Appendix 13.10

Additional Analysis Related to the Sale of National Forest System Lands to Granite Reeder Sewer District

Background

In 1995, the Idaho State Legislature adopted a Lake Management Plan to protect the water quality of Priest Lake. The plan recognized that existing sewage treatment facilities in the Granite Reeder Creek community are sub-standard, and that development of a new sewage treatment plant is needed to maintain the water quality of Priest Lake in a pristine condition. The Granite Reeder Water and Sewer District (Sewer District) approved a local improvement district to finance the system, and under the direction of the Idaho Department of Environmental Quality (DEQ) prepared an Environmental Assessment (EA). The Environmental Protection Agency (EPA) was the lead federal agency in the analysis and preparation of the EA; the Forest Service was involved as a cooperating agency.

The EA prepared by Welch Comer and Associates, Inc. was published in June 2002 and updated in June 2003. The EA analyzed the effects of installation and operation of on-site grinder pump collection units, a community pressure collection system, two lagoons and land application treatment facilities on National Forest System (NFS) lands.

DEQ published a Finding of No Significant Impact (FONSI) in October of 2003; EPA issued a FONSI in August of 2006. Those documents state the agencies' determination that the proposed activities would not have an adverse or significant impact on the quality of the human environment. The FONSIs also allow the Sewer District to receive EPA grant funds for the construction of the sewage treatment facilities.

Because the Forest Service is the only agency that may authorize activities on or conveyance of NFS lands, additional analysis by the Forest Service is required before issuing a decision on the proposed activities and land conveyance. This appendix contains the results of that analysis, as well as updates and minor corrections of information presented in the EA.

Purpose and Need

The purpose and need for the project are detailed on page 12 of the EA. The purpose is to construct a wastewater collection system, two lagoons and a land application facility to treat wastewater within the Sewer District. The need arises from the expected continued growth of the Sewer District's population and the potential public health and environmental risk posed by use of unmonitored on-site individual disposal systems, many of which do not meet current requirements of DEQ and the Panhandle Health District.

Proposed Action

Introduction

In order to meet the purpose and need, the EA proposed the use of approximately 80-acres of NFS lands for construction of the lagoons and land application treatment facility (See Alternative 2- Preferred Action Alternative - Preferred Wastewater Treatment Site - Site 1 on page 14). The

EA presented three methods by which the parcel could be used - through a special use permit issued by the Forest Service to the Sewer District, through land exchange or through direct sale of the parcel to the Sewer District. See pages 17-18 of the EA for discussion of these options.

Under the preferred action alternative as proposed in the EA, the grinder pump units for recreational residences would be installed on, and would connect to the community collection line across, NFS lands. In addition, the collection line would be installed in the road rights-of-way of Forest Road 1399 and across other NFS lands. The proposed action detailed below and analyzed in this appendix would provide for implementation of the preferred action alternative as proposed in the EA.

Proposed Action

The Idaho Panhandle National Forests (IPNF) is proposing to sell approximately 80 acres of NFS land in T. 61 N., R. 4 W., Section 17, E½NE¼, Boise Meridian, Bonner County, Idaho. The project is located on the west side of Priest Lake east of Nordman, Idaho. The Forest Service also proposes to permit installation of a community pressure collection system and installation of on-site grinder pump collection units on NFS lands. Features of the proposed action are detailed in the Alternatives section below. See figures 3-4A and 3-4B on pages 27-28 of the EA for a map of the project area.

Past, Current and Reasonably Foreseeable Actions

The following past, current and reasonably foreseeable actions in the project area were considered by resource specialists as appropriate in their cumulative effects analyses.

Past Activities and Events

- Recreation residence special use permits on NFS lands
- Road easements and other special use permits on NFS lands
- Special use permits for Elkins and Grandview resorts on NFS lands
- Development of Ledgewood picnic area and Reeder Bay campground on NFS lands
- Development on private lands

Current and Ongoing Activities

- Development on private lands

Reasonably Foreseeable Actions

- Two lagoons and a land application treatment facility would be developed on the 80 acres proposed for conveyance (see pages 18-28 of the EA for a detailed description). *For most resources, the effects of this reasonably foreseeable action were adequately addressed in the original EA, BA and BE and will not be addressed in this appendix.*
- Lakeview-Reeder Fuel Reduction project on NFS lands has been proposed. This project would be centered around the community of Nordman, Idaho, as well as the Granite Creek, Kalispell Creek and Reeder Bays area. This project was identified in the Bonner County Wildland Urban Interface Fire Mitigation plan. Preliminary work on this project was started in the fall of 2006, there are no detailed analysis completed. Planning of this

project is ongoing and is anticipated to be completed in 2008. Implementation would begin after that date.

Scope of the Analysis

Council on Environmental Quality (CEQ) regulations implementing the National Environmental Policy Act of 1969 (NEPA) require that federal agencies consider the three following types of actions to determine the scope of an EA:

1. Connected Actions are those actions that are closely related. Actions are connected if they automatically trigger other actions that may require NEPA analysis; if they cannot or will not proceed unless other actions are taken previously or simultaneously; and if they are interdependent parts of a larger action and depend on the larger action for justification.

2. Cumulative Actions are those actions that contribute to a cumulative effect. Cumulative effects are effects on the environment that result when the incremental effect of the proposal is added to other past, present, and reasonably foreseeable future actions.

3. Similar Actions include other management activities with similarities such as a common timing or geography that provide a basis for evaluating environmental sequences with the proposed action. No other similar actions such as other pending land exchanges were identified.

The physical bounds of this EA Appendix include the parcel identified for conveyance and the identified NFS lands for a special use authorization under the proposed action (see figures 3-4A and 3-4B on pages 27-28 of the EA).

This EA considers connected and cumulative actions resulting from Sewer District's anticipated management plans under the proposed action and the No Action alternative (see the project file). All activities disclosed under Reasonably Foreseeable Actions are within a ten-year planning period.

In addition to analyzing the effects of the proposed action described above, this appendix updates information presented in the EA and in the Biological Evaluations (BEs) for sensitive species and the Biological Assessment (BA) for federally listed species.

Policy Direction and Legal Guidance

Forest Plan Direction

The proposed action responds to the goals and objectives outlined in the Idaho Panhandle National Forests Forest Plan of 1987. Chapter II of the Forest Plan states that, with regard to existing private recreation uses (such as recreational residences), "complementary facilities and services by the private sector on National Forest [System] lands will be permitted (page II-3)." Appendix E of the Forest Plan details criteria by which a decision to convey NFS lands to other ownership may be made (page E-2).

Laws

Shown below is a partial list of federal laws and executive orders pertaining to project-specific planning and environmental analysis on federal lands. References to these laws and orders, as well as disclosures and findings required by them, can be found throughout this appendix and in the project file.

Federal Laws

- The National Environmental Policy Act of 1969 (as amended)
- The Clean Water Act of 1977 (as amended)
- The National Historic Preservation Act (1969), as amended
- Endangered Species Act (ESA) of 1973 (as amended)
- Federal Land Policy and Management Act of 1976 (U.S.C. 1761-1771)

Federal Laws Specific to this Project

Public Law 108-436

The proposed sale is authorized pursuant to Sec. 434 – Idaho Panhandle National Forest Improvement Act of 2004 (Act), Public Law 108-436. In general, paragraph (a) of the Act authorizes the Secretary of Agriculture, acting through the Chief of the Forest Service, to "prescribe, sell, or exchange any or all right, title, and interest of the United States…. The Act further directs that land may be offered either through sale or exchange procedures, at not less than market value, as determined by an appraisal completed and approved in accordance with federal standards.

According to Public Law 108-436, "The Secretary shall deposit the proceeds of a sale… in the fund established under Public Law 90-171 (commonly known as the 'Sisk Act')," and that "…amounts deposited…shall be available to the Secretary, without further appropriation…for the acquisition, construction or rehabilitation of other facilities in the [Idaho] Panhandle National Forest[s]."

Executive Orders

- Executive Order 11988 (floodplains)
- Executive Order 11990 (wetlands)
- Executive Order 12898 (environmental justice)

Decision to be Made

This appendix discloses the environmental consequences of proceeding with the proposed action described above or any alternatives, and aids the deciding officer in determining whether the effects disclosed would constitute a significant effect on the environment. If the responsible official determines there would be no significant effects, an alternative will be selected and a Finding of No Significant Impact and Decision Notice issued. The final decision will be based on the information in the EA and this appendix, on public comments and financial considerations, and on how well the chosen alternative meets the purpose and need of the project and complies with applicable state and federal laws, agency policy, and Forest Plan direction.

The responsible official will determine whether the Forest Service should

1. convey a parcel of NFS lands to Granite Reeder Sewer District and
2. permit installation of a community collection line, grinder pumps and connections to the collection line on NFS lands for the development of a community sewer system.

If the proposed action described above is selected for implementation, the following elements will also be decided:

1. What design features and mitigations should be used to meet applicable laws and Forest Plan direction?
2. How should such features be applied?
3. What monitoring is needed to assure that desired results are achieved?

The responsible official is the Idaho Panhandle National Forests Supervisor, whose authority is delegated by the Director of Recreation, Minerals, Lands Heritage and Wilderness. The Forest Supervisor's decision to implement an alternative will be documented in a Decision Notice.

Public Involvement, Issues and Alternatives

Public Involvement and Issues

Public Involvement Process

The purpose of scoping is to determine the issues to be addressed and to identify significant issues relative to the proposed action. Scoping also helps the interdisciplinary team (IDT) to develop other alternatives to evaluate in detail, assists in determining data needs, provides input to formulate analysis/decision criteria and provides feedback to the IDT. The IPNF Scoping Notice and Sewer District's meeting notes and newsletter are in the project file.

As part of the public involvement process, the IPNF in February of 2007 mailed written notice describing the proposed action to the adjacent land owners, easement and permit holders within the proposed land conveyance parcel, interest groups/individuals, county commissioners, and federal congressional delegations. In addition, notice inviting public comments was published in the Coeur d'Alene News-Press, during the week of March 12, 2007. The notice asked for public comment on the proposed action from March 12, 2007 through April 11, 2007.

Meetings occurred between the FS and Bonner County Commissioners. The history of the Proposed Project was outlined, the purpose and need for the proposal was explained and maps were handed out – see project file.

Commensurate with FS authority and responsibility to manage NFS lands is the obligation to consult, cooperate and coordinate with federally recognized American Indian tribes in developing and planning management decisions regarding resources that may affect tribal rights established by treaty or Executive Order. The FS complied with this shared responsibility by working with the Tribes on a government-to-government basis and in a manner that attempts a reasonable accommodation of tribal needs without compromising the legal positions of the Tribes or the Federal government.

In March, 2007, Dave O'Brien, Tom Ball and Steve Matz from the IPNF Supervisor's Office met with representatives of the Kalispel Tribe of Indians. The proposed action was described and discussed. The purpose and need for the proposed action was explained to Tribal representatives (see project file).

Twenty-one responses were received during the scoping period. Responses were received from Idaho and Washington, with the majority of responses from Washington. Respondents included individuals and a Bonner County agency. Seventeen of these responses contained comments. Individual substantive comments are documented in the content analysis conducted in March of 2007. The content analysis is in the project file.

Public comments received after the completion of the content analysis continue to be considered. All American Indian government-to-government consultation/relations throughout this NEPA process will be incorporated into the decision making process.

Issues Identified

Some respondents indicated opposition to the sale of public land to the Sewer District. Others expressed concern that sale of the parcel, and subsequent development of the sewer system, would lower the property values of adjacent landowners. Some comments were related to the possibility of introduction of unpleasant odors and health risks. Several comments addressed concerns for water quality and the effects of the project on fisheries, wildlife and wildlife habitat. A few comments raised concerns about the NEPA process related to the project. These and other issues as identified by the IDT were considered in the development of alternatives and analysis of effects for this appendix.

Some respondents supported the project, while others supported development of community sewage treatment but favored methods other than the lagoon system proposed in the original EA. Other treatment methods were discussed in the EA on pages 36-45 and thus were not addressed in this appendix.

See the project file for more detailed information on the comments received.

Alternatives

Introduction

When identifying lands available for land conveyance, certain limiting criteria are applied to assure compliance with existing laws, regulations and policy. In addition, a successful land conveyance is dependent upon agreement of the parties involved. The following information is pertinent to identifying lands available for conveyance:

- Lands are limited to those parcel(s) both parties are willing to accept.
- Land conveyance must be made on an equal value for equal value basis as required under the Federal Land Policy and Management Act (FLPMA).
- Federal lands considered for conveyance are in compliance with Landownership Planning Criteria listed in Appendix E of the Forest Plan (USDA 1987).
- Federal lands considered for conveyance have no cultural resources that are eligible for the Natural Register of Historic Places (NRHP).
- The land conveyance alternative development process considered each party's anticipated 10 year management plans (conditional use permit), land stewardship, and compliance with existing Idaho and Federal laws and regulations.

This chapter describes and compares the proposed action with the No Action alternative. It also identifies other potential alternatives to the proposed action that were considered but dropped from detailed analysis.

The alternatives evaluated in detail are compared by sharply defining the differences between them and providing a clear basis for choice among options by the responsible official and the public. Some of the information used to compare the alternatives is based upon design features of the alternative; other information is based upon the environmental, social and economic effects of implementing each alternative.

Alternatives Considered but Eliminated from Detailed Analysis

Federal agencies are required by NEPA to rigorously explore and objectively evaluate all reasonable alternatives and to briefly discuss the reasons for eliminating any alternatives that were not developed in detail (40 CFR § 1502.14). There was no public comment received in response to the proposed action that provided other alternatives designed to achieve the purpose and need as described in the EA.

Land Exchange

One alternative considered but eliminated from further analysis was a land exchange. The Sewer District does not own land, nor is there any other non-federal land available for exchange (see the briefing paper dated 6/6/2003 in the project file). To best serve the public interest, it was determined not to pursue a land exchange.

Another reason for dismissing this alternative is that it would not meet the Purpose and Need, which was to meet the Agency's cooperating partnership responsibility to provide suitable land to allow a sewage treatment site to retain the pristine water quality of Priest Lake as described in the Purpose and Need.

Special Use Permit for Development and Operation of the Sewer System

A special use permit would allow the Sewer District authorization to construct a sewer system (lagoons and aerial application treatment facility) on NFS lands. This alternative was eliminated from consideration because such uses are rarely compatible with National Forest purposes (FSM 2723.42 - see the project file).

Conveyance of Treatment Site 2

Treatment Site 2 of 40 acres located at T. 61 N., R. 4 W., Section 17 NW¼SW¼, BM, Bonner County, ID, was eliminated from consideration, as EPA determined that Treatment Site 1 (the subject 80-acre parcel) was more desirable (see pages 14-17 of the EA).

No Action Alternative

The No Action alternative addresses the issues identified above related to the sale of public lands and development of a sewer system on the conveyed parcel.

Under this alternative, the subject land would not be available for noncompetitive sale. The land would remain in public ownership. There would be no ground disturbance associated with development of a sewer system on the subject parcel. In addition, no special use authorization would be granted for the installation of a collection system on NFS lands.

Proposed Action

The proposed action responds to the purpose and need as identified in the EA. The proposed action was analyzed for potential effects related to the relevant issues identified above and those identified by the IDT, including but not limited to old growth, rare plants, aquatic resources, wildlife, heritage resources and property values.

Land Conveyance

The Forest Service, U.S. Department of Agriculture and Granite Reeder Water and Sewer District, acting through their authorized representatives, jointly propose conveyance of approximately 80 acres of federal lands (see figure 3-1 on page 15 of the EA) located within the

boundaries of the IPNF. The minerals estate of the federal parcel would be conveyed along with the surface estate. The legal description is T. 61 N., R. 4 W., Section 17, E½NE¼, Boise Meridian, Bonner County, Idaho. This subject parcel would be directly sold to the Granite Reeder Water and Sewer District. The proposed action would occur pursuant to:

- The Federal Land Policy Management Act of October 21, 1976, as amended, (90 Stat 2743; 43 U.S.C. 1715-1717)
- Idaho Panhandle National Forest Improvement Act of 2004 (Act), Public Law 108-436

The land conveyance process includes some procedures that are open for public review and others that are confidential.

The Priest Lake Ranger District is the affected management unit. All of the affected acres are in Bonner County, Idaho. The total amount of affected land is 80 acres. The parcel proposed for land conveyance is within the geographic area of ceded lands and/or area of interest of the Kalispel Tribe of Indians.

The proposed action would authorize the conveyance of land ownership and management authority to the Sewer District. The Sewer District would manage the acquired parcel similar to the anticipated conditional use permit for a public utility complex facility (see the project file).

Rights previously conveyed or permitted by the United States on the NFS parcel to be conveyed would be protected. These rights include easements and special use permits. The FS would protect the special use permits' interests; the holders would have to negotiate with the Sewer District for an easement prior to the land conveyance.

Special Use Permit Authorization

Under the special use authorization, grinder pump units for recreational residences would be installed on, and would connect to the community collection line across, NFS lands. In addition, the collection line would be installed in the road rights-of-way of Forest Road 1399 and across other NFS lands. Transmission lines would be buried across NFS lands to connect the grinder pumps to dwelling structures and to the main transmission line.

The dwelling sites would consist of one (1) FS campground, one(1) FS picnic area and nine (9) recreation residences homes, and two (2) resort sites on NFS lands. The sewer district includes the Ledgewood Bay Recreation Residence Tract, Reeder Bay Campground and Ledgewood Picnic Area, Grandview and Elkins Resorts. See figures 3-4A and 3-4B on pages 27-28 of the EA.

Design Criteria for the Proposed Action

The design criteria presented in this section are in addition to those proposed in the original EA. The original EA described the design features of the proposed lagoons and collection system on pages 18-25 and 52-58. Mitigation measures to avoid adverse environmental effects were described on pages 102-103 of the EA.

Required Mitigation

Aquatics and Fisheries

Installation of the collection system in the ROW of Forest Road 1399 and on other NFS lands would require the following site-specific Best Management Practices (BMPs):

1. Trenching would only occur during the drier times of the year.

2. Springs, seeps and streams would be protected during and after trenching. Use of French drains and awareness of drainage features will eliminate future problems.
3. Erosion control would be applied to all disturbed soils within one week of disturbance and or before any impending storms.
4. The excavated area across the intermittent stream channel at the southern end of the Ledgewood Day use area would be filled with clean cobbles (French drain) to prevent damage to the stream and the crossing.
5. The project must meet Inland Native Fish Strategy Standards and guidelines and avoid adverse impacts to native fish and habitats by minimizing erosion and sediment delivery to stream channels (RF-2) and ensuring that toxicants (i.e. contaminated groundwater) are not released into the RHCA (RA-3).
6. The project would adhere to all Idaho Department of Environmental Quality and Department of Water Resources regulations for wastewater collection and treatment, in order to help protect fish species inhabiting nearby waters.
7. The installation procedures would conform to the Sewer District's Storm Water Pollution Control Plan and continually maintain erosion and sediment controls and provide soil stabilization.
8. The sewer collection line over Reeder Creek would be designed, constructed, and operated in a manner that does not introduce sediment or sewage into the stream. On NFS lands, sewer lines within the 100-yr. floodplain would be made of ductile iron pipe or equivalent strength material, and shut off valves would be configured at distances of ten feet on either side of the high water mark. This crossing would be managed to minimize leakage risks associated with freezing of the sewer line and flood damage.
9. In the event of a sewage leak, the six-step procedure outlined by the Idaho Department of Environmental Quality would be immediately employed.

Wildlife

1. Consultation with US Fish and Wildlife Service must be reinitiated if the degree or extent of the effects to federally listed wildlife species is expected to change as a result of new information, unanticipated effects, or changes in the proposed action.

Rare Plants

1. Once the exact location of the proposed connection line and connections to the line across NFS lands is known, that information would be evaluated, and rare plant surveys performed as needed. Any newly documented rare plant occurrences would be evaluated, and placement of the lines adjusted as feasible to provide for population viability. Findings would be documented in a report by the project botanist.

2. Any changes to the proposed action would be reviewed and rare plant surveys conducted as necessary, with adjustments to the proposed action to provide for population and species viability. Findings would be documented in a report by the project botanist.

Heritage Resources

Cultural Resources Discovery Plan

In order to assure previously undiscovered archaeological materials are protected from construction activities, high probability land forms would be evaluated by a qualified professional archaeologist. Construction of laterals to buildings, grinders, staging areas, electrical hook-up and other activities outside of the Forest Road rights-of-way has not been consulted on and would not occur until concurrence is received.

Discovery Stipulations:

1. A professional archaeologist will periodically monitor all construction activities within the area of the Ledgewood Recreation Residences, Reeder Bay Campground, and Elkins Resorts where the landforms are relatively flat and soils deeply stratified. The actual areas where monitoring will be conducted should be determined through a "plan-in-hand" review with the Forest and/or Zone Archaeologist prior to construction. Monitoring schedules will be based on the proximity to probable buried cultural resources and rate of construction work so that trenches, staging areas, and other construction activities will be viewed in time to prevent significant damage to the buried resources.

2. All work within the immediate vicinity of the discovery will cease and the area of the find will be secured from further damage until such time as the Forest or qualified professional Zone Archaeologist with delegated responsibility can assess the significance of the discovery.

3. Once the discovery has been assessed the Forest Archaeologist, or the Zone Archaeologist if the Forest Archaeologist is unavailable, will provide the Idaho SHPO with summary information regarding the character, extent and significance of the find and any additional mitigation measures necessary to recover significant information that are not contained within the Discovery Plan.

4. If the discovery has the potential to be of cultural or religious significance to an affected federally recognized Indian Tribe, appropriate staff and governmental representatives of the Tribe(s) will be notified and provided summary information regarding the character, extent and significance of the find and any additional mitigation measures necessary to recover significant information that are not contained within the Discovery Plan.

5. The SHPO and Tribe(s) will be allowed 48 hours to assess the significance of the discovery and any additional mitigation measures necessary to recover data or protect the site. If no comment is provided within that period concurrence with the determination of significance and measures will be assumed and the data recovery or protection measures will be implemented.

6. The following data recovery and protection measures are recommended for immediate implementation upon assessment of a significant discovery:

    a. Fence off the discovery area, construct protective shoring if necessary and cover the discovery area with appropriate materials to protect the find and mitigate any safety concerns.

    b. Photograph, draw and describe stratigraphic profiles of excavation walls that contain significant cultural or environmental data.

    c. Collect significant artifacts or feature material that has been displaced or is in imminent danger of destruction if not collected and preserve them through appropriate curational methods.

Required Monitoring

Rare Plants

If any rare plants are documented in subsequent surveys that require mitigation such as relocation of disturbance on NFS lands, the project botanist would monitor the ground disturbing activity to ensure adequate protection of rare plant populations. Results of the monitoring would be documented in a report by the project botanist.

Aquatics and Fisheries

Periodic monitoring of water quality would be performed by the Idaho Department of Environmental Quality to ensure that the collection and treatment system is not contaminating surface or ground waters. Each stream crossing (tributary and Reeder Creek) would be monitored every three months for the first 24 months of operation, after which monitoring may be reduced to once per year. The aerial stream crossing over Reeder Creek would be monitored frequently to help minimize risks associated with freezing of the sewer line and flood damage.

Heritage Resources

Refer to the monitoring specified in the Cultural Resources Discovery Plan above.

Affected Environment and Environmental Consequences

This section discusses the existing conditions in the project area and the expected environmental effects with regard to both internal resource issues and the issues identified during scoping for the proposed action as detailed above. This section refers the reader to the Granite Reeder Water and Sewer District Environmental Assessment (EA) prepared for the Environmental Protection Agency by Welch Comer and Associates, Inc. in 2002 where the existing conditions and environmental effects discussions remain valid, while correcting errors in that document and providing additional analysis relevant to the proposed action as detailed above.

Vegetation

The original EA addressed existing conditions and effects to general forest vegetation on pages 72 and 87-88. With the following exceptions, that analysis remains valid for the proposed action presented in this appendix.

Old Growth

The information presented below supercedes references to "old growth" on pages 72 and 87 in the original EA prepared by Welch Comer in 2002. See the project file for a detailed report and supporting documentation addressing the effects of the proposed action on old growth. The following summarizes information in that report.

Affected Environment

The 80-acres of NFS land that is being considered for a land conveyance occurs within three timber stands- 836-02-007, 836-02-071 and 836-02-026. Stand 836-02-007 was clearcut in 1987, is currently occupied by seedling/sapling sized trees and therefore does not meet the minimum criteria for old growth.

The other two stands (836-02-071 and 026) that occur within the 80-acre parcel were examined in 1993 using a Quick Plot Stand Exam. Both of these stands have a western hemlock forest type

and a western hemlock/queencup beadlily habitat type. The minimum criteria for old growth in this forest type/habitat type are ten trees per acre ≥ 21" in diameter at breast height (DBH) and 150 years old (Green et al. 1992, errata corrected 9/04). According to the stand exam information these stands did not meet minimum old growth criteria. Even considering that trees in the 19.0-20.9" DBH size class have reached 21" DBH in the ensuing years since the exam, these stands still do not meet the minimum criteria for old growth.

The proposed transmission lines would occur adjacent to or within stands 836-01-024, 840-01-43 and 840-01-057. Based on data base review of past exams and personal observations of the project vegetation specialist, these three stands, while they contain scattered individual large old trees, do not meet minimum old growth criteria.

In addition, the nearest old growth stand to the project area on NFS land is approximately one-half mile to the northwest, in the Cooper Bay area. There are no old growth stands immediately adjacent to either the 80-acre conveyance parcel or the proposed transmission lines.

Environmental Consequences

Effects Common to the Proposed Action and No Action

Given the absence of forested stands that meet minimum old growth criteria, implementation of the proposed action or no action would have no direct, indirect or cumulative effect on the amount or quality of old growth in the project area.

Forest Plan Consistency Regarding the Management of Old Growth Stands

The IPNF Forest Plan (USDA 1987) lists standards regarding old growth on page II-29. These standards, and how the project meets them, are detailed below.

Old Growth Standard 10a: A definition for old growth is being developed by a Regional Task Force and will be used by the Forest when completed. As an interim guideline, stands classified as old growth should meet the definition given by Thomas (1979).

The Regional Task Force completed its work and published its report. That report is Old Growth Forest Types of the Northern Region by P. Green et al., and is part of the R-1 SES Series released in April 1992 by the Northern Region, Forest Service, USDA (Green et al 1992, errata corrected 9/04). The IPNF used the definitions in that document to determine allocation of its Old Growth. Therefore, this standard has been met.

Old Growth Standard 10b: Maintain at least 10 percent of the forested portion of the IPNF as old growth.

The Forest Plan identified 2,310,000 forested acres on the IPNF. Therefore, the Forest Plan Standard requires maintaining 231,000 acres of old growth. The most recent information contained within the 2004 IPNF Forest Plan Monitoring Report indicates that 278,552 acres or 12.1 percent of forested acres have been allocated as old growth. Of the stands identified as old growth, 98.5 percent have been field-verified (USDA 2004). This inventory shows that the IPNF has allocated enough acres of old growth to clearly meet and exceed Forest Plan Standard 10b. for the amount of old growth to be retained. The IPNF also has an additional 7,444 acres (0.3 percent of forested acres) of previously field examined, unallocated old growth, which provides old growth habitat for wildlife and serves other ecological functions. An additional 6,737 acres have been identified as possible old growth, but have not yet been field checked or counted in this allocation.

Additionally, a thorough, independent inventory of old growth on the IPNF, by the National Forest Inventory and Analysis (FIA) program, estimates that the IPNF currently has 12.85 percent of its forested portion as old growth. Assuming a 90 percent confidence interval, this estimate would be between 10.55 percent and 15.27 percent (Zack 2005), a range above the Forest Plan standard of ten percent. Therefore, this standard has been met and actually exceeded.

The IPNF old growth allocation of ten percent old growth was distributed among the districts as documented in the Forest Supervisor's May 7, 1991 letter concerning the subject "Forest Plan Explanation: Implementing Old Growth Standards (Morden 1991). The Priest Lake Ranger District was responsible for allocating 38,000 acres of old growth, which is approximately 12.3 percent of the District's forested acres. The draft 2004 Forest Plan Monitoring Report indicates that 47,852 acres has actually been allocated on the District (USDA 2004). Therefore, the Forest Supervisor's allocation was actually exceeded on the Priest Lake Ranger District.

Old Growth Standard 10c: Select and maintain at least five percent of the forested portion of those old growth units that have five percent or more of existing old growth.

The 80-acre land conveyance activity occurs within Old Growth Management Unit (OGMU) #22. Within this OGMU, approximately 28 percent of the forested portion currently meets minimum old growth criteria. As discussed above, the proposed action would not reduce or otherwise affect any stands within this OGMU that currently meet old growth criteria or were otherwise designated for future recruitment of old growth. Therefore, this standard would be met.

Old Growth Standard 10d: Existing old growth stands may be harvested when there is more than five percent in an old growth unit, and the Forest total is more than ten percent.

As previously mentioned, no old growth stands would be affected by the proposed action; therefore, this standard is not relevant to this project.

Old Growth Standard 10e: Old growth stands should reflect approximately the same habitat type series distribution as found on the IPNF.

The habitat type series distribution of the allocated old growth stands on the IPNF reflects approximately the same habitat type series distribution on the IPNF. The 2004 Forest Plan Monitoring report supports this finding (USDA 2004). Therefore, this standard has been met.

Old Growth Standard 10f: One or more old growth stands per old growth unit should be 300 acres or larger. Preferences should be given to a contiguous stand; however the stand may be subdivided into stands of 100 acres or larger if the stands are within one mile. The remaining old growth management stands should be at least 25 acres in size. Preferred size is 80 plus acres.

The proposed action would not affect the current or future ability to meet this standard. The two timber stands occupied by mature timber that are within the 80-acre convenience area are less than 80-acres in size when combined and they are spatially isolated from other old growth stands or mature stands on NFS lands in the area. Therefore, these two stands could not serve to create future large blocks of old growth as is the intent of this standard. Therefore, the attainment of this standard would not be affected by implementation of the proposed action.

Old Growth Standard 10g: Roads should be planned to avoid old growth management stands to maintain unit size criteria.

The proposed action does not involve constructing roads in old growth stands; therefore, this standard is not relevant to the project.

Old Growth Standard 10h: A long-term objective should be to minimize or exclude domestic grazing within old growth stands.

The proposed action would not include any new domestic grazing allotments. Therefore, this standard would be met.

Old Growth Standard 10i: Goals for lands to be managed as old growth within those lands suitable for timber production are identified in the management area prescriptions.

The 2004 Forest Plan Monitoring report (USDA 2004) includes a table showing the Forest Plan management areas that have acre goals associated with them for old growth allocation. The table also shows the existing amounts of allocated old growth for those same areas. Within each management area, current acreages of old growth allocations meet and far exceed those Forest Plan goals. Therefore, this standard has been met and exceeded.

Threatened, Endangered, and Sensitive Plants and Forest Species of Concern (Rare Plants)

Information on rare plants in this section supercedes information on rare plants in the Granite Reeder Water and Sewer District Environmental Assessment (EA) prepared for the Environmental Protection Agency by Welch Comer and Associates, Inc. in 2002. Because of deficiencies in the original rare plants effects analysis, this section addresses the proposed land conveyance, installation of a collection system on NFS lands, and the reasonably foreseeable actions related to development of the lagoons and land application treatment facility on the conveyed parcel.

The rare plant information in that EA that is replaced appears on pages 71, 75-78, 88, and 96-98. Information in this section also supercedes information in the biological assessment (BA) in Appendix 13.6 of the EA on pages 21-23 and pages 32-35, and in the biological evaluation (BE) in Appendix 13.7, pages 23, 29-31, 37, and 43-47.

Regulatory Framework

Federal legislation, regulations, policy, and direction require protection of species and population viability, evaluation and planning-process consideration of threatened, endangered, and other rare plant species. The regulatory framework for these plants includes the Endangered Species Act (1973) as amended; the National Forest Management Act (1976); the National Environmental Policy Act (1969); Forest Service Manual (2672.1-2672.43); Idaho Panhandle National Forests (IPNF) Forest Plan (1987); and direction from the Regional Watershed, Wildlife, Fisheries and Rare Plants (WWFRP) program and Washington Office.

Threatened and Endangered Plant Species

No federally listed endangered plant species are suspected to occur in the Idaho Panhandle National Forests. Two threatened species are suspected to occur in the IPNF, water howellia (*Howellia aquatilis* Gray) and Spalding's catchfly (*Silene spaldingii* Wats.) (USDI 2007). However, neither species is suspected to occur in Bonner County, in which the project area is located (USDI 2007a).

Sensitive Plants and Forest Species of Concern

Sensitive species are determined by the Regional Forester as those species for which population viability is a concern, as indicated by a current or predicted downward trend in population numbers or habitat capability that would reduce the species' existing distribution. Fifty-four species are known or suspected to occur in the Kaniksu portion of the IPNF, which encompasses the project area.

In addition, several "Forest species of concern" are addressed in this analysis. A Forest species of concern is generally not at risk on a rangewide, regionwide, or state level, but may be imperiled within a planning area, such as a National Forest. While biological evaluations are not required to address Forest species of concern, these species are addressed in effects analyses to provide for maintenance of populations as directed in NFMA. A list of sensitive species and Forest species of concern is included in this report.

Sensitive plant species and Forest species of concern may be assigned to one or more rare plant guilds. These guilds are artificial assemblages based on similar habitat requirements of two or more rare plant species, and are used for analysis. Rare plant guilds include aquatic, deciduous riparian, peatland, wet forest, moist forest, dry forest, cold forest and subalpine. Habitat guild descriptions are included in the rare plants report located in the project file.

Existing Condition

Prefield Review and Field Survey Results

Pre-field review was conducted in 2006, but was cursory. Existing vegetation information indicated that there was low potential to support rare plants. Idaho Conservation Data Center (ICDC 2006) element occurrence records were reviewed, with no documented occurrences indicated near the project area. However, because the project area is relatively small, and because the proposed land conveyance would permanently remove the parcel from NFS lands, it was decided to survey the entire parcel to confirm lack of suitable rare plant habitat.

Field surveys for rare plants were completed in 2006. No rare plants were identified, and most of the parcel was found to have low potential to support any rare plant species. Marginal potential for occurrence of rare moist forest moonworts (*Botrychium* Sw. species) was found in the portion of the parcel that supports mature western hemlock/queencup beadlily habitat type. A copy of the field survey report is included in the project file.

Rare plant surveys have not been performed for the proposed collection line in the right-of-way of Forest Road 1399 and connections to the line across NFS lands, since the exact location of those disturbances is unknown at this time. There are no known rare plant occurrences in or near these areas of proposed disturbance; these areas appear to have low potential to support rare plants, based on cursory observations of the project botanist.

Rare Plants and Suitable Habitat that May be Affected by the Proposed Action

Rare Moonworts (Botrychium Sw. species)

Although no rare moonworts were found during the surveys, a portion of the parcel proposed for conveyance has marginal potential to support them. The habitat potential is considered to be marginal because, although the forest is considered mature, it is dominated by mesic western hemlock/queencup beadlily habitat types. Moist forest moonworts usually occur in western hemlock/wild ginger and wetter habitat types (ICDC 2006).

Moonworts are seedless vascular plants that reproduce from spores and underground rhizomes. Western goblin (*Botrychium montanum* W.H. Wagner) often occurs with other rare moonworts, usually in wet or moist forest habitat and/or near streams and in soils with well-developed mycorrhizae[1]. Mingan moonwort (*B. minganense* Vict.) and triangle moonwort (*B. lanceolatum*

[1]Mycorrhizae are symbiotic relationships between fungi and the roots of certain plant species. Although their ecology is poorly understood, it is apparent that mycorrhizal relationships enhance uptake of nutrients by the host plant (Allen 1991).

ssp. *lanceolatum* [S.G. Gmelin] Angstrom) may also occur with other rare moonworts in or adjacent to wet meadows, open disturbed areas and old roads. All rare moonworts are small in stature and often inconspicuous; in addition, aboveground stalks may not appear every year.

Because rare moonworts have a broader habitat range than other rare plants, and because they can be overlooked even during thorough floristic surveys, these species have the greatest potential for experiencing impacts from implementation of the proposed action.

Environmental Consequences

Methodology

Analysis was conducted using results of rare plant surveys and professional judgment and in consideration of the design criteria listed above.

Cumulative effects to rare plant species and suitable habitat from proposed activities are generally described as very low, low, moderate or high, with the following definitions:

- very low = no measurable effect on individuals, populations or habitat
- low = individuals, populations and/or habitat not likely affected
- moderate = individuals and/or habitat may be affected, but populations would not be affected, and habitat capability would not over the long term be reduced below a level which could support sensitive plant species
- high = populations would likely be affected and/or habitat capability may over the long term be reduced below a level which could support sensitive plant species

Analysis of cumulative effects considered the reasonably foreseeable development of the lagoons and land application treatment facility on the conveyed parcel, as well as current and past activities and events described above. The cumulative effects area is the project area, based on the limited scope of the proposed action and the overall low potential for occurrence of rare plant species or suitable habitat.

Direct, Indirect and Cumulative Effects of the Proposed Action

Threatened and Endangered Species

No endangered plant species are suspected to occur in the IPNF, and no threatened plant species are suspected to occur in Bonner County (USDI 2007a). There would be no direct, indirect or cumulative effects to any federally listed plant species.

Sensitive Plants and Forest Species of Concern

Habitat suitability was determined to be low for most rare plant species. There would be no direct, indirect or cumulative impacts to any documented rare plant species or suitable wet forest, dry forest, subalpine, cold forest, deciduous riparian, aquatic or peatland rare plant habitat from conveyance of the NFS parcel to the sewer district or reasonably foreseeable development of the lagoons and treatment facility on the conveyed parcel, since these habitat guilds do not occur in the project area. In addition, potential for occurrence of moist forest species other than moonworts was determined to be low; there would be no direct, indirect or cumulative impacts to moist forest species other than rare moonworts.

Undetected individual moonwort species may be impacted if disturbance occurs in the portion of the parcel that contains marginally suitable habitat for these species. However, this portion of the

parcel proposed for conveyance is not part of the area proposed for eventual construction of the lagoons and land application treatment facility.

Other areas addressed in this report include the proposed collection line to be placed within the right-of-way on Forest Road 1339 and connections to that line from recreation residences on NFS lands. No rare plant occurrences are documented along this road or near any recreation residences and cursory observations by the project botanist indicate low potential for their occurrence. Based on this observation and on the mitigation described above, it is unlikely that any rare plants would be directly or indirectly impacted by this disturbance.

Therefore, cumulative impacts to rare moonworts would be low (individuals or habitat not likely affected) to moderate (individuals or habitat may be affected but no trend to federal listing or loss of population or species viability would occur).

Direct, Indirect and Cumulative Effects of No Action

Under the No Action alternative, because the land conveyance, development of the lagoons and land application treatment facility and installation of the collection system would not occur, there would be no direct, indirect or cumulative effects to rare plants.

Compliance with the Forest Plan and Other Regulatory Direction

A Forest Plan management goal is to "manage habitat to maintain populations of identified sensitive species of animals and plants" (Forest Plan, II-1). A Forest Plan standard for sensitive species is to "manage the habitat of species listed in the Regional Sensitive Species List to prevent further declines in populations which could lead to federal listing under the Endangered Species Act" (Forest Plan, II-28). This standard meets the requirements of the National Forest Management Act (NFMA) of 1976, Section 6(g)(3)(B), by providing for diversity of plant communities based on the suitability and capability of the specific land area.

The Forest Plan also identifies the need to "determine the status and distribution of threatened, endangered and rare (sensitive) plants on the IPNF" (Forest Plan, II-18). The proposed conveyance area was surveyed with no rare plants found and low potential for their occurrence. The proposed action meets Forest Plan standards and guidelines for rare plants.

Across the Forest, suitable habitat for sensitive plant species appears to be well distributed. Approximately 705,000 acres have been identified as having the potential to support sensitive plant species in a wide array of plant communities. To date 98,290 acres (about 14 percent) of suitable habitat have been surveyed for sensitive plants (USDA 2004).

In 1998, sensitive species trends across the Forest were qualitatively assessed (USDA 1998, pp. 112-116). The trends for sensitive moonworts ranged from stable (*Botrychium lanceolatum* ssp. *lanceolatum* [S.G. Gmelin] Angstrom) to serious concerns for population and habitat decline over time (*B. montanum* W.H. Wagner). A conservation assessment for sensitive moonworts in the IPNF has been prepared (Evans and Associates 2005). A conservation strategy for sensitive moonworts in the IPNF is being prepared.

At the project level, and in accordance with Forest Service Manual (FSM) 2672.1-2672.43 and NFMA Section 6(g)(3)(E)(ii), the proposed conveyance parcel has been surveyed and the appropriate level of analysis conducted. In addition, required mitigation provides for additional rare plant surveys as needed for placement of the collection line in the right-of-way of Forest Road 1399 and connection of recreation residences to the collection line across NFS lands. There is overall low potential to support most rare plant species and only marginal potential to support rare moonworts.

There are no federally listed threatened or endangered species suspected to occur in Bonner County, Idaho (USDI 2007a). Therefore, the project is consistent with the Endangered Species Act (1973) as amended.

Wildlife

Introduction

This section discusses the potential effects to Threatened, Endangered, proposed and sensitive wildlife species, as well as Management Indicator Species (MIS) from the proposed action presented in this appendix.

Regulatory Framework

Threatened and Endangered species are managed under authority of the Federal Endangered Species Act (36 U.S.C. 1531-1544) and the National Forest Management Act (16 U.S.C. 1600-1614). The Endangered Species Act requires that federal agencies ensure all actions that they "authorize, fund, or carry out" are not likely to jeopardize the continued existence of any threatened or endangered species.

USDA Forest Service Policy (FSM 2670) requires a review of programs and activities, to determine their potential effects on sensitive species. The biological evaluation process is intended to analyze and document activities necessary to ensure proposed activities do not jeopardize sensitive species' continued existence or cause adverse modification of habitat.

The National Forest Management Act of 1976 (NFMA) directs Forests to select management indicator species (MIS) for emphasis in planning, and which are monitored in order to assess the effects of management activities on their populations and populations of other species with similar habitat needs which they may represent (FSM 2620.5). Relevant MIS are listed in table 13.10-1 below

Federally Listed Threatened, Endangered and Proposed Species

On January 22, 2007, the US Fish and Wildlife Service provided the Priest Lake Ranger District with a listing of threatened and endangered species that may be present within the planning area (No. 1-9-07-SP-0054(105.0100) (USDI 2007). The list is available at the Priest Lake Ranger District. Review of this list, combined with known species occurrence and habitat availability, indicates that grizzly bear (*Ursus arctos horribilis*) occurs within the project area and may be impacted by project activities. The gray wolf (*Canis lupus*) may occur within the project area, but is not anticipated to be affected by project activities. The woodland caribou (*Rangifer tarandus caribou*), bald eagle (*Haliaceetus leucocephalus*) and Canada lynx (*Lynx canadensis*) are not known to occur within the project area. These species are discussed in detail in the new biological assessment (BA) prepared for this appendix.

Region 1 Sensitive Species

On October 28, 2004 the Region 1 Regional Forester updated the sensitive species list for the Northern Region. Changes from the previous (1999) list include the addition of black swift (*Cypseloides niger*), pygmy nuthatch (*Sitta pygmaea*), and fringed myotis (*Myotis thysanodes*); and removal of black-backed woodpecker (*Picoides arcticus*), northern goshawk (Accipiter gentilis), and white-headed woodpecker (*Picoides albolarvatus*). However, on March 31, 2005 the Regional Forester issued a letter placing the black-backed woodpecker and northern goshawk

back on the Regional sensitive species list until further data collection and evaluation can be completed.

Affected Environment

The affected environment with regard to wildlife was described in the original EA on pages 71-74. Based on the changes to the sensitive species list noted above since the original EA was completed in 2002 (see below) and on further analysis by the Forest Service, table 4-8 on page 74 is superceded by table 13.10-1 below.

Species Screen

The Council on Environmental Quality (40 CFR 1502.2) directs that impacts be discussed in proportion to their significance. Threatened, endangered, and sensitive species and MIS were screened for relevancy and subsequent detailed discussion. The appropriate methodology and level of analysis needed to determine potential effects are influenced by a number of variables including presence of species or habitat, the scope and nature of the activities associated with the proposed action and risk to factors that could ultimately result in a meaningful adverse or favorable effect.

Species that do not occur or have suitable habitat in the project area (see table 13.10-1 below) will not be discussed further. Species that may occur and/or have suitable habitat in the project area but would not be impacted by the proposed action are briefly addressed below but will not be discussed in detail. Species not addressed in detail in this appendix are discussed in the wildlife biologist's new biological evaluation (BE) and biological assessment (BA) prepared for this appendix.

Species that occur or have suitable habitat in the project area and that may be affected by the proposed action are discussed in detail in this appendix. See table 13.10-1 below.

Table 13.10-1. Wildlife species to be considered with regard to potential effects of the proposed action. Species in bold text are addressed in detail in this appendix.

Species	Probability of occurrence in the project area	Species or habitat potentially affected?	Species further analyzed?
Threatened and Endangered Species			
Bald eagle (*Haliaeetus leucocephalus*)	Yes	No	No
Northern gray wolf (*Canis lupus*)	Yes	No	No
Grizzly bear (*Ursus arctos horribilis*)	**Yes**	**Yes**	**Yes**
Woodland caribou (*Rangifer tarandus caribou*)	No*	No	No
Canada lynx (*Lynx canadensis*)	No**	No	No
Sensitive Species			
Flammulated owl (*Otus flammeolus*)	No	No	No
Pygmy nuthatch *(Sitta pygmaea)*	No	No	No
Fringed myotis *(Myotis thysanodes)*	No	No	No
Black-backed woodpecker *(Picoides arcticus)*	**Yes**	**Yes**	**Yes**
Harlequin duck (*Histrionicus histrionicus*)	Yes	No	No
Northern goshawk (*Accipiter gentilis*)	**Yes**	**Yes**	**Yes**
Peregrine falcon (*Falco peregrinus anatum*)	No	No	No
Black swift *(Cypseloides niger)*	No	No	No
Common loon (*Gavia immer*)	No	No	No
Fisher (*Martes pennanti*)	**Yes**	**Yes**	**Yes**
Wolverine (*Gulo gulo*)	No	No	No

Species	Probability of occurrence in the project area	Species or habitat potentially affected?	Species further analyzed?
Northern bog lemming (*Synaptomys borealis*)	No	No	No
Northern leopard frog (*Rana pipiens*)	No	No	No
Townsend's big-eared bat (*Plecotus townsendii*)	No	No	No
Coeur d'Alene salamander (*Plethodon idahoensis*)	No	No	No
Western toad (*Bufo boreas*)	**Yes**	**Yes**	**Yes**
MIS			
Pileated woodpecker (*Dryocopus pileatus*)	**Yes**	**Yes**	**Yes**
American marten (*Martes americana*)	No	No	No
White-tailed deer (*Odocoileus virginianus*)	Yes	No	No
Others			
Forest land birds	**Yes**	**Yes**	**Yes**

*In 1998, three caribou were located to the north and then to the south of the project area; however, these were recently introduced animals that had less than one year of tenure in the ecosystem, and their movements and habitat use were considered not representative of the population as a whole.

**The project area is outside of any currently identified habitat for lynx. Unverified lynx observations have been documented adjacent to the proposed land conveyance parcel but not within the parcel.

Environmental Consequences - Species or Habitat Present but Not Likely Affected by the Proposed Action

This section briefly discusses those species that occur or for which habitat occurs in the project area but that would not be affected by implementation of the proposed action as presented in this appendix. A more detailed discussion of these species is presented in the biological evaluation (BE) and biological assessment (BA) prepared for this appendix.

Threatened and Endangered Species

Bald Eagle

The closest documented bald eagle nesting pair is the Bear Creek nesting pair, on the east side of Priest Lake. The home range for this nesting pair extends to the western shore of Priest Lake and is approximately 1.5 miles from the proposed conveyance parcel at its closest point. In addition, the parcel to be conveyed is approximately 400 meters from the Priest Lake shoreline and 150 meters from Granite Creek. Installation of the proposed collection system on NFS lands would not occur where bald eagles are known or suspected to nest, roost or perch. There are no documented bald eagle observations within the parcel to be conveyed and the parcel does not contain nesting, roosting or hunting perch habitats. Therefore, there would be **no effect** to bald eagles from implementation of the proposed action.

Northern Gray Wolf

Infrequent observations of pairs of individual gray wolves are documented approximately ten miles west of the project area, but evidence of pack activity or denning has not been established. The proposed land conveyance and installation of the collection system on NFS lands would not result in increased public access, so mortality risk to wolves would not change. No known den or rendezvous sites be impacted. There would be no impact to key big game habitat that could affect wolf prey numbers. Therefore, implementation of the proposed action would **not affect** gray wolves or wolf habitat.

Sensitive Species

Harlequin Duck

It was determined that harlequin duck habitat in Granite Creek would not be impacted as a result of the proposed land conveyance and installation of the collection system on NFS lands, so **no impacts** to the species would be expected to occur.

Management Indicator Species (MIS)

White-tailed Deer

The proposed land conveyance area is used regularly by white-tailed deer during the most of the year. However, winter snowpack and the terrain in the area largely prevent white-tailed deer use during this time. Because the availability of wintering habitat is a critical habitat component for the species, the management for white-tailed deer habitat largely considers impacts to wintering habitat only. The proposed land conveyance area is not considered as critical winter habitat for white-tailed deer. With the small amount of habitat involved and the fact that critical wintering habitat does not exist within the land conveyance area, the proposed action would have no notable impacts on wintering white tailed deer, their habitat, or their viability, and, consequently, no further analysis is needed for the species.

Environmental Consequences - Species or Habitat Present that May Be Affected by the Proposed Action

This section discusses in detail those species that occur or for which habitat occurs in the project area and that may be affected by implementation of the proposed action as presented in this appendix. The effects of the reasonably foreseeable development of the lagoons and land application treatment on the parcel to be conveyed on federally listed species, sensitive species and MIS were addressed in the original EA, with concurrence by US Fish and Wildlife Service (FWS Reference 1-9-02-I-0572). As well, the effects of the reasonably foreseeable Lakeview-Reeder Fuel Reduction Project will be in compliance with existing direction for management for endangered, threatened, sensitive and other wildlife species known or anticipated to occur within the Lakeview-Reeder Fuel Reduction Project.

Threatened and Endangered Species

Grizzly Bear

Reference Condition and Habitat Requirements

The grizzly bear was listed as a threatened species by the US Fish and Wildlife Service in 1975. In 1982, the Selkirk Mountains were identified as a grizzly bear recovery area. Grizzly bears were originally distributed in various habitats throughout western North America. Today, they are confined to less than two percent of their original range and are represented in five population centers south of the Canadian border. These populations occur in what are identified as grizzly bear ecosystems. The Selkirk Mountains ecosystem of northeastern Washington, northern Idaho, and southeast British Columbia is one of these grizzly bear ecosystems. This grizzly bear recovery area includes an area within adjacent British Columbia as part of the overall area identified as necessary to achieve recovery of grizzly bears within this ecosystem.

Grizzly bears are habitat generalists, meaning that they will be found over a variety of habitats and conditions. Certain types of habitats - such as wet meadows in the spring, riparian areas

year-round, and berry fields in the summer - experience proportionally higher use than others. Grizzly bears tend to avoid human contact, with the exception of during the early season or spring. During this timeframe, bears may sometimes compromise their natural avoidance of humans because of the high nutritional demands that they experience following the winter denning period. This is especially true for females with cubs, which have a higher nutritional requirement.

Controlling/directing motorized access has been an important tool in managing for grizzly bear recovery. By managing motorized access, certain objectives can be achieved, such as minimizing human interactions and potential grizzly bear mortality; reducing displacement from important habitats; and minimizing habituation to humans.

Core area habitat is identified as being free of motorized access during the non-denning period. Core habitat is an important component for adult female grizzly bears that have successfully reared and weaned offspring (IGBC 1994). Research conducted on four female bears within the Selkirk ecosystem showed a selection for core over non-core habitat by three of the four bears and a significant selection for core habitat by two of the female bears (Wakkinen and Kasworm 1996).

Grizzly bear core habitat is identified as areas greater than 500 meters or 0.3 miles from any road or trail that received motorized use during the non-denning period. Motorized trails and high-use trails are also considered as resulting in a reduction in the amount of core habitat for grizzly bears. The amount of core habitat reduced as a result is similar to the deduction taken for open or restricted roads, which is 500 meters from either side of the trail prism. High use recreational trails are defined as trails where the recreational use averages 20 parties per week over the grizzly bear season (i.e. spring, summer or fall). A party is defined as one or more individuals traveling together.

Environmental Baseline

The proposed land conveyance is outside of the designated grizzly bear recovery area or any areas that have been identified as being occupied by grizzly bears throughout the year. Grizzly bears have been documented within close proximity to the proposed land conveyance throughout the non-denning season, with the majority of the sightings occurring during the spring season.

Grizzly bear occurrence is not uncommon within the proposed land conveyance and surrounding areas. The first grizzly officially documented was in the vicinity of Bismark Meadows, which is approximately four miles west of the project area. This first documentation was of bear #867 in 1983; in subsequent years that bear made repeated visits to the area depending on her status (with young of the year or with older cubs) and based in the severity of the previous winter. That bear was first reported by a resident living within the Bismark Meadows area; she was observed feeding on some pet food that had been left outside of the residence. This same bear had been observed feeding during the spring season on livestock carrion that had been ‘bone yarded’ within a timbered area on the south side of the meadow. In 1983, the bear was killed illegally in the Willow Creek drainage by an elk hunter.

In 1995, a subadult male grizzly bear was involved in a series of incidents involving improperly kept garbage, food and roadside carrion, all within the Nordman, Idaho area approximately two miles west of the proposed land conveyance. This bear was trapped, radio-collared, relocated and released farther to the north; it then returned to the general area, where it was illegally killed by an Idaho bear hunter illegally hunting in Washington.

In 2004, an adult male grizzly bear was reported as being ‘human habituated’ and residing in constant close proximity to residences within the Granite Creek drainage immediately north of

Nordman. In further discussions with residents that live within this area, it became apparent that this bear had also potentially become conditioned to human foods and landscape plantings such as clover (*Trifolium* spp.). This bear was trapped, radio-collared, relocated and released over twenty miles to the north in September 2004; it returned to the Nordman area after several days.

Use of the adjacent area by other grizzly bears has also been well documented. In addition to use documented through relocation of radio-collared bears, grizzly bears have been documented using the Bismark Meadows area especially during the spring season, the Reeder Lake area, Lower Granite Creek during the spring and fall seasons and Watson Mountain during the spring and fall seasons.

The proposed land conveyance is embedded within a landscape of low-elevation mesic timber and riparian habitats that are commonly used by grizzly bears during the spring season. During the spring season these habitats tend to produce an early spring 'green-up' that provides bears with protein-rich forage, which is essential following the long denning period.

Analysis of Effects and Determination of Effects

Effects of the Proposed Action

The proposed land conveyance would reduce the availability of currently occupied spring habitat by 80 acres. The conveyance and subsequent development of the sewage treatment facility would transform the 80-acre parcel from a wooded habitat to a fenced facility, which would exclude use by bears. Because the conveyance would not result in increased levels of bear attractants (improperly managed food, garbage or fruit trees and compost, all of which are associated with residential developments), grizzly bear mortality risk would not be measurably increased. No effects to grizzly bear are expected from installation of the collection system on NFS lands because most of the disturbance would occur in existing road rights-of-way. Therefore, it was determined that, although this activity **may affect** grizzly bears through the loss of habitat, it is **not likely to adversely affect** grizzly bears.

Effects of No Action

Under the No Action alternative, the proposed land conveyance, development of the sewage treatment facility and installation of the collection system would not occur. Because there would be no change in current land use and no new disturbance in the project area, no effects to grizzly bears would be expected to occur.

Sensitive Species

Black-backed woodpecker

Black-backed woodpeckers (*Picoites arcticus*) are considered forest specialists (exploiting recent forest fires), experiencing local population increases and temporary range extensions resulting from fire or insect/disease outbreaks that increase populations of wood-boring insects. While populations are irruptive in response to beetle outbreaks connected to recent fires, source habitats include late-seral forests (Wisdom et al. 2000). Forests that contain patches of beetle-infested trees may provide adequate habitat to support baseline populations of black-backed woodpeckers when burned areas are not available (Montana Partners in Flight 2000). Black-backed woodpeckers tend to move from area to area as suitable habitat develops (recent fires, insect infestations).

The proposed 80 acre land conveyance area contains approximately 34 acres of mature forest that are considered suitable habitat for this species.

Effects of the Proposed Action

As mentioned above, the proposed 80 acre land conveyance area contains approximately 34 acres of mature forest that are considered suitable habitat for this species. Development of the proposed sewage treatment facility would likely result in some impact to suitable habitat either through development or through snag removal for safety purposes. The remaining 46 acres that are considered capable habitat would likely not develop into suitable habitat for similar reasons.

The proposed land conveyance would potentially reduce the availability of suitable habitat in the form of snag habitat mature timber. However, ample suitable habitat for this species is available throughout the Granite and Reeder Creek drainages and allows black-backed woodpeckers to maintain populations at low endemic levels. Samson (2005) concluded that short-term viability of the black-backed woodpecker in the Northern Region is not an issue because:

1. No scientific evidence exists that the black-backed woodpecker is decreasing in numbers.
2. Increases in the extent and connectivity of forested habitat have occurred since European settlement.
3. The amounts of small and mid-size trees have increased since European settlement.
4. Well-distributed and abundant black-backed woodpecker habitat exists on today's landscape.
5. The level of salvage timber harvest or overall timber harvest of forested landscapes in the Northern Region is insignificant.

No impacts are expected from installation of the collection system on NFS lands because most of the disturbance would occur in existing road rights-of-way. Consequently, the proposed action **may impact individual black-backed woodpeckers or habitat, but would not likely contribute to a trend toward federal listing or cause a loss of viability to the population or species.**

Effects of No Action

Under the No Action alternative, the proposed land conveyance, development of the sewage treatment facility and installation of the collection system would not occur. Because there would be no change in current land use and no new disturbance in the project area, no impacts to black-backed woodpeckers would be expected to occur.

Fisher

Fishers (*Martes pennanti*) are low-density forest carnivores, occurring most commonly in landscapes dominated by late-successional forests with complex forest structure and high canopy cover, especially in riparian areas (Ruggiero et al. 1994). While summer use is generally restricted to mature and old-growth grand fir and spruce forests, winter use can also include Douglas-fir and lodgepole pine forests in a variety of successional stages (Jones 1991, Heinemeyer and Jones 1994). Although fishers are normally tolerant of human activities, relatively effortless human access to occupied areas may negatively affect fisher populations, as this species is easily trapped.

The proposed 80-acre land conveyance area contains approximately 34 acres of suitable habitat for fishers. The balance of the land area is considered as capable habitat, but not suitable because of the young forest condition. Creditable fisher sightings were documented approximately five miles to the west of the proposed land conveyance area in 1994 and 1995.

Effects of the Proposed Action

The land conveyance and subsequent development would likely result in 34 acres of currently suitable habitat being negatively impacted. The development of the proposed sewage lagoon and associated other structures would result in the permanent loss of capable habitat.

Approximately 34 acres of currently suitable fisher habitat would be impacted by this proposal. No impacts to fishers or suitable habitat are anticipated from installation of the collection system on NFS lands because most of the disturbance would occur in existing road rights-of-way. Consequently, the proposed action **may impact individual fishers or habitat, but would not likely contribute to a trend toward federal listing or cause a loss of viability to the population or species.**

Effects of No Action

Under the No Action alternative, the proposed land conveyance, development of the sewage treatment facility and installation of the collection system would not occur. Because there would be no change in current land use and no new disturbance in the project area, no impacts to fishers would be expected to occur.

Northern Goshawk

Northern goshawks (*Accipiter gentilis*) use a wide variety of forest age classes, structural conditions, and successional stages, inhabiting mixed coniferous forests in much of the northern hemisphere (Reynolds et al. 1992). Throughout North America, goshawk nest sites have consistently been associated with the later stages of succession (mature and old growth trees) and with moderate to high tree densities located near the bottom of hillsides on moderate slopes (Hayward and Escano 1989, Squires and Reynolds 1997, Graham et al. 1999). Foraging habitat includes a wider range of forest age classes and structures that provide a relatively open forest environment for unimpeded movement or flight through the understory.

The proposed 80 acre land conveyance area contains approximately 34 acres of suitable habitat for this species, although no known nesting territories overlap the project area. The development of the proposed sewage treatment facility and 80 acres of conveyed land would likely result in the long-term loss of suitable nesting habitat for this species. However, foraging habitat values would likely be maintained and most acres with the exception of the sewage lagoon and other developed structures. The remaining 46 acres that are considered capable habitat would likely not develop into suitable nesting habitat for similar reasons.

A preliminary conservation assessment of the species concluded that "identification of territories reflects surveys conducted on only a small portion of all lands managed by the Forest Service in the Northern Region" and that "every reason exists to believe additional nests would be located if systematic surveys were conducted… (USDA 2004) ". While the northern goshawk has been placed back on the USFS Region 1 sensitive species list pending further evaluation of its status, at the time of listing the Region did not believe that goshawk were warranted to be placed on this list due to their rankings by the states of Montana and Idaho as S3 and S4 (indicating the species are not at risk) and their national ranking of G5 (globally secure, abundant and widespread). Samson (2005) concluded that short-term viability of the goshawk in the Northern Region is not an issue because:

1. No scientific evidence exists that the northern goshawk is decreasing in numbers.
2. Increases in the extent and connectivity of forested habitat have occurred since European settlement.
3. Well-distributed and abundant northern goshawk habitat exists on today's landscape.

4. Level of timber harvest in the Northern Region is insignificant.
5. Suppression of natural ecological processes has increased and continues to increase amounts of northern goshawk habitat.

Samson (2005) goes on to state that "habitat is abundant for the northern goshawk in the Northern Region and by Ecological Province and by National Forest."

Effects of the Proposed Action

Approximately 34 acres of currently suitable nesting habitat would be impacted by this proposal. No known nesting territories would be impacted. Goshawk foraging habitat would likely maintained on a portion of the land area. No impacts from installation of the collection system on NFS lands are expected to occur because most of the disturbance would occur in existing road rights-of-way. Consequently, the proposed action **may impact individual northern goshawks or habitat, but would not likely contribute to a trend toward federal listing or cause a loss of viability to the population or species.**

Effects of No Action

Under the No Action alternative, the proposed land conveyance, development of the sewage treatment facility and installation of the collection system would not occur. Because there would be no change in current land use and no new disturbance in the project area, no impacts to northern goshawks would be expected to occur.

Western Toad

Western toads (*Bufo boreas*) have been documented traveling more than 4 km from aquatic habitats following the breeding season, so new road construction and the use of mechanized equipment on existing roads and skid trails could present a potential mortality risk to this species.

No aquatic breeding habitat exists within the proposed land conveyance area.

Effects of the Proposed Action

Because no breeding habitat occurs in the proposed land conveyance area, no impact to western toad breeding habitat would occur. As western toads are often found outside of breeding habitat, impacts to toads may occur during the development of the proposed sewage treatment facility on the conveyed parcel, and during installation of the collection system on NFS lands, although these impacts are anticipated to be minor. Although implementation **may impact individual western toads or habitat, it would not contribute to a trend toward federal listing or cause a reduction of viability to the population or species.**

Effects of No Action

Under the No Action alternative, the proposed land conveyance, development of the sewage treatment facility and installation of the collection system would not occur. Because there would be no change in current land use and no new disturbance in the project area, no impacts to western toads would be expected to occur.

Management Indicator Species (MIS)

Pileated Woodpecker

Pileated woodpeckers (*Dryocopus pileatus*) nest in mature and old-growth forests and in other stands that contain remnant large trees and snags. Dead trees are preferred over live trees for

nesting and roosting, and nest trees are usually over 25 inches in diameter in stands with at least 60 percent canopy cover (Bull et al. 1990; Bull and Holthausen 1993). Most foraging occurs in logs and dead trees at least six inches in diameter, although large diameter (greater than 12 inches) dead wood is used most frequently (Bull et al. 1990). Pileated woodpeckers use a wider variety of forest conditions for foraging than for nesting, so the availability of nesting habitat is considered a limiting factor for the species. This species was selected as a MIS because its highest densities occur in old-growth forests and because it needs large dead trees for nesting and dead woody material (standing and down) for foraging (Bull et al. 1990).

Effects of the Proposed Action

Only a small amount of suitable habitat would be impacted, compared to the large amount of suitable habitat that is available within the Granite and Reeder Creek drainages. Samson (2005) concluded that short-term viability of the pileated woodpecker in the Northern Region is not an issue because:

1. No scientific evidence exists that the pileated woodpecker is decreasing in numbers.
2. Increases in the extent and connectivity of forested habitat have occurred since European settlement.
3. Well-distributed and abundant pileated woodpecker habitat exists on today's landscape.
4. Level of timber harvest in the Northern Region is insignificant.

Since there would be no reduction of pileated woodpecker nesting habitat and no impacts to old growth habitat, the proposed activities would **not be likely to cause a local or regional change in habitat quality or population status of pileated woodpecker.**

Effects of No Action

Under the No Action alternative, the proposed land conveyance, development of the sewage treatment facility and installation of the collection system would not occur. Because there would be no change in current land use and no new disturbance in the project area, no effects to local or regional habitat quality or population status of the pileated woodpecker would be expected to occur.

Other Species

Forest Land Birds

While all birds are important for their roles in the ecosystem, not all birds and habitats experience the same threats to their persistence. Idaho Partners in Flight (IPF) has identified and prioritized four habitats that represent species of moderate to high vulnerability, and species with declining or uncertain population trends (Idaho Partners in Flight 2000). These prioritized habitats include the following:

1. riparian habitat
2. non-riverine wetlands
3. sagebrush shrub
4. dry ponderosa pine/Douglas-fir/grand fir forests

Effects of the Proposed Action

Implementation of the proposed action presented in this appendix would not reduce priority habitats. Therefore, the proposed activities would **not contribute to measurable declines in forest land bird populations.**

Effects of No Action

Under the No Action alternative, the proposed land conveyance, development of the sewage treatment facility and installation of the collection system would not occur. Because there would be no change in current land use and no new disturbance in the project area, no reduction in priority habitats would be expected to occur.

Aquatics

Introduction

This section discusses the potential effects to streams, rivers and wetlands from implementation of the proposed conveyance of 80 acres of NFS lands to Granite Reeder Sewer District and the direct, indirect, and cumulative effects of installation of the collection system (sewer pipe and on-site grinder pumps) on NFS lands. Conveyance of NFS lands is described under FSH 5409.13, section 33.43, which describes the scope of specialists' reports as they are related to property exchange or conveyance. The topics that are specific to hydrology are floodplains, wetlands and water rights.

This report also clarifies information on water resources in the Granite Reeder Water and Sewer District Environmental Assessment (EA) prepared for the Environmental Protection Agency by Welch Comer and Associates, Inc. in 2002. See the aquatics report in the project file for more detailed information.

Regulatory Framework

Forest Plan Standards

The IPNF Forest Plan (1987) outlines standards and goals that meet or exceed State water quality standards (IPNF Forest Plan, p. II-33). The Forest Plan requires implementation of project-level standards and guidelines to protect water quality. Many of these standards and guidelines are contained in the Soil and Water Conservation Practices Handbook (FSH 2509. 22) and include those measures defined by State regulation or agreement between the State and FS.

Clean Water Act

The Clean Water Act (P.L. 92-500, enacted in 1972 and amended in 1977, 1981 and 1987) is the primary federal law that protects the nation's waters, including lakes, rivers, aquifers and coastal areas. The Act's primary objective is to restore and maintain the integrity of the nation's waters.

Through the Clean Water Act, each state is required to provide guidance and direction to protect and restore water bodies (40 CFR § 131.12). The State of Idaho has met this federal requirement through their Best Management Practices (BMPs). The FS is required to meet and/or exceed State Best Management Practices to protect water quality (Forest Plan, p. II-33).

Beneficial uses and water quality standards are usually specific to a particular water body. The "water quality criteria" for determining whether a beneficial use is being attained are set out in IDAPA, 58.01.02.250 ("Surface Water Quality Criteria for Use Classifications"). None of the

streams within this analysis area are specifically listed in IDAPA 58.01.02.250; they are considered "Undesignated Surface Waters" (see the aquatics report in the project file; refer to the following URL for more information: http://adm.idaho.gov/adminrules/rules/idapa58/0102.pdf).

The Forest Service is required by law to comply with state water quality standards developed under the Clean Water Act as stated above. The Environmental Protection Agency (EPA) and individual States are responsible for enforcement of these standards. State of Idaho BMPs were developed under authority of the Clean Water Act to ensure that the States' waters do not contain pollutants in concentrations that adversely affect water quality or impair a designated use. State-recognized BMPs that would be used during project design and implementation on NFS lands are contained in the project file.

Executive Orders

Two Executive Orders govern how the USFS should proceed with land sales that could affect floodplains and/or wetlands. Prior to any exchange or sale of wetlands and/or floodplains, the goals of Executive Orders 11988 and 11990 must be met.

- To meet the goals of Executive Order 11988, the exchange must not increase flood hazards and must preserve the floodplain functions. These functions include the ability to dissipate flood flows and moderate flood peaks.
- To meet the goals of Executive Order 11990, the exchange must preserve wetland functions. These functions may include the ability to produce abundant and diverse wildlife and fish habitat, buffer water quality, recharge ground water and socio-economic benefits.

Affected Environment

The area evaluated for effects to water resources includes the lower-most reaches of Reeder Creek and Granite Creek and a swath of land between the two streams that runs along the shoreline of Priest Lake. This cumulative effects area is part of the larger Granite Reeder Sewer project area.

Reference Materials

As part of this hydrologic review, a wide variety of references was used including but not limited to the following: FS GIS layers (soils, landtypes, aerial photos, etc), FEMA floodplain mapping, Bonner County Zoning rules and regulations, FS Handbooks FSH 5409.13 (Land Exchanges) and FSH 2527, the existing Granite Reeder Environmental Assessment by Welch Comer, the Geotechnical Report from STRATA, Inc, Conditional Use Permit authored by Welch Comer (dated 1-7-2007), DEQ staff, FS Staff, brief field review and past technical research reports that were completed with a focus on this general area (DEQ, 1997, DEQ 2001 and McHale 1995).

Water Resources

Reeder Creek

This watershed includes 8,454 acres that is largely managed by the FS. The mainstem of Reeder Creek is listed as a 303 D stream for stream temperature in the integrated report for 2002 TMDL2. According to the DEQ's 2002 303(d) list, the stream does not fully support salmonid

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2 http://www.deq.state.id.us/water/data_reports/surface_water/monitoring/integrated_report_2002_final_sec5.pdf.

spawning and coldwater biota (DEQ 2005). A DEQ study from 1995 was highlighted in a 2001 DEQ report. On page 96, of the 2001 DEQ report, it is suggested that fecal coliform bacteria counts are borderline too high near the mouth of Reeder Creek.

Geologically the Reeder Creek watershed was heavily influenced by glaciation. The headwaters of the basin flow into Bismark Meadows, which was likely an ancient lacustrine lake. During the spring, Reeder Creek floods Bismark Meadows, and slowly this nutrient-enriched water is released downstream to Priest Lake. The lower reaches of Reeder Creek cut through glacial outwash in a relatively narrow stream bottom.

Granite Creek

This drainage is one of the larger tributaries to Priest Lake and includes about 67,000 acres. Like Reeder Creek, this basin was markedly influenced by glaciation; it too is listed as a TMDL stream for temperature. The 2001 DEQ report (page 158) indicated that water quality tests for fecal coliform bacteria counts in Granite Creek were well within standards.

Priest Lake

Priest Lake is an oligotrophic lake that covers 23,300 acres. The eastern shoreline of the Priest Lake Basin under public ownership is largely managed by the Idaho Department of Lands, whereas the public land on the western shoreline is managed by the FS. Around Priest Lake, roughly 25 percent of the land is privately owned.

Geology and Soils

Geology and Soils of the Land Conveyance Parcel

The parcel proposed for conveyance is located on an outwash plain. This plain was likely deposited during the time of glaciation. The terrain is extremely flat and underlain with granitic sands, cobbles and occasional boulders. Soils are identified under the landtype map as map unit 155. This map unit contains low to mid elevation stream terraces and outwash plains underlain by metasedimentary or granitic rocks. Substratum materials are alluvium and outwash.

The dominant soil has a surface layer of volcanic ash 14 to 18 inches thick with 5 to 15 percent rock fragments. Subsoils are very sandy and have 10 to 70 percent rock fragments. Once this landtype is disturbed to the point that the surface layers are compromised, the site loses its moisture holding capacity and may be difficult to revegetate. Undisturbed, these landtypes are very productive for timber.

In the winter of 2006, STRATA, Inc. conducted 27 borings to document soil conditions as part of the proposed Granite Reeder Sewer District Project. As part of this effort, five of the 27 boring sites were located within the parcel proposed for conveyance. All of the drilling reports were reviewed, and the data found the same soil data that were described in the FS Landtyping Descriptions provided above.

On February 13, 2007, Jim Nieman, FS Geotechnical Engineer, submitted a report documenting the hydrogeology of the proposed area (Nieman 2007). Nieman's report confirmed that the parcel is underlain with a mix of glacial and alluvial deposits. The aquifer in the area was classified as "unconfined with the groundwater being found primarily in consolidated glacial outwash deposits".

Geology and Soils of the Granite Reeder Sewer District

The underlying geology is dominated by glaciated granitics. The past glaciers left behind low gradient outwash plains and morainal features such as the low rising hills. The soils are capped with a layer of Mt. Mazama ash that greatly enhances the soil productivity. The substratum of most of the area is a mix of sand and cobbles, and infiltration is very high.

Floodplain Determination of the Land Conveyance Parcel

In accordance with Executive Order 11988, the conveyance of the 80-acre parcel was assessed for potential affects to floodplain functions. Three sources were consulted regarding floodplain determination: the IPNF Landtype Map, the FEMA floodplain map and the Welch Comer Channel Cross Section map (dated 2-13-07). Methodology for determining "Q100 value" was derived from Dunne and Leopold (1978). See the aquatics report in the project file for a detailed description of how these sources were used. What follows is a summary:

- According to the IPNF landtype map, the entire 80-acre parcel is located on a landform grouping titled “Floodplains, meadows and stream terraces” (see the project file).
- According to FEMA maps (see the project file), the proposed parcel is located in Zone D, known as an “undetermined floodplain”. The official definition of Zone D from the FEMA website (http://www.fema.gov/plan/prevent/fhm/fq_gen13.shtm) is as follows:

  ”The Zone D designation is used for areas where there are possible but undetermined flood hazards. In areas designated as Zone D, no analysis of flood hazards has been conducted. Mandatory flood insurance purchase requirements do not apply, but coverage is available. The flood insurance rates for properties in Zone D are commensurate with the uncertainty of the flood risk.”
- To refine the actual potential of the project to affect the floodplain function, the Welch Comer Granite Creek Cross section data were studied to compare the vertical elevation of Granite Creek to that of the sewage lagoons, and to determine the "Q100" value (the predicted stage height of the creek during a 100-year flood event) relative to the depth to which the lagoons would be dug. The project hydrologist determined that there is little chance that the mainstem of Granite Creek would reach the lagoons.

Based on the above methodology, it appears that, while the FS landtype mapping suggests it may be within an ancient floodplain, *the parcel to be conveyed is not located within an active floodplain*.

Wetlands

In accordance with Executive Order 11990, the conveyance of the 80-acre parcel was assessed for potential effects to wetland functions. A review of the United States Fish and Wildlife Service Maps show that the *proposed project would not affect any wetlands*. A map of the identified wetlands in the larger project area is located in the project file. The website for wetlands may be found at http://wetlandsfws.er.usgs.gov/wtlnds/launch.html.

Hydrogeology of Granite-Reeder Area, with Emphasis on the Land Conveyance Parcel

The 80-acre parcel proposed for conveyance is not located on an active floodplain, but it is located on an outwash plain that overlays a portion of the Granite Reeder aquifer. Several sources were consulted in evaluating the hydrogeology of the Granite Reeder Area. Those sources included two DEQ reports from 1997 and 2001; a Masters Thesis by McHale 1995; well

logs presented by STRATA, Inc and the Idaho Department of Water Resources well log records (see the project file).

Based on those data sources, it appears that static water levels in the project area are shallower near the lake than they are away from the lake. The varying depths of static water levels are attributed to the depth of outwash over the existing aquifer. The static ground water levels in the area north of Granite Creek (near the 80 acres parcel) are generally deeper than 20 feet as one moves away from the shoreline (DEQ 2001). The Priest Lake Ranger District hydrologist did not find any well logs from the 80-acre parcel, but given the flat topography, it was assumed that the groundwater, in the vicinity of the proposed lagoons, is a minimum of 20 feet deep and perhaps deeper as one moves away from the lakeshore. This information would be further refined now that STRATA, Inc. has established the monitoring wells.

Domestic Water Sources near the Land Conveyance Parcel

Using a web search, eighty single family domestic wells were located in Sections 16 and 17 (http://www.idwr.idaho.gov/water/well/search.htm). Additionally, a search of the water rights in Sections 16 and 17 found six and four water rights, respectively. A tabular listing and a map showing the existing water rights of the larger analysis area are in the project file.

In reviewing the Bonner County Planning rules and regulations and the state of Idaho rules and regulations, there are no specific setbacks or zones for activities near "single domestic wells". Rather, the focus of the county's rules and regulations is on protecting "public wells" that serve ten or more connections or those wells serving 25 connections for six months out of the year. For the state of Idaho, the focus is upon protecting beneficial uses reliant on the water body. The State of Idaho has specific guidelines that that define buffer zones for sewage treatment sites (see page 16 of the original EA). For example, domestic wells must be buffered by 500 feet and homes must be buffered by 300 feet. According to page 80 of the original EA, nine Public Water Systems are located within the larger Granite Reeder Sewer District.

According to the calculation provided by the DEQ 1995 report (page 61), the movement of groundwater in the vicinity of the proposed sewage lagoons is about 2.0 feet/day. Therefore, over the course of two years, the movement would total 730 feet and over five years, the movement would total 3,650 feet (about 0.7 miles).

Septic Systems

Currently there is no centralized sewage treatment facility for this portion of the Priest Lake Basin. Many of the almost 400 plus homes/cabins in the area of Granite Reeder were built prior to 1971. The ground water table in the general Granite Reeder Area is high, as close as three feet to the surface, and the soils are highly permeable sand and gravel. Within this area, existing drain fields are as close as 50 feet from the lake, and there is minimal opportunity for effective soil treatment of phosphorous and nitrogen. Despite what appears to be a high risk for water contamination, there are no known studies documenting widespread contamination of the water resources from the existing septic systems.

Environmental Consequences

No Action

The current sewage treatment in the Granite Reeder area has an elevated risk of contaminating both groundwater and surface water resources. The risk is elevated for several reasons, including

1. proximity of the existing sewage leach fields to domestic water sources, which increases the risk of contamination of the domestic water sources
2. the lack of regular inspection and lack of monitoring for both the sewer systems and domestic water sources and
3. the age of the existing facilities, which increases the risk of failure

If the No Action alternative were implemented, the risk of contamination from raw sewage to the domestic water sources and surface waters would remain high.

Proposed Action

Methodology

The Environmental Effects Analysis of the proposed action used the wide variety of references presented previously in the EA. The following narrative describes possible direct and/or indirect effects to water resources from implementation of the proposed action presented in this appendix. The potential cumulative effects of the proposed action are then discussed. See the aquatics report in the project file for a more detailed discussion.

The primary activities associated with this proposal include the actual conveyance of 80 acres of NFS lands, development and operation of two sewage lagoons and an aerial application treatment facility of the conveyed parcel, and installation of a collection system (transmission lines and grinder pumps) on NFS lands. According to the Storm Water Pollution Controls portion of the Conditional Use Permit Application authored by Welch Comer, there are specific BMPs that would be followed (see the project file) to protect water quality. The Welch Comer Storm Water Plan focuses upon three aspects of pollution controls: 1) Erosion and Sediment Controls, 2) Soil Stabilization and 3) Structural Controls.

Direct and Indirect Effects

Conveyance of the Federal Parcel and Subsequent Lagoon Construction

Once the federal parcel is conveyed to the Granite Reeder Sewer District, there would be no direct/indirect effects to federal water resources from the construction of the lagoons. Once the lagoons are constructed and are operational, the risk of lagoon failure is very low. If one of the lagoons were to fail, and if the failure were not detected in a timely manner, groundwater could be adversely affected.

Installation of Collection System within the Right of Way of Forest Road 1399 and on other NFS lands

Although exact locations were not available for evaluation, approximately 7,455 feet of 6-inch diameter sewer line would be placed in the right of way along Forest Road 1399. It is likely that these trenches would be dug in the existing ditchlines and buried about six feet deep.

Nine FS Recreational Residences would be served by the proposed Granite Reeder Sewer system. To allow these recreational residences to access the system, the District would require the placement of grinders, 1,968 feet of 2 inch diameter sewer line and installation of electrical lines. The plan is to bury these sewer lines about 4.5 feet deep by digging trenches and the electrical lines approximately 36 inches deep. Exact locations for the grinder placement and sewer lines were not available for evaluation; however, BMPs will be applied to these sites as they are developed.

Sewer lines would be constructed to access Elkins Resort for 1,673 feet. The sewer lines to Ledgewood Day Use area and Reeder Bay Campground would total 984 feet. Electrical lines would be installed as needed to each grinder.

Application of site-specific BMPs as detailed above under the Proposed Action section of this appendix would prevent adverse direct/indirect impacts during the digging of the trenches within the road ROW.

Aerial Application (Sprinklers and Drip Irrigation)

Aerial application would begin in the springtime, with the arrival of warmer weather. During this warmer time of year, the sewer district would begin its land application which would include both sprinklers and drip irrigation. The application rates would not exceed the site's transpiration rates. Whatever the vegetation does not take up, natural evaporation would then take over. No land application would take place when vegetative uptake would be reduced or infiltration would be exceeded (e.g. when the plants weren't actively growing, or when the ground was puddled, or when it was raining). All effluent that would be applied to the land would be treated through disinfection and then aeration.

In essence, the concentrations of coliform bacteria that are land applied would be significantly lower than what is permitted in swimable waters (http://adm.idaho.gov/adminrules/rules/idapa58/0102.pdf). With the highly sandy soil substrate, it is more probable that the soil microbes would more successfully be able to breakdown any residual e-coli that is applied to the land.

There would be no direct/indirect effects to federal water resources from the properly functioning sprinklers or drip irrigation systems. The risk of failure for this type of system is extremely low. However, if the aerial application did fail and exceeded the capacity rates, water resources on federally managed lands could be adversely impacted.

Installation of Sewer Line across Intermittent and Perennial Streams

Intermittent Streams

Field surveys for this project were limited. However, relying on the specialist's familiarity with the area, there is at least one known intermittent stream that would require protection during the trenching process. This stream is located on the southern end of the Ledgewood Day Use area, where it flows directly into Priest Lake. Site-specific design features as described above under the Proposed Action section of this appendix would prevent damage to the stream and the crossing.

Year Round Streams

Granite Creek: The Granite Creek crossing is not located on NFS lands and the FS does not have jurisdiction over installation of the sewer pipe there. Forest Service specialists have suggested design criteria for this crossing similar to the design criteria required for the Reeder Creek crossing to the Sewer District. The EA analyzed the potential for impacts to wetlands, surface waters and ground water and determined that, if proper BMPs are followed, contamination of surface waters associated with the stream crossings is unlikely (see pages 86-87 and 98-99 of the EA).

Reeder Creek: The design criteria specified above for construction of the transmission line across Reeder Creek would render breakage of this line and delivery of sewage effluent into Reeder Creek unlikely (see the project file).

When properly functioning, the sewer line crossing the intermittent and year round streams would have no direct or indirect effects.

Cumulative Effects

The proposed activities focus on the development of a fully functioning sewer treatment facility, where currently no such facility exists. The terminus of the effects analysis is the shoreline of Priest Lake.

As stated in the introduction of this narrative, the primary concerns with this project related to aquatic resources are sediment delivery and nutrient enrichment to any of the surface or ground water within the cumulative effects analysis area. If the Granite Reeder Sewer Project progresses and no problems arise, then there would be no cumulative effects. Though the risk of failure is very low, in the event any one aspect of this project fails, there could be adverse cumulative effects.

There is a minimal risk of sediment delivery to water associated with the proposed action. With the proposed BMPs identified in the Storm water Pollution Controls report (Welch Comer) as well as the BMPs proposed by the Forest Service (see project file), there should be no delivery of sediment to any water body from development or operation of the sewage treatment facility and collection system.

Provided that all systems and safeguards function as planned, the risk of nutrient enrichment to the water resources should also be reduced. The current situation with sewer drain fields in close proximity of wells and the lake does not meet any accepted guidance by the State of Idaho. Construction of the proposed lagoons and routing of all effluent to one treatment site would alter the risk. Instead of the risk of contamination to the water being spread out along the immediate shoreline of Priest Lake, the risk would be changed. The new risk would focus on one sewage facility with multiple lines extending over 2.5 miles across NFS lands. Currently, there are three monitoring wells on the subject 80-acre parcel to detect any leakage from the proposed sewage lagoons. In terms of cumulative effects, there was no estimate about the amount of line that would be constructed across privately owned lands to hook into the sewer system.

In summary, the risk of the proposed sewer system failing is low. If a failure did occur, with the rate of groundwater movement in the area at 2.0 ft/day, it would take 250 days for the wells 500 feet away to be affected. This scenario would not be likely, given the existing monitoring wells. If the lines crossing either of the larger streams failed, then untreated effluent could be delivered to the shoreline of Priest Lake within minutes of the failure. Again, the risk of this type of failure is relatively low. The third possibility of failure has to do with rupturing or damaging any one of the 2.5 miles of sewer line crossing NFS lands. Again, the risk of damaging the lines that are buried six feet deep is low. If the buried lines were damaged, it is likely that the damage would be reported quickly and steps to remedy the situation would be taken by the Granite Reeder Sewer District and the DEQ.

The existing sewer facilities within the Granite Reeder Sewer District do not meet state standards. Therefore, implementation of the proposed action would enable the Granite Reeder Sewer District to bring the sewer treatment in this portion of Priest Lake up to State of Idaho Standards. The proposed Granite Reeder sewer facility would result in a net improvement in protecting overall water quality.

As well, the effects of the reasonably foreseeable Lakeview-Reeder Fuel Reduction Project would be in compliance with existing State Water Quality Standards and BMPs. Given that the Lakeview Reeder Project would be designed with site specific BMPs that would exceed the Forest Practices Rules and Regulations promulgated by the State of Idaho, it is unlikely that

cumulatively there would be any adverse impacts from the combined actions of the Granite Reeder Sewer District project and the Lakeview Reeder Project.

Adherence to IPNF Forest Plan Standards

- State Water Quality Standards protective of water quality and beneficial uses would be followed with implementation of any action.
- State Standards for sediment and chemical constituents would continue to be met.
- Idaho Forest Practices Rules (IDAPA 20.02.01) would be incorporated into any activities in the project area (FSH 2509.22).
- Physical integrity of streams and existing biota would be maintained or improved
- INFS standards and guidelines, and RHCA buffers would be implemented with any action alternative and would limit ground disturbance on floodplains and in riparian areas. Unmapped channels would be buffered 50 feet from project activities during sale layout.
- INFS requirements for flood passage would be implemented with any action alternative.
- Project activities are consistent with management area direction to implement Best Management Practices.

Compliance with the Forest Plan and Other Regulatory Direction

The proposed action assessed in the above narrative meets the Forest Plan Standards for the Idaho Panhandle National Forests. The proposed action meets and/or exceeds state water quality standards as well as meeting the Forest wide Goals and Standards listed in the 1987 Forest Plan. Best management practices would be prescribed, monitored and adjusted as needed to protect aquatic resources.

The proposed action assessed in the above narrative meets the federal Clean Water Act. The purpose of the proposed sewer district is to improve the current conditions that appear to threaten water quality in Priest Lake.

The proposed action would improve the existing level of protection for beneficial uses within the cumulative effects analysis area. In accordance with IDAPA 58.01.02.250, beneficial uses would be further protected with this project.

The proposed action meets Executive Orders 11988 and 11990.

- The proposed land conveyance meets Executive Order 11988. Conveyance of the 80-acre federal parcel would not affect floodplain function nor would it increase flood hazards.
- The proposed land conveyance meets Executive Order 11990. Conveyance of the 80 acres parcel would not affect wetland form or function.

The no action alternative would meet the above regulatory direction, since management practices would not change from current conditions and the risk of contamination of water resources would remain high. The potential for long-term effects to water quality in the project area from implementation of no action was addressed on pages 13-14 of the EA.

Fisheries

Introduction

This section discusses the environmental effects of the proposed action described in this appendix on fisheries resources. The specific federal actions that are considered herein include the conveyance of 80 acres of public National Forest System (NFS) lands to the Granite-Reeder Sewer District and the installation of collection lines and other sewer-related facilities on NFS lands. This report also clarifies information on fisheries resources in the Granite Reeder Water and Sewer District Environmental Assessment (EA) prepared for the Environmental Protection Agency by Welch Comer and Associates, Inc. in 2002.

The effects to fisheries resources of the reasonably foreseeable development of the lagoons and land application treatment facility on the 80-acre NFS parcel proposed for conveyance were addressed in the Granite Reeder Water and Sewer District EA, Biological Evaluation and Biological Assessment prepared by Welch Comer and Associates, Inc. in 2002 (FWS Reference 1-9-02-I-0572).

The EPA and DEQ addressed the sewer pipe crossing on private lands over Granite Creek in the original EA and BA (FWS Reference 1-9-02-I-0572); the Granite Creek crossing is therefore not considered in this effects analysis.

Regulatory Framework

The regulatory framework for fish species and fisheries resources includes federal legislation, federal regulations, agency policies, and applicable state regulations and policies. The National Forest Management Act (NFMA) of 1976 requires that the Forest Service manage for a diversity of fish habitat to support viable fish populations (36 CFR 219.19). Regulations further state that population viability for fish species will be based on management indicator species and project-level effects on these species shall be documented (36 CFR 219.19(a)(1)).

Direction is also provided by the Idaho Panhandle National Forests Forest Plan (USDA 1987), as amended by the Inland Native Fish Strategy (INFS) (USDA 1995) and the Fry Emergence Amendment (USDA 2005). Five standards are listed in the Forest Plan for fisheries; additional standards that are applicable to fisheries are described in INFS. INFS specified Riparian Goals and Riparian Management Objectives. To achieve these goals and objectives, standards and guidelines were developed.

Section 7 of the 1973 Endangered Species Act (ESA) includes direction that federal agencies, in consultation with the U.S. Fish and Wildlife Service, will not authorize, fund, or conduct actions that are likely to jeopardize the continued existence of any threatened or endangered species or result in the destruction or adverse modification of their critical habitat.

Executive Order 12962 (June 7, 1995) states objectives “to improve the quantity, function, sustainable productivity, and distribution of U.S. aquatic resources for increased recreational fishing opportunities by: (h) evaluating the effects of federally funded, permitted, or authorized actions on aquatic systems and recreational fisheries and document those effects relative to the purpose of this order.”

Additional regulatory requirements related to fisheries resources (e.g. Clean Water Act and Idaho Water Quality Standards, Idaho 303(d) list) are addressed in the Aquatics section.

Affected Environment - Existing Fisheries Resources

Threatened and Endangered Species

The U. S. Fish and Wildlife Service (USFWS) lists two fish species that occur, potentially occur, and/or habitat exists within the Kaniksu portion of the Idaho Panhandle National Forests as endangered or threatened under the Endangered Species Act (ESA) of 1973 (USDI 2007). The Kootenai River population of the **white sturgeon** (*Acipenser transmontanus*) is listed as "endangered" (Federal Register, Volume 59, No. 171, September 6, 1994). The Columbia River Distinct Population Segment of **bull trout** (*Salvelinus confluentus*) is listed as "threatened" (Federal Register, Volume 63, No. 111, June 10, 1998). The Kootenai River white sturgeon is not suspected to occur in Bonner County, in which the project area occurs (USDI 2007a).

Sensitive Species

The U.S. Fish and Wildlife Service list westslope cutthroat trout (*Oncorhynchus mykiss clarki*) as a "species of special concern." The Regional Forester also lists this species as “sensitive". In addition, this species is currently selected as the Forests’ Management Indicator Species (MIS).

Prefield and Field Review

On February 12, 2007 general reconnaissance surveys were conducted along Reeder Bay Road and within the 80-acre NFS parcel proposed for conveyance. Previous environmental information documents (files related to FWS reference 1-9-02-I-0572) pertaining to the original EA were reviewed for relevant data and background information regarding this project. The IPNF North Zone fisheries databases and archives (USDA 2007) and fish survey data from the Kalispel Tribe were searched for relevant fisheries abundance data for Management Indicator Species (MIS), westslope cutthroat trout and bull trout as well as other desired non-native fish species and fisheries habitat information.

Project Area Fish Populations

Although species composition can vary by individual drainages in the Priest Lake Basin, four primary fish species currently inhabit the streams within the basin. The primary species are bull trout, westslope cutthroat trout, eastern brook trout (*Salvelinus fontinalis*) (invasive non-native), and shorthead sculpin (*Cottus confusus*). Long-nosed dace (*Rhinichthys cataractae*) and northern pike minnow (*Ptyocheilus oregonensis*) occur infrequently in the lowest reaches of streams near the lake. There is no documented occurrence of white sturgeon in the Priest Lake basin, and the species is not suspected to occur in Bonner County (see above).

Bull trout occur in Priest Lake and Granite Creek[3], but do not occur in Reeder Creek. The bull trout populations in Granite Creek and other Priest Lake basin streams are depressed, in reproductive decline, and are isolated from neighboring populations within the Lower Clark Fork Recovery Unit (e.g., East River, Lake Pend Oreille drainages, and the Lower Clark Fork River). The prominent life-history form/strategy of bull trout inhabiting the basin is an adfluvial one (see *Bull Trout Life-History* section), whereby juveniles (0-4 yr) use Granite Creek year round and sub-adults/adults reside within Priest Lake.

[3] Fish surveys by the USFS in 1989 and Kalispel Natural Resource Department (KNRD) in 2004 and 2006 have documented species presence.

Westslope cutthroat trout, the MIS for the Forests, occur in both Reeder[4] and Granite Creeks[5]. Cutthroat populations in Granite Creek appear relatively healthy and robust despite the presence of eastern brook trout; however, the cutthroat population within Reeder Creek is extremely depressed as ~ 95 percent of fish biomass in Reeder Creek is comprised of eastern brook trout. Cutthroat populations in the Priest Basin exhibit both resident and adfluvial life-history forms and thus, all stages of this species can be found throughout Granite and Reeder Creeks. Shorthead sculpin have patchy distributions in these streams[6], but are widespread throughout North America (Wydoski and Whitney 2003).

Current Habitat Conditions

Stream habitat conditions within the project area are typical of alluvial confluence zones where streams enter into large lakes. The mouth and lower reach of Granite Creek lie on top of a large alluvial fan of glacial outwash and the landform is flat and gently sloping. Those conditions have created a classic meandering channel (Rosgen type stream classification is C4) with point bars, a pool-riffle-run macrohabitat sequence, and bed materials dominated by sand. Riffle areas and pool tailouts are characterized by more coarse materials, dominated by coarse gravel (~ 30mm) and small cobbles (~ 150mm) with infrequently occurring boulders.

Based upon hydrogeologic and hydrology assessments near the project area (see Hydrology Report), there is a high degree of groundwater movement downslope into both Granite Creek and Priest Lake. Nevertheless, the temperature regime near the mouth of Granite Creek is approximately 2˚C higher than upstream reaches with peak 7-day maximum temperatures ranging from 15-18˚C each summer[7].

The majority of bull trout spawning occurs upstream of the project area near the forks of Granite Creek and just below Granite Falls; however, anecdotal data have documented bull trout redds in lower Granite Creek. It is unlikely that Granite Creek near the mouth is used as spawning habitat because of the warmer thermal regime and absence of high quality spawning materials. Bull trout use the lowest portion of Granite Creek (near mouth; within the immediate vicinity of the sewer-related activities) primarily used as a migration corridor for both spawning adults and outmigrating juveniles. Thus, habitat qualities most critical near the mouth include holding areas that contain both deep (>1m) pools and complex physical attributes (i.e., large woody debris, undercut banks, etc.).

Westslope cutthroat trout likely use this portion of Granite Creek similarly to bull trout (migration corridor). In addition, it is possible that cutthroat may also use this area for spawning. In general, the Forest categorizes the functioning condition of this watershed as functioning at risk for both bull and westslope cutthroat trout.

Reeder Creek is a second-order tributary stream to Priest Lake. The drainage lies upon an ancient lacustrine deposit called Bismark Meadows. Within the lower sections, the stream is primarily comprised of a low slope channel flowing through broad floodplain and several interconnected, wet meadows. The streambed materials are primarily sand and silt; however, the last half-mile of the stream is a steeper B channel. This stream has substantial amounts of groundwater inputs and high flow connectivity to underlying aquifer. Because the stream courses through a system of meadows, there is a significant amount of natural organic leaching into the stream, thus producing

[4] Fish surveys by the USFS in 2002 and KNRD in 2004 have documented species presence.
[5] Fish surveys by the USFS in 2005 and KNRD in 2006 have documented species presence.
[6] Various sources have found this species in some portions of the streams. Within Granite Creek data sources include a Master's Thesis project by John Quintela in 2003, the USFS in 2005. In Reeder Creek data sources include the USFS in 2002 and KNRD in 2004.
[7] Thermograph dataloggers have been collected data for FS aquatics personnel from 2002 to present.

naturally high phosphorus and nitrogen concentrations as well as tannins. DEQ monitoring on this stream indicates some sources of anthropogenic nutrient enrichment via fecal coliform and *Escherichia coli*[8] bacteria. Temperature regime in Reeder Creek[9] is substantially cooler than in Granite Creek and thermally functions as high quality habitat.

Bull trout do not use Reeder Creek for any portion of their life-history[10]. Westslope cutthroat trout use habitat in this stream for all life-history stages. The steeper portion of the stream within the project area is more typical of the habitat conditions where this species is commonly found and thus, cutthroat use this area of Reeder Creek for spawning, juvenile rearing, and migration.

In order for the aforementioned fish habitat to function properly for both native salmonids, a high degree of water quality must be maintained. Currently, there is no documentation of existing septic systems contributing to nutrient enrichment into Granite Cr. or Priest Lake. There are areas in the Reeder Creek drainage that are likely anthropogenic sources of the realized water contamination; however, those sites occur outside of the sewer district boundaries and would not be remedied by the operation of a new sewage treatment facility.

Environmental Consequences

Methodology

Analysis was conducted using data from past fish surveys and habitat inventories as well as the professional judgment of the fisheries professional. The determination of expected effects on fisheries resources considered the design features described under the Proposed Action section of this appendix.

Cumulative effects to fish species and aquatic habitats from proposed activities are generally described as very low, low, moderate or high, with the following definitions:

- very low = no measurable effect on individuals, populations or habitat
- low = individuals, populations and/or habitat not likely affected
- moderate = individuals and/or habitat may be affected, but populations would not be affected, and habitat capability would not over the long term be reduced below a level which could support sensitive plant species
- high = populations would likely be affected and/or habitat capability may over the long term be reduced below a level which could support sensitive plant species

Analysis of cumulative effects considered the reasonably foreseeable development of the sewer system on the conveyed parcel. The cumulative effects area is the project area plus nearby areas of Granite Cr., Reeder Cr., and Priest Lake, based on the limited scope of the proposed action.

Effects of the Proposed Action

Direct and Indirect Effects

<u>Temperature, Sediment Regime, Habitat Cover/Complexity, Pool Frequency, Habitat Connectivity and Width/Depth Rations</u>

[8] In 2001, IDEQ reported some natural nutrient enrichment and some anthropogenic contamination in the Priest River Subbasin Assessment and Total Maximum Daily Allocation.
[9] The 7-day average maximum temperature was ~ 13˚C (USFS 2004).
[10] There is no historic evidence that indicates that bull trout ever occupied Reeder Creek.

Conveyance of the 80-acre NFS parcel would not directly affect temperature, sediment regime, habitat cover/complexity, pool frequency, habitat connectivity, or width/depth ratios because few ground-disturbing activities are scheduled to occur within any RHCA. The installation of sewer pipes, electrical lines and ground disturbances in roadside drainage ditches adjacent to and crossing the stream may indirectly affect sediment delivery in Reeder Creek.

Fine sediment: substrate embeddedness and turbidity

The data source for fine sediment in the project area includes visual observations and 1992 Pebble Counts. It is well known that unnatural loads of fine sediment can have numerous deleterious effects on salmonids (Waters 1995). Granite Creek has moderate amounts of fine sediment materials (6-18 percent) in the lowest reach, which is typical for its type of stream channel (data are from 2002 and 2005 pebble counts - see the project file). However, as was noted in the Introduction to the Fisheries section, the stream crossing over Granite Creek and associated ground disturbance would occur on private lands that are outside of the Forest Service's jurisdiction.

Reeder Creek has higher amounts of fine sediment within the bedload (~20 percent sand) and is listed by IDEQ as a water quality limited stream due to sediment. Where the pressurized sewer collection lines are proposed to cross streams or occur within the RHCA there is potential for ground disturbance to generate and deliver sediment to streams. However, if adequate erosion control practices and Best Management Practices are employed in the correct manner, the proposed action has little potential to contribute sediment to Granite or Reeder Creek. Additional protections and oversight of sewer line installation on NFS lands should place the potential of sediment inputs to fish-bearing streams at a low risk.

Threatened and Endangered Species

A portion of the adfluvial population of bull trout from Priest Lake occupies Granite Creek within the project area (6th level HUC). None of the actions proposed in this appendix would directly or indirectly affect bull trout in Granite Creek. The conveyance of 80 acres of NFS lands would not, in and of itself, affect bull trout. Because bull trout do not inhabit any other stream within the project area, the installation of the collection system on NFS lands would not affect bull trout. The planned construction and operation of a sewage treatment facility could indirectly affect bull trout or bull trout habitat, but this was addressed in the original EA and BA (FWS Reference 1-9-02-I-0572). No other Forest Service-related actions would directly or indirectly affect bull trout or the species' habitat. Therefore, the proposed land conveyance and installation of the collection system on NFS lands would have **No Effect** on bull trout.

There would be **No Effect** to Kootenai River white sturgeon, as this species is not suspected to occur in Bonner County (see above).

Sensitive Species

Populations of westslope cutthroat trout currently occupy Granite and Reeder Creeks as well as Priest Lake. The proposed action should not adversely affect these populations. Ground-disturbance within the RHCA would adhere to best management practices (BMPs). The risk of fine sediment delivery to Reeder Creek as a result of digging trenches and burying sewer pipe would be very low and based on the timing[11] of those activities, would not occur when embryos or fry were most susceptible to entrapment or oxygen deprivation. The risk of sewage escaping containment and leaking into surface waters is low, but is a possibility given the aerial stream

[11] Timing of trench digging near streams: per the Hydrology report, trench digging would only occur during the dry season.

crossing over Reeder Creek. Both risks of sedimentation and risk of water contamination into Reeder Creek are low-level risks, but they are possible, and if they occurred would result in negative effects to cutthroat. Therefore, this project **may impact individuals, but would not likely result in a trend toward federal listing or reduced viability** for westslope cutthroat trout.

Cumulative Effects

Implementation of the proposed action as described in this appendix should not have site-specific, measurable effects to fisheries resources. This project is intended to maintain high water quality in Priest Lake. Additional development around Priest Lake and the growth of the many small, shoreline communities is expected to continue in the future; however, such growth and development should reach a peak because of the vast holdings of public land around Priest Lake. When the effects of this project are considered in the context of other effects to fisheries resources, this project has a ***low-risk*** of contributing cumulative adverse effects on fisheries resources, including listed and sensitive fish species.

The Lakeview –Reeder Fuel Reduction Project is still in the preliminary stages and no detailed analysis has been completed. Though, the effects of the reasonably foreseeable Lakeview-Reeder Fuel Reduction Project would be in compliance with existing State Water Quality Standards, BMPs and other regulatory requirements.

Summary of Determination of Effects

Based on the above analysis, it was determined that implementation of the proposed action in this appendix would contribute *No Effects* to bull trout. The proposed action would have *No Effect* on Kootenai River white sturgeon. The proposed action *May Impact Individuals, But would Not Likely Result in a Trend toward Federal Listing or Reduced Viability* for westslope cutthroat trout. The effects determinations as previously considered, analyzed, and concurred upon by the U.S. Fish & Wildlife Service in the original EA and BA remain valid.

Effects of No Action

If the proposed action in this appendix were not implemented, the 80-acre parcel of land would not be conveyed, and no collection system would be installed on NFS lands. Therefore, there would be no effects to fisheries resources from disturbance associated with activities under the proposed action.

However, treatment of sewage in the Granite Reeder Sewer District would continue to be through the existing and future individual septic systems, which are not monitored and may not meet State of Idaho DEQ standards. The original EA on pages 13-14 discussed the potential for long-term effects to water quality, which may in turn negatively affect fisheries, from failure to provide for a community sewage treatment system.

Compliance with the Forest Plan and Other Regulatory Direction

The Granite Reeder Sewer Project is consistent with the Forest Plan for the Idaho Panhandle National Forests (IPNF) (USDA 1987) as amended by the Inland Native Fish Strategy (INFS) (USDA 1995) and the removal of the Fry Emergence Standard (USDA 2005). The overall intent and goal of the Granite-Reeder Sewer Project is to manage wastewater in this shoreline community for the long-term protection of water quality in Priest Lake. The project's consistency with INFS standards and RMOs are addressed in the *Determination of Effects and Rationale* section of the joint Biological Assessment and Biological Evaluation prepared for this appendix.

Geology and Minerals

Introduction

This section discloses the potential for occurrence of and the potential for development of valuable minerals within the federal parcel proposed for conveyance.

Affected Environment

The federal parcel to be conveyed was analyzed for its land status and mineral potential. The land was also reviewed for the presence of potentially hazardous mining-related substances and public safety issues. This review revealed that no mining related substances or public safety issues are present on the federal parcel. Field examination of the parcel was completed in September 2006. Mineral potential was rated according to the Bureau of Land Management classification system. The mineral potential categories include No Potential, High, Moderate, Low and Potential not determined.

The Forest Geologist completed a Minerals Potential Report in March of 2002 (see the project file), and concluded that there are no known minerals values in the land except for a salable resource for the sands and gravels. However, this material is common throughout the area.

Environmental Consequences

No Action Alternative

Under the No Action alternative, the federal parcel would not be conveyed to the Sewer District; therefore, the mineral estate would not be conveyed and would remain in public ownership.

Proposed Action

If the proposed action were implemented, both the mineral and surface estates of the federal parcel would be conveyed. However, as stated above, the only minerals values determined to occur on the parcel are sands and gravels, which are common throughout the project area and on the IPNF.

Wetlands, Floodplains and Water Rights

Introduction

This section discloses wetland and floodplain acreage that would be conveyed under the proposed action, any water rights on the parcel to be conveyed, and compliance with applicable Executive Orders.

The analysis area was the 80-acre federal parcel to be conveyed. The analysis included a review of existing floodplain-wetland determination, the IPNF Landtype Map, the FEMA floodplain map, the Welch Comer Channel Cross Section map (dated 2-13-07), US Fish and Wildlife Service Maps, map of identified wetlands, and the website for wetlands (see the project file).

Regulatory Framework

Executive Orders 11988, Floodplain Management and 11990, Protection of Wetlands, direct federal agencies to preserve, restore, and enhance the natural and beneficial values of floodplains and wetlands in carrying out agency responsibilities for, among other activities, acquiring and conveying of federal lands.

FSM 2527, Floodplain Management and Wetland Protection direct the agency to protect wetland values and prevent increased flood hazards. FS Handbook (FSH) 5409.13, Land Acquisition Handbook directs the agency to identify and document any loss of wetland values and any anticipated increases in flood hazard.

Affected Environment

The Priest Lake District Hydrologist completed a floodplain and wetland statement in February of 2007 (see project file). There are no floodplains or wetlands identified within the federal land to be conveyed. This documentation is in compliance with Executive Orders 11988 and 11990. A water rights inventory was completed and there are no known water rights within this federal parcel (see project file).

Environmental Consequences

Effects Common to the Proposed Action and No Action

Under either alternative, there would be no effect to wetlands, floodplains or water rights, since none exist on the federal parcel to be conveyed.

Heritage Resources

Introduction

This subsection identifies heritage resources or properties on NFS lands in the project area that may be adversely affected by implementation of the proposed action. The analysis area boundary is limited to the NFS lands involved in the proposed action.

Regulatory Framework

The National Historic Preservation Act (NHPA) of 1966 established the federal government's policy on historic preservation and related programs, including the National Register of Historic places (NRHP), through which that policy is implemented. Under the NHPA, historic properties include "any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places (16 United States Code [USC] 470w (5)).

The criteria used to evaluate the NRHP eligibility of properties affected by federal agency undertakings are contained in 36 CFR § 60.4 and are as follows: Section 106 (16 USC 470f) of the NHPA requires federal agencies, prior to taking action to implement an undertaking, to take into account the effects of their undertaking on historic properties and to afford the Advisory Council on Historic Preservation (ACHP) a reasonable opportunity to comment regarding the undertaking.

Affected Environment

Review of the federal parcel proposed for conveyance for heritage resources has been completed. The Forest Archaeologist has reviewed all Heritage Resource Inventory Reports for compliance with the NHPA of 1966, Protection of Historic Properties, and Programmatic Memorandums of Agreement. The Idaho State Historic Preservation Office (SHPO) has received copies of the Heritage Resource Inventory Reports.

The Northwest Archaeological Associates Report covered only the conveyance of the two potential NFS land parcels (Treatment Sites 1 and 2) and the proposed main line construction within the road fill of Forest Roads 2521 and 1339. On NFS lands, a wagon road was found to be not eligible for the National Register, while Elkins Resort is eligible for its architectural and historic significance.

The project area for the special use permit on NFS lands includes one (1) FS campground, one(1) FS picnic area, nine (9) recreation residence homes, and two (2) resorts. Ledgewood Bay Recreation Residence Tract, Reeder Bay Campground and Ledgewood Picnic Area, Grandview and Elkins Resorts have not had a cultural resource inventory completed. Exact locations for the sewer lines and grinders were not available for evaluation. The discovery stipulations of the Cultural Resources Discovery Plan described above under the Proposed Action section would be implemented prior to any ground disturbance to these sites.

Environmental Consequences

Proposed Action

An appropriate inventory was conducted for the majority of the project area, and cultural properties are known to be located within the area of potential effect. State Historic Preservation Officer (SHPO) concurrence is thus required; however, the Forest Cultural Resource Specialist has made a preliminary determination that implementation of the proposed action would have No Adverse Effect to these properties.

There are no sites eligible for the National Register of Historic Places on the federal parcel to be conveyed. The proposed action would affect no paleontological, historic or prehistoric archeological resources on this federal parcel. SHPO has concurred with the IPNF determination (see project file).

The locations for the proposed special use authorization that have not been evaluated would comply with the Cultural Resources Discovery Plan stipulations listed above on pages 13.10-9 and 13.10-10. Idaho SHPO concurred with a finding of no effect to Elkins Resort, provided that construction activities were confined to Forest Roads 2521 and 1339 and the Elkins main entrance road.

No Action

Under this alternative, there would be no effects to cultural resources, since no NFS lands would be conveyed and no ground disturbance associated with the proposed action would occur.

Hazardous Materials

This subsection addresses hazardous materials and solid waste such as trash and debris. The analysis area boundary is the 80-acre federal parcel to be conveyed.

Regulatory Framework

Compliance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and FS Manual Direction (FSM 2160, Hazardous Materials Management) is required in any land transaction. CERCLA, as amended, requires that federal agencies provide information and certain warranties concerning the presence of hazardous materials on conveyed parcels.

The same procedures are used for inspection of private lands proposed for acquisition. The FS follows the required "Transaction Screening Process for Land Adjustments" (LTSP), as outlined in EM-2160-2, dated September 1999. The goal of this process is to identify any actual or possible contamination from hazardous substances, petroleum products, or other contaminants to ensure that the FS does not unknowingly acquire or convey contaminated property. See the project file for documentation of all inspections.

Section 120 (h) of the Superfund Amendments and Reauthorization Act of 1986 (SARA) requires physical inspection and examination of records for federal parcels to be conveyed.

Affected Environment

The parcel to be conveyed by the IPNF has been inspected and existing records examined by FS personnel for the presence of hazardous substances, and has been certified in accordance with the Land Transaction Screening Process. There is no evidence of release, storage, or disposal of hazardous substances or petroleum products. The date of certification was October 24, 2006.

Environmental Consequences

No evidence was found to indicate that any hazardous substance was stored for one year or more or disposed of or released on the federal parcel to be conveyed. There would be no effect regarding hazardous or solid wastes with implementation of either alternative.

Land Uses

This subsection discloses specific parcel information on consequences and curative actions by the proposed action that would be related to "land uses". Specific categories addressed include: 1) Public Access Considerations; 2) Curative Action; 3) Land Uses; 4) Cost Share Roads. Identified curative actions that would occur are intended to protect land use rights, comply with existing laws, regulations and policies and show benefits/liabilities to the FS and Sewer District.

The analysis area boundary is the federal parcel with land use considerations to be conveyed.

Affected Environment

The specific land use considerations associated with the federal parcel to be conveyed are described in table 13.10-2 below and in the following narrative. The table identifies the land use considerations that apply to the proposed action (see project file).

Table 13.10-2. Federal Parcel Land Use Considerations for the Proposed Land Conveyance

Land Use	Specifics	Curative Action
Legal and Physical Access.	The following road is included in the existing road easement with Bonner County, dated 03/24/78 (T. 61 N., R.4 W., Section 17 S½NE¼). West Side Priest Lake Rd 2512 (.26 mi).	N/A
Legal and Physical Access.	The following road is included in the existing road easement with Bonner County, dated 2/15/68. (T. 61 N., R.4 W., Section 17 S½NE¼) Non-system Rd (known as Hagman Rd.) (.11 mi).	N/A

Land Use	Specifics	Curative Action
Special Use Permit	There is an existing special use authorization for road access to a residential dwelling to Jackman's property across NFS land. This special use should be converted to a road easement prior to the land conveyance (.05 mi).	Due to the land conveyance, the special use authorization should be converted to a road easement.
Special Use Permit	There is an existing special use authorization for phone lines to Verizon across NFS land. This special use should be converted to an easement prior to the land conveyance.	Due to the land conveyance, the special use authorization should be converted to an easement.
Special Use Permit	There is an existing special use authorization for power lines across NFS land with Northern Lights. This special use should be converted to an easement prior to the land conveyance.	Due to the land conveyance, the special use authorization should be converted to an easement.

As shown above, the FS has legal access to the federal parcel. FS policy is to acquire permanent exclusive easements that permit full multiple-use of NFS lands. By conveying the federal parcel, the FS would not need to acquire any additional easements.

Environmental Consequences

Proposed Action

The IPNF would incur some costs associated with converting special use authorizations to easements across the federal parcel to be conveyed. These costs would likely be offset by savings from not administering or re-issuing future authorizations for the uses.

The cost associated with authorizing a special use permit to the Sewer District would be offset by a collection agreement to complete the NEPA analysis, land conveyance, special use authorization, and monitoring phase during the construction process.

No Action

Under the No Action alternative, the three special use permits (see table 13.10-2 above) would not be converted to easements.. However, the existing uses on NFS land would be due for re-authorization; therefore, the net costs and savings would be approximately equal.

Government Taxes and Revenues

State and local governments in Idaho receive revenues from both privately owned and Federal lands through several types of payment mechanisms. These are the Federal 25 Percent Fund, Federal Payments In-Lieu of Taxes (PILT), property taxes paid on private lands and the Idaho Forest Product Yield Tax.

Federal 25 Percent Fund

In previous years, a portion of the returns to the U.S. Treasury from revenue producing FS activities, such as timber sales, were returned to each state containing national forestlands for distribution back to counties having acreage within a national forest. These revenue distributions, referred to as Federal 25 Percent Fund payments, were dedicated to schools and roads. In October of 2000, the Secure Rural Schools and Community Self-Determination Act of 2000 was enacted to stabilize 25 percent fund payments to states for schools and roads. Under that legislation, counties could elect for fiscal years 2001 through 2006 to take a full payment approach that is not linked to annual FS revenues. Full payment is based on the average of the highest three payments made to the state between 1986 and 1999. Bonner County elected to take full payment.

Effects Common to the Proposed Action and No Action

It is too speculative to estimate after 2006 how the proposed action would effect Federal 25 Percent Fund payments to Bonner County. Under no action, there would be no change because the federal land base would not change.

Federal Payments In-Lieu of Taxes (PILT)

PILT payments are Federal payments to local governments that help counties offset losses in property taxes associated with nontaxable Federal land located within a county's boundary

These payments are designed to supplement other Federal land receipt-sharing payments that local governments may receive, including timber receipts from national forests, grazing fee receipts, mineral material sales receipts, and some receipts collected on wildlife refuges. PILT has historically been a more stable and dependable revenue source than Federal 25 Percent Fund payments because it is a flat per-acre payment that is not tied to levels of revenue generated by NFS land.

Effects of the Proposed Action

Bonner County would have a net loss of 80 acres of NFS land under the proposed action. This loss would result in a decrease of PILT payments to this county, but the effect would be minimal when considering the total entitlement acres within the county and the annual revenues of the county.

Effects of No Action

Under the No Action alternative, there would be no change in the NFS land base in Bonner County, and therefore no change in PILT payments to the county.

Idaho Property Tax

Effects of the Proposed Action

Under the proposed action, the gain of 80 acres in Bonner County would result in a net gain of property tax revenue in the county. The gain of taxed bare forest land would be somewhat offset by the loss of PILT payments. This gain of tax revenue in this county would be minimal when considering the total private land within the county and the annual total property tax revenues of this county.

Effects of No Action

Under the No Action alternative, there would be no change in revenue to the state from property taxes, because there would be no change in land ownership from public to private on the subject federal parcel.

Idaho Forest Products Yield Tax

All harvested timber subject to the provisions of Title 63, Revenue and Taxation, Chapter 17 and delivered to a point of utilization as logs shall be subject to a forest products yield tax. The yield tax is three percent of stumpage value as determined by the state commission.

Effects of the Proposed Action

Under the proposed action, the Sewer District would acquire approximately 38mbf of sawlog timber. The Sewer District would gain 38mbf of sawlog timber in Bonner County (see EA Appendix 13.2). The small ownership change in sawlog volume within the affected county would have minimal effect on county receipts from the Idaho Forest Products Yield Tax.

Effects of No Action

Under the No Action alternative, there would be no change in revenue to the state from the Idaho Forest Products Yield Tax from current conditions.

Land Values

Outlet Bay Sewer District is located at T. 59 N., R. 4 W., Section 6, BM, Bonner County, ID. In 2003, Outlet Bay Sewer District installed a similar sewage facility as being proposed by Granite Creek Sewer District. Outlet Bay Sewage Facility is approximately 9.89 linear miles. Both sites are on the west side of Priest Lake, in close proximity to a creek or river and relatively close to Priest Lake.

Determination of comparable sales of two developed lots at each site was based on similar features such as parcel size, proximity to the existing sewer facility and proposed sewer facility, and proximity to water features. All of these aspects are interrelated and together may affect land values.

The developed parcel adjacent to Outlet Bay Sewer District is parcel number 59N04W054031. It is adjacent to a forested area owned by Outlet Bay Sewer District. This parcel is in very close proximity to the Priest River and Priest Lake. This parcel is slightly smaller than parcel number 61N04W177251, the comparable property adjacent to the proposed sewer development. Both parcels have a residential home and a non-residential building structure.

Effects of the Proposed Action

Under the proposed action, the adjacent land that the Sewer District would own would remain forested. Listed below are the values of each comparable parcel (information was acquired from Bonner County Assessor Office - see project file). As shown in table 13.10-3, there has been an increase of five percent in land value for the developed parcel adjacent to Outlet Bay Sewer District after the completion of the sewage facility, which is similar to the facility proposed in the EA.

Any land value changes adjacent to the proposed location of the Granite Reeder sewer facility would be expected to be similar to land values adjacent to the existing Outlet Bay sewer facility.

Table 13.10-3. Land values adjacent to Outlet Bay Sewer Facility

	Acres	Land Value in 2000	Land Value in 2003	Change in Land Value
Parcel adjacent to Outlet Bay Sewer	**1.250**	**$31,750**	**$33,338**	**5% increase**
Parcel adjacent to Proposed Sewer District	**1.980**	**$36,735**	**$36,735**	**none**

Effects of No Action

Under no action, any land value changes in the project area would be due to other influences, since no change in land use from current conditions would occur.

Other Considerations

Native American Religious Concerns

The FS, through the Secretary of Agriculture, is vested with statutory authority and responsibility for managing resources of the National Forests. No sharing of administrative or management decision-making power is held with any other entity. However, commensurate with authority and responsibility to manage is the obligation to consult, cooperate, and coordinate with federally recognized Indian Tribes in developing and planning management decisions regarding resources on NFS lands that may affect tribal rights established by treaty or Executive Order. As a result of the treaties and Executive Orders, elements of Indian culture, such as tribal welfare, land, and resources were entrusted to the United States government.

The FS shares in the Federal government's overall trust responsibility where treaty, laws, Executive Orders, case law, or other legally defined rights apply to NFS lands. (Article 1, Section 8, Clause 3 of the United States Constitution authorized Congress to regulate "commerce … with Indian tribes."). Trust responsibilities resulting from the Treaties or Executive Order dictate, in part, that the United States government facilitates the execution of treaty rights and traditional cultural practices of recognized tribes. The FS assists with this shared responsibility by working with the tribes on a government-to-government basis and in a manner that attempts a reasonable accommodation of tribal needs, without compromising the legal positions of the Tribe or the Federal government.

FS representatives worked with tribal representatives on a government-to-government basis and made a reasonable effort to identify concerns related to the Granite Reeder Sewer District Project. In March of 2007, Dave O'Brien, Tom Ball and Steve Matz from the IPNF Supervisor's Office met with representatives of the Kalispel Tribe of Indians. The purpose and need and proposed action were described and discussed (see project file). There were no concerns with the proposed action expressed at that meeting. Therefore, there would be no effect from implementation of either alternative.

Prime Farmland/Caves/Grazing /Civil Rights/Slopes

There would be no effects to prime farmland, rangeland or forest land (Dept. Regulation 9500-3), to cave resources (Federal Cave Resources Protection Act of 1988), or to grazing rights (Federal Land Policy and Management Act of 1976, Section 402 (g)). There would be no disproportionate impact to consumers, civil rights, minority groups or women (E.O. 12898), steep slopes or highly erosive soils.

Wilderness/National Recreation Areas/Research Natural Area/Inventoried Roadless Area

The project area, including the federal parcel to be conveyed is not in or being considered for inclusion as wilderness, wilderness study area, inventoried roadless area, National Recreation Area or Research Natural Area. There would be no effect from implementation of either alternative.

Property Boundaries

The FS is required by law to post, survey, and maintain all exterior boundaries of NFS land. The Resources Planning Act targeted all property boundaries to be posted by the year 2020. The total IPNF boundary length is greater in areas with fragmented ownership patterns than in comparable sized areas with consolidated ownership.

The federal parcel to be conveyed includes existing marked boundaries that would need no additional work under the No Action alternative. Under the proposed action, there would be a net reduction of three corners and 1.5 miles of NFS/private property boundary (see project file), at a cost of $1,500 to remove boundary posts.

The **proposed action** would result in no additional costs to boundary management (see project file). Future costs to maintain boundaries would likely be less because of the reduced amount of NFS/private property boundary.

Under **no action**, the existing marked boundaries on the subject federal parcel would need no additional work under the No Action alternative. There would be no costs under this alternative for removing boundary posts. Future costs of maintaining property boundaries would likely be similar to current conditions.

Social and Economic Conditions

The disposal of 80 acres of NFS land, and its transfer into private ownership would not have a significant effect on Total Assessed Valuation for Bonner County, nor would it make any noticeable difference in Payments-in-Lieu of Taxes (see the above discussion under Government Taxes and Revenues).

Private ownership of the land would create a sewer treatment facility opportunity and the potential for additional employment. Though small, it represents a positive addition to the County's economic base. It is unlikely that this activity would generate many permanent jobs in the community. There would be very little impact on the population, housing, schools, or emergency services. The subject parcel is located in a small community that consists of many seasonal recreational homes. Therefore, the **proposed action** would not have any adverse effect on the environment of minority and low income populations.

Under **no action**, no change in Payments-in-Lieu of Taxes would occur. There would be no positive addition, however small, to Total Assessed Valuation for Bonner County. The County would lose an opportunity to add to its economic base, and a potential employment opportunity would be foregone.

Land Title Transfer and Closing Phase

Under the **proposed action**, the FS would incur some costs to process and close the land transaction for the parcel to be conveyed. This work would cost the FS approximately $3,500. These costs may be partially or wholly offset through a collection agreement with the sewer district.

Appraisal

The fee simple estate of the federal parcel is being appraised, subject to existing easements and reservations of record. The appraisal will be completed and approved by a certified appraiser and review appraiser, respectively, in accordance with federal standards. The appraisal will be completed and approved prior to issuing the Decision Notice on the proposed action presented in this appendix. The land value will be disclosed by exchange authority in the Decision Notice.

Noise

As stated in the EA on page 100, there would be no noise associated with operation of the wastewater treatment plant. Under the **proposed action**, noise from construction activities would be typical of those associated with this kind of work and would be temporary. Under the EPA FONSI (see project file), in residential areas all construction would be performed weekdays during daytime hours from 8:00 a.m. to 5:00 p.m.

Under **no action**, there would be no change in noise levels or durations from current conditions.

Landownership Adjustment

Land exchanges and land sales over time can indicate trends in landownership adjustments and therefore provide information on cumulative impacts related to IPNF ownership adjustment decisions. Table 13.10-4 below displays the IPNF conveyed and acquired acreage for the period from 1981 to 2006. There has been a net gain during that period of 22,748 acres. Forest Plan Monitoring and Evaluation Reports show an overall net gain in timber growth potential, timber volume, recreation visitor days, roadless area acres, floodplain acres and wetland acres from these past exchanges.

Table 13.10-4. Acres of federal land conveyed and non-federal lands acquired 1981-2006.

Year	Federal Acres Conveyed	Non-Federal Acres Acquired
1981	8,582	12,187
1982	2,960	5,728
1983	2,277	520
1984	3,718	3,126
1985	7,556	15,775
1986	8,044	9,815
1987	2,779	4,632
1988	3,097	3,164
1989	3,692	4,062
1990	2,376	3,281
1991	630	1,080
1992	0	10
1993	11,282	14,009
1994	294	370
1995	1,965	3,229
1996	35	40
1997	4,755	7,553
1998	3,728	2,077
1999	2,680	1,880
2000	1,350	1,920
2001	0	106

Year	Federal Acres Conveyed	Non-Federal Acres Acquired
2002	0	0
2003	0	0
2004	0	40
2005	0	0
2006	0	0
Total	**71,800**	**94,584**

Given the above information, conveyance of 80 acres of federal land to the Granite Reeder Sewer District under the proposed action would not result in an overall downward trend in federal ownership.

References

This section lists references cited in this appendix. Other references are cited in source documents located in the project file. Copies of all literature cited in this appendix and in the source documents are included in the project file.

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