Watershed, Soils, and Aquatic Species

Analysis Area

The analysis area for the watershed, soils and aquatic species topic in the IPNF includes most of the 6th code watersheds (hydrologic units of the scale 10,000 to 40,000 acres) that contain, at least partially, national forest system (NFS) lands in north Idaho, the portion of northeast Washington that includes the Priest River Basin, and a small part of northwest Montana. The analysis area also incorporates portions of the Kootenai River Basin in Idaho, including the Moyie River; the lower end of the Clark Fork, mostly in Idaho to where it flows into Pend Oreille Lake; the Pend Oreille Lake Basin in its entirety and the Pend Oreille River in Idaho; the Priest River Basin in Idaho and Washington; the Spokane River Basin in Idaho including the major tributaries, the Coeur d'Alene River and the Saint Joe River, as well as some tributaries to the lake itself and the Rathdrum Prairie; and the upper portion of the Little North Fork of the Clearwater River.

The lands that comprise the sixth-code watersheds consist of blocks and scattered pieces of NFS, other federal, state, and privately held lands. As mentioned in Chapter 1 of the CER, management of NFS lands often influences the watershed conditions and water resources at the scale of the watershed itself. Consequently, in areas of mixed ownership, reasonable assumptions of the management of those lands will be based on historic management and typical activities for those types of lands in the future

The analysis area for the watershed, soils and aquatic species in the KNF, includes all lands within the outside boundary of the Kootenai National Forest. This includes the 2.2 million acres that are under direct NFS lands management, as well as large blocks of corporate timberland and private properties. A significant piece of this contiguous area is under the management of the Plum Creek Timber Company (PCTC) and has been very actively managed for resource production in the past. The analysis conducted for this assessment, particularly the existing condition, includes several assumptions relating to activities on the private lands, especially the large blocks of corporate forestry lands.

Figure 1, below, displays the analysis area for the KIPZ and the hierarchy of the watersheds and the Hydrologic Unit Codes (HUCs). A sub-basin is a HUC4, a watershed is a HUC5 and a subwatershed is a HUC6.

Watershed (Water and Soil Resources) Conditions and Trends

The AMS and AMS Technical Report described the watersheds and aquatic species revision topic. The following information is an update to the AMS Technical Report for watersheds (water and soil resources) for each Forest.

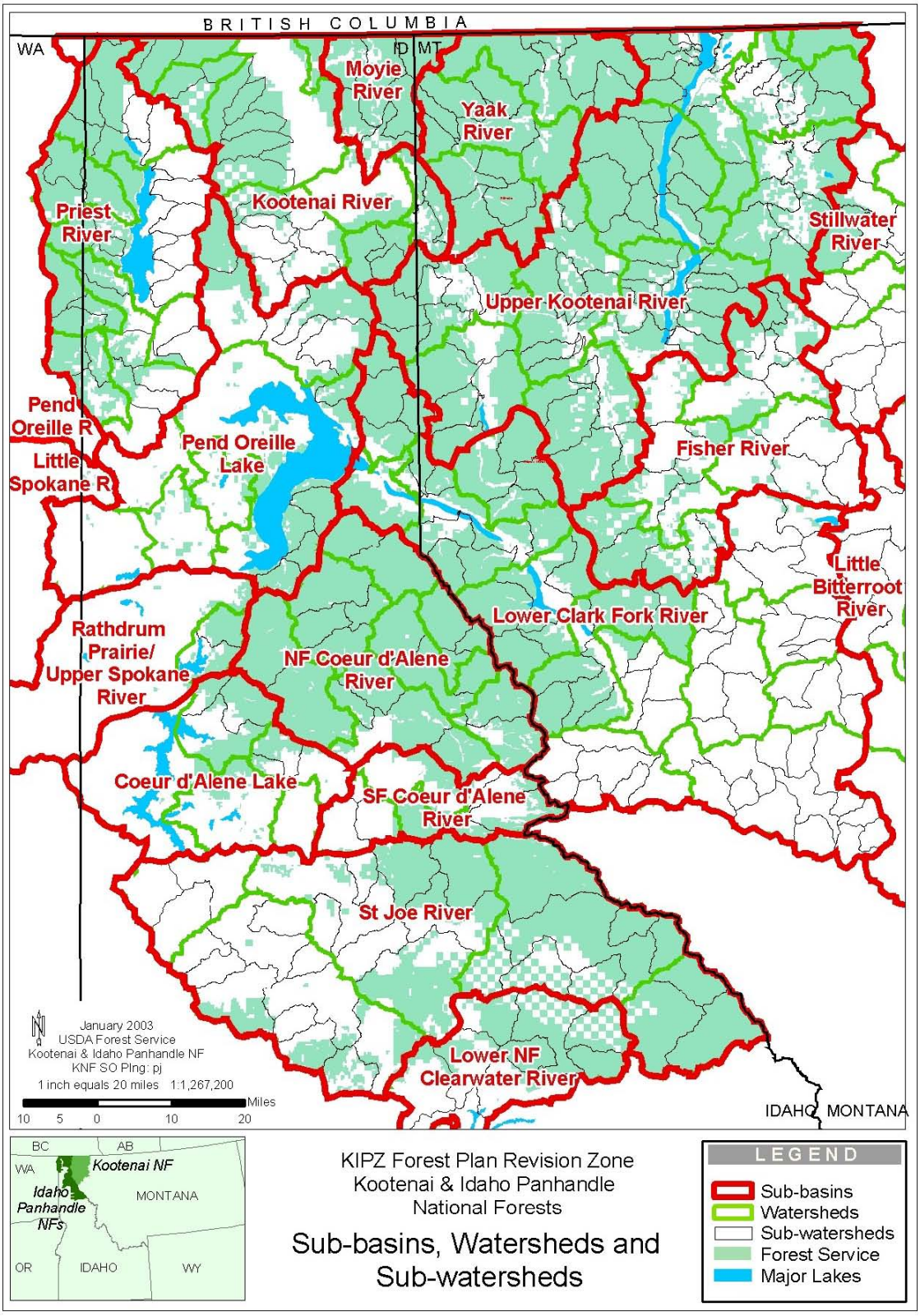

Figure W-1 Hydrologic Units of the KIPZ

Idaho Panhandle National Forest

Water Quality Limited Segments (WQLS)

Under the authority of the Clean Water Act, many states assessed the waters in their jurisdiction and identified stream segments and other water bodies whose water quality is "impaired" or generally not meeting water quality standards. At this time, the only listed waters involving IPNF watersheds are in Idaho. Currently, about two-thirds of the subwatersheds associated with the IPNF include or have the potential to influence one or more of these listed segments (see Section 5 of *Principles and Policies for the 2002 Integrated (303(d)/305(b) Report*, Idaho Dept. of Environmental Quality, September 30, 2005.)

The number of subwatersheds in the IPNF with designated impaired waters and their pollutant(s) of concern are shown in Tables W-1 and W-2. Forestwide information is displayed in Table W-1 and information by river basin is shown in Table W-2. This information was obtained from the Idaho Integrated Report, Section 5. This portion of the integrated report is similar to the previous 303(d) listing (1998) that was used for the AMS Technical Report except that watersheds now with completed TMDLs (Total Maximum Daily Loads) are no longer listed and there has been an addition of segments impaired by water temperature. The most frequent pollutant of concern in the IPNF is now listed as water temperature. Temperature departures are occurring in several watersheds where developmental activities often associated with this action have not occurred. Section 5 in the current (2002) list is a streamlined 303(d) list that does not contain waters impaired by non-pollutants such as flow alteration or habitat modification.

Table W-1 Number of 303(d)-listed Subwatersheds and Pollutants of Concern (Forestwide)

	IPNF Subwatersheds (Qty.)	**IPNF Subwatersheds (%)**
Subwatersheds on IPNF	131	100
Subwatersheds involving 303(d) segments	91	69
Pollutant of Concern	**Subwatersheds with Identified or Assumed Pollutant of Concern**	
	IPNF Subwatersheds (Qty.)	IPNF Subwatersheds (%)
Cadmium	4	3
Unknown	15	11
Lead	1	1
Metals	7	5
Nutrients	2	2
Pathogens	2	2
pH	1	1
Silt	24	18
Sedimentation	7	5
Thermal modification	74	56
Zinc	4	4

Table W-2 Quantity of 303(d)-listed Subwatersheds and Pollutants Assumed to be Causing Impairments by River Basin

Pollutant of Concern	Saint Joe River & upper Little North Fork Clearwater River	Coeur d'Alene River & Lake	Pend Oreille Lake Basin & Lower Clark Fork in Idaho	Priest River Basin	Kootenai River in Idaho including Moyie River
Cadmium	0	4	0	0	0
Unknown	0	0	5	6	4
Lead	0	1	0	0	0
Metals	0	5	0	0	2
Nutrients	1	1	0	0	0
Pathogens	0	0	0	2	0
pH	0	0	0	0	1
Silt	8	5	3	0	8
Suspended Sediment	0	2	0	0	5
Thermal	11	18	9	13	23
Zinc	0	4	0	0	0

Watershed Condition

As a result of corrections and updates, there have been several changes to the AMS Technical Report - Historic and Current Condition Section of Watershed and Aquatics. Table W-3, below, provides a comparison of current data with information from Table 1-22 of the AMS Technical Report for Revision of the Kootenai and Idaho Panhandle Forest Plans (March 2003).

Table W-3 Distribution of Expected Watershed Conditions by Subwatershed on the IPNF

Watershed Conditions	Data for IPNF from AMS Technical Report March 2003 (%)	Current Data for IPNF (%)
Properly Functioning Condition	26	25
Functioning, At-Risk	46	44
Not Properly Functioning	28	31
Number of IPNF Subwatersheds Evaluated	122	131

Since the AMS Technical Report was written, there have been some changes, primarily a new 303(d) list from the State of Idaho. Some general conclusions are:

- Nearly a third of the subwatersheds (31 percent) in or influenced by the Forest have indications that their watershed conditions are "Not Properly Functioning." Conversely, about a quarter of the subwatersheds (25 percent) appear to be "Properly Functioning." In addition, nearly half of the subwatersheds (44 percent), although currently functioning appropriately, exhibit trends or substantial risks that may move them into a "not properly functioning" category. This last category is termed "Functioning-At Risk." (refer to Tables W-2 through W-6).
- Many stream segments, lakes, and other water bodies have been listed as "Water Quality Limited Segments" (i.e., "impaired") by the states of Idaho, Washington, and

Montana. These segments or water bodies involve 69 percent of the subwatersheds on the Forest. The listed segments are assumed "impaired" predominantly by thermal modifications (56 percent of the subwatersheds); and secondarily by sediment (22 percent). Other pollutants are listed for a small number of subwatersheds (see Tables W-1 and W-8).

- Several fish and amphibian species in the Forest are listed as threatened or endangered under Endangered Species Act (ESA), or as sensitive by the Regional Forester.

Table W-4 describes the watershed condition by river basin. This table indicates that the Coeur d'Alene River GA has the highest percentage of watersheds in not properly functioning condition and the Pend Oreille GA the highest percentage of watersheds in properly functioning condition.

Detailed information related to the methodologies and assessment of watershed condition and updated watershed condition by 6th code HUC can be found in Appendix H of this document.

Table W-4 Watershed Conditions by Geographic Area (by percent)

Watershed Conditions	Saint Joe River (& upper Little North Fork Clearwater River)	Coeur d'Alene River & Lake (& Rathdrum Prairie Watersheds)	Pend Oreille Lake (and Lower Clark Fork in Idaho)	Priest River Basin (including South Fork Salmo River in lower Pend Oreille River Basin)	Kootenai River in Idaho including Moyie River
Properly Functioning Condition	28	13	35	22	32
Functioning, At-Risk	41	23	59	61	48
Not Properly Functioning	31	65	6	17	19
Number of IPNF Subwatersheds	29	31	17	23	31

Future Trends based on the Proposed Land Management Plan

Under the Proposed Land Management Plan, the expected harvest levels associated with timber production, vegetation restoration, and other projects harvesting timber range from 65 to 75 MMBF. This is similar to timber harvest levels in the Forest over the last several years (5 to 10 years), although it is greatly reduced from harvest levels over the past 20-25 years. Forestwide Desired Conditions in the Proposed Land Management Plan will protect watershed values and conditions during forest management activities. In addition, INFISH standards and guidelines have also been incorporated into the Proposed Plan as guidelines, objectives, desired conditions, and a suitability statement that will work to protect watershed values and conditions during forest management actions. The construction of few roads is anticipated and those already in place will be routinely improved and upgraded as they are used in management activities. Consequently, watershed conditions are not expected to decline from the level of management in the Plan.

Objectives in the Plan will work toward reducing, mitigating, or eliminating the number of subwatersheds experiencing disturbances as well as the number of target acres managed for

watershed and aquatic resource improvements. As outlined in the Proposed Land Management Plan, subwatershed scale improvements will occur at the project level and in the short-term (five years) will result in limited improvements. Over the life of the Plan (approximately 15 years) and following time periods, more subwatersheds will be targeted for watershed-scale improvement strategies (via management actions) that will result in improvements of whole watershed systems.

Soils

Soil conditions under the Proposed Land Management Plan should reflect the reduction in harvest and disturbance levels and should not decline in response to implementation of the Plan. Guidance included in the Plan is designed to protect soil conditions and soil quality and maintain soil productivity. In addition, soil conditions will be protected and soil quality improved based on moderate harvest levels associated with the Proposed Land Management Plan.

Kootenai National Forest

Water Quality Limited Segments (WQLS)

The AMS Technical Report (March 2003) provided a list of 45 stream segments or water bodies in the KNF that were identified by the State of Montana as impaired under Section 303(d) of the Clean Water Act (2002 List). Clarification as to what constitutes impairment-listing on the 303(d) list, corrections, as well as an update to the 2004 Montana Report, now reveal that 47 segments and water bodies within the KNF boundary are identified as impaired water bodies. This is based on the State database, which includes two segments of the Kootenai River, plus Lake Koocanusa (three entries) and the Clark Fork River plus Noxon reservoir (two entries). While many of these segments do not currently require total maximum daily loads (TMDLs), they are listed by the State as areas where more information will be required before a determination can be made. These segments are located within the KNF boundary, not just in NFS lands; therefore, some of the segments mentioned are located on private land. Figure 2, below, updates Figure 1-26 as displayed in the AMS Technical Report (March 2003).

Watershed Condition

There have been several changes (e.g., terminology, corrections, and updates) to the AMS Technical Report - Historic and Current Condition Section of Watershed and Aquatics, since its release in March 2003.

A significant condition change in the Kootenai National Forest since publication of the AMS Technical Report is the shift to a classification system based on “Watershed Condition Class,” which is consistent with FSM 2521.1. Whereas the AMS Technical Report (March 2003) used “Properly Functioning Condition” terminology in assessing and describing watershed, the KNF has adopted the terminology used in FSM 2521.1 to assess and describe watershed conditions.

To avoid confusion, the AMS Watershed Condition Classes of properly function condition (PFC), functioning at risk (FAR) and not properly functioning (NPF) have been changed to Class I, Class II and Class III (refer to the crosswalk, below):

AMS National Properly Functioning Condition (PFC) Evaluation Process Terminology	Revised FSM 2521.1 Watershed Condition Class Terminology
Properly Functioning Condtion (PFC)	Class I
Functioning, At Risk (FAR)	Class II
Not Properly Functioning (NPF)	Class III

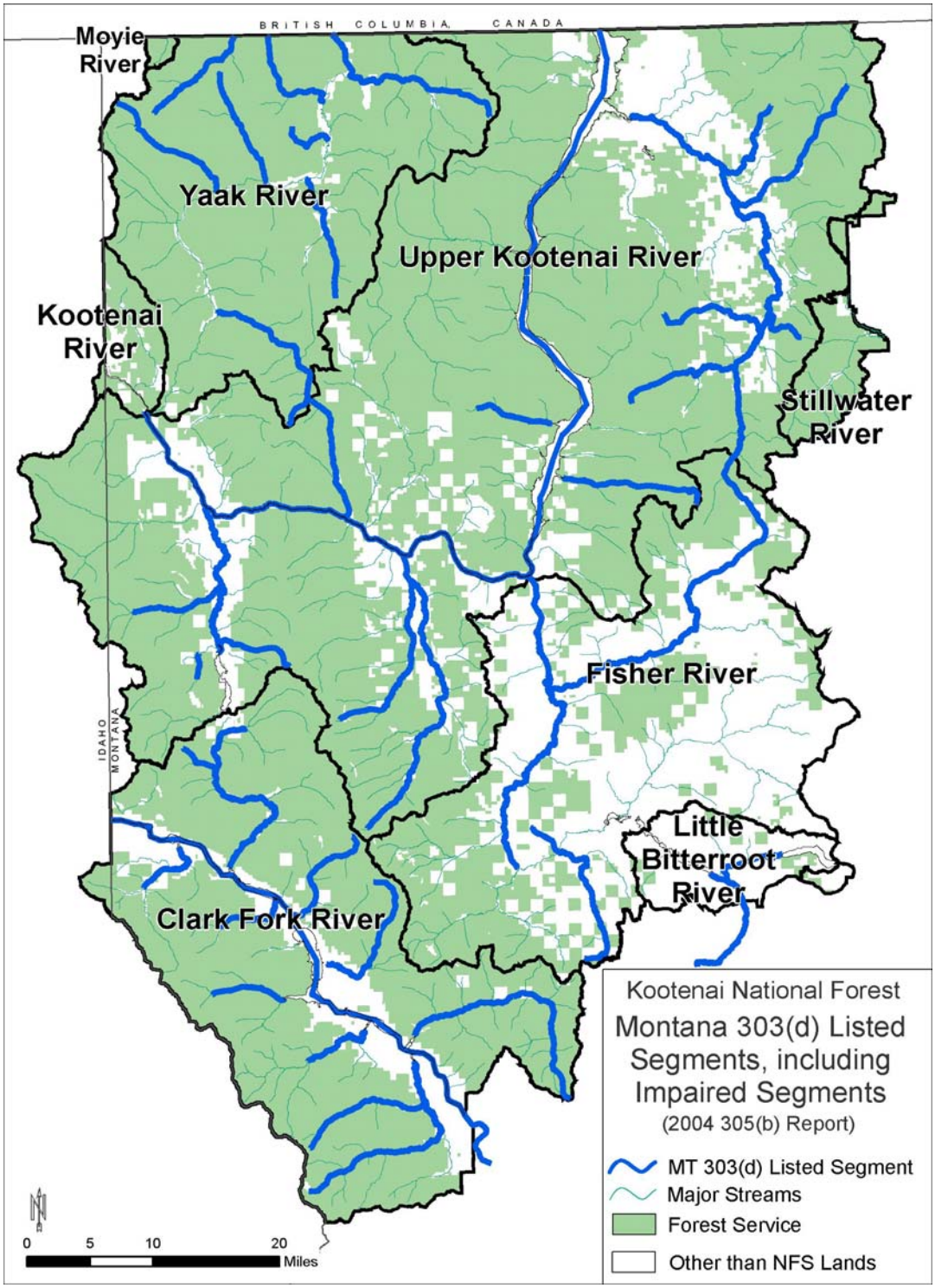

Figure W-2; Montana 303(d) listed-Segments, including Impaired Segments (2004 305[b] Report)

These changes were made to remove any interpretation errors associated with an evaluation process already in place, the National Properly Functioning Condition (PFC) Evaluation Process. The following text documents this change in terminology, including the definitions (with elaboration) directly from FSM 2521.1:

Class I Condition – these watersheds exhibit high geomorphic, hydrologic, and biotic integrity relative to their natural potential condition. The drainage network is generally stable. Physical, chemical, and biologic conditions suggest that soil, aquatic, and riparian systems are predominantly functional in terms of supporting beneficial uses. They are essentially in excellent condition in terms of physical, hydrologic, and water quality characteristics and function. Class I Condition Class Watersheds generally have high integrity in terms of those same characteristics and processes. The streams are in dynamic equilibrium with their watersheds (i.e., they adjust appropriately to natural fluctuations of stream flow and sediment loading), and the watershed systems are fully functional, operating within their potential. The systems are adjusting to disturbances within their apparent natural ranges of variability; and they can be expected to respond to disturbances with a trend toward a good condition within a reasonable time period.

Class II Condition – these watersheds exhibit moderate geomorphic, hydrologic, and biotic integrity relative to their natural potential condition. Portions of the watershed may exhibit an unstable drainage network. Physical, chemical, and biologic conditions suggest that soil, aquatic, and riparian systems are at risk in being able to support beneficial uses. These watersheds continue to have adequate physical, hydrologic and water quality integrity; however, present or ongoing adverse disturbances are likely to compromise that integrity if the present adverse disturbances are not modified or corrected. Moderate condition watersheds have at least moderate physical, hydrologic, and water quality integrity even though they may have been substantially compromised by adverse disturbances.

Class III Condition – these watersheds exhibit low geomorphic, hydrologic, and biotic integrity relative to their natural potential condition. A majority of the drainage network may be unstable. Physical, chemical, and biologic conditions suggest that soil, riparian, and aquatic systems do not support beneficial uses. These watersheds are operating and adjusting outside what can be considered dynamic equilibrium; or the physical, hydrologic, or water quality integrity has been so compromised that restoration efforts may be difficult without significant funding and very long recovery time periods. Watershed systems that are in poor condition are essentially not physically capable of fully supporting beneficial uses. These systems will likely require substantial intervention and/or extremely long recovery periods to restore their capability to fully support beneficial uses. They may contain aquatic resources that are seriously degraded or that are not likely to sustain themselves over time.

In addition to terminology changes, several corrections have been made since the AMS was written. In addition, updated information has changed some of the watershed condition results. In the AMS Technical Report, two watersheds were listed as being properly functioning (which is now Class I) that should have been shown as functioning, at-risk (now Class II). The watersheds affected are:

1. Lower Vermilion River, 170102130806
2. Lower Trout Creek, 170102130902

Updated information since the AMS was written has also resulted in changes in watershed conditions for 12 other watersheds. Table W-5, below, reflects the current watershed conditions (and terminology) for these updated watersheds.

W-5 KNF Updated Watershed Condition to the AMS Technical Report

Watershed #	Watershed Name	AMS PFC Condition (Watershed Condition Class)	Revised Watershed Condition
170101010306	Meadow Creek	FAR (Class II)	Class III
170101010307	Lower Fortine Creek	NPF (Class III)	Class II
170101010406	Tobacco River	NPF (Class III)	Class II
170101010206	Sullivan Creek	PFC (Class I)	Class II
170101010208	Lower Pinkham Creek	FAR (Class II)	Class III
170101010501	Boulder Creek	NPF (Class III)	Class II
170101010509	Tenmile Creek	PFC (Class I)	Class II
170101010506	McGuire Creek	NPF (Class III)	Class II
170101010502	Sutton Creek	FAR (Class II)	Class III
170102131004	Lower Bull River	PFC (Class I)	Class II
170102131103	East Fork Elk Creek	PFC (Class I)	Class II
170102131103	East Fork Blue Creek	PFC (Class I)	Class II

Detailed information on the assessment of watershed condition and updated watershed condition by 6th code HUC can be found in Appendix H of this document.

As a result of corrections and updates, there have been several changes to the AMS Technical Report - Historic and Current Condition Section of Watershed and Aquatics. Table W-6, below, provides a comparison of current data with information from Table 1-22 of the AMS Technical Report for Revision of the Kootenai and Idaho Panhandle Forest Plans - March 2003.

Table W-6 Distribution of Expected Watershed Conditions by Subwatershed on the KNF

Watershed Condition Class	Data for KNF from AMS Technical Report March 2003 (%)	Current Data for KNF (%)
Class I [1]	17	12
Class II[2]	61	65
Class III[3]	22	23
Number of KNF Subwatersheds Evaluated	144	144

1 Previously, Properly Functioning Condition.
2 Previously, Functioning, At-Risk.
3 Previously, Not Properly Functioning.

Figure W-3 displays the Forestwide watershed condition class and updates the KNF portion of Figure 1-25 in the AMS Technical Report.

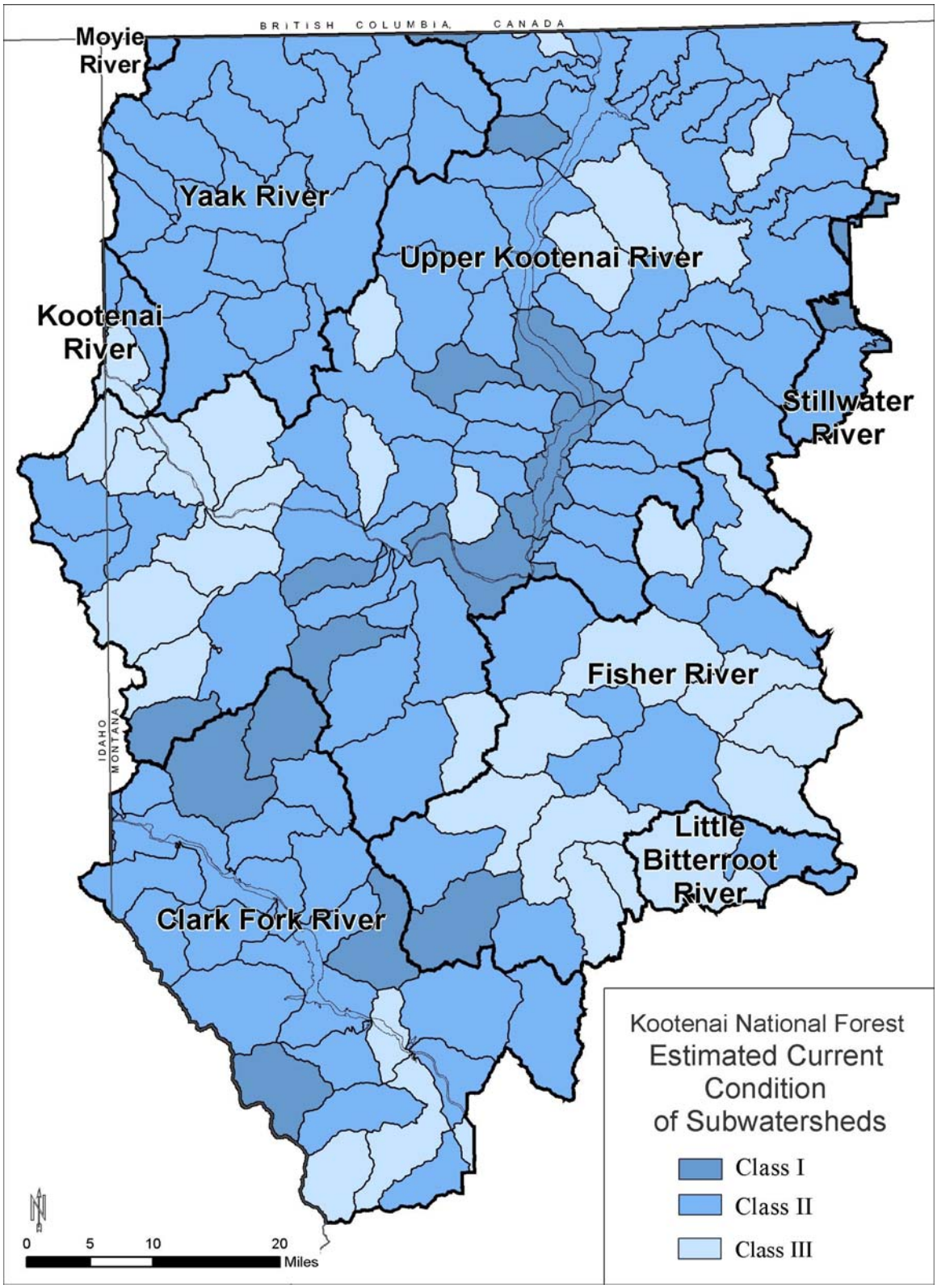

Figure W-3 KNF Estimated Current Watershed Condition for Subwatersheds

Future Trends based on the Proposed Plan

Under the Proposed Land Management Plan, the expected harvest levels associated with timber production, vegetation restoration, and other projects harvesting timber range from 55 to 65 MMBF. This is similar to timber harvest levels in the Forest over the last several years (5 to 10 years) although it is greatly reduced from harvest levels over the past 20-25 years. Forestwide Desired Conditions in the Proposed Land Management Plan will protect watershed values and conditions during forest management activities. In addition, INFISH standards and guidelines have also been incorporated into the Proposed Plan as guidelines, objectives, desired conditions, and a suitability statement that will work to protect watershed values and conditions during forest management actions. The construction of few roads is anticipated and those already in place will be routinely improved and upgraded as they are used in management activities. Consequently, watershed conditions are not expected to decline from the level of management in the Plan.

Objectives in the Plan will work toward reducing, mitigating, or eliminating the number of subwatersheds experiencing disturbances as well as the number of target acres managed for watershed and aquatic resource improvements. As outlined in the Proposed Land Management Plan, subwatershed scale improvements will occur at the project level and in the short-term (five years) will result in limited improvements. Over the life of the Plan (approximately 15 years) and following time periods, more subwatersheds will be targeted for watershed-scale improvement strategies (via management actions) that will result in improvements of whole watershed systems.

Soils

Monitoring has indicated that the area extent of detrimental disturbance has declined over time. Soil conditions under the Proposed Land Management Plan should reflect the reduction in harvest and disturbance levels and should not decline in response to implementation of the Plan. Guidance included in the Plan is designed to protect soil conditions and soil quality and maintain soil productivity. In addition, soil conditions will be protected and soil quality improved based on moderate harvest levels associated with the Proposed Land Management Plan.

Aquatic Species and Habitat Conditions and Trends

Assessment and Forest Planning Process

To assess aquatic species condition and trends, the KIPZ followed the Multi-scale Aquatic Assessment and Planning Framework developed by the Rocky Mountain Research Station (RMRS) in Boise, Idaho This framework was developed to assist aquatic specialists in collecting, organizing, documenting and using natural resource data for assessing and designing management actions to protect, maintain and restore native salmonid populations. This Framework was used to develop Plan components that would protect, maintain and restore native salmonid populations, aquatic habitats and overall watershed conditions. Several steps of the Framework incorporate the use of professional judgment in conjunction with data.

Refer to http://www.fs.fed.us/rm/boise/teams/techtran/projects/multiscale_home.htm for more information).

The six steps of the Aquatic Multi-scale Assessment and Planning Framework used for Plan revision include:

Step 1 – Describe the current condition and distribution of native fish populations of interest (using the R1 Fish Status Assessment Version 10 – see Appendix H) and watershed condition by 6th Hydrologic Unit Code (HUC).

Step 2 – Describe the desired condition for native fish population status and distribution, aquatic habitats and watersheds.

Step 3 – Identify risks and threats that influence native fish populations, aquatic habitats and watershed conditions.

Step 4 – Complete a multi-scale assessment analysis.

Step 5 – Develop direction for conservation and restoration strategies for aquatic resources in the proposed forest plan.

Step 6 – Complete forest plan multi-scale monitoring.

All aquatic data used in the Proposed Land Management Plan was summarized by 6th code hydrologic units (subwatersheds). The subwatershed is the primary fine scale for summarizing reach and habitat data. The subwatershed is often synonymous with local populations and/or life stages, risks and threats, as well as project level management action assessments. In order to determine how conditions are distributed across a larger geographic area, some information is summarized and interpreted at the sub-basin (4th code hydrologic units) level. The sub-basin is also the primary broadscale summary unit for salmonids. The sub-basin acts as a terminal aquatic environment, aligning with the salmonid meta-population (a collection of local populations interacting to hedge against extinction through the migratory life stage). Self-sustaining populations (strongholds) act as source populations for supporting weaker populations or recolonizing extirpated populations or new habitats. This multi-scale approach allows for broader interpretations of current conditions in terms of salmonid meta-populations and movement throughout several subwatersheds.

The following is a brief description of each step in the Aquatic Multi-scale Assessment and Planning Framework. For more detailed information, see Appendix H.

Step 1. ***Provide a description of the current condition and distribution of native fish populations of interest (Using the R1 Fish Status Assessment, Version 10 and watershed condition by 6th Hydrologic Unit Code [HUC])***.

This step provides the environmental baseline for federally-listed species. It also addresses the effectiveness of the current Plan direction. All known current data sources for native fish populations was used including State fish survey records, Forest and District fish survey records, and Tribal fish survey records.

Step 2. ***Provide a description of the desired condition for native fish population status and distribution, aquatic habitats and watersheds***.

Aquatic desired conditions in the Plan provide a detailed description of the desired values for desired stream habitat features including riparian features and desired conditions for aquatic species including Threatened and Endangered species, species of concern (SOC) and species of interest (SOI).

Step 3 – ***Identify risks and threats that influence native fish populations, aquatic habitats and watershed conditions***.

Risks and threats to native fish species of interest were identified by 6th code HUC and tracked in a spreadsheet. Risks identified during this step included deterministic, stochastic and genetic extinction risk factors (Rieman et al. 1993). Extinction risks included influences at several spatial and temporal scales. The list of threats includes land use practices, invasive species, and/or landscape conditions that may directly or indirectly affect native fish population life stages, aquatic habitats and watersheds. The identified threats were evaluated and prioritized based on those risks/threats that Forest Service management or cooperative partnership actions could influence.

Step 4 – ***Multi-Scale Assessment Analysis***.

In step four, the previous three steps were analyzed and interpreted. Analysis influence diagrams were then developed to provide a transparent view of the link between threats and risks data (qualitative and quantitative) and the population, habitat or watershed expected outcome.

Step 5 – ***Develop conservation and restoration strategies for aquatic resources. A multi-scale strategy is developed to identify priority sub-basins, watersheds, subwatersheds and streams for protecting, maintaining and restoring water quality, healthy watershed conditions, native aquatic species meta-populations, local populations, life stages and habitat integrity***.

Information gained in Steps 1-4 was used to develop an Aquatic and Riparian Conservation and Restoration Strategy, which is included in the Proposed Land Management Plan. The Aquatic and Riparian Conservation and Restoration Strategy is designed to maintain and restore ecosystem health at watershed and landscape scales to protect or restore habitat for fish and other riparian-dependent species. This approach seeks to prevent further degradation and restore processes and habitat at the watershed scale.

Step 6 – ***Multi-scale Monitoring*.**

Implementation of Plan direction for aquatic and riparian conditions will be monitored for 1) effectiveness, 2) implementation, and 3) validation.

For more information on the science and process used in developing forest plan direction for aquatics species and habitat, see the Aquatics Species and Habitat section of Appendix H.

Current Conditions

Current distribution and population status maps for bull trout, westslope cutthroat trout, and interior redband trout found in the AMS Technical Report have been corrected and updated, as shown in Figures W-4 through W-6.

Identified stronghold populations for bull trout, westslope cutthroat trout, and interior redband trout are shown on the above maps as “Strong”.

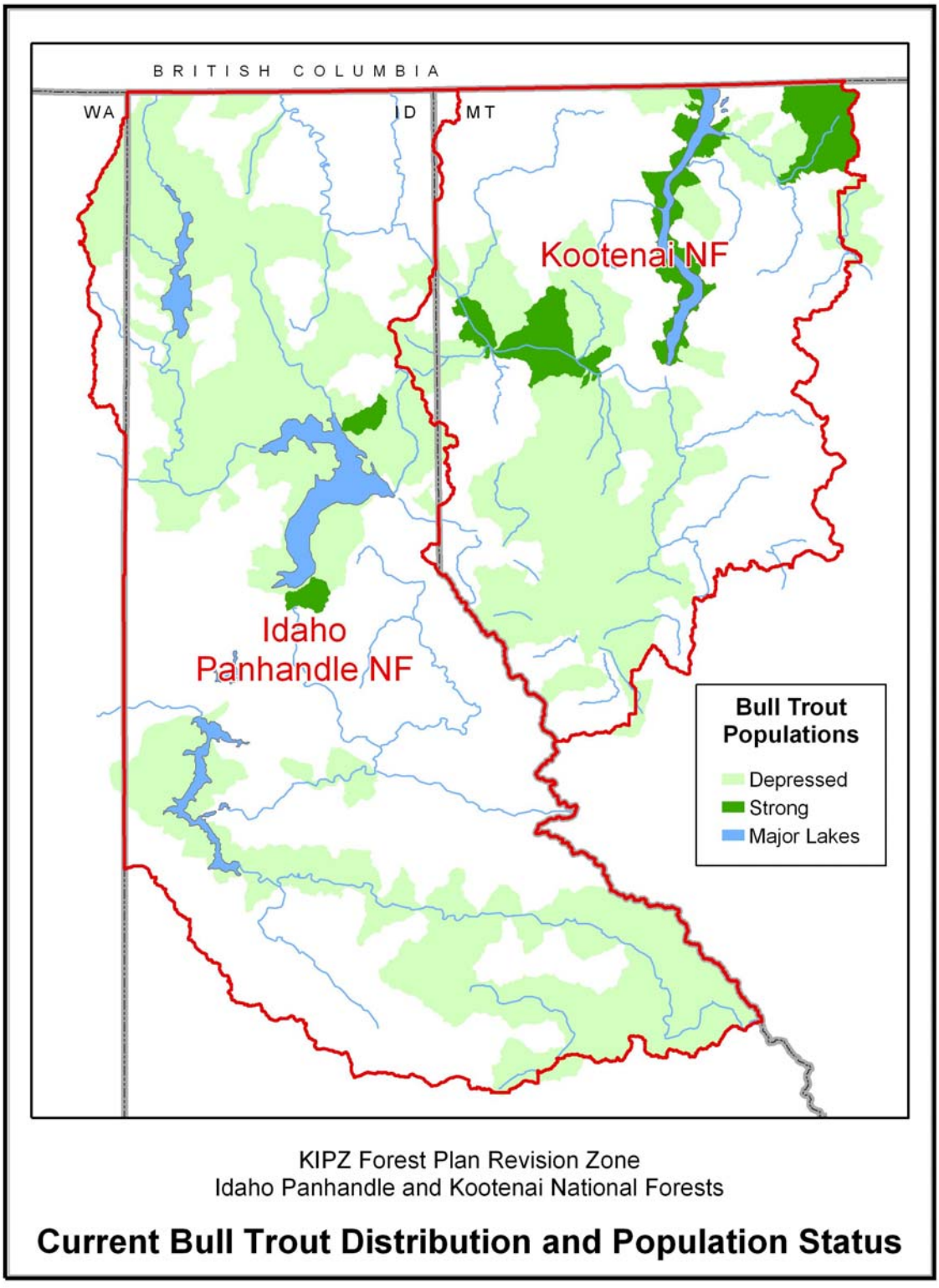

Figure W-4 Current Bull Trout Distribution and Population Status

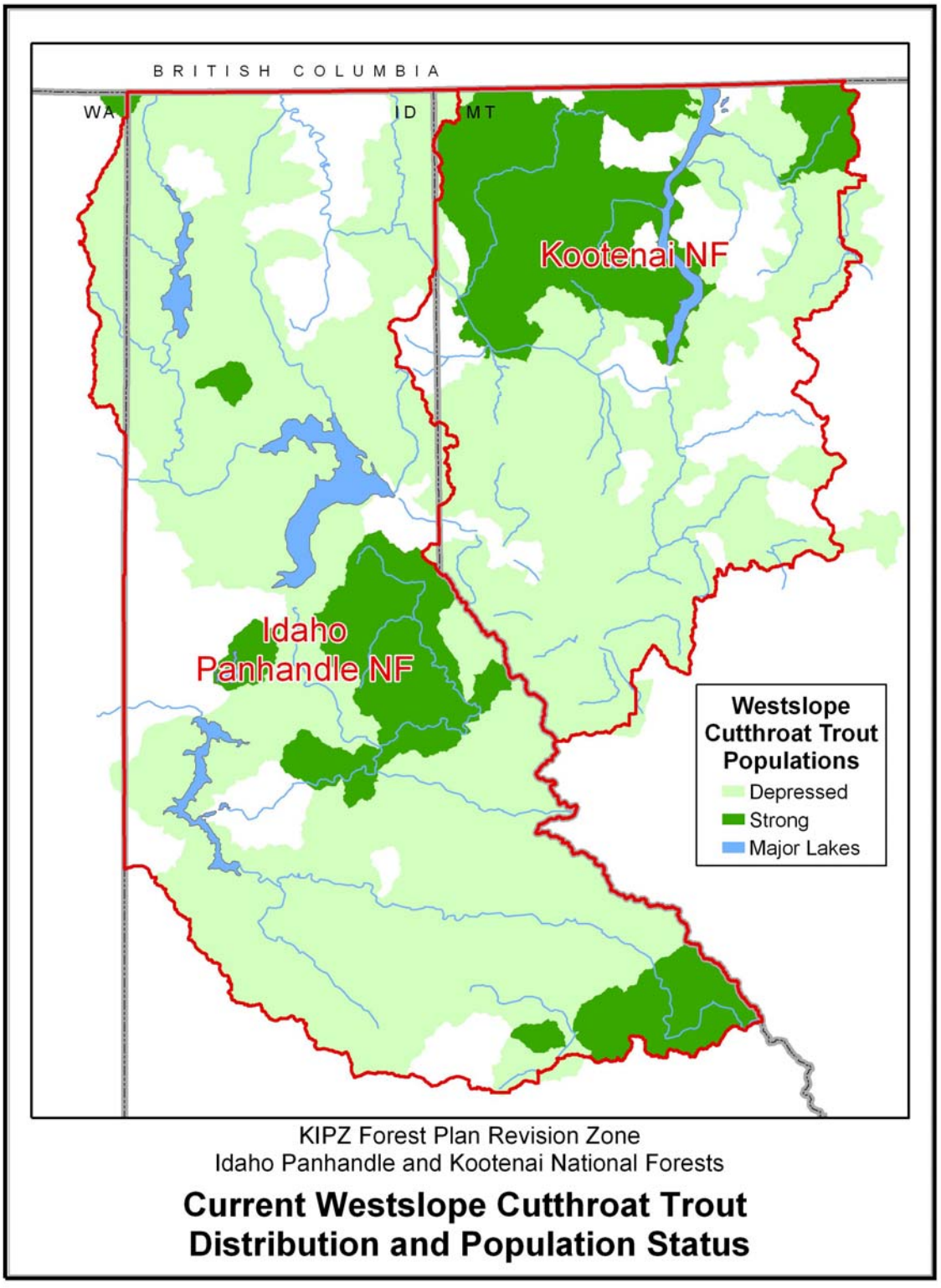

Figure W-5 Current Westslope Cutthroat Trout Distribution and Population Status

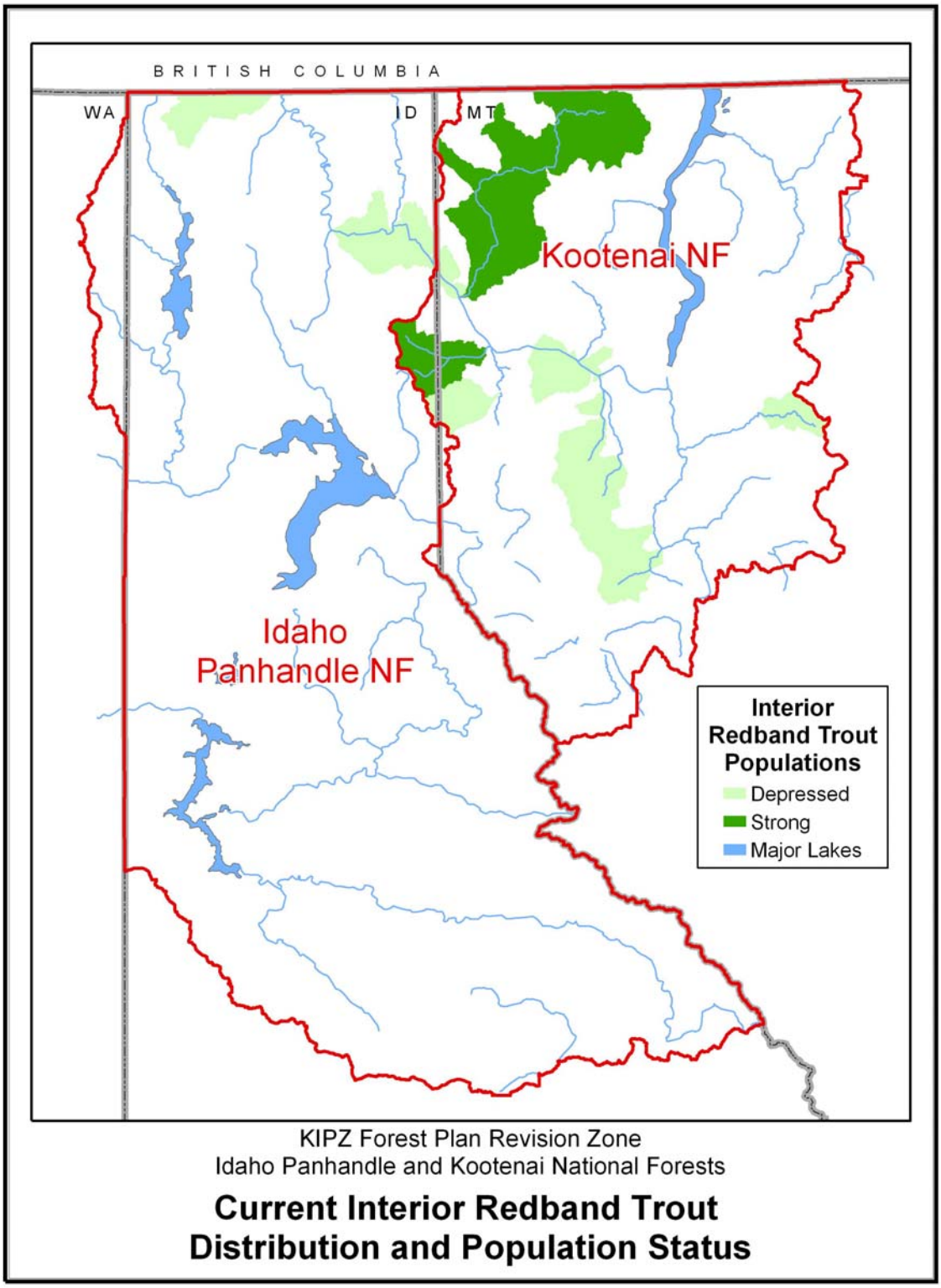

Figure W-6 Current Redband Trout Distribution and Population Status

Future Trends

Figures W-7 through W-19 display the potential trend of the physical and biological aquatic desired conditions that could occur in the short term (over the life of the Plan) and the long term (50 to 100 years) based on current condition; known risks and threats to the watersheds and populations; "conservation rules of thumb;" and plan components. For the IPNF maps (figures W-7 through W-11), the "Higher" quality watersheds are equivalent to the "conserve watersheds" described in the Aquatic and Riparian Conservation and Restoration strategy elements. The IPNF maps are integrated for all aquatic species and habitats. The KNF maps (Figures W-12 through W-19) are shown by fish species.

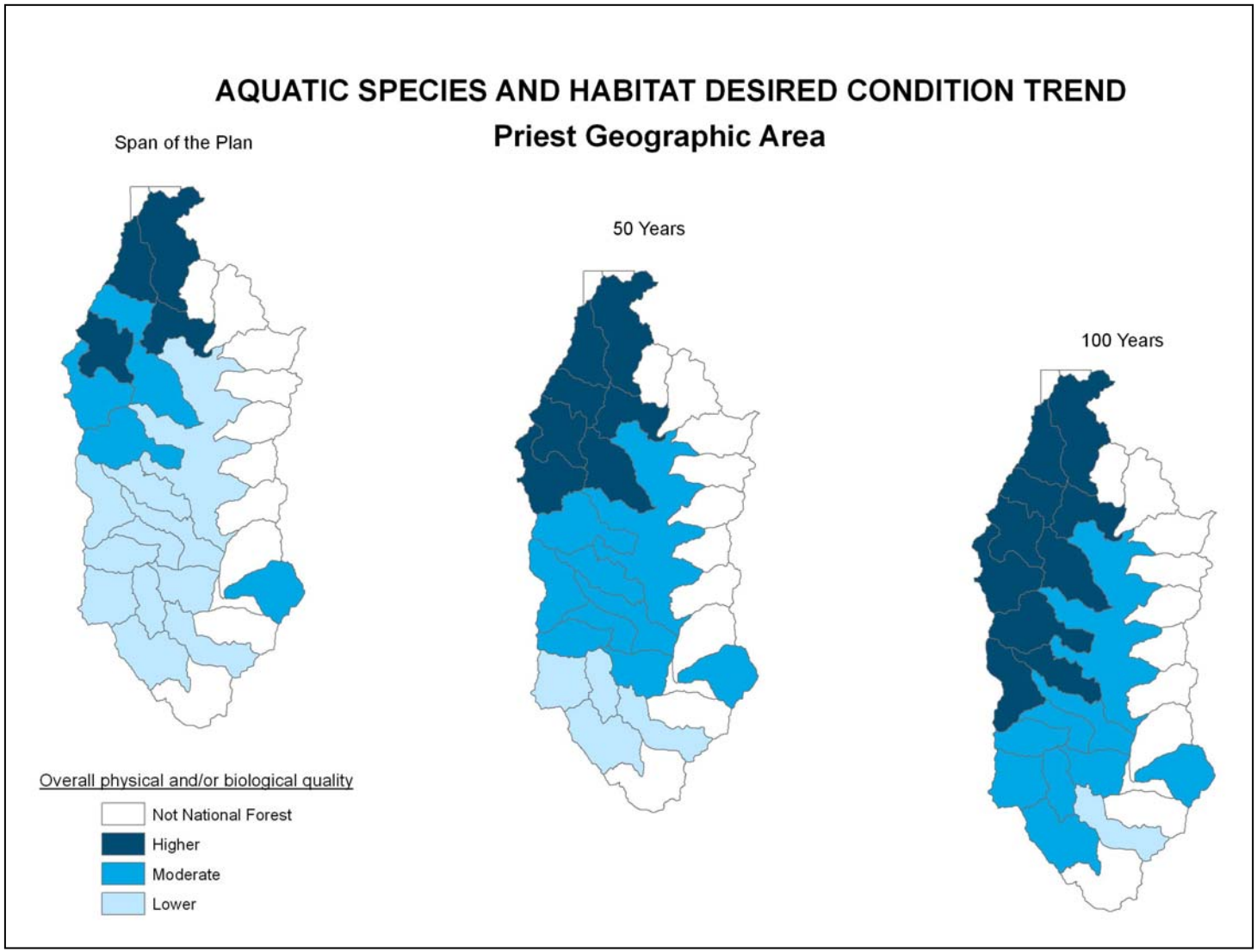

Figure W-7 IPNF - Aquatic Species and Habitat Desired Condition Trend for the Priest GA

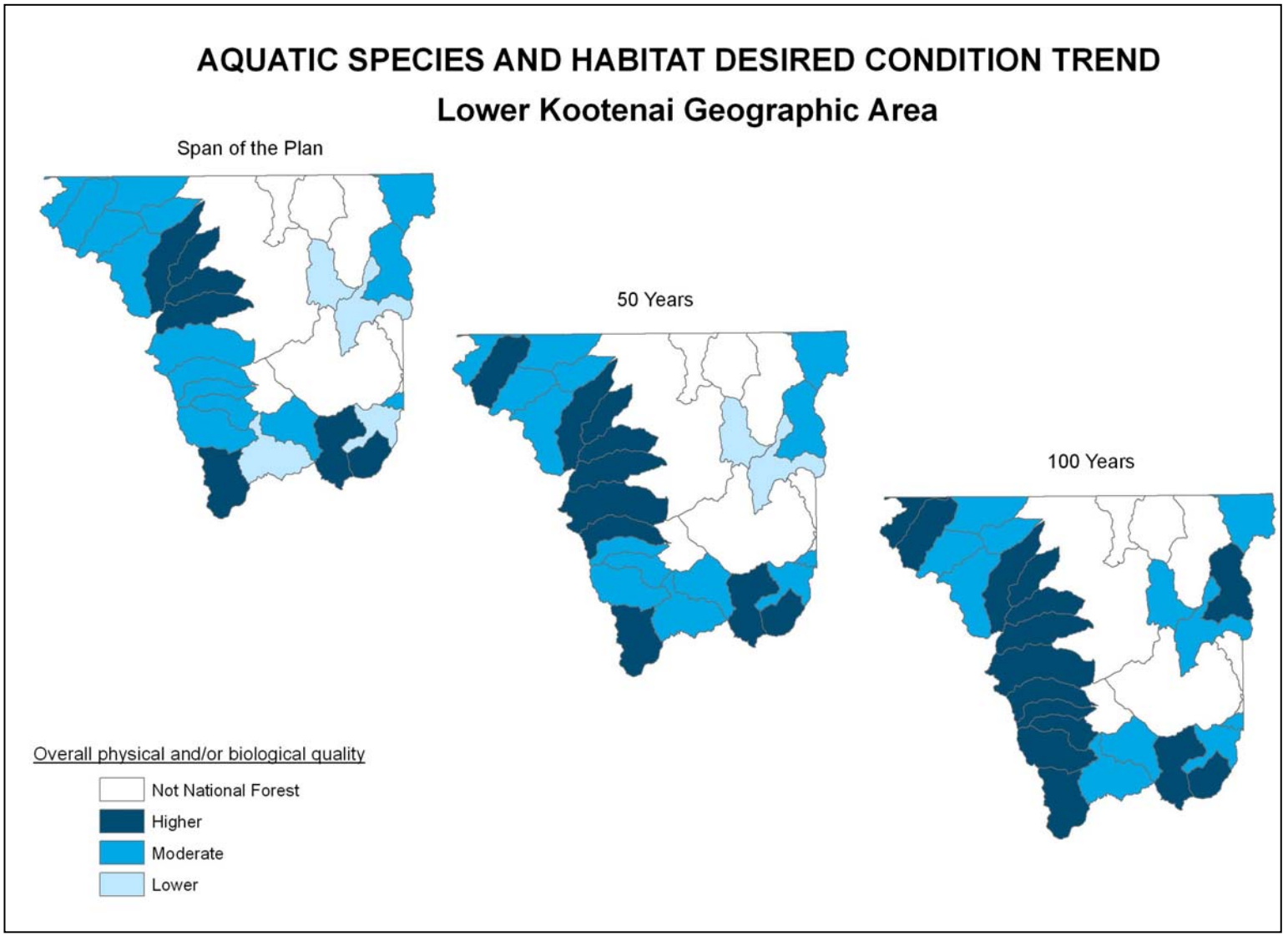

Figure W-8 IPNF - Aquatic Species and Habitat Desired Condition Trend for the Lower Kootenai GA

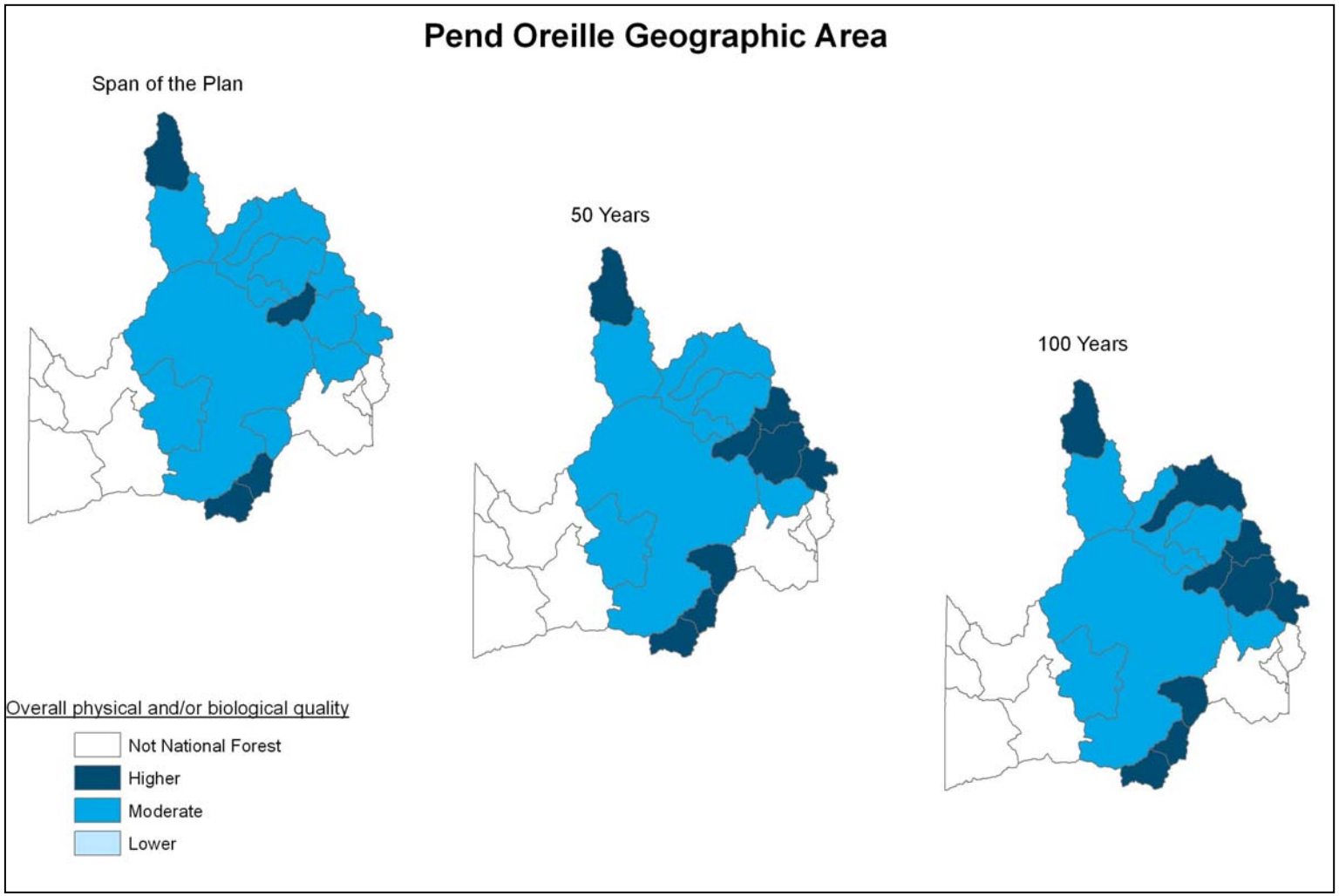

Figure W-9 IPNF - Aquatic Species and Habitat Desired Condition Trend for the Pend Oreille GA

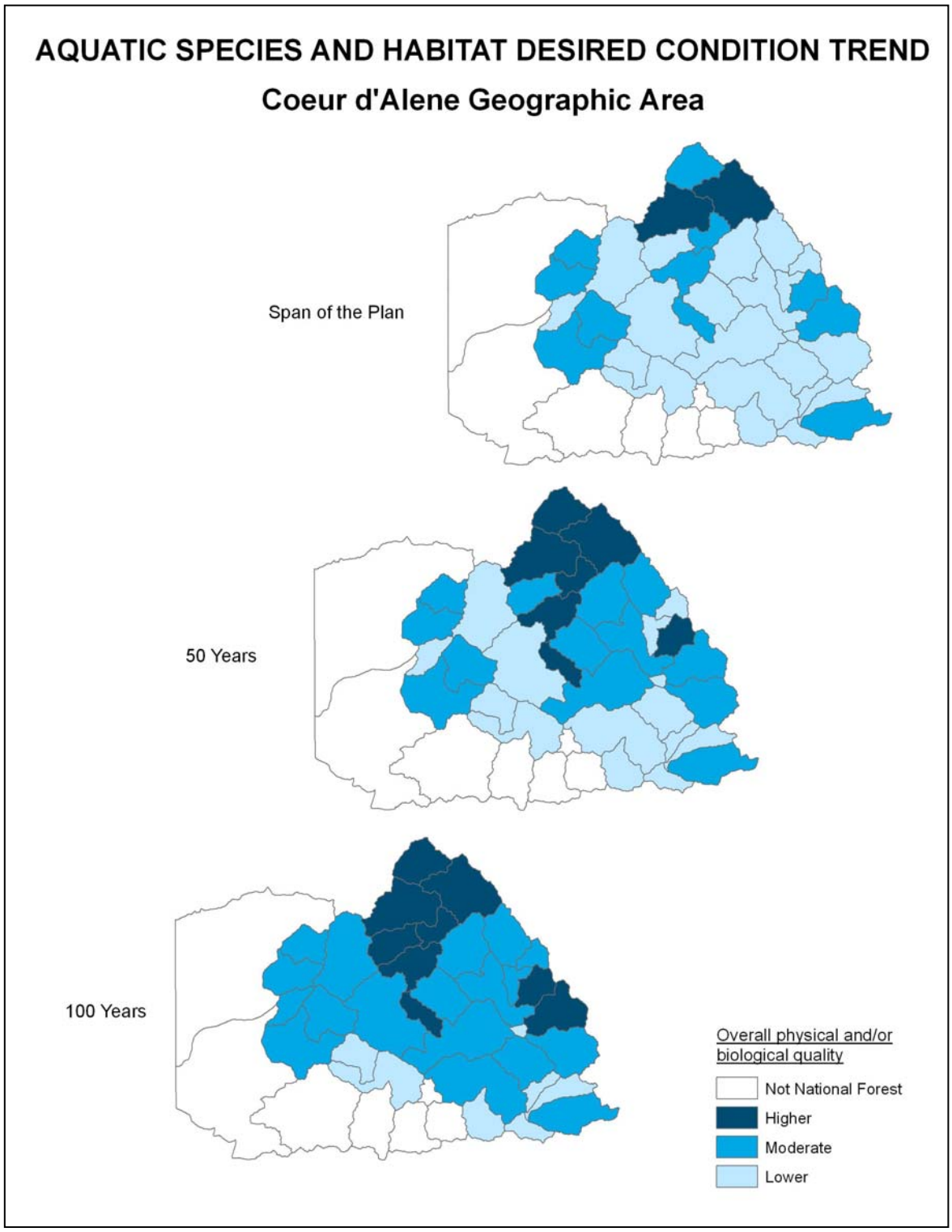

Figure W-10 IPNF - Aquatic Species and Habitat Desired Condition Trend for the Coeur d'Alene GA

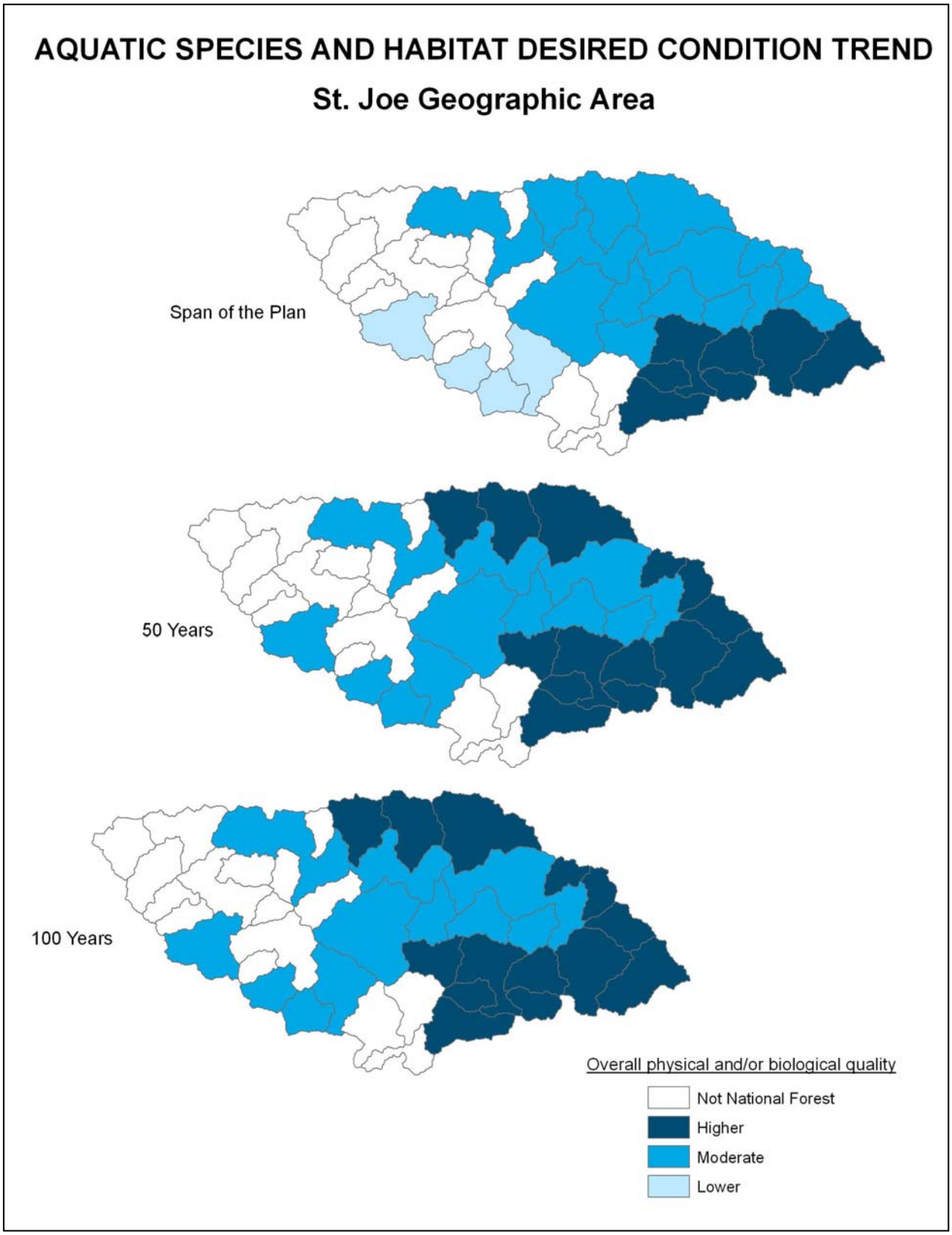

Figure W-11 IPNF - Aquatic Species and Habitat Desired Condition Trend for the St Joe GA

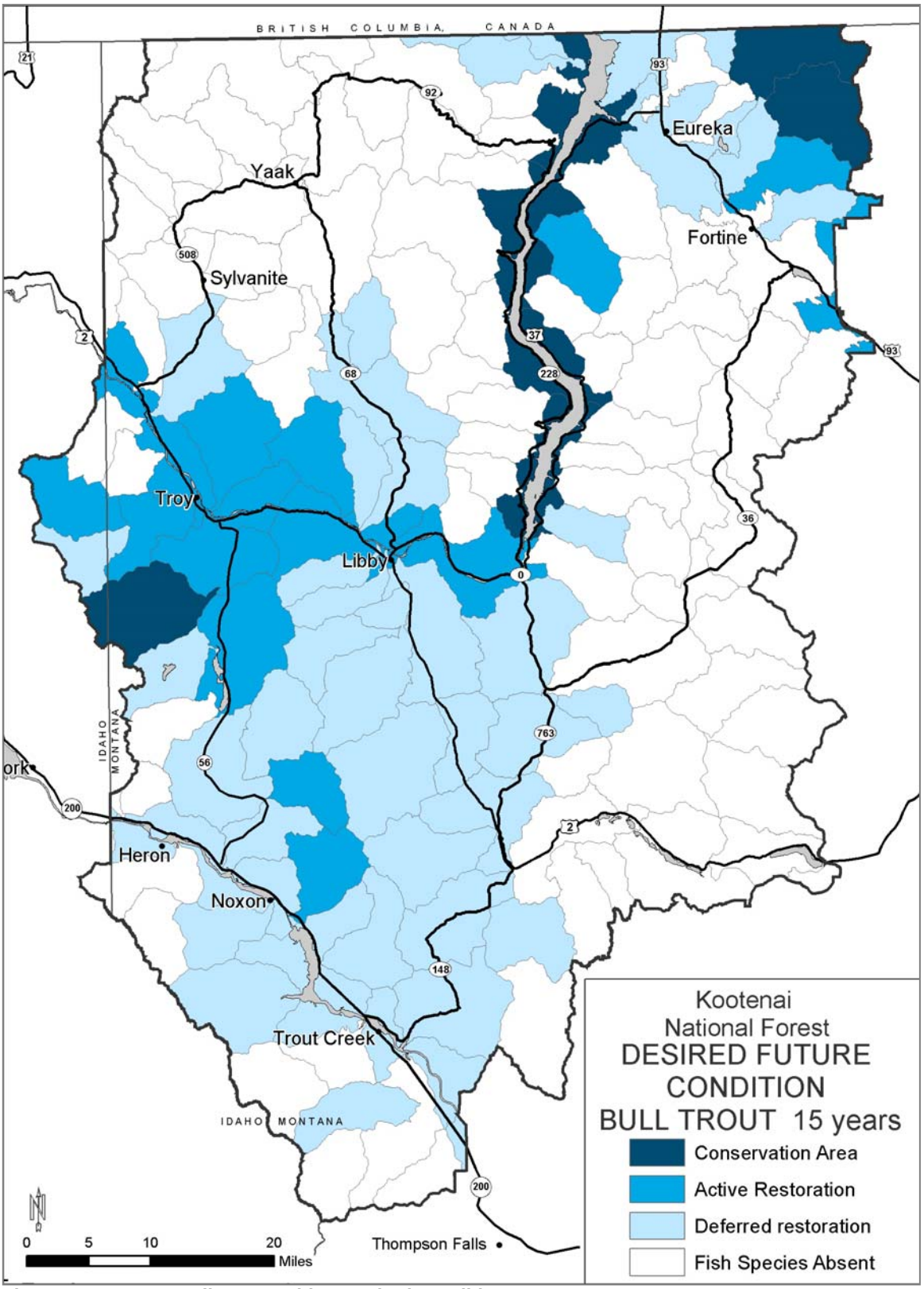

Figure W-12 KNF – Bull Trout Habitat Desired Condition – 15 Years

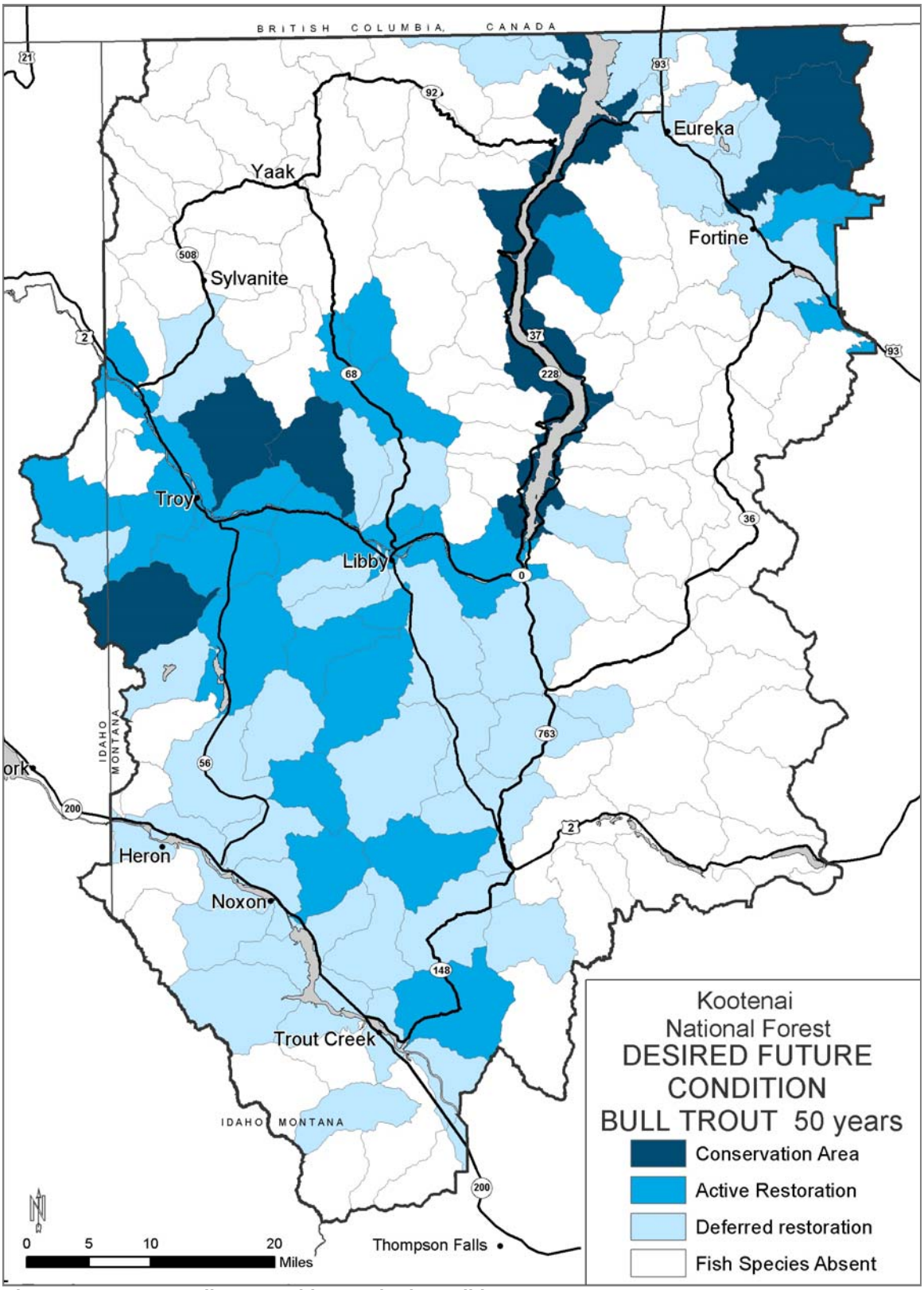

Figure W-13 KNF – Bull Trout Habitat Desired Condition – 50 Years

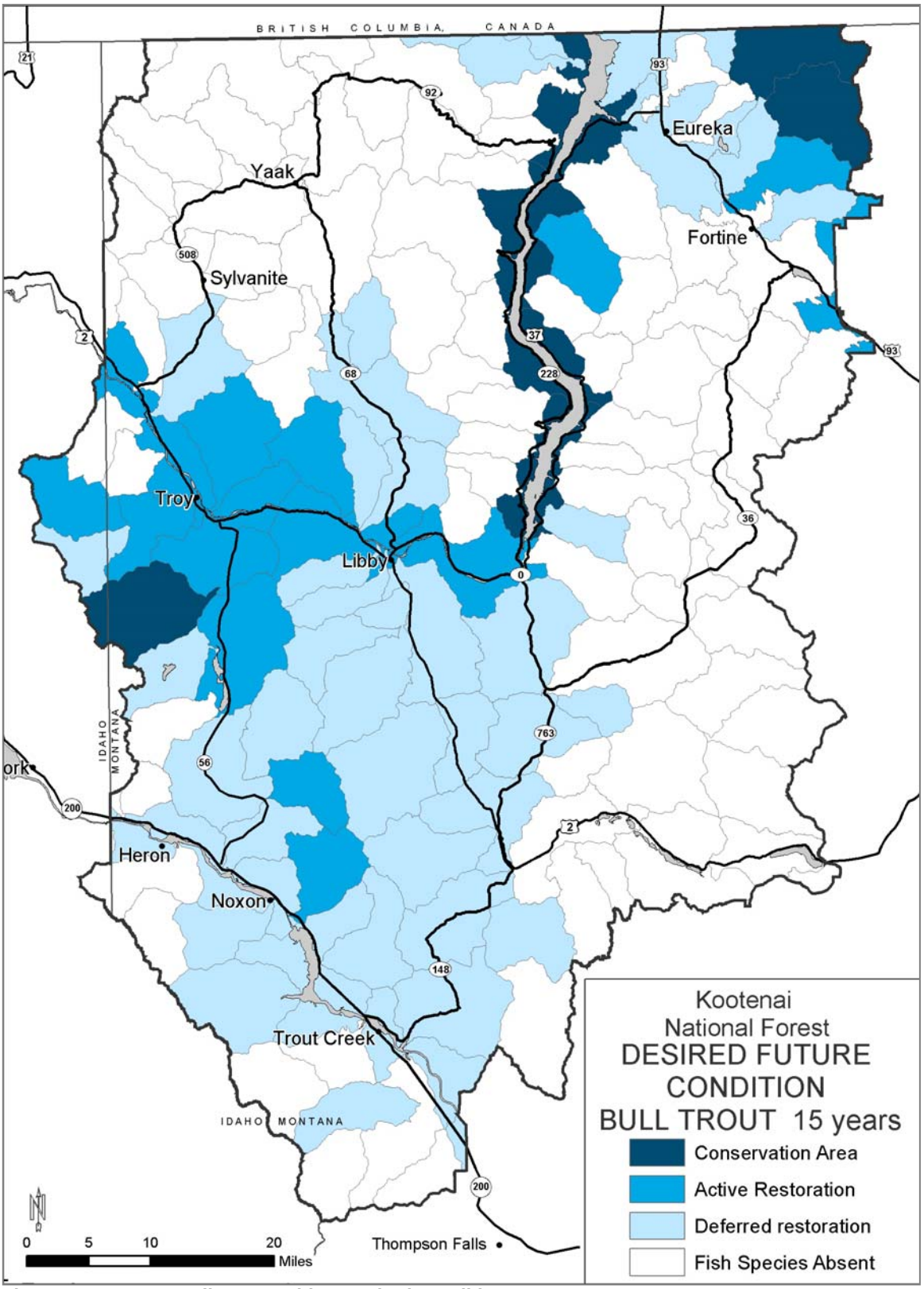

Figure W-14 KNF – Bull Trout Habitat Desired Condition – 100 Years

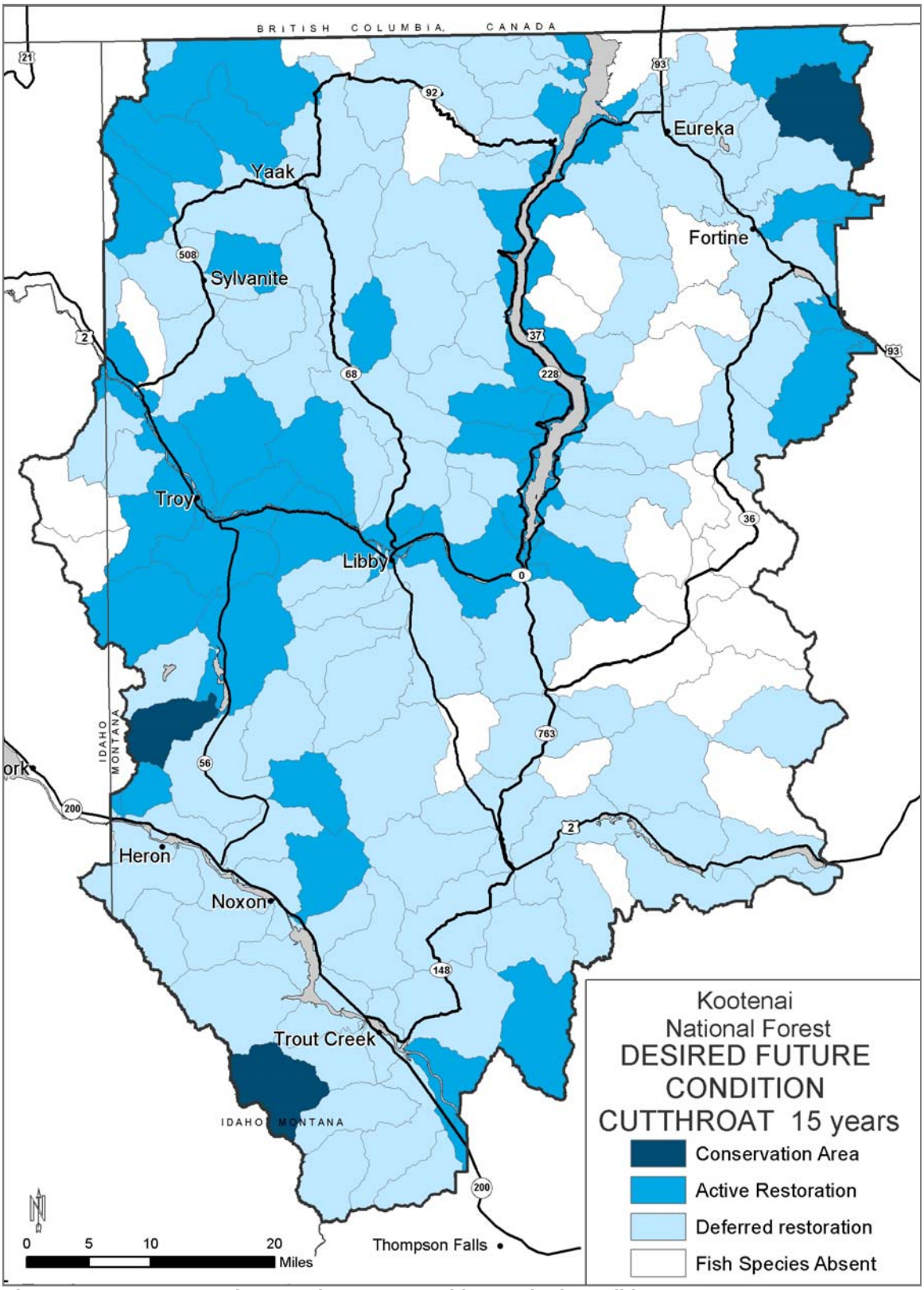

Figure W-15 KNF – Westslope Cutthroat Trout Habitat Desired Condition– 15 Years

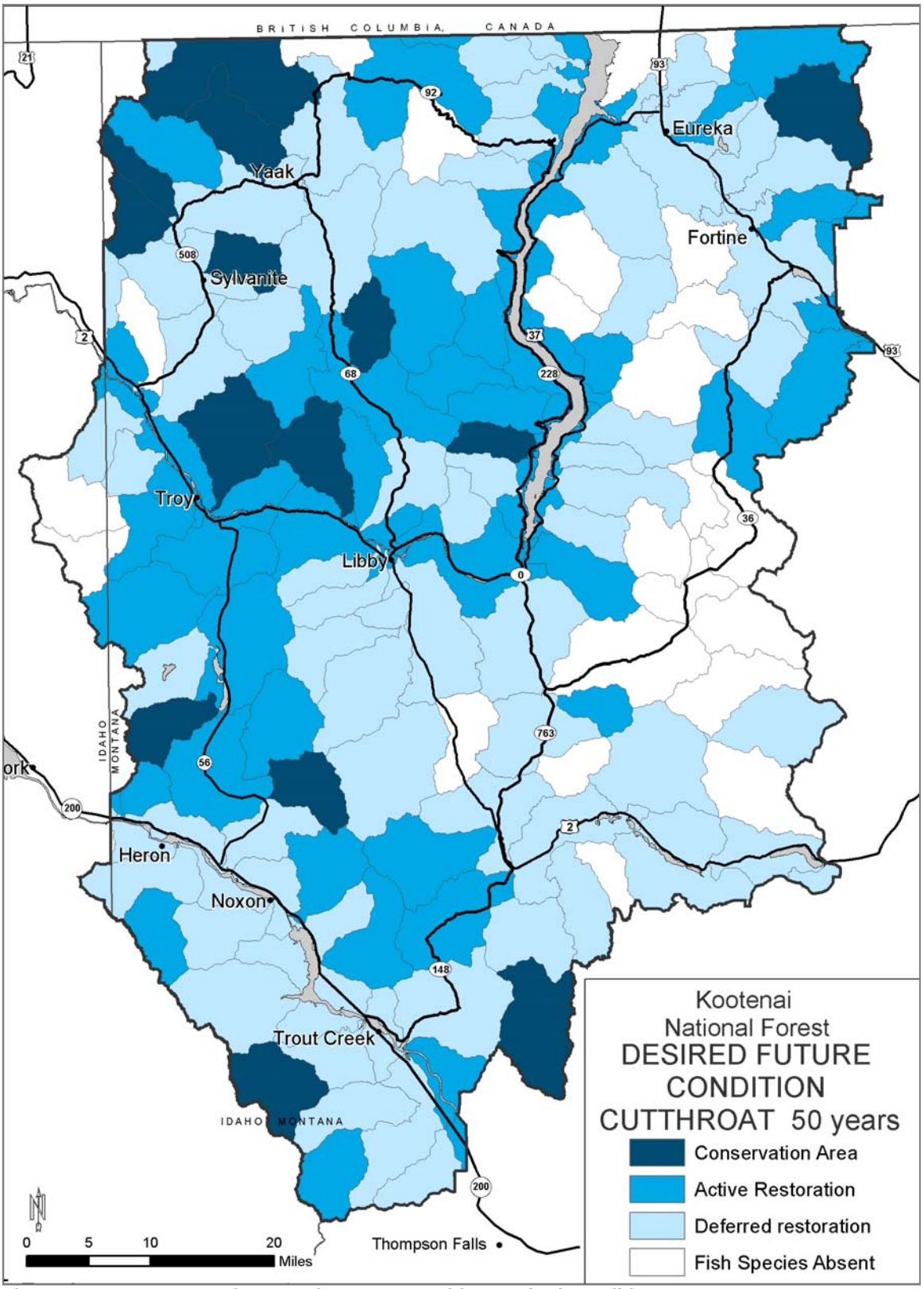

Figure W-16 KNF – Westslope Cutthroat Trout Habitat Desired Condition– 50 Years

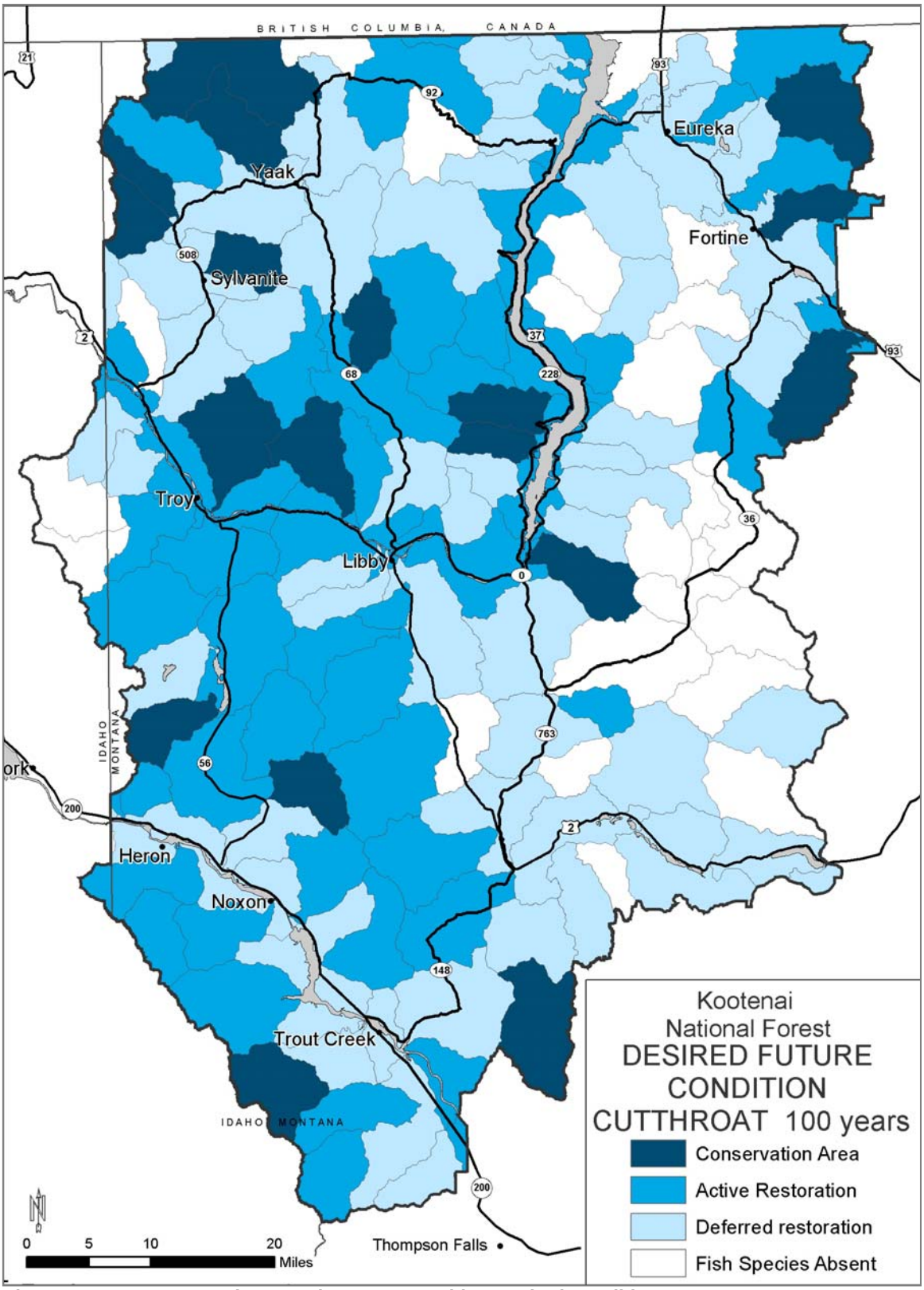

Figure W-17 KNF – Westslope Cutthroat Trout Habitat Desired Condition – 100 Years

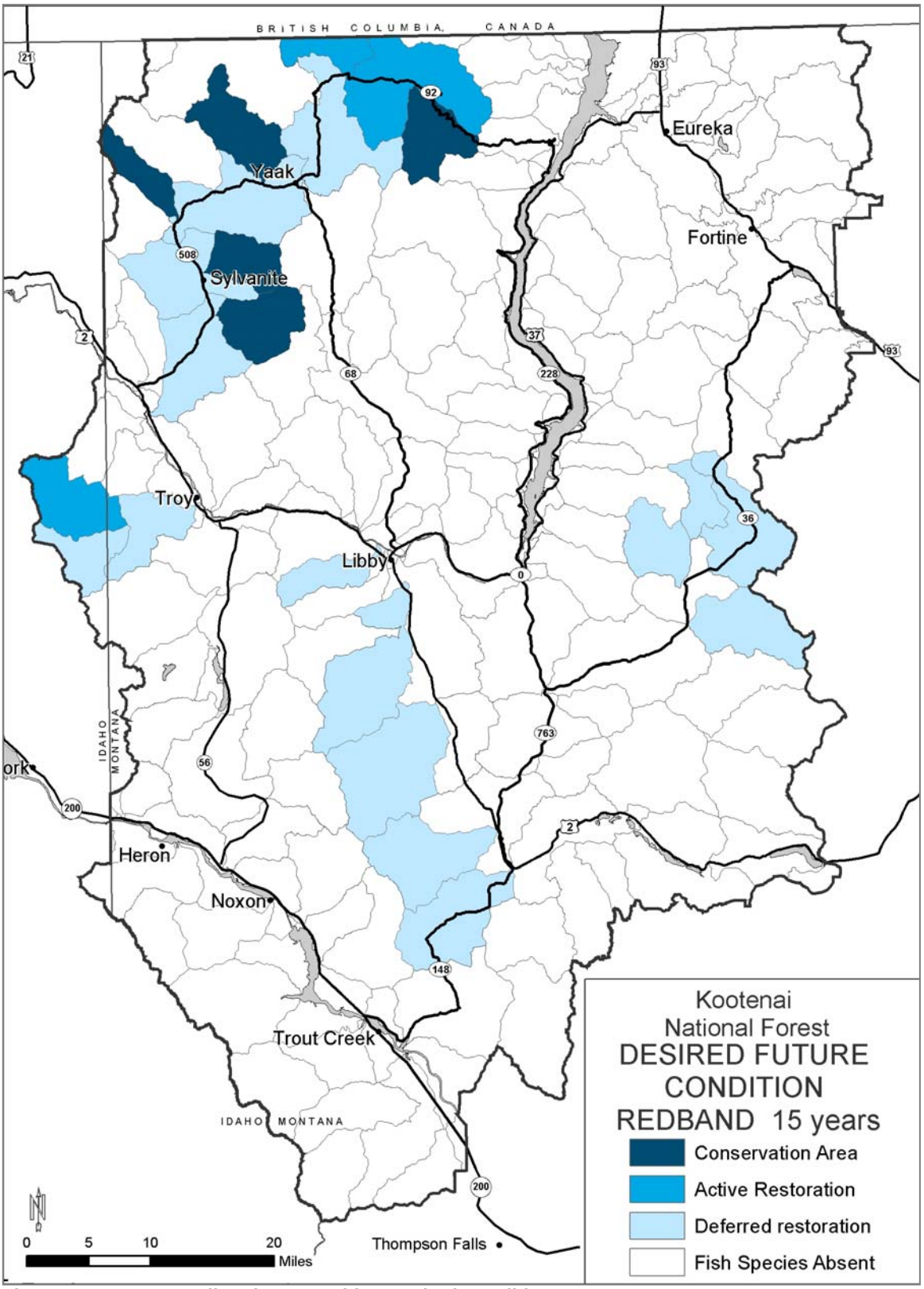

Figure W-18 KNF – Redband Trout Habitat Desired Condition – 15 Years

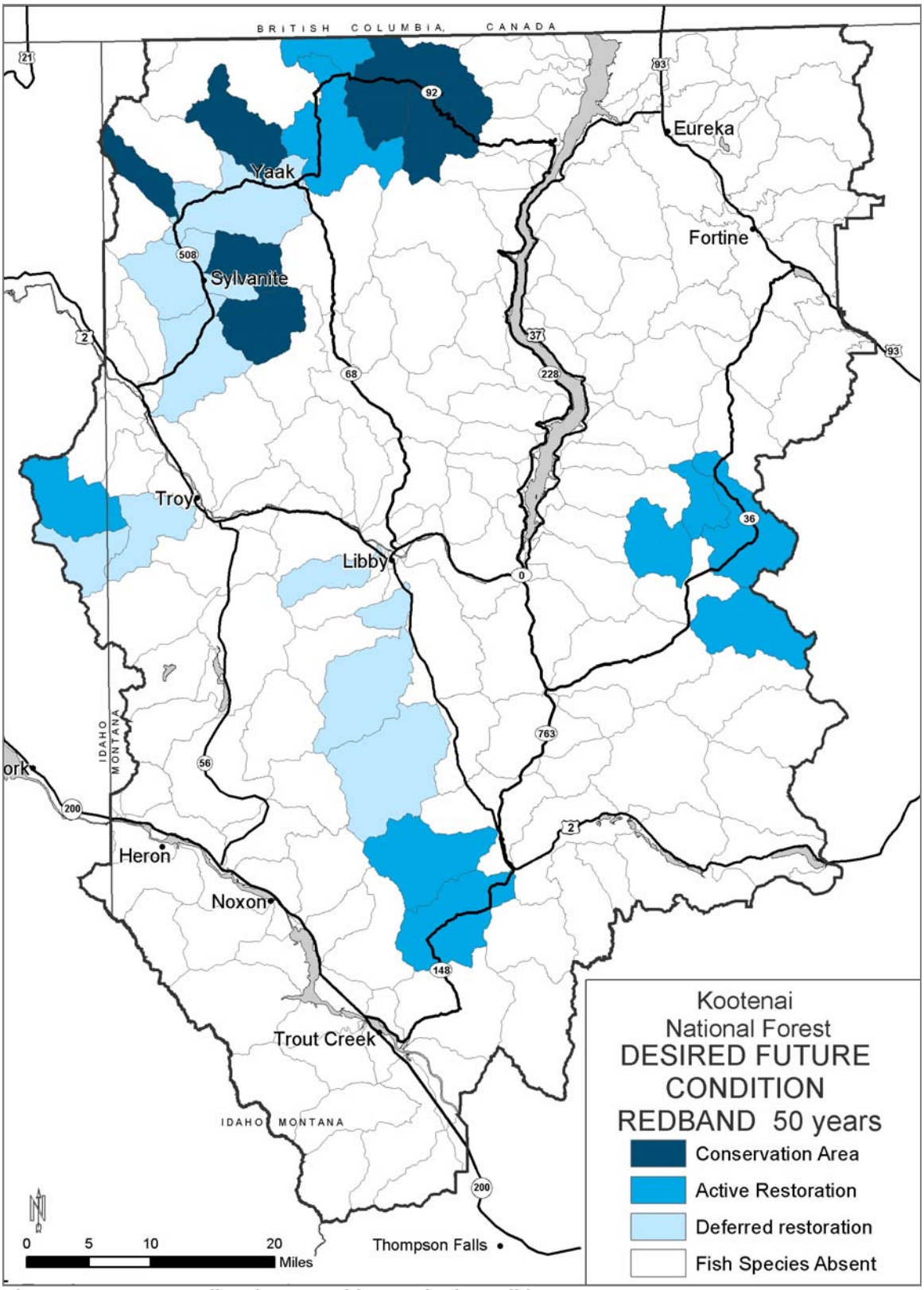

Figure W-19 KNF – Redband Trout Habitat Desired Condition – 50 Years

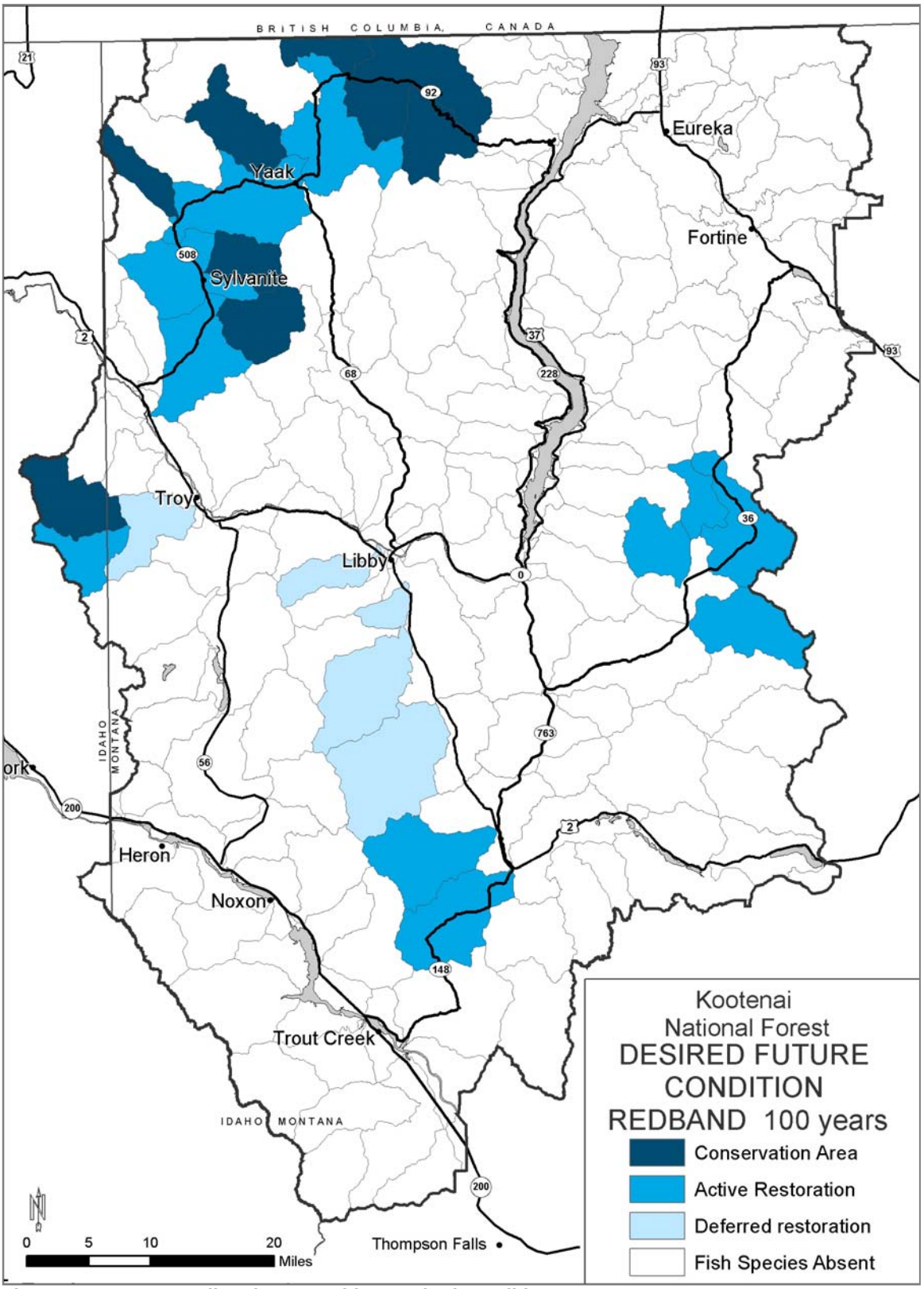

Figure W-19 KNF – Redband Trout Habitat Desired Condition – 100 Years

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