



— BUREAU OF —
RECLAMATION

Boise River Basin Feasibility Study

Specialist Report:

Land Use

Boise Project, Idaho

Interior Region 9: Columbia Pacific Northwest

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Mission Statements

The Department of the Interior (DOI) 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	Meaning
BLM	Bureau of Land Management
BNF	Boise National Forest
CFR	Code of Federal Regulations
DEIS	Draft Environmental Impact Statement
FLPMA	Federal Land Policy and Management Act
GIS	geographic information system
HD	Highway Department
NFS	National Forest System
Reclamation	Bureau of Reclamation
USFS	U.S.D.A. Forest Service

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1. Introduction

The Boise River Basin Feasibility Study is a feasibility study to evaluate increasing water storage opportunities within the Boise River basin by expanding Anderson Ranch Reservoir. The project is located at Anderson Ranch dam and reservoir, the farthest upstream of the three reservoirs within the Boise River system and located 28 miles northeast of the city of Mountain Home in Elmore County, Idaho. Anderson Ranch Dam is a zoned earth fill embankment structure that provides irrigation water, flood control, power generation, and recreation benefits. The reservoir also provides a permanent dead storage pool for silt control and the preservation and propagation of fish and wildlife. Anderson Ranch Dam is operated by the Bureau of Reclamation (Reclamation). Reclamation, in partnership with the Idaho Water Resource Board (IWRB), proposes to raise Anderson Ranch Dam. New water storage would provide the flexibility to capture additional water when available, for later delivery when and where it is needed to meet existing and future demands. The alternatives analyzed in this document include the No-Action Alternative (Alternative A), a 6-foot raise of Anderson Ranch Dam (Alternative B), and a 3-foot raise of Anderson Ranch Dam (Alternative C).

Alternative A provides a basis for comparison with the two action alternatives, Alternative B and Alternative C. Under Alternative A, current baseline conditions would continue, without increasing Anderson Ranch Dam height or constructing associated reservoir rim projects, access roads, or facilities. The expected project duration of Alternative B is approximately 51 months and Alternative C is 44 months. Reclamation would continue existing operations of Anderson Ranch Dam. Alternative B proposes to raise the dam by 6 feet from the present elevation of 4196 feet to 4202 feet to capture and store approximately 29,000 additional acre-feet of water. Alternative B would inundate an estimated 146 acres of additional land around the reservoir above the current full pool elevation of 4196 feet. Alternative C proposes to raise the dam by 3 feet to 4199 feet, allowing for the ability to capture and store approximately 14,400 additional acre-feet of water. Alternative C would inundate an estimated 73 acres of additional land around the reservoir above the current full pool elevation of 4196 feet.

Each of the two action alternatives, Alternative B and Alternative C, includes two separate, but similar, structural construction methods for the dam raise, downstream embankment raise, or mechanically stabilized earth wall raise. Otherwise, the only difference is the dam raise elevations of 6 feet for Alternative B and 3 feet for Alternative C. Project areas and construction durations for each method are nearly identical, except for a 200-foot difference in approach road length at the right abutment and an approximate 1-month difference in construction duration. The longer road length is within the dam footprint on previously disturbed ground. Because these differences are negligible, they are not differentiated within the analysis of each alternative. Alternative analysis assumes the longer road length and

construction duration, however, a final construction method will be chosen during later phases of engineering evaluation.

Chapter 1 and Chapter 2 of the Boise River Basin Feasibility Study Environmental Impact Statement (EIS) provide a detailed description of the proposed action, project's purpose and need, project area, and alternatives including design features applicable to the action alternatives. This specialist report supports the analysis of expected impacts on land use as described in the EIS.

1.1 Regulatory Framework

Federal

Federal land management policies apply only to actions on, and uses of, federally designated lands. Anderson Ranch Reservoir is located almost entirely within the Boise National Forest (BNF), so the U.S. Forest Service (USFS) administers much of the affected federal land and resources.

The Bureau of Reclamation (Reclamation) operates Anderson Ranch Reservoir under Congressional authorization. This authorization allows Reclamation to operate and modify the reservoir as required to meet the needs of the Boise Project. In addition to the reservoir itself, Reclamation manages the Anderson Ranch Reclamation Zone, an area of land on the southern end of the reservoir encompassing the dam facilities.

The Bureau of Land Management (BLM) represents a small percentage of federal land management in the area and is not affected by the project.

1987 Master Interagency Agreement

Reclamation and USFS cooperatively manage land in the Boise Project under the 1987 Master Interagency Agreement (Master Agreement) between the two agencies, which provides guidance at a national level. This agreement establishes procedures for planning, developing, operating, and maintaining Reclamation water projects located on or affecting the lands and resources administered by USFS. This includes facilitating coordination and cooperation with USFS for orderly development, management, and administration of federal resources within areas of mutual interest and/or responsibility (Reclamation and USFS, 1987a).

Omnibus Public Land Management Act of 2009 (Public Law 111-11 Sec. 9001)

Under Title IX of the Omnibus Public Land Management Act, Congress authorized Reclamation to conduct feasibility studies on projects that address water shortages within the Boise River Basin system.

National Forest Management Act of 1976 (Public Law 94-588)

The National Forest Management Act is an amendment of the Forest and Rangeland Renewable Resources Planning Act of 1974, which called for managing renewable resources on national forest lands. This act requires USFS to assess forest lands; develop a

management program based on multiple-use, sustained-yield principles; and implement a land and resource management plan for each unit of the National Forest System (NFS). It is the primary statute governing National Forest administration.

Boise National Forest Land and Resource Management Plan

The BNF Land and Resource Management Plan (Boise Forest Plan) is a forest-wide land use plan that guides natural resource management activities on lands administered by BNF. It describes management goals and objectives, resource protection methods, desired resource conditions, and the availability and suitability of lands for resource management. The original plan was released in 1990 and completely replaced in 2003. This 2003 plan was amended in 2010 to reflect changing conditions concerning wildlife habitat and to integrate components of a wildlife conservation strategy (USFS, 2010).

Code of Federal Regulations

USFS administers their responsibilities for regulating use and protecting National Forest System lands under Title 36 of the Code of Federal Regulations (CFR), sections 200-299. Laws and regulations from the code are integrated into the Boise Forest Plan, and includes directives for land use, management, and planning.

Reclamation operates under Title 43 CFR, part 423 and part 429. The purpose of part 423 is to maintain law and order and protect persons and property within Reclamation projects and on all Reclamation facilities, lands, and waterbodies; part 429 pertains to regulations on possession, occupancy, extraction and/or disturbance of natural resources on Reclamation lands, facilities, and waterbodies.

Federal Land Policy and Management Act of 1976 (Public Law 94-579)

The Federal Land Policy and Management Act (FLPMA) was enacted to change the federal public lands policy from disposal to retention. The act directs federal agencies to apply land use principles that emphasize conservation; these include the principles of multiple use and sustained yield land management policies.

FLPMA updated authority for management of National Forest System lands, provided general authority for use and occupancy of National Forest System lands, required fair market value for forest use, and repealed sections of many previous acts.

Title V of FLPMA also granted the Secretary of the Interior and the Secretary of Agriculture the authority to issue rights of way for various uses, including reservoirs and other facilities and systems for the impoundment, storage, transportation, or distribution of water.

Farmland Protection Policy Act (Public Law 97-98, Title XV, Section 1539-1549)

The Farmland Protection Policy Act (FPPA) is intended to minimize the impact federal programs have on the unnecessary and irreversible conversion of farmland to nonagricultural uses. It assures that to the extent possible federal programs are administered to be compatible with state, local units of government, and private programs and policies to protect farmland. Federal agencies are required to develop and review their policies and procedures to

implement the FPPA every 2 years. The U.S. Natural Resources Conservation Service, part of the U.S. Department of Agriculture, is the agency primarily responsible for implementing FPPA. Activities that may be subject to FPPA include reservoir and hydroelectric projects. Farmland subject to FPPA requirements does not have to be currently used for cropland. It can be forest land, pastureland, cropland, or other land, but not water or urban development.

State

Local Land Use Planning Act (Idaho Code 67-6501 to 6539)

In the Idaho State Constitution, the directives for local governments to engage in planning and zoning are articulated and implemented by the Local Land Use Planning Act, enacted in 1975. The purpose of the act is to promote the health, safety, and general welfare of the people of the state of Idaho. It also resulted in creating planning and zoning commissions. Local governments also have the power to zone directly under the Idaho Constitution, Article XII, section 2.

Idaho State Water Plan

The Idaho Comprehensive State Water Plan was adopted by the Idaho Water Resource Board to guide the development, management, and use of the state's water and related resources. Originally drafted in 1976, it was most recently revised in 2012 to reflect changes in water supply and demand in Idaho. Legislature recognizes the exclusive authority over the appropriation of public surface and ground waters of the state is vested in the Department of Water Resources (Idaho Code 42-201[7]) and requires that the plan be consistent with state law. This plan includes objectives for surface water supply enhancement (Idaho Department of Water Resources, 2012).

Regional and Local

Elmore County Zoning and Development Ordinance, Amended May 2018

The Elmore County Zoning and Development Ordinance, Title 6 through Title 11, was enacted for the purpose of guiding use and development of land within Elmore County while promoting public health, safety, and general welfare. It is granted authority in Title 67 Chapter 65 of the Idaho Statute (Local Land Use Planning Act), and Article XXII section 2 of the Idaho Constitution.

Elmore County Comprehensive Plan

The Elmore County Comprehensive Plan is a guide that establishes goals and objectives for non-federal lands and influences land use decisions in the county (Elmore County, 2014). These policies were developed to maintain and enhance the quality of community environments, as well as help the county grow and develop. The plan addresses and includes all 17 comprehensive planning components of the Idaho Local Land Use Planning Act as supplemented and amended (Idaho Code 67-6508). It contains a breakdown of private and federal lands within Elmore County, as well as existing land use classifications.

2. Affected Environment

The project area relating to Alternative B and Alternative C refers to the general vicinity in and around Anderson Ranch Reservoir extending downstream to the extent of Arrowrock Dam, via the South Fork Boise River.

Idaho is a diverse state comprised of semiarid shrub- and grass-covered plains, irrigated agricultural valleys, volcanic plateaus, forested mountains, woodland- and shrubland-covered hills, glaciated peaks, lava fields, and wetlands. The state is divided into ecoregions that group areas of similar ecosystems by type, quality, and quantity.

Anderson Ranch Reservoir is located on the South Fork Boise River within BNF, approximately 28 miles northeast from Mountain Home, Idaho, and 32 miles upstream from Arrowrock Dam. The reservoir has a current storage capacity of 450,030 acre-feet at full pool (4196 feet elevation). At this height, the surface area of the reservoir is 4,772 acres, is about 17 miles long, and has a shoreline of approximately 50 miles. Land use and access is often limited by heavily forested and steep mountainous terrain. It has three major tributary arms more than 1 mile long. These are located at the mouths of Little Camas, Fall, and Lime creeks.

Access to the reservoir and surrounding area is provided by a network of paved and unpaved roads managed by Glens Ferry and Mountain Home Highway Districts, as well as NFS roads. Anderson Dam Road (Highway District [HD] 134) is a Mountain Home HD road that crosses the dam and serves as the main access to the west side of the reservoir and the South Fork Boise River below the dam.

2.1 Land Use

Recreation is a major land use in the area. Multiple USFS-managed overnight campgrounds and boat launches surround the reservoir. During low water, shorelines are popular for camping and off-road, all-terrain vehicle use. The South Fork Boise River is popular for recreational use including fishing, whitewater rafting, kayaking, and canoeing. There are many developed river access sites both up and downstream of the reservoir. Other land use in the area consists of agriculture, timber management and non-timber forest products, protected rivers and streams, utilities, and residential and commercial developments.

Several agricultural land use agreements between private entities and federal agencies exist in the project area. These include grazing permits issued by USFS for livestock grazing on NFS lands, and reserved agricultural easements on Reclamation lands used primarily for livestock grazing along the reservoir. There are private farming and ranching operations in the area as well.

Residential and commercial land uses are low density and rural. The unincorporated communities of Pine and Featherville are located on the South Fork Boise River upstream of the reservoir and include various residential and commercial developments. These

communities are both accessed via Pine-Featherville Road (HD 61) that travels up the east side of the reservoir and uses the bridge over the South Fork Boise River at the north end.

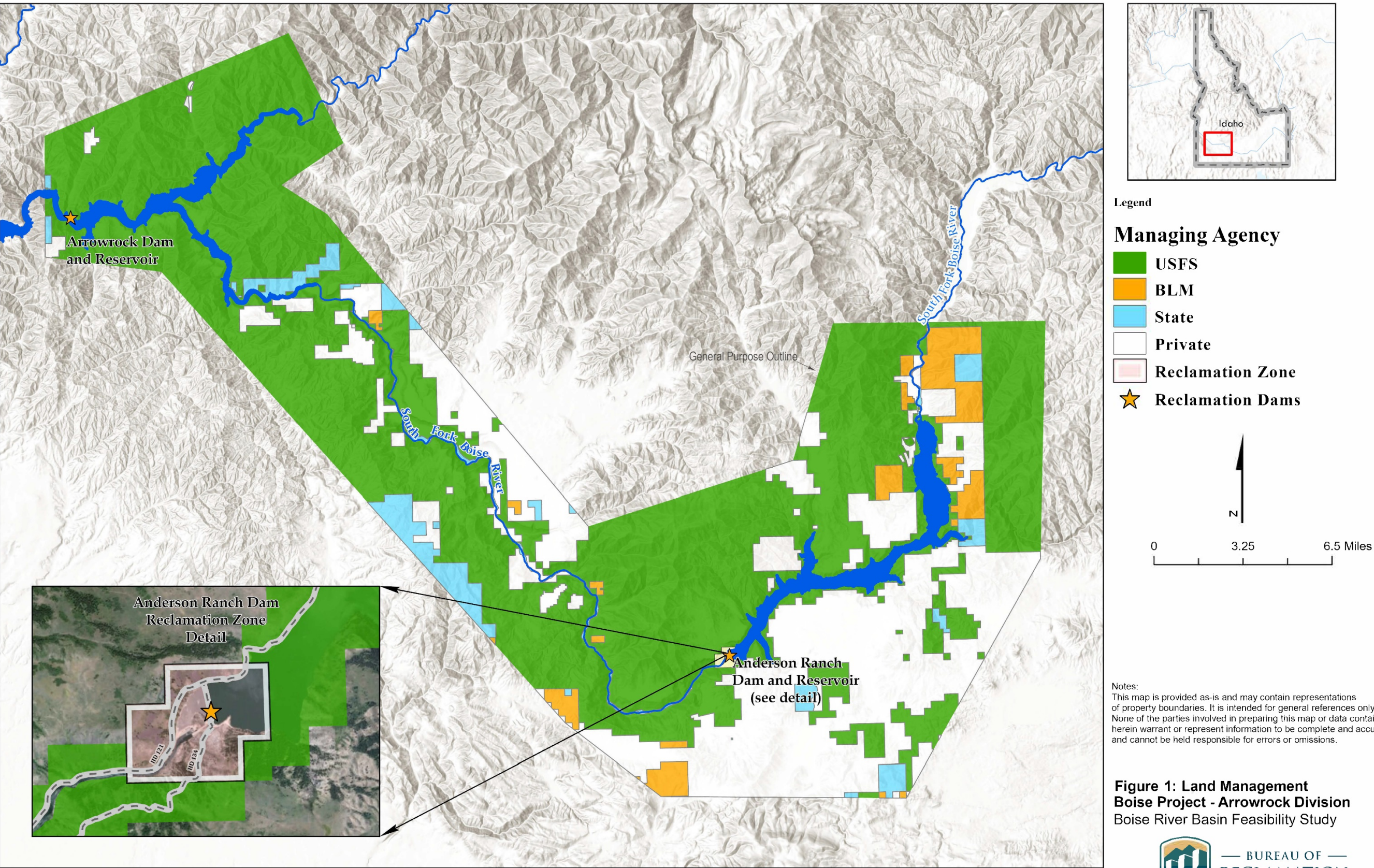
The enlarged footprint of Anderson Ranch Reservoir would result in shoreline that would be inundated, potentially altering land use adjacent to the project area. Crucial land use issues and concerns include loss of forest land to non-forest use, impacts to recreation and development, private property loss, and disruption of agricultural activities.

2.2 Project Area Land Management

Lands surrounding Anderson Ranch Reservoir are largely federal lands managed by Reclamation and USFS under the 1987 Master Agreement (Reclamation and USFS, 1987a). The project area lies within the BNF and its Mountain Home Ranger District. BLM and Idaho Department of Lands (IDL) represent a very small percentage of land management in the area and are not affected by the project. Figure 1 details land management responsibilities.

Management activities at Anderson Ranch dam and reservoir are coordinated between the BNF and Reclamation under the 1987 Master Agreement, as well as the applicable policies for each agency. The 1987 Master Agreement provides the general framework for these types of projects (Reclamation and USFS, 1987a). It outlines expectations for coordination and responsibilities for how impacted facilities would be addressed and provides for development of project supplemental agreements at local levels. Such local agreements are developed by the appropriate Reclamation Area Office Manager and Forest Supervisor and approved by the respective Reclamation Regional Director and Forest Service Regional Forester. A Memorandum of Agreement between the Intermountain Regional Forester and Regional Director of the Columbia Pacific Northwest Region of Reclamation is the local agreement currently in effect (Reclamation and USFS, 1987b).

The reservoir itself is located within BNF Management Area 1, while the South Fork Boise River upstream of Pine and the upper reaches of Fall Creek drainage lie within Management Area 2. These areas extend from Arrowrock Reservoir in the west to the Sawtooth National Forest boundary in the east. An estimated 30% of the management area is inventoried as roadless (USFS, 2010). The majority of NFS lands surrounding the reservoir are managed as a combination of undeveloped and developed recreation.



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2.3 Special Uses

Special use permits are used to authorize occupancy and use of NFS lands by other federal, state, and local agencies; private industry; and individuals. Special use permits are a partnership between USFS and the permit holder(s) to provide services and facilities that meet the needs of the public. Occupancy and use of NFS lands for public and private purposes through the issuance of special use permits and easements are allowed where the use is consistent with natural resource management goals. Table 1 lists current special use authorizations in the project area on BNF Mountain Home District (BNF, 2019).

Table 1. BNF special use permits

Permit	Use Type	Purpose
Fall Creek Resort LLC	Resort	Lodge, marina/store, self-service fueling station, RV dump station, camping
Idaho Division of Aeronautics	Airport, heliport	Operate and maintain Pine airstrip
Glenns Ferry Highway District	Forest Road and Trail Act Easements	Road use and maintenance
Mountain Home Highway District	Forest Road and Trail Act Easements	Road use and maintenance
Rural Telephone Company	Fiber optic cable; Microwave-common carrier; telephone lines	Communications
Idaho Power	Power lines	Smiths Ferry, Anderson Ranch, and Featherville
Elmore County	Transfer station; Stockpile site	Operation and maintenance of solid waste transfer station on 5.13 acres; stockpile near Danskin bridge
U.S. Geological Survey	Stream gauging station	Use and maintenance of station on the South Fork Boise River below Anderson Ranch Dam
Reclamation	Resource monitoring site; microwave-industrial carrier	Operation and maintenance of hydromet weather transmission station; communication building, tower, and buried power line to operate Anderson Dam remotely
Private	FLPMA easements, permits	Reciprocal easements for roads, rights of way

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3. Environmental Consequences

This section of the specialist report focuses on impacts to land use on the following: forest, grazing/agricultural, residential/commercial, and special uses not covered in other reports. Current land uses that are covered in other reports include the following: recreation and related developments, protected rivers and streams, transportation as it relates to infrastructure including Pine airstrip, and special use permits relating to utilities. Land use may be directly impacted by access and is therefore analyzed in this report. Alternatives B and C were reviewed for compatibility with applicable federal, state, and local land use plans and regulations.

3.1 Methods for Evaluating Impacts

To determine existing land uses in the project area, pertinent planning documents were reviewed to identify the goals and objectives of land management and to determine whether Alternative B or Alternative C would conflict with current plans and policies. These include the federal, state, and county land use plans and agreements in the previously described in Section 1.1 Regulatory Framework. Current land ownership, management, and special uses were derived from existing geographic information system (GIS) data and public records through consultation with both Reclamation and USFS officials.

3.1.1 Assumptions

The following assumptions were used to determine environmental consequences related to land use.

- Federal, state, and local land use laws would be maintained.
- Land use plans and policies are current and accurate.
- The geographic focus of analysis is land adjacent to and surrounding Anderson Ranch Reservoir and shoreline, the South Fork Boise River downstream of the dam and upstream of the reservoir including the town of Pine.
- Alternative access routes would be maintained throughout the project duration and would retain existing capacity after any and all roadwork is complete. All existing routes subject to necessary closures for project implementation would have detours that support existing access to land and resources.
- Future water storage and conveyance may influence land use changes if transfers from agriculture to urban or environmental uses are facilitated. The extent of these potential changes is not considered reasonably foreseeable. Analysis of impact is to be based on current water storage and conveyance agreements in place between federal dam regulators and downstream water users.

3.1.2 Significance Criteria

This document considers the context and intensity of the environmental impacts that would be caused by, or result from, Alternative B and C. Direct and indirect impacts caused by the implementing alternatives are based on the intensity, duration, and context of the impacts. Table 2 lists impact indicators and significance criteria used for determining impacts to land use.

Table 2. Impact indicators and significance criteria

Impact Indicator	Significance Criteria
Change or disruption of existing land use	Result in conversion, limitation, or elimination of current land use types, including: a change in forest resources to non-forest use; conversion of rangeland to use other than grazing; private property loss.
Compatibility with applicable federal, state, and local land use plans and regulations	Create conflict with any applicable land use plan, policy, ordinance, or regulation of an agency with jurisdiction over the impacted area (including general plans, specific plans, and zoning ordinances).
Compatibility with current land use agreements, easements, and/or permits	Disruption of land use agreements between private entities and public agencies; conflict with interagency management of resources.
Disruption, restriction, or relocation of public access	Change or limit access to land, resulting in a land use change.
Disruption of local communities	Introduce substantial disturbance to sensitive land uses that would disrupt use over time.

3.2 Direct, Indirect, and Cumulative Impacts

3.2.1 Alternative A – No Action

Under the No-Action Alternative A, Reclamation would not modify Anderson Ranch Dam to increase storage capacity. Storage levels would remain at the current capacity of 413,100 acre-feet. Reclamation would continue to operate Anderson Ranch Dam under current standard operating procedures. Irrigation water delivery, power generation, and flood control would continue to occur according to existing reservoir operation protocols. There would be no increase in Anderson Ranch Dam height or construction of the associated reservoir rim projects, access roads, or facilities. No additional lands above the current pool elevation of 4196 feet would be inundated, and there would be no road closures or access disruptions associated with Alternative A.

Under Alternative A, existing land use patterns and development trends would continue and could result in future land use changes in the project area as a result of reduced water

reliability to meet projected Treasure Valley domestic, commercial, municipal, and industrial (DCMI) water needs. There would be no changes or disruptions in existing land uses or agreements in the project area, nor conflicts with agency land use plans, policies, or interagency management of resources; therefore, Alternative A would not result in direct or indirect impacts to land use.

3.2.2 Alternative B – Anderson Ranch Dam Six-Foot Raise

The proposed 6-foot dam raise would inundate an estimated 146 acres of additional land around the reservoir above the current full pool elevation of 4196 feet. Much of the land that would be inundated are federal lands managed by Reclamation and USFS under the 1987 Master Agreement. The area includes undeveloped NFS land, as well as developed roads, campground areas, boat ramps, and other USFS facilities. Alternative B would also result in the short-term public closure of sections of HD 134, HD 61, HD 131, and various temporary roadway lane closures for work on culverts and bridges.

Change or disruption of existing land use

Forest resources most inundated by the six-foot dam raise are in the major arms of Fall and Lime creeks, as well as the northern end of the reservoir near the town of Pine. Due to the steep topography and limited acreage lost to increased water levels, inundation would not result in conversion or elimination of forest uses. The increased inundation would not change the ability of federal agencies to use the land because the project would inundate a small portion of land for a short time during the year, and only in years with sufficient runoff to reach the proposed full pool of 4202 feet. Access to certain areas of forest would be temporarily limited from closures during the construction phase of this alternative; however, these actions would not result in a change in forest resources. Because no change in forest use under Alternative B is anticipated, direct and indirect impacts to forest use would be minor and, therefore, not significant.

There are four easements reserved for agriculture on Reclamation land in the project area. The increased full pool elevation from 4196 feet to 4202 feet would result in an additional inundation of approximately 3 acres combined for any and all easements (ESRI and Reclamation, 2019). This is a very small percentage of operating acreage and access to water would remain the same. No conversion of rangeland to use other than grazing is expected; therefore, direct impacts would be minor, and no significant impacts are identified.

Inundation of private parcels is not expected to cause substantial changes to current land use. The increased inundation would not change the ability of private property owners to use their land because the project would only inundate a very small portion of land for a short time during the year, and only in the years with sufficient runoff. According to ArcGIS data, less than 1 acre of private land would be affected at full pool elevation of 4202 feet (ESRI and Reclamation, 2019). Direct impacts to these affected parcels would be minor in scale and duration; therefore, no significant impacts are identified under Alternative B.

Compatibility with Applicable Federal, State, and Local Land Use Plans and Regulations

No conflicts with applicable land use plans, policies, ordinances, or regulations within Reclamation, USFS, state of Idaho, or Elmore County were identified. Therefore, no significant impacts to land use within those jurisdictions are expected to occur.

Compatibility with Current Land Use Agreements, Easements, and/or Permits

Land management activities at Anderson Ranch dam and reservoir are coordinated between BNF and Reclamation under the 1987 Master Agreement, as well as the applicable policies for each agency. No disruptions of agreements on interagency management of resources were identified; therefore, no significant impacts are expected.

Glenns Ferry and Mountain Home highway districts operate special use permits under Forest Road and Trail Act Easements with BNF for road use and maintenance in the project area. These permits would have short-term, direct impacts from road closures and/or restricted access during construction activities and road modification projects associated with Alternative B. Existing rights of way acreage would not be changed. These effects would be minor in scale and duration, therefore no significant impacts to the operations of either district are identified.

Elmore County has a special use permit for a transfer station in Pine and another for a stockpile site near Danskin Bridge on the South Fork Boise River. Access to these areas would remain consistent with current operations and maintained with detour routes; therefore, no significant impacts are identified.

U.S. Geological Survey maintains a stream gauging station just downstream of Anderson Ranch Dam on the South Fork Boise River. Alternative B would not limit access to or alter location of this station; therefore, no impacts are identified.

Public lands grazing agreements in the project area, both on reserved easements on Reclamation lands and on NFS lands under permits issued by USFS, would continue. Alternative B would not result in conflict within these land use agreements between private entities and issuing federal agencies; therefore, no significant impacts are identified.

Disruption, Restriction, or Relocation of Public Access

While no conflicts will occur within land use agreements for grazing, these operations would be affected by disruptions in access associated with Alternative B. There are four USFS grazing permits that would be affected by construction-related road closures, temporarily limiting access to allotments (USFS, 2019). Access to the four reserved agricultural easements on Reclamation land along the reservoir would be temporarily restricted by road closures as well. The longest impact would be for any travel necessary on HD 134 over Anderson Ranch Dam, which would undergo closure for approximately 45 months. Other closures would be shorter in duration as necessary to complete modifications on HD 128 and HD 61, and would generally only restrict traffic to one-lane. These direct and indirect adverse impacts would be minor and short term and would not result in a change in land use.

There are also several private farmers and ranchers in the project area, mostly in the vicinity of Prairie, that have expressed concern over closures of transportation routes that they currently depend on for operations that would be impacted by either of these alternatives. Annually, farmers and ranchers near Prairie collectively haul approximately 4,000 head of cattle, over 300 loads of hay (at more than 20 tons per load), and numerous pieces of farming equipment on HD 121 and across Anderson Ranch Dam on HD 134 (C. Davidson, public comment). Additionally, some of these ranchers also have USFS grazing permits, as mentioned above, and to move cattle between grazing allotments they are trailed (walked) across the dam up to eight times per year between July and October (C. Davidson, public comment).

These direct and indirect adverse impacts to public lands grazing and private agriculture would be short term for the duration of the project and would not result in a permanent change in land use. Alternative transportation routes will be provided for the duration of the project to maintain access to agricultural easements and grazing allotments. Due to proposed realignment of the detour on HD 131 and contractor provided winter maintenance throughout the approximate 45 months of detour restrictions, alternative access routes would be able to provide the same gradient and capacity for transporting livestock, equipment, and/or hay; therefore, no significant impacts to agricultural land use are expected to occur.

Residents and visitors of Pine and Featherville (and the surrounding area) would experience short-term, direct adverse impacts from changes in road access. These impacts are mainly caused by various modifications needed on Pine-Featherville Road (HD 61) to accommodate the increased full pool elevation of 4202 feet, including the potential raise of Pine Bridge (Reclamation, 2019c). During all roadway modifications, a single lane of traffic would be open to maintain access. A detour route would accommodate traffic during the potential raise of Pine Bridge. Roadway modifications are further discussed in the Transportation and Infrastructure Specialist Report included in Appendix B. These impacts will mainly result in delays in drive time and increased mileage from detours. Because residential, commercial and public access will be maintained throughout the duration of road modification projects, these impacts are not considered significant.

Disruption of Local Communities

Residents near construction sites would experience disturbances taking place near their homes, mainly in the form of dust, noise, and increased volume of equipment related to construction activities. These disturbances would also be felt by local business owners and visitors. These adverse impacts have the potential to be substantial for individuals, depending on sensitivity and proximity to construction. Overall, these impacts would be short term, as all construction in the vicinity of residential areas is estimated to last 90 days or less, and minor in scale because residential density in the project area is low. Therefore, these direct adverse impacts are not expected to result in long-term disruption to sensitive residential land use in the area, and no significant impacts were identified.

3.2.3 Alternative C – Anderson Ranch Dam Three-Foot Raise

The proposed 3-foot dam raise would inundate an estimated 73 acres of additional land around the reservoir above the current full pool elevation of 4196 feet. Additional inundated lands are federal land managed by Reclamation and USFS. The area includes undeveloped NFS land, as well as developed roads, campground areas, boat ramps, and other USFS facilities. Alternative C would also result in the short-term public closure of sections of HD 134, HD 61, HD 131, and various temporary roadway lane closures for work on culverts and Lime Creek Bridge. Alternative C would not require the replacement of Pine Bridge.

Change or disruption of existing land use

Impacts would be similar to Alternative B, but with 50% less acreage of additional inundation during years of full pool elevation. Forest resources most inundated by the three-foot dam raise are in the major arms of Fall and Lime creeks, as well as the northern end of the reservoir near the town of Pine. Due to the steep topography and limited acreage lost to increased water levels, inundation would not result in conversion or elimination of forest uses. Access to certain areas of forest would be temporarily limited from closures during the construction phase of this alternative; however, these actions would not result in a change in forest resources. The increased full pool elevation from 4196 feet to 4199 feet would result in an additional inundation of approximately one acre of reserved agricultural easements (ESRI and Reclamation, 2019). This is a very small percentage of operating acreage, access to water would remain the same, and detour routes will continue to provide access, so any impacts to grazing would be minor. No additional acres of private property would be inundated. Alternative C would not result in any substantial changes in current land use, including forest, rangeland, or private property; therefore, direct and indirect impacts to land use would not be significant.

Compatibility with Applicable Federal, State, and Local Land Use Plans and Regulations

Impacts would be the same as for Alternative B. No conflicts with applicable land use plans, policies, ordinances, or regulations within the Reclamation, USFS, state of Idaho, or Elmore County were identified. Therefore, no significant impacts to land use within those jurisdictions are expected to occur.

Compatibility with Current Land Use Agreements, Easements, and/or Permits

Management activities within and around the project area would remain as described for Alternative B. Any potential direct or indirect impacts are determined to be minor, therefore not significant.

Disruption, Restriction, or Relocation of Public Access

Impacts would be similar to those described for Alternative B. Impacts to all land use requiring access over Anderson Ranch Dam (HD 134) would be shorter than Alternative B, with the detour route (HD 131) estimated at 38 months for Alternative C. The communities of Pine and Featherville, as well as local area ranchers and farmers and those with livestock grazing agreements in the area, would still experience short-term, direct adverse effects from disrupted road access caused by the various modifications needed on HD 61 and HD 120 to accommodate the increased full pool elevation of 4199 feet. However, the raise of Pine Bridge or construction on HD 128 would not be required for Alternative C, so these impacts would be more minor in scale and shorter in duration than for Alternative B. Agricultural, residential, and commercial business access would be sustained throughout construction; therefore, no significant impacts are identified.

Disruption of Local Communities

Impacts would be similar to those described for Alternative B. Residents near construction sites would experience disturbances taking place near their homes or businesses, mainly in the form of dust, noise, and increased volume of equipment related to construction activities. Alternative C would not require raising Pine Creek Bridge or construction on Lester Creek Road (HD 128), so impacts to locals would be even less in scale and duration than for Alternative B. Although still substantial for the individual, impacts from construction would be short term and minor in scale because residential and commercial density near the project area is low, and is a mix of permanent and seasonal residents. Therefore, these direct impacts are not expected to disrupt sensitive residential and commercial land use over time, and no significant impacts were identified.

3.3 Cumulative Impacts

Cumulative effects are analyzed for the Alternative B and Alternative C. Cumulative effects are those that result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions. The cumulative effects analysis considers projects, programs, and policies that are not speculative and are based on known or reasonably foreseeable long-range plans, regulations, operating agreements, or other information that establishes them as reasonably foreseeable. While no present actions are identified, Reclamation has identified two past actions: Pine Bridge replacement and the 4-foot Anderson Ranch Dam crest raise for security enhancement. Reclamation has also identified two potential future projects to be considered for the cumulative impact analysis: Cat Creek Energy Project and South Fork Boise River Diversion Project. Additional project proposal information for these, as known by Reclamation to date, is provided in Chapter 2 of the EIS.

The proposed 2025 dam construction date is well removed in time from the 2018 installation of the newly replaced Pine Bridge and the 2010 construction of the security berm along the dam crest. Any potential direct or indirect impacts to land use from the proposed Pine Bridge

construction or dam raise would not be additive; therefore, no cumulative impacts to land use are identified for these past actions.

If the proposed Alternative B or Alternative C were to occur simultaneously as construction for CCE and South Fork Boise River Diversion projects, cumulative impacts to land use within the analysis area from these projects would be expected to be higher in severity and duration than individual project impacts. Land ownership in the area surrounding Cat Creek and Little Camas Reservoir is a combination of large private farms and ranches, and public lands managed by USFS, BLM, and IDL. Private lands that would be affected by CCE are in consultation with the company for use and/or access, so additional impacts to use of private lands would not be expected. The main uses occurring on public lands includes recreation (see Recreation, Section 3.16) and livestock grazing, and would primarily be impacted by restricted access if construction activities would require additional road closures in the area. If these projects were to be implemented at the same time and access was restricted at once, impacts to land use would be greater. Although these potential impacts are not expected to be severe enough to cause significant cumulative impacts to land use in the area, final project plans and schedules for CCE and South Fork Boise River Diversion projects would be needed to make these determinations.

3.4 Mitigation

No significant impacts to land use under Alternative B or C are identified; therefore, no mitigation is required.

4. References

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- Idaho Department of Water Resources, 2012. *Idaho State Water Plan*. Idaho Water Resources Board. Boise, ID.
- U.S. Forest Service (USFS), 2019. *Annual Operation Instructions for Grazing Allotments*. Boise National Forest, Mountain Home Ranger District. Mountain Home, ID.
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