2020-2029

Upper Missouri River Reservoir Fisheries

Management Plan

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MONTANA FISH, WILDLIFE & PARKS

2020-2029 Upper Missouri River Reservoir Fisheries Management Plan

Fisheries Division

December 2019

Approved:_____

Martha Williams, Director

Approved:_____

Shane Colton, Chairman - Fish and Wildlife Commission

Prepared By:

Adam Strainer, Fisheries Biologist
Region 4, Helena

Troy Humphrey, Fisheries Technician
Region 4, Helena

Ron Spoon, Fisheries Biologist
Region 3, Townsend

Jason Rhoten, Fisheries Manager
Region 4, Great Falls

Eric Roberts, Fisheries Mgmt. Bureau Chief
Helena

Eileen Ryce, Fisheries Division Administrator
Helena

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FOREWARD

[PLACEHOLDER]

UPPER MISSOURI RIVER RESERVOIR FISHERIES MANAGEMENT PLAN

Executive Summary

MANAGEMENT PLAN DIRECTIVES AND PUBLIC INVOLVEMENT

The Upper Missouri River Reservoir Fisheries Management Plan (UMRRFMP) will be used by Montana Fish, Wildlife and Parks to direct fisheries management activities for the next 10 years (2020-2029) on Canyon Ferry Reservoir, Hauser Reservoir, Holter Reservoir, and the Missouri River from Toston Dam to Canyon Ferry Reservoir and Hauser Dam to Holter Reservoir. Fish population surveys will be conducted annually to monitor population trends and to investigate the effectiveness of management decisions. A Citizen Advisory Committee, appointed by the Fish and Wildlife Commission, will provide oversight of the management plan. Population monitoring data will be evaluated, summarized, and presented annually to the Citizen Advisory Committee and interested citizens at annual public meetings for review. A five-member Citizen Advisory Committee will be appointed each February by the FWP Fish and Wildlife Commission to function in an advisory capacity to FWP for fisheries management decisions throughout the plan area.

Public Involvement

The UMRRFMP revision process began in June 2018. Public involvement included a Citizens Scoping Committee, five open houses, four public meetings and an online survey, Citizens Workgroup, and three additional open houses. Public involvement from summer 2018 to spring 2019 helped define five core public concerns for FWP and the Citizens Workgroup to address, those are:

1. Management plan responsiveness
2. Management plan duration
3. Re-establishing pre-2018 rainbow trout stocking rates throughout the plan area
4. Declining yellow perch population trends, specifically in Canyon Ferry and Holter Reservoirs
5. Walleye population size structure throughout the plan area

FISHERIES MANAGEMENT FRAMEWORK

Population abundance goals for each species in each waterbody section have been established using standardized relative abundance or catch per unit effort (CPUE) surveys. Species-specific goal ranges have been developed for each reservoir and CPUE goals have been developed for applicable species within each river section to determine if annual trend values are meeting species-specific goals.

River Sections

The primary plan goal for the two river sections is to emphasize management for wild trout while recognizing the importance of walleye, burbot and kokanee (Hauser Tailrace only) for providing additional angling opportunity.

- Management decisions based on standardized CPUE surveys (e.g., electrofishing)

River Section Species Goals					
	Species				
	Rainbow trout	Brown trout	Walleye	Northern Pike	Kokanee
Toston Dam to Canyon Ferry Reservoir	1.0 per minute	0.40 per minute	Monitor	Suppress	Monitor
Hauser Dam to Holter Reservoir	3,500 per mile	150 per mile	Monitor	Suppress	Monitor

Reservoir Sections

The UMRRFMP emphasizes management for trout and walleye while recognizing the importance of yellow perch as a game fish and a forage species.

- Management decisions based on standardized Relative Abundance surveys (e.g., gillnetting)
- Introduce Proportional Stocking Density (PSD) to walleye management in reservoirs throughout the plan area. PSD goal for all reservoirs is 30-60.

Reservoir Section Species Goal Ranges (number per net)					
	Species				
	Rainbow trout	Yellow perch	Walleye	Brown trout	Burbot
Canyon Ferry Reservoir	4 to 6	6 to 10	5 to 7	0.5 to 1.5	0.25 to 0.5
Hauser Reservoir	3 to 5	6 to 8	4 to 6	0.5 to 1.5	0.5 to 1.5
Holter Reservoir	4 to 6	8 to 12	4 to 6	NA	0.25 to 0.5

Other Management Issues

In addition to species and waterbody-specific fisheries management strategies, the UMRRFMP establishes management criteria for the following issues: reservoir operations, fishing contests, habitat, disease and aquatic invasive species, piscivorous birds, access, flushing losses, low dissolved oxygen, and recreation management.

MANAGEMENT PLAN AREA OVERVIEW

Plan Area

The Upper Missouri River Reservoir Management Plan (UMRRFMP) area is comprised of a portion of the Missouri River from Toston Dam, approximately 18 miles south of Townsend, to Holter Dam, approximately 30 miles north of Helena (Figure 1). Two river sections are included in the area: Toston Dam to Canyon Ferry Reservoir and the Hauser Tailrace from Hauser Dam downstream 4.6 miles to Holter Reservoir. Three reservoirs are included in the management area: Canyon Ferry, Hauser, and Holter. The upper Missouri River reservoir system is responsible for about 10% of the statewide fishing pressure (FWP, Angling Surveys; Figure 2). These reservoirs have historically ranked in the top-20 most fished waters in Montana and Canyon Ferry Reservoir is currently the state's #1 most fished reservoir or lake (FWP Angler Survey 2017).

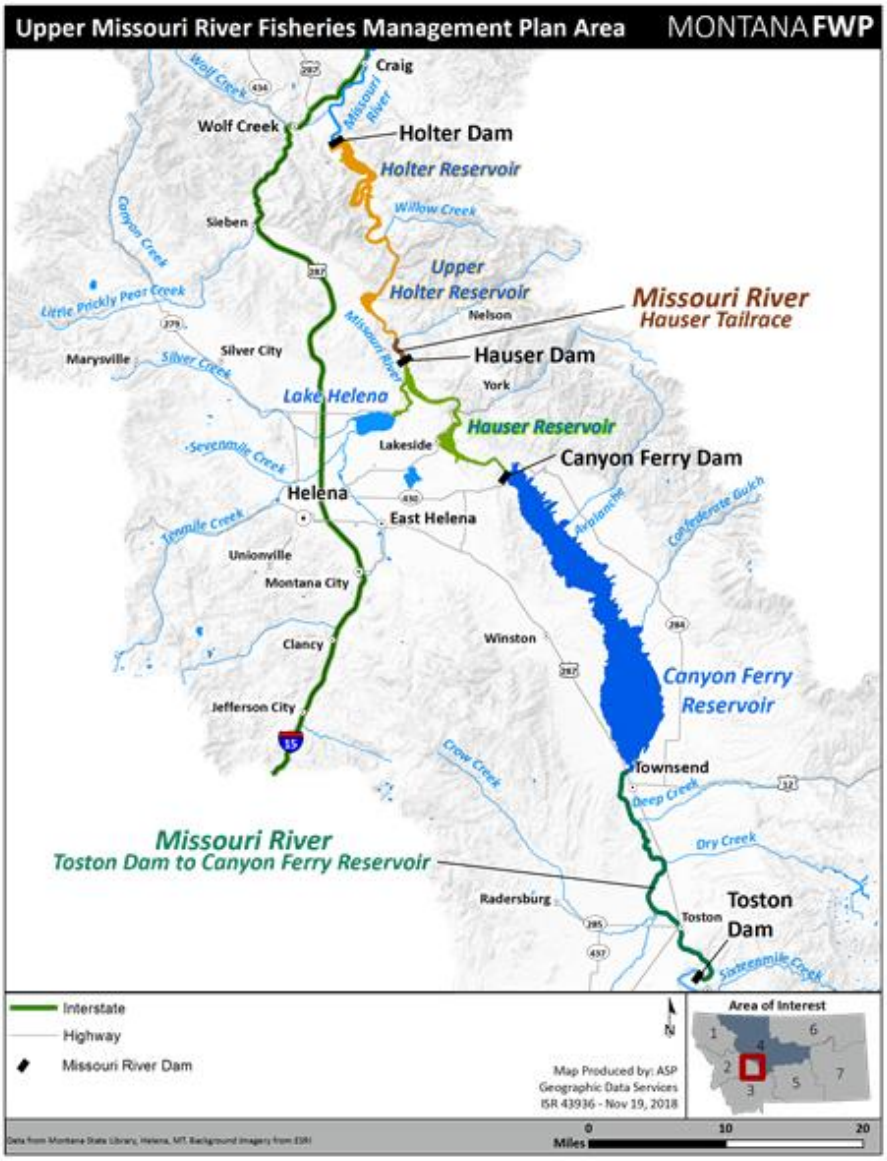

Figure 1. Upper Missouri River Fisheries Management Plan Area.

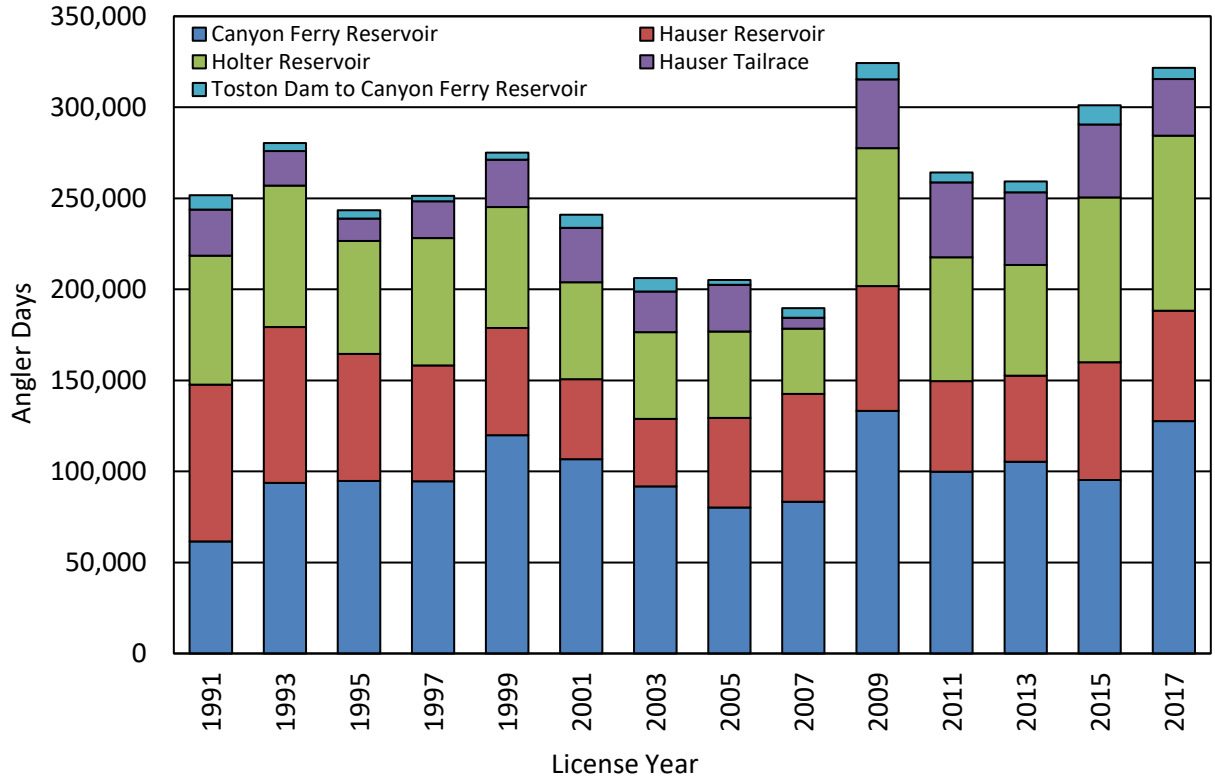

Figure 2. Angler days for Canyon Ferry, Hauser, and Holter Reservoirs and the Missouri River from Toston Dam to Canyon Ferry Reservoir and Hauser Dam to Holter Reservoir (Hauser Tailrace) (FWP, Angling Surveys).

River Sections

The Missouri River from Toston Dam to Canyon Ferry Reservoir has been managed for wild trout since 1973 and includes significant seasonal movement of hatchery origin rainbow trout into the reach from Canyon Ferry Reservoir. Principle game fish in this section are rainbow trout, brown trout, and walleye. The self-sustaining brown trout population largely relies on recruitment of juveniles from Missouri River tributaries upstream of Canyon Ferry Reservoir. Although this reach of river is located downstream from Toston Dam, it does not have characteristics of typical tailwater fisheries because the low head structure (26 feet tall). Toston Dam is 23 miles upstream of Canyon Ferry Reservoir and is a barrier to upstream migrating fish. This reach of the river represents a transition area where cold-water species of fish and invertebrates thrive during average precipitation years or cool/wet years and during dry/warmer summers becomes less suitable for cold-water. Since the Canyon Ferry Reservoir/Missouri River fishery is linked by seasonal fish migrations, management of the river fishery is influenced by reservoir management actions. Despite the influence of Canyon Ferry Reservoir, the Missouri River fishery continues to contain the wide variety of fish species observed in river systems upstream of Toston Dam. Management direction for this section will consider maintaining the current species assemblage.

The other segment of the Missouri River in the plan area is between Hauser Dam and Holter Reservoir and is 4.6 miles in length. This segment flows through a narrow, high-walled gorge for most of its length prior to entering upper Holter Lake. Impounded water from Holter Dam greatly influences the lower 1.5 miles of river. Productivity in this river segment is affected by the two upstream reservoirs (Canyon Ferry and Hauser). Deep-water releases from Canyon Ferry Dam and associated releases from Hauser

Dam create typical tailrace conditions where water temperature fluctuations are moderated, and the water is enriched with nutrients. The Missouri River in the Hauser Tailrace provides critical brown and rainbow trout spawning habitat that provides recruitment to the river and Holter Reservoir.

Reservoir Sections

Canyon Ferry Dam, constructed in 1955, and Reservoir are operated by the U.S. Bureau of Reclamation (BOR) for power production, flood control, irrigation, recreation, and as a municipal water source. Hauser and Holter are the second and third reservoirs downstream of Canyon Ferry (Figure 1). These two reservoirs differ significantly from Canyon Ferry Reservoir in that they are "run-of-the-river" facilities, meaning the same volume of water flowing into the reservoirs is released. Hauser and Holter dams were constructed in 1911 and 1904 for generating electric power and both reservoirs have limited storage capacity. Physical characteristics have been summarized in Table 1.

Table 1. Physical characteristics of Canyon Ferry, Hauser, and Holter Reservoirs.

Characteristic	**Reservoir**		
	Canyon Ferry	**Hauser**	**Holter**
Ownership	US Bureau of Reclamation	Northwestern Energy	Northwestern Energy
Surface Area (acres)	35,200	3,800	4,800
Mean Depth (feet)	58	26	50
Maximum Depth (feet)	164	70	121
Shoreline Length (miles)	76 miles	31 miles	50 miles
Age (years)	65 years	109 years	116 years
Generating Capacity	50 megawatts	17 megawatts	50 megawatts
Drainage Area (square miles)	15,904	16,876	17,149
Avg. water retention time (days)	135	8	21
Discharge Type Spill gates a) Bottom b) Mid-depth c) Surface Turbines d) Bottom e) Mid-depth f) Surface	 River outlet gates: 138 feet Surface to 31 feet Turbine outlet 91 feet	 Spill gates – surface (0-14 feet) Turbines – 16-32 feet	 Spill cap (0-6 feet) Spill gates (6-16 feet) "Exciter Unit" – 25-29 feet Turbines – 24-32 feet
Surface elevation at full pool (feet above sea level)	3797 feet	3650 feet	3578 feet
Average annual pool height fluctuation (avg pool height – avg drawdown height) (feet)	12 feet	2 feet	2 feet

Fisheries Monitoring

Within the UMRRFMP area, rainbow trout, yellow perch, walleye, brown trout, burbot, kokanee, and northern pike are the species of greatest interest to the public. Species abundance, population structure and ranges for each reservoir and river section are monitored using various standardized sampling methods (Table 2). Long-term standardized population trend surveys are summarized in the tables listed in Appendix A.

Table 2. Standardized annual population trend surveys throughout the Upper Missouri River Fisheries Management Plan Area.

Waterbody	**Species**	**Method/Timing**
Canyon Ferry Reservoir	Rainbow Trout	15 Horizontal Floating Gillnets - October
Canyon Ferry Reservoir	Yellow Perch	33 Horizontal Sinking Gillnets – June and August
Canyon Ferry Reservoir	Walleye	15 Horizontal Sinking Gillnets - September
Hauser Reservoir	Rainbow Trout	11 Horizontal Floating Gillnets - October
Hauser Reservoir	Perch and Walleye	7 Horizontal Sinking Gillnets - October
Holter Reservoir	Rainbow Trout	9 Horizontal Floating Gillnets - October
Holter Reservoir	Perch and Walleye	6 Horizontal Sinking Gillnets - October
Missouri River – Toston Section	Rainbow Trout, Brown Trout, and Walleye	Electroshocking annually using Catch Per Unit Effort (CPUE) - Fall
Missouri River – Hauser Tailwater Section	Rainbow Trout, Brown Trout, and Walleye	Electroshocking on odd-numbered years using standardized mark-recapture estimate – Fall

Management Plan – Past and Present

Parts I and II of this document provide a general description of the upper Missouri River reservoir system and fisheries monitoring protocol. Respective sections on individual waterbodies provide more detailed information on the plan area and fisheries descriptions, past/present management, and proposed management goals and strategies for the next decade.

A more comprehensive, historical perspective (e.g., public involvement, management strategies, etc.) of the upper Missouri River fisheries managed by FWP from Toston Dam to Holter Dam can be found in the Upper Missouri River Reservoirs Fisheries Management Plan, 2010-2019.

MANAGEMENT PLAN DIRECTIVES AND PUBLIC INVOLVEMENT

Plan Implementation

The UMRRFMP will be used by Montana Fish, Wildlife & Parks (FWP) to direct fisheries management activities for the next 10 years (2020-2029) on Canyon Ferry Reservoir, Hauser Reservoir, Holter Reservoir, and the Missouri River from Toston Dam to Canyon Ferry Reservoir and Hauser Dam to Holter Reservoir. Fish population monitoring will be conducted annually, as specified in Table 2, to monitor population trends and to investigate the effectiveness of management decisions. A Citizen Advisory Committee, appointed by the FWP Fish and Wildlife Commission, will provide oversight of the Management Plan. Population monitoring data will be evaluated, summarized, and presented annually to the Citizen Advisory Committee and interested citizens at annual public meetings for review (Appendix B).

Plan Development

This 10-year UMRRFMP builds upon past and recent public involvement (FWP 1989; FWP 1992; FWP 2000; FWP 2010) and was developed by FWP with input from a Citizen Workgroup.

The following goals for the 2020-2029 UMRRFMP were identified:

1. Develop an adaptive and responsive fisheries Management Plan for the upper Missouri River system from Toston Dam to Holter Dam. Manage principle game fish populations in all waterbody sections throughout the UMRRFMP area as quality, multi-species fisheries while recognizing the importance of other species in the system.
2. Implement management strategies that emphasize trout and walleye while recognizing perch as an important game and forage species.
3. Evaluate and/or recommend revisions to management goals and strategies over the duration of the UMRRFMP.
4. Present standardized population monitoring evaluations and summaries annually to a Citizens Advisory Committee.

Public Involvement

The UMRRFMP revision process began in June 2018. Public involvement included a Citizens Scoping Committee (summer 2018), five open houses (summer 2018), four public meetings and an on-line survey (winter 2018/2019), Citizens Workgroup (spring 2019), and three additional open houses (summer 2019). Public involvement from summer 2018 to spring 2019 helped define five core public concerns for FWP and the Citizens Workgroup to address, those are:

1. Management Plan responsiveness;
2. Management Plan duration;
3. Re-establishing pre-2018 rainbow trout stocking rates throughout the plan area;
4. Declining yellow perch population trends; specifically, in Canyon Ferry and Holter Reservoirs;
5. Walleye population size structure throughout the plan area.

Draft plan alternatives were based on evaluating the five core public concerns and recommendations made by the Citizens Workgroup in May 2019. Additional information about public scoping efforts can be found in Appendix B.

Citizen Advisory Committee Appointment and Role

A 5-member Citizen Advisory Committee will be appointed each February by the FWP Fish and Wildlife Commission to function in an advisory capacity to FWP for fisheries management decisions throughout the plan area. The Citizen Advisory Committee will consist of no more than one advocate from 5 stakeholder groups as outlined in Advisory Committee Framework found in Appendix C.

Montana Environmental Policy Act (MEPA)

The MEPA requires state government to be accountable to the people of Montana when it makes decisions that affect the human environment. MEPA provides a process to help ensure that government actions are based on informed decisions. It does this by requiring that reasonable alternatives are evaluated, the consequences of a decision are understood, and the public's concerns are known.

MEPA requires all state agencies to recognize and consider to the fullest extent possible the consequences that their actions may have on the quality of the human environment (75-1-201, Montana Code Annotated (MCA)) and directs them to:

- Utilize a systematic, interdisciplinary approach which will ensure the integrated use of the natural sciences and the environmental design arts in planning and decision making which may have an impact on the environment; and

- Develop methods and procedures which will ensure that environmental values and amenities are identified and may be given appropriate consideration in decision making along with economic and technical considerations.

MEPA requires FWP to:

- Issue a draft Management Plan;

- Encourage and accept public comments on the draft; and

- Issue a final Management Plan.

The Final Management Plan may:

- Develop and evaluate information not previously considered;

- Supplement, improve, or modify the analysis contained in the draft;

- Make factual corrections; and

- Explain why comments do or do not warrant further response.

Montana FWP has followed this framework while developing the previous two 10-year plans (FWP 2000; FWP 2010) and will follow a similar process for this plan. A public comment period for the draft Management Plan will commence following approval of the draft UMRRFMP by the FWP Fish and Wildlife Commission. See Appendix B for more information on management alternatives and public comments for development of the draft plan.

The draft UMRRFMP presents an integrated and interdisciplinary analysis of administrative alternatives for management of the upper Missouri River reservoir system. This document describes the proposed action and evaluates potential consequences on the physical environment. Analyses of impacts presented in this document were based on literature research, public comments, and interviews with FWP personnel and wildlife agency personnel in other states.

PART III

FISHERIES MANAGEMENT FRAMEWORK

Overview

The species composition of the upper Missouri River Reservoir system is typical of large river and reservoir fisheries in the intermountain region (Table 3). Fisheries of the Missouri River downstream from Toston Dam to Holter Dam and associated tributaries are managed as an ecological system. Many fish species in the system do not complete their entire life cycle within any single component of the system. Management considerations for any portion of the system (river, reservoir, or tributaries) must be considered in the context of the entire system.

Fisheries management of the upper Missouri River reservoir system changed dramatically following expansion of the walleye population in Canyon Ferry (McMahon 1992; FWP 2016). Walleye have impacted fisheries through predation and by increased abundance from flushing into downstream waters. As a prolific predator that relies on natural reproduction (Thomas 1992) in the system, active walleye management is necessary to maintain walleye abundance at appropriate levels to maintain quality multi-species fisheries in the reservoir system. Yellow perch, brown trout, and burbot fisheries are sustained by natural reproduction, while rainbow trout fisheries have natural reproduction in the rivers/tributaries and the reservoirs are sustained through stocking.

Species Abundance Goals

Population abundance goals for each species in each waterbody section have been established using standardized relative abundance or catch per unit effort (CPUE) surveys. Species-specific goal ranges have been developed for each reservoir and CPUE goals have been developed for applicable species within each river section to determine if annual trend values are meeting species-specific goals.

In order to manage a fish community that includes multiple game fish species, it is important to recognize that the goal for each species is affected by the management strategies for other species in the system. Many factors within the system will impact the attainability of each goal. The UMRRFMP emphasizes management for trout and walleye while recognizing the importance of yellow perch as a game fish and a forage species.

Species-specific population trends can be found in Appendix A.

Responsiveness

A major challenge for fishery managers in dynamic, multi-species fisheries is to be responsive to change without over-reacting to fluctuating data trends. Averaging population trend data based on standardized surveys, accompanied by annual data updates to the public, were tools used by managers in previous plans to balance responsive and cautious approaches.

This UMRRFMP will continue to use standardized survey results to evaluate and identify whether management plan goals are being met. Management decisions will typically be based on multiple years (2 to 3 years) of survey results to accurately evaluate population trends. Management changes (such as regulation changes) often take time to measure population level impacts, so continued monitoring will be needed to determine how management changes effect fish populations. FWP will report measurable change annually to the Citizens Advisory Committee, at public meetings, and provide annual reports.

Table 3. Fish species of Canyon Ferry, Hauser, and Holter Reservoirs including native status, first stocking date, population trend, and relative abundance. *

		Canyon Ferry				**Hauser**				**Holter**			
Species	Native	Present	Stock Date	Trend	Abundance	Present	Stock Date	Trend	Abundance	Present	Stock Date	Trend	Abundance
Game Fish Species													
Rainbow trout	No	x	1928	S	A	x	1934	S	A	x	1941	S	A
Mountain whitefish	Yes	x	N/A	D	C	x	1931	D	C	x	N/A	D	C
Walleye	No	x	N/A	S	A	x	1951	I	A	x	N/A	S	A
Brown trout	No	x	1931	D	C	x	1931	S	C	x	1931	S	C
Burbot	Yes	x	N/A	S	C	x	N/A	S	C	x	N/A	I	C
Brook trout	No	x	1934	U	R	x	U	U	R	x	N/A	U	R
Black crappie	No	x	N/A	U	R								
Cutthroat trout	Yes	x	N/A	U	R	x	U	U	R	x	N/A	U	R
Northern pike	No	x	N/A	I	C	x	U	I	C	x	N/A	I	R
Smallmouth bass	No	x	N/A	I	C	x	U	I	R	x	N/A	I	R
Largemouth bass	No	x	N/A	U	R	x	1926	U	R	x	N/A	U	R
Kokanee	No	x	1960's	N/A	R	x	1950	D	C	x	1950	D	C
Yellow perch	No	x	1938	S	A	x	1938	I	A	x	N/A	S	A
Nongame Fish Species													
Common carp	No	x	U	S	A	x	U	S	A	x	N/A	S	A
Longnose dace	Yes	x	N/A	U	A	x	N/A	U	R	x	N/A	U	R
Longnose sucker	Yes	x	N/A	D	A	x	N/A	D	A	x	N/A	S	A
White sucker	Yes	x	N/A	D	A	x	N/A	D	A	x	N/A	S	A
Mottled sculpin	Yes	x	N/A	U	A	x	N/A	U	A	x	N/A	U	C
Fathead minnow	Yes	x	N/A	U	C	x	N/A	U	C	x	N/A	U	R
Stonecat	Yes	x	N/A	U	C	x	N/A	U	R	x	N/A	U	R
Bluegill	No	X	N/A	I	C								
Utah chub	No	x	N/A	U	R	x	N/A	U	R	x	N/A	U	R
Flathead chub	Yes	x	N/A	U	R	x	N/A	U	R	x	N/A	U	R
Mountain sucker	Yes	x	N/A	U	R								
Smallmouth buffalo	Yes					x	N/A	U	R	x	N/A	U	R

***S - Stable, D - Decreasing, I - Increasing, U - Unknown, N/A - Not Applicable, A - Abundant, C - Common, R - Rare**

Proportional Stock Density (PSD)

PSD is a fisheries evaluation technique used to quantify the relationship between population abundance and fish size distribution. This fisheries management tool is commonly used to indicate sport fish population size structure balance (Gablehouse 1984), for walleye in this case, by establishing a PSD value for each population survey. The value for walleye is determined from a population survey by dividing the total number of fish surveyed 15-inches or greater by the total number of fish surveyed 10-inches or greater, multiplied by 100. Generally, a value from 0-30 indicates a population comprised primarily of small fish, 30-60 indicates a balanced population comprised of fish of all sizes, and 60-100 indicates a population comprised primarily of large fish.

For this UMRRFMP, a PSD goal range of 30 to 60 has been established for walleye populations in reservoirs throughout the plan area to evaluate size structure balance.

FISHERIES MANAGEMENT - RIVER SECTIONS

Management History

Toston Dam to Canyon Ferry Reservoir

Past management efforts have focused on rehabilitating degraded spawning and rearing habitat in tributaries that flow into both the river and Canyon Ferry Reservoir to enhance wild fish reproduction. These efforts have targeted both rainbow and brown trout populations. Fish population trends in the mainstem Missouri River are monitored with spring and fall electrofishing. Since 2015, seasonal colonization of walleye entering the river from Canyon Ferry Reservoir has been documented (Strainer 2018) and fish assemblage changes are likely occurring.

Hauser Tailrace

Trout populations in this segment of the Missouri River were monitored nearly annually until 1987 when surveys were discontinued due to concerns about potential adverse effects on spawning rainbow and brown trout. Due to increased fishing pressure and concerns over angler impacts to the fishery, electrofishing surveys (Appendix A) were resumed during odd-numbered years in 2003. Investigations of fish flushing have indicated that fish, primarily rainbow trout and walleye, from Hauser Reservoir, heavily influenced the abundance and species of fish in the Hauser Tailrace reach (Skaar and Humphrey 1996; Teuscher and Humphrey 1996; Spinelli 2014). An increasing number of walleye have been caught in the Hauser Tailrace over the past 20 years, which corresponds with an increasing Canyon Ferry walleye population and years with high runoff.

Historically, this section of the Missouri River has been managed as a wild trout fishery. However, rainbow trout planted into Hauser and Holter reservoirs influence the resident population. Electrofishing data from 2017 indicated that approximately 80% of the rainbow trout population in the river was comprised of hatchery origin fish.

Historic brown trout population surveys from the 1980's indicated a robust number of large (nearly 50% larger than 18-inches) resident and migratory fish. Brown trout abundance declined from initial survey levels until the late 2000's, but survey results from the 2010's indicate that the population has recovered to historic levels.

River Management Limiting Factors and Species Goals

Limiting Factors

The following factors have been identified as limiting the fisheries production in the Missouri River between Toston Dam and Canyon Ferry Reservoir and the Missouri River downstream of Hauser Dam.

- Limited availability of quality spawning and rearing habitat for sustaining a high-density brown trout and/or rainbow trout fishery in both reaches of the Missouri River.
    - Below Toston Dam, high water temperatures (approaching 80 degrees) and low stream flow occasionally impact trout fisheries and the food base during drought years. High sediment loading also impacts the quality of habitat for trout and invertebrates. Although improvements to habitat and stream flow have been made on a number of tributaries in the system since 1991, the overall quality of available spawning and

rearing streams remains relatively poor. Extreme drought conditions from 2000-2007, 2013, and 2015-2016 have further deteriorated habitat conditions in the river and tributaries.

  - Below Hauser Dam, Beaver Creek is the principal stream that supports substantial runs of spawning rainbow trout. U.S. Forest Service data demonstrates that large beaver dams on the lower reaches (the first 1-2 miles upstream of the confluence with the Missouri River) can substantially impact fish passage to important upstream spawning gravels. High sediment values and embeddedness of substrates further compound spawning success.

- Limited availability of quality habitat for rearing trout, particularly along shoreline areas, therefore resulting in poor juvenile rearing for brown trout, particularly during drought years. This lack of structural habitat, including good cover and holding areas for protection, results in increased predation by birds and fish.

- Whirling disease has been documented in the system, and although rates of infection appear to be relatively steady, increased mortality of juvenile rainbow trout rearing in tributaries can be expected as this disease persists. Increasing observations of physical deformities due to whirling disease at the Deep Creek fish trap in the Toston to Canyon Ferry section are cause for concern for adult fish that were infected by the disease as juveniles. Long-term impacts will likely result in decreased numbers of juvenile rainbow trout and reduced recruitment of adults that were infected as juveniles.

- Angler observations of walleye and northern pike have increased in recent years. The development of a northern pike population within the reservoirs further confounds fisheries management in the river sections. Walleye and northern pike are highly predatory species and, depending on population abundance, could further limit fish production in the river as well as the reservoirs. Increased use of river habitats by both northern pike and walleye may result in increased predation losses for trout and forage fish.

- Walleye flushed from Canyon Ferry and Hauser Reservoirs into the Missouri River below Hauser Dam influence the dynamics of the multi-species fishery. Detailed information on the magnitude of flushing rates from Canyon Ferry is needed to determine timing, magnitude, and influence of walleye flushing. Currently, no screening devices are in place on Canyon Ferry or Hauser Dams to prevent walleye from being flushed.

- Angling pressure in the Hauser Tailwater section is increasing, especially motorized use (FWP 2019), because of the proximity to the greater Helena area and other nearby urban areas. The growing population in the greater Helena area and other nearby urban areas suggests that pressure will continue to increase as the quality of this river section becomes more widely known.

Species Goals and Strategies

In order to manage a fish community that includes multiple fish species, it is important to recognize that the goal for each species is affected by the success of management strategies for the other species in the system and not all fish species can be maximized simultaneously. The primary plan goal for the two river sections is to emphasize management for wild trout while recognizing the importance of walleye, burbot and kokanee (Hauser Tailrace only) for providing additional angling opportunity.

Toston Dam to Canyon Ferry Reservoir

The goal for managing the Missouri River between Toston Dam and Canyon Ferry Reservoir is to provide naturally reproducing brown and rainbow trout populations in the Missouri River and associated tributaries for recreational fishing opportunities, and to provide important spawning and rearing conditions from Toston Dam to Canyon Ferry Dam.

In addition, a migratory walleye population (Strainer 2018) increasingly provides recreational fishing opportunities in the main stem Missouri River from approximately April through October; however, the walleye population can impact trout populations throughout this river section. The goal for this section of the plan is to maintain the current multi-species fish assemblage.

Hauser Tailrace

The management goal for the 4.6-mile-long reach of the Missouri River below Hauser Dam is to provide a quality multi-species fishery focused on wild rainbow and brown trout, with walleye, kokanee, and burbot providing a low-level component to the fishery.

Rainbow Trout

Goals

Rely on wild reproducing rainbow trout to provide a cost-effective, sustainable fishery. Manage rainbow trout as a principle game fish.

- Achieve and maintain CPUE or population estimate goals for each river section.

Waterbody Strategies

Toston Dam to Canyon Ferry Reservoir:

- Maintain fall abundance at or above 1.0 rainbow trout per minute based on fall catch per unit effort (CPUE) electrofishing sampling near Toston.
- Rely on rainbow trout to provide quality fishing opportunities during spring and fall periods, recognizing that summer habitat conditions are impacted by low flow and elevated water temperature during low flow years.
- Recognize that stocking success of rainbow trout in Canyon Ferry Reservoir influences abundance of the fishery in the Missouri River.
- Continue to explore and enhance spawning and rearing habitat in tributary streams.
- Implement an angler creel survey to determine the effect of angler harvest to the fishery.

Hauser Dam to Holter Reservoir:

- Maintain abundance at or above 3,500 rainbows per mile during fall electrofishing surveys.
- Continue angler creel census to evaluate angler catch rates, annual harvest of rainbow trout, percent of rainbows caught and released, among several other statistics.

- Monitor reservoir-operating plans to ensure adequate stream flows to support fish populations.
- Continue fall electrofishing on odd-numbered years to monitor rainbow trout numbers. If rainbow trout abundance falls below 1,000 rainbow trout per mile, consider regulation changes, seasonal closures, or other restrictions to protect the wild trout fishery.
- Continue work with the Forest Service for habitat and fish passage improvements in lower Beaver Creek.

Both River Sections:

- Encourage the development and maintenance of wild rainbow trout spawning and recruitment.
- Continue tributary habitat enhancement. Work with local water districts, irrigators, and other entities to improve stream flows during critical periods.
- Maintain harvest regulations designed to protect spawning fish in tributaries and other important spawning areas.
- Continue monitoring walleye impacts to the wild trout fishery.
- Continue stocking wild strains of rainbow trout in plan area reservoirs to support the existing spawning runs in the system. Monitor movement and use of the river by domesticated strains of rainbow trout.
- Continue working with Hauser and Toston Dam operations for flow releases desirable for aquatic life.
- Identify additional limiting factors and consider management changes as needed.
- Educate anglers about current regulations and rationale for management actions.

Brown Trout

Goals

Rely on brown trout to provide a resident trophy-fishing experience that is reliant entirely on wild reproduction. Manage brown trout as a principle game fish.

- Achieve and maintain CPUE or population estimate goals for each river section.

Waterbody Strategies

Toston Dam to Canyon Ferry Reservoir:

- Maintain and enhance brown trout abundance at or above approximately 0.40 brown trout per minute based on CPUE sampling near Toston.
- Continue to enhance spawning and rearing areas, particularly where groundwater and spring areas exist.

- Continue to implement catch and release only regulations for brown trout. Children age 14 and under can possess one brown trout.
- Recommend allowing harvest if brown trout abundance increases above management goals in the river and in the reservoir.
- Identify additional limiting factors and consider management changes as needed.
- Implement an angler creel survey to determine the effect of angler harvest to the fishery.

Hauser Dam to Holter Reservoir:

- Maintain brown trout abundance at or above 150 brown trout per mile during fall electrofishing surveys (FWP 2010).
- Maintain the catch and release fishing regulation for brown trout for this reach of the Missouri River and Holter Reservoir.
- Consider additional restrictions if brown trout numbers fall below 100 brown trout per mile during fall estimates.
    - Consider use of seasonal fishing closure during critical spawning periods.
- Identify critical spawning areas and seasonally restrict fishing these areas if deemed feasible.
- Continue work with the U.S. Forest Service to improve potential spawning habitat in Beaver Creek.
- Continue angler creel census to evaluate angler catch rates among several other statistics.
- When feasible, monitor the Holter Reservoir kokanee population and evaluate impacts to the brown trout population in the Hauser tailrace. Only consider stocking surplus kokanee in Holter Reservoir if there are no observable effects to brown trout abundance.

Both River Sections:

- Continue working with Hauser and Toston Dam operations for flow releases desirable for aquatic life.

Walleye

Goals

Rely on migratory walleye to supplement the fishery while minimizing impacts on existing trout and forage species.

- Monitor walleye abundance in the river sections via boat electrofishing surveys.

Waterbody Strategies

Toston Dam to Canyon Ferry Reservoir:

- Use boat electrofishing surveys to monitor population abundance and size structure. Due to demonstrated connectivity with the reservoir fishery, identify potential impacts to the reservoir walleye fishery when evaluating management of walleye in the river.
- Rely on walleye to provide fishing opportunity during summer months based on the current pattern of migration into the river during the spring and the return to the lake during fall. Manage river walleye population as principle game fish and to minimize impacts on existing trout and forage species.
- Implement an angler creel survey to determine the effect of angler harvest to the fishery.
- Evaluate monitoring criteria for implementing management action for walleye in the river between Toston and Canyon Ferry.

Hauser Dam to Holter Reservoir:

- Continue angler creel census to evaluate angler catch rates, annual harvest of walleye, percent of walleye caught and released, among several other statistics.

Both River Sections:

- Consider impacts with adjacent reservoir management goals, strategies, and regulations when implementing river management actions.
- Continue to monitor Missouri River walleye populations and determine impacts to wild trout populations in the river.
- Recommend additional management actions as needed.

Northern Pike

Goals

Monitor and suppress the northern pike population from Toston Dam to Holter Dam and evaluate impacts to other species.

Waterbody Strategies

Toston Dam to Canyon Ferry Reservoir:

- Allow spear fishing for northern pike in the impoundment above Toston Dam and Canyon Ferry Reservoir.

Both River Sections:

- Eliminate all angler bag limits for northern pike in the upper Missouri River reservoir system and in the Missouri River. Manage northern pike population according to the Missouri River Basin Northern Pike Suppression Project EA Decision Notice. See Appendix D for additional discussion

on northern pike suppression efforts within the Upper Missouri River Reservoir Fisheries Management Plan area.

- Identify critical spawning habitats in the river and reservoir and determine if habitat manipulations can suppress pike numbers and emigration through the system.
- Explore other opportunities or techniques to suppress pike numbers.
- Determine impacts of northern pike to existing fish assemblage throughout the plan area; specifically, to the existing forage base.

Kokanee Salmon

Goals

Rely on kokanee salmon flushed from Hauser Reservoir and any natural reproduction or supplemental stocking that may occur in Holter Reservoir to contribute in a limited way to the multi-species fishery.

Waterbody Strategies

<u>Hauser Dam to Holter Reservoir:</u>

- Depend on potential supplemental kokanee stocking and natural reproduction from Holter Reservoir to provide a low-level kokanee fishery to the Hauser tailrace.
- Reduce or discontinue stocking kokanee in Holter Reservoir if kokanee impact spawning of brown trout in the Hauser tailrace.

FISHERIES MANAGEMENT - RESERVOIR SECTIONS

Management History - All Reservoir Sections

Rainbow Trout

Historically, the reservoir fisheries were managed primarily for rainbow trout and yellow perch. Hauser and Holter Reservoirs maintained low level walleye populations since the 1950s. Fisheries management strategies were modified substantially following expansion of the Canyon Ferry Reservoir walleye population in the late 1990s.

The rainbow trout population in the upper Missouri River Reservoir system is maintained through stocking of hatchery fish. Limited spawning and rearing habitat preclude natural recruitment at levels adequate to maintain a sustainable fishery. Habitat degradation in tributary streams and exposure to whirling disease has also limited successful natural reproduction of rainbow trout.

Montana Fish, Wildlife and Parks has adjusted stocking strategies several times to sustain the rainbow trout fisheries. Adjustments have included changing the number and size of fish stocked, as well as adjusting the season of the year that the fish were stocked. Beginning in the 1980s, FWP began experimenting with different strains of rainbow trout and with different methods of dispersing them into the reservoirs to improve survival of stocked fish. Evaluation of stocking techniques indicated that stocking yearling rainbow trout (5-7 inches in length) during spring plankton bloom (May) yielded the most consistent survival of hatchery fish. Following walleye population expansion in the system, stocking fish larger than seven inches was necessary to avoid walleye predation. Stocking was added in the fall to take advantage of lower energy demands of walleye during cooler water temperatures, reduce the potential for avian predation, and maximize use of hatchery space for production. Stocking of yearling fish in Canyon Ferry Reservoir was discontinued in 2014, and stocking season in all three reservoirs was standardized to summer and fall in the mid-2010's.

Over the last 50 years, there have been significant fluctuations in rainbow trout abundance in the upper Missouri Reservoir system. FWP measured angler catch rates in the mid-1960s as low as 0.08 rainbow/hour, and again in the 1980s as low as 0.08 – 0.14 rainbow/hour. These fluctuations were closely associated with the varying success of the department's stocking program. After a significant increase in rainbow trout abundance during the mid-1990s from increased stocking rates of yearling fish in Canyon Ferry Reservoir, the rainbow trout population trend remained relatively stable at approximately 10 rainbow trout per net throughout the late-1990s (Figure 5). By 2000, large year classes of walleye in Canyon Ferry Reservoir produced in 1996 and 1997 were large enough to effectively prey upon stocked rainbow fingerlings, and rainbow numbers declined in subsequent years. Stocking larger sized (7 to 8-inch) fish in spring and fall improved rainbow recruitment, resulting in stable to slightly increasing abundance. The adjustment to stocking in the summer and fall has maintained abundance levels high enough to maintain the quality of the rainbow fishery.

Past management efforts have focused on rehabilitating degraded tributaries entering the upper Missouri River system to enhance spawning habitat and increase recruitment of juvenile trout into the fishery. Sizeable spawning runs of wild strain rainbow trout have developed in various tributaries in the system, but recruitment of wild trout from this increased spawning activity to the fishery is minimal. Efforts to improve spawning habitat and improve the wild fishery will continue.

Brown Trout

Brown trout have historically remained at relatively low levels throughout the reservoir system and provide limited trophy-fishing opportunities. The brown trout population declined significantly between the mid-1980's and mid-1990's as a result of drought, spawning competition with Kokanee, and walleye expansion throughout the system. Spawning habitat enhancements have resulted in little population improvement, and brown trout abundance persists at historically low levels.

Kokanee Salmon

Kokanee salmon were first introduced into Hauser Reservoir in the 1950's. Kokanee plants were unsuccessful in producing a fishery in the reservoir despite stocking almost one million fish over a six-year period. The kokanee population that thrived through the 1980s and 1990s apparently originated from plants that were made into Canyon Ferry Reservoir in the late 1960s or from plants made into the Helena Valley Regulating Reservoir in the 1970s. Some of the kokanee stocked in Canyon Ferry Reservoir were siphoned into the Regulating Reservoir where they survived and produced a good fishery, which prompted annual stocking beginning in 1971. The kokanee population in Hauser Reservoir developed into a fishable population when the Regulating Reservoir was drained for repairs in 1978. During the repair work kokanee spilled in the Hauser system. Since the 1970's the Hauser Reservoir kokanee population underwent large annual fluctuations. Record high runoff and associated fish flushing during 1995, 1996 and 1997 resulted in a severe decline in the Hauser Reservoir kokanee population to a fraction of early 1990s levels. Hatchery plants throughout the late 1990s and early 2000s were unsuccessful at reestablishing the kokanee population. Each year a small number of kokanee spawn in Spokane Creek and other Hauser Reservoir tributary streams or spill from the Helena Valley Regulating Reservoir into Hauser Reservoir.

The kokanee fishery in Holter Reservoir was largely sustained through flushing of fish downstream from Hauser Reservoir. Similar to Hauser Reservoir, the population underwent large annual fluctuations. Unlike in Hauser Reservoir, stocking kokanee in Holter saw limited success following population declines in the late 1990s. A low level kokanee population remains in Holter Reservoir despite no kokanee stocking since the late 2000s.

Yellow Perch

Yellow perch have historically been one of the most abundant species of fish in the upper Missouri River Reservoir system since planted in the late 1930's in Canyon Ferry and Hauser Reservoirs. However, the perch population has fluctuated extensively over time. Generally, these annual fluctuations are related to limited spawning and rearing habitat, variable spring weather conditions, reservoir levels, and predation. Historically, no limits were in place on the number of perch anglers could harvest. Due to declining yellow perch abundance in the late 1990's, harvest restrictions were implemented in 2000 for the first time in Montana (50 fish daily on Canyon Ferry and Holter Reservoirs). As numbers continued to decline, waterbody-specific limits were reduced to as low as 10 fish daily and in possession (Canyon Ferry Reservoir). Perch abundance in Holter increased dramatically in 2013 and the harvest limit was increased; however, perch populations in the Canyon Ferry and Hauser Reservoirs remain at historically low levels.

Historically, yellow perch population trends have been monitored by summer or fall sinking gillnets, summer beach seine surveys and roving creel census'. Angler catch rates for yellow perch as high as 5.74 fish per hour has been documented during years of high abundance.

Ongoing management efforts to improve perch populations have included methods to reduce the impacts of reservoir operations on the fishery and enhancing spawning and rearing habitat by providing additional structure.

Walleye

Walleye in the upper Missouri River Reservoir system were initially stocked in Lake Helena, located in the Causeway Arm of Hauser Reservoir, in 1951. Walleye were also stocked in Hauser Reservoir from 1989-1998 and became established in Holter Reservoir, likely from flushing over Hauser Dam. Walleye were not observed upstream of Canyon Ferry Dam during sampling from 1955 through 1988. The first walleye in Canyon Ferry Reservoir was captured in 1989 during rainbow trout fall netting. Walleye populations in Canyon Ferry, Hauser, and Holter Reservoirs are currently self-sustaining populations that are not supplemented through stocking (FWP 2010)).

Walleye populations in Hauser and Holter Reservoirs were relatively stable in both size and abundance prior to the late 1990's when the Canyon Ferry Reservoir population grew rapidly (Horn 2004). Since that time, walleye abundance in Hauser Reservoir has trended upward and reached an all-time high abundance in 2018. Walleye relative abundance in Holter Reservoir was at a record high in 2013 but since that time has trended downward. Correlation has been observed between high walleye abundance and reduced forage fish (yellow perch and suckers) abundance which ultimately can affect walleye growth and size distribution. Active walleye management, such as liberal fishing regulations, could be necessary to meet management goals, that are intended to maintain walleye abundance to reduce impacts to other species while maintaining desirable size classes in the walleye fisheries.

In addition, monitoring the abundance of white suckers and yellow perch has assisted in efforts to evaluate the forage fish availability for walleye. Monitoring remains an important component of data collection as the fish community fluctuates due to habitat changes, harvest, natural reproduction, and species composition changes.

Reservoir Management Limiting Factors and Species Goals

The primary management plan goal is to provide a cost effective, quality multi-species fishery that maintains the current level of angler use during both the open water and ice fishing seasons and maintain populations of non-game species (e.g., suckers, dace, sculpins). Fisheries management priorities are to maintain healthy populations of rainbow trout, yellow perch, walleye, brown trout, and burbot while providing additional opportunity to fish for other species that occasionally contribute to the fishery (e.g., kokanee.).

To achieve the primary goal for the upper Missouri River reservoir system, limiting factors, species-specific management strategies, and other management issues must be understood and developed to sustain fisheries in the plan area.

Limiting Factors

Determining all of the limiting factors that regulate fisheries in complex systems like the upper Missouri River reservoir system is difficult to assess. Until factors limiting fisheries production in the system are addressed, these fisheries will not reach their full potential. Below are some limitations that exist for reservoir fisheries throughout the system:

- Perch populations tend to be limited by reproductive/rearing success and predation, while trout populations are limited by number and size of fish stocked and recruitment of stocked fish. In contrast, walleye reproductive potential is high and may ultimately be limited by available forage, predators (e.g. Northern pike), and other environmental variables (i.e., spring spawning conditions). A depleted forage base will ultimately result in reduced growth and productivity of not only walleye, but also other fish in the system.

- Available spawning and rearing tributaries are insufficient to adequately supply juvenile brown and rainbow trout for the reservoirs, and hatchery allocation constraints and costs limit the number of fish available for stocking. The limited spawning habitat of rainbow trout and brown trout further impacts their poor reproductive success, and predation by walleye further reduces recruitment of successfully reared fish. Yellow perch spawning and rearing success is variable, and density of the adult population appears to be limited by recruitment. A relatively small spawning stock of perch are capable of producing a large number of offspring, however lack of suitable nursery and cover habitats leave juvenile perch vulnerable to predation thereby limiting recruitment of entire age classes. Heavy predation has the potential to suppress the yellow perch population and may limit the ability to manage the yellow perch fishery.

- Walleye diet studies indicate a high preference for yellow perch, suckers, and trout. At current yellow perch and sucker population levels and reproductive capability, it is unknown if these species can adequately maintain a sustainable forage base for the walleye population. Predation of stocked trout could impede the cost-effectiveness of fish stocking and hinder recruitment to the fishery.

- Low dissolved oxygen in the deep water and below system dams can occur in summer and early fall months. Deep areas, greater than 60-80 feet, at the north end of Canyon Ferry Reservoir may not be suitable for some fish species because of low dissolved oxygen levels during summer and fall months.

- Close proximity to three major Montana urban areas (Helena, Bozeman, and Great Falls) increases angling and access pressure to fisheries resources throughout the upper Missouri River system. Approximately 300,000 annual angler days, or about 10% of total statewide angling pressure, occurs on the upper Missouri River reservoir system. Fisheries resource challenges regarding access and angler expectations are expected to rise over the next decade.

- Reservoir operations that result in average annual elevation fluctuations (e.g. approximately 12 feet annually in Canyon Ferry Reservoir) limits establishment of shoreline vegetation to serve as spawning and rearing habitat for yellow perch or other species with similar spawning requirements.

- Extended surface water spills during spring run-off may result in fish loss/transport into downstream adjacent water. Losses of perch, walleye and rainbow trout have been documented and may be significant.

- Localized depletions of fish may occur during intensive fishing periods (e.g. concentrated areas of yellow perch anglers during high-use periods in the winter) limiting recruitment and survival in distinct subpopulations in the reservoir.

- Expansion of the northern pike and smallmouth bass populations could increase predation on an already limited forage base.

- Funding to address issues related to reservoir operations and fisheries is limited. Partnerships with Bureau of Reclamation and NorthWestern Energy are vital for identifying and addressing problems associated with dam and reservoir operations.

- Aquatic invasive species and aquatic pathogens have been found or suspected in the system. Aquatic invasive species have the potential to reduce the reproductive success of various fish species, cause dynamic changes to the structure of the food web or negatively impact angling experience.

Species Goals and Strategies

In order to manage a fish community that includes multiple fish species, it is important to recognize that the goal for each species is affected by the success of management strategies for the other species in the system and not all fish species can be maximized simultaneously. The primary plan goal for the three reservoir sections is to emphasize management for rainbow trout and walleye while recognizing perch as an important game and forage species. In addition, recognize brown trout and burbot for providing additional angling opportunity.

Rainbow Trout

Goals

Rely on rainbow trout to continue providing angling opportunity at approximately the current angler catch rate. Maintain rainbow trout stocking size and rates that meet or exceed angler demand. Recognize that established management plan relative abundance goal ranges cannot be achieved for reservoirs without annual FWP recommended stocking size and rates.

- Achieve and maintain relative abundance for rainbow trout per net, based on standardized fall floating gillnet surveys, within waterbody specific relative abundance goal ranges

- Achieve and maintain waterbody specific average summer angler catch rates, if applicable.

Waterbody Strategies

Canyon Ferry Reservoir:

- Relative abundance goal range: 4 to 6 rainbow trout per net

- Angler catch rate goal: 0.25 rainbow trout per hour

- Annually stock 100,000 Arlee rainbow trout over 7 inches in the summer and 200,000 Eagle Lake rainbow trout over 7inches in the fall.

Hauser Reservoir:

- Relative abundance goal range: 3 to 5 rainbow trout per net

- Angler catch rate goal: 0.15-0.20 rainbow trout per hour
- Annually stock 100,000 8-inch Arlee rainbow trout and 50,000 8-inch Eagle Lake rainbow trout.

Holter Reservoir:

- Relative abundance goal range: 4 to 6 rainbow trout per net
- Angler catch rate goal: 0.25 rainbow trout per hour
- Annually stock 125,000 8-inch Arlee rainbow trout and 125,000 Eagle Lake rainbow trout.

All Reservoirs:

- To minimize flushing losses, stock fish after peak spring flows.
- If funding for stocking catchable rainbow trout (fish > 7-inches in length) is unavailable, management strategies for rainbow trout, walleye, and yellow perch will be reevaluated.
- Maintain annual monitoring and data collection to evaluate if management goals are being met.
    - If relative abundance levels (fish per net) in fall floating gillnet surveys move above or below rainbow trout per net goal ranges and/or angler catch rates decline substantially, recommend changes to the stocking plan (e.g., timing and location of fish plants, different rainbow strains, size at stocking) or regulations and implement if deemed cost-effective. Determine what limiting factor is reducing rainbow trout recruitment (e.g., hatchery or strain issues, increased predation by walleye) and actively manage the fisheries as necessary.
- Identify habitat and spawning enhancement projects throughout the upper Missouri River reservoir system, including tributaries, to increase wild trout abundance. Explore project collaborations with State and Federal agencies and private entities.
- Maintain restricted harvest regulations and closures associated with spawning areas to promote wild trout spawning.
- Consider stocking additional rainbow trout when additional hatchery fish are available. Do not stock if surplus fish will interfere with rainbow trout strain or season of stocking evaluations.
- Explore predation impacts from birds and fish on stocked rainbow trout recruitment.

Yellow Perch

Goals

Rely on yellow perch to provide a cost-effective, self-sustaining fishery and remain the primary forage base for reservoirs in the plan area; explore options to enhance yellow perch populations throughout the plan area. Continue to manage yellow perch as a principle game fish.

- Achieve and maintain relative abundance for yellow perch per net, based on standardized sinking gillnet surveys, within waterbody specific relative abundance goal ranges.
- Achieve and maintain waterbody specific average winter angler catch rates, if applicable, for anglers targeting yellow perch.

Waterbody Strategies

Canyon Ferry Reservoir:

- Relative abundance goal range: 6 to 10 yellow perch per net
- Angler catch rate goal: 2.0 yellow perch per hour in the winter.

Hauser Reservoir:

- Relative abundance goal range: 6 to 8 yellow perch per net

Holter Reservoir:

- Relative abundance goal range: 8 to 12 yellow perch per net
- Angler catch rate goal: 1.0 to 2.0 yellow perch per hour in the winter.

All Reservoirs:

- Continue harvest regulations to minimize harvest impacts by anglers and mitigate fluctuating annual predation. Evaluate and implement further regulation changes if needed.
- Continue adequate data collection to determine if strategies are effective and the goal is being met. Data collection includes fish population monitoring and creel surveys.
- If relative abundance levels (fish per net) in summer or fall sinking gillnet surveys are above or below yellow perch per net goal ranges and/or angler catch rates decline substantially, recommend changes to regulations and implement if deemed cost-effective. Determine what limiting factor is for yellow perch recruitment (e.g., lack of habitat, angler harvest, increased predation by walleye) and actively manage the fisheries as necessary.
    - Consider use of more conservative angler bag limits if abundance trends remain below goal range.

  - To maximize fishing opportunity, consider more liberal bag limits when abundance trends increase above goal range.

- Continue current habitat enhancement projects (e.g., Canyon Ferry Reservoir Pines for Perch Project) as long as the project remains cost-effective and explore:

  - Additional yellow perch habitat enhancement opportunities (e.g., artificial habitat, stocking or transferring fish).

  - Opportunities to modify reservoir levels and improve shoreline spawning habitat. Work with reservoir managers and water users.

  - Potential enhancement of critical spawning habitats and nursery areas.

Walleye

Goals

Rely on walleye to maintain a cost-effective, self-sustaining, quality fishery to enhance the summer fishery. Manage walleye in UMRRFMP area reservoirs as a principle game fish.

- Achieve and maintain waterbody specific walleye relative abundance per net and PSD goal ranges, based on standardized fall sinking gillnet surveys (Primary).

- Evaluate criteria for determining appropriate walleye density consistent with forage availability (Secondary).

Waterbody Strategies

<u>Canyon Ferry Reservoir:</u>

- Relative abundance goal range: 5 to 7 walleye per net

- PSD goal range: 30 to 60

<u>Hauser Reservoir:</u>

- Relative abundance goal range: 4 to 6 walleye per net

- PSD goal range: 30 to 60

<u>Holter Reservoir:</u>

- Relative abundance goal range: 4 to 6 walleye per net

- PSD goal range: 30 to 60

<u>All Reservoirs:</u>

- Recognize the importance for anglers to have multiple size classes of walleye represented in the population to better meet angler preferred walleye size of 14 to 18-inches. Potential regulation or management changes will be identified through standardized annual surveys (e.g., netting, creel, etc.), evaluated with all species waterbody management strategies herein, and considered if appropriate.

- It is expected that a walleye fishery with good angler catch rates and desired size classes, while minimizing impacts to other adjacent fisheries, can be maintained with the goal ranges listed for each reservoir.

- Use angler harvest regulations to manage walleye population abundance and reduce predation on other species. This remains the most cost-effective and selective management tool available to manage the walleye population. Bag limits above standard regulations for the Central Fishing District for walleye (5 daily and 10 in possession) are typically necessary to maintain a suitable forage base and preserve populations of other species. Modified angler bag and size limits may be used as management tools to improve desirable size groups (i.e., slot limits, bag limits, closures, etc.).

- If necessary, implement additional management actions to influence walleye population growth or size structure. Additional management actions may be implemented if waterbody and species specific management strategies are ineffective.

    - Separate commission action, MEPA analysis, and/or additional public process will be needed to implement additional management actions.

- If it is determined that harvest is affecting the walleye population, changes may be necessary to support a viable, quality-sized walleye population. Walleye daily and possession limits may be modified, and, if applicable, contests will be evaluated. Management decisions (e.g., regulation changes) will typically be based on multiple years (2 to 3) of standardized survey values and be considered if they deviate from waterbody and species specific management plan strategies.

- Explore additional monitoring and research as needed (e.g., supplemental netting, tagging studies, creel surveys, flushing, entrainment, age-structure, etc.).

Brown Trout

Goals

Rely on brown trout to provide a limited trophy-fishing experience that is reliant entirely on wild reproduction.

- Achieve and maintain waterbody specific brown trout relative abundance per net goal ranges, if applicable, based on standardized fall sinking gillnet surveys.

Waterbody Strategies

Canyon Ferry Reservoir:

- Relative abundance goal range: 0.5 to 1.5 brown trout per net

Hauser Reservoir:

- Relative abundance goal range: 0.5 to 1.5 brown trout per net

All Reservoirs:

- Continue restrictive regulations to protect brown trout.
- Maintain current catch and release only regulations.
- Recommend allowing harvest if brown trout abundance increases above management goal ranges.
- Continue ongoing efforts to enhance spawning and rearing habitat for brown trout.
- Continue work with landowners and irrigators to reduce dewatering of critical streams during brown trout spawning (fall). Pursuing water leases for instream flow will continue as opportunity arises.
- Continue work with Department of Natural Resource and Conservation (DNRC) for the Missouri River from Toston to Canyon Ferry Reservoir, Bureau of Reclamation for Hauser, and Northwestern Energy for Holter to mitigate impacts of hydropower on fish populations; specifically, brown trout.
- Continue to explore brown trout population limiting factors and habitat enhancement projects throughout the UMRRFMP area.

Burbot (Ling)

Goals

Rely on burbot to compliment the winter fishery by maintaining the current level of burbot in reservoirs in the UMRRFMP area.

- Achieve and maintain waterbody specific burbot relative abundance per net goal ranges, if applicable, based on standardized fall sinking gillnet surveys.

Waterbody Strategies

Canyon Ferry Reservoir:

- Relative abundance goal range: 0.25 to 0.5 burbot per net

Hauser Reservoir:

- Relative abundance goal range: 0.5 to 1.5 burbot per net

Holter Reservoir:

- Relative abundance goal range: 0.25 to 0.5 burbot per net

All Reservoirs:

- Improve data collection to better understand burbot population dynamics by exploring projects that identify burbot limiting factors.

- Provide brood and/or foundation stock, if necessary, for re-introductions to other waters for conservation and angling considerations.

- Maintain current angler harvest regulations unless relative abundance goal ranges are not met. If goal ranges are not met, recommend adjustments to bag limits.

- Increase effort during winter creel to determine burbot harvest.

Forage Fish

Goals

Manage and enhance the forage base to support a productive, quality multi-species fishery that includes walleye, trout, and yellow perch as principle game fish.

- Achieve and maintain waterbody specific forage fish goals based on standardized annual surveys.

Waterbody Strategies

Canyon Ferry Reservoir:

- White sucker relative abundance goal range: 5.0 to 10.0 fish per net

- Achieve and maintain mid-summer zooplankton density of 20 per liter with current zooplankton species composition based on annual standardized survey.

All Reservoirs:

- Maintain yellow perch relative abundance levels to within or above waterbody specific goal ranges.

- Manage walleye populations at a sustainable level within waterbody specific management plan strategies. Consider additional walleye management measures if primary forage fish species decrease significantly and walleye are identified as the primary limiting factor.

  - Active management measures may include increasing walleye bag limits, species specific netting, or commercial fishing. See reservoir walleye species goals section discussion for adaptive management strategies.

- Explore opportunities for forage enhancement projects throughout the plan area by partnering with civic organizations, NGO's, and State or Federal agencies.

- Give priority to increase current forage species to support the principle game fish. Previous evaluation of forage introductions has shown that risks associated with a new species introduction outweigh potential benefits. Consequently, no new species will be evaluated or considered for introduction into the management plan area (FWP 2010).

- FWP will work to prevent the unauthorized introduction of new fish species to protect the resident fish community. Implementation measures would include development of a public education program, surveillance, and strict enforcement of State laws and policies prohibiting introduction of unauthorized species (FWP 2010).

Northern Pike

Goals

Monitor and suppress the northern pike population from Toston Dam to Holter Dam and evaluate impacts to other species.

Waterbody Strategies

Toston Dam to Canyon Ferry Dam:

- Allow spear fishing for northern pike in the impoundment above Toston Dam and in Canyon Ferry Reservoir.

All Plan Area Sections:

- Eliminate angler bag limits for northern pike in the upper Missouri River reservoir system and manage northern pike population according to the Missouri River Basin Northern Pike Suppression Project EA Decision Notice. See Appendix E for additional discussion on northern pike suppression efforts within the Upper Missouri River Reservoir Fisheries Management Plan area.

- Identify critical spawning habitats in the upper Missouri River reservoir system and determine if habitat manipulations can suppress pike numbers and emigration through the system.

- Explore and implement other opportunities or techniques to suppress northern pike throughout the plan area and determine impacts to existing forage fish.

- Additional management methods may be necessary to reduce pike populations (e.g., spearing, commercial fishing, required harvest during tournaments) following public review and/or FWP Fish and Wildlife Commission or MEPA process.

Kokanee Salmon

Goals

Recognize kokanee salmon as a limited supplemental species to rainbow trout with low opportunity as a viable angling species in Hauser and Holter Reservoirs. Current kokanee abundance is too low to set or maintain a realistic management goal.

Waterbody Strategies

Hauser Reservoir:

- Evaluate mitigation of water quality issues, walleye predation, and flushing rates of kokanee to determine if stocking is feasible.
- Evaluate other strategies that may provide cost-effective solutions to maintaining the Hauser Reservoir kokanee fishery (e.g., spawning habitat to promote wild reproduction).
- Monitor tributary streams and drainage ditches to assess spawning stock present in Hauser Reservoir.
- When feasible attempt to develop occasional kokanee fishing opportunity through stocking with the understanding the fishery may provide short term or cyclic angling opportunity.

Holter Reservoir:

- Consider supplementing the Holter Reservoir fishery by stocking surplus kokanee when available.
- Determine appropriate kokanee densities to maintain kokanee fishery with minimal impacts to brown trout spawning.
    - Monitor river and reservoir brown trout population densities to determine if kokanee spawning negatively effects brown trout recruitment.
    - Adjust or eliminate stocking of surplus kokanee if brown trout densities in the Missouri River from Hauser Dam to Holter Reservoir declines below 100 fish per mile.

FISHERIES MANAGEMENT - OTHER ISSUES

Issue Goals and Strategies

Reservoir Operations

Goals

Work cooperatively with Department of Natural Resource and Conservation (DNRC), Bureau of Reclamation (BOR), and NorthWestern Energy to incorporate fisheries management and angler access concerns into reservoir operation management throughout the plan area.

Waterbody Strategies

All Reservoirs:

- Continue participation with the reservoir operations steering committee to focus efforts on optimizing reservoir operations for the fisheries resources. The reservoir operations steering committee, comprised of FWP, NorthWestern Energy, BOR, irrigators, marina operators, guides and outfitters, and sportsmen, meets annually to review water supply forecasts, proposed dam operations and operational guidelines in an effort to minimize impacts of dam operations on fish, wildlife and recreational resources.

- Work with reservoir steering committee to manage reservoir operations to promote better fish habitat and promote shoreline vegetation development.

Fishing Contests

Goals:

Any regional, district-wide or statewide policies, restrictions or regulations governing contests which may be developed during the plan period and which geographically include Canyon Ferry, Hauser or Holter Reservoirs will supersede restrictions listed here unless less restrictive.

- Fishing contests can impact fish populations and conflict with non-contest angling and recreational opportunity. All proposed contests will be evaluated based upon biological impacts, consistency with fishery management goals, potential conflict with other recreational users, and public safety.

- Contests for young anglers should avoid competitive events by structuring the derbies to reward participation rather than for catching the largest or most fish.

Waterbody Strategies

Canyon Ferry Reservoir:

Regulation of fishing contests on Canyon Ferry Reservoir will be based on management strategies for individual fish species. Generally, this will require a conservative approach to harvesting native fishes (burbot or ling) and sport fish species (trout and perch) that are subject to predation by walleye. Management strategies direct a liberal approach to harvesting walleye unless monitoring shows a significant decline in walleye.

Rainbow Trout

- Harvest from competitive fishing events is not consistent with the management strategy to maintain conservative regulations relating to rainbow trout harvest and support year around angler opportunity
    - Maintain the past and current management strategy of not allowing fishing contests for rainbow trout.

Yellow Perch

- Perch are highly sought after by anglers as a sport fish in both the ice and open water seasons, but also are the primary forage fish for all piscivorous (fish-eating) fish species in the reservoir.
    - Maintain the past and current management strategy of allowing one competitive fishing event during January.
- Based on the conservative perch harvest limits adopted by the FWP Commission, it may be necessary to modify the structure of events to ensure compliance with the current daily harvest limits.

Walleye

- Fishing contests could attract new or additional anglers to the reservoir to assist efforts to promote angler harvest of walleye, which is consistent with strategies to manage walleye numbers.
- Authorize up to three contests in a calendar year but no more than one per month to provide a balance with existing users of the reservoir that are not interested in competitive fishing events and who would be negatively impacted by tournament activities.
    - Does not include winter contests which allow for competitive fishing for largest walleye.
- Fish mortality for catch and release contests is a concern during the summer months when water temperatures exceed 65 degrees. Logistics for handling and transporting fish will be addressed as necessary to minimize mortality.

- If walleye decline below the goal of 5 per gillnet, tournaments may be restricted or denied to minimize handling mortality. Conversely, if walleye exceed the goal of 7 per gillnet, it may be necessary to encourage or require selective harvest of fish taken to support management objectives.

Burbot (Ling)

- Burbot population trends are not well understood and additional harvest caused by competitive fishing may cause unforeseen impacts to the fishery. Burbot are a long-lived and slow growing native species.

- Allow up to two contests per year. These events can allow for competitive fishing for large and/or the largest fish and cannot include competitive fishing for the most fish or most total weight of fish.

Carp

- Carp are a non-game fish, that probably contribute very little to the community of native and/or game fish in the reservoir. There is currently no biological need to restrict the number of carp contests.

- No restriction on number of events other than the total number of events allowed on Canyon Ferry Reservoir, but contests must be compatible with management objectives.

- Adult competitive carp events can and should emphasize biggest fish, most fish and/or most weight. Harvest is recommended but not required.

<u>Hauser Reservoir:</u>

- Do not allow ice fishing contests on Hauser Reservoir for public safety reasons. Ice on Hauser often does not develop to a thickness that would allow for safe ice-fishing.

- No more than three contests will be allowed each year. Contests would be required to coordinate with Bureau of Land Management (BLM) and/or FWP for access (where appropriate). FWP will encourage use of private access facilities (where possible) to alleviate crowding problems.

- Monitor harvest associated with angling contests. If harvest of sport fish is deemed excessive and detrimental to the population, angling contests of this nature will be discontinued.

<u>Holter Reservoir:</u>

- Do not allow open water or ice fishing tournaments on Holter Reservoir to minimize conflicts with the general angling public and to address safety issues.

All Reservoirs:

- Harvest-oriented and/or catch and release contest sponsors may be required to accommodate data collection or fish tagging by the department. Important data can be generated from the tagging or sampling of fish caught during contests that would be beneficial to management of the fishery.

- Regulation of contests will account for the need to distribute tournaments evenly throughout the year and provide for angling opportunities on the reservoir free from contests. A maximum of 12 contests per year of any type (open water angling, ice fishing, bowfishing, etc.) will be permitted. More than one contest will not be permitted for the same day and contests will not be approved for consecutive weekends in order to minimize the potential for conflicts. Applications will be considered on a first come basis until all available slots are filled.

- Applications must be received by July 1 for ice fishing contests and November 1 for open water contests of the year preceding the proposed tournament. Applications received earlier than May 1 for ice fishing and September 1 for open water will be returned to the applicant for resubmittal.

- All applications for contests, regardless of their harvest or catch and release status, will receive the same consideration. Preference will be given to contests held previously.

Prohibited Use of Live Fish as Bait

Goals:

Prevent introduction of new fish species, invasive species or pathogens into the upper Missouri River Reservoir system from the use of live fish as bait.

Waterbody Strategies

All Reservoirs:

- Continue to prohibit the possession or use of live fish as bait throughout the plan area but continue to explore the subject.

- Continue education efforts regarding the risks associated with use of live baitfish and the importance of preventing introductions of new species.

- Educate anglers regarding effective bait alternatives that are commercially available that pose no threat of inadvertent species introductions.

- Any proposal to implement the use of live bait will require an Environmental Assessment and provide opportunity for public comment. No management action will be taken without thorough research and evaluation of risk of live bait.

Habitat

Goals

Aggressively protect and enhance fish habitat as a management tool; enhance fish spawning opportunities in plan area reservoirs, river and tributaries.

Waterbody Strategies

Hauser and Holter Reservoirs and Tributaries:

- Develop a list of habitat projects that could be funded by NorthWestern Energy (NWE) through Federal Energy Regulatory Committee relicensing funds. Develop this list in conjunction with sportsmen's groups and local watershed groups. Prioritize projects based on cost-effectiveness and highest benefit.

- Implement enhancement projects that will benefit spawning and recruitment of wild fish in Hauser and Holter Reservoirs and their tributaries.

- Submit Future Fisheries and NWE grant proposals for habitat enhancement projects benefiting Hauser and Holter Reservoir, their tributaries, and fish populations.

All Plan Sections:

- Efforts to expand yellow perch spawning and rearing habitat may enhance habitat diversity for this important game fish and forage species. Implementation will focus on using natural materials, limiting costs, and monitoring effectiveness.

- Enhancement projects for salmonids will focus on providing fishing opportunities and spawning areas in the upper Missouri River reservoir system to enhance trout fishing opportunities in locations where walleye are less abundant.

- Enhancement of tributary habitat and improved water quality will be used to mitigate effects of disease, drought, and other factors on trout populations in the upper Missouri River reservoirs system.

- Other habitat concerns will be addressed by working with BOR on reservoir level issues, DNRC on Toston Dam operation and Broadwater Power Project mitigation, and/or NWE on Hauser and Holter Dam operations. Additional consideration will be made by reviewing 310 and 124 permitting, private pond licensing, and implementation and monitoring of instream flow reservations on the UMRRFMP river sections and associated tributaries.

Disease and Aquatic Invasive Species

Goals

Prevent the introduction and establishment of new aquatic invasive species and pathogens and limit the expansion of current invasive species.

Waterbody Strategies

All Plan Sections:

- Continue fish health and aquatic invasive species certification of State Hatcheries, including egg sources.
- Continue education efforts to reduce spread of pathogens and aquatic invasive species.
- Continue regulating private ponds.
- Continue monitoring of invasive species and pathogens.
- Continue work with Enforcement personnel to ensure compliance with AIS and aquatic transport rules.

Piscivorous Birds

Goals

Explore working with FWP Wildlife Division and the U.S. Fish and Wildlife Service to determine the impacts of piscivorous birds to plan area fish populations. Consider active bird management strategies if research shows significant impacts to fish populations are identified.

Waterbody Strategies

Canyon Ferry Reservoir:

- Continue to explore monitoring and research to assess seasonal diet and composition for pelicans and cormorants. Assessments directly related to the Canyon Ferry Wildlife Management Area (CFWMA) requires compliance with the current CFWMA Management Plan (FWP 1992-B)
- Determine if population control measures could positively influence fish populations.
- Any proposal to implement population management measures will require an Environmental Assessment, permitting from the U.S. Fish and Wildlife Service, and opportunity for public comment. No management action will be taken without thorough research and evaluation of bird and fish interactions.

Access

Goals

Identify areas and strategies to improve fishing, boating, camping, and other outdoor recreation opportunities in the plan area. Maintain or improve quality access to plan area reservoirs and rivers which are some of the most heavily fished waterbodies in the state; especially for shore, youth, and disabled anglers.

Waterbody Strategies

Canyon Ferry Reservoir:

- Continue working with BOR about installing an additional boat ramp on the east shore (i.e., Duck Creek, Confederate Bay) to reduce bank erosion due to boats launching from the beach and for public safety during wind and storm events.

Holter Reservoir:

- Work with BLM, NorthWestern Energy, private landowners, and other interests to improve fishing access to Holter, with an emphasis on areas that provide more opportunity for youth and disabled anglers.

All Plan Sections:

- Educate anglers and landowners about what areas are legally accessible by anglers and recreators.

- Maintain existing Fishing Access Site areas, improve where necessary and evaluate opportunities for increasing access.

Flushing Losses

Goal

Monitor annual and seasonal flushing and survival rates of fish from plan area reservoirs.

Waterbody Strategies

All Reservoirs:

- Determine walleye flushing rates from Canyon Ferry Reservoir and evaluate measures to reduce or eliminate walleye flushing from Canyon Ferry Dam into plan sections downstream (e.g., tagging studies, request funding from the Bureau of Reclamation).

- Continue to evaluate entrainment and flushing rates of fish out of plan area dams. Determine timing and magnitude of flushing losses.

- Determine feasibility of reducing fish flushing losses out of plan area dams.

- Evaluate screening devices that would reduce flushing losses.

- Investigate other technologies that may be effectively employed to reduce fish flushing losses and entrainment to downstream waters.

Low Dissolved Oxygen (DO)

Goals

Monitor DO values in Hauser Reservoir to ensure that water released from Canyon Ferry contains at least 5mg/l DO throughout the summer and fall.

Waterbody Strategies

Hauser Reservoir:

- Continue to monitor fish movement in Hauser Reservoir. Work with BOR to revisit use of air compressor units on Canyon Ferry Dam.
- Evaluate the results of the most recent flushing study at Hauser Dam (Spinelli 2014) to determine effects of water quality on fish entrainment at Hauser Dam and determine if low DO increases fish flushing out of Hauser Reservoir.
- Enhance water quality monitoring by collecting DO measurements in the upper reservoir during low DO periods (July-September).

Recreation Management

Goals

Evaluate angler dynamics and maximize safety on the river between Hauser Dam and upper Holter Reservoir.

Waterbody Strategies

Hauser Dam to Holter Reservoir:

- Maintain the no wake zone from Beaver Creek to the base of Hauser Dam.
- Continue enforcement efforts to reduce conflicts between boaters and shore anglers, especially during high use periods.
- Monitor spawning activities and evaluate the effects of motorized boat use and wade fishing on spawning behavior.
- Develop a recreational survey to better evaluate use by boaters, guides, and wade anglers.
- Continue angler creel census to evaluate angling dynamics throughout this section.

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Reservoir Fish Population and Angling Trends

Canyon Ferry Reservoir – Principle game fish population trends

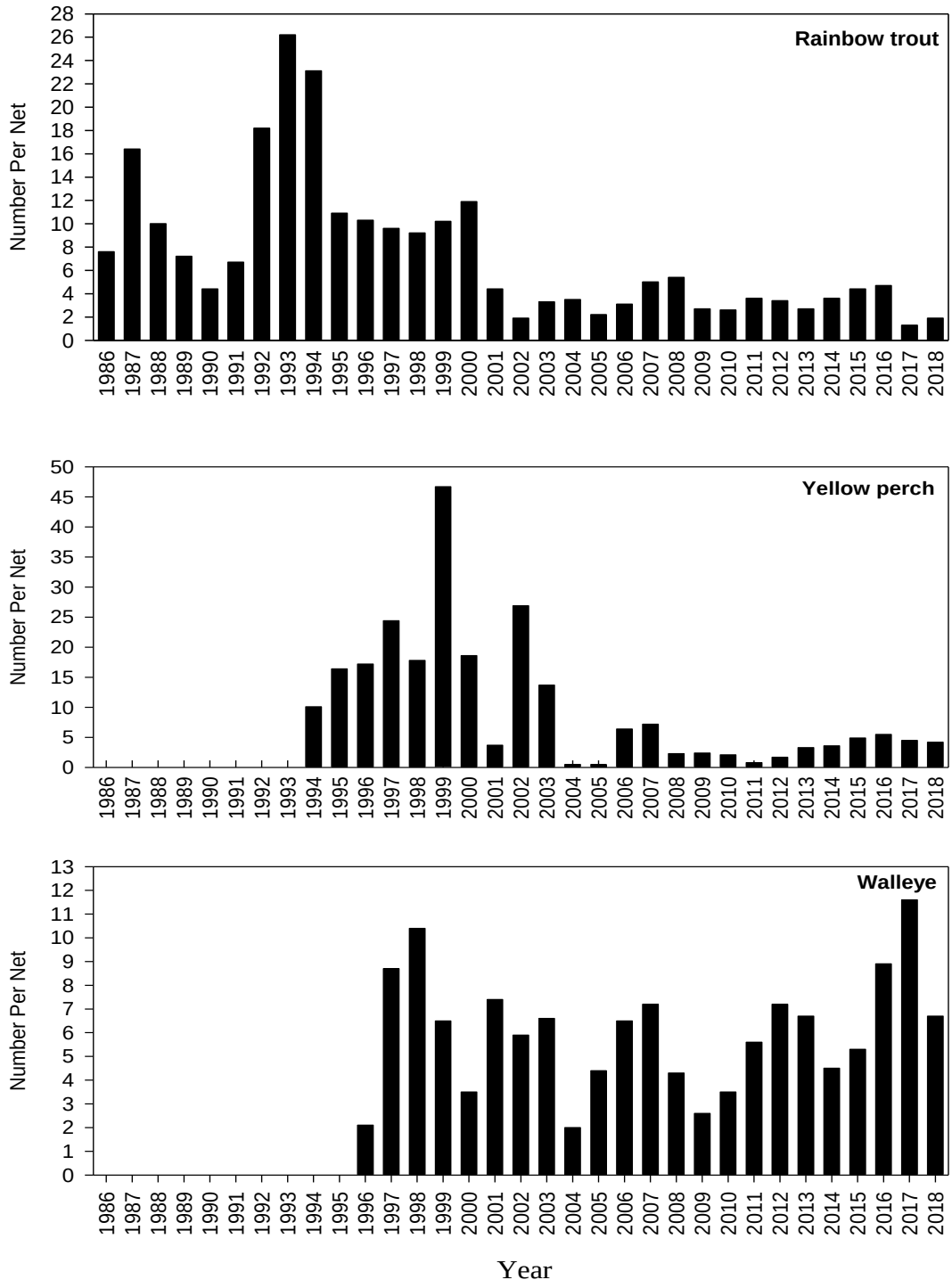

Figure 3. Canyon Ferry Reservoir Fish Population Trends for Rainbow Trout, Yellow Perch, and Walleye from Standardized Gill Netting Series.

Canyon Ferry Reservoir - Angler Catch Rates

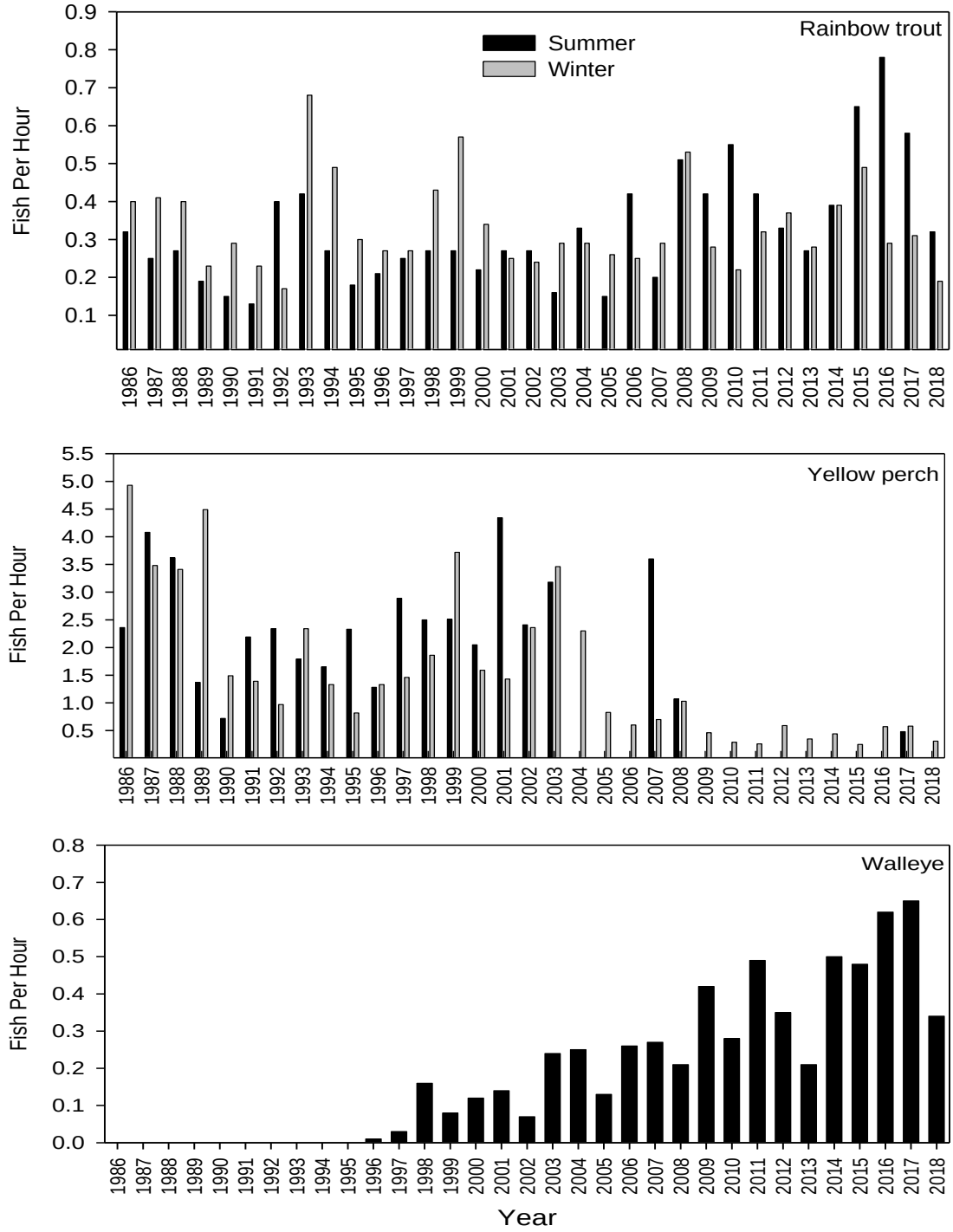

Figure 4. Angler Catch Rates (Fish/Hour) for the Principal Game Species in Canyon Ferry Reservoir. Summer (dark bars) and winter (light bars) are represented. Walleye catch rates are summer only. Catch rates are for anglers specifically targeting those species.

Hauser Reservoir – Principle game fish population trends

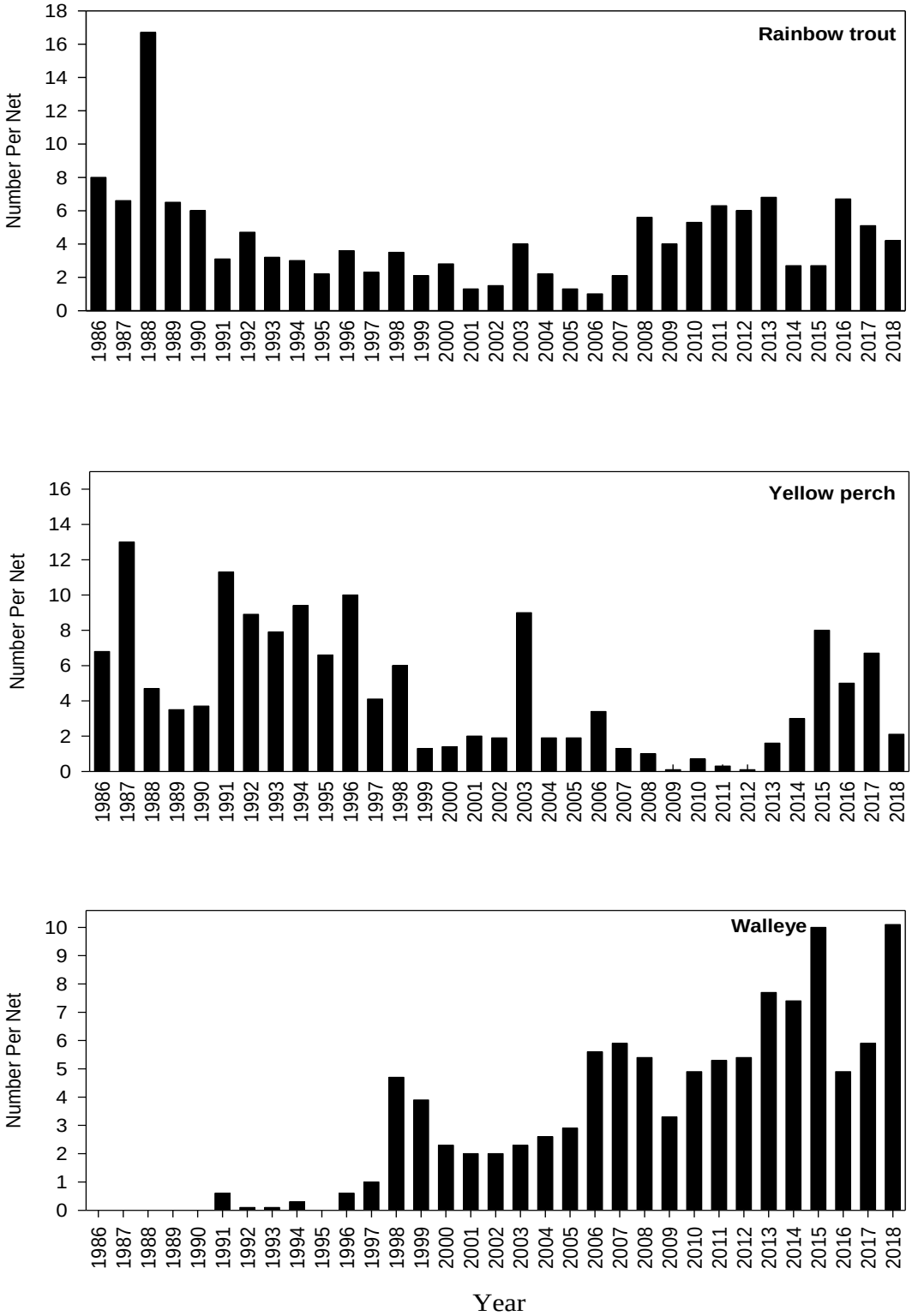

Figure 5. Hauser Reservoir Fish Population Trends for Rainbow Trout, Yellow Perch, and Walleye from Standardized Gill Netting Series.

Hauser Reservoir – Angler Catch Rates

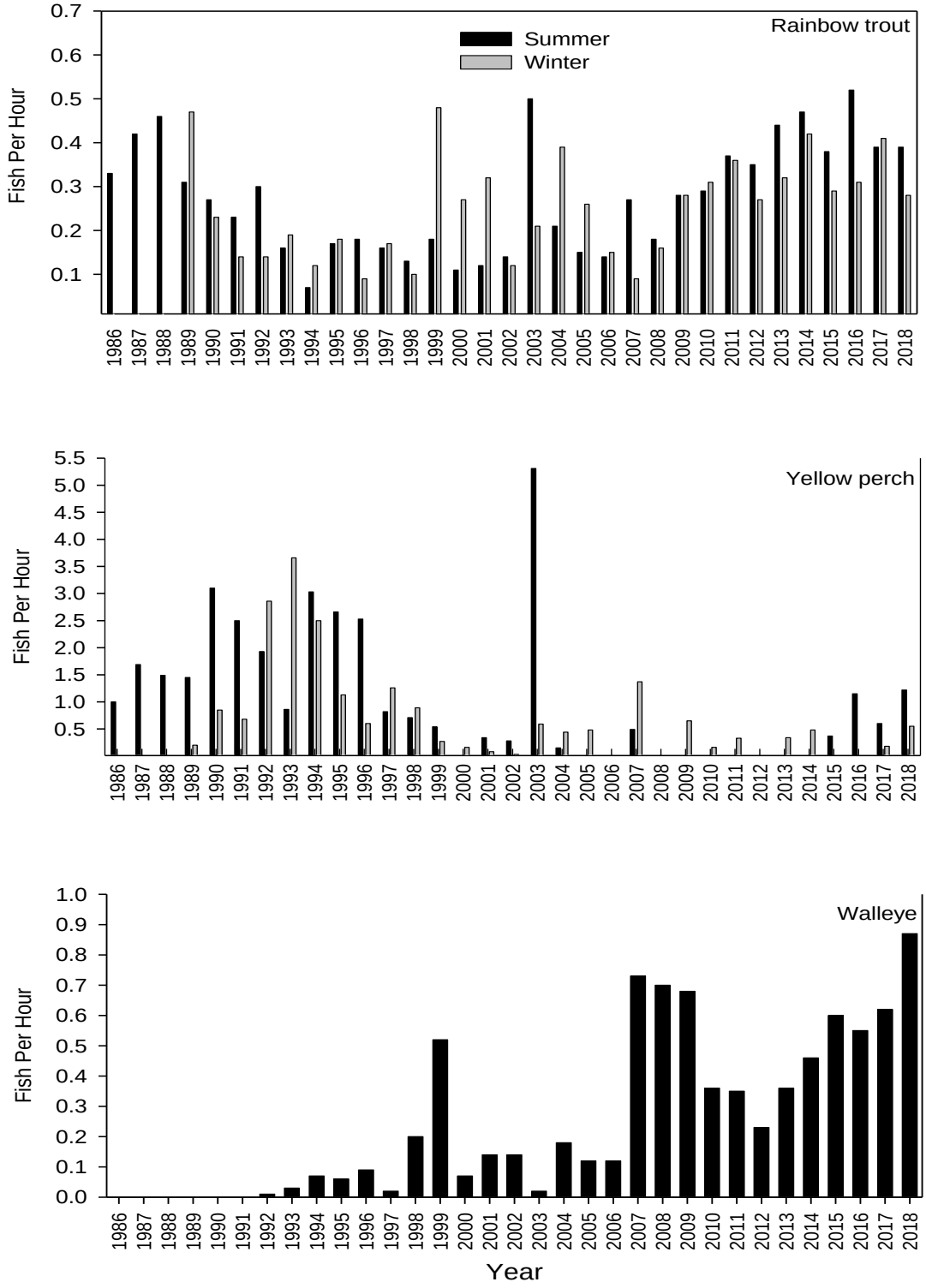

Figure 6. Angler Catch Rates (Fish/Hour) for the Principal Game Species in Hauser Reservoir. Summer (dark bars) and winter (light bars) are represented. Walleye catch rates are summer only. Catch rates are for anglers specifically targeting those species.

Holter Reservoir – Principle game fish population trends

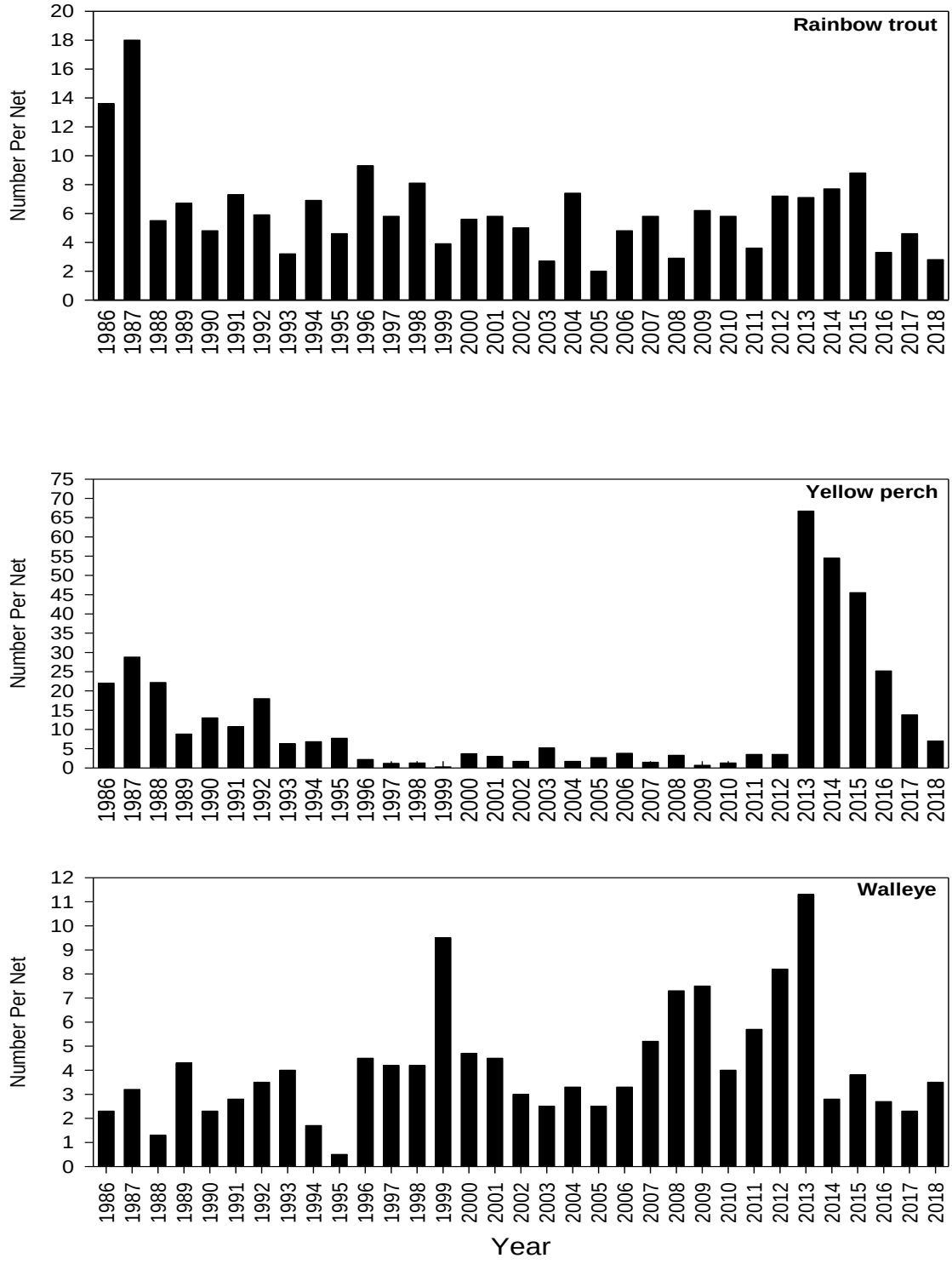

Figure 7. Holter Reservoir Fish Population Trends for Rainbow Trout, Yellow Perch, and Walleye from Standardized Gill Netting Series.

Holter Reservoir – Angler Catch Rates

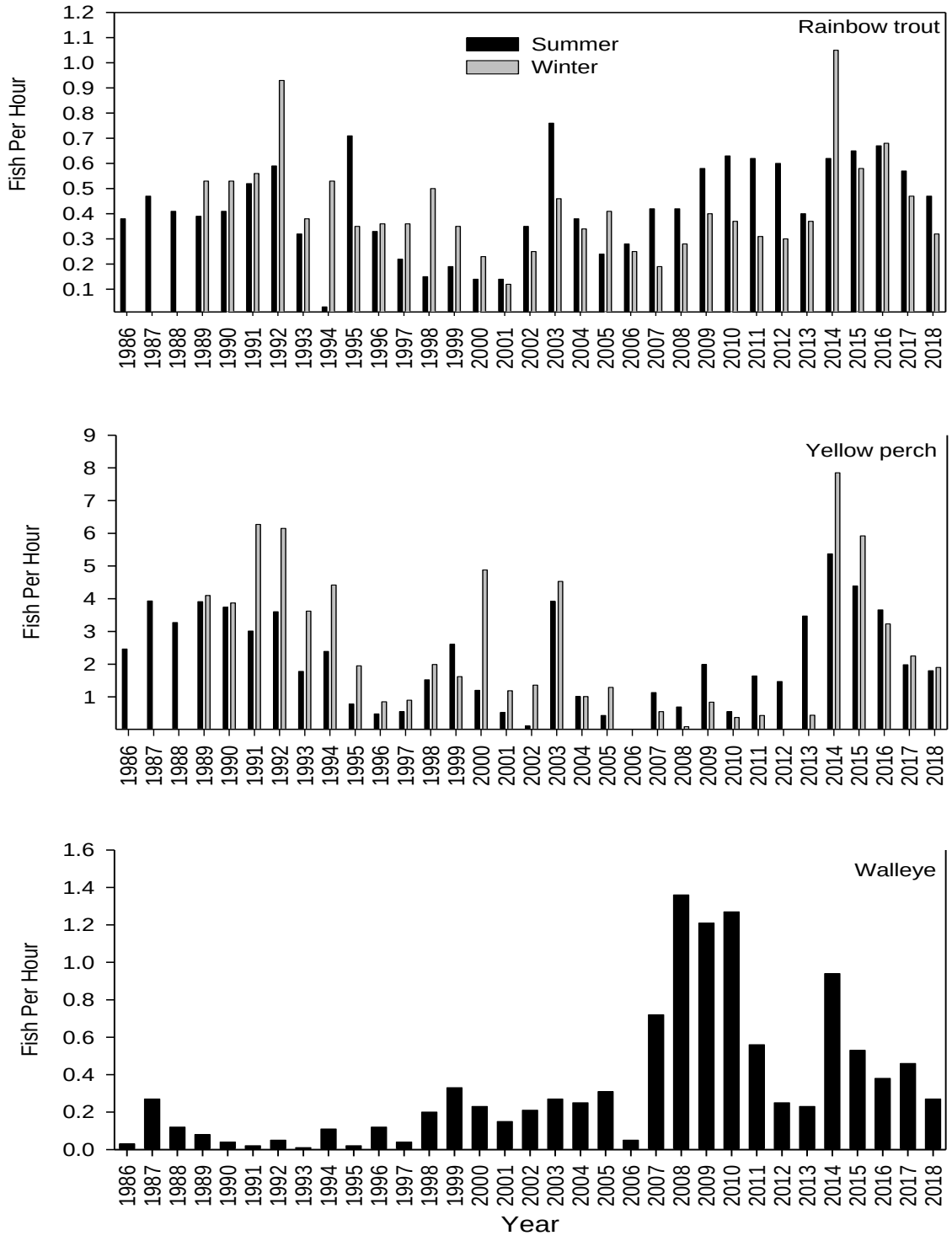

Figure 8. Angler Catch Rates (Fish/Hour) for the Principal Game Species in Holter Reservoir. Summer (dark bars) and winter (light bars) are represented. Walleye catch rates are summer only. Catch rates are for anglers specifically targeting those species.

River Fish Population and Angling Trends

Missouri River Hauser Tailrace – Principle game fish population trends

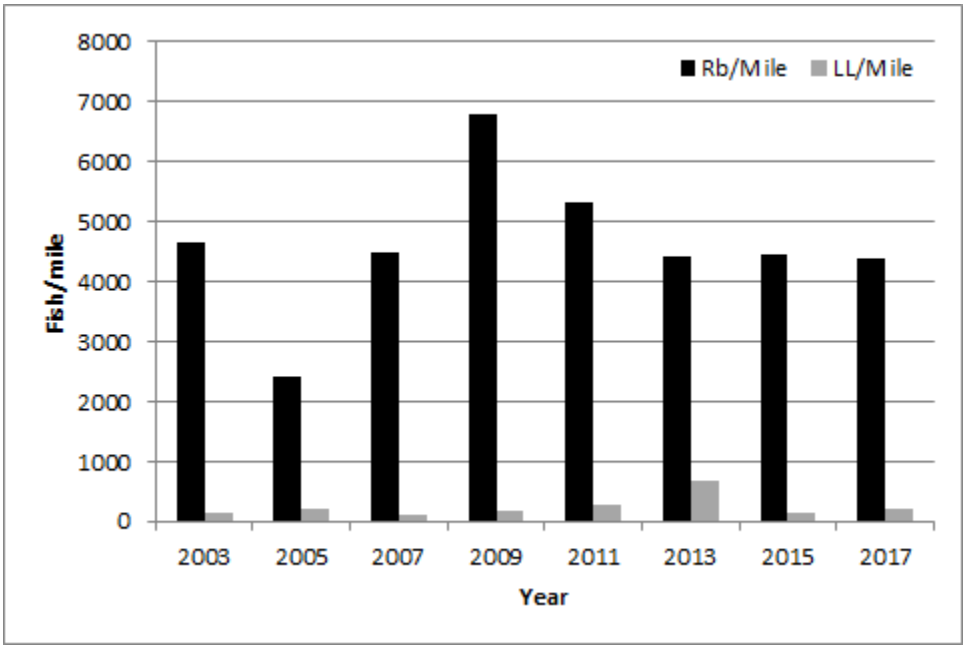

Figure 9. Population estimates (Fish/Mile) for rainbow and brown trout in the Hauser Tailrace Section. Electroshocking estimates are conducted on odd numbered years.

Missouri River Toston Dam to Canyon Ferry Reservoir – Principle game fish population trends

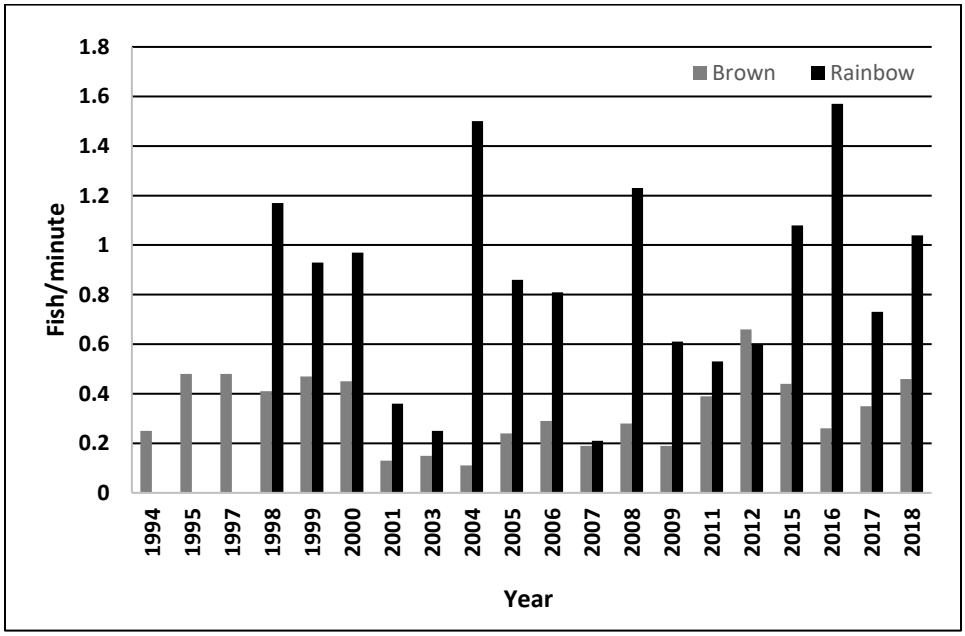

Figure 10. Population surveys (Fish/Minute) for rainbow and brown trout in the Missouri River from Toston Dam to Canyon Ferry Reservoir.

PLAN IMPLEMENTATION SCHEDULE AND PUBLIC SCOPING

PLAN IMPLEMENTATION SCHEDULE

The UMRRFMP, 2020-2029 will be evaluated annually according to the following schedule:

Table 3. 2020-2029 Upper Missouri River Reservoir Management Plan Implementation Process

Schedule	
Action	**Dates**
Draft Management Plan Public Comment	October 17 to November 17, 2019
Final Management Plan	Approved on December 5, 2019; Begins on January 1, 2020
Adopt new fishing regulations	Annually, if necessary, as outlined by management plan goals.
Monitor Fisheries	On-going, annually
Prepare Annual Report	Fall, annually
Appoint Advisory Committee	Winter, annually
Report Annual Trends to Advisory Committee	Winter, annually
Public Meetings	Late winter or early spring, annually
Review/Revise Management Plan	Annually, if necessary
Propose Changes to Fishing Regulations	Regulation review cycle; Annually, if necessary

PUBLIC SCOPING

Winter 2018/2019

Public Scoping and On-line Survey

Public scoping for management plan revisions began in December 2018, when FWP hosted three open houses in Central Montana (Helena, Bozeman, and Great Falls) to better address potential management strategy alternatives when revision the 2010-2019 management plan. Approximately 150 members of the public attended the meeting, and some provided public comment. After extensive public scoping FWP developed and launched a 20-question on-line survey, open to the public from December 5th to 31st, 2018, to gather public input on fisheries management strategies found within the Upper Missouri River Reservoirs Fisheries Management Plan, 2010-2019. The survey elicited 1,197 respondents and generated over 4,000 question-specific public comments. Results from the survey were disseminated to the public in Helena on February 26th, 2019 and were available electronically as requested. Additional public comment was gathered at each open house or meeting.

Results from the survey can be found at: https://www.surveymonkey.com/results/SM-5TD7NBG9V/

Spring 2019

Citizen Workgroup

Public scoping efforts in 2018 and 2019 helped FWP develop areas within the 2010-2019 management plan to begin recommending management alternatives to be included in this document. In the spring of 2019, FWP convened a Citizens Workgroup to focus on developing management alternative for five specific areas within the scope of the 2010-2019 management plan. Below are the Work Group Charter and recommended alternatives. Workgroup recommended alternatives were presented to the public at three open houses throughout Central Montana (Helena, Bozeman, and Great Falls) in July 2019. Approximately 25 members of the public attended the open houses, and some provided public comment.

Charter for the Upper Missouri River Reservoir Fisheries Management Plan

The upper Missouri River reservoirs and associated river fisheries are some of the most heavily fished waters in Montana accounting for roughly 10 percent of the total annual statewide angling pressure. Because of the system's proximity to Bozeman, Great Falls, Butte, Missoula and Helena, recreational use of the reservoirs will continue to grow as the fisheries become even more integral to the quality of life for those who live and recreate in Lewis and Clark and Broadwater counties.

The current fisheries management plan (Upper Missouri River Reservoir Fisheries Management Plan 2010-2019) supports a common goal to "provide a cost-effective, balanced multi-species fisheries by applying adaptive management strategies." The current plan expires December 31, 2019. Therefore, it is the goal of our current management planning process to have a new fisheries management plan in place by the end of December 2019.

Interests Represented on the Citizen Workgroup

- Unaffiliated warmwater anglers – Dale Gilbert
- Unaffiliated coldwater anglers – Pete Cardinal (A)
- Organized warmwater-angler groups – Jim Gillespie, Lance Kresge
- Organized coldwater-angler groups – Will Trimbath
- Ice-fishing anglers – Pete Cardinal (B)
- Conservation groups – Mark Traxler
- Kids' fishing – All Representatives
- Fishing-tournament organizer – Dale Gilbert
- Outfitter – Mike Agee, Shalon Hastings, Josh Stienmetz

- Local government – Dustin Ramoie, Doug Breker
- Local business – Bart Bratlien
- Other interests – Eric Roberts, Richard Stuker

Role of the Workgroup

The Workgroup will:

- develop upper Missouri River reservoir system fisheries management recommendations around specific identified issues for consideration by FWP.
- Specific identified issues:
    - Plan duration
    - Plan responsiveness
    - Yellow perch management (Holter Reservoir)
    - Rainbow trout stocking and management (all plan sections)
    - Walleye management (all plan sections)
- provide information and input needed for FWP to make informed decisions about recommendations.
- forward recommendations to FWP for incorporation into the management plan process and attend public open-house meetings to help explain and engage in discussions with attendees about the Workgroup recommendations and management alternatives.

Responsibilities of the Workgroup Members

The Workgroup:

- is a cooperative effort, with all members participating in formulating the recommendations.
- is encouraged to reach general agreement/consensus related to recommendations.
- members acknowledge the value of each advisors' comments and viewpoint and will create discussion ground rules to encourage a climate of respect.
- members agree to bring information into the process and likewise, to communicate to constituents about the process as it goes forward.
- functions in an advisory capacity aligned with state laws and policies and does not have decision-making authority.

- members will be required to attend every meeting; substitutes or proxies will not be allowed.

Responsibilities of the Resource Specialist Group

- The Resource Specialist Group will provide biological, social and hydrological information on all aspects of the upper Missouri River reservoir system fisheries; biologists will bring in other technical representatives to add information to the process when needed.
- FWP fisheries biologists and managers will provide fisheries management expertise, background on past management and management constraints.
- FWP plan coordinators will ensure that the process is timely and effective. FWP plan coordinators will:
    - serve as general information source;
    - serve as workgroup members regarding any special needs or requests;
    - organize meetings and provide written meeting summaries in cooperation with facilitator;
    - organize guest speakers or topic specific experts to present information to the workgroup;
    - suggest language related to the recommendations when requested by the Workgroup;
    - manage review of the draft plan;
    - compile the final draft plan;
    - coordinate the public involvement process after the draft is released to the general public.

Meetings and Timeline

- All day meetings will be held April 23, May 16 and if necessary, May 29. FWP will schedule the location and time of the meetings. FWP will provide mileage and per diem at state rates for workgroup members as well as provide lunch within which public comments will be taken.
- Role of the Facilitator

An outside facilitator will:

- conduct the meetings in a positive and inclusive manner.
- help develop agreement among workgroup members on ground rules for member conduct and meeting operation.

- help the workgroup address items on each meeting agenda in a timely fashion.
- ensure participation by advisors is equitable and courteous.
- assist in producing a written summary of the major points for each meeting.
- help the workgroup develop consensus recommendations around identified issues.

The process will result in recommendations presented to FWP in June 2019.

Workgroup recommendations were disseminated to the public at three open houses in Central Montana in July 2019. Additional public comments were gathered at each open house location.

Workgroup Recommendations (Final Meeting)

UPPER MISSOURI RIVER RESERVOIRS FISHERIES MANAGEMENT PLAN CITIZENS WORKGROUP
Convened in 2019 by the Montana Department of Fish, Wildlife & Parks
May 2019

Final Alternatives and Recommendations

After full discussion including assuring that the "Important Questions" were answered; the Guiding Principles were honored; and the "interests" were considered to the best degree possible, the Workgroup agreed to forward the following consensus alternatives and recommendations to the Department:

Plan Duration/Plan Responsiveness

All Plan Sections:

Alternatives

- Create a 10 to 15 year plan with annual updates based on meetings with a Citizen Advisory Group.
- Set goals to replace triggers in the current plan.
- In general, give priority consideration to analysis of trend data of biological and scientific data from annual gill netting.
- Generally, consider 2 to 3 years of data; however, the Department reserves the option of looking at annual changes based on significant events or if there is a data point significantly outside the normal range of the goal.

Recommendations

The Workgroup agrees that all alternatives can go forward as acceptable.

"Important Questions"

- What is the financial constraint that FWP faces with consideration to changing plans?
- How many years is more ideal than 10 years?
- Can a good decision be made with data from 2 consecutive years?
- What is the appropriate balance between professional trust and triggers?
- What needs to happen in the Plan so adaptive management can occur when needed?

Overall Interests

- It's in everyone's interest to have a good fishery.
- It's is FWP's interest to have a Plan that will help them be effective managers and help them do their job.
- It's in the interest of the Commission to have a professional Plan that results in a good fishery and that is satisfactory to the public.

"Guiding Principles"

- We believe that an adaptive management plan is critical to good management.
- We believe that responsiveness should be driven by science and biology (based on a 3 year average unless rapid changes dictate a more immediate response).
- We believe that we can learn from other similar water management plans in terms of duration and responsiveness approaches, experiences, and results.
- We believe that the Workgroup needs to be supportive of FWP personnel in making adaptive changes based on data.)

Rainbow trout stocking and management

<u>All Plan sections</u>

Alternatives

- Set a goal of 4 to 6 per net with leeway for FWP to apply numbers per waterway.
- Stay the current management course: Return historic stocking levels to pre-2017; continue population monitoring through gillnet surveys; maintain the 5 fish limit.
- Collaborate with State and federal agencies and private entities on habitat enhancement projects UMR watershed including education.

Recommendations

The Workgroup agrees that all alternatives can go forward as acceptable.

"Important Questions"

- What needs to be done to bring about adequate stocking of rainbow trout in the reservoir system? Are there reasonable strategies other than stocking?
- How can habitat be enhanced?
- How can funding for stocking be sustained?

Overall Interests

- It's in the interest of anglers to be able to catch rainbow trout because they are the easiest year-round fish to catch and there is minimal cost to gear.

- It's in the interest of anglers and the local communities to have a quality rainbow trout fishery for fishing opportunities and for the economy.

"Guiding Principles"

- We believe that netting surveys should be used to monitor all waters.
- We believe trout goals are needed to provide a baseline or to identify needed action.

Yellow perch Management

Canyon Ferry Reservoir:

Alternatives

- Set 8 to 12 per net goal as incentive for population improvement.
- Maintain the current 10 fish limit; determine how perch harvest affects the perch population at Canyon Ferry and adjust limits accordingly; consider raising the limit if trending up from 10/net.
- Enhance habitat with partners' dollars.
- Use ponds for forage enhancement.
- Provide education to the public on voluntary conservation.
- Explore live bait use in the winter.

Hauser Reservoir:

Alternative and agreed upon Recommendation

- Set goal at 6 to 8 per net.

Holter Reservoir:

Alternatives

- Set a goal of 8 to 12 per net.
- If harvest does not impact perch number in Holter:
    - Trending below 8 per net, 25 per day limit
    - Trending above 10 per net, 50 per day limit
    - Possession – 2 daily limits
- Provide education to the public on voluntary conservation.

All Plan sections:

Alternatives

- Adjust possible bag/limits based on yellow perch goal.

- Improve public outreach to expand awareness of the Management Plan, rationale for the Plan and its parts, and management regulations and actions (e.g., signs, social media, tournaments, boat shows, traditional media, angler groups, etc.).

Recommendations

The Workgroup agrees that all alternatives can go forward as acceptable.

"Important Questions"

- When should FWP act and based on what?
- How much or how little should FWP act?
- How do we increase the number of perch?
- How does the River impact the fishery on the Lake?
- How can Perch habitat be improved?
- Based on the current condition of the Perch fishery, should the Perch tournament continue?

Overall "Interests"

- It's in the interest of families, kids, all anglers - to be able to catch perch.
- It's in the interest of ice anglers to be able to expect to catch perch.
- It's in the interest of the local area to maintain the economic benefits gained from anglers who fish for perch nearly year-round.
- It's in the interest of the fisheries, its users and managers to maintain populations of Perch to support its role as a primary forage base for the Reservoirs and as an important sport fish.

"Guiding Principles"

- We believe perch are the "foundation"/keystone of the health of the reservoir system. We believe that with a healthy perch population the rest of the ecosystem can thrive.)

Walleye management

Canyon Ferry Reservoir:

Alternatives

- Canyon Ferry population (separation between yellow perch and walleye):

    - Set goal at 5 to 7 per net based on the net survey and PSD 30-60 (exception if yellow perch not reaching the goal range, up regulations as a tool.)

    - Manage for preferred size of 14 to 18 inches.

    - Set slot limits based on abundance and PSD goals to inform the slot.

- Use 3-inch net to set trophy limits; consider doing away with the 3-inch net because of number of large fish lost to the data collection.

Holter Reservoir:

Alternatives

- Holter population:
  - Set goal at 4 to 6 per net and PSD 30-60.
  - Adjust bag/possible limits based on the yellow perch goal.
  - Use abundance and PSD for bag limits; consider adjusting the slot limit and reducing the bag limit.

All Reservoir Sections:

Alternatives

- Recognize anglers' preferred size of Walleye – 14 to 18 inches.
  - Missouri River population: Use catch and release as a tool; explore management options for the River; do monitoring to maintain data on the River; use creel surveys and recreation surveys and evaluate.
  - Manage for preferred fish size of 14 to 18 inches.
- Explore opportunities for forage enhancement.
  - Partner with other organizations/agencies to artificially enhance forage.
  - Explore use of a snow fence, plastic – place and remove; pilot project.
  - Explore minnow enhancement (fatheads)

Recommendations

The Workgroup agrees that all alternatives can go forward as acceptable.

"Important Questions"

- What can be done to improve sucker as forage?
- What might improve more permanent perch forage? Can we try to do something with ponds? Is it possible to increase or enhance the forage base?
- Would enhancing perch habitat improve the forage base?
- How can we proactively manage harvest in a timely manner to maintain the relationship between walleye and forage?
- How do we improve angler education to increase the effectiveness of harvest as a management tool?
- What size Walleye do anglers prefer to harvest?
- How do we increase the population of walleyes within the preferred harvest size class?

Overall "interests"

- It's in the interest of the Helena area to have the positive economic impact of walleye angling be understood and valued (i.e., tackle, boats, fuel, lodging, shopping, tournaments, and more).
- It's in the interest of adults, children, families, etc. to have a variety of fishing opportunities and experiences.
- It's in the interest of some anglers to be able to participate in competitive experiences (walleye tournaments). It's in the interest of tournament organizers to be able to do positive marketing and have some financial gain.
- It's in the interest of some dedicated walleye anglers to have opportunities to catch trophy fish.

"Guiding Principles"

- We believe that a healthy walleye fishery means sustainable, quality fish with a diverse age structure.
- We believe that the fishery should provide maximum opportunity to all possible anglers to experience walleye fishing.)

CITIZEN ADVISORY COMMITTEE FRAMEWORK

The upper Missouri River reservoirs and associated river fisheries are some of the most heavily fished waters in Montana accounting for roughly 10 percent of the total annual statewide angling pressure. Because of the system's proximity to Bozeman, Great Falls, Butte, Missoula and Helena, recreational use of the reservoirs will continue to grow as the fisheries become even more integral to the quality of life for those who live and recreate in Lewis and Clark and Broadwater counties.

This document supports a common goal to "provide a cost-effective, quality multi-species fisheries by applying adaptive and responsive management strategies." Annually, FWP will evaluate fisheries population trends throughout the plan area, consider potential management changes, and report potential management changes to an FWP Fish and Wildlife Commission appointed Citizens Advisory Committee.

Citizen Advisory Committee Structure

The FWP Fish and Wildlife Commission will appoint a 5-member Citizen Advisory Committee each February to function in an advisory capacity to FWP for fisheries management decisions throughout the plan area.

The Citizen Advisory Committee will consist of no more than one advocate from 5 of the following stakeholder groups:

- Unaffiliated warmwater anglers
- Unaffiliated coldwater anglers
- Organized warmwater-angler groups
- Organized coldwater-angler groups
- Ice-fishing anglers
- Conservation groups
- Kids' fishing
- Fishing-tournament organizer
- Landowner
- Outfitter
- Local government
- Local business
- Other interests

Role of the Citizen Advisory Committee

The Citizen Advisory Committee will:

- provide information and input needed for FWP to make informed decisions about recommendations.
- forward fisheries management recommendations to FWP for evaluation and consideration.

Responsibilities of the Citizen Advisory Committee Members

The Citizen Advisory Committee:

- is a cooperative effort, with all members participating in an advisory capacity.
- members acknowledge the value of each advisors' comments and viewpoint and will create discussion ground rules to encourage a climate of respect.
- members agree to bring information into the process and likewise, to communicate to constituents about the process as it goes forward.
- functions in an advisory capacity aligned with state laws and policies and does not have decision-making authority. FWP will have decision making authority for making management recommendations to the FWP Fish and Wildlife Commission.
- members will be required to attend each annual meeting; substitutes or proxies will not be allowed.

Citizen Advisory Committee Appointment

- FWP will conduct public outreach annually to enlist five Advisory Group members through an application process.
- Applicants will be selected based on the criteria herein.
- FWP will make Advisory Committee appointee recommendations to the Fish and Wildlife Commission annually in February
- Citizen Advisory Committee appointment is for one year and appointees can be re-appointed by the FWP Fish and Wildlife Commission annually.
- FWP UMRRFMP coordinators will ensure that the process is timely and effective.

Meetings

- The annual Citizen Advisory Committee meeting (1-day) will occur between March 1 and May 31.
- The process will result in Citizen Advisory Committee management recommendations, if any, for FWP to consider.

Environmental Assessment Decision Notice

Environmental Assessment for Montana Fish, Wildlife & Parks Region 3 and 4, Missouri River Basin Northern Pike Suppression Project

Montana Fish, Wildlife & Parks

Region 3 Bozeman and Region 4 Great Falls

February 23, 2012

Proposed Actions

Montana Fish, Wildlife and Parks (FWP) proposes to conduct suppression actions on northern pike to reduce threats to Upper Missouri River Basin wild trout populations and reservoir fisheries. The proposed action would involve finding and removing northern pike from the headwaters of the Madison, Gallatin, and Jefferson River basins downstream to Holter Dam on the Missouri River. Funding for this effort would be through existing budgets. All northern pike removed during this project would be killed; northern pike that are salvageable and of suitable size for consumption would be field dressed and donated to food banks or other similar organizations.

Montana Environmental Policy Act

Montana Fish, Wildlife & Parks is required by the Montana Environmental Policy Act (MEPA) to assess significant potential impact of a proposed action to the human and physical environment. In compliance with MEPA the environmental assessment, entitled "Environmental Assessment for Montana Fish, Wildlife & Parks Region 3 and 4, Missouri River Basin Northern Pike Suppression Project" was released on 7 April 2011, for a 30-day public comment period, which ended on 6 May 2011.

The draft EA was circulated to standard FWP Region 3 and 4 contact lists, and to local landowners, sporting groups, government and federal agencies. The EA was posted and remains available for viewing on the FWP webpage: http//fwp.mt.gov/news/publicNotices. Legal notices indicating release of the EA were sent to local media including the Bozeman Chronicle, the Great Falls Tribune, the Montana Standard, and the Helena Independent Record.

Summary of Public Comment and FWP Response

Montana Fish, Wildlife & Parks received a total of 32 comments. Of these comments 19 were classified as opposed to the proposal, 8 were classified as supportive, two were not sure of the proposal (for example, one was against use of rotenone, which is not being considered by FWP), and three were unclear as to whether they were opposed or supportive.

Issue 1. There were several comments received by the public that asked for variations on specific locations of suppression activities. In some cases (4 comments) commenter's wanted suppression

actions only upstream from Toston Dam, others wanted no suppression from Toston Dam to the Three Forks area, and other commenter's asked about what could be done downstream from Toston Dam. One other commenter asked for further details on the specifics of suppression actions (location and methods).

Response: Fish, Wildlife & Parks believes Toston Reservoir to be one of the primary sources of northern pike reproduction from which juvenile pike are dispersing to upstream and downstream waters. Under the proposed action, FWP would suppress northern pike (using gill nets, electrofishing and other standard gears; listed in the Environmental Assessment) in Toston Reservoir to minimize the risk of northern pike spreading throughout the system (either through escapement or due to being moved by anglers). Several northern pike tagged in Toston Reservoir have been recovered downstream. For example, a northern pike tagged in Toston Reservoir in 2010 was harvested by an angler in the Causeway area of Hauser Reservoir in 2011, and several fish tagged in the reservoir have been harvested by anglers in the Missouri River immediately below Toston Dam. A less intensive suppression effort would take place during routine electrofishing surveys in the river between Toston Dam and Canyon Ferry Reservoir. Similar methods would be used; however, electrofishing is likely the most effective method in flowing habitats. Upstream from Toston Reservoir to the lower reaches of the Jefferson, Madison and Gallatin rivers, occasional suppression actions will take place where pike are searched for and removed. All pike encountered during standard annual sampling would be removed.

In Canyon Ferry, Hauser, and Holter Reservoirs no active northern pike suppression is proposed at the current time. However, all northern pike observed through standard annual sampling would be removed. If concentrations of northern pike are discovered in Canyon Ferry, Hauser, or Holter reservoirs, active northern pike removal would be covered by the Environmental Assessment.

In all cases, FWP intends northern pike suppression to be dynamic, such that any new location where northern pike are observed throughout the project area can be suppressed under this Environmental Assessment, whether it is passive (through annual sampling) or actively searching for northern pike. This approach is necessary given the early stage of establishment of northern pike in the project area. It is unknown at this point where northern pike will become established and at what level. Therefore, the suppression program needs to be responsive and dynamic to minimize impacts to wild trout and reservoir fisheries.

In any situation, FWP cannot ignore any section of water when considering the risk for northern pike expansion and establishment. If Toston Reservoir is in fact the primary source of northern pike being observed upstream and downstream from the reservoir, then failure to address this source would be counterproductive.

Issue 2. Comments were received regarding the limiting factors for the trout populations within the Toston to Three Forks area, suggesting that pike were not the limiting factor. In addition, comments were received stating that trout are abundant and pike are not.

Response: Historically and at the present time FWP agrees that habitat and low flow conditions have been limiting to trout populations within parts of the project area (especially the Jefferson and Missouri from Three Forks to Canyon Ferry Reservoir). It is likely that drought conditions will continue to influence trout populations within the project area in the future. Predation losses due to pike or other species are expected to be more severe when trout habitat is limited by poor stream flow conditions.

FWP assumes that the comment received stating that trout are abundant refers broadly to western Montana, given that trout densities are relatively low (100 to 400 trout per mile) in the reach from Three Forks to Canyon Ferry Reservoir compared to other large rivers in the Upper Missouri Basin. Many high-quality trout fisheries exist in Southwest Montana, and public support for maintaining these fisheries remains high. Therefore, suppressing northern pike to minimize the risk of northern pike to wild trout population is an important management approach.

Issue 3: Many general comments were received on the Environmental assessment related to the general draw of northern pike to anglers. Comments received addressed various aspects of northern pike, including: pike are popular, it is nice not to have to travel long distances to fish for pike, like the idea of a multispecies fishery, anglers prefer catching pike over trout, pike will increase economic draw to the area.

Response: Suppression of pike will not eliminate them from the system and anglers will continue to be able to fish for pike in the Upper Missouri System. A balanced population of predator and prey will allow for anglers seeking other species to continue angling in the local area. Further, FWP's mission is not to provide fishing opportunities for all species in all regions of the state. The Southwest region of Montana is managed primarily for wild trout fisheries.

Although economics and angling pressure are always a secondary effect of many fish management actions, the primary responsibility of the agency is to foster healthy fish communities within a healthy system. Failure to control a potentially dominant predator species (especially when recently introduced to a system) would neglect an important responsibility of the agency. FWP believes that the economic impact that northern pike could have on blue ribbon trout fisheries far outweighs the economic impact of limiting the northern pike population near Toston Reservoir.

Issue 4: FWP received many comments related to removing or reducing the impact of northern pike in the Upper Missouri River system, in effect supporting the proposed alternative. Comments included: "given the importance of trout fisheries, it is incumbent for FWP to address the potential threat of an expanding pike population"; "Timing is good (for suppression) with predictable occupancy (habitat), early stage, and fishing regulation changes"; "Have observed pike affecting other fish populations in

Montana (Flathead, Echo Lake, and Salmon-Seeley)"; "Don't allow northern pike to crash fisheries such as walleye did in Canyon Ferry"; "Don't reward bucket biology"; "Pike are typical wolf in a fish population"; "people can fish for pike in other areas, and we don't want them in the Missouri River"; and "Don't want to see more waters wrecked".

> **Response:** FWP agrees that northern pike are a significant threat to the wild trout and reservoir fisheries in the Upper Missouri River Basin. FWP initiated a Northern Pike evaluation at Toston Reservoir in 2009 and is proposing this suppression effort after 3 years of study.

Issue 5: Several alternative actions were proposed by the public, including:

Require catch and kill regulations (pike specifically and all non-native species also).

> If removing limits for pike does not result in maximizing angler harvest and there are indications that anglers are practicing catch and release, this requirement will be considered in more detail. That said, there are very few examples of these types of regulations, and there may be enforcement and legal issues that could prevent success of such a regulation. Further, recreational angling is generally an insufficient tool to effectively reduce or eliminate fish species. When fish densities get low, anglers generally do not put sufficient effort in angling to catch the species. Successful control requires removal of all size classes of northern pike, and angler caught pike tend to be older age classes of fish.

Add new forage species to compensate for pike predation.

> **Response:** Adding new species to any fish community creates numerous known and unforeseen consequences. Predator suppression is a much more conservative and lower risk approach to attempt to maintain predator/prey balance.

Allow spearing.

> **Response:** Although allowing spearing may increase the opportunities to harvest pike, spearing is not a sufficient tool to significantly reduce northern pike populations. FWP will consider diversifying angling regulations in the future, including the use of spearing.

Install a barrier near headwaters

> **Response:** Cost for a large-river barrier would be prohibitive and impractical. In addition, the impacts of a barrier on non-target fish species migrating in this reach would be significant.

Give anglers one more year to get pike out legally.

> **Response:** As stated above under the catch and kill regulation response. Angling is not a sufficient tool to significantly reduce northern pike populations. Anglers will continue to have the opportunity to fish for northern pike, and the current harvest regulations have been liberalized.

Provide a detailed map to enhance the public's ability to control pike.

Response: FWP will evaluate the utility of providing such maps to aid anglers in harvesting northern pike. However, even with maps detailing concentrations of northern pike, anglers are unlikely to have a significant effect on northern pike populations except in areas of concentration like Toston Reservoir.

Manage habitat to improve overall fisheries.

Response: FWP actively protects and enhances habitat throughout the Upper Missouri River basin. Actions include permitting stream bank work, enhancing physical habitat and work to improve instream flows. Although physical habitat attributes are critical to determining the health of a fish community, the biological aspects (addition of exotic predators or invasive species) can impact the overall fish community, even when habitat conditions are pristine. Examples of this can be found in Flathead Lake concerning lake trout and their effect on bull trout and cutthroat trout, or throughout the western half of the state where westslope and Yellowstone cutthroat trout have been replaced by brook trout and rainbow trout (through hybridization).

Make it mandatory to kill any non-native fish caught by an angler. Consider other options that are less damaging to native and invasive species. Do the same thing for walleye. What about carp? Trout are also nonnative.

Response: Liberal harvest limits on predatory species such as northern pike and walleye are already in place. Additional measures not related to angling are likely needed to suppress predator populations such as northern pike, but mandatory harvest of all non-native species is not currently practical or enforceable.

Issue 6. Comments relative to the perceived effect of Northern Pike on trout populations:

Pike Coexist well in other waters. Pike will never hurt trout populations.

Response: Northern pike obviously do coexist with other fish species in many water bodies in North America. Northern pike and various prey species or sport fish species eventually reach a balance depending on characteristics of specific lakes. Adding pike to the upper Missouri System has uncertain effects on existing fish populations, but there is high risk of predation loss of other fish species depending on the available habitat and refuge available to prey. For example, the periodic dewatering of the Jefferson River poses is significant risk to the existing trout fishery without the presence of large predator species like pike. When low water conditions and moderate pike abundance occurs in the Jefferson River, there is a significant risk that pike will further reduce trout abundance beyond that occurring due to low flow conditions. Pike certainly have potential to impact trout fisheries in these situations.

Brown trout are predators of pike fry and will stabilize and control a pike population (form letter 1 comment).

> Response: Northern pike abundance has increased in the past ten to twenty years. Although other species, including brown trout, consume young pike, additional means to slow population expansion appear warranted. FWP has reviewed scientific literature looking for studies that document population level impacts of trout predation on juvenile northern pike, however, no studies were found describing such an impact. It is possible that food habit studies on brown trout or other salmonids have detected juvenile northern pike as prey items, but the effect of such trout predation on juvenile northern pike at a population level is unlikely and undocumented in the scientific literature.

Pike predation will increase body condition of walleye (form letter 1 comment)

> Response: Pike predation on walleye could conceivably improve condition of other walleye in the population by reducing the abundance of the walleye population. Conversely, pike predation on species currently providing forage for walleye could decrease condition of the walleye population.

Action will have adverse effect on other species besides pike, walleye in particular.

> Response: The methods proposed for northern pike removal are fairly selective. In fact, the bycatch of 3 years of sampling northern pike in Toston Reservoir with monofilament gill nets has been minimal (one hour sets of monofilament gill nets allow live release of non-target species). Electrofishing techniques are also effective at minimizing impacts to non-target species. FWP will evaluate bycatch effects and modify methods (timing, location, and technique) to minimize impacts to non-target species.

Issue 7. A variety of comments were received suggesting that this project is not likely to be effective, or feasible: Can't catch them all anyway, leave the pike alone, manage like Fort Peck. Don't waste money. Other suppression projects have failed. Already too late, pike are very well established already.

> Response: FWP acknowledges that complete elimination of northern pike from the upper Missouri River system is unlikely, but working to minimize the recruitment by removing adult pike will help prevent further expansion of the species within the basin and help keep densities of pike lower thereby reducing pike predation on other sportfish populations.
>
> Failure to address the establishing northern pike population in the Upper Missouri River basin would be inconsistent with FWP's responsibilities as the manager of the fisheries resources in Montana. If northern pike continue to expand and impact economically-important wild-trout or other fish populations, FWP would be held accountable by the citizens of Montana. Secondly, the fish community, habitat, climate and operation of Ft Peck and other cool water systems are very different from the habitats in the Upper Missouri River basin.

Conduct a comprehensive study of pike impact

> Response: FWP has studied the distribution and movement on northern pike throughout the upper Missouri River Basin for four year. Through this period of time, FWP has documented distribution changes and population level changes. Many case histories exist in Montana and throughout North America to describe the effects of introduced northern pike populations on existing fish communities. Further, the scientific literature provides a plethora of diet information for northern pike, and in some cases utilizes bioenergetics modeling to estimate the population level effects of northern pike populations on other fish species. FWP is comfortable that a sound decision on management direction is possible without further research.

Missouri River provides marginal pike habitat, pike unlikely to become dominant species in the river, will pike have an effect in higher gradient streams, pike like slow water, trout like fast. Will pike truly cause harm to trout populations?

> Response: FWP agrees that certain habitats throughout the Upper Missouri River are better habitats for northern pike than others. However, sufficient habitats exist within all of the headwater rivers where pike could become established, and have at least seasonal influence on trout populations and other fish populations. In other situations throughout the basin, establishment of northern pike population will likely have measurable effects on fish populations, in particular in reservoir systems throughout the basin.

People are fishing for sustenance.

> Response: If a primary objective of the fishery was to maximize sustenance, the best focus would be to maximize abundance of fish species lower on the trophic pyramid which consume plankton and invertebrates (e.g., trout, perch, suckers, etc.). Therefore, maximizing angler harvest on predators probably provides the most efficient means to provide a sustainable fishery for those focused on fish consumption.

Comments were received by a few individuals requesting some of the pike from the removal efforts.

> Response: FWP will work to distribute northern pike that are of suitable size to food banks, wildlife rehabilitation centers and the public whenever possible; however, logistic realities will minimize FWP's ability to ensure that individuals requesting northern pike will receive them.

In conclusion, FWP recognizes that managing predator/prey dynamics is often controversial. Many of the above comments are centered on personal preferences for one species of fish over another. Based on current population trends of northern pike in the Upper Missouri River complex, FWP has determined that the risk to the fish community is highest if no action is taken. Predator suppression provides the best opportunity for achieving long-term balance of the entire fish community. If, in the future, it is determined that this suppression effort is not effective or causes unforeseen impacts, FWP maintains the discretion to cease or modify the action with a new EA process. FWP also believes conservative actions to suppress northern pike abundance are prudent, and failure to suppress northern pike may limit future options for managing the fish community. Alternatively, if suppression is no longer

desired or needed, the recovery of the predator population is predictable based on observations of the past population trend. 3

Final Environmental Assessment:
There are no modifications necessary to the Draft Environmental Assessments based on public comment. The Draft Environmental Assessments, together with this Decision Notice, will serve the final documents for these proposals.

Decision
Based on the Environmental Assessment, public comment, and the need protect and conserve wild trout and reservoir fisheries in the Missouri River drainage of SW Montana, FWP's decision is to proceed with the proposed northern pike removal efforts in the Missouri River upstream from Holter Dam.

FWP finds no significant impacts on the human and physical environments associated with this project. Therefore, we conclude that the Environmental Assessment is the appropriate level of analysis, and that an Environmental Impact Statement is not required.

Patrick J. Flowers
Region Three Supervisor

Gary Bertellotti
Region Four Supervisor

Response to Public Comments

Overview

Public comment was requested for the draft 2020-2019 Upper Missouri River Reservoir Fisheries Management Plan which was presented to the Fish and Wildlife Commission on October 17, 2019. The public comment period was October 17 – November 17. FWP received comments from 37 individuals, some of which represented organized fishing organizations. Organizations submitting comments were Walleyes Unlimited of Montana and Montana Trout Unlimited. Comments received pertained to Part III of the draft Plan and most comments were in response to walleye management in the reservoir section (Part III – B) of the draft plan.

General Comments and FWP Response

Comments received were summarized or paraphrased and categorized below. Below the summarized comments are FWP's responses. The tables below contain only a portion of the submitted comments and/or contain highlighted areas that focus on a specific topic. Tables are organized by general topics, with 8 total general topics. The column to the right of each comment contains a number that references FWP's response to the comment. Comments that do not contain actionable items might not have a response. Duplicated comments are omitted in the tables below but were tallied as part of the overall enumeration of comments. Copies of the full comments were also submitted to the commission in a separate document.

Table 1: Number of comments received by general topic. Comments were organized into 8 general topics.

Topic	Number Comments
River Management	9
Trout Management	2
Yellow Perch Management	12
Walleye Management	32
Forage	7
Northern Pike	2
Fishing Contests	2
Recreation Management	1
Total	66

Part III – A (River Sections)

River Management Comments

A total of 8 comments related to river management and the 8 comments all categorized as maintaining the coldwater species management component of the UMRRFMP.

Comment	Response
Maintain a coldwater species management component in the UMRRFMP area River Sections (8 comments).	1)

FWP Response to River Management Comments

Response Number	Response
1)	Coldwater species management strategies and goals for rainbow and brown trout are currently incorporated and management of those species, including an emphasis on wild trout, are integral components of the 2020-2029 UMRRFMP.

Part III – B (Reservoir Sections)

Rainbow Trout Management Comments

A total of 2 comments mentioned issues directly related to rainbow trout management in the reservoirs.

Comment	Response
The quality of fishing below Canyon Ferry is progressively declining, consider stocking different rainbow trout strains and locations, specifically below Canyon Ferry Dam. (1 comment)	1)
Consider decreasing the daily limit on trout downstream of Canyon Ferry Dam (1 comment)	2)

FWP Response to Trout Management Comments

Response Number	Response
1)	A budget shortfall in 2016-2017 resulted in a 19-24% reduction in stocking catchable sized (>7-inches long) rainbow trout in Hauser Reservoir from 2018-19. Historic stocking rates of 100,000 Arlee and Eagle Lake strain rainbow trout are scheduled to resume in 2020. In addition, angler catch rates, based on annual creel surveys on Hauser Reservoir, in 2018 were 0.22 fish per hour for general anglers and just below the current (2009-2018) ten-year average of 0.26 fish per hour (range 0.17-0.36 fish per hour). Recent creel survey values identify values just below catch rates widely considered as good catch rates (0.25 fish per hour) but do not currently indicate significant declines in rainbow trout catch rates in Hauser Reservoir. However, strain and stocking level evaluations will continue to remain an integral part of annual standardized monitoring and evaluations.

2)	All species managed in the 2020-2029 UMRRFMP, including trout, are evaluated annually based on species-specific management strategies and management change recommendations (i.e. regulation changes) may occur annually if applicable. Additionally, the 2020-2029 UMRRFMP enlists a Citizens Advisory Committee (see Appendix C in the plan) to evaluate potential recommended management decisions for the duration of the UMRRFMP.

Yellow Perch Management Comments

A total of 12 comments mentioned issues directly related to yellow perch management.

Comment	Response
Decrease the current yellow perch regulation in Holter Reservoir. (7 comments)	1)
Stock and explore habitat enhancement projects for yellow perch in Canyon Ferry Reservoir. (2 comments)	2)
Increase FWP enforcement of fishing regulations specifically related yellow perch in Holter Reservoir. (2 comments)	3)
On page 24 bullet 1 states "Continue conservative harvest regulations". The current perch limit of 50 is not conservative. (1 comment)	4)

FWP Response to Yellow Perch Management Comments

Response Number	Response
1)	All species managed in the 2020-2029 UMRRFMP, including yellow perch, are evaluated annually based on species-specific management strategies and management change recommendations (i.e. regulation changes) may occur annually if applicable. Additionally, the 2020-2029 UMRRFMP enlists a Citizens Advisory Committee (see Appendix C in the plan) to evaluate potential recommended management decisions for the duration of the UMRRFMP. *Note – FWP recommended a regulation change for yellow perch in Holter to the Fish and Wildlife Commission on November 12th, 2019. That recommendation, reducing the current regulation (50 daily, no possession limit) to 25 daily and in possession, was approved for public comment. Public comment for the above proposed regulation was open from November 12-21, 2019.
2)	The 2020-2029 UMRRMP is committed to exploring unique ways to enhance yellow perch populations throughout the UMRRFMP area. The Final UMRRFMP states "…explore additional yellow perch habitat enhancement opportunities (e.g., artificial habitat, stocking or transferring fish)."
3)	Four Helena area FWP Game Wardens and one Townsend area FWP Game Warden provide year-round patrols throughout the UMRRFMP area. Game Wardens conduct routine vehicle patrols and boat patrols as well as numerous ice-fishing patrols in the winter. Wardens also dedicated more effort to UMRRFMP area waters in recent years due to the need for increased Aquatic Invasive Species enforcement since 2016. In addition, a review of FWP's 1-800-TIPMONT database, which allows the public to report game violations, revealed few, if any, reports of angler over-harvests throughout Southwestern Montana.

4)	Removed the word "conservative" from the referenced sentence as it doesn't provide decisive description of a regulation.

Walleye Management Comments

Walleye management received the most comments. A total of 32 comments mentioned issues directly related to walleye management.

Comment	Response
The draft states that if goals are met additional aggressive walleye management actions may be implemented, why would further action be needed if goal range was reached (draft page 26; bullet 4)? (6 comments)	1)
Delete bullet 3 on page 26 because it limits management alternatives and only leaves the option to further suppress walleye numbers without consideration of relative abundance or condition factors. (5 comments)	2)
Walleye management strategies as described (draft page 25, All Reservoirs bullet 1; page 26, bullet 5) limit potential walleye management changes by connecting management criteria to other managed species (e.g., yellow perch). As written, this needs review, revision or deletion. (3 comments)	3)
Should not consider active walleye management measures based only on primary forage fish relative abundance. This should be tied to walleye condition factors and relative weights of walleye. (3 comments)	4)
Walleye were planted in Lake Helena, not Hauser Reservoir, in 1951 (page 20, 1st paragraph). (1 comment)	5)
Paragraph 3 on page 20 of the draft inaccurately depicts walleye abundances and size structures and is misleading and should be revised. (2 comments)	6)
Remove or further clarify statement "predation by walleye further reduces recruitment of successfully reared fish" (1 comment)	7)
On the draft page 25, regulation changes should be made after considering relative abundance and PSD goals for walleye along with relative weights and condition factors and growth rates. If changes are considered only when all goals are met it practically states that no change to walleye limits will ever occur. (2 comments)	8)
On the draft page 21 the current data doesn't suggest that walleye have a high preference for trout. (2 comments)	9)
Generally, management strategy language related to walleye throughout the Draft Plan, as written, needs review, revision or deletion. (3 comments)	10)
Modify the current walleye regulations either the number or additional size restrictions. (4 comments)	11)

FWP Response to Walleye Management Comments

Response Number	Response
1)	The bullet point in question was written in a way that created confusion and as a result was taken out of context (reference in the draft was to the 3 criteria immediately above). For clarity bullet 4 of page 26 on the draft was deleted and for additional clarity text was inserted stating that separate actions would be needed for additional management actions.

2)	The bullet point and associated sub-bullet points were deleted from the Plan to avoid limitation of management alternatives.
3)	Relevant to the comments that were received, revisions have been incorporated into the Plan. The revisions removed specific reference of walleye management changes that were entirely dependent upon management criteria of other managed species.
4)	Revised the bullet point in question and provided additional text that would consider additional walleye management if walleye were identified as a primary limiting factor. Additionally, the 2020-2029 UMRRFMP enlists a Citizens Advisory Committee (see Appendix C in the Draft) to evaluate potential recommended management decisions for the duration of the UMRRFMP. The committee would review all relevant data (including relative weight).
5)	Revision to the original walleye stocking location was made to the Plan. Additional text was inserted stating that supplemental walleye stocking occurred in Hauser Reservoir.
6)	Revised the text to more accurately describe abundance and walleye forage correlation and subsequently affected growth and size distribution.
7)	Naturally spawned fish are within gape limitations of walleye, therefore as the sentence states; predation by walleye further reduces recruitment of these successfully reared fish.
8)	The referenced paragraph was revised to increase the ability to make regulation or management changes if necessary.
9)	Current rainbow trout stocking plans are to stock rainbow trout 7” or greater to decrease the probability that these stocked fish are consumed by predators. If the minimum size at stocking was decreased, thereby putting the stocked rainbow trout within the gape limitations of majority of the walleye, the smaller rainbow trout would be consumed at greater frequency than the referenced recent data.
10)	If applicable, proposed revisions to the comment above have been incorporated into the Final Plan.
11)	All species managed in the 2020-2029 UMRRFMP, including walleye, are evaluated annually based on species-specific management strategies and management change recommendations (i.e. regulation changes) may occur annually if applicable. Additionally, the 2020-2029 UMRRFMP enlists a Citizens Advisory Committee (see Appendix C in the Draft) to evaluate potential recommended management decisions for the duration of the UMRRFMP.

Forage Comments

A total of 7 comments mentioned issues directly related to forage.

Comment	Response
Consider other walleye population evaluations when evaluating forage fish management strategies (page 29; All Reservoirs, bullet 2). As written, this needs review, revision or deletion. (1 comment)	1)
Improve forage or introduce additional forage species (e.g., cisco) to benefit walleye in waterbodies throughout the UMRRFMP area. (6 comments)	2)

FWP Response to Forage Comments

Response Number	Response
1)	Revised the bullet point in question and provided additional text that would consider additional walleye management if walleye were identified as a primary limiting factor. Additionally, the 2020-2029 UMRRFMP enlists a Citizens Advisory Committee (see Appendix C in the Draft) to evaluate potential recommended management decisions for the duration of the UMRRFMP. The committee would review all relevant data (including relative weight).
2)	Introduction of new fish species could have negative effects on the trophic dynamics not only in the reservoirs, but also within the entire Missouri River system. A review of potential species (2010-2019 UMRRFMP; Appendix B) that may be appropriate for introduction show that many species would be of little to no benefit to walleye. Depending upon the species, there is great potential that forage fish would have negative effects to the species it was stocked to benefit. Changes to the food web and trophic dynamics within the system could jeopardize natural reproductive success.

Northern Pike Comments

A total of 2 comments mentioned issues directly related northern pike.

Comment	Response
Support ongoing suppression efforts for norther pike. (1 comment)	1)
Leave northern pike alone. (1 comment)	2)

FWP Response to Northern Pike Comments

Response Number	Response
1)	Actions will continue as described in 2020-2029 UMRRFMP and additional information found in Appendix E.
2)	Forage is limited in the reservoirs and subsequently actions will continue as described in 2020-2029 UMRRFMP. Additional information found in Appendix E.

Part III – C (Other Management Issues)

Fishing Contests

A total of 2 comments mentioned issues directly related to fishing contests.

Comment	Response
Consider permitting no more fishing contests or only add a tournament if one is discontinued. (1 comment)	1)
If fish abundance is low why allow the perch derby on Canyon Ferry? (1 comment)	2)

FWP Response to Fishing Contest Comments

Response Number	Response
1)	Fishing contests for all reservoirs within the UMRRFMP are evaluated based on many criteria within the Plan. The following fishing contest management strategy directly relates to the comment above: Regulation of contests will account for the need to distribute tournaments evenly throughout the year and provide for angling opportunities on the reservoir free from contests. A maximum of 12 contests per year of any type (open water angling, ice fishing, bowfishing, etc.) will be permitted. More than one contest will not be permitted for the same day and contests will not be approved for consecutive weekends in order to minimize the potential for conflicts. Applications will be considered on a first come basis until all available slots are filled.
2)	The plan advises allowing one competitive fishing event in January. The department will continue to work with tournament organizers to minimize impacts from this competitive fishing event.

Recreation Management Comments

A total of 1 comment mentioned issues directly related to recreation management.

Comment	Response
Institute a system so that there are designated stretches and days open to guides such as is being done on the Big Hole. (1 comment)	1)

FWP Response to Recreation Management Comment

Response Number	Response
1)	The department recognizes the potential for conflict between recreational users in the river below Hauser Dam and will carefully consider any restrictions to commercial use or to general anglers.