Appendix E. Priority Watersheds

Table of Contents

List of Tables

Introduction

One of the original purposes for establishing the National Forest System was to protect our Nation's water resources. The 2012 planning rule includes a newly created set of requirements associated with maintaining and restoring watersheds and aquatic ecosystems, water resources, and riparian areas in the plan area. The increased focus on watersheds and water resources in the 2012 planning rule reflects the importance of this natural resource, and the commitment to stewardship of our waters. As such, the HLC NF has developed an aquatic conservation strategy to address watersheds and water resources on the Forest.

The 2012 planning rule requires that plans identify watersheds that are a priority for restoration and maintenance. The 2012 planning rule requires all plans to include components to maintain or restore the structure, function, composition, and connectivity of aquatic ecosystems and watersheds in the plan area, taking into account potential stressors, including climate change, and how they might affect ecosystem and watershed health and resilience. Plans are required to include components to maintain or restore water quality and water resources, including public water supplies, groundwater, lakes, streams, wetlands, and other bodies of water. The planning rule requires that the Forest Service establish best management practices for water quality, and that plans ensure implementation of those practices.

Plans are also required to include direction to maintain and restore the ecological integrity of riparian areas. The HLC NF proposes to maintain riparian areas through riparian management zones, and related components. This direction will also protect native fish and further strengthen the Watershed Conservation Network.

The priority watersheds appendix includes four sections. The first section is the watershed condition framework. The watershed condition framework is designed to restore watersheds to their natural potential condition. These watersheds require short-term investments for their restoration. The second section discusses the restoration of impaired waterbodies on the state 303(d) list that have completed total maximum daily loads (also referred to as TMDLs). These watersheds would also require short-term investments. The third section covers municipal watersheds. The final section is the Conservation Watershed Network, which is designed to provide long-term protection, connectivity, and survival of native fish.

Watershed Condition Framework

In 2011, sixth-level watersheds (typically 10,000 to 40,000 acres) across all NFS lands were classified using the national watershed condition framework. This framework was designed to be a consistent, comparable, and credible process for improving the health of watersheds across all NFS lands. The first step was to rate the watershed condition of each watershed, utilizing existing data, knowledge of the land, and professional judgment. Watersheds were rated using a set of indicators of geomorphic, hydrologic, and biotic integrity relative to potential natural condition. The ratings are entered into a computer database, which generates an overall rating for each watershed. The results are also used to create a watershed condition class map.

Geomorphic functionality or integrity is defined in terms of attributes such as slope stability, soil erosion, channel morphology, and other upslope, riparian, and aquatic habitat characteristics. Hydrologic functionality or integrity relates primarily to flow, sediment, and water-quality attributes. Biological functionality or integrity is defined by the characteristics that influence the diversity and abundance of aquatic species, terrestrial vegetation, and soil productivity.

In each case, integrity is evaluated in the context of the natural disturbance regime, geoclimatic setting, and other important factors within the context of a watershed. The definition encompasses both aquatic and terrestrial components because water quality and aquatic habitat are inseparably related to the integrity and functionality of upland and riparian areas within a watershed. The three watershed condition classes are directly related to the degree or level of watershed functionality or integrity:

- Class 1- functioning properly: watersheds exhibit high geomorphic, hydrologic, and biotic integrity relative to their natural potential condition.
- Class 2 functioning-at-risk: watersheds exhibit moderate geomorphic, hydrologic, and biotic integrity relative to their natural potential condition.
- Class 3 impaired: watersheds exhibit low geomorphic, hydrologic, and biotic integrity relative to their natural potential condition.

In this framework, a watershed is considered in good condition if it is functioning in a manner similar to one found in natural wildland conditions. This characterization should not be interpreted to mean that managed watersheds cannot be in good condition. A watershed is considered to be functioning properly if the physical attributes are appropriate to maintain or improve biological integrity. This consideration implies that a class 1 watershed in properly functioning condition has minimal undesirable human impact on natural, physical, or biological processes and is resilient and able to recover to the desired condition when or if disturbed by large natural disturbances or land management activities. By contrast, a class 3 watershed has impaired function because some physical, hydrological, or biological threshold has been exceeded. Substantial changes to the factors that caused the degraded state are commonly needed to set them on a trend or trajectory of improving conditions that sustain physical, hydrological, and biological integrity.

The plan area is located in 296 subwatersheds. Following the watershed condition class protocol from the 2011 Watershed Condition Framework, 103 watersheds were rated as functioning properly, 159 watersheds were rated as functioning at risk, and 34 watersheds were rated as impaired. Overall, the biggest sources of impairment were aquatic biota (nonnative species), road and trail issues, and water quality impairment. Table 1 is a summary of watershed condition classes across the HLC NF.

Table 1. Number of 6th level watersheds rated in each condition class using the watershed condition framework

GA	Class 1	Class 2	Class 3	Total	% Rated as Class 3
Big Belts	3	35	7	45	15
Castles	2	9	1	12	8
Crazies	5	5	0	10	0
Divide	1	13	14	28	50
Elkhorns	1	18	2	21	10
Highwoods	3	4	0	7	0
Little Belts	21	39	4	64	6
Rocky Mountain Range	40	13	1	54	2
Snowies	15	3	0	18	0
Upper Blackfoot	12	20	5	37	14
Totals	103	159	34	296	11

The next step of the watershed condition framework was to use the watershed condition class data to identify priority watersheds, develop watershed action plans, and implement projects to maintain or restore conditions in priority watersheds. At the time of this plan revision, there are 6 priority watersheds in the plan area that have planned or ongoing restoration work occurring. Current forest priority watersheds on the HLC NF are displayed in Table 2. Future priority watersheds will be determined throughout the life of this plan.

Priority areas for potential restoration activities could change quickly because of events such as wildfire or the introduction of invasive species. Therefore, the 2012 planning rule includes priority watersheds as plan content, so that an administrative change could be used to quickly respond to changes in priority.

Benefits from implementing the watershed condition framework are as follows:

- Strengthens the effectiveness of Forest Service watershed restoration
- Establishes a consistent, comparable, credible process for determining watershed condition class
- Enables a priority-based approach for the allocation of resources for restoration
- Improves Forest Service reporting and tracking of watershed condition
- Enhances coordination with external agencies and partners

Table 2. Current watershed condition framework priority watersheds on the HLC NF*

Sub watershed Name (HUC 6)	Current Priority Level*	Attributes Rated at Risk in Watershed Condition Framework Assessment	Current Planning Efforts	Overlapping Priorities and Partnerships	Notes
Headwaters Sheep creek	High	303(d) listed stream, aquatic habitat, aquatic biota, water quality, riparian/wetlands, soil productivity, road density, weeds	Upper Sheep VMP	Montana Fish Wildlife and Parks	Opportunity for riparian/wetland restoration and weed treatments. No in-stream fish habitat restoration needs identified 303(d) listing resulting from historic logging practices and poor road conditions.
Lower Dry Fork Belt Creek	High	303(d) listed stream, Road density, BMPs, weeds, insects and disease, non-native fish, species habitat, Mining	Blankenship Vegetation project, Barker Hughville mine waste cleanup.	Montana Department of Transportation, Montana Fish Wildlife and Parks, US EPA	Opportunities to slow non-native fish invasion and reduce road density. Remove streamside contaminated soils and restore streambanks.
Cabin Gulch	High	303(d) listed stream, Water Quality, Riparian, Channel Morphology, Species Habitat, soils	Cabin Gulch Vegetation Management, Culvert Upgrades, Road improvements and decommissioning.	Broadwater County, Montana Fish Wildlife & Parks, Youth Forest Monitoring Program	Opportunity for riparian/wetland restoration, 2015 Cabin Gulch Fire.

Sub watershed Name (HUC 6)	Current Priority Level*	Attributes Rated at Risk in Watershed Condition Framework Assessment	Current Planning Efforts	Overlapping Priorities and Partnerships	Notes
Upper Tenmile	High	303(d) listed stream, Mining, non-native fish, road density, road density, water quality	Tenmile-South Helena Vegetation Management Project, NFS Mine Remediation Projects, Road Decommissioning	City of Helena, Montana Fish Wildlife & Parks, Tenmile Watershed Collaborative, US EPA, Upper Tenmile Group, Lake Helena Watershed Group, Baxendale Fire Department, Tri County Fire	Opportunity for riparian/wetland restoration and weed treatments. in-stream fish habitat restoration needs identified 303(d) listing resulting from historic logging practices and poor road conditions, City of Helena Municipal Watershed

*potential future priority watershed condition framework watersheds will be determined throughout the life of this plan

Restoration of Impaired Waterbodies

In 1972 Congress passed the Water Pollution Control Act, more commonly known as the Clean Water Act. Its goal is to “restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.” The Clean Water Act requires each state to set water quality standards to protect designated beneficial water uses and to monitor the attainment of those uses. Fish and aquatic life, wildlife, recreation, agriculture, industrial, and drinking water are all types of beneficial uses. Streams and lakes (also referred to as waterbodies) that do not meet the established standards are called “impaired waters.” These waters are identified on the 303(d) list, named after Section 303(d) of the Clean Water Act, which mandates the monitoring, assessment, and listing of water quality limited waterbodies.

Both Montana state law (75 MCA § 5-703) and section 303(d) of the federal Clean Water Act require the development of total maximum daily loads for impaired waters where a measurable pollutant (for example, metals, nutrients, e. coli) is the cause of the impairment. A total maximum daily load is a loading capacity and refers to the maximum amount of a pollutant a stream or lake can receive and still meet water quality standards.

The Montana Water Quality Act requires the Montana Department of Environmental Quality to develop total maximum daily loads for streams and lakes that do not meet, or are not expected to meet, Montana water quality standards. The Montana Department of Environmental Quality submits the total maximum daily loads to the United States Environmental Protection Agency for approval. Total maximum daily loads provide an approach to improve water quality so that streams can support and maintain their state-designated beneficial uses.

According to the State 303(d) list, 55 stream segments within the plan area are not meeting water quality standards Montana Department of Environmental Quality, 2014) (Table 3). Thirty-five of these are listed for mining related impacts, and the remaining 20 are listed for grazing or habitat quality issues. Total maximum daily load assessments have been prepared and are being implemented for several sub-basins in the plan area, including those in the Divide, Elkhorns, Upper Blackfoot, Castles and the Little Belts GAs.

Table 3. 303(d) listed stream segments by GA.

Geographic Area	Number of Stream Segments	Miles	Sources of Pollutants	TMDL Assessments
Big Belts	7	36	Mostly grazing, road impacts, mining in Confederate Gulch	Deep Creek, Canyon Ferry

Geographic Area	Number of Stream Segments	Miles	Sources of Pollutants	TMDL Assessments
Divide	14	54	Primarily mining impacts, road impacts	Little Blackfoot, Lake Helena, Boulder-Elkhorn
Elkhorns	11	40	Abandoned mines, road impacts, water diversions	Boulder-Elkhorn, Lake Helena
Little Belts	8	99	Mining, road impacts and grazing impacts	Missouri-Cascade/Belt Creek, Sheep Creek
Rocky Mountain Range	1	4	Grazing and flow alterations, road impacts	Sun River (completed)
Snowies	1	2	Grazing and road impacts	No
Upper Blackfoot	13	54	Abandoned mines, road impacts	Blackfoot Headwaters, Middle Blackfoot-Nevada Creek

Across the planning area, water quality monitoring in conjunction with forest project activities have been occurring since the 1986 forest plans were developed for each forest. Both the Helena and the Lewis & Clark NFs had extensive watershed monitoring programs.

For more than three decades, data has been collected at 55 water quality monitoring sites on the Helena National Forest to monitor the majority of the timber sales and other major projects. The number of years of data collection at each site has varied based on project needs. In fiscal year 2013, 22 water quality monitoring stations were maintained, 3 rain gauge monitoring sites were installed, 5 roadside hazard tree units were monitored, and 133 decommissioned roads were evaluated for closure effectiveness. In addition, other data collection efforts on the Forest have included various total maximum daily load inventory and monitoring programs, the Helena National Forest Youth Forest Monitoring Program, which included 12 water quality sites, and monitoring done by other governmental agencies (such as, Montana Department of Environmental Quality and United States Environmental Protection Agency).

On the Lewis & Clark National Forest, monitoring was more focused around grazing allotments. Ten exclosures have benchmarked monitoring reaches where monitoring has included: up to 10 cross-sections (both inside and outside the exclosure), photo points, sinuosity, pebble counts, and slope measurements. Other monitoring has been focused on road obliteration project monitoring, which includes documentation of vegetative recovery, weeds, stream crossings, and erosion along obliterated roads.

Protection of Municipal Watersheds

The 1986 forest plans identified portions of three sixth level watersheds as municipal water supplies: Tenmile Creek, Belt Creek-Carpenter Creek, and North Fork Smith River-Trout Creek. These watersheds and two not identified in the 1986 forest plans provide drinking water to five cities or towns by either a reservoir, groundwater, or water diversion. See individual GA maps in Appendix B for the locations of municipal watersheds. Also see Table 4 for a summary of municipal watersheds on the HLC NF.

The City of Helena uses Tenmile Creek in the Divide GA and its tributaries as its main source of municipal water. Streams in the lower portion of the Tenmile watershed do not meet drinking water quality standards, but above the diversions water quality does generally meet standards. Diversions are located on Tenmile Creek above Rimini and near the mouths of Beaver Creek, Minnehaha Creek, Moose Creek, and Walker Creek. Water from all diversions is carried to the Tenmile Water Treatment Plant in a common buried pipeline. In addition, the City of Helena stores water from several tributaries in Scott and

Chessman Reservoirs (in the upper part of the watershed) when stream flow is high. The Red Mountain Flume carries water from some of these tributaries to Chessman reservoir. Vegetation treatment efforts are occurring around the flume and reservoir. Further treatments in the rest of the watershed are in the planning process for the Tenmile South Helena Project. The primary objective of this project is to reduce the risk for a high intensity wildfire and associated adverse post-fire watershed effects in the watershed.

The City of East Helena uses McClellan Creek (which was not identified in 1986 forest plan) in the Elkhorn GA for one source of municipal water. This source is an infiltration gallery located approximately five miles south of East Helena, in the McClellan Creek drainage, downstream of the planning area. The infiltration gallery draws water into two collection systems installed into alluvium near the creek. Recharge to McClellan Creek occurs in the Elkhorn Mountains on NFS lands.

The town of White Sulphur Springs uses Willow Creek (part of Smith River-Trout Creek sixth level watershed). The Willow Creek municipal watershed is located in the northwest corner of the Castles GA. The Castle Mountains landscape assessment of 2012 described conditions within the municipal watershed as good. Specifically, the watershed is fenced out and with the exception of few trespassers, livestock access is nonexistent. It has a healthy riparian area with a great diversity of plants including cottonwood, aspen, dogwood, alder, and willow. Mixed conifers adjacent to the channel provide an excellent source of large woody debris which forms numerous log jams along the profile. A boulder dominated channel bed, less-prone to degradation when compared to other project area channels, dissipates the 500 year flood energy efficiently and shows no detrimental effects from the natural event. The overall condition of the watershed is excellent but hillslopes surrounding the creek have high fuel loading (dead lodgepole pine). Treatments proposed for the watershed include thinning and prescribed burning.

The town of Neihart uses O'Brien Creek and Shorty Creek (both within Belt Creek-Carpenter Creek sixth level watershed in the Little Belts GA). There have been turbidity issues in O'Brien Creek - not meeting EPA Safe Drinking Water Standards, so Neihart uses Shorty Creek during those times. The City received a state grant through the Treasure State Endowment Program in 2015 and has applied for a project grant to implement this plan to improve their overall system.

The town of Lewiston receives its source water from Big Spring Creek within the Big Spring Creek sixth level watershed located south of town. Big Spring Creek is a spring creek and receives recharge from the upper basin in the Big Snowy Mountains; the headwaters of which are located on NFS lands.

Table 4. Municipal and source waters of the HLC NF

Community	Geographic Area	Hydrologic Unit Code	Hydrologic Unit Code Name	Municipal and Source Water
Neihart	Little Belts	100301050102	Carpenter Creek-Belt Creek	O'Brien and Shorty Creeks
White Sulphur Springs	Castles	100301030105	Trout Creek-North Fork Smith River	Willow Creek
Helena	Divide	100301011401	Upper and Middle Tenmile Creek	Tenmile, Banner, Moose, Minnehaha, Beaver and Porcupine Creeks.
East Helena	Elkhorn	100301011307	McClellan Creek	McClellan Creek
Lewistown	Snowies	100401030701	Big Spring Creek	All of the Big Spring Creek Groundwater source watershed

Conservation Watershed Network

A conservation watershed network is a designated collection of watersheds where management emphasizes habitat conservation and restoration to support native fish and other aquatic species. The goal of the network is to sustain the integrity of key aquatic habitats to maintain long-term persistence of native aquatic species. Designation of conservation watershed networks, which should include watersheds that are already in good condition or could be restored to good condition, are expected to protect native fish and help maintain healthy watersheds and river systems. Selection criteria for inclusion should help identify those watersheds that have the capability to be more resilient to ecological change and disturbance induced by climate change. For example, watersheds containing unaltered riparian vegetation will tend to protect streambank integrity and moderate the effects of high stream flows. Rivers with high connectivity and access to their floodplains will experience moderated floods when compared to channelized and disconnected stream systems. Wetlands with intact natural processes slowly release stored water during summer dry periods, whereas impaired wetlands are likely less effective retaining and releasing water over the season. For all of these reasons, conservation watershed networks represent the best long-term conservation strategy for native fish and their habitats.

Many watersheds in the Rocky Mountain, Divide, and Upper Blackfoot GAs that support the healthiest populations of native trout already have their headwaters protected through lands managed as Congressionally-designated wilderness areas (Bob Marshall and Scapegoat Wilderness) or the Helena-Lewis and Clark's wild and scenic rivers. These special places are the building blocks of a conservation network as naturally functioning headwaters have a large influence on the function of downstream stream reaches.

The best available science indicates the HLC NF is and will be important for conservation of native fish (bull trout and westslope cutthroat trout) across their range. Multiple documents and agreements were reviewed. The HLC NF is located along both sides of the continental divide and is predicted to provide cold water into the future due to the effects of climate change being slower in high elevation mountain streams. The climate shield model[1] and temperature model across the HLC NF sub-watersheds (6th hydrologic unit code) look closely at where cold water is predicted to persist into the future in the face of climate change. The models both identified that cold water is predicted to persist in many of our local bull and west slope cutthroat trout sub-watersheds that were previously identified as priority watersheds under the Inland Native Fish Strategy. Therefore, we carried over our priority bull and westslope cutthroat trout watersheds and those watersheds designated as critical habitat by the USFWS into our networks.

Multi-scale analysis is consistent with guidance contained in the Interior Columbia Basin Ecosystem Management Project Memorandum of Understanding approved by senior managers in several of the western federal land management and regulatory agencies (Environmental Protection Agency, National Marine Fisheries Service, USFWS, Bureau of Land Management, and the USFS). The memorandum updated science findings from the original Interior Columbia Basin Ecosystem Management Project effort of the late 1990s and guides inclusion of best available science into land management plan revisions.

At the broadest of scale considerations, information in USFWS's bull trout recovery plan was reviewed to help place habitat and core populations located within the HLC NF in context with recovery needs of the species across its range in the western United States. For recovery units like the Columbia Headwaters, the recovery plan strategy states, "A viable recovery unit should demonstrate that the three primary principles of biodiversity have been met: representation (conserving the breadth of the genetic makeup of

[1] Isaak, D., M. Young, D. Nagel, D. Horan and M. Groce. 2015. "The cold-water climate shield: Delineating refugia for preserving salmonid fishes through the 21st Century." Global Change Biology 21:2540–2553.

the species to conserve its adaptive capabilities); resilience (ensuring that each population is sufficiently large to withstand stochastic events); and redundancy (ensuring a sufficient number of populations to provide a margin of safety for the species to withstand catastrophic events)."

Additional information contained in the *Columbia Headwaters Recovery Unit Implementation Plan*, was also reviewed. Types of information contained in the two USFWS documents included threats directly influencing individual bull trout survival, as well as threats to habitat. Primary threats were broken into different categories: habitat, demographic, and invasive species. Recovery actions for the HLC NF focus on fish management and invasive species removal to help recover bull trout in the Columbia Headwaters recovery unit. In addition to primary threats, the recovery plan also recommends actions should be pursued to help provide resilience to "difficult to-manage-threats such as climate change."

The *U.S. Forest Service Bull Trout Conservation Strategy* was also reviewed to further identify opportunities to increase effectiveness of the network. Prior to the release of the *USFWS Bull Trout Recovery Plan*, the Northern Region of the Forest Service developed the *U.S. Forest Service Bull Trout Conservation Strategy*.

The final step in the conservation watershed network identification process compared watersheds identified for the current plan revision against priority watersheds first identified by the Inland Native Fish Strategy. This step was taken to help ensure important information had not been overlooked by this effort. Table 5 and Table 6 display the proposed conservation watershed network subwatersheds west and east of the continental divide.

Table 5. Conservation watershed network subwatersheds west of the continental divide on the HLC NF

Geographic Area	4th Code HUC (HUC #)	5th Code HUC (HUC #)	6th Code HUC (HUC #)	6th Code HUC Acres
Divide	Upper Clark Fork (17010201)	Little Blackfoot River Headwaters (1701020105)	Ontario Creek (170102010501)	12,801
			Little Blackfoot River-Larabee Gulch (170102010502)	18,162
			Telegraph Creek (170102010503)	12,227
			Mike Renig Gulch (170102010504)	7,332
			Upper Dog Creek (170102010505)	20,365
			Lower Dog Creek (170102010506)	16,625
			Little Blackfoot River-Hat Creek (170102010507)	13,522
		Lower Little Blackfoot River (1701020106)	Snowshoe Creek (170102010602)	11,609
			Little Blackfoot River-Elliston Creek (170102010603)	20,188
			Carpenter Creek (170102010604)	16,815
			Trout Creek (170102010605)	11,006

Geographic Area	4th Code HUC (HUC #)	5th Code HUC (HUC #)	6th Code HUC (HUC #)	6th Code HUC Acres
			Upper Dog Creek (170102010607)	8,709
			Threemile Creek (170102010610)	14,310
Upper Blackfoot	Blackfoot (17010203)	Blackfoot River Headwaters (1701020302)	Blackfoot River-Willow Creek (170102030201)	12,409
			Blackfoot River-Anaconda Creek (170102030202)	17,154
			Upper Alice Creek (170102030203)	12,561
			Lower Alice Creek (170102030204)	11,697
			Hogum Creek (170102030205)	7,630
			Blackfoot River-Hardscrabble Creek (170102030206)	12474
		Landers Fork (1701020301)	Upper Landers Fork (170102030101)	18,676
			Middle Landers Fork (170102030102)	23,776
			Copper Creek (170102030103)	26,005
			Lower Landers Fork (170102030104)	15,662
		Blackfoot River-Keep Cool Creek (1701020309)	Humbug Creek (170102030301)	15,451
			Poorman Creek (170102030302)	25,783
			Beaver Creek (170102030303)	11,617
			Keep Cool Creek (170102030304)	22,834
			Willow Creek (170102030306)	12,098
			Sauerkraut Creek (170102030307)	8,524
			Blackfoot River-Lincoln (170102030308)	11,399
			Arrastra Creek (170102030309)	15,084
			Blackfoot River-Little Moose Creek (170102030310)	20,036
		Nevada Creek (1701020304)	Nevada Creek Headwaters (170102030401)	25,255

Geographic Area	4th Code HUC (HUC #)	5th Code HUC (HUC #)	6th Code HUC (HUC #)	6th Code HUC Acres
			Washington Creek (170102030403)	8,013
			Jefferson Creek (170102030404)	6,799
			Buffalo Gulch (170102030405)	9,160
		Lower North Fork Blackfoot River (1701020307)	Rock Creek (170102030703)	25,412

Table 6. Conservation watershed network subwatersheds east of the continental divide on the HLC NF

Geographic Area	4th Code HUC (HUC #)	5th Code HUC (HUC #)	6th Code HUC (HUC #)	6th Code HUC Acres
Big Belts	Upper Missouri River (10030101)	Missouri River-Dry River (1003010109)	Greyson Creek (100301010902)	15,517
		Missouri River-Upper Canyon Ferry Lake (1003010110)	Ray Creek (100301011003)	15,985
			Gurnett Creek (100301011005)	14,040
		Missouri River-Middle Canyon Ferry Lake (1003010111)	Duck Creek (100301011101)	20,792
			White Creek (100301011106)	20,960
		Missouri River-Lower Canyon Ferry Lake (1003010112)	Avalanche Creek (100301011202)	25,745
			Magpie Creek (100301011204)	16,729
		Beaver Creek (1003010117)	Upper Beaver Creek (100301011701)	19,583
			Lower Beaver Creek (100301011703)	21,043
	Smith River (10030103)	Smith River – Newlan Creek (1003010303)	Thompson Gulch (100301030303)	13,642
		Smith River – Camas Creek (1003010305)	Upper Camas Creek (100301030501)	21,624
		Rock Creek (1003010306)	Upper Rock Creek (100301030602)	21,740
Castles	Smith River (10030103)	North Fork Smith River (1003010301)	Fourmile Creek (100301030104)	16,271

Geographic Area	4th Code HUC (HUC #)	5th Code HUC (HUC #)	6th Code HUC (HUC #)	6th Code HUC Acres
			NF Smith River-Trout Creek (100301030105)	31,980
		South Fork Smith River (1003010302)	Cottonwood Creek (100301030203)	6,921
Divide	Upper Missouri River (10030101)	Prickley Pear Creek (1003010113)	Clancy Creek (100301011304)	20,990
		Tenmile Creek (1003010114)	Upper Tenmile Creek (100301011401)	6,130
			Greenhorn Creek (100301011403)	12,932
			Skelly Gulch (100301011404)	7,885
Elkhorns	Boulder River (10020006)	Lower Boulder River (1002000605)	Muskrat Creek (100200060501)	25,541
	Upper Missouri River (10030101)	Missouri River-Crow Creek (1003010107)	Headwaters Crow Creek (100301010701)	15,293
			Upper Crow Creek (100301010702)	16,020
			South Fork Crow Creek (100301010703)	10,468
		Missouri River-Middle Canyon Ferry Lake (1003010111)	Lower Beaver Creek (100301011105)	20,179
		Prickley Pear Creek (1003010113)	Headwaters Prickley Pear Creek (100301011301)	19,228
			Warm Springs Creek (100301011303)	13,235
			Upper Prickley Pear Creek (100301011306)	16,436
			McClellan Creek (100301011307)	23,215
Highwoods	Upper Missouri-Dearborn (10030102)	Highwood Creek (1003010213)	Headwaters Highwood Creek (100301021301)	16,040
	Belt Creek (10030105)	Lower Belt Creek (1003010504)	Little Belt Creek (100301050402)	24,526
	Arrow Creek (10040102)	Upper Arrow Creek (1004010202)	Cottonwood Creek (100401020207)	32,302
Little Belts	Belt Creek (10030105)	Upper Belt Creek (1003010501)	Jefferson Creek– Belt Creek (100301050101)	20,793
			Carpenter Creek-Belt Creek (100301050102)	26,105
			Upper Dry Fork Belt Creek	18,512

Geographic Area	4th Code HUC (HUC #)	5th Code HUC (HUC #)	6th Code HUC (HUC #)	6th Code HUC Acres
			(100301050103)	
			Lower Dry Fork Belt Creek (100301050104)	21,274
			Hoover Creek-Belt Creek (100301050105)	30,975
		Big Otter Creek (1003010502)	Headwaters Big Otter Creek (100301050201)	12,917
		Middle Belt Creek (1003010503)	Tillinghast Creek (100301050301)	22,191
			Pilgrim Creek (100301050302)	18,259
			Logging Creek (100301050303)	27,092
			Iron Creek – Belt Creek (100301050304)	15,689
	Judith River (10040103)	Middle Fork Judith River (1004010303)	Cleveland Creek (100401030301)	32,866
			Yogo Creek (100401030303)	29,275
			Middle Fork Judith River (100401030304)	24,116
		South Fork Judith River (1004010304)	Upper South Fork Judith River (100401030401)	35,258
		Dry Wolf Creek (1004010311)	Upper Dry Wolf Creek (100401031101)	28,732
		Upper Wolf Creek (1004010312)	Running Wolf Creek (100401031201)	23,479
	Smith River (10030103)	Sheep Creek (1003010304)	Headwaters Sheep Creek (100301030401)	27,663
		Tenderfoot Creek (1003010308)	Upper Tenderfoot Creek (100301030801)	26,105
		Smith River – Deep Creek (1003010309)	Upper Deep Creek (100301030903)	11,267
Rocky Mountain Range	Sun River (10030104)	North Fork Sun River (1003010401)	Gates Creek (100301040105)	9,135
		Willow Creek (1003010403)	Little Willow Creek-Willow Creek (100301040302)	24,034
		Sun River-Gibson Reservoir (1003010404)	Gibson Reservoir (100301040401)	23,697
		Elk Creek (1003010405)	Ford Creek (100301040501)	15,895
			Upper Smith Creek (100301040502)	23,064

Geographic Area	4th Code HUC (HUC #)	5th Code HUC (HUC #)	6th Code HUC (HUC #)	6th Code HUC Acres
	Two Medicine River (10030201)	Upper Two Medicine River (1003020101)	Upper South Fork Two Medicine River (100302010103)	22,836
			Lower South Fork Two Medicine River (100302010104)	42,986
			Little Badger Creek (100302010105)	24,028
		Badger Creek (1003020102)	Headwaters Badger Creek (100302010201)	38,358
			Lonesome Creek–Badger Creek (100302010202)	20,891
		Dupuyer Creek (1003020105)	Upper Dupuyer Creek (100302010501)	30,115
		Birch Creek (1003020106)	South Fork Birch Creek (100302010602)	16,420
	Teton River (10030205)	Teton River-North Fork Teton River (1003020501)	Upper North Fork Teton River (100302050101)	13,317
			Middle North Fork Teton River (100302050102)	27,339
			South Fork Teton River (100302050103)	17,717
			Lower North Fork Teton River (100302050104)	11,082
Snowies	Judith River (10040103)	Big Spring Creek (1004010307)	East Fork Big Spring Creek (100401030702)	34,528
		Judith River-Cottonwood Creek (1004010307)	Cottonwood Creek (100401030709)	37,238
	Flatwillow Creek (10040203)	Upper Flatwillow Creek (1004020304)	Upper North Fork Flatwillow Creek (100402030401)	32,587
Upper Blackfoot	Upper Missouri River (10030101)	Upper Little Prickly Pear Creek (1003010118)	Virginia Creek (100301011804)	19,407
			Upper Canyon Creek (100301011805)	15,169