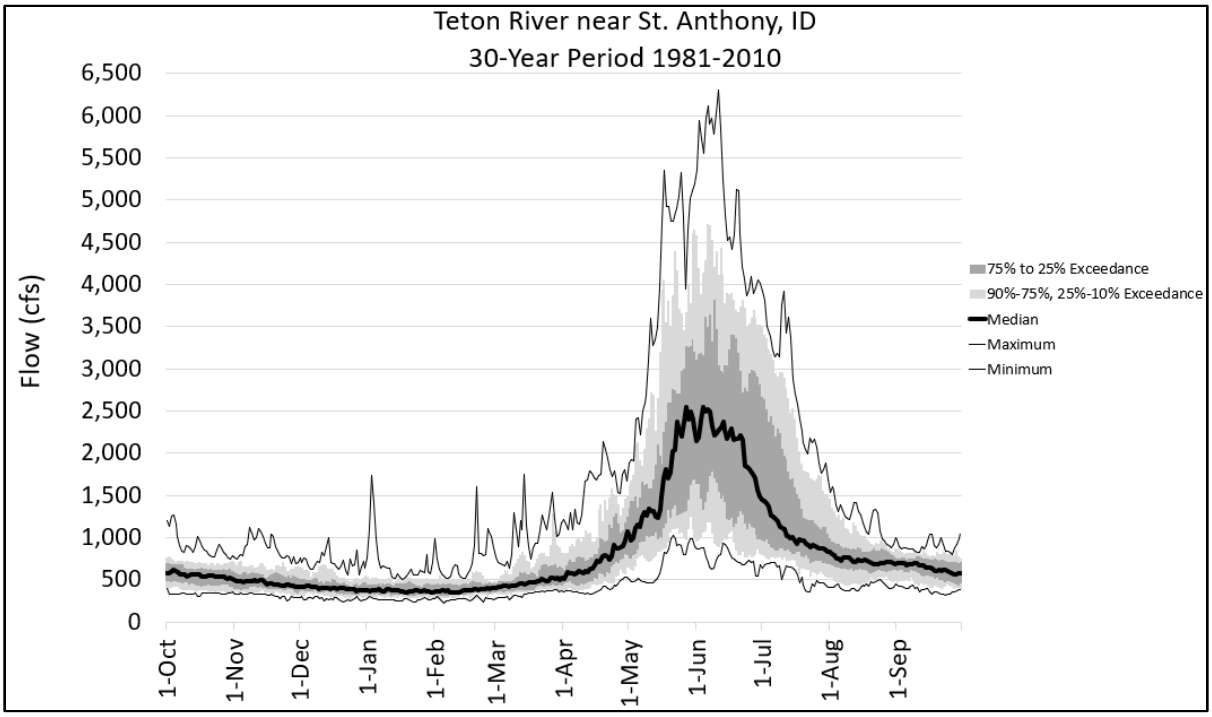

Figure 8. Daily historic flow data for the Teton River near St. Anthony, Idaho for the 30-year period from 1981 to 2010. Flow data can be retrieved from Reclamation's historical database: https://www.usbr.gov/pn/hydromet/arcread.html.

Flows in the spring and early summer months are driven by snowmelt processes from the surrounding mountain ranges. During the late summer, fall, and winter months, baseflows are fed by water returning to the river from precipitation infiltration. The proposed construction would occur during a 10-week window in late summer to early fall, once Teton River flows reach a suitable level.

Linderman Dam was built in the late 1950s and early 1960s to span the Teton River from the Milk Creek alluvial fan on the left bank to the right bank of the Teton River. As detailed in the study titled *Hydraulic Assessment of the Linderman Dam on the Teton River*, Linderman Dam created a 10-foot drop in water surface and formed a 3,600 foot-long pool upstream (Reclamation 2018). Linderman Dam was partially removed prior to construction of the Teton Dam and Reservoir, as it was intended to be inundated in the resulting reservoir. Several vertical beams protrude a

few feet out of the water along a lower dam crest which is part of the original structure. Over several years, a few pipes have been placed upstream of these vertical beams to maintain a sufficient pool for the adjacent pump station. Most of the flow passes over the top of the pipes placed upstream of the vertical beams. As further detailed in the 2018 study, water is diverted from the retention pond, 100 ft. upstream of Linderman Dam, through five pumps (Reclamation 2018). The pumps divert an average of 24.5 cfs from the river.

3.4.2 Environmental Consequences

Alternative A – No Action

Under the No Action Alternative, the existing Linderman Dam structure would continue to deteriorate over time and thus maintain a dangerous river hydraulic in the mainstem of the Teton River. Basin hydrology and discharge from Linderman Dam would be unaffected under the No Action Alternative.

Alternative B – Linderman Dam Restoration and Riffle Construction (Preferred Alternative)

Under Alternative B, the existing Linderman Dam would be improved to ensure the safety of recreators on the Teton River. Alternative B includes the construction of a riffle structure downstream which would submerge the current dam structure. Any protruding concrete, rebar, and piping in and around Linderman Dam would be removed to ensure a hazard-free environment for river recreation. The riffle would be constructed during low fall flows with a temporary bypass channel being formed to allow flow to pass around the construction site. Construction would occur over multiple years in a multi-phase process with flow that is diverted from the river being returned to the river. The resulting river levels would ensure that irrigation can still occur. When the riffle is complete, the temporary bypass channel would be filled to a finished grade elevation to function as a low-lying swale on the floodplain, and the crossing and temporary access road would be removed.

In the short term, construction efforts would work below the ordinary high-water mark. It is not anticipated that river hydraulics would be significantly impacted as the construction work is designed to rehabilitate the site to a safe condition without greatly impacting the normal water surface pool at Linderman Dam. The footprint of alternative B construction area closely resembles the existing Linderman Dam structure; therefore, it is not anticipated that river hydraulics would be affected in the long term. Basin hydrology and river flows would be unaffected under Alternative B.

Alternative C- Linderman Dam Restoration

Under Alternative C, the existing Linderman Dam would be improved to ensure the safety of recreators on the Teton River. Alternative C includes demolition of unsafe features at the dam, construction of a riffle near the dam, and smoothing of the riverbed to remove unsafe water hydraulics by filling in large scour hole on the downstream side of the dam and by forming a transition to the dam crest on the upstream side of the dam. The 72-inch pipe culvert beneath the peninsula to the south would be filled with grout to ensure that it would no longer allow

water to pass through. The smoothing of the riverbed and upstream transition to the dam crest is designed to ensure safe recreating passage at Linderman Dam and to maintain a similar water surface for the pump station just upstream of Linderman Dam.

In the short term, construction efforts would likely require work below the ordinary high-water mark. It is not anticipated that river hydraulics would be significantly impacted as the construction work is designed to rehabilitate the site to a safe condition without greatly impacting the normal water surface pool at Linderman Dam. The footprint of alternative C construction area closely resembles the existing Linderman Dam structure; therefore, it is not anticipated that river hydraulics would be affected in the long-term. Basin hydrology and river flows would be unaffected under Alternative C.

3.5 Water Quality

3.5.1 Affected Environment

Linderman Dam is located on the main stem of the Teton River near the confluence of Milk Creek and at RM 39 upstream of the confluence with the Henrys Fork. For this analysis, the Teton River assessment unit (corresponding with a portion of Idaho Department of Environmental Quality (IDEQ) unit ID17040204SK014_05) extends approximately 7.5 miles upstream of the Teton River and Milk Creek confluence and approximately 5 miles below the confluence (IDEQ unit ID17040204SK012_05). Additionally, the Milk Creek reach (IDEQ unit ID17040204SK013_03) is approximately 7 miles from the source to the confluence with the Teton River.

The two Teton River reaches and the Milk Creek reach are identified by IDEQ as Category 3 waters, meaning there are insufficient data to determine if any beneficial uses are being met (IDEQ 2018). The unassessed beneficial uses of the Teton River reaches are aesthetics; agricultural, domestic, and industrial water supply; cold water aquatic life; primary contact recreation; salmonid spawning; and wildlife habitat (IDEQ 2019). Unassessed beneficial uses identified for Milk Creek are aesthetics; agricultural and industrial water supply; and wildlife habitat (IDEQ 2019). Table 7 identifies pertinent Idaho water quality numerical standards (IDAP 58.01.01.250-251) for primary and secondary contact recreation, cold water aquatic life, and salmonid spawning.

Table 7. Numeric Idaho water quality criteria for selected beneficial uses[1]

Parameter	Primary Contact Recreation	Cold Water Aquatic Life	Salmonid Spawning[2]
E. coli	*Geometric Mean*: <126 *E. coli*/100 mL *Single Sample*: ≤406 *E. coli*/100 mL	--	--
pH	--	Between 6.5 and 9.0	Between 6.5 and 9.0
Dissolved Oxygen (DO)	--	DO exceeds 6.0 mg/L	*Water Column*: DO exceeds 6.0 mg/L in water column or 90% saturation, whichever is greater *Intergravel:* DO exceeds 5.0 mg/L for a 1-day minimum and exceeds 6.0 mg/L for a 7-day average
Temperature Celsius (°C)	--	22 °C or less daily maximum; 19 °C or less daily average *Seasonal Cold Water:* Between summer solstice and autumn equinox: 26 °C or less daily maximum; 23 °C or less daily average	13 °C or less daily maximum; 9 °C or less daily average
Turbidity	--	Turbidity shall not exceed background by more than 50 nephelometric turbidity units (NTU) instantaneously or more than 25 NTU for more than 10 consecutive days	--
Ammonia	--	Ammonia not to exceed calculated concentration based on pH and temperature	--

[1] Table adapted from Teton River Subbasin TMDL and 5-Year Review (IDEQ 2018b)

[2] During spawning and incubation periods for inhabiting species

The most current data on Teton River water quality are detailed in the 2016 *Total Maximum Daily Loads and Five-Year Review* (IDEQ 2016). This review identified the main pollutants of concern in the subbasin: water temperature; sediment; and *E. coli*. Incorporation of best management practices (BMPs) since the prior Total Maximum Daily Load (TMDL) review in 2003 have decreased some of the water body pollutant sources that caused impairments to their beneficial uses. Additionally, it was identified that the majority pollutants of concern (temperature and sediment) are from nonpoint sources, and IDEQ suggests that temperature and sediment

impairments are expected to persist about a decade after mitigation BMPs are applied (IDEQ 2016).

Although the water quality of Teton River reaches above and below the Linderman Dam structure and Milk Creek are unknown, it is assumed that because of the proximity of water quality impairments upstream in the Teton River, it is likely that sediment/siltation and habitat alterations could be affecting beneficial uses. The pool immediately above the Linderman Dam structure has not only caused habitat alteration but may also have artificially increased water temperatures due to slowing of the water, increased surface area, and lack of shade.

3.5.2 Environmental Consequences

Alternative A – No Action

Water quality in the Teton River would remain similar to that described in the affected environment section. In the long term, due to continuing improvements in water quality BMPs upstream on the Teton River and the TMDL process that limits pollution over time, water quality should slowly improve in the Teton River. Temperature and sediment impairments in the Teton River subbasin are expected to persist for about ten years after BMPs are implemented so that natural stream processes and vegetation can recover (IDEQ 2016).

Alternative B – Linderman Dam Restoration and Riffle Construction (Preferred Alternative)

Effects to water quality in the Teton River are separated into two categories: short-term construction effects and long-term effects. Short-term construction effects are separated by construction phases and include direct and indirect effects during and immediately after the specific construction phase. Long-term effects include direct and indirect effects after the river channel has come to an equilibrium sometime after construction.

Short-Term Construction Effects

Phase 1

Rehabilitation of the access road, rough grading of the staging areas, and road use for riprap deliveries, could increase turbidity and sediment into the river during Phase 1 of construction. The proposed staging area shown as 1.95AC in Figure 6 is a higher sediment source risk due to its close proximity to the river. Additionally, the construction and use of the temporary access road connecting the existing road to the staging areas would also be potential sediment sources near the river. To mitigate turbidity and sedimentation effects from these areas, BMPs would be implemented by the construction crew, including but not limited to watering the road to decrease dust during truck traffic. This would limit the amount of sediment entering the river to very minor amounts that occur infrequently due to wind action and would not be expected to exceed Idaho water quality standards for turbidity.

The effects from construction of the two bypass channels (B1 and B2) are similar. Construction of B1, although shorter in length (approximately 500 ft.) compared to B2 (900 ft.), is closer in proximity to the river and poses a higher risk of sedimentation and increased turbidity to the

river. Construction of B2 is slightly less risky because it is slightly further from the river, but the additional 400 ft. of ground disturbance to construct the channel has more disturbed soil surface, increasing the risk of turbidity and sedimentation in the river. Effects from B1 and B2 bypass channels would be mitigated by BMPs such as watering down the newly disturbed channel to decrease dust.

This phase of construction is to occur in the summer and early fall. Sedimentation risk would be the highest during hot, dry, windy days until the ground freezes. Stochastic rain events could cause an increase in sedimentation from the newly disturbed areas. However, specific stormwater runoff plans would be produced by the contractor to implement BMPs to mitigate and prevent excess stormwater from the construction areas of reaching the river.

Phase 2

Grading the upstream and downstream connection of the temporary bypass channel (either B1 or B2) would disturb the soil, increasing the risk of turbidity and sedimentation. This would be similar to the effects identified in Phase 1 construction for the temporary bypass channel B1 and B2. These effects would be short-term because the bypass channel (either B1 or B2) would have a plastic liner installed after grading, preventing soil from being transported to the river. Once the bypass channel is opened and water from the river is flowing through it, no increases in sedimentation or turbidity from the bypass channel are expected because of the plastic liner would effectively create a water-tight barrier and prevent any soil from the bypass channel to erode.

The placement of the riffle material into the river channel would disturb the channel bottom and would cause a temporary increase in turbidity. The resulting sediment plume would dissipate downstream within minutes of entering the channel and would be distributed downstream based on mass of the individual sediment particles and flow velocity. In channel areas that experience direct flows, the water velocity has likely removed much of the lighter sediment and would experience less turbidity, while depositional areas that are protected from the direct current would experience more turbidity during the placement of fill. It is expected that turbidity during these periods may exceed 25 nephelometric turbidity units (NTUs) over background; these effects would not persist for more than 10 consecutive days because of the small amount of sediment disturbed by fill placement and how quickly it would dissipate downstream. By the same logic, turbidity should not at exceed background by more than 50 NTUs taken instantaneously. The fill material itself would not add to the sediment/turbidity because it would be cleaned before placement into the channel and any sediment on the fill would be very minor.

Removal of protruding excess concrete, rebar, and piping on the Linderman Dam structure is not likely to cause any effects to water quality. All excess concrete, rebar, and piping would be removed off-site and disposed of properly.

Phase 3

Reopening the upstream end of the temporary bypass channel to carry out needed repairs or improvements to the newly constructed riffle would have similar effects as stated in the Phase 2 construction for the same actions. Any disturbance in the river channel has the risk of dislodging

sediment and increasing turbidity. However, those effects should be of reduced duration and intensity because riffle repairs should be much less intrusive than the initial riffle construction done in Phase 2 construction. As for Phase 2 construction, turbidity during these periods may exceed 25 NTUs over background but would not persist for more than 10 consecutive days or 50 NTUs (above background levels) taken instantaneously because of the small amount of sediment disturbed by fill placement and how quickly it would dissipate downstream.

Filling in bypass channel, removing the temporary access road, and revegetating all disturbed areas with a mix of native riparian species would have no overall negative effects to water quality. The initial construction and filling in with topsoil, grading/leveling the area, and other soil disturbance activities could increase the chances of sediment/turbidity in the river, especially due to the close proximity to the river. However, revegetation and restoration of the site to a functioning riparian floodplain would prevent and improve water quality by shading (cooling water temperature) with tall riparian shrubs, protection from erosion with deep-rooted riparian plants, and riparian vegetation can filter/catch upland sediments that have eroded before they deposit into the river.

The cumulation of the short-term construction effects (phases 1-3) are not expected to affect *E. coli* concentrations, water temperature, pH, dissolved oxygen (DO), or ammonia concentrations below, at, or above the construction site. No inputs associated with these contaminants are known to occur or are likely to occur due to construction.

Long-Term Effects

Restoring the Teton River continuity from above to below the Linderman Dam structure would change the large pool condition to a more connective, river-like condition. The fluvial geomorphology would be changed to a continuous river corridor of flowing water. Functioning as such, light substrate and bed material would be redistributed and would be deposited based on sediment mass and flow velocity of the water. The connectivity would reduce the likelihood of erosional effects such as from a plunge-pool head-cutting. Riparian vegetation establishing in the disturbed areas along the river would stabilize the riverbanks and prevent erosion.

The river-like geomorphology would aid in DO stabilization by creating riffle-pool sequences that enhance and improve DO concentrations. Water temperature in the Action Area would return to a more natural condition and vary depending on diurnal and seasonal fluctuations. This would also affect the potential for *E. coli* contamination by flushing any bacteria and not allowing stagnant, warm water to collect. The overall water quality of this reach after construction, and after the site has been stabilized with vegetation, would be expected to meet or exceed IDEQ water quality standards.

Alternative C –Linderman Dam Restoration

Effects to water quality in the Teton River are separated into two categories: short-term construction effects and long-term effects. Short-term construction effects include direct and indirect effects during and immediately after the construction period. Long-term effects include direct and indirect effects after the river channel has come to an equilibrium sometime after construction.

Short-Term Construction Effects

Removal of the dam structure concrete and subsequent reuse as channel fill material would likely result in a minor amount of sediment to enter the river channel. This would be minimized because only large-blocky material would be used as fill, but minor amounts of sediment would likely occur on the surface of that material. The sediment input would be for a short period, occurring during the initial concreate removal. The sediment, once entering the channel, would dissipate downstream within minutes of entering the channel and would be distributed downstream based on mass of the individual sediment particles (heaviest particles settling out first and lightest particles traveling further downstream) and flow velocity. Teton River turbidity during these periods may exceed 25 NTUs over background; these effects would not persist for more than 10 consecutive days because of the small amount of sediment input and how quickly it would dissipate downstream. By the same logic, turbidity should not at exceed background by more than 50 NTUs taken instantaneously.

Riffle construction would consist of filling the scour hole below the dam, filling the channel and transitioning up to the dam crest, and filling the 72-inch pipe culvert with grout. Filling the scour hole and filling the channel up to the dam crest would result in fill material being placed in the channel. This action (adding fill) would disturb the channel bottom and would cause a temporary increase in turbidity. The resulting sediment plume would dissipate downstream within minutes of entering the channel and would be distributed downstream based on mass of the individual sediment particles and flow velocity. In channel areas that experience direct flows, the water velocity has likely removed much of the lighter sediment and would experience less turbidity, while depositional areas that are protected from the direct current would experience more turbidity during the placement of fill. It is expected that turbidity during these periods may exceed 25 NTUs over background; these effects would not persist for more than 10 consecutive days because of the small amount of sediment disturbed by fill placement and how quickly it would dissipate downstream. By the same logic, turbidity should not at exceed background by more than 50 NTUs taken instantaneously. As a comparison, the turbidity produced from this action should be less in quantity and duration than of the removal of the dam structure and subsequent fill described in the previous paragraph. The fill material itself would not add to the sediment/turbidity because it would be cleaned before placement into the channel and any sediment on the fill would be very minor. Filling the 72-inch pipe culvert with grout is unlikely to cause any water quality-related issues; this is a typical construction procedure that has no toxic components and is approved in water environments.

Staging areas near the river (Areas B, C, and D in Figure 7) and extensive road use during construction could increase turbidity and sediment into the river during construction. To mitigate this effect, BMPs would be implemented, including watering the road to decrease dust during truck traffic. This would limit the amount of sediment entering the river to very minor amounts that occur infrequently due to wind action and would not be expected to exceed Idaho water quality standards for turbidity.

Short-term construction effects are not expected to affect *E. coli* concentrations, water temperature, pH, dissolved oxygen (DO), or ammonia concentrations below, at, or above the

construction site. No inputs associated with these contaminants are known to occur or are likely to occur due to construction.

Long-Term Effects

Effects are the same as those identified above in Long-Term Effects in Alternative B.

3.6 Fluvial Geomorphology

3.6.1 Affected Environment

The Action Area is comprised of approximately 2,000 ft. (0.4 miles) of the main channel of Teton River. Remnants of Linderman Dam are located at the confluence with Milk Creek, 39 river miles upstream of the confluence with Henrys Fork and 9.7 river miles upstream from the Teton Dam site. The singled-threaded river flows from east to west with very steep (almost vertical) canyon walls on the north (right) bank; a narrow floodplain vegetated with reed canary grass on the south (left) bank abuts a less steep canyon wall covered with overburden consisting of a poorly-sorted mixture of talus, colluvium, and loess (fine-grained windblown deposits; Reclamation 2000).

The alluvial fan at Milk Creek has pushed the Teton River toward the vertical, right bank cliffs; the river has been in this position for thousands of years pre-dating the dam (Reclamation, 2000). Aside from alluvial and colluvial deposits, the Teton River canyon walls consist of welded rhyolitic ash flows (volcanic tuff) near the project site (Embree et al. 2011). Above the canyon, large portions of the landscape are overlain by loess deposits which can be transported and re-deposited on hillslopes, contributing to the overburden on these slopes (Embree et al. 2011).

As described in Section 1.2.4, remnants of Linderman Dam, built in 1961, consist of a lower weir (or dam crest) and stilling basin (Figure 9). The lower weir is approximately 50 ft. across the channel with four vertical pipes protruding above the low flow water surface elevation. Within the last few years, the owner of Skyline Farms has installed a 3-ft.-diameter pipe across the dam crest to further increase the water surface elevation within the pumping pond. Approximately 25 ft. of the stilling basin extends across Teton River while the remaining 25 ft. are built into the peninsula. The right abutment of the dam was constructed into the volcanic rock and the left abutment of the dam was constructed in the (Quaternary) alluvial floodplain of Milk Creek (Reclamation, 2000). The current hydraulic drop of 2.2 ft. over Linderman Dam creates a dangerous hydraulic roller and lethal undercurrent across the lower weir of Linderman Dam, making downstream river access dangerous for boaters. Currently, portage across Skyline Farm's private property is required to continue floating the reach to the next output location, which is 5 miles downstream of Linderman Dam.

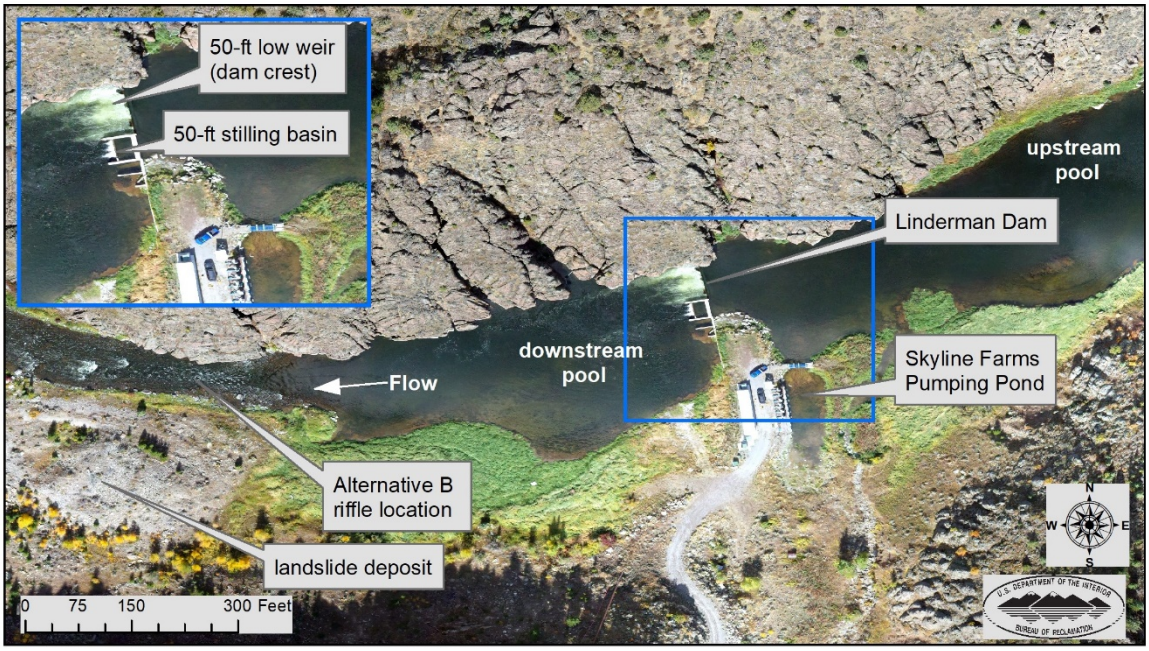

Figure 9. Site map of Linderman Dam highlighting the landslide deposit and features relevant to the fluvial geomorphology of the site

Skyline Farm's pump station is located within a small pumping pond on the south bank. The pond inlet is at an eddy 100 ft. upstream of Linderman Dam. The low velocity, circulating flow pattern results in sediment deposition at the pond entrance and within the pond. The current dam structure controls the water surface elevation in the pond, providing enough depth to operate the pump station. Any modifications made to the current Linderman Dam structure would impact the operation of Skyline Farm's pump station.

Teton Dam closure (November 1975) and subsequent failure (June 1976) completely altered the river's ecosystem and geomorphology. Woody riparian vegetation was removed prior to dam filling. The water surface elevation of the reservoir was approximately 5302 ft. at the time of failure (Embree et al. 2011). When the dam failed, the sudden drop in water surface initiated several landslides within Teton Canyon, generally at or below the reservoir pool elevation (Schuster and Embree 1980). Slides are more numerous on the southern canyon walls due to thicker deposits of overburden (Embree et al. 2011). These landslide deposits buried the Teton River riverbed where they occurred and created new riffles or increased the height of existing riffles (Reclamation 2000).

The reach is characterized by low channel sinuosity, driven by valley confinement. Long pools in the channel are followed by short and steep riffles, which serve as a hydraulic control for the water surface elevation for the upstream pool. Due to the riffle-pool nature of the system, fine sediments have deposited in the pools. Velocity magnitudes are low enough that aquatic vegetation has established in shallow areas within the pools. Conversely, the riffle sections consist of large boulders. Channel width of the riffles are about half of the width of the subsequent upstream pool.

3.6.2 Environmental Consequences

Alternative A-No Action

The remaining Linderman Dam structure would continue to deteriorate over time, sustaining the dangerous hydraulic roller creating a 3-foot drop with a lethal undercurrent. Boating through the site would continue to require portage on Skyline Farm property to avoid the unsafe conditions at Linderman Dam. As the dam deteriorated, more flow could seep through the structure, decreasing the water surface elevation of Skyline Farm's pumping pond. A significate decrease in water surface elevation within the upstream pool and pumping pond may compromise the operation of the pumping station. As the upstream water surface elevation dropped, minor portions of the upstream floodplain would begin to be exposed. This could take years or decades. No other impacts to the river morphology or surrounding floodplain would occur under the No Action Alternative.

Alternative B – Linderman Dam Restoration and Riffle Construction (Preferred Alternative)

The increase in base elevation of 4.5 ft. as a result of the constructed riffle combined with partial dam removal is enough to smooth the water surface elevation across the dam during low flow conditions, removing hazards to recreators. During large storm events (greater than a 2-year recurrence interval flood), a hydraulic drop is still expected at the dam. However, the drop is expected to be less than 1 foot, and boating traffic is assumed to be small during these times. An increase in water surface elevation greater than 0.5 ft. is expected within the pumping pond, which would allow Skyline Farms to continue pump operations. The existing 72-inch pipe culvert beneath the peninsula would be completely inundated; therefore, any water passage would have negligible impacts on the Action Area.

The proposed riffle would combine the current pools upstream and downstream of Linderman Dam, creating one large pool approximately 1,100 ft. long. All existing concrete and rebar above 5154.5 ft. in elevation would be removed. This could result in more sediment deposition, particularly within the upstream extent and channel margins of the upstream pool, potentially encouraging more vegetation growth. The re-circulation zone found at the pumping pond inlet is not expected to change and sediment deposition would continue. With a higher pool elevation, the sedimentation may increase in thickness. Skyline Farms would need to continue their current maintenance activities and potentially conduct them more frequently in the future.

The proposed design riffle is located on a pre-1972 riffle that was likely created by a landslide deposit sourced from the left canyon wall. This minor riffle was greatly enhanced by a large landslide deposit triggered by rapid dewatering during the 1976 Teton Dam failure, also sourced from the left canyon wall. The landslide debris has constricted the channel width by half (Reclamation 2000). The modern left bank, formed by landslide debris, extends up from the channel for approximately 150 ft. at a gradient of 0.240 (ft./ft.); the slope then flattens to a mean gradient of approximately 0.068 for 175 ft. across a bench formed by the landslide deposit, near

an elevation of 5200 ft. The southern edge of the bench abuts the steep wall of Teton Canyon, with gradients over 0.400.

Given that a riffle consisting of landslide deposits has persisted at this site for nearly four decades, the landslide deposit acts as an erosion-resistant point on the channel bed and should provide a stable substrate for the design riffle foundation. Portions of the existing riffle would be excavated and backfilled with rock to key in the design riffle. The backfill would contain boulders, cobbles, and gravels, some of which may be susceptible to sediment transport; however, this riffle is designed to be a permanent feature and should offer protection to the underlying material.

Landslide material along the left bank may be removed to create a more accessible floodplain on the south side of the river. Two flat benches are proposed within the design slope. The lower proposed bench is meant to be accessed by the river during high flows. The upper design bench would be connected to the natural bench formed by the landslide deposit at 5200 ft elevation. The designed slopes between the benches could degrade with time. Material would most likely be deposited on the adjacent design benches but could potentially deposit some material into the river. As a portion of the natural landslide bench would remain, the proposed design is unlikely to destabilize material on the upper canyon walls. However, landslides within Teton Canyon are common within the geological record and future landslides cannot be ruled out, especially if any overburden material remains on the canyon walls.

In the short term, construction efforts include a bypass channel on the south floodplain. Assuming the bypass channel is appropriately filled and sealed after construction, no changes outside of the intended design are expected in the fluvial geomorphology.

Alternative C-Linderman Dam Restoration

As discussed in Section 3.4.2., Alternative C would remove the safety hazard to boaters over the existing dam structure as an engineered riffle would eliminate the dangerous hydraulic roller over the structure. The increase in base elevation of Linderman Dam would increase the water surface elevation in the pumping pond by at least 0.5 ft.

The key change in fluvial geomorphology under Alternative C is the filling of the scour hole downstream of Linderman Dam. The impacts of filling the scour hole would be very localized, having little impact on the planform or river processes of the Teton River.

Construction efforts may temporarily add more sediment into the environment while filling the scour hole downstream of the dam. These sediments would likely settle in the downstream pool or be washed downstream. Assuming standard construction practices when building within a river channel, it is not anticipated to have a long-term impact on the fluvial geomorphology of the Teton River outside of the intended design.

3.7 Realty

3.7.1 Affected Environment

In total, there are 9,300 acres of Federal land within the RMP Study Area. Reclamation acquired 5,804 acres of these lands with the remaining 3,496 acres being acquired by BLM. These lands were covered in the Interagency Agreement (IA) for the Management of Teton Reservoir Site Lands (IA, No. 2-07-10-LO504) between Reclamation and BLM dated December 4, 1981. The IA was made to provide for management of the RMP Study Area lands and includes the following commitments:

1. BLM agrees to cooperate with the development of plans relating to uses of the agreement and non-agreement lands.
2. Reclamation agrees to issue and administer all leases, licenses, and permits allowing surface use of the agreement lands, and to manage un-leased agreement lands along with acquired lands for recreation, public access, wildlife, and other public purposes.

Most private lands surrounding the RMP Study Area are agricultural, including both dry and irrigated lands. Grain, alfalfa, and potatoes are the primary crops grown in the area. Reclamation has issued various use authorizations on the Federal lands in the RMP Study Area for multiple uses, including agricultural, pivot crossings, pump stations, pipelines, powerlines, and access roads (Table 8). Most of these authorizations support the agricultural industry in the general area.

Table 8. Valid use authorizations for lands in the RMP Study Area

Number	Holder	Purpose	Acres	Term
14-06-100-7387	Utah Power & Light	Powerline	0.17	6/23/72-Perpetuity
14-06-100-8172	Ray & Carol Brown	Pump Station, Pipeline, Road	2.5	6/24/74-Perpetuity
Supplement 137	Bonneville Power Administration	Powerline, Road	21.8	2/16/88-Perpetuity
2-07-14-LA383	M&B Enterprises	Pump Station, Pipeline, Road	2.0	6/14/02-6/13/20
2-07-14-LA385	Rocky Gulch Farms	Irrigation Pipeline	1.1	6/14/02-Perpetuity
6-07-14-LA457	R. Brent Ricks	Pump Station, Pipeline, Powerline	2.5	1/11/06-1/10/26
6-07-14-LA453	UNAVCO	GPS Station	0.1	3/4/16-3/3/36
7-07-14-LA482	Fall River Rural Electric	Powerline	0.73	1/19/07-1/18/27
7-07-14-LA483	Val & Diane Schwendiman	Pump Station, Pipeline, Road	2.3	2/14/07-2/13/27
10-07-14-LA675	Fall River Rural Electric	Powerline	0.1	8/2/10-8/1/30
10/07/14/LA676	Dirk Parkinson	Pump Station	0.1	8/2/10-8/1/30
10/07/14/LA678	Fall River Rural Electric	Powerline	1.5	12/8/10-12/7/30
11-07-14-LA706	Baker Farms	Pivot Crossing	1.9	3/1/11-2/28/21

Number	Holder	Purpose	Acres	Term
11-07-14-LA716	Skyline Farms	Pump Station, Pipeline, Powerline, Road, Well	3.3	11/29/11-11/28/31
12-07-14-LA751	Parkinson Seed Farm	Pivot Crossing	12.95	3/1/18-2/28/23
13-07-14-LA778	Jim Beard	Agricultural	22.3	3/1/18-2/28/23
13-07-14-LA779	KLB	Agricultural	132.0	3/1/18-2/28/23
13-07-14-LA780	Hughes Farms	Agricultural	210.7	3/1/18-2/28/23
13-07-14-LA781	Parkinson Seed Farm	Agricultural	20.9	3/1/18-2/28/23
13-07-14-LA782	Brent Ricks	Agricultural	228.8	3/1/18-2/28/23
13-07-14-LA783	Parkinson Seed Farm	Agricultural	48.1	3/1/18-2/28/23
13-07-14-LA784	David Schwendiman	Agricultural	162.0	3/1/18-2/28/23
13-07-14-LA785	Val Schwendiman	Agricultural	156.0	3/1/18-2/28/23
13-07-14-LA786	Delvan Ward	Agricultural	127.6	3/1/18-2/28/23
13-07-14-LA790	Canyon Creek Lateral Pipe	Pump Station, Pipeline, Powerline, Road	1.0	2/27/14-2/26/24

The Action Area is located within the Seed Potato Crop Management Area in Teton County and portions of Madison County. All ground working, earth moving, or potato handling equipment must be cleaned of soil and plant debris and disinfected before entering a Seed Potato Crop Management Area in order to prevent the introduction of disease(s) or pest(s) of concern. One of the primary pests of concern is the pale cyst nematode. Spread of the nematode is primarily through the transport of soil via seed potatoes, nursery stock, flower bulbs, farm equipment, or soil-bearing surfaces. Infested fields may take several years to detect because incipient infestations take numerous (two to three) crop cycles to build up to detectable levels, and the pale cyst nematode eggs can remain dormant in soil for up to 30 years (USDA 2017).

Linderman Dam, located in the Action Area, was originally built in the late 1950s and early 1960s by local farmers to span the width of the Teton River approximately seven miles upstream from Teton Dam site (Figure 1). Due to the construction of Teton Dam and Reservoir in 1972, the operation of Linderman Dam was stopped, and portions of the dam were removed. After the failure of Teton Dam in 1976, the river more or less resumed its previous course and the footings of Linderman Dam were exposed once again. In 1980, Reclamation acquired the land where the Linderman Dam and its associated infrastructure are located. As part of a settlement agreement regarding damage to real and personal property and irrigation systems resulting from the construction and failure of Teton Dam, Reclamation authorized the repair, operation, and maintenance of Linderman Dam for 25 years.

The activities under this 25-year authorization included the installation of a pump station located on an approximate 15-foot by 15-foot concrete pad located on the south shore of the Teton River, and an access road (with a buried powerline and an above-ground irrigation pipeline) that traversed the south canyon wall. This 25-year authorization expired in 2005, with most of the improvements remaining in place, i.e., the concrete pad, access road, and pipeline.

In 2011, Reclamation issued an authorization (11-07-14-LA716) to Skyline Farms, adjacent landowner on the south side of the Teton River to the Action Area, for the construction, operation, and maintenance of a pump station, access road, pipeline, and powerline for 20 years in the same location as the previous 25-year authorization. The new pump station consists of five 600-horsepower pumps placed on a 30-foot by 10-foot concrete wall structure constructed adjacent to the old 15-foot by 15-foot concrete pad on the south side of the river. The pump intakes are located within an alcove to the east of the pump stations. A 3-foot diameter pipe is used to check water up to the forebay and into the alcove. Most of the previous access road was still in existence, other than a portion of the lower section that was re-constructed. The old pipeline was replaced with a 30-inch diameter pipeline and remains above-ground along the south canyon wall. The powerline remains buried within the access road. Per conversations with Skyline Farms, current water surface elevations are not ideal for operation of the pump station.

There is no public access to Linderman Dam as the crossing of private land on both sides of the Teton River is required from the termination of nearby public roads. The United States does have administrative access on the south side of the river through an easement across Skyline Farms' adjacent private land. Skyline Farms has expressed growing concern over trespass, site contamination, and security issues at the pump station created by the increasing number of recreational users on the river and the need to portage at Linderman Dam.

3.7.2 Environmental Consequences

Alternative A – No Action

Implementation of Alternative A would result in no direct effects to the existing authorized improvements (11-07-14-LA716) located in the Linderman Dam area. The Linderman Dam structure would not be removed and no improvements or restoration to the Teton River would occur. The current river hazard created by Linderman Dam would continue to exist and be a safety concern to water recreators as it presently does with the potential for an increased security risk for the authorized pump station. Current water surface elevations would continue to not be ideal for operation of the pump station.

Indirectly, the need for Reclamation, law enforcement, or emergency response personnel to access the area may increase due to the continued presence of the river hazard and potential for public harm.

Alternative B – Linderman Dam Restoration and Riffle Construction (Preferred Alternative)

Implementation of Alternative B would occur in the general vicinity of the improvements authorized by License 11-07-14-LA716 and directly adjacent to private lands used for agricultural cultivation. Prior to implementation of any activities in the Action Area, all equipment would be cleaned of soil and plant debris and disinfected, and all procured materials certified free of disease and pests in accordance with IDAPA 02.06.26, 100. 01, Introduction of Pests. This would help ensure that the project doesn't introduce and/or spread disease and pest(s), specifically the pale cyst nematode. Due to the high concern regarding the nematode, a

representative from Skyline Farms (adjacent landowner) would inspect all equipment and procured riprap and fill material prior to entering the Seed and Potato Crop Management Area.

Repairs to the existing access roads would improve the overall access to the Action Area. Caution would need to be taken to protect the buried powerline within the portion of the road from the top of the canyon down to the pumping station. Access to the authorized improvements would be temporarily limited during road improvement; however, construction of the bypass channel and riffle would occur downstream from the authorized pumping plant.

The temporary access road to be constructed would cross the existing pipeline, where a minimum of 18 inches of cover would be required to protect and prevent crushing of the pipe. Construction of the temporary access road, rough grading of the staging areas, and shaping of the temporary bypass channel would result in the removal of vegetation and soil, as well as, soil compaction. However, these impacts would be temporary in nature as these disturbed areas would be rehabilitated and revegetated at the end of the project.

An easement would be acquired to allow the stockpiling and storage of the procured riprap and fill material at the top of the south rim of the canyon on about 3.45 acres of land owned by Skyline Farms. This acreage is for those portions of the three staging and stockpiling areas on the canyon rim that are located on the private property. The easement would be issued for a three-year term with an option to extend for an additional two years.

It's anticipated that the construction of the riffle and backed-up water would result in a raised water level, allowing for more optimal pumping operations at the pump station, a beneficial effect. Also, with the elimination of the hydraulic jump at the dam structure and removal of the protruding excess concrete, rebar, and piping, the need for portage would no longer exist. Therefore, Skyline Farm's concerns with trespass, site contamination, and security issues at the pump station would be reduced.

Best management practices would be followed during implementation of Alternative B to protect the existing authorized improvements. However, if any damages were to occur to any of the improvements, Reclamation would be responsible for promptly repairing the damage.

Alternative C –Linderman Dam Restoration

Alternative C would have the same effects as Alternative B with regard to actions taken to prevent the introduction and/or spread of disease and pest(s), access, storage and stockpiling, and reduced security concerns at the pumping plant associated with people portaging. However, the temporary access road for Alternative C is shorter than for Alternative B, resulting in less surface disturbance.

The demolition and riffle construction activities associated with Alternative C would occur directly adjacent to the pumping station. This involves more constraints than for the activities associated with Alternative B. This also results in a higher level of restricted access to the pumping plant for Skyline Farms during implementation, as well as the need for additional best management practices to protect the authorized improvements. Demolition of a portion of the Linderman Dam structure may compromise the existing dam function or stability, creating a potential for negative effects as well as a need to increase monitoring of the structure.

Construction of the riffle for Alternative C would require an increased amount of riprap and fill material due to the need to fill the 30-foot-deep hole.

Alternative C would ensure that, at a minimum, the current head conditions upstream are maintained by leaving Linderman Dam in place. Subsequently, head may be slightly improved with the additional material added to create the sloping riffle as well as the plugging of and modifications to the 72-inch pipe culvert beneath the peninsula.

3.8 Cultural Resources

3.8.1 Affected Environment

Evidence of human occupation in southcentral Idaho dates as early as 14,500 years before the present (BP). The three major prehistoric cultural periods that have been identified for southeastern Idaho also apply to south central Idaho:

- Early Prehistoric Period (15,000 to 7,500 BP);
- Middle Prehistoric Period (7,400 to 1,300 BP); and
- Late Prehistoric Period (1,300 to 150 BP).

These periods reflect a shift over time from a highly mobile lifestyle involving hunting and gathering (such as seeds, roots, mammals, and fish) to reduced mobility and intensified use of certain highly productive resources (such as camas and salmon). The area of potential effects (APE) is within the Snake River Basin, which was traditionally used by the Shoshone and Bannock Tribes for gathering plants for food and medicine, hunting, fishing, trading, and ceremonial purposes. Because the environment could not sustain large populations, people moved from one resource to the next, relying on a wide variety of resources including roots, berries, nuts, marmots, squirrels, rabbits, insects, large game, and fish. By the time of the earliest Euro-American contact in the early 1800s, the Shoshone and Bannock Tribes had acquired the horse, making it easier to procure bison and other resources and to trade.

The first non-Indians in southeastern Idaho were fur trappers led by Andrew Henry, who came into the upper Snake River drainage in 1810. Wilson Price Hunt's group of trappers, representing John Jacob Astor's Pacific Fur Company, passed through the area in 1811 on their way to the Pacific. The Teton Basin was, for most of the 19th century, known as Pierre's Hole and the Teton River was known as Pierre's Fork or Pierre's River until the mid-1880s. Pierre's Hole became an important meeting place for trappers and other explorers. Pioneer settlement of the upper Snake River country was associated with the northward expansion of Mormon communities out of Utah. Throughout its history, agriculture has been the primary industry of settlers in the area, and irrigation systems were of singular importance to the development of agriculture. Initiated by the small scale of early settlers, private cooperative efforts were organized by canal companies. Roads, ferries, bridges, and railroads were available by the early 1900s as more settlers entered the area. Federal programs such as the Minidoka Project, begun in 1904 by Reclamation, were systems of reservoirs for water storage, flood control, and power. Dry farming of grain and pasturing stock were and are common in the area.

The first European settlers in the Teton Valley were Hiram C. and Anna Lapham, along with their children Carrie and Claude and Hiram's brother, Lorain Lapham (Driggs 1926). They settled in the northern part of the valley in 1882. Other early families included the Seymours, Hubbards, and Nickersons, who started arriving in 1883 (Driggs 1926). After 1888, the primary settlers to the valley belonged to the Church of Jesus Christ of Latter Day Saints, known as the Mormons. They came and settled near what is now Driggs, Idaho.

The railroad came to Driggs in 1912 (Driggs 1926), connecting the valley to settlements further west, including Rexburg. The railroad spurred the development of many small towns and communities. Clementsville (directly south of the Action Area) is technically not considered part of the Teton Valley, but it lies within a dry farming district within Teton County. It is an unincorporated community named after the local Clements family (Jenson 1919). The public buildings in the early 20th century included a school, church, and store (Driggs 1926). A post office was set up in 1912, which operated until 1941.

Linderman Dam was constructed across the Teton River at the confluence with Milk Creek sometime between 1957 and 1961. The right abutment of the dam is in volcanic rock forming the vertical canyon wall; the left abutment and much of the foundation is on the Milk Creek alluvial fan-delta. The fan delta, formed at the mouth of Milk Creek, has forced the river along the north (right) side of the canyon and has constricted the river channel.

Due to the construction of Teton Dam and Reservoir, the operation of Linderman Dam was stopped and portions of the dam were removed. Linderman Dam is now partially breached, and the structural remnants of Linderman Dam are composed of concrete that is eroded and vertical pipes within the dam that are exposed and protrude into the flow. Also, a horizontal concrete beam in the center of the dam still extends across the river at about the level of the water surface.

3.8.2 Environmental Consequences

Methods and Criteria

A literature search for existing information on the Linderman Dam included a record search with the Idaho State Historical Society (File Search No. 19094), reviewing General Land Office (GLO, now Bureau of Land Management) plat maps and patents, examining historic aerial photographs, contacting the Upper Snake River Historical Society, and reviewing internal Reclamation documentation. An archaeological field survey was conducted in 2017 as part of a preliminary meeting. The area within the APE was surveyed except for a landslide portion at the western end. The primary focus was on recording the dam via photograph.

Results

One cultural resource was identified within the APE as a result of the archaeological survey: Linderman Dam. No other cultural resources are known to exist within the Action Area. Linderman Dam was evaluated for its eligibility for listing in the National Register of Historic Places (National Register) by Reclamation in January of 2019. Reclamation found that Linderman Dam does not meet any of the National Register criteria and is not eligible for listing

in the National Register. The State Historic Preservation Officer (SHPO) concurred with this finding on February 6, 2019. Additionally, Reclamation consulted with the Shoshone-Bannock Tribes between October 2018 and January 2019, who had no knowledge of additional cultural resources located at this location.

No historic properties have been identified within the APE. In the absence of cultural resources, Reclamation has determined that no historic properties would be affected by this project. It is recommended that the project go forward as planned. Consultation was initiated with the Idaho State Historic Preservation Officer and the Shoshone-Bannock Tribes on January 28, 2019 and completed in February 2019 (Appendix B).

Alternative A – No Action

Direct and Indirect Effects

As no cultural resources are located within the Action Area, there would be no direct or indirect impacts on historic properties resulting from Alternative A.

Alternative B – Linderman Dam Restoration and Riffle Construction (Preferred Alternative)

Direct and Indirect Effects

As no cultural resources are located within the Action Area, there would be no direct or indirect impacts on historic properties resulting from Alternative B.

Alternative C – Linderman Dam restoration

Direct and Indirect Effects

As no cultural resources are located within the Action Area, there would be no direct or indirect impacts on historic properties resulting from Alternative C.

3.9 Indian Sacred Sites

This section discusses the potential impact to Indian Sacred Sites. An archaeological survey of the proposed permit area was completed in 2017. Additionally, Reclamation met with the Shoshone-Bannock Tribes in October 2018 and January 2019 to determine if there were areas important to the Tribes were located within the APE. Formal consultation was initiated in January 2019. Copies of all letters are included in Appendix B.

3.9.1 Affected Environment

It is known that the area has been occupied since Paleoindian times, with the most recent occupants identified as the Shoshone who are thought to have moved into the area after about 1000 AD. No Indian Sacred Sites have been identified to Reclamation within the vicinity of the Action Area.

3.9.2 Environmental Consequences

Alternative A – No Action

Direct and Indirect Effects

As Indian Sacred Sites have not been identified within the Action Area, there would be no direct or indirect impacts on historic properties resulting from Alternative A.

Alternative B – Linderman Dam Restoration and Riffle Construction (Preferred Alternative)

Direct and Indirect Effects

As Indian Sacred Sites have not been identified within the Action Area, there would be no direct or indirect impacts on historic properties resulting from Alternative B.

Alternative C – Linderman Dam Restoration

Direct and Indirect Effects

As Indian Sacred Sites have not been identified within the Action Area, there would be no direct or indirect impacts on historic properties resulting from Alternative C.

3.10 Tribal Interests

Indian Trust Assets (ITA) are legal interests in property held in trust by the United States for Indian Tribes or individuals. ITAs include trust lands, natural resources, trust funds, or other assets held by the Federal government in trust. An Indian trust asset has three components: (1) the trustee, (2) the beneficiary, and (3) the trust asset. Treaty-reserved rights (e.g., fishing, hunting, and gathering rights on and off reservation) are usufructuary rights (legal rights to use and derive profit or benefit from property that belongs to another person) that do not meet the Department of the Interior (DOI) definition of an ITA. The United States does not own or otherwise hold these resources in trust. ITAs do not normally include usufructuary rights alone (i.e., rights to access for hunting or fishing). Rather, they require first a possessory interest in that the asset must be held or owned by the Federal government as trustee.

The DOI requires that all impacts to trust assets, even those considered nonsignificant, must be discussed in a trust analysis in NEPA documents and appropriate compensation and/or mitigation implemented. Additionally, Reclamation's NEPA Handbook (Reclamation 2012) recommends a separate ITA section in all NEPA documents including a Record of Decision (ROD). These sections should be prepared in consultation with potentially-affected tribal and other trust beneficiaries.

3.10.1 Affected Environment

Reclamation does not hold any ITAs and no ITAs were identified during the scoping process. There are no Tribes with a water right on the Teton River.

3.10.2 Environmental Consequences

Alternative A - No Action

Under the No Action Alternative, there would be no direct, indirect, or cumulative effects to ITAs. The proposed Teton River restoration would not occur and the dam would remain as is.

Alternative B – Linderman Dam Restoration and Riffle Construction (Preferred Alternative)

Impacts associated with this alternative are the same as those identified in Alternative A.

Alternative C – Linderman Dam Restoration

Impacts associated with this alternative are the same as those identified in Alternative A.

3.11 Treaty Rights

3.11.1 Affected Environment

Linderman Dam is located in an area historically used by many Tribes. Treaty Rights at issue here are access to and impacts to off-reservation hunting, fishing, and gathering rights and livestock grazing rights.

The United States has a fiduciary responsibility to protect and maintain rights reserved by or granted to Indian Tribes or Indian individuals by treaties, statues, and executive orders. These are sometimes further interpreted through court decisions and regulations.

The Fort Bridger Treaty was signed and agreed to by the Bannock (of the Fort Hall Reservation) and the Eastern Shoshone (of the Wind River Reservation) headman on July 3, 1868. Article IV of the treaty states that members of the Shoshone-Bannock Tribes '…shall have the right to hunt on the unoccupied lands of the United States…' This has been interpreted to mean unoccupied Federal lands.

The Fort Bridger Treaty for the Shoshone-Bannock has been interpreted in the case of *State of Idaho v. Tinno*, an off-reservation fishing case in Idaho. The Idaho Supreme Court determined that the Shoshone word for 'hunt' also included to 'fish.' Under Tinno, the Court affirmed the Tribal Members' right to take fish off-reservation pursuant to the Fort Bridger Treaty. The Court also recognizes, "that treaty Indians have subsistence and cultural interests in hunting and fishing…" and "The Fort Bridger Treaty … contains a unified hunting and fishing right, which…is unequivocal." The treaty did not grant a hunting, fishing, or gathering right; it reserved a right the Shoshone-Bannock Tribes have always exercised.

The Northwestern Band of the Shoshone Indians, a Federally-recognized Tribe located near Washakie, Utah, maintains reserved treaty-protected hunting, fishing, and gathering rights pursuant to the 1868 Treaty of Fort Bridger. These reserved rights may be exercised on unoccupied lands within the area acquired by the United States.

The Shoshone-Paiute Tribes are Federally-recognized Tribes located at the Duck Valley Reservation in southern Idaho and northern Nevada. The reservation was established by executive orders dated April 16, 1877; May 4, 1886; and July 1, 1910. The Shoshone-Paiute sometimes claim the interests of the Tribes are also reflected in the Bruneau, Boise, Fort Bridger, Box Elder, Ruby Valley, and other treaties and executive orders that the Tribes' ancestors agreed to with the United States. The Tribe continues to observe these treaties and executive orders in good faith, despite the fact that the Federal government failed to ratify some of them. Therefore, the Tribes assert they have aboriginal title and rights to those areas. All such treaties and executive orders recognize the need for the Tribes to continue having access to off-reservation resources because most of the reservations established were and continue to be incapable of sustaining their tribal populations. This need continues and has not diminished from the time of the first treaties and executive orders that established the Duck Valley Reservation (Cherokee Nation of Oklahoma and Shoshone-Paiute Tribes of the Duck Valley Reservation v. Leavitt, 543 U.S. 631, 2005).

3.11.2 Environmental Consequences

There is no codified understanding of tribal off-reservation treaty rights to hunt and fish in the vicinity of Linderman Dam. However, the United States Supreme Court has ruled that treaties with Indian Tribes are to be construed liberally in favor of Tribes as the Tribes would have understood the language of the Treaty at the time the Treaty was signed. It is highly likely that the treaties listed above include the Teton River at the site of the Preferred Alternative.

Alternative A - No Action

Under the No Action Alternative, there would be no direct, indirect, or cumulative effects to Reserved Treaty Rights. The proposed dam would not be removed and would remain as is.

The No Action Alternative and Preferred Alternative would not affect tribal hunting, fishing, or gathering in the area and it would not affect the ability of the Nez Perce livestock to graze in usual and accustomed places.

Alternative B – Linderman Dam Restoration and Riffle Construction (Preferred Alternative)

Alternative B would not affect any known Treaty Rights such as access or impacts to the area for hunting, fishing, gathering, or livestock grazing rights in the area.

As part of the scoping process, Reclamation requested information from Tribes that traditionally and currently use the area; however, no responses were received. The lack of specific information about the area is not indicative of a lack of importance to Tribes. With no specific response, Reclamation assumes that there would be no adverse effects to reserved Treaty Rights such as access or impacts to areas for hunting, fishing, gathering, or livestock grazing activities.

Implementation of Alternative B may serve to increase the cutthroat trout population by restoring habitat.

Alternative C – Linderman Dam Restoration

Impacts associated with this alternative are the same as those identified in Alternative B.

3.12 Socioeconomics

The socioeconomic character of an area includes its population and economic activity. Socioeconomic changes may occur when a project directly or indirectly changes any of these elements. This section discusses socioeconomic resources within the human environment, particularly population and economic activity that could be affected by the proposed alternative. Population is described in terms of the size, rate of growth, and distribution of people who live and work in the area. Economic activity is described in terms of employment distribution, personal income, and business growth.

3.12.1 Affected Environment

Fremont County

Fremont County was established on March 4, 1893, with its county seat in the largest city, St. Anthony. It was named for John C. Fremont, an explorer known as 'the Pathfinder.' The city of Ashton is the county's other largest community. The county occupies 1,877 square miles, the majority of which is represented by Federal lands. A large portion of these lands are in the Targhee National Forest.

Teton County

Teton County has a land area of 450 square miles and was established on January 26, 1915, with its county seat in Driggs. It was named for the adjacent Teton mountains and valley. The valley was formerly known as Pierre's Hole and is a location where Indians held their councils and trappers met for their rendezvous.

Population

The populations of Fremont County and Teton County are estimated at 13,168 and 11,640, respectively, according to U.S. Census Bureau (Census Bureau) 2018 estimates (Census Bureau 2018a). For Fremont County, this is an approximately 0.5 percent decrease from 2010, when the population was 13,236 residents. For Teton County, this is an approximately 14.5 percent increase from 2010, when the population was 10,165 residents. In comparison, the nationwide population growth rate has averaged just over 0.7 percent per year in the last decade (Census Bureau 2018b). In terms of population, Fremont County ranks 23rd largest of 44 counties in Idaho and Teton County ranks 27th largest. St. Anthony, the largest city in Fremont County, has a reported population of 3,571 (Census Bureau 2018b). Driggs is the largest city in Teton County with a reported population of 1,814 (Census Bureau 2018b).

Economic Activity

The Bureau of Labor Statistics reported a 2.2 percent unemployment rate in Teton County and 2.4 percent in Fremont County (BLS 2018). These county rates are both lower than the 2.9 percentage of unemployment statewide (IDL 2018). Employment in Fremont County is largely dependent on retail trade, educational services, and construction (Data USA 2018) while Teton County is it more dependent on management occupations, construction & extraction occupations, and office and administrative support occupations (Data USA 2018b). The Census Bureau shows an increase in total employment from 2015 to 2016 at 2.9 percent for the state of Idaho. The percent change from 2015 to 2016 in total employment is 10.9 percent and -0.4 percent for Teton County and Fremont County, respectively (Census Bureau 2018a).

3.12.2 Environmental Consequences

Alternative A – No Action

Under the No Action Alternative, the Preferred Alternative would not be approved. The existing condition of Linderman Dam would remain unchanged. The socioeconomic climate would not be affected by this lack of action.

Alternative B – Linderman Dam Restoration and Riffle Construction (Preferred Alternative)

Under the Preferred Alternative, the need for material from the local area could result in short-term (up to the 10-week project duration) economic gains for the local area through the contracting processes. However, due to the project's relatively short construction duration, no significant effects to local demographics or employment and income trends would be expected to occur as a result of the Preferred Alternative.

Alternative C – Linderman Dam Restoration

Impacts associated with this alternative are the same as those identified in Alternative B.

3.13 Environmental Justice

Executive Order 12898 (59 FR 7629) requires each Federal agency to achieve environmental justice by addressing disproportionately high and adverse human health and environmental effects on minority and low-income populations. The demographics of the affected area are examined to determine whether minority populations, low income populations, and/or Native American Tribes are present in the area impacted by a Preferred Alternative. If present, the agency must determine if implementation of the Preferred Alternative would cause disproportionately high and adverse human health or environmental effects on the populations.

3.13.1 Affected Environment

The racial demographics of Fremont and Teton Counties and the State of Idaho are compared in Table 9. Population estimates provided by the Census Bureau were used to identify these

populations. White racial categories comprise the highest percentage of the population in both Fremont and Teton Counties, as well as in the rest of the State of Idaho (Census Bureau 2018a). By the Federal Office of Management and Budget's definition, race and Hispanic or Latino origin are two separate categories. People who report themselves as Hispanic and Latino can be of any race. Therefore, in Table 9, the number of Hispanics or Latinos is not added to the totals of the race columns. For example, Hispanics and Latinos who are white are counted in the total of white in the race table, and Hispanics who are black or African American are counted in that race category.

Table 9. Summary of racial populations in Fremont County and Teton County, Idaho and the State of Idaho

U.S. Census Bureau 2018 statistics	Fremont County	Teton County	Idaho
Total population estimate	13,168	11,640	1,754,208
White (percent)	96.1	96.6	93.0
Black or African American (percent)	0.8	0.4	0.9
American Indian and Alaska Native (percent)	1.0	0.9	1.7
Asian (percent)	0.3	0.6	1.6
Native Hawaiian or Pacific Islander (percent)	0.4	0.2	0.2
Two or more races (percent)	1.3	1.3	2.5
Hispanic or Latino (percent)	12.5	16.8	12.7
White alone, not Hispanic or Latino (percent)	85.0	81.2	81.7

Hispanic or Latino populations make up a slightly higher percentage of the population than any other race, especially in Teton County. However, this is still a relatively small proportion and not particularly concerning when considering the location of the Action Area. The EJ SCREEN tool is shown in Figure 10, along with the EJ SCREEN geographic distribution of minority populations. The project location is identified for orientation.

Figure 10. EJ SCREEN geographic distribution of minority populations within the general Action Area

Low income populations are identified by several socioeconomic characteristics. Specific characteristics used in this description of the existing environment, as categorized by the Census Bureau, are income (per capita income and median household income) and percentage of the population below poverty. Table 10 shows data for the most recent 5 years in terms of income and poverty rate data for Fremont County, Teton County, and the State of Idaho (Census Bureau 2018a).

Table 10. Income and poverty data for Fremont County and Teton County, Idaho and the State of Idaho, 2013-2017

Geographic Area	Per Capita Income in Past 12 Months (2017 dollars)	Median Household Income 2013-2017 (2017 dollars)	Persons at or Below Poverty Level (Percent)
Fremont County	$21,611	$51,806	13.2
Teton County	$28,004	$55,986	8.3
State of Idaho	$25,471	$50,985	12.8

3.13.2 Environmental Consequences

Alternative A – No Action

The No Action Alternative would not alter the current regional environmental justice status based on the lack of action occurring and the presented information above, and therefore would have no environmental justice effects.

Alternative B – Linderman Dam Restoration and Riffle Construction (Preferred Alternative)

The Preferred Alternative has been reviewed through census data and application of the U.S. Environmental Protection Agency's (EPA) EJSCREEN tool. No minority or low-income groups, as identified for further analysis by Executive Order 12898, were identified that would be disproportionately affected by health or environmental effects as the results of the implementation of the Preferred Alternative. The Preferred Alternative is a very short-term construction window and localized action that has the potential to equally affect all residents within Fremont and Teton Counties and the immediately surrounding area (as well as tourist and recreational visitors from other areas across the state). Therefore, it is reasonable to expect that there would be no focused significant effect from the Preferred Alternative to any one minority group, including Hispanic and Latino populations.

Alternative C – Linderman Dam Restoration

Impacts associated with this alternative are the same as those identified in Alternative B.

3.14 Recreation

3.14.1 Affected Environment

Teton River Canyon recreational opportunities include fishing, whitewater boating, wildlife observation, hunting, sightseeing, picnicking, and camping. The river is popular among local skilled and experienced kayakers and thrill seekers for its class 3 to 5 rapids during the short and unpredictable duration of the boating season. Travel distance to the area and difficult access to the river are deterrents to a larger draw from this user group. The river is narrow in most spots and not conducive to large rafts, therefore limiting the number of people on any single craft. A drift boat is the watercraft of choice and most suited for navigation of this river. Dry fly fishing from shore and drift boats is very popular and represents the major user group. The Teton River is known for its Blue Ribbon cutthroat trout fishery, created by steep canyon walls that protect deep cool water in winding stretches of the river. Some of Idaho's largest cutthroat trout come from the Teton River. This spectacular cutthroat trout fishery is also made possible and sustainable in part by its limited access. Anglers on this river prefer a fishing experience that is remote, primitive, quiet, and serene.

Spring Hollow is the only public access to the river and is also used by commercial outfitters. The Spring Hollow recreation site started being developed concurrently with construction of the Teton Dam. Site facilities completed were a parking lot and boat ramp. All recreation facilities surrounding what would have been the reservoir were abandoned upon failure of the dam. A user-created road to the river ensued, beginning at the upper boat ramp remnant and leading down what became a severely eroded drainage to the river. Safety and public health concerns, and resource damage concerns, prompted a site rehabilitation project that started in the off-season of 2018 completed in September 2019. Road improvement, boat launch, a single user

vault restroom, and signs with maps, safety, and interpretive information were included in the project.

Four outfitter-guides operate and serve the public in the Teton River: World Class Anglers, Teton Valley Lodge, Henry's Fork Anglers, and Three Rivers Ranch. Outfitters have additional river access through private land at Felt Dam and/or Bitch Slide, and at Parkinson's Pump. Public access to Linderman Dam via private property is not allowed.

The Linderman Dam is located between all intakes and the only takeout site at the Teton Dam Site. All river traffic on the Teton River must pass through the Linderman Dam site. Dangerous hydraulics that exist at the dam require portage for river user safety. A privately-owned irrigation pumping system is located at the dam that is exposed to all who portage. The facility owner has expressed growing concern over trespass, site contamination, and security issues at their irrigation pump station created by the increasing number of recreational users on the river. The remote location combined with the increasing demand for river-based recreation access would eventually lead to attempts to access the site from the road to the pumps and cause more trespass on the private property.

The dangerous hydraulics that exist at the Linderman Dam could easily entrap unsuspecting people who end up in the water at this site. Regardless of boating or swimming skills and experience level, exhaustion, severe injury, or death can easily occur at this location. This serious safety issue is being more frequently encountered along the river as more boaters, kayakers, tubers, and other aquatic recreationists access the Teton River; associated risks are increasing for Reclamation.

The BLM conducts oversight and management of river use by outfitter-guides in the section of river that run through the area. The operating season is typically Memorial Day through Labor Day, with occasional extended use during October.

The first estimate of visitation numbers in the Teton River Canyon was made by Idaho Parks and Recreation based on percentage of area population. Calculations were divided among visitors' activities and are provided as baseline figures in the 2006 Teton River Canyon RMP (Reclamation 2006). No data are available from 2009 to 2014. Use days reported to BLM by outfitters from 2015 to 2018 totaled 8,289. No data are available for general public use.

Informal counts and observation during site visits and river trips by BLM, IDFG, Reclamation, and Friends of the Teton staff from 2016 to 2019 indicate a steady increase in use. Traffic counts were taken at the two river access points that are available by vehicle (Spring Hollow and Teton Dam Old Boat Ramp Road) at differing intervals in the 2019 recreation season by Madison County, Federal Highways, and Idaho Fish and Game. Comparative notes revealed a surprising average range of 25 to 54 vehicles per day at Spring Hollow and 77 to 149 per day at the bottom of the Old Teton Dam Boat Ramp. Numbers vary based on days of the week and holidays. These numbers exclude counts taken at the Teton Dam overlook.

The Friends of the Teton River Summer 2019 edition of *Water Lines* reports river-based recreation supports an important economic sector in the Teton Valley. The report also states there are growing concerns that increased use on the Teton River is impacting both the

experience and the resource. Table 11 shows a more in-depth user survey conducted by the Friends of the Teton River and the Henry's Fork Foundation between May 26 and September 30, 2018. The results show a total of 21,163 users within that time frame alone.

Table 11. Total river-based recreation use estimates for the Teton River

Factor	Value
Time period	May 26 to September 30
Number of days	128
Mean users per day	160
Total users	21,163
Lower 95 percent confidence bound, total users	17,512
Upper 95 percent confidence bound, total users	25,891
Total trips	57,745
Lower 95 percent confidence bound, total trips	46,699
Upper 95 percent confidence bound, total trips	72,240

Population growth along the Snake River Plain has increased pressure on Federal lands and public waterways. Managing entities are challenged to provide safe access to recreational opportunities. According to the December 2018 census, Nevada and Idaho are the fastest growing states in the nation, with Idaho having an increase of 2.1% in 2018 alone. Between 2016 and 2017, population growth in the cities of Jackson and Alpine, Wyoming increased 9.57 percent; Bonneville County, Idaho increased 2.18 percent; and Pocatello, Idaho increased 1 percent. Even with the differing methods of data capture, all statistics show substantial increase in use on the Teton River and a rapid upward trend that supports the need to remove the safety hazard at Linderman Dam.

3.14.2 Environmental Consequences

Alternative A-No Action

The No Action Alternative would not address any safety and liability concerns at this unavoidable passage on the Teton River. No action would eventually lead to more accidents involving bodily harm or death and create a liability for Reclamation for not removing a known safety hazard. Removal of the boating hazard is critical for boater safety and reduction of liability for Reclamation. Any increase of trespass, contamination, or damage to the pumps at Linderman Dam could cause the landowner to revoke courtesy access for portage, which would put boaters at a much higher risk and eventually could lead to closure of the river to recreation for safety and liability reasons.

Alternative B – Linderman Dam Restoration and Riffle Construction (Preferred Alternative)

Work at the dam under Preferred Alternative is expected to take place without affecting the main boating season. Since there is administrative access only on the road to Linderman Dam and Public access is not allowed in the project work area, recreation access in the Teton River should not be reduced or affected.

The flow bypass channel during construction would be for water passage and blocked by boulders that would prevent boating through the construction site. The bypass channels for the construction would likely affect recreation in the short-term by causing boaters to get around the construction during the project. The water channel would basically be split, which could possibly cause problems for people using large rafts or drift boats during construction. Early and repeated publication of closure periods, especially notice to outfitters and posting river access points, would need to be done. Construction is expected to take place when the river is low and typically during the off-season, August to October, and therefore is not expected to reduce boating use to any extent. Long term, this alternative would improve the general safety climate for recreators in this area, increasing the potential to save lives on the Teton River.

Alternative C –Linderman Dam Restoration

Under Alternative C, recreators would have the same short- and long-term effects except for those regarding the bypass channels. The Action Area would encompass a smaller area with just the Linderman Dam structure and hydraulic below undergoing construction over a shorter period of time. However, the same precautions would be taken to notify outfitters and the general public early and repeatedly.

Chapter 4 Consultation and Coordination

On October 15, 2019, Reclamation mailed a scoping document including a letter, project information, and a map, to agencies, Indian Tribes, members of Congress, organizations, and individuals, soliciting their help in identifying any issues and concerns related to the Preferred Alternative. Reclamation received four comments from the scoping period. The mailing list, scoping letters, and comments received are presented in Appendix C.

4.1 Agency Consultation and Coordination

4.1.1 National Historic Preservation Act

Reclamation initiated consultation with the Idaho SHPO on January 28, 2019. SHPO concurrence with Reclamation's finding on No Effect to Historic Properties for the Action Area was received on February 6, 2019.

4.1.2 Endangered Species Act

Reclamation generated a preliminary Endangered Species report through the USFWS IPaC site (Appendix A). The report indicated three species are expected to be present in the Action Area for this proposed project. These species are the North American wolverine (*Guho guho luscus*), the yellow-billed cuckoo (*Coccyzus americanus*), and Ute ladies'-tresses (*Spiranthes diluvialis*). Since the Preferred Alternative would not reasonably be expected to adversely affect any listed species, no need exists for formal Section 7 consultation under the ESA.

4.1.3 Clean Water Act

After consulting with the Army Corps of Engineers, this project would require a general nationwide Section 404 permit and Section 401 certification from IDEQ. The project would fit under Nationwide Permit 33 for temporary construction, access, and dewatering, as well as a Nationwide Permit 27 for aquatic habitat enhancement projects. The permit/certification was obtained May 5, 2020.

4.2 Tribal Consultation and Coordination

Reclamation mailed scoping letters to the Shoshone-Bannock Tribes, Shoshone-Paiute Tribes, and Eastern Shoshone Tribes on October 7, 2019 (Appendix C). No responses or concerns from the Tribes were brought forward during the scoping period.

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USFWS 1992	U.S. Fish and Wildlife Service. 1992. *Interim Survey Requirements for Ute Ladies'-tresses Orchid (Spiranthes Diluvialis)*. November 23, 1992.
USFWS 2004	U.S. Fish and Wildlife Service. 2004. *Species Assessment and Listing Priority Assignment Form, Yellow-billed Cuckoo, Western United States Distinct Population Segment*. August 16, 2004.
USFWS 2018	U.S. Fish and Wildlife Service. 2018. Environmental Conservation Online System, Information for Planning and Conservation. Available online at https://ecos.fws.gov/ipac/ (last accessed June 11, 2020).

Appendix A

Information for Planning and Conservation Report

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IPaC **U.S. Fish & Wildlife Service**

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Fremont, Madison and Teton counties, Idaho

Local office

Idaho Fish And Wildlife Office

(208) 378-5243
(208) 378-5262

1387 South Vinnell Way, Suite 368
Boise, ID 83709-1657

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population, even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information.
2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Mammals

NAME	STATUS

NAME	STATUS
North American Wolverine Gulo gulo luscus No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/5123	Proposed Threatened

Birds

NAME	STATUS
Yellow-billed Cuckoo Coccyzus americanus There is **proposed** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/3911	Threatened

Flowering Plants

NAME	STATUS
Ute Ladies'-tresses Spiranthes diluvialis No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/2159	Threatened

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/

conservation-measures.php

- Nationwide conservation measures for birds
  http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)
Bald Eagle Haliaeetus leucocephalus This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Dec 1 to Aug 31
Golden Eagle Aquila chrysaetos This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/1680	Breeds Dec 1 to Aug 31

Lesser Yellowlegs Tringa flavipes This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9679	Breeds elsewhere
Sage Thrasher Oreoscoptes montanus This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9433	Breeds Apr 15 to Aug 10
Willet Tringa semipalmata This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 20 to Aug 5

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

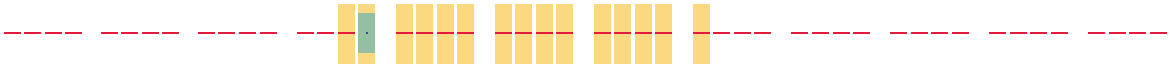
Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

Willet
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures and/or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the AKN Phenology Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets .

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ “What does IPaC use to generate the migratory birds potentially occurring in my specified location”. Please be aware this report provides the “probability of presence” of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the “no data” indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ “Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds” at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

FRESHWATER EMERGENT WETLAND

- PEM1A
- PEM1C
- PEM1F
- PEM1Fh

FRESHWATER FORESTED/SHRUB WETLAND

- PSS1A

FRESHWATER POND

- PUBF
- PUBHx
- PUBHh
- PUBFh

RIVERINE

- R3UBH
- R4SBC
- R2UBHx

R5UBH
R5UBFx
R3USC

A full description for each wetland code can be found at the National Wetlands Inventory website

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

Spiranthes diluvialis Survey Report

A. Surveyors:

Rochelle Ochoa-Natural Resources Specialist

- Herbaria visit
- Conversations with others familiar with species

Mark Arana-Natural Resources Specialist

- Conversations with others familiar with species
- Site visit with others familiar with species
- Documentation of correct identification of *Spiranthes diluvialis* in the field (Appendix x)

Bob Cobb-Seasonal Technician

- Conversations with others familiar with species
- Site visit with others familiar with species
- Documentation of correct identification of *Spiranthes diluvialis* in the field (Appendix x)
- Herbaria visit

B. Project Description: The existing remaining concrete Linderman dam structure will be demolished and fill material will be placed to construct a natural riffle.

C. Site location: Linderman Dam is located in both Teton and Fremont counties approximately 7 miles upstream from Teton Dam Site. At the town of Clementsville, Idaho, a dirt access road begins and winds from highway 33 through agricultural fields on the higher elevation land above the canyon. The road extends for approximately 3.5 miles and crosses over private property before it drops down into the canyon from the South wall. Linderman Dam is located at River Mile 9.7 on the Teton River (Map x).

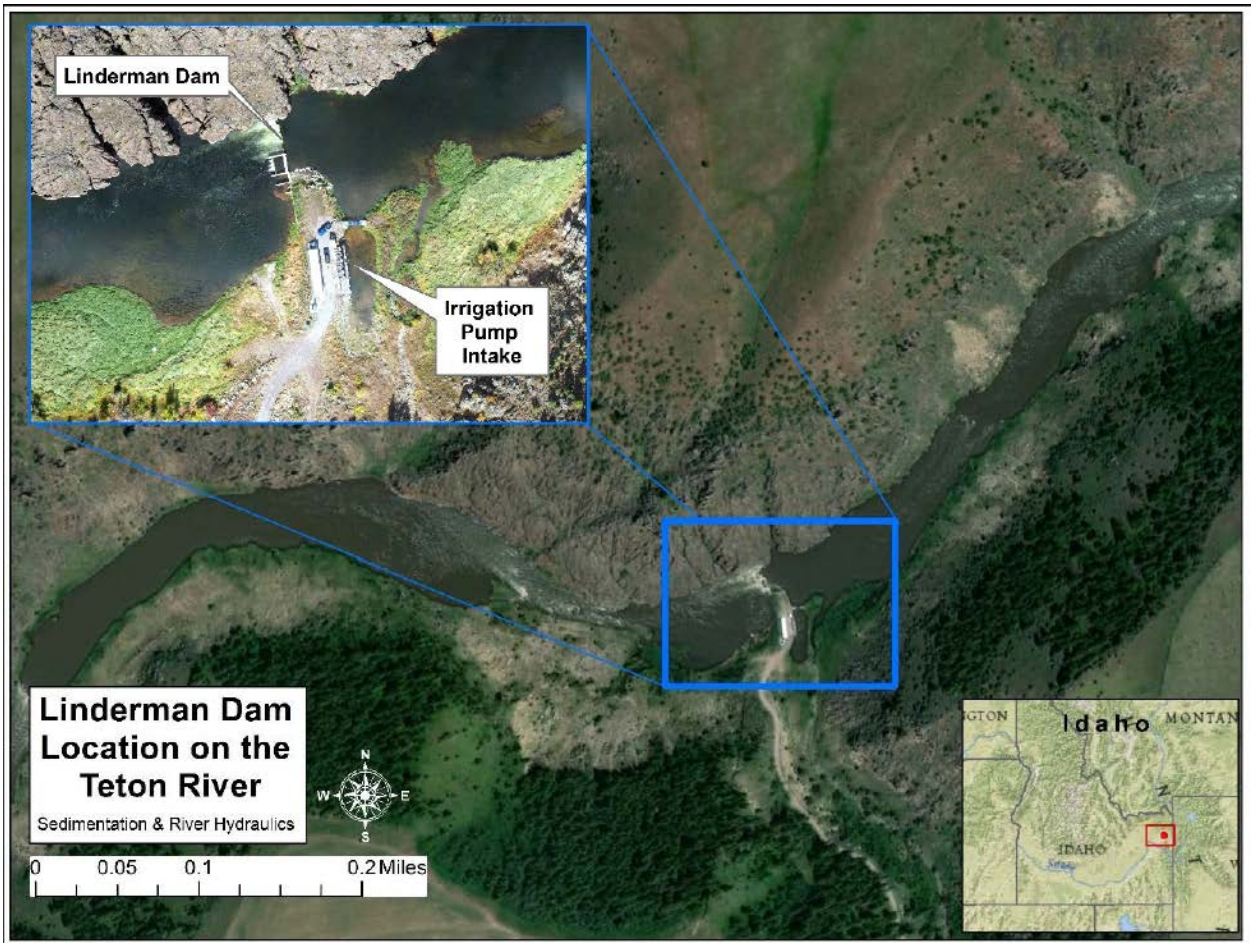
D. Dates survey was conducted: September 4th, 2019

E. Ecological and site features: Survey start time 8:35 AM. To the west of the road lies flat flow land that is bordered by a canyon wall to the south and the Teton river to the north. Further west is a hill made of landslide material bordered by the same features to the north and south. On the flat low land there is around 95% all reed canary grass which grew around 5-7 feet tall. Along the bank to the north was a fairly even mix of horse tail, leafy spurge and reed canary grass standing about 2-3 feet tall. Along the hill further west was 90% reed canary grass that grew 1-2 feet tall, scotch thistle, young pine and exposed rocky boulders.

To the east of the road was a ditch that holds Milk Creek during spring run off but was dry during our survey. Within the ditch and on the surrounding berms was a mix of 10% leafy spurge, 10% willow, and 80% reed canary grass which grew up to about 3 feet tall. The survey end time was 9:27 AM. It was clear based on the photos below that this environment would not allow for Spiranthes diluvialis to grow based on the lack of root access to the water table during the month of survey and the abundant amount of Reed Canary Grass that was present which would shade out any sprouting Spiranthes.

F. Appendices

a. Maps



b. Photos

Appendix B

Cultural Resources and Sacred Sites Consultation with State Historic Preservation Office and Shoshone-Bannock Tribes

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United States Department of the Interior

BUREAU OF RECLAMATION
Pacific Northwest Region
Snake River Area Office
230 Collins Road
Boise, ID 83702-4520

IN REPLY REFER TO:

JAN 2 8 2019

USF-1219
2.1.1.04

VIA FEDERAL EXPRESS

Mr. Matt Halitsky
Historic Preservation Review Officer
State Historic Preservation Office
210 Main Street
Boise, ID 83702

Subject: Invitation to Consult on the Proposed Linderman Dam Modifications, Teton Project, Fremont and Teton Counties, Idaho

Dear Mr. Halitsky:

The Bureau of Reclamation is proposing to make modifications to the remains of Linderman Dam and the Teton River channel to reduce existing river hazards to the public. The project is located on the boundary of Teton and Fremont Counties, Idaho, as depicted on the Linderman Dam, Idaho 1:24,000 U.S. Geological Survey Quad Sheet. At this time, Reclamation is consulting concerning the area of potential effect (APE), determination of eligibility, and a finding of No Historic Properties Affected.

Reclamation is proposing to modify and/or remove portions of Linderman Dam to improve river safety for recreationalists. The remaining structure causes significant undercurrents and can be dangerous to boaters. Multiple events in the last couple years have highlighted the need to modify and or remove the existing structure. The main proposed action features are raising the next downstream riffle crest approximately 2-3 feet to maintain pool elevation above Linderman Dam; remove Linderman Dam; replace Linderman Dam with a roughened riffle for boater passage.

The area was surveyed in 2017 and the only cultural resource recorded was Linderman Dam. Linderman Dam was evaluated for listing in the National Register and Reclamation determined that it is not associated with any major events or themes (Criterion A), persons (Criterion B), is not of engineering significance nor the work of a master (Criterion C), and it does not have the potential to yield information significant to history. Based on this analysis, Reclamation has determined that Linderman Dam is not eligible for listing in the National Register. The enclosed report provides additional documentation on the recordation and evaluation of the dam. Reclamation finds that this authorization will result in No Historic Properties Affected.

In accordance with procedures specified in 36 CFR § 800, Reclamation requests your concurrence with our APE, eligibility determination, and the finding that this project will result in No Historic Properties Affected. Please direct any questions to Ms. Nikki Polson, Upper Snake Field Office Archaeologist, at 208-678-0461, extension 13, or by email at npolson@usbr.gov.

Sincerely,

Roland K. Springer
Area Manager

Enclosure

United States Department of the Interior

BUREAU OF RECLAMATION
Pacific Northwest Region
Snake River Area Office
230 Collins Road
Boise, ID 83702-4520

IN REPLY REFER TO:

USF-1219
2.1.1.04

JAN 28 2019

VIA FEDERAL EXPRESS

Honorable Nathan Small
Chairman
Fort Hall Business Council
Shoshone-Bannock Tribes
85 W. Agency Rd., Building #82
Fort Hall, ID 83203-0306

Subject: Invitation to Consult on the Proposed Linderman Dam Modifications, Teton Project, Fremont and Teton Counties, Idaho

Dear Mr. Chairman:

The Bureau of Reclamation is proposing to make modifications to the remains of Linderman Dam and the Teton River channel to reduce existing river hazards to the public. The project is located on the boundary of Teton and Fremont Counties, Idaho, as depicted on the Linderman Dam, Idaho 1:24,000 U.S. Geological Survey Quad Sheet. At this time, Reclamation is requesting any information concerning cultural resources known to the Shoshone-Bannock Tribes that may be affected by this project.

Reclamation is proposing to modify and/or remove portions of Linderman Dam to improve river safety for recreationalists. The remaining structure causes significant undercurrents and can be dangerous to boaters. Multiple events in the last couple years have highlighted the need to modify and or remove the existing structure. The main proposed action features are raising the next downstream riffle crest approximately 2-3 feet to maintain pool elevation above Linderman Dam; remove Linderman Dam; replace Linderman Dam with a roughened riffle for boater passage. While Linderman Dam is historic, Reclamation has evaluated it using the National Register criteria and found that it is not eligible for listing in the same. Given the lack of known historic properties, Reclamation finds that this authorization will result in No Historic Properties Affected. See the enclosed report for more details.

Please advise this office as to whether the Shoshone-Bannock Tribes wish to join in this consultation by contacting me directly at 208-383-2246 or via email at rspringer@usbr.gov. You may also contact my staff archaeologist, Ms. Nikki Polson, at 208-678-0461, extension 13, with any questions regarding this letter or report.

Sincerely,

Roland K. Springer
Area Manager

Enclosure

cc: See next page.

cc: Ms. Yvette Tuell
Tribal Policy Analyst
Shoshone-Bannock Tribes
85 W. Agency Rd., Building #82
Fort Hall, ID 83203-0306

Ms. Carolyn B. Smith
Cultural Resources Coordinator
Shoshone-Bannock Tribes
85 W. Agency Rd., Building #82
Fort Hall, ID 83203-0306

Ms. Louise Dixey
Language and Cultural Department Director
Shoshone-Bannock Tribes
85 W. Agency Rd., Building #82
Fort Hall, ID 83203-0306
(w/encl to each)

IDAHO STATE HISTORICAL SOCIETY

Brad Little
Governor of Idaho

Janet Gallimore
Executive Director
State Historic
Preservation Officer

Administration:
2205 Old Penitentiary Rd.
Boise, Idaho 83712
208.334.2682
Fax: 208.334.2774

Idaho State Museum:
610 Julia Davis Dr.
Boise, Idaho 83702
208.334.2120

Idaho State Archives and State Records Center:
2205 Old Penitentiary Rd.
Boise, Idaho 83712
208.334.2620

State Historic Preservation Office:
210 Main St.
Boise, Idaho 83702
208.334.3861

Old Idaho Penitentiary and Historic Sites:
2445 Old Penitentiary Rd.
Boise, Idaho 83712
208.334.2844

HISTORY.IDAHO.GOV

6 February 2019

Ronald K. Springer
Area Manager
Bureau of Reclamation
Pacific Northwest Region
230 Collins Road
Boise, Idaho 83702-4520

Re: Proposed Linderman dam Modifications / SHPO # 2019-324

Dear Mr. Springer:

Thank you for consulting with our office on the above referenced project. We understand the scope of work includes the modifications to the remains of Linderman Dam and the Teton River Channel, located in Fremont and Teton Counties, Idaho.

Pursuant to 36 CFR 800, we have applied the criteria of effect to the proposed undertaking. Based on the information received 30 January 2019, we concur the proposed project actions will have **no effect** to historic properties.

In the event that cultural material is inadvertently encountered during implementation of this project, work shall be halted in the vicinity of the finds until they can be inspected and assessed by the appropriate consulting parties.

If you have any questions or the scope of work changes, please contact me via phone or email at 208.488.7463 or ashley.brown@ishs.idaho.gov.

Sincerely,

Ashley Brown
Historical Review Officer
Idaho State Historic Preservation Office

IDAHO STATE HISTORICAL SOCIETY

Brad Little
Governor of Idaho

Janet Gallimore
Executive Director
State Historic
Preservation Officer

Administration:
2205 Old Penitentiary Rd.
Boise, Idaho 83712
208.334.2682
Fax: 208.334.2774

Idaho State Museum:
610 Julia Davis Dr.
Boise, Idaho 83702
208.334.2120

Idaho State Archives and State Records Center:
2205 Old Penitentiary Rd.
Boise, Idaho 83712
208.334.2620

State Historic Preservation Office:
210 Main St.
Boise, Idaho 83702
208.334.3861

Old Idaho Penitentiary and Historic Sites:
2445 Old Penitentiary Rd.
Boise, Idaho 83712
208.334.2844

HISTORY.IDAHO.GOV

6 February 2019

Ronald K. Springer
Area Manager
Bureau of Reclamation
Pacific Northwest Region
230 Collins Road
Boise, Idaho 83702-4520

Re: Proposed Linderman dam Modifications / SHPO # 2019-324

Dear Mr. Springer:

Thank you for consulting with our office on the above referenced project. We understand the scope of work includes the modifications to the remains of Linderman Dam and the Teton River Channel, located in Fremont and Teton Counties, Idaho.

Pursuant to 36 CFR 800, we have applied the criteria of effect to the proposed undertaking. Based on the information received 30 January 2019, we concur the proposed project actions will have **no effect** to historic properties.

In the event that cultural material is inadvertently encountered during implementation of this project, work shall be halted in the vicinity of the finds until they can be inspected and assessed by the appropriate consulting parties.

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Sincerely,

Ashley Brown
Historical Review Officer
Idaho State Historic Preservation Office

Appendix C

Scoping Documents, Mailing List, and Scoping Comments Received

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7-1596B (9-08)
Bureau of Reclamation

OFFICIAL FILE COPY		
DATE	SURNAME	CODE
10/3	via email Ochoa	1214
10/3	via email Newman	2000
10/4		1200
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		7115
Classification		
Project		
Control No.		
Folder I.D.		

United States Department of the Interior

BUREAU OF RECLAMATION
Pacific Northwest Region
Snake River Area Office
230 Collins Road
Boise, ID 83702-4520

IN REPLY REFER TO:
SRA-1214
2.1.4.17

OCT 15 2019

Subject: Request for Public Comments Regarding the Proposed Construction Activities for the Linderman Dam Restoration Project on the Teton River, Teton and Fremont Counties, Teton Basin Project, Idaho

Dear Interested Party:

The Bureau of Reclamation is proposing to perform construction activities for the restoration of Linderman Diversion Dam on the Teton River in Teton and Fremont Counties, Idaho. The purpose of this letter is to inform interested and affected public of the proposal and to solicit comments pursuant to the National Environmental Policy Act of 1969. Enclosed is a Scoping Information Package describing the project proposal.

Scoping is a public involvement process used to determine the scope of issues to be addressed and identify issues related to a proposed action. Analysis of the proposal is ongoing and will be documented in an environmental assessment with an estimated completion in the fall of 2020. Comments received in response to this solicitation will be used to identify potential environmental issues related to the proposed action and to identify alternatives to the proposed action that meet the purpose of and need for the project.

Please help us identify important issues and concerns regarding the proposed action by providing your written comments. Although your comments are always welcome, they can be best used if received by **November 15, 2019**. Written comments may be submitted electronically to sra-nepa-comments@usbr.gov, or mailed or hand-delivered to:

Ms. Rochelle Ochoa
Natural Resources Specialist
Bureau of Reclamation Snake River Area Office
230 Collins Road
Boise, ID 83702

Before including your address, phone number, email address, or other personal identifying information in your comment, be advised that your entire comment, including your personal identifying information, may be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

If you have additional questions about this proposal or its analysis, please contact Ms. Rochelle Ochoa, Natural Resources Specialist, at 208-383-2277.

Sincerely,

ROLAND K SPRINGER

Roland K. Springer
Area Manager

Enclosure

WBR:ROchoa:KHennequin:10/4/2019:208-383-2277:SRA-1214
P:\NEPA\NEPA Projects\EA\Linderman Dam removal Project\Scoping\Linderman_Public Scoping Letter.docx

Identical letter sent to recipients on the following page(s).

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DATE	SURNAME	CODE
10/3	via email Ochoa	1214
10/1	via email Stella	1004
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United States Department of the Interior

BUREAU OF RECLAMATION
Pacific Northwest Region
Snake River Area Office
230 Collins Road
Boise, ID 83702-4520

IN REPLY REFER TO:

OCT 0 7 2019

SRA-1214
2.1.4.17

VIA FEDERAL EXPRESS

Honorable Theodore "Ted" Howard Fed Ex Tracking #7765 7011 5499
Tribal Chairman
Shoshone-Paiute Tribes
1623 Hospital Loop
Owyhee, NV 89832

Subject: Request for Public Comments Regarding the Proposed Construction Activities for the Linderman Dam Restoration Project on the Teton River, Teton and Fremont Counties, Teton Basin Project, Idaho

Dear Chairman Howard:

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Ms. Teresa Stella
Native American Affairs Advisor
Bureau of Reclamation
Snake River Area Office
230 Collins Road
Boise, ID 83702

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Sincerely,

ROLAND K SPRINGER

Roland K. Springer
Area Manager

Enclosure

cc: Ms. Lynneil A. Brady Fed Ex # 7765 7022 9546
Acting Cultural Resources Director
Shoshone-Paiute Tribes
1623 Hospital Loop
Owyhee, NV 89832

Environmental Director Fed Ex #7765 7049 1205
Tribal Headquarters
Shoshone-Paiute Tribes
1623 Hospital Loop
Owyhee, NV 89832
(w/encl to each)

bc: SRA-1004 (Stella) (w/encl)

WBR:ROchoa:KHennequin:10/4/2019:208-383-2277:SRA-1214
P:\NEPA\NEPA Projects\EA\Linderman Dam removal Project\Scoping\Linderman_SHOPAI_Scoping Letter.docx

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10/4	[signature]	1000
		7115
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United States Department of the Interior

BUREAU OF RECLAMATION
Pacific Northwest Region
Snake River Area Office
230 Collins Road
Boise, ID 83702-4520

OCT 07 2019

IN REPLY REFER TO:

SRA-1214
2.1.4.17

VIA FEDERAL EXPRESS

Honorable Vernon Hill Fed Ex Tracking #7765 6839 6903
Chairman, Eastern Shoshone Business Council
Eastern Shoshone Tribe
#14 N. Fork Road
Fort Washakie, WY 82514

Subject: Request for Public Comments Regarding the Proposed Construction Activities for the Linderman Dam Restoration Project on the Teton River, Teton and Fremont Counties, Teton Basin Project, Idaho

Dear Chairman Hill:

The Bureau of Reclamation is proposing to perform construction activities for the restoration of Linderman Diversion Dam on the Teton River in Fremont and Teton Counties, Idaho. The purpose of this letter is to inform interested and affected Tribal public of the proposal and to solicit comments pursuant to the National Environmental Policy Act of 1969. Enclosed is a Scoping Information Package describing the project proposal.

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Ms. Teresa Stella
Native American Affairs Advisor
Bureau of Reclamation
Snake River Area Office
230 Collins Road
Boise, ID 83702

If the Tribes have any questions, wish to request consultation, a project presentation, or both, please contact Ms. Teresa Stella, Native American Affairs Advisor, at 208-383-2282, or via email at tstella@usbr.gov.

Sincerely,

ROLAND K SPRINGER

Roland K. Springer
Area Manager

Enclosure

cc: Ms. Alejandra Silva Fed Ex #7765 6937 5533
Public Relations
#14 N. Fork Road
Washakie, Wyoming 82514

Mr. Joshua Mann Fed Ex #7765 6984 7136
Historic Preservation
#15 N. Fork Road
Washakie, Wyoming 82514
(w/encl to each)

bc: SRA-1004 (Stella) (w/encl)

WBR:ROchoa:KHennequin:10/4/2019:208-383-2277:SRA-1214
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United States Department of the Interior

BUREAU OF RECLAMATION
Pacific Northwest Region
Snake River Area Office
230 Collins Road
Boise, ID 83702-4520

IN REPLY REFER TO:

OCT 0 7 2019

SRA-1214
2.1.4.17

VIA FEDERAL EXPRESS

Honorable Ladd Edmo Fed Ex Tracking # 7765 7074 9287
Chairman, Fort Hall Business Council
Shoshone-Bannock Tribes
85 W. Agency Rd., Building #82
Fort Hall, ID 83203

Subject: Request for Public Comments Regarding the Proposed Construction Activities for the Linderman Dam Restoration Project on the Teton River, Teton and Fremont Counties, Teton Basin Project, Idaho

Dear Chairman Edmo:

The Bureau of Reclamation is proposing to perform construction activities for the restoration of Linderman Diversion Dam on the Teton River in Fremont and Teton Counties, Idaho. The purpose of this letter is to inform interested and affected Tribal public of the proposal and to solicit comments pursuant to the National Environmental Policy Act of 1969. Enclosed is a Scoping Information Package describing the project proposal.

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Please help us identify important issues and concerns regarding the proposed action by providing your written comments. Although your comments are always welcome, they can be best used if received by **November 15, 2019.** Written comments may be submitted electronically to sra-nepa-comments@usbr.gov, or mailed or hand-delivered to:

Ms. Teresa Stella
Native American Affairs Advisor
Bureau of Reclamation
Snake River Area Office
230 Collins Road
Boise, ID 83702

If the Tribes have any questions, wish to request consultation, a project presentation, or both, please contact Ms. Teresa Stella, Native American Affairs Advisor, at 208-383-2282, or via email at tstella@usbr.gov.

Sincerely,

ROLAND K SPRINGER

Roland K. Springer
Area Manager

Enclosure

cc: Ms. Christina Cutler Fed Ex # 7765 7121 4517
Environmental Program Manager
Shoshone-Bannock Tribes
85 W. Agency Rd., Building #82
Fort Hall, ID 83203

Mr. Chad Colter Fed Ex # 7765 7137 2648
Fish and Wildlife Director
Shoshone-Bannock Tribes
85 W. Agency Rd., Building #82
Fort Hall, ID 83203
(w/encl to each)

bc: SRA-1004 (Stella) (w/encl)

WBR:ROchoa:KHennequin:10/4/2019:208-383-2277:SRA-1214
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Scoping Information Package

Proposal to Restore Linderman Dam at River Mile 9.7 on the Teton River in Teton and Fremont Counties, Idaho

This information package summarizes the proposal from the Bureau of Reclamation to perform construction activities necessary for the restoration of Linderman Dam on the Teton River. The project consists of demolishing parts of the Linderman Dam structure that protrude above the concrete dam crest. The actual concrete dam crest or check structure is to remain intact and would be incorporated within a constructed riffle using fill materials from an offsite commercial borrow source. This project would primarily address the safety issues associated with the dam structure as it relates to float passage along the Teton River.

Federal actions must be analyzed in accordance with the National Environmental Policy Act (NEPA) and other relevant Federal and State laws and regulations to determine potential environmental consequences. Reclamation is requesting public comments to aid in identifying issues and concerns associated with the proposal detailed below.

Location and Background

Linderman Dam is located within both Teton and Fremont Counties. Surrounded by rugged, steep cliffs, the vegetated canyon walls have an apparent cut off where they were once inundated by Teton Reservoir, with bare rock exposed beneath this watermark line throughout portions of the canyon. Linderman Dam was built in the late 1950s and early 1960s by local farmers to span the width of the Teton River, approximately 7-miles upstream from Teton Dam (Figure 1). It was largely dismantled in 1972 to make way for Teton Dam. After the failure of Teton Dam in 1976, the river more or less resumed its previous course and the footings of Linderman Dam were exposed once again.

Based on contour elevations from the 1972 Teton Reservoir basin topographic map, the hydraulic drop across Linderman Dam (while in operation) was ten feet. The drop formed a pool that backed water 3,600 feet upstream. In 1972, the water surface elevation just upstream from Linderman Dam was approximately 5,165 feet (at a discharge of 1,000 cubic feet per second).

Linderman Dam is now partially breached, and the average water surface elevation just upstream from the dam is 5,161 feet (at a discharge of 1,000 cubic feet per second). This indicates that the water surface elevation just upstream from Linderman Dam is about four feet lower today than in 1972. The current hydraulic drop through Linderman Dam is approximately two feet.

Existing Current Condition

The structural remnants of Linderman Dam consist of eroded concrete and exposed, vertical pipes embedded within the dam. These vertical pipes protrude into the river flow. Also, a horizontal concrete beam in the center of the dam still extends across the river at about the level of the water surface during average base-flow conditions. At lower flows, the water surface is just below the bottom edge of the concrete beam. The beam is at least partially inundated at higher flows. This feature creates a hazard to the recreating public floating the river.

Decision to be made-Through the process of an environmental assessment (EA), Reclamation will determine whether the proposed project would significantly affect the quality of the human environment and thereby require the preparation of an Environmental Impact Statement, and if not, where the project qualifies for a Finding of No Significant Impact. Reclamation will then determine whether to do one of the following:

- Go forward with the proposed action
- Deny the proposed action
- Go forward with the proposed action with minor changes

Purpose and Need of Action

The Teton River is used by irrigators, outfitter guides, recreationists and others. The remnants of Linderman Dam create a low head dam structure with a 30-foot-deep plunge pool on the downstream side. When water flows over this structure, it causes a turbulent hydraulic within the plunge pool which can continually entrap and recycle anything caught in the boil of the current. This situation can quickly lead to exhaustion, severe injury, or death of recreationists on the Teton River. This serious safety issue is being more frequently encountered as more boaters, kayakers, tubers, and other aquatic recreationists access the Teton River. Reclamation's focus on safety as a Pacific Northwest Regional core value has caused this issue to rise in priority that must be remedied. The Linderman Dam structure is also an impassable diversion for native Yellowstone Cutthroat trout, causing limited access to natal fish grounds and impacts to distribution and abundance of the species in the Teton River Canyon. Reclamation's purpose for the proposed Linderman Dam removal and associated Teton River restoration are to:

- Eliminate the serious recreational hazard by removing parts of the Linderman Dam structure
- Restore Teton River continuity from above to below the Linderman Dam structure while maintaining current river surface elevation thereby improving the physical habitat for native Yellowstone Cutthroat trout

The irrigation pumps at the Linderman Dam site fulfill a perpetual water right. In remedying the recreational hazard, Reclamation must ensure water elevation at the Linderman Dam site would not hinder the fulfillment of water rights.

Proposed Action

Reclamation proposes to perform construction activities necessary to ensure the safety of recreators on the Teton River. This project would consist of demolishing the following parts of the Linderman Dam structure that protrude above the inundated concrete dam crest:

- Excess concrete

- Rebar
- Piping

The actual concrete dam crest or check structure is inundated and to remain intact and incorporated within a constructed riffle. The concrete materials removed from the dam structure would be used as fill material in the river channel if suitable or removed from the site. Following removal of the protruding structures, a riffle would be constructed using fill materials from an offsite commercial borrow source. The large riprap fill material would be placed within the downstream scour hole to create a rock ramp riffle going downstream of the existing concrete dam crest. Smaller material from the riprap mix would be used to shape the transition up to the dam crest on the upstream side. A 72-inch pipe culvert beneath the peninsula to the south currently changes the flow of the river and would be filled with a grout plug to ensure no water passes through. Sections of the pipe culvert that are exposed beyond the peninsula on the downstream side would be removed to make way for riffle placement.

The existing access road would be repaired to ensure safe passage of rock trucks and heavy equipment onsite. A temporary access road would be created to connect the existing road to the staging areas just west of the road upon a low-lying terrace. The road from the highway into the canyon rim would undergo ‘as needed’ repairs and appropriate dust-prevention best management practices would be used during construction.

Reclamation’s Provo Area Office force account construction crew would do the majority of the construction work. Construction would occur during a 10-week window in late summer to early fall of 2020, once Teton River flows reach a suitable level.

Preliminary Alternative Development

The EA will include consideration of the Proposed Action Alternative and a No Action Alternative. The No Action Alternative presents continuation of current conditions associated with the existing Linderman Dam structure. The Linderman Dam structure would not be removed and no improvements or restoration to the Teton River would occur. Additional Alternatives may be developed, dependent upon the issues identified throughout the NEPA process.

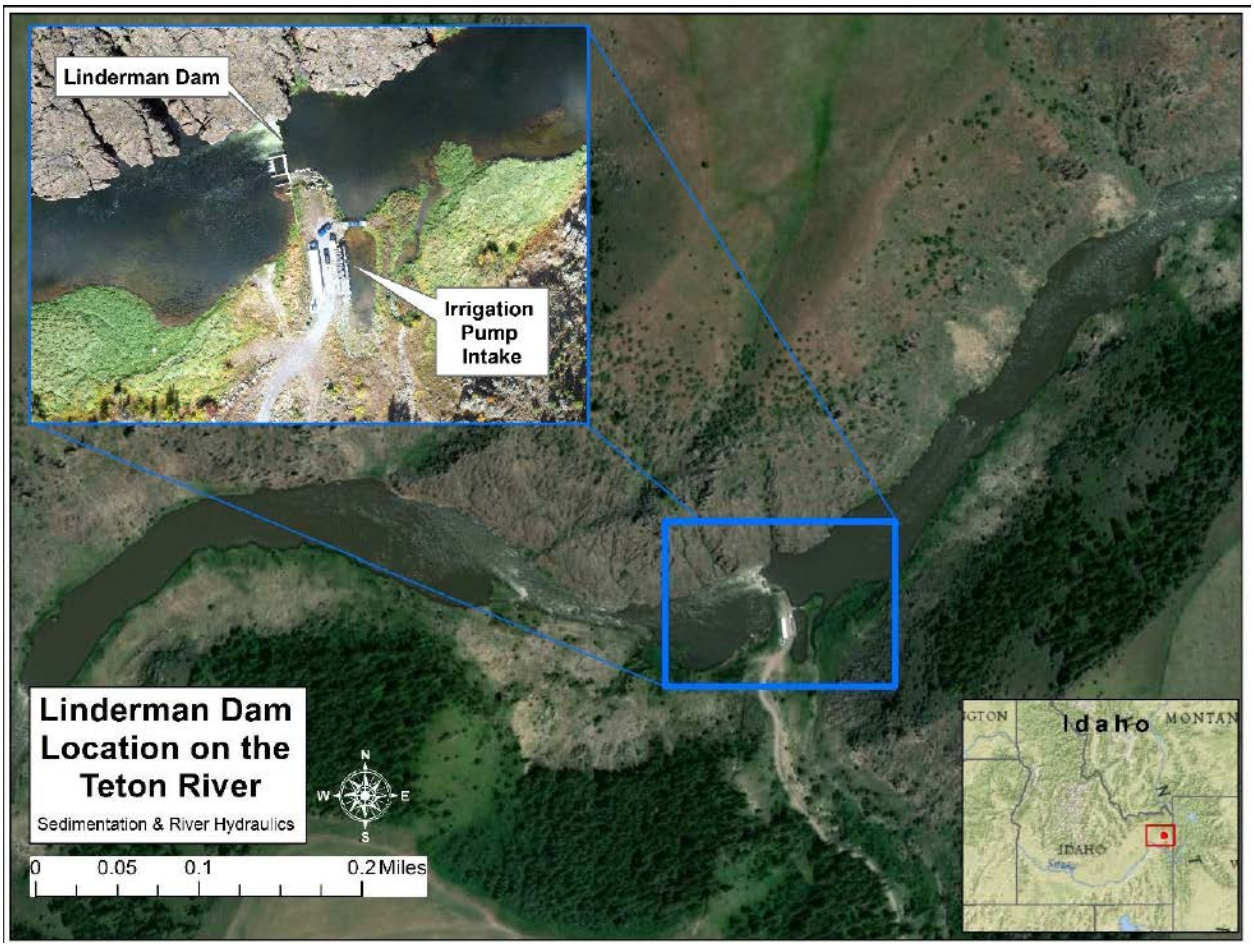

Figure 1. Project Location

United States Department of the Interior

BUREAU OF RECLAMATION
Pacific Northwest Region
Snake River Area Office
230 Collins Road
Boise, ID 83702-4520

IN REPLY REFER TO:

OCT 07 2019

SRA-1214
2.1.4.17

VIA FEDERAL EXPRESS

Honorable Vernon Hill
Chairman, Eastern Shoshone Business Council
Eastern Shoshone Tribe
#14 N. Fork Road
Fort Washakie, WY 82514

Subject: Request for Public Comments Regarding the Proposed Construction Activities for the Linderman Dam Restoration Project on the Teton River, Teton and Fremont Counties, Teton Basin Project, Idaho

Dear Chairman Hill:

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Native American Affairs Advisor
Bureau of Reclamation
Snake River Area Office
230 Collins Road
Boise, ID 83702

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Sincerely,

Roland K. Springer
Area Manager

Enclosure

cc: Ms. Alejandra Silva
Public Relations
#14 N. Fork Road
Washakie, Wyoming 82514

Mr. Joshua Mann
Historic Preservation
#15 N. Fork Road
Washakie, Wyoming 82514
(w/encl to each)

United States Department of the Interior

BUREAU OF RECLAMATION
Pacific Northwest Region
Snake River Area Office
230 Collins Road
Boise, ID 83702-4520

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VIA FEDERAL EXPRESS

Honorable Theodore "Ted" Howard
Tribal Chairman
Shoshone-Paiute Tribes
1623 Hospital Loop
Owyhee, NV 89832

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Bureau of Reclamation
Snake River Area Office
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Boise, ID 83702

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Sincerely,

Roland K. Springer
Area Manager

Enclosure

cc: Ms. Lynneil A. Brady
Acting Cultural Resources Director
Shoshone-Paiute Tribes
1623 Hospital Loop
Owyhee, NV 89832

Environmental Director
Tribal Headquarters
Shoshone-Paiute Tribes
1623 Hospital Loop
Owyhee, NV 89832
(w/encl to each)

United States Department of the Interior

BUREAU OF RECLAMATION
Pacific Northwest Region
Snake River Area Office
230 Collins Road
Boise, ID 83702-4520

IN REPLY REFER TO:

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SRA-1214
2.1.4.17

VIA FEDERAL EXPRESS

Honorable Ladd Edmo
Chairman, Fort Hall Business Council
Shoshone-Bannock Tribes
85 W. Agency Rd., Building #82
Fort Hall, ID 83203

Subject: Request for Public Comments Regarding the Proposed Construction Activities for the Linderman Dam Restoration Project on the Teton River, Teton and Fremont Counties, Teton Basin Project, Idaho

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Ms. Teresa Stella
Native American Affairs Advisor
Bureau of Reclamation
Snake River Area Office
230 Collins Road
Boise, ID 83702

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Sincerely,

Roland K. Springer
Area Manager

Enclosure

cc: Ms. Christina Cutler
Environmental Program Manager
Shoshone-Bannock Tribes
85 W. Agency Rd., Building #82
Fort Hall, ID 83203

Mr. Chad Colter
Fish and Wildlife Director
Shoshone-Bannock Tribes
85 W. Agency Rd., Building #82
Fort Hall, ID 83203
(w/encl to each)

United States Department of the Interior

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Pacific Northwest Region
Snake River Area Office
230 Collins Road
Boise, ID 83702-4520

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IN REPLY REFER TO:

SRA-1214
2.1.4.17

Subject: Request for Public Comments Regarding the Proposed Construction Activities for the Linderman Dam Restoration Project on the Teton River, Teton and Fremont Counties, Teton Basin Project, Idaho

Dear Interested Party:

The Bureau of Reclamation is proposing to perform construction activities for the restoration of Linderman Diversion Dam on the Teton River in Teton and Fremont Counties, Idaho. The purpose of this letter is to inform interested and affected public of the proposal and to solicit comments pursuant to the National Environmental Policy Act of 1969. Enclosed is a Scoping Information Package describing the project proposal.

Scoping is a public involvement process used to determine the scope of issues to be addressed and identify issues related to a proposed action. Analysis of the proposal is ongoing and will be documented in an environmental assessment with an estimated completion in the spring of 2020. Comments received in response to this solicitation will be used to identify potential environmental issues related to the proposed action and to identify alternatives to the proposed action that meet the purpose of and need for the project.

Please help us identify important issues and concerns regarding the proposed action by providing your written comments. Although your comments are always welcome, they can be best used if received by **November 15, 2019**. Written comments may be submitted electronically to sra-nepa-comments@usbr.gov, or mailed or hand-delivered to:

Ms. Rochelle Ochoa
Natural Resources Specialist
Bureau of Reclamation Snake River Area Office
230 Collins Road
Boise, ID 83702

Before including your address, phone number, email address, or other personal identifying information in your comment, be advised that your entire comment, including your personal identifying information, may be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

If you have additional questions about this proposal or its analysis, please contact Ms. Rochelle Ochoa, Natural Resources Specialist, at 208-383-2277.

Sincerely,

Roland K. Springer
Area Manager

Enclosure

November 26,2019

Dear Customer:

Proof-of-delivery letters are being provided for the following shipments:

776570115499	OWYHEE,NV
776570229546	OWYHEE,NV
776570491205	OWYHEE,NV
776568396903	FORT WASHAKIE,WY
776569375533	FORT WASHAKIE,WY
776569847136	FORT WASHAKIE,WY
776570749287	FORT HALL,ID
776571214517	FORT HALL,ID
776571372648	FORT HALL,ID

You may save or print this Batch Signature Proof of Delivery file for your records.

Thank you for choosing FedEx.

FedEx
1.800.GoFedEx 1.800.463.3339

November 26,2019

Dear Customer:

The following is the proof-of-delivery for tracking number **776570115499**.

Delivery Information:

Status:	Delivered	**Delivered to:**	Mailroom
Signed for by:	B.ELLISON	**Delivery location:**	1623 HOSPITAL LOOP OWYHEE, NV 89832
Service type:	FedEx Priority Overnight	**Delivery date:**	Oct 8, 2019 15:07
Special Handling:	Deliver Weekday Adult Signature Required		

Shipping Information:

Tracking number:	776570115499	**Ship date:**	Oct 7, 2019
		Weight:	0.5 lbs/0.2 kg

Recipient:
Honorable Ted Howard
Shoshone-Paiute Tribes
1623 HOSPITAL LOOP
OWYHEE, NV 89832 US

Shipper:
Katy Hennequin
230 Collins Road
Boise, ID 83702 US

Reference Ochoa - Linderman Scoping

Thank you for choosing FedEx.

November 26,2019

Dear Customer:

The following is the proof-of-delivery for tracking number 776570229546.

Delivery Information:

Status:	Delivered	**Delivered to:**	Mailroom
Signed for by:	B.ELLISON	**Delivery location:**	1623 HOSPITAL LOOP OWYHEE, NV 89832
Service type:	FedEx Priority Overnight	**Delivery date:**	Oct 8, 2019 15:07
Special Handling:	Deliver Weekday Adult Signature Required		

Shipping Information:

Tracking number:	776570229546	**Ship date:**	Oct 7, 2019
		Weight:	0.5 lbs/0.2 kg

Recipient:
Lynneil A. Brady
Shoshone-Paiute Tribes
1623 HOSPITAL LOOP
OWYHEE, NV 89832 US

Shipper:
Katy Hennequin
230 Collins Road
Boise, ID 83702 US

Reference Ochoa - Linderman Scoping

Thank you for choosing FedEx.

November 26,2019

Dear Customer:

The following is the proof-of-delivery for tracking number **776570491205**.

Delivery Information:

Status:	Delivered	**Delivered to:**	Mailroom
Signed for by:	B.ELLISON	**Delivery location:**	1623 HOSPITAL LOOP OWYHEE, NV 89832
Service type:	FedEx Priority Overnight	**Delivery date:**	Oct 8, 2019 15:07
Special Handling:	Deliver Weekday Adult Signature Required		

Shipping Information:

Tracking number:	776570491205	**Ship date:**	Oct 7, 2019
		Weight:	0.5 lbs/0.2 kg

Recipient:
Environmental Director
Shoshone-Paiute Tribes
1623 HOSPITAL LOOP
OWYHEE, NV 89832 US

Shipper:
Katy Hennequin
230 Collins Road
Boise, ID 83702 US

Reference Ochoa - Linderman Scoping

Thank you for choosing FedEx.

November 26,2019

Dear Customer:

The following is the proof-of-delivery for tracking number 776568396903.

Delivery Information:

Status:	Delivered	**Delivered to:**	Receptionist/Front Desk
Signed for by:	K.SHOYO	**Delivery location:**	14 N FORK ROAD FORT WASHAKIE, WY 82514
Service type:	FedEx Priority Overnight	**Delivery date:**	Oct 8, 2019 14:58
Special Handling:	Deliver Weekday Adult Signature Required		

Shipping Information:

Tracking number:	776568396903	**Ship date:**	Oct 7, 2019
		Weight:	0.5 lbs/0.2 kg

Recipient:
Honorable Vernon Hill
Eastern Shoshone Tribe
#14 N FORK RD
FORT WASHAKIE, WY 82514 US

Shipper:
Katy Hennequin
230 Collins Road
Boise, ID 83702 US

Reference Ochoa - Linderman Scoping

Thank you for choosing FedEx.

November 26,2019

Dear Customer:

The following is the proof-of-delivery for tracking number 776569375533.

Delivery Information:

Status:	Delivered	**Delivered to:**	Receptionist/Front Desk
Signed for by:	K.SHOYO	**Delivery location:**	14 N FORK ROAD FORT WASHAKIE, WY 82514
Service type:	FedEx Priority Overnight	**Delivery date:**	Oct 8, 2019 14:58
Special Handling:	Deliver Weekday Adult Signature Required		

Shipping Information:

Tracking number:	776569375533	**Ship date:**	Oct 7, 2019
		Weight:	0.5 lbs/0.2 kg

Recipient:
Ms. Alejandra Silva
Eastern Shoshone Tribe
14 N. Fork Road
FORT WASHAKIE, WY 82514 US

Shipper:
Katy Hennequin
230 Collins Road
Boise, ID 83702 US

Reference Ochoa - Linderman Scoping

Thank you for choosing FedEx.

November 26,2019

Dear Customer:

The following is the proof-of-delivery for tracking number 776569847136.

Delivery Information:

Status:	Delivered	**Delivered to:**	Receptionist/Front Desk
Signed for by:	S.LAIN	**Delivery location:**	15 N FORK RD FORT WASHAKIE, WY 82514
Service type:	FedEx Priority Overnight	**Delivery date:**	Oct 8, 2019 14:56
Special Handling:	Deliver Weekday Adult Signature Required		

Shipping Information:

Tracking number:	776569847136	**Ship date:**	Oct 7, 2019
		Weight:	0.5 lbs/0.2 kg

Recipient:
Mr. Joshua Mann
Eastern Shoshone Tribe
15 N FORK RD
FORT WASHAKIE, WY 82514 US

Shipper:
Katy Hennequin
230 Collins Road
Boise, ID 83702 US

Reference Ochoa - Linderman Scoping

Thank you for choosing FedEx.

November 26,2019

Dear Customer:

The following is the proof-of-delivery for tracking number 776570749287.

Delivery Information:

Status:	Delivered	**Delivered to:**	Shipping/Receiving
Signed for by:	M.DIXEY	**Delivery location:**	85 W AGENCY ROAD FORT HALL, ID 83203
Service type:	FedEx Priority Overnight	**Delivery date:**	Oct 8, 2019 11:46
Special Handling:	Deliver Weekday Adult Signature Required		

Shipping Information:

Tracking number:	776570749287	**Ship date:**	Oct 7, 2019
		Weight:	0.5 lbs/0.2 kg

Recipient:
Honorable Ladd Edmo
Shoshone-Bannock Tribes
85 W. Agency Road
Building #82
FORT HALL, ID 83203 US

Shipper:
Katy Hennequin
230 Collins Road
Boise, ID 83702 US

Reference Ochoa - Linderman Scoping

Thank you for choosing FedEx.

November 26,2019

Dear Customer:

The following is the proof-of-delivery for tracking number **776571214517**.

Delivery Information:

Status:	Delivered	**Delivered to:**	Shipping/Receiving
Signed for by:	M.DIXEY	**Delivery location:**	85 W AGENCY ROAD FORT HALL, ID 83203
Service type:	FedEx Priority Overnight	**Delivery date:**	Oct 8, 2019 11:46
Special Handling:	Deliver Weekday Adult Signature Required		

Shipping Information:

Tracking number:	776571214517	**Ship date:**	Oct 7, 2019
		Weight:	0.5 lbs/0.2 kg

Recipient:
Ms. Christina Cutler
Shoshone-Bannock Tribes
85 W. Agency Road
Building #82
FORT HALL, ID 83203 US

Shipper:
Katy Hennequin
230 Collins Road
Boise, ID 83702 US

Reference Ochoa - Linderman Scoping

Thank you for choosing FedEx.

November 26,2019

Dear Customer:

The following is the proof-of-delivery for tracking number 776571372648.

Delivery Information:

Status:	Delivered	**Delivered to:**	Shipping/Receiving
Signed for by:	M.DIXEY	**Delivery location:**	85 W AGENCY ROAD FORT HALL, ID 83203
Service type:	FedEx Priority Overnight	**Delivery date:**	Oct 8, 2019 11:46
Special Handling:	Deliver Weekday Adult Signature Required		

Shipping Information:

Tracking number:	776571372648	**Ship date:**	Oct 7, 2019
		Weight:	0.5 lbs/0.2 kg

Recipient:
Mr. Chad Colter
Shoshone-Bannock Tribes
85 W. Agency Rd.
Building #82
FORT HALL, ID 83203 US

Shipper:
Katy Hennequin
230 Collins Road
Boise, ID 83702 US

Reference Ochoa - Linderman Scoping

Thank you for choosing FedEx.

AP 4072 Linderman Dam Restoration

Category	First Name	Last Name	Organization	C/O	Address	City	State	Zip	Phone	Email	Type
State Agencies	Troy	Staffle	Idaho DEQ	Local office, Department, etc.	900 N Skyline Dr. Ste B	Idaho Falls	ID	83402		troy.saffle@deq.idaho.gov	State agency
	Brett	High	Idaho Department of Fish & Game		4279 Commerce Cir	Idaho Falls	ID	83401		brett.high@idfg.idaho.gov	State agency
	Jeff	Nield	Idaho Department of Water Resources		900 N Skyline Dr.	Idaho Falls	ID	83402		jeff.nield@idwr.idaho.gov	State agency
Federal Agencies	1) Jeremy Casterson	2) Monica Zimmerman	Bureau of Land Management		1405 Hollipark Drive	Idaho Falls	ID	83401		jcasterson@blm.gov / mzimmerman@blm.gov	Federal Agency, fire station earby
	Rob	Brochu	USACE - Regulatory Division		900 N Skyline Dr. Ste A	Idaho Falls	ID	83402		robert.a.brochu@usace.army.mi	Federal Agency
			U.S. Department of Fish and Wildlife		3145 McNeil Drive	Idaho Falls	ID	83402			Federal
			Department of Indian Affairs (tribes below)								
City government			City of Rexburg		31 N 1st E.	Rexburg	ID	83440			City government
			City of Sugar City		10 E. Center Street	Sugar City	ID	83448			City department
			City of Driggs		PO Box 48	60 S Main St	ID	83422			City department
			City of Newdale		325 City St.	Newdale	ID	83436			City department
Tribes			***TBD by NEPA Staff*								
County Govt.			Fremont County		151 West 1st North St.	St. Anthony	ID	83445		bbaxter@co.fremont.id.us	local government
	1) Bill Baxtor	2) Larry Miller	- Commissioners		151 West 1st North St.	St. Anthony	ID	83445	208-624-4271		
	Brent	Peterson	Madision County - Commissioners		134 E Main	Rexburg	ID	83440	208-359-6200	bpetersen@co.madison.id.us	local government
			Teton County		150 Courthouse Drive, Room 208	Driggs	ID	83422	208-354-8780	clerk@co.teton.id.us	local government
			- Commissioners		150 Courthouse Drive, Room 208	Driggs	ID	83422	208-354-8775	commissioners@co.teton.id.us	
	Clay	Smith	- Teton County Highway District		70 North W. Buxton	Driggs	ID	83422	208-354-2932	csmith@co.teton.id.us	local government
Spaceholders	Aaron	Dalling	Fremont Madision Irrigation District		P.O. Box 15	Saint Anthony	ID	83445-0015	208-624-3381	aaron.fmid@myidahomail.com	
Local Companies	Conn	Crapo	Skyline Farms		1509 N. Canyon Creek Rd	Newdale	ID	83436		conncrapo@gmail.com	
	Mike	Bott			10720 N 13500 W	Newdale	ID	83436-4902	208-456-2857		Residence owner (turn from hwy to road leading to canyon rim)
	Mike	Lien	Friend of the Teton River		P.O. Box 768	Driggs	ID	83422	208-354-3871	mike@tetonwater.org	
			Teton Museum		51 N Center St	Rexburg	ID	83440	208-359-		
Outfitters/Guides			WorldCast Anglers		P.O. Box 350	Victor	ID	83445	800-654-0676	gofish@worldcastanglers.com	local outfitter
			Teton Valley Lodge		3733 Adams Rd	Driggs	ID	83422	208-354-2386	flyfish@tetonvalleylodge.com	local outfitter
			Three Rivers Ranch		1662 ID-47	Ashton	ID	83420	1-800-360-9051		local outfitter
			Henry's Fork Anglers		33400 Hwy 20	Island Park	ID	83429	1-208-558-7525	info@henrysforkanglers.com	local outfitter

NEPA Comments, BOR SRA <sra-nepa-comments@usbr.gov>

Linderman Dam

1 message

Zimmerman, Monica <mzimmerman@blm.gov> Fri, Nov 15, 2019 at 4:05 PM
To: BOR SRA NEPA Comments <sra-nepa-comments@usbr.gov>

Ms. Ochoa,

Just realized that you wanted comments by today. Our office is very supportive of the proposed action to demolish parts of the Linderman Dam structure. The structure is a safety concern. The proposed action would reduce the risk to boaters floating the Teton River. I will work with staff on Monday to submit a letter as well.

Thank you, Monica

--
Monica Zimmerman
Outdoor Recreation Planner
Upper Snake Field Office
1405 Hollipark Drive
Idaho Falls, ID 83401
208-524-7543
208-709-2371 (cell)
208-524-7505 (fax)

NEPA Comments, BOR SRA <sra-nepa-comments@usbr.gov>

[EXTERNAL] Request for Public Comments Regarding the Proposed Construction Activities for the Linderman Dam Restoration Project on the Teton River, Teton and Fremont Counties, Teton Basin Project, Idaho

1 message

David D Ogden <mayor@sugarcityidaho.gov> Fri, Nov 15, 2019 at 10:12 AM
To: sra-nepa-comments@usbr.gov
Cc: Brent Barrus <brejan1971@gmail.com>, Connie Fogle <cfogle@sugarcityidaho.gov>, Sid Purser <sbpurser@sugarcityidaho.gov>, Steve Davis <daviss@byui.edu>, Wendy McLaughlin <wendy@sugarcityidaho.gov>

Dear Sir or Madam,

The City Council for the City of Sugar City met last night to discuss the project on which you have requested comments. We see no apparent negative impact to the project, and would so indicate to you.

David D. Ogden
Mayor
Sugar City

FREMONT-MADISON IRRIGATION DISTRICT
P.O. BOX 15
ST. ANTHONY, IDAHO 83445
PHONE: 208-624-3381 FAX: 208-624-3990
EMAIL: fmid@myidahomail.com

Ms. Rochelle Ochoa
Natural Resource Specialist
Bureau of Reclamation Snake River Area Office
230 Collins Road
Boise, ID 83702

RE: Request for public comment regarding the proposed construction activities for the Linderman Dam restoration project.

November 15, 2019

Dear Ms. Rachelle Ochoa,

As Teton River water users and in cooperation with local farmers we have some concerns we ask the Bureau of Reclamation give serious consideration to in the design and construction of the Linderman Dam restoration project.

As you know and described in your request for public comment Linderman Dam still serves an important purpose for irrigators. This dam provides the head required for the pumps above Linderman to divert irrigation water. When the river is low in the late summer it currently provides just barely enough head as it is. Therefore, it becomes imperative that any modifications to the dam do not reduce the head provided currently.

Additionally, as irrigators we always consider the debris in the water when designing diversion structures. If not considered carefully debris including logs, vegetation etc. floating in the water can create major issues. The structure must be designed in a way so that it does not channel these debris towards the pumps. There must also be a current of water moving away from the pumps so that the debris do not collect on or in front of the pump screens causing damage and limiting diversion.

Finally, Linderman Dam is located in an Idaho Seed Potato Crop Management Area. Extreme caution must be taken to ensure any fill material is not brought in that may be infected with potato diseases or pests. Any equipment or vehicles that have been off-road should be washed before entering the area. Failure to follow these procedure and others as outlined in the Idaho Seed Potato Crop Management Area guidelines found on the following website https://agri.idaho.gov/main/plants/potatoes/ could have devastating effects to potato farmers and the local economy.

We appreciate the opportunity to provide comment and ask that we are included in discussions moving forward concerning the design of the new structure and the plan for construction.

Sincerely,

Aaron Dalling