FORT PECK RESERVOIR FISHERIES MANAGEMENT PLAN

2024 - 2033

MONTANA FISH, WILDLIFE & PARKS

Revised October, 2023

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The Fort Peck Reservoir Fisheries Management Plan (FPFMP) will be used by Montana Fish, Wildlife & Parks to direct fisheries management activities for the next 10 years (2024-2033). Fisheries sampling will be conducted annually to monitor species relative abundance and evaluate the effectiveness of management actions. Population monitoring data will be summarized and presented annually to regional Citizen Advisory Committee (CAC), interested public and angler groups.

The FPFMP revision process began in early 2022. An online survey was developed and sent out to licensed Montana anglers to gauge the level of satisfaction or dissatisfaction with the current management direction. The nearly 200 respondents indicated support for continued management direction of key sportfish. In addition, respondents indicated support for maintaining the current number of angling tournaments on the reservoir. The draft plan was presented at four public open houses during the public comment period.

Population abundance goals for each species were established using standardized relative abundance or catch per unit effort (CPUE) surveys. In addition, hatchery stocking goals are presented for species that require hatchery fish to augment populations (Table 2). Other metrics such as relative weight (Wr), proportional size distribution and forage abundance are monitored.

Management Plan Goal

The goal of this plan is to emphasize the walleye fishery utilizing walleye production from Montana warmwater hatcheries while maintaining and enhancing the multi-species fishery that includes northern pike, smallmouth bass, chinook salmon and lake trout. Success of the sport fishery also relies on a sustainable forage base including pelagic and shoreline forage species.

Other Management Issues

In addition to fisheries-specific goals, the FPFMP establishes criteria for reservoir operations, fishing contests and aquatic invasive species (AIS).

PART I

MANAGEMENT PLAN AREA OVERVIEW

Plan Area

Fort Peck Dam is the largest hydraulically filled dam in the United States creating Fort Peck Reservoir and is the fifth largest artificial reservoir in the United States. The dam impounds 240,000 surface acres of water and backs up the Missouri River for approximately 130 miles with 1,500 miles of shoreline. Completed in 1937, Fort Peck Reservoir is located on the Missouri River in the northeastern part of Montana (Figure 1). The fishery in Fort Peck is diverse with 47 different fish species (Table 1), most of which are native to the Missouri River. Nineteen species, mostly game fish, have been introduced to develop sport fishing opportunities. The Fort Peck Reservoir fishery continues to grow in popularity and in 2020 was the second most fished waterbody in Montana (FWP Angler Survey 2020). The economics of the fishery are important with estimated 2020 expenditures totaling $49.7 million dollars.

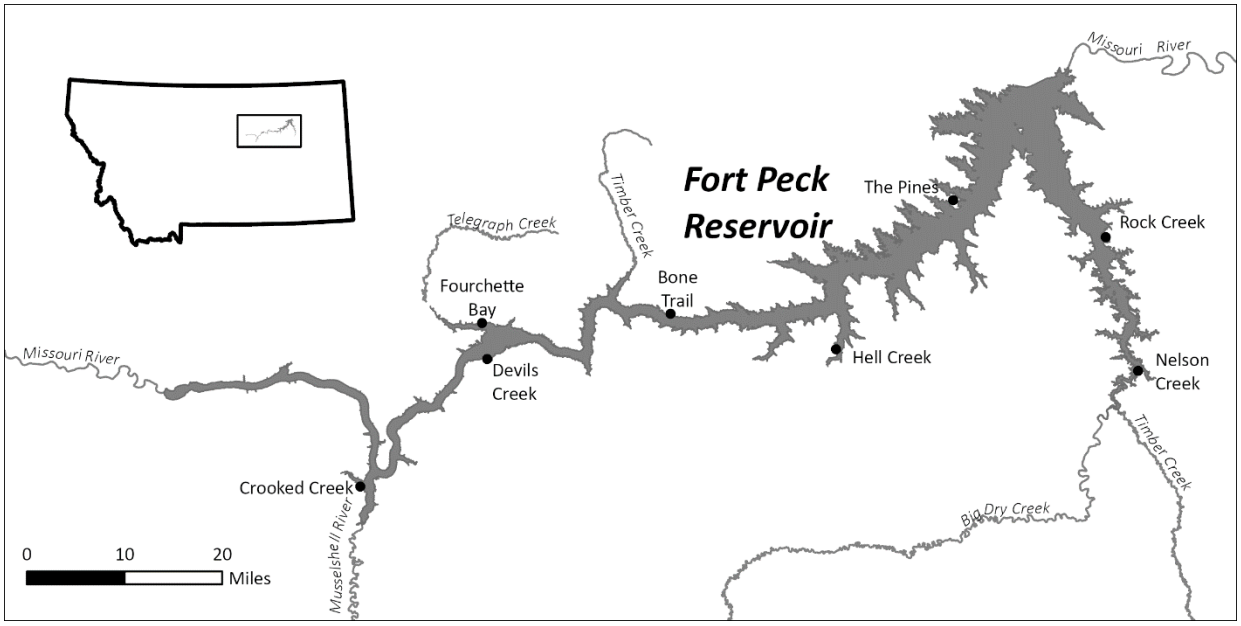

Figure 1. Fort Peck Reservoir including Missouri River and major tributaries.

Table 1. List of introduced and native fish species found in Fort Peck Reservoir.

Common Name	Scientific Name	Native (N) or Introduced (I)	Year of Introduction
Bigmouth buffalo	*Ictiobus cyprinellus*	N	NA
Black bullhead	*Ameiurus melas*	I	1946
Black crappie	*Pomoxis nigromaculatus*	I	1940
Bluegill	*Lepomis macrochirus*	I	1945
Blue sucker	*Cycleptus elongatus*	N	NA
Brassy minnow	*Hybognathus hankinsoni*	N	NA
Brook stickleback	*Culaea inconstans*	N	NA
Brown trout	*Salmo trutta*	I	1945
Burbot	*Lota lota*	N	NA
Channel catfish	*Ictalurus punctatus*	N	NA
Chinook salmon	*Oncorhynchus tshawytscha*	I	1983
Cisco	*Coregonus artedi*	I	1984
Common carp	*Cyprinus carpio*	I	Unknown
Creek chub	*Semotilus atromaculatus*	N	NA
Emerald shiner	*Notropis atherinoides*	N	NA
Fathead minnow	*Pimephales promelas*	N	NA
Flathead chub	*Platygobio gracilis*	N	NA
Freshwater drum	*Aplodinotus grunniens*	N	NA
Goldeye	*Hiodon alosoides*	N	NA
Green sunfish	*Lepomis cyanellus*	I	Unknown
Kokanee salmon	*Oncorhynchus nerka*	I	1946
Lake chub	*Couesius plumbeus*	N	NA
Lake trout	*Salvelinus namaycush*	I	1953
Lake whitefish	*Coregonus clupeaformis*	N	NA
Largemouth bass	*Micropterus salmoides*	I	1941
Longnose dace	*Rhinichthys cataractae*	N	NA
Longnose sucker	*Catostomus catostomus*	N	NA
Northern pike	*Esox lucius*	I	1951
Paddlefish	*Polyodon spathula*	N	NA
Pallid sturgeon	*Scaphirhynchus albus*	N	NA
Plains killifish	*Fundulus zebrinus*	I	Unknown
Plains minnow	*Hybognathus placitus*	N	NA
Rainbow trout	*Oncorhynchus mykiss*	I	1942
River carpsucker	*Carpiodes carpio*	N	NA
Sand shiner	*Notropis stramineus*	N	NA
Sauger	*Sander canadensis*	N	NA
Shorthead redhorse	*Moxostoma macrolepidotum*	N	NA
Shovelnose sturgeon	*Scaphirhynchus platorynchus*	N	NA
Smallmouth bass	*Micropterus dolomieu*	I	1981
Smallmouth buffalo	*Ictiobus bubalus*	N	NA
Spottail shiner	*Notropis hudsonius*	I	1982
Stonecat	*Noturus flavus*	N	NA
Walleye	*Sander vitreus*	I	1951
Western silvery minnow	*Hybognathus argyritis*	N	NA
White crappie	*Pomoxis annularis*	I	Unknown
White sucker	*Catostomus commersonii*	N	NA
Yellow perch	*Perca flavescens*	I	1938

Fort Peck Reservoir has a long history of fisheries management starting soon after impoundment. Scattered reports indicate sauger, yellow perch, crappie, freshwater drum, channel catfish and goldeye were recorded in early netting surveys. Walleyes and northern pike were both introduced in 1951 followed by lake trout in the mid-1950s. Smallmouth bass were introduced in 1981 and chinook salmon in 1983. During the 1980s, spottail shiners and cisco were also introduced to supplement the existing forage base.

The Fort Peck fishery has been managed primarily for walleye since the 1980s with demand increasing over the next three decades. Walleye have consistently been ranked first in preference by anglers through the 1990s and 2000s; however, the percentage of anglers specifically targeting walleye has been decreasing. The most recent creel surveys indicate that 63% of anglers were targeting walleye in 2019, compared to 57% in 2021. This decrease was due to more anglers targeting chinook salmon and lake trout (Figure 2). In addition, northern pike remain popular while smallmouth bass continue to gain in popularity. Management goals are listed in Table 2.

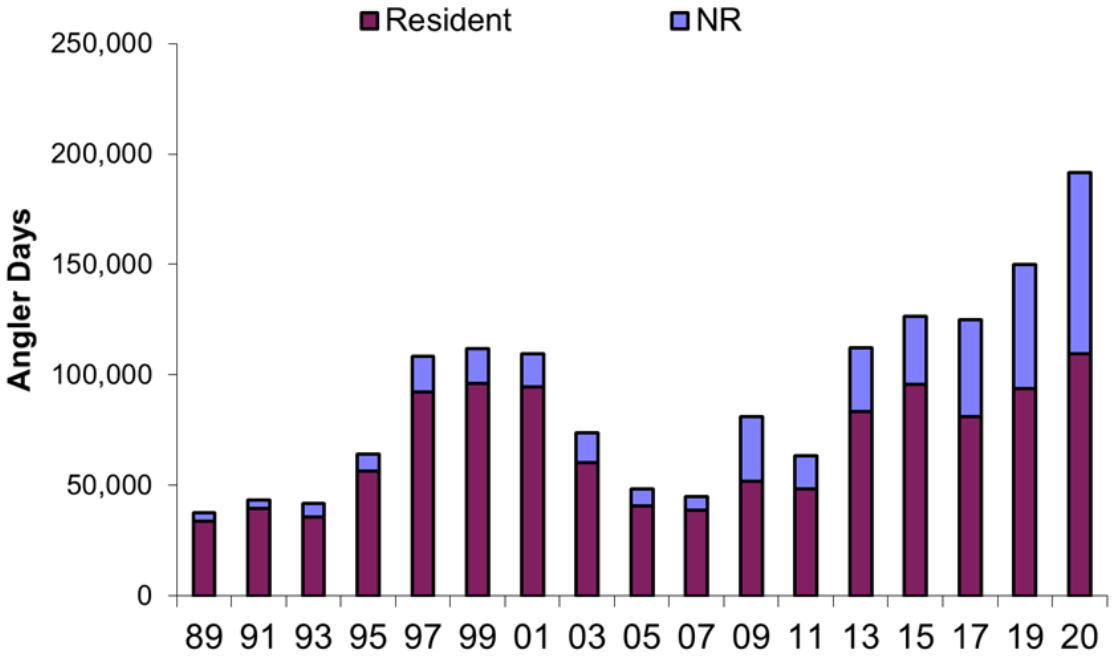

Figure 2. Resident and nonresident angler days for Fort Peck Reservoir by license year 1989-2020 (FWP, Angling Surveys).

Table 2. Summary of management goals for principal sportfish of Fort Peck Reservoir. Generally, a proportional size distribution (PSD) value from 0-30 indicates a population comprised primarily of small fish, values from 30-60 indicate a balanced population comprised of fish from all sizes, and values of 60-100 indicates a population comprised mainly of larger fish.

	Species				
	Walleye	Northern Pike	Smallmouth Bass	Lake Trout	Chinook Salmon
Relative Abundance Goal (number/net)	3.6	2.0	0.9	2.5	None
Proportional Size Distribution (PSD)	40-65	65-90	None	65-90	None
Stocking Goal (annual)	3 million fingerlings	Evaluate stocking if < 2/net	Natural	Evaluate stocking if < 2/net for 2 consecutive years	200,000 fingerlings

Fisheries Monitoring

Walleye, lake trout, chinook salmon, northern pike and smallmouth bass are the species of greatest interest to the public. Species abundance and population structure are monitored using various standardized sampling methods (see Table 4 in Appendix B). Long-term population trends are summarized in Appendix B. Angler creel surveys are conducted biennially to record angler effort, catch rate, and harvest information. These data are used in conjunction with other sampling data to gain insight into population trends and angler use.

Fishing Contests

Fishing contests play an important role in the Fort Peck fishery and continue to gain popularity. The total number of open water contests on Fort Peck has been capped at 12 for the previous two decades. Twelve open water contests result in a contest scheduled nearly every summer weekend except for holiday weekends. Management plan guidelines allow for only one tournament to be scheduled per weekend. Winter ice fishing contests, although popular in Northeast Montana, have been limited largely due to logistics of executing a contest on a waterbody as large as Fort Peck and variable ice conditions that present safety risks for organizers.

Plan Updates

Along with updates to all fisheries related data, several changes have been made to this plan that reflect new information or publicly requested changes. Table 3 summarizes changes made to the plan and further reflect support for the ongoing management emphasis on walleye, a multi-species fishery and limited contests as recorded in the angler survey (see Appendix E).

Table 3. Proposed changes and justification to the Fort Peck Fisheries Management Plan (FPFMP), 2023-2032.

Proposed changes	Justification
Remove angler catch rate target of 0.4 fish/hour for walleye	Angler catch rates are influenced by a host of variables (e.g., skill level, weather, location, forage availability, condition of fish), many of which are out of FWP control.
Eliminate stocking 50,000 advanced chinook salmon in the fall	This stocking strategy was evaluated for an eight-year period and found to have little contribution to the fishery. The plan would continue to stock a minimum of 200,000 fingerlings (4-5 inch) during June.
Permit 16 annual fishing contests but redirect one ice tournament date to an open water tournament date	Tournament advocates have been requesting additional open water tournament dates. This is an attempt to balance use between tournament and non-tournament anglers while allowing for a rotational spot for a non-grandfathered fishing contest.
Fishing contest directors are responsible for verification of AIS prevention for nonresident tournament watercraft	Increase awareness and prevent transport of Aquatic Invasive Species (AIS) to Fort Peck Reservoir. Zebra mussel populations have continued to expand throughout the Midwest with populations discovered near the Montana/South Dakota border in 2022.
Develop new relative abundance, proportional stock density and stocking goals for northern pike, smallmouth bass, and lake trout	Improve management emphasis on the multi-species fishery.

PART II

MANAGEMENT PLAN DIRECTIVES AND PUBLIC INVOLVEMENT

Plan Implementation and Development

The FPFMP will guide fisheries management actions on Fort Peck Reservoir for a 10-year period (2024-2033). Throughout the life of this plan FWP will annually conduct reservoir wide standardized sampling to monitor population trends as specified in Appendix B. These data will be used to evaluate the health of the fishery and ensure the goals of the plan are being met. In addition, FWP will host annual fisheries status update meetings where staff will present information and provide an opportunity for the public to be involved in the management of the fishery. If conditions require revisions or changes to the plan during this 10-year period, the document can be amended. Any significant changes will comply with Montana Environmental Policy Act (MEPA) requirements for public notice and comment. The plan will also be presented to the Region 6 Citizen Advisory Committee (CAC); a group of interested citizens representing a variety of issues and topics across FWP Region 6.

The plan reflects the public's desire for a high-quality multi-species fishery in Fort Peck Reservoir. Additionally, this plan represents the next step in the ongoing evolution of fisheries management on Fort Peck Reservoir.

The following are priorities for the next 10-year period:

- Evaluate growing angler demands on the Fort Peck fishery and potential impacts of increased fishing pressure to fish populations.
- Develop and refine scientifically sound sampling methods for smallmouth bass, burbot and lake trout populations.
- Evaluate angler catch-and-release mortality of lake trout.
- Evaluate angler catch-and-release mortality of walleye.
- Evaluate contributions of walleye natural reproduction and hatchery fry to the fishery.
- Understand factors that limit burbot populations.
- Establish reservoir-wide biennial angler creel surveys that includes fall survey periods targeting lake trout and chinook salmon anglers.
- Develop reservoir operational guidelines that identify water elevations and timing of fluctuations critical to the fishery.

Public Involvement

1. An online scoping survey was developed to gauge level of satisfaction with the existing plan. The survey was sent to 3,000 randomly selected resident fishing license holders and stratified on county of residence. Approximately 75% were mailed to anglers in eastern Montana counties

(counties east of, and including, Billings and Great Falls). The remaining 25% were mailed to resident anglers in western Montana counties (all counties not included in the 75% mail-out). This stratification was based on the county of residence of respondence from the statewide angling pressure surveys that reported they had fished Fort Peck. In addition, an analysis of residence of anglers surveyed during on-site creel surveys in 2021 was used to cross-check the statewide survey. Results generally verified that approximately 75% of resident anglers using Fort Peck Reservoir originate from eastern Montana counties.

2. The survey was available on the FWP webpage from April 25 through September 1, 2022, with a statewide press release announcing the survey.
3. Using the survey information and public comments collected during the previous 10-year plan, FWP edited the plan. Edits and updates were reviewed internally prior to being released for public comment.
4. Preliminary edits were presented to the Region 6 CAC on August 30, 2022, and the Statewide Angler Forum on October 5, 2022.
5. The draft plan and EA was released for public comment on August 21, 2023, and presented at four public meetings across eastern and central Montana.

PART III – A

FISHERIES MANAGEMENT

Management History

Fort Peck Reservoir is formed by a large earth-filled dam located on the Missouri River in the northeastern part of Montana. Completed in 1937, Fort Peck dam transformed the free-flowing, alluvial Missouri River into a long and relatively deep reservoir. Fort Peck Reservoir is the largest body of water in the state, with 240,000 surface acres of water and 1,500 miles of shoreline at full pool. The reservoir is 130 miles in length and has a maximum depth of 220 feet when full. Administration of all land and water within the executive boundary of the Charles M. Russell National Wildlife Refuge is shared by the U.S. Fish & Wildlife Service and the U.S. Army Corps of Engineers (USACOE) in accordance with Memorandum of Agreement No. DACW 45-9-97-6039. When not operating to reduce flood impacts, the USACOE manages Fort Peck and the mainstem system of dams to balance hydropower generation, water supply, water quality, irrigation, fish and wildlife conservation, navigation, and recreation benefits. Reservoir operations often result in trade-offs and sometimes conflicting purposes (Erickson et al., 2008).

In the reservoir's early years, little was recorded regarding the quality of the fishery. Scattered reports indicate sauger, yellow perch, crappie, freshwater drum, channel catfish and goldeye comprised the bulk of the fishery. Sixteen species, mostly game fish, were introduced to develop sport fishing opportunities.

Rainbow trout were initially stocked in 1942, followed by bluegill in 1945. Kokanee salmon and crappie were introduced in 1946. Walleyes and northern pike were both introduced in 1951 followed by lake trout in 1952. Smallmouth bass were introduced later in 1981 and chinook salmon in 1983. Walleyes developed into a popular fishery with high catch rates observed in the mid-1970s. Expectations for this fishery grew, however, and netting indicated limited natural reproduction was occurring due to low reservoir levels and poor runoff into tributaries where walleye were suspected to spawn. This led to the establishment of an annual walleye stocking program in 1984. The initial egg source for these early stocking events was Tongue River Reservoir. Poor walleye survival and declining relative weights led to the introduction of spottail shiners (1982-3) and cisco (1984-6).

Demand for quality fishing on Fort Peck Reservoir continues to increase as more anglers discover the diversity, quality, and unique remoteness Fort Peck has to offer. Although other sportfish in the reservoir continue to grow in popularity, walleye remains the most targeted species (Figure 3). Management of this species consumes most of the workload of the Fort Peck fisheries staff. Much of this effort is focused on a large-scale propagation program that has stocked an average 22.6 million walleye fry and 2,455,251 fingerlings over the last 10-year period (see Appendix C, Table 6). Although natural production of walleye can occur on years with above average runoff and rising reservoir levels, hatchery fingerling production accounts for most of the recruitment to the fishery (Duncan et al., 2020). Favorable water level management, a consistent hatchery program and a sustainable forage base have

led to a high-quality walleye fishery that contributed to record angling pressure in 2020 (FWP Angler Survey 2020).

Reservoir water level management is the primary variable that shapes the Fort Peck Reservoir fishery. Wet and dry cycles can be prolonged; several noted droughts occurred since dam construction (see Appendix A, Figure 4). Drought periods persisted during the late 1980s and early 1990s, followed by another drought period from 2002 through 2008. These periods resulted in substantial reservoir drawdowns that, in some cases, persisted for several years. Drought periods have been shown to negatively affect the fishery and recreational use of the reservoir (Headley, 2007; FWP Angler Survey 2007).

The most recent wet cycle began in 2008 and continued through 2020. Water levels increased 22 feet in 2008 from the record low of 2196 mean sea level (msl) in 2007 to 2218 msl in 2008. Reservoir water levels continued to increase in 2009 (10 feet) and 2010 (21 feet) (see Appendix A, Figure 5). These four water years played a significant role in shaping the current fishery and will continue for several years into the future. The mobilization of nutrients that occurred with the inundation of vast areas of shoreline and the resultant trophic upsurge led to several strong year classes of walleye, including 2011, which remains a dominant year class in 2023. In addition, the forage base has remained above average for much of this period leading to favorable growth of sportfish.

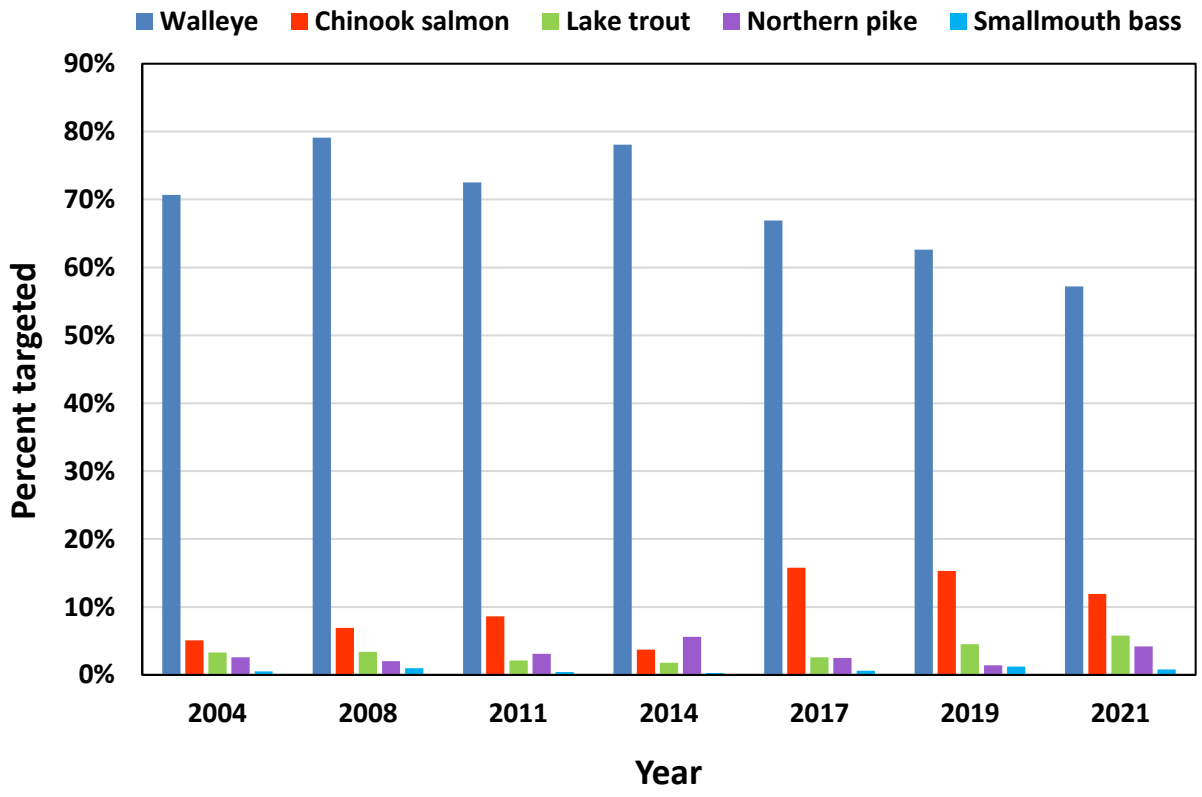

Figure 3. Percentage of anglers targeting various species of interest on Fort Peck Reservoir as measured during summer angler creel surveys, 2004-2021.

Reservoir levels have been declining since 2019, ending the 2022 water year (September 30) nearly 30 feet below full pool. Declining water levels often result in a decrease in reservoir productivity. Aquatic plants and associated benthos are reduced or eliminated, littoral fish species production is negatively affected and can lead to severe declines in forage as predator and prey are forced into featureless habitats that favor predators. Fish growth and survival declines in response to decreasing reservoir productivity (Ploskey, 1982).

Limiting Factors to the Fishery

A limiting factor refers to any variable in the environment capable of limiting a process, such as the growth, abundance, or distribution of a population of organisms in an ecosystem. The following are established limiting factors to the Fort Peck Reservoir fishery:

- Reservoir operations that prioritize irrigation, navigation and hydropower will result in decreasing reservoir pool elevations during drought periods. Prolonged drawdowns have been shown to impact reservoir productivity.
    - During extended periods of low reservoir elevations, aerobic coldwater habitat for cisco, chinook salmon, and lake trout is reduced.
    - Dewatered shoreline restricts aquatic plant growth and associated benthos are reduced or eliminated. Littoral fish species production is negatively affected and can lead to severe declines in forage.
    - Reduced pool levels concentrate predator and prey species into areas devoid of habitat complexity and prey refugia.
    - Spawning habitat for several key sportfish (lake trout, northern pike, walleye) are negatively affected at lower reservoir elevations.
- Hatchery capacity
    - The plan calls for stocking 3 million walleye fingerlings and 200,000 chinook salmon fingerlings. This request maximizes hatchery production space at State of Montana fish hatcheries for these two species. If additional fish were to be requested, they would need to come from other sources.
- Extended surface spill from the reservoir will flush fish (all species) at varying rates; chinook salmon and cisco have been shown to be highly vulnerable.
- Aquatic invasive species will continue to pose a threat to the Fort Peck Reservoir fishery. Heightened preventative measures must be adaptive and address the most critical threats to the fishery. Aquatic pathogens will also limit the ability to transport fish and/or eggs needed to meet stocking goals walleye and chinook salmon.
- Funding and staffing limitations. At current staffing levels, all propagation efforts, standardized monitoring, data analysis and reporting are accomplished. Additional tasks such as lake trout and walleye hooking mortality studies and hatchery walleye fry evaluations will require additional resources to complete.

Species Goals and Strategies

Population abundance goals for each species were established using standardized relative abundance or catch per unit effort (CPUE) data. In addition, proportional size distribution (PSD) was used to quantify the relationship between population abundance and fish size distribution for several gamefish species. Generally, a PSD value from 0-30 indicates a population comprised primarily of small fish, values from 30-60 indicate a balanced population comprised of fish from all sizes, and values of 60-100 indicates a population comprised mainly of larger fish. Species-specific goals were developed at levels that are supported by long-term data and shown to be sustainable under variable reservoir conditions. Goals are also established as benchmarks for the public to better understand fisheries management parameters and limitations that influence the quantity and quality of a desired species. Lastly, annual standardized sampling provides relative abundance and size distribution data which are used to determine if species-specific goals are being met. Goals for select sportfish are listed in Table 2. All fish species found in Fort Peck Reservoir including native status and first year of introduction are listed in Table 1. Species-specific population trends can be found in Appendix B.

To manage a multispecies fish community, it is important to recognize the interconnectedness of the aquatic community in the reservoir. A goal for an individual species is affected by management strategies for other species in the system. Many factors (e.g., reservoir operations and available habitat) within the system will impact the attainability of each goal. This management plan prioritizes the management of walleye while recognizing the importance of the multispecies fishery. Lastly, forage species (shoreline and pelagic) are the foundation of a healthy fishery.

Walleye

Walleye were first introduced into Fort Peck Reservoir in 1951 by FWP. During the late 1960s and early 1970s a walleye fishery developed in the Big Dry Arm of the reservoir, which was attributed to favorable spawning conditions in the Big Dry Creek. Unfortunately, these conditions occur infrequently, when flows are sufficient and reservoir elevations allow spawning fish access to gravel in tributaries to the Big Dry area of the reservoir (Liebelt, 1979). The walleye fishery fared poorly in the late 1970s and early 1980s due to lack of natural reproduction and a decline in forage fish abundance. Walleye stocking resumed in 1977 to address declining walleye population (Wiedenheft, 1983).

Walleye plants during the 2012-2022 management plan period averaged 20.3 million fry and 2.5 million fingerlings. Hatchery walleye are responsible for a significant percentage of recruitment to the Fort Peck fishery. In addition, hatchery-produced fish provide recruitment in years when natural recruitment is low or absent. Although questions remain on the contribution of hatchery fry, the use of otolith microchemistry determined contribution of hatchery reared walleye fingerlings ranged from 18% to 58% (average 31%) during the 2005-2013 period. In addition, this study confirmed that a large year class was naturally produced in 2011, coinciding with record inflows from Big Dry Creek and high reservoir elevations (Duncan et al., 2020). During periods of low inflows and low reservoir elevations, the Missouri River can contribute approximately 50% of the natural recruitment in Fort Peck Reservoir. Most of the

reservoir has very little suitable walleye spawning habitat, which consists of gravel and cobble substrate, along its shoreline (Benson, 1980).

Drought conditions began in the late 1990s and continued through 2007. In 2007, Fort Peck Reservoir reached a record low elevation of 2196.23 feet resulting in loss of over 50 feet of reservoir elevation and nearly 100,000 surface acres (see Appendix A, Figure 5). The impacts of this drawdown were severe, as shoreline and submerged vegetation were greatly reduced for both shoreline forage and game fish species. This coincided with a 57% decrease in relative abundance of walleyes caught during annual gillnetting surveys (see Appendix B, Figure 7). During this time, walleye growth and relative weights for most length groups decreased indicating forage limitations (see Appendix B, Figures 8 and 9). Conversely, when reservoir elevations began to increase in 2008, walleye relative abundance, relative weights and growth improved. The 3-year running average of 3.6 walleye was achieved every year during the 2013-2022 management plan period. Relative abundance in 2022 reached a record 30 year high of 7.5 walleye per net night. A PSD of 40-65 for walleye was met 8 of the 10 years during the 2013-2022 management plan. A combination of successful stocking efforts and natural reproduction and the presence of larger, older fish have contributed to a balanced population.

Walleye have been ranked as the most popular sportfish by a large margin in creel surveys dating back to the 1990s. During the 2004 and 2008 creel surveys, walleye were the primary sportfish of 71% and 79% of anglers. Walleye have remained the primary target throughout the 2013-2022 management plan; however, the percentage of anglers specifically targeting walleye decreased in 2019 and 2021 to 63% and 57%. This decrease was attributed to more anglers targeting chinook salmon and lake trout.

Angler catch rates, as measured in biennial reservoir wide creel surveys, are an import metric in the management of any sport fishery. During the 2013-2022 management plan, four creel surveys were completed. Creel surveys collect catch rate data from anglers of all skill levels ranging from novice to expert. In 2021, angler catch rates for walleye during the summer creel period ranged from 0.08 to 0.47 fish per hour. Catch rates are generally highest in July due to warm water and high metabolic rates of predators. Conversely, catch rates are lowest in August and September as forage becomes more available. The highest documented angler catch rate for walleye during the 2013-2022 management plan period was 0.46 per hour in 2019.

Walleye catch rates exceeding 0.3 fish per hour are generally considered excellent (Colby et al., 1979). A survey of over 1,000 walleye waters in the Midwest found that only 13.7% reported a catch rate of 0.4 walleye per hour or greater (FWP 2002). Fisheries investigations have consistently documented angler catch rates of walleye are not related to abundance but more closely tied to growth rates and food availability. On Oneida Lake, New York over several decades of study, it was determined that during years when walleyes were most abundant, angler catch rates were the lowest. Furthermore, as walleye numbers decreased, anglers caught more walleye, masking population declines. This relationship points to food supply as the primary factor in walleye catchability (Van DeValk et al., 2005; Kaufman et al., 2009).

Goals and strategies for walleye:

1. Place the primary management emphasis on walleye.
    a. Monitor walleye through standardized gillnetting surveys. Maintain a 3-year running average of 3.6 walleye per net during late summer surveys.
    b. Maintain a PSD between 40 and 65 during summer gillnetting surveys.

2. Stock a minimum 3 million fingerlings annually. This goal maximizes walleye production at the two state-owned fish hatcheries (Miles City and Fort Peck). Fingerling production will depend on quality of eggs collected, egg hatching success and pond production (spring weather conditions). If fingerling production exceeds 3 million, biological and environmental conditions (listed below) will be reviewed to determine if stocking additional walleye is justified. Stocking rates may be reduced if biological and environmental conditions are unfavorable to maintaining a high quality walleye fishery. Fingerling stocking will be augmented with fry as conditions and availability allow. However, sufficient consideration should be given to stocking fry as survivability has shown to be extremely variable in most waterbodies.
    a. FWP will continue to evaluate survival and contribution of hatchery walleye fry and fingerlings. A cessation of walleye fry stocking for a defined period could be used as a tool to evaluate survival of fingerlings and natural reproduction contribution to the fishery. Prior to this occurring, a study design would be developed that outlines study goals and methods and the design would be publicly vetted prior to implementation.

The following criteria will be used to guide walleye fingerling stocking if production exceeds 3 million.

1. Physical condition of existing walleye population.
    a. Relative weights should be a minimum of 90 for walleye greater than preferred length (≥20”), and a minimum of 80 for walleye less than quality length (<20”). Other population structure indices will also be considered.

Northern pike

Records indicate pike were first introduced into Fort Peck Reservoir by FWP in 1951. From the mid-1960s to early 1990s recruitment was variable. Reproduction was documented as the reservoir filled from 1993 through 1997 (see Appendix B, Figure 11). However, recruitment dropped quickly as reservoir levels declined from 1998 to 2007. Low pool elevations dewatered shoreline vegetation necessary for successful spawning and refugia for juveniles. Fluctuating water levels provided intermittent northern pike spawning conditions resulting in large fluctuations in relative abundance (see Appendix B, Figure 10).

In response to declining northern pike populations, stocking was increased in the early 1970s to improve the fishery. Most stocking occurred in the lower portion of the reservoir from the spillway area to Duck Creek. Stocking in the Big Dry Arm was eliminated when the walleye fishery developed in this region of the reservoir. Stocking was resumed on a very limited basis in 1990-1993 due to reduced natural

reproduction. Stocking was resumed during the most recent drought (2001-2007) when a total of 589,172 fish were stocked during this 7-year period (see Appendix B, Table 7). Despite these stocking efforts, relative abundance of northern pike captured during annual gillnetting and seining surveys remained relatively constant.

Northern pike relative abundance reached a record high in 2012 due to an increase in recruitment of smaller fish that resulted from rising reservoir elevations from the 2008-2011. Since 2012, northern pike relative abundance has declined but has remained higher than the drought years of 2000-2007. The 3-year running average of 2.0 northern pike per net was met every year during the 2013-2022 management plan except for 2018 (1.9 per net).

Angler catch rates for northern pike have remained similar over the last several years (0.3 fish per hour). This period experienced high reservoir elevations and coincided with increasing relative abundance of northern pike. Northern pike remained the fourth most sought-after species during the 2021 creel survey, behind walleye, chinook salmon, and lake trout. Length of northern pike during 2017, 2019, and 2021 averaged approximately 27 inches.

Goals and strategies for northern pike:

1. Monitor northern pike through standardized gillnetting surveys. Maintain a 3-year running average of 2.0 northern pike per net during late summer surveys.

2. Maintain a PSD between 60 and 95 during summer gillnetting surveys.

3. Rely on variable natural reproduction and survival to determine population abundance.

4. If relative abundance falls below 2.0 northern pike per net for 2 consecutive years, evaluate hatchery augmentation of the population.

Smallmouth bass

Smallmouth were first introduced into Fort Peck Reservoir in 1981 with fingerling stocking continuing in 1982 and 1983. Stocking was resumed in 1993 and continued annually until 2001. More than 280,000 fingerlings were stocked during this period (see Appendix C, Table 8). Smallmouth bass had high survival with natural reproduction increasing over the years, based on shoreline seining surveys (see Appendix B, Figure 11). Successful natural reproduction has made smallmouth bass young-of-year (YOY) the most common game fish observed during annual seining surveys.

Interest in the smallmouth bass fishery increased as the population expanded, and angler catch rates increased. Although smallmouth bass demonstrate gear selectivity against passive capture methods (gillnets) and are more commonly targeted using active collection gear (electrofishing) (Bonar et al., 2009), reservoir-wide gillnetting is utilized due to program limitations. Gillnetting surveys since 1992 indicate a gradual increase in the number of smallmouth bass captured per gillnet (see Appendix B,

Figure 12). The current Montana state record smallmouth bass was caught in Fort Peck Reservoir in 2020 weighing 7.84 pounds.

Anglers targeting smallmouth bass during the 2021 and 2019 creel surveys had a catch rate of 1.3 fish per hour and 0.9 fish per hour, respectively. Average size of smallmouth bass measured by creel clerks was 16.5 inches during the 2019 and 2021 surveys. Smallmouth bass were ranked fifth in terms of species targeted by anglers over the last several creel surveys (Figure 3).

Goals and strategies for smallmouth bass:

1. Monitor smallmouth bass through standardized gillnetting and seining surveys. Maintain a 3-year running average of 0.9 smallmouth bass per net during late summer gillnetting surveys.

2. Investigate survey techniques that may provide better insight of smallmouth bass population dynamics.

3. Rely on variable natural reproduction and survival to determine population abundance.

Lake trout

Lake trout were first introduced into Fort Peck Reservoir by FWP in 1953 to diversify the fishery and utilize the coldwater habitat of the reservoir. Additional stockings occurred annually 1954-7, 1978, 1991, 1992, and 2004 with plants totaling 241,324 fingerlings (see Appendix C, Table 9). These stocking efforts occurred in response to declining reservoir elevations, which were believed to reduce lake trout spawning habitat.

The lake trout fishery continues to grow in popularity, as social media platforms promote the fishery and commercial guides target the species. In addition, the advent of real-time electronics and contour mapping have improved anglers' efficiency in targeting the species. Lake trout were the third-most targeted fish species during the 2013-2022 management plan based on angler creel surveys. In 2021, 6% of the anglers were specifically targeting lake trout based on a total of 2,476 creel interviews. Approximately 72% of the lake trout were released by anglers in 2021 during the open water period. Despite this high release rate, data from other lake trout populations indicate post-release mortality of lake trout can be extremely high (Wade & Bergersen, 1996; Sitar et al., 2017). Anglers targeting lake trout in 2021 had a catch rate of 0.38 fish per hour, which was lower than 0.59 fish per hour in 2019. Average size of lake trout measured by creel clerks remained similar at approximately 27 inches during the 2019 and 2021 surveys.

To better monitor lake trout populations, standardized deep water gillnetting surveys were implemented combined with periodic creel surveys. Lake trout age and growth information collected from fall netting surveys and angler harvested fish show a diversity of age classes present, with some individuals up to 30 years old (Headley, 2010). Relative abundance during deep water gillnetting surveys have remained similar over the last several years and captured smaller, younger lake trout indicating successful natural reproduction has been occurring (see Appendix B, Table 5).

The 2013-2022 FPFMP required that lake trout be captured and spawned when the reservoir elevation falls below 2225 msl. At this elevation, there are approximately 51.4 acres of suitable lake trout spawning habitat along the face of the dam, which is 62% of the total spawning area when the reservoir elevation is at 2246 msl (data provided by the USACOE). The face of the dam is characteristic of lake trout spawning habitat because it contains cobble and boulder substrates that have deep interstitial spaces that lack fine sediments (Nester & Poe, 1987; Dux, 2005). Additional spawning areas may exist in Fort Peck Reservoir; however, this is currently the only known lake trout spawning location. Decreases in reservoir elevation could pose a problem by limiting the amount of spawning habitat, and ultimately recruitment, into the population. Severe decreases in reservoir elevation could also limit the lake trout population by decreasing the amount of suitable coldwater habitat.

Goals and strategies for lake trout:

1. Monitor lake trout through standardized deep water gillnetting surveys. Maintain a 3-year running average of 2.5 lake trout per late summer gillnet.

2. Maintain a PSD between 60 and 95 during deep water gillnetting surveys.

3. Rely on variable natural reproduction and survival to determine population abundance.

4. Continue biennial open water creel program that monitors lake trout catch rates and harvest.

5. Supplemental stocking will be evaluated if the number of lake trout caught in annual trend netting falls below 2 fish per net for two consecutive years. The number of lake trout stocked will be guided by historical stocking rates, availability of spawning stock, habitat, and forage availability.

Chinook salmon

Landlocked chinook salmon were first introduced into Fort Peck Reservoir by FWP in 1983 to add diversity, utilize the coldwater habitat of the reservoir, and provide a trophy component to the existing sport fishery. Fort Peck Reservoir is currently the only chinook salmon fishery in Montana. Landlocked chinook do not reproduce naturally in the reservoir due to absence of suitable spawning habitat, thus annual stocking is required to maintain the population. Initial chinook salmon fingerlings stocked into the reservoir were from eggs collected in Lake Michigan.

The first chinook salmon stocking was conservative to prevent undue pressure on the developing cisco population. Initial stocking rates were 15,000 fingerlings per year from 1983-5. Stocking during 1986 to 1988 averaged 100,000 each year; however, stocking numbers were largely dependent on surplus eggs from surrounding states. Stocking efforts became variable in the late 1980s and 1990s due to problems in obtaining disease-free eggs. Both numbers and sizes of chinooks stocked into Fort Peck Reservoir increased due to egg collection efforts in Montana and surplus eggs from North and South Dakota (see Appendix C, Figure 16). Annual fish health sampling events have detected no harmful diseases or pathogens from the chinook salmon populations in Missouri mainstem reservoirs of Oahe, Sakakawea,

and Fort Peck. Chinook salmon populations in the Great Lakes and along the Pacific coast have tested positive for several diseases and pathogens that are transmissible to progeny as well as other fish species within the fish community.

Hatchery spawning success of chinook salmon has varied largely due to fluctuating numbers of returning adult females. Prior to 2006, most adult salmon were collected with a portable fish ladder set up in the marina bay. This approach was extremely labor intensive and numbers of returning adults were inconsistent. Since 2007, salmon have been collected using boat mounted electrofishing gear. Electrofishing collections located adult salmon in several areas near the face of the dam. This approach has proven to be more efficient and cost effective.

Chinook salmon in Fort Peck Reservoir typically mature at age three and four with males maturing a year earlier than females. Age at maturity has been shown to be influenced by growth rates and sizes at release (Lott et al., 1997). Increased growth was observed from 2008 to 2010, which is attributed to strong cisco production (Headley, 2010). Chinook salmon, like other large predator species, are utilizing cisco as their primary forage (Brunsing, 1998). The average weight of age 4 females collected in the fall of 2008 was 14 pounds compared to 19.2 pounds in 2020. The current state record chinook salmon was caught in 2020 from Fort Peck Reservoir weighing 32.05 pounds.

Most fishing activity for chinook salmon occurs during late summer and fall near the dam. Angler catch rates have been relatively low since introduction, averaging 0.01-0.03 fish per hour from July to September. Anglers targeting chinook salmon in 2021 had a slightly higher catch rate of 0.06 fish per hour. Despite low angler catch rates, chinook salmon are the second-most targeted species based on creel interviews conducted during the 2013-2022 management plan. The percentage of anglers targeting chinook salmon nearly doubled in recent creel surveys (2017, 2019, 2021) compared to surveys conducted from 2004 to 2014. This can be attributed to more consistent stocking and the resultant improved catch rates. Interestingly, anglers devoted more hours targeting chinook salmon in August 2021 than any other species.

<u>Goals and strategies for chinook salmon:</u>

1. Continue standardized netting to evaluate chinook salmon survival and recruitment.

2. Collect eggs from Fort Peck Reservoir chinook salmon annually using the most efficient methods available.

3. Stock a minimum of 200,000 fingerlings (5 inches) during June. Stocking rates above 200,000 fingerlings will be evaluated to determine if reservoir conditions (including prey base and other variables) are conducive to stocking additional fish.

4. Continue biennial open water angler creel surveys that monitor chinook salmon catch rates and harvest.

Sauger

Sauger are native to Montana and are found in the mainstem Missouri, Musselshell and Marias River drainages of above Fort Peck Reservoir (Brown, 1971). Populations declined following the prolonged drought of the 2000s (see Appendix B, Figure 13; McMahon & Gardner, 2001). In addition to changes in habitat, increased abundance of predators such as walleye and smallmouth bass may be adversely affecting sauger populations (Fincel et al., 2019). Portions of the mid-Missouri River and areas upstream of Fort Peck Reservoir have experienced drought conditions combined with increases in walleye and smallmouth bass relative abundance beginning in the late 2000s. Sauger are distributed throughout Fort Peck Reservoir; however, the majority are captured in the upper Missouri arm of the reservoir. Young-of-year sauger are collected exclusively in this area during annual shoreline seining surveys. Adult and young sauger drift downstream from the Missouri River above the reservoir where more suitable riverine-type habitat is available for spawning (Bellgraph et al., 2008).

Sauger are listed in Montana as a "S2" species of special concern by the Montana Natural Heritage Program, Montana Department of Fish, Wildlife & Parks, and the Montana Chapter of the American Fisheries Society (Carlson, 2003). This designation indicates that sauger are "imperiled because of rarity or because of other factors demonstrably making it very vulnerable to extinction throughout its range" in Montana (Carlson, 2003).

Population declines have led FWP to implement more restrictive limits in the reservoir and Missouri River upstream, demonstrating the important role regulations play in conserving sauger. Also, as populations rebounded with above average runoff, regulations were liberalized. The following is a chronology of sauger regulations in the Eastern Fishing District and Fort Peck Reservoir.

- 1988-1990 Combined sauger/bass/walleye for a combined daily and possession limit of 5 fish in any combination.
- 1994-1995 Sauger and walleye combined with a daily and possession limit of 5 in any combination and a possession limit of 10 fish in any combination.
- 2000-2001 Sauger limits reduced to 1 daily on Missouri River upstream of Fort Peck Reservoir (not including Fort Peck Reservoir).
- 2002-2003 Sauger/walleye limits on Fort Peck Reservoir reduced to 5 daily, only 1 may be a sauger. Possession limits were 10 and only 2 could be a sauger.
- 2016-current Sauger/walleye 5 daily, only 2 may be a sauger. Possession limits 10, only 4 may be a sauger.

Hatchery stocking of sauger into Fort Peck Reservoir to augment the population has been suggested by anglers. Prior to such an action, evaluation of suitability for the species in the reservoir and evaluation of impacts to naturally reproducing populations in the Missouri River upstream of the reservoir would be required. Sauger prefer more turbid lakes and rivers than walleye (Carlander, 1997).

Goals and strategies for sauger:

1. Rely on variable natural reproduction to determine population abundance in Fort Peck Reservoir. Sauger populations typically increase when Missouri River flows are average or above average and conversely decrease during prolong periods of below average river flows.

2. Continue to monitor sauger populations in the reservoir through annual gillnetting and seining surveys.

3. Continue to monitor reservoir and river populations to gain better understanding of how environmental variables in the two habitats are related.

Shoreline forage fish community

The shoreline forage fish community consists of nearly 14 fish species that occupy the littoral areas of Fort Peck Reservoir. The littoral area is comprised of a zone that extends from the shoreline to where light is insufficient for growth of rooted aquatic vegetation. This area can be highly variable due to fluctuations in reservoir elevations. Typically, the most abundant species captured during the annual seining surveys are young-of-year yellow perch, young-of-year crappie, emerald shiners and spottail shiners.

Relative abundance of shoreline forage fish typically follows changes in reservoir elevations on Fort Peck Reservoir (see Appendix B, Figure 6). As reservoir water levels increase, terrestrial shoreline vegetation is inundated, creating new spawning and rearing habitat for a variety of fish species. Timing of shoreline vegetation inundation has been identified as a critical factor when determining spawning success of certain fish species such as yellow perch. For example, the large increase in reservoir elevation that flooded shoreline vegetation in 2008 didn't take place until late May, which was too late for yellow perch to utilize but may have benefited spawning crappie. Yellow perch spawn in early spring when water temperatures are between 44°F and 55°F; black crappie spawn from May to June at water temperatures between 58°F -64°F (Scott & Crossman, 1973).

Spottail shiners were first introduced to Fort Peck Reservoir in 1982 by FWP to supplement the existing forage base and address the poor condition of walleyes. A total of 186,840 adults were stocked from 1982 to 1983 and they soon established throughout the shoreline areas of the reservoir. By 1987 they became the most abundant forage fish occupying shoreline habitat based on seining surveys. During rising reservoir elevations, spottail shiners recruit very well (see Appendix B, Figure 6).

Many shoreline forage fish are observed in the stomachs of walleye, northern pike, sauger, and smallmouth bass during annual gillnetting surveys. Relative weights of walleye less than 20 inches decreased during the mid-2000s which corresponded to decreases in relative abundance of shoreline forage. In contrast, stock and quality length walleye relative weights increased beginning in 2008 which corresponded to increasing shoreline forage fish relative abundance (see Appendix B, Figure 9).

Goals and strategies for shoreline forage fish:

1. Work with the USACOE on reservoir water level management that benefits shoreline forage species; specifically, a rising pool beginning in early April.

2. Maintain a 3-year running average of 100 shoreline forage fish (combined young-of-year yellow perch, young-of-year crappie, spottail shiners, and emerald shiners) per seine haul or greater.

3. Monitor littoral forage fish populations through standardized annual shoreline seining surveys conducted in late summer. Shoreline forage abundance estimates will be used to guide predator stocking rates.

Cisco

Cisco were first introduced into Fort Peck Reservoir in 1984 by FWP to provide an additional forage base and improve the condition of walleye and other game fish species. Stocking efforts were continued in 1985 and 1986 with 32 million fry and 60,000 fingerlings released. Cisco have been shown to alter zooplankton communities following introduction (Vivian & Frazer, 2021) and in the case of Fort Peck, average size of adult cisco has decreased since initial introduction (Wiedenheft, 1989). The decrease in size was attributed to the elimination of cladocerans in the zooplankton community (Mullins, 1991).

Mean length-at-age for cisco captured by vertical gillnets during 2020 suggested slow growth when compared to other cisco populations (Ebener et al., 2008). In addition, relative weight of adult cisco has not exceeded 80 since additional monitoring efforts were implemented in 2013. Slow growth rates, low relative weights, and high relative abundance indicate some level of intraspecific competition. Rook et al. (2013) observed similar trends with cisco in Lake Superior and found a negative correlation to past year class survival. This case was viewed as beneficial to game fish because cisco decreased to a size in which they could be utilized more frequently as prey.

As a prey item for desired sportfish, the introduction of cisco has been a success for the Fort Peck fishery. Relative weights and size structure of walleye and northern pike improved after cisco introduction (see Appendix B, Figures 7, 9, and 10). Adults, yearlings, and young-of-year cisco are consistently found in stomachs of walleye, sauger, northern pike, smallmouth bass, chinook salmon, and lake trout (Mullins, 1991; Brunsing, 1998; Headley, 2010).

Vertical gillnet sampling from 1990 through 2021 indicates cisco production has been variable on Fort Peck Reservoir (Figure 15). Fluctuations in young-of-year cisco have been attributed to declines in reservoir elevation, which have been shown to dewater incubating eggs (Gaboury & Patalas, 1984; Zollweg & Leathe, 2000). Duration and timing of ice cover on the reservoir has also been suggested to influence year class strength (Freeberg et al., 1990). Late freeze-up can result in wave action during the period when cisco eggs are incubating, allowing sediment to smother eggs. For example, in 1987 and 1992, Fort Peck Reservoir did not freeze over, resulting in very few young-of-year cisco captured. In

contrast, ice cover occurred early on December 13, 1985 and December 24, 2008, resulting in two of the largest year classes produced.

Goals and strategies for cisco:

1. Work with the USACOE on reservoir water level management that benefits cisco populations; specifically, stable reservoir elevations from December through March.

2. Maintain a 3-year running average of 20 young-of-year cisco per net in standardized late summer vertical gillnet series.

3. Monitor cisco populations through standardized vertical gillnet surveys to determine year class strength, influence of reservoir operation on spawning success and survival. Relative abundance of cisco will be used to guide predator stocking rates.

4. Monitor zooplankton populations through monthly collections throughout the reservoir.

Other species

Burbot are native to Montana and historically occurred in the Yellowstone, Missouri, Kootenai and Saint Mary River drainages (Brown, 1971). Construction of dams impacted populations differentially across the state. Data are limited for many populations due to sampling challenges. Burbot are occasionally captured on Fort Peck during the walleye spawning operation with trap nets. Additionally, larval burbot have been sampled in the Big Dry arm of Fort Peck Reservoir (Liebelt, 1979). Burbot contribute little to the recreational fishery of Fort Peck Reservoir with a small number of anglers targeting them during the winter months. Due to extremely limited information on populations of burbot in the reservoir, it is recommended that studies be developed that focus on gaining a better understanding of burbot abundance and life history.

Goals and strategies for burbot:

1. Establish standardized sampling to gain insight into burbot populations.

2. Design monitoring programs that provide insight into limiting factors to burbot populations.

Channel catfish are native to Montana and are routinely sampled during annual gillnetting surveys on Fort Peck Reservoir. During the drought (2000-2008), channel catfish were the second-most abundant species collected during gillnetting surveys. In contrast, relative abundance decreased with increasing water levels, suggesting they moved into more riverine stretches such as the Missouri River and Big Dry Creek (Figure 13). Channel catfish are an underutilized component of the Fort Peck Reservoir fishery and are targeted more commonly in the Missouri River above the reservoir.

Goals and strategies for channel catfish:

1. Include relative abundance data collected during standardized sampling in annual reports to better understand channel catfish population dynamics.

Paddlefish are native to the Missouri and Yellowstone River drainages of Montana (Brown, 1971). Adult paddlefish are typically found in the upper portion of Fort Peck Reservoir. During the spring, paddlefish make spawning migrations up the Missouri River above the reservoir. Juveniles utilize the upper portion of the reservoir as a rearing area. Visual transects for young-of-year paddlefish are conducted annually in this region to determine reproductive success (Kozfkay & Scarnecchia, 2002). Although paddlefish are a species of concern in Montana, a sustainable recreational fishery exists in the Missouri River upstream of Fort Peck reservoir near Fred Robinson Bridge. A limited entry fishery allocates 1,000 harvest tags to anglers upstream of the reservoir. Extensive law enforcement presence, mandatory reporting of harvested paddlefish and follow up phone creels ensure the sustainability of this fishery.

Goals and strategies for paddlefish:

1. Future research may address questions of paddlefish utilization of the reservoir. The emphasis will be placed on juveniles (Age 1) until first onset of sexual maturity (Age 9-10 for males and 16-17 for females).

Pallid sturgeon are native to Montana and were listed as federally endangered under the Endangered Species Act in 1990, due to fragmentation of the Missouri River from dams. As a result, monitoring and research efforts have increased to address limiting factors and determine management actions that may remove bottlenecks and allow the species to successfully complete its life cycle. A successful stocking program was instituted in 1997 to preserve genetics of the remaining fish and supplement the population until natural reproduction and recruitment occurs.

Since 2005, 29 juvenile, hatchery-reared pallid sturgeon have been captured during annual gillnetting surveys in the upper Missouri arm of Fort Peck Reservoir. These data are relayed to FWP fisheries biologists on the Missouri River above Fort Peck and, in turn, comply with annual USFWS Section 10 collection and reporting requirements. This headwater area is highly variable due to fluctuations in reservoir elevation, which dictates the amount of river/reservoir habitat that is available. Recent studies have documented the negative impacts of reservoir headwater environments to survival of larval pallid sturgeon (Treanor et al., 2012).

On September 24, 2021, the USACOE issued a Record of Decision for the Fort Peck Dam Test Release Environmental Impact Statement. This decision directs the USACOE to implement test flows from Fort Peck Dam to test the hypothesis that flow release from the dam could attract, retain, and aggregate reproductive ready pallid sturgeon on the Upper Missouri River (below Fort Peck Dam). Parameters for implementing test flows include a minimum forecasted Fort Peck Reservoir elevation of 2,227 feet as well as several flow restrictions in the Missouri River below the dam. Implementation of test flows

would require operation of the Fort Peck spillway. Operation of the spillway in 2011 and 2018 resulted in unquantified fish flushing. In 2022, FWP participated in discussions with North Dakota, South Dakota, and Nebraska regarding Water Resource Development Act funding to address mainstem Missouri River reservoir fish loss studies. Completing a flushing loss study prior to and during the test flow would provide valuable fisheries management information.

PART III - B

FISHERIES MANAGEMENT – OTHER ISSUES

Reservoir Operations

The Missouri River Basin Mainstem Reservoir System Master Water Control Manual (Master Manual) for the Missouri River Basin was prepared by the USACOE in 1995 and updated in 2018 (USACOE 2018). This prescribes policies and procedures for the USACOE to carry out water management activities as required by federal laws and directives. The Master Manual is a comprehensive document that details congressional authority for operation of the system, construction history of Fort Peck Dam, authorized purposes, system regulation guidelines, recreation and fish and wildlife components associated with the operation of the dam.

Pertinent excerpts from the Master Manual (USACOE 2018):

- The 1944 Flood Control Act identified flood control, navigation, irrigation, hydropower, water supply, water quality, recreation, and fish and wildlife as project purposes and provided for the protection of beneficial consumptive uses in the upper basin. Congress did not assign a priority to these purposes. Instead, it was contemplated that the USACOE, in consultation with affected interests and other agencies, would balance these functions in order to obtain the optimum development and utilization of the water resources of the Missouri River basin to best serve the needs of the people (Section 7-01).

- Fort Peck Reservoir's primary water management functions are (1) to capture the mountain and the plains snowmelt and localized rainfall runoffs from the large drainage area above Fort Peck Dam, which are then metered out at controlled release rates to meet the System's authorized purposes while reducing flood damages in the Fort Peck Dam to Lake Sakakawea reach; (2) to serve as a secondary storage location for water accumulated in the System from reduced System releases due to major downstream flood control regulation, thus helping to alleviate large reservoir level increases in Garrison, Oahe, and Fort Randall; and (3) to provide the extra water needed to meet all of the System's congressionally authorized project purposes that draft storage during low-water years (Section 7-02.2).

- The Permanent Pool Zone at Fort Peck extends from elevation 2030.0 feet to 2160.0 feet. The Carryover Multiple Use Zone at Fort Peck spans elevation 2130.0 feet to 2234.0 feet. The Annual Flood Control and Multiple Use Zone is between elevation 2234.0 feet and 2246.0 feet. The

Exclusive Flood Control Zone extends from elevation 2246.0 feet to 2250.0 feet (Section 7-03.1.5.2.1).

- Declining water levels of the reservoirs are a concern to many project users interested in the reservoir fishery; however, some fluctuation in the reservoir levels is unavoidable if the reservoirs are to serve all authorized purposes. A continuing objective in the regulation of the System is to minimize the departures in reservoir levels from normal, full multi-purpose levels to the maximum practical extent consistent with regulation for other authorized project purposes (Section 7-10).

- Establishment of minimum releases and steady-to-rising pools during the spring months have been recognized since the 1950s as beneficial for successful fish spawning and hatching. An ad-hoc committee of the American Fisheries Society first made recommendations (Section 7-10.2).

- Minimum hourly releases, particularly during fish spawning, have been requested from Fort Peck, Garrison, and Fort Randall dams for many years. These requests are implemented if other project purposes are not affected. A year-round instantaneous minimum release of 3,000 cfs was established at Fort Peck in 1992 for the trout fishery located in the dredge cuts immediately below Fort Peck Dam (Section 7-10.2.1).

- The full impact of each of the reservoirs and its regulation on the environment is constantly changing as they adapt to new conditions. The environmental emphasis has changed since the System was authorized. Current efforts are focused on increased stewardship of the Missouri River and surrounding affected lands by maintaining them in as natural a condition as possible through enhancing and supporting native plants and species. The two basic goals of the USACOE stewardship are to manage lands and waters to ensure their availability for future generations and to help maintain healthy ecosystems and biodiversity (Section D-01).

- Effects from System Regulation. Another major point of emphasis in environmental considerations has been the effect of the various System regulation practices on fish and wildlife, including T&E species. Improvement of fish spawning activities by appropriate management for habitat development and subsequent spawning is an important consideration in System regulation (Section D-01.1.).

Montana FWP prepared recommendations as general guidelines for long-term water level management of Fort Peck Reservoir to help maintain and enhance the fishery. The goal in providing a water level management plan is to enhance shoreline vegetation growth and enhance reservoir productivity through water management while considering annual water yield variability. The following strategies are submitted for this purpose:

1. The minimum pool should be established at 2225 feet above mean sea level (21 feet below the top of Annual Flood Control and Multiple Use Pool-2246). This would prevent excessive loss of

shallow water habitat. It would also prevent dewatering of over 60% of the rock riprap on the face of the dam, which has been identified as important lake trout spawning habitat. At this level, walleye attempting to spawn in the Big Dry Arm will migrate further upstream with the potential of natural reproduction as well as facilitating annual egg taking operations.

2. Drawdown cycles should be implemented such that shoreline vegetation is allowed to reestablish. Inundation of this littoral vegetation and the resultant nutrient upsurge that occurs should be done in a controlled fashion. This can be accomplished by flooding vegetation with a maximum of three to five feet of water annually over a period of several years. The optimum period for this rise to occur is April to early June to provide spawning, rearing habitat, and cover.

3. To accommodate spring spawning fish, water levels should rise as early as possible. A rise of two to three feet is recommended during early April to mid-May. It is understood that in some years mountain runoff does not occur at this time, but discharges can be reduced to facilitate flooding of shoreline vegetation at the earliest date possible. If inflow conditions during drought conditions prevent this desired increase, water levels should remain stable.

4. Severe decreases in reservoir levels during the winter months should be avoided to benefit fall spawning fish. Optimally, stable reservoir elevations should occur December through March during the incubation of cisco eggs. Decreases in reservoir elevations, particularly greater than five feet, should be avoided.

Habitat:

Literature on water levels and habitat indicate that spawning success of many species is influenced by the timing and duration of the flooding and the type of substrate covered. Some studies suggest that high water levels have little positive effect on fish reproduction when terrestrial plants are not inundated. Changes in water levels alter the ratio of prey to predator fish and the carrying capacity of the environment (Aggus, 1979).

Reservoir habitat enhancement projects were attempted by sportsmen's groups in the 1980's and 1990's. These projects included spawning fences and Christmas tree reefs. However, due to the vastness of the reservoir, no measurable benefits to the fishery were realized. For example, Canyon Ferry Reservoir uses approximately 2,000 Christmas trees per year which equals an area of about two acres in size. This equates to 0.00008% of the surface area on Fort Peck Reservoir, based on reservoir elevation at full pool. Cobble or rock spawning reefs have been considered to aid natural reproduction of walleye, but cost is prohibitive. Even if walleye spawning reefs could be constructed, long-term effectiveness is uncertain, due to siltation and water level fluctuations.

Warmwater and coolwater fish species receive the most management attention and focus from the public. However, coldwater species (i.e., cisco, lake trout, and chinook salmon) are important components of the fishery and are unique in that they occupy the lower stratum (deeper water) in the

summer months. Coldwater habitat is defined as water with a temperature below 60 degrees Fahrenheit and dissolved oxygen values greater than 5 mg/l. These conditions are critical to the survival of salmonids in the reservoir but can vary in reservoir environments. Fluctuating water levels and varying rates of water inflow alter the amount of coldwater habitat. Quantification of coldwater habitat at various reservoir elevations would better inform discussions with the USACOE on water level management.

Fishing Contests:

Fishing contests are defined in statute (12.7.801) as any event, contest, derby, or tournament where an entry fee is charged or where people are expected to compete to win prizes or cash. Fishing contests involving more than 30 people with cash prizes or merchandise worth more than $500 require a permit. Authority for fishing contests lies in: 87-3-121, MCA; ARM 12.7.801 to 12.7.809; 23-1-106, MCA.

Fishing contests on Fort Peck Reservoir continue to gain popularity and more applications are being received by FWP each year. As interest increases, so do concerns relating to potential impacts to fish populations, social implications of the event on nontournament anglers and risk of aquatic invasive species movement.

Fish mortality associated with weigh-in format tournaments was brought to the attention of the broader public following a 2000 Pro Walleye Tournament held on Fort Peck Reservoir that resulted in high walleye mortality. Since this time, most walleye tournaments have transitioned away from a weigh-in format to a live-release format. Currently all live-release walleye tournaments held during the warm water period (June 16-September 14) require boundaries be clearly established and weigh boats to be stationed throughout the tournament area to facilitate efficient fish weigh and release and minimize fish transport.

Increases in water temperature correspond to increased mortality rates of tournament caught walleye (Hoffman et al., 1996; Graeb et al., 2005; Schramm et al., 2010). Specifically, when water temperatures exceeded 64°F, mortality rates of walleye greatly increase (Loomis et al., 2013). In addition, anglers target walleye in deeper water as summer progresses which further increases mortality rates (Talmage & Staples, 2011). Schramm et al. (2010) found that initial mortality of walleye and sauger in seven live release tournaments was 0-20%, prerelease mortality was 3-48% and post-release mortality was 0-100%. Mortality was low in tournaments held when water temperatures were below 64.4 F but substantially higher in events with water temperatures above 77 F.

With the current number of fishing contests (12 open water), a contest is scheduled nearly every non-holiday weekend during the months of June and July. To mitigate this, the 2013-2022 plan allowed only one tournament per weekend at a single access location on the reservoir. This allowed non-tournament anglers an option to avoid tournament anglers by fishing at access locations where a tournament was not being held.

Anglers have consistently supported a limited number of angling contests on Fort Peck Reservoir. The 2022 scoping survey found that 64% respondents strongly oppose or oppose increasing the number of fishing contests while 19% supported or strongly supported an increase. In general, anglers support the current number of tournaments by a 2:1 margin. Respondents narrowly support creating a separate subcategory for smaller contests but strongly oppose any increase in large tournaments (if smaller tournaments were not included in the cap of 12 per year) (see Appendix D).

Goals and strategies for fishing contests:

1. A maximum of 16 contests will be permitted per calendar year. Contests are reviewed individually. Evaluation of proposed tournaments includes biological and social impacts. Proposed contests will undergo a 30-day public review and comment period.
    a. No more than 13 open water and 3 ice contests will be permitted per calendar year.
        i. The additional open water date will not be available to applicants during the months of June, July and August to minimize AIS transmission, reduce angling related mortality and mitigate potential conflict with non-tournament anglers.
        ii. The additional open water contest date will remain available on a rotational basis. (i.e., applicants that were successful in obtaining a contest date are not eligible to apply the following year.)
    b. No more than six contests will be permitted from June 1 through July 30.
    c. No contests will be permitted for the weekends of Memorial Day, Father's Day, Mother's Day, Fourth of July, or Labor Day.
    d. Only one contest per weekend will be permitted.
    e. Established Fort Peck contests, that have been running 10 consecutive years or more, will be given preference.
    f. Applicants will be required to list first and second choice contest dates on applications.
    g. In years where more applications are received than available dates, following allocation to established tournaments, unsuccessful applicants will be randomly drawn for any remaining dates.

2. All walleye catch-and-release contests with a weigh-in type format will be limited to cool weather periods (April 1-June 15, or after September 15).

3. Contest boundaries must be clearly defined in all angling tournament applications. Tournament boundary size should be minimized to:
    a. reduce related fish mortality caused by fish being held in live wells for extended periods of time or traveling long distances.
    b. minimize impact on non-tournament anglers.

4. Contest directors will work with FWP AIS staff to verify that all nonresident watercraft fishing in their event have documented proof of AIS inspection (and decontamination if necessary) prior to launching in Fort Peck Reservoir. Failure to comply could result in denial of future contests.

5. Contest directors are responsible for emphasizing the requirement for out-of-state boats to purchase the prevention pass and including *Clean. Drain. Dry.* messaging in contest materials.

Aquatic Invasive Species (AIS):

Reducing the spread of AIS remains a top priority for FWP. Nearly $5 million is spent annually on watercraft inspection and early detection in Montana. In 2022, 53 mussel-fouled boats and nearly 20,000 high risk boats were found entering Montana. The principal Eastern Montana watercraft inspection stations at Nashua, Flowing Wells and Wibaux found 2,438 high risk boats, 11 of which were found with mussels. North Dakota and South Dakota have both had recent discoveries of AIS with the most concerning being the 2022 discovery of zebra mussels in Pactola Reservoir in South Dakota. This discovery places a dreissenid-infected waterbody within six hours drive time of Fort Peck Reservoir and significantly escalates concerns of AIS transmission to Fort Peck Reservoir.

Fort Peck Reservoir is a highly recognized fishery for the diversity and quality of fish species. The reservoir recorded nearly 200,000 angler days in 2020 with nonresident accounting for 43%. This high nonresident contingency elevates the risk of AIS movement to and from Fort Peck Reservoir Introductions of AIS (zebra and quagga mussels, and Asian carp) and diseases (viral hemorrhagic septicemia) have the potential to adversely affect this world class fishery.

The AIS-related goals during this 10-year plan period follow the state Aquatic Nuisance Species Plan and the State Fisheries Management Plan, prioritizing the prevention and introduction of invasive species and exotic aquatic plant and wildlife species introduction and to limiting the expansion of Eurasian watermilfoil outside of Fort Peck Reservoir.

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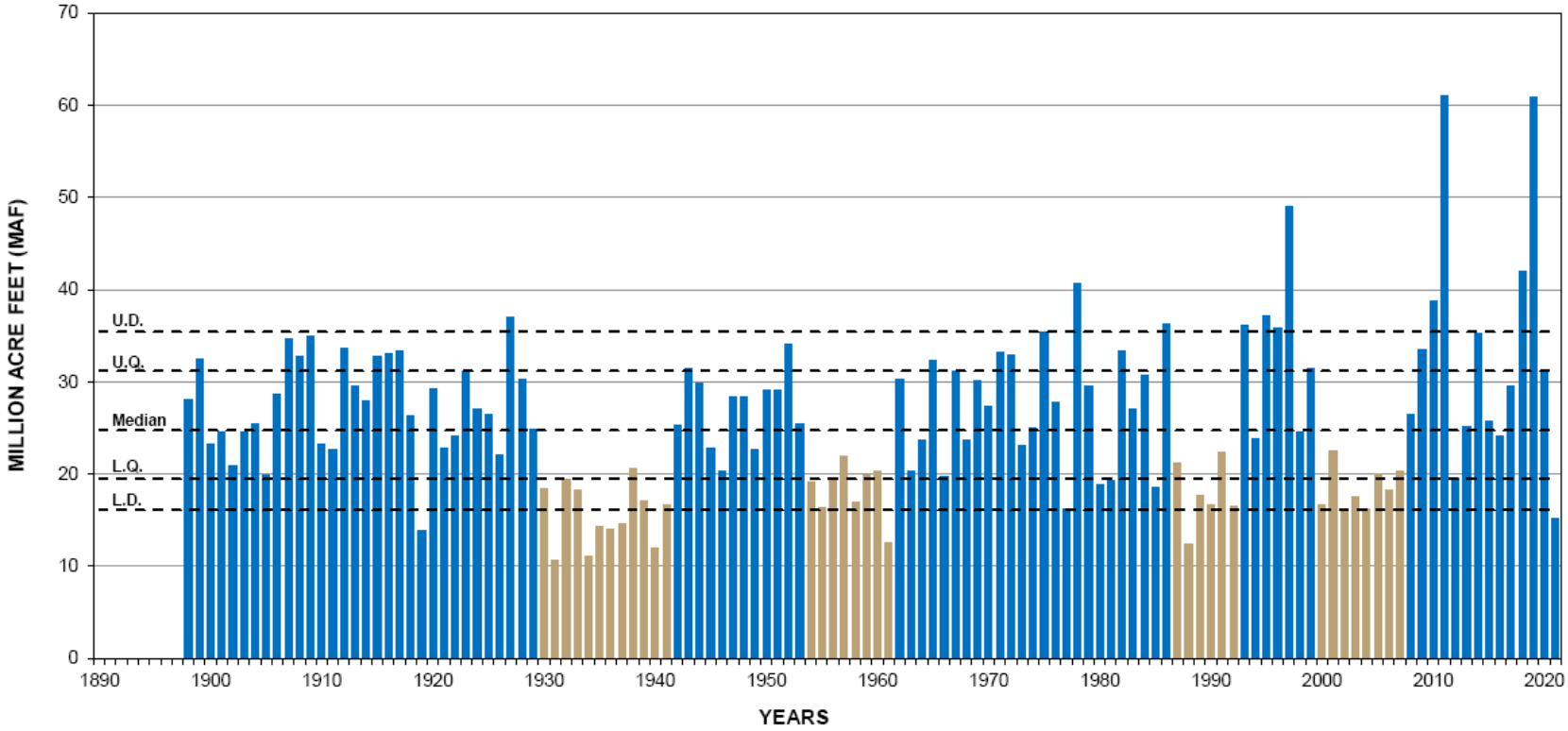

Figure 4. Mainstem Missouri River runoff above Sioux City, IA highlighting wet (blue) and dry (brown) cycles from 1900 to 2022. Median, Upper and Lower Quartile and Deciles are displayed (graph courtesy of the US Army Corps of Engineers).

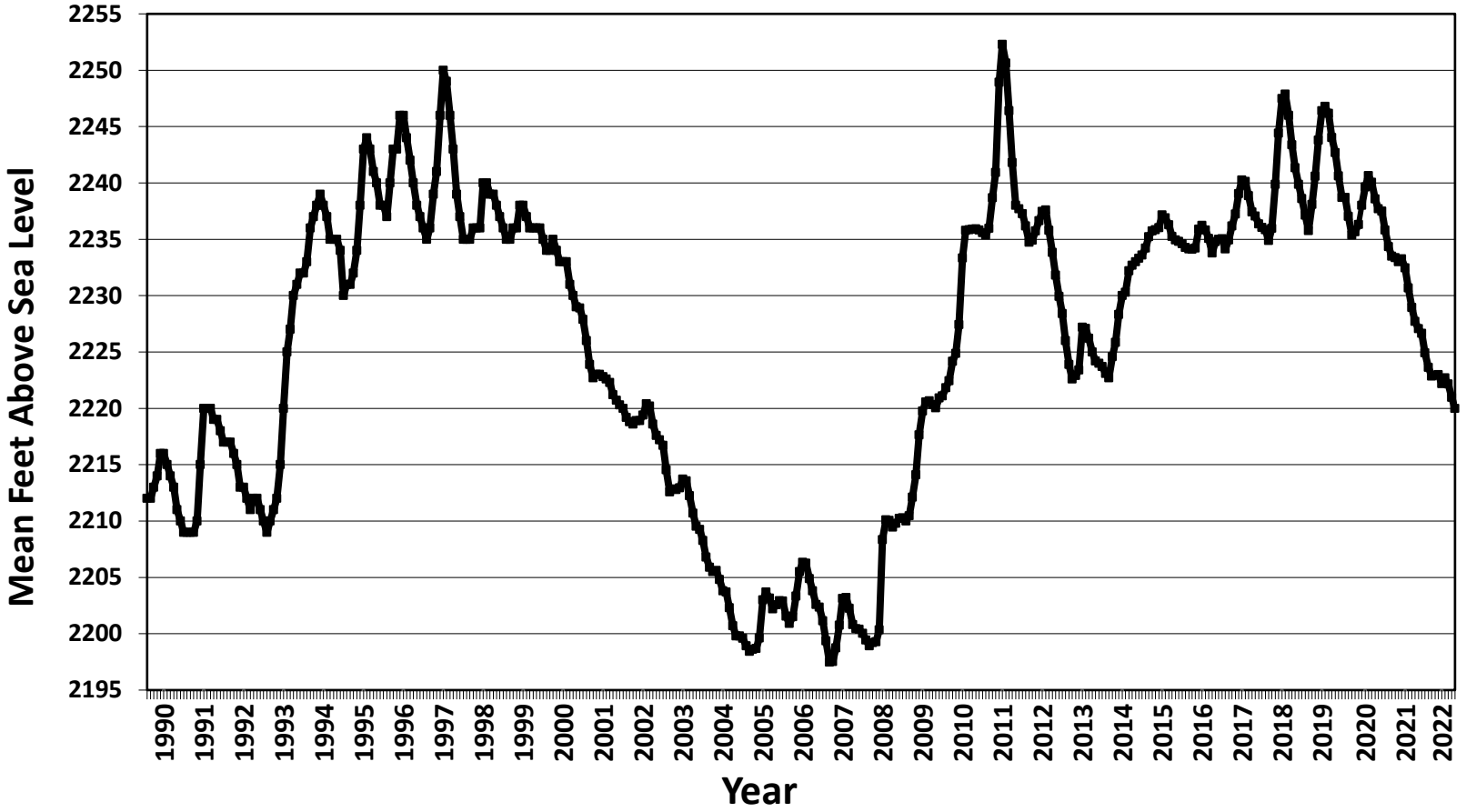

Figure 5. Peak monthly reservoir elevations on Fort Peck Reservoir from January 1990 to December 2022 (Data provided by the US Army Corps of Engineers).

Table 4. Methods of sampling, sampling period, target species, and biological information collected on Fort Peck Reservoir.

Sampling Strata	Sampling Time	Sampling Gear	Standardized	Target Species	Measure(s) of
Trapnetting	April-May	4'x6' modified fyke nets (3/4" mesh)	No	Walleye	• Egg source • Relative abundance
Gillnetting	July-August	125'x6' multifilament nets (¾",1",1 ¼",1 ½",2" mesh)	Yes	All species with emphasis on walleye	• Relative abundance • Relative weights • Age and growth analysis • Diet • Species composition and distribution
Seining	August	100'x10' beach seine (3/16" mesh)	Yes	All species with emphasis on shoreline forage species	• Relative abundance • Species composition and distribution
Vertical Gillnetting	September	100'x6' multifilament nets (½", ¾", 1", 1 ¼" mesh)	Yes	Age-0 and adult cisco	• Relative abundance • Relative weights • Age and growth analysis
Electrofishing	October	Electofishing boat	No	Chinook salmon	• Egg source • Age and growth analysis
Deep water Gillnetting	August-September	300' x 6' multifilament nets (¾",1",1 ¼",1 ½",2",2 ½" mesh)	Yes	All species with emphasis on lake trout and chinook salmon	• Relative abundance • Relative weights • Age and growth analysis • Diet • Species composition

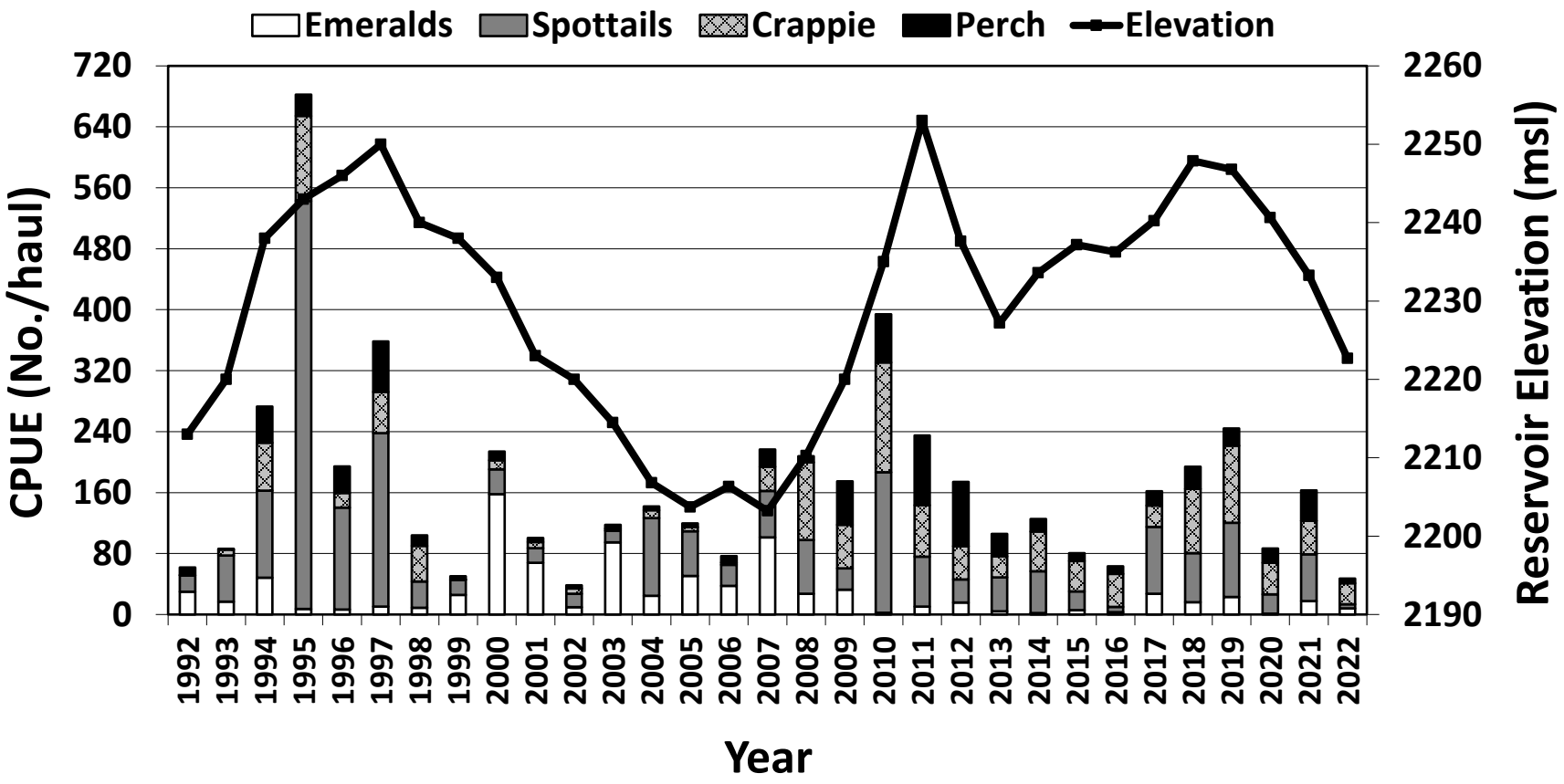

Figure 6. Maximum annual reservoir elevation compared to mean catch per unit effort (CPUE) of emerald and spottail shiner, young-of-year yellow perch, and young-of-year crappie collected during annual seine hauls in Fort Peck Reservoir, 1992-2022.

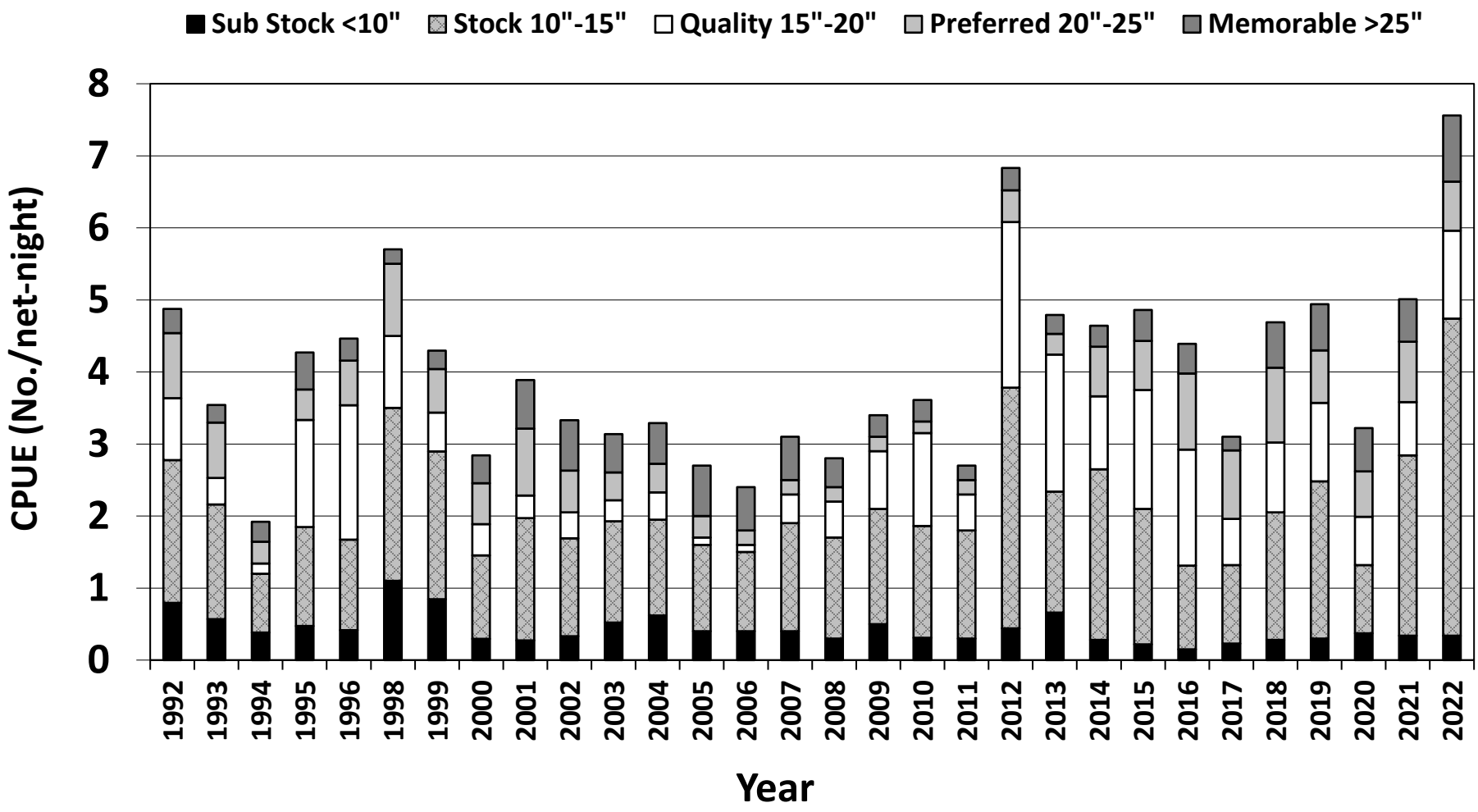

Figure 7. Catch per unit effort (CPUE) using proportional stock density (PSD) categories, of walleye collected in standardized experimental gillnet series in Fort Peck Reservoir during, July-August, 1992-2022. No gillnetting was conducted in 1997.

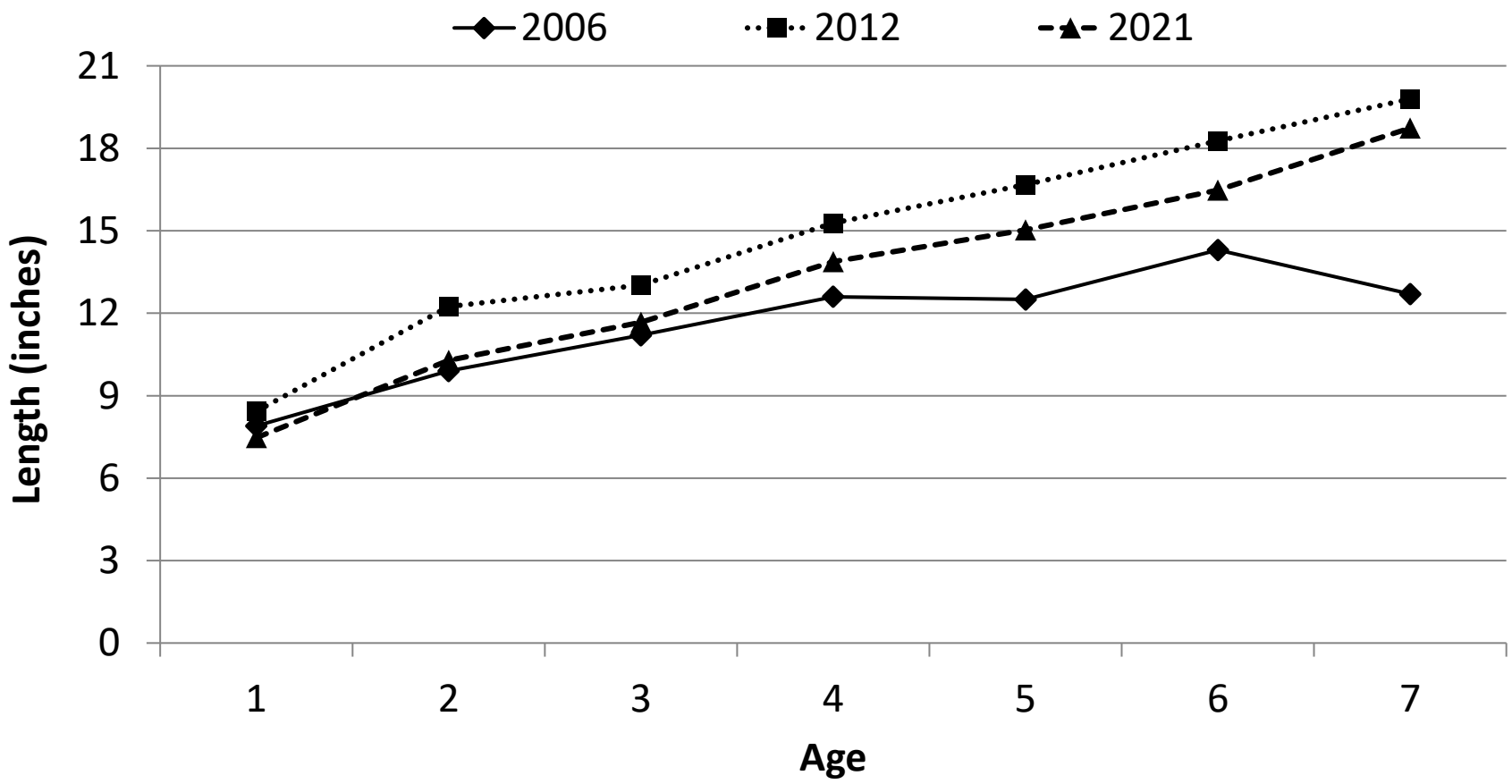

Figure 8. Mean length-at-age at time of capture (inches) for walleye collected in standardized experimental gillnets in Fort Peck Reservoir during, July-August 2006, 2012, and 2021. Sectioned otoliths were used to age walleye.

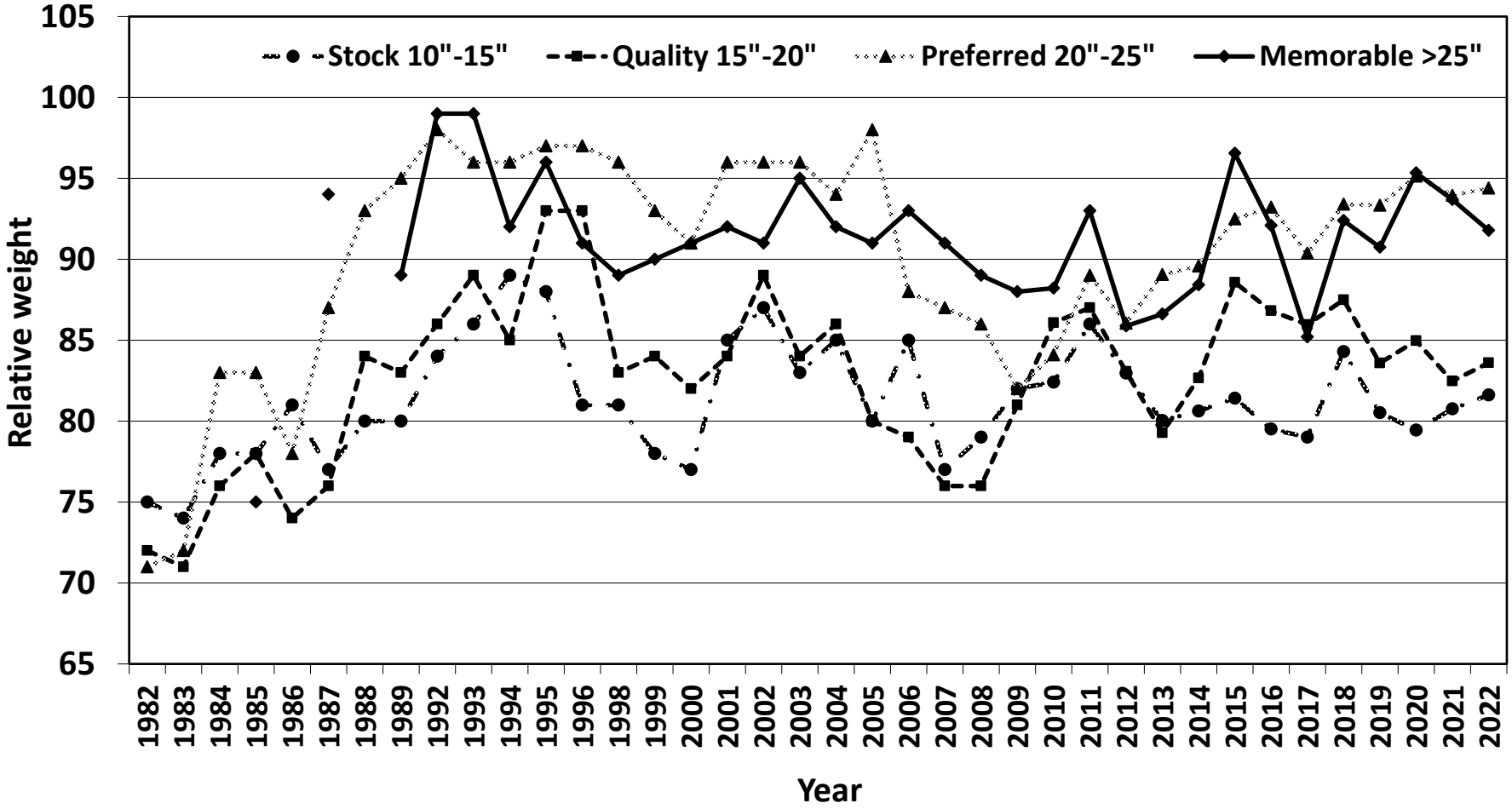

Figure 9. Relative weights of proportional stock density (PSD) derived length categories of walleye collected in standardized experimental gillnets in Fort Peck Reservoir during, July-August, 1982-2022. No gillnetting was conducted in 1990, 1991, or 1997.

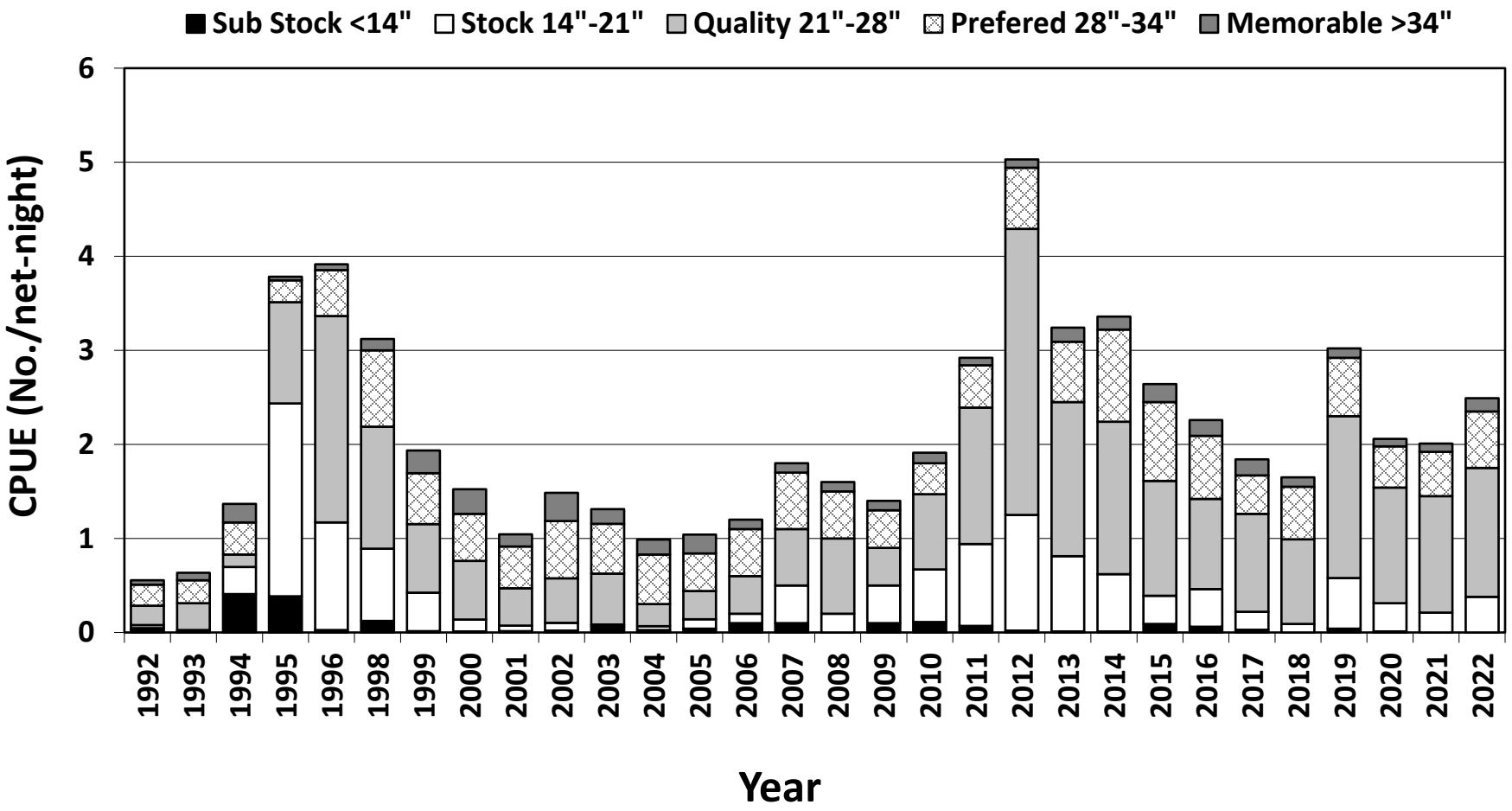

Figure 10. Catch per unit effort (CPUE) using proportional stock density (PSD), of northern pike collected in standardized experimental gillnet series in Fort Peck Reservoir during July-August, 1992-2022. No gillnetting was conducted in 1997.

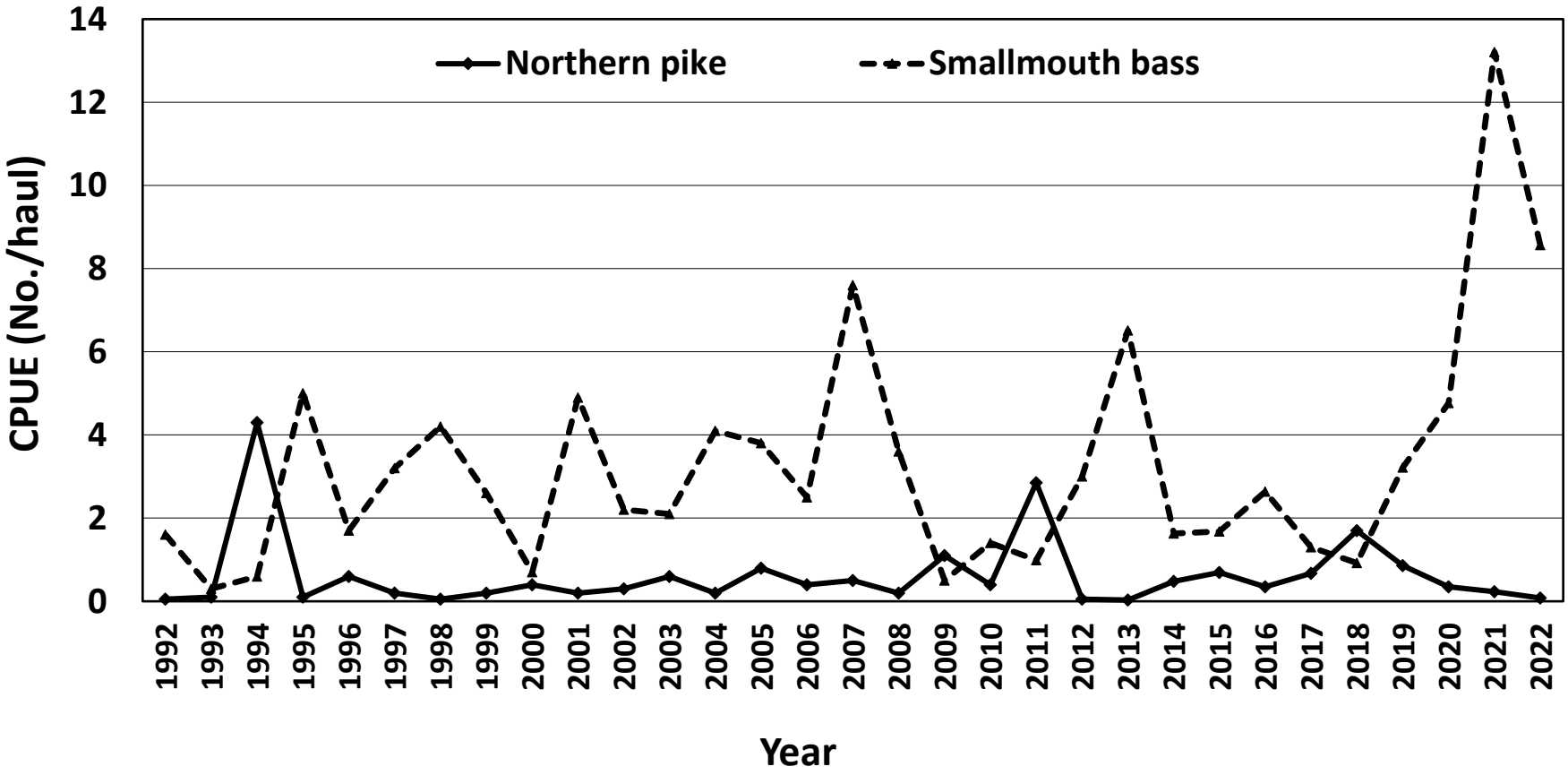

Figure 11. Mean catch per unit effort (CPUE) of young-of-year northern pike and smallmouth bass collected during annual seine hauls in Fort Peck Reservoir, August, 1992-2022.

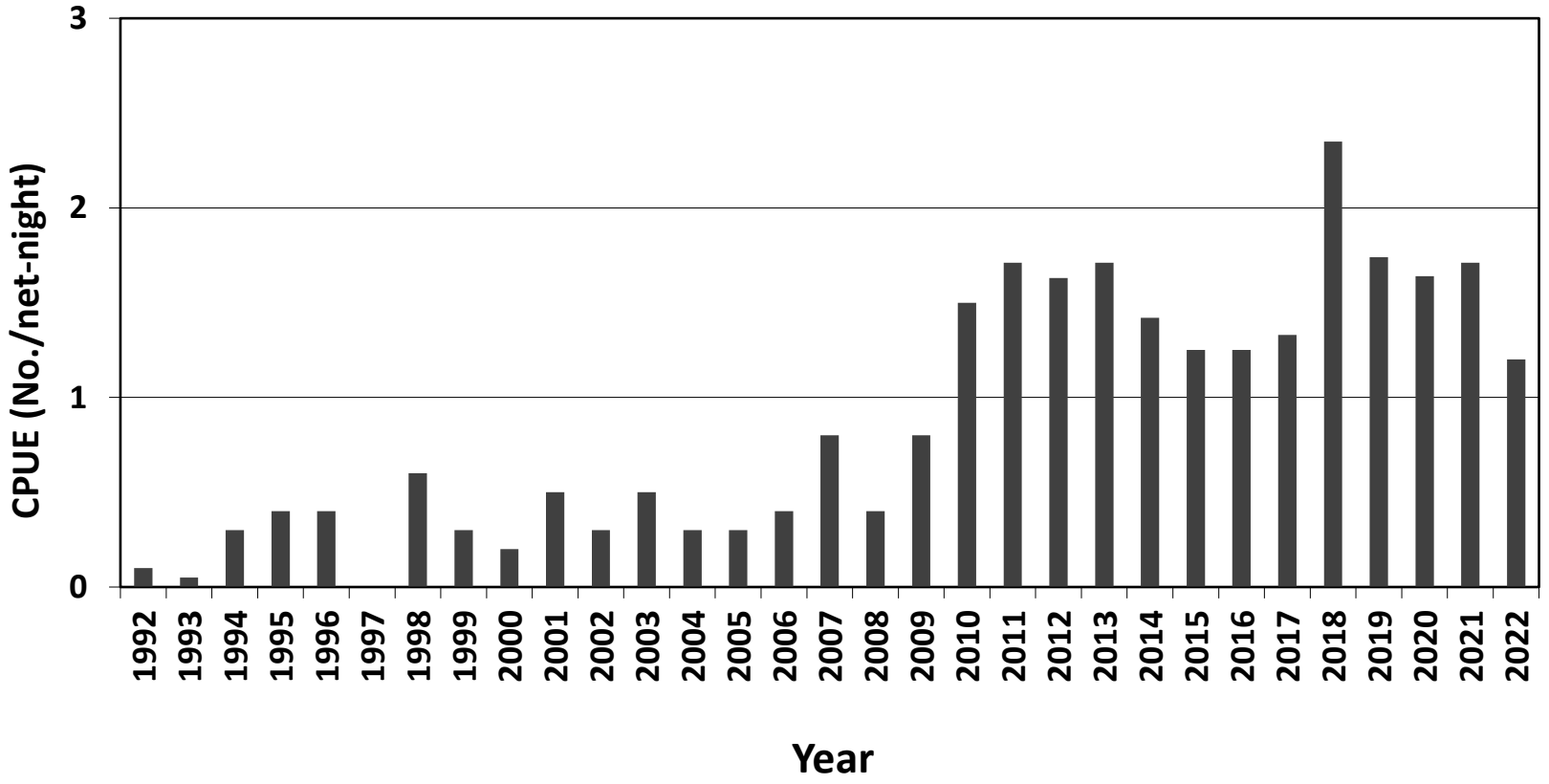

Figure 12. Mean catch per unit effort (CPUE) of smallmouth bass collected in standardized experimental gillnet series in Fort Peck Reservoir during, July-August, 1992-2022. No gillnetting was conducted in 1997.

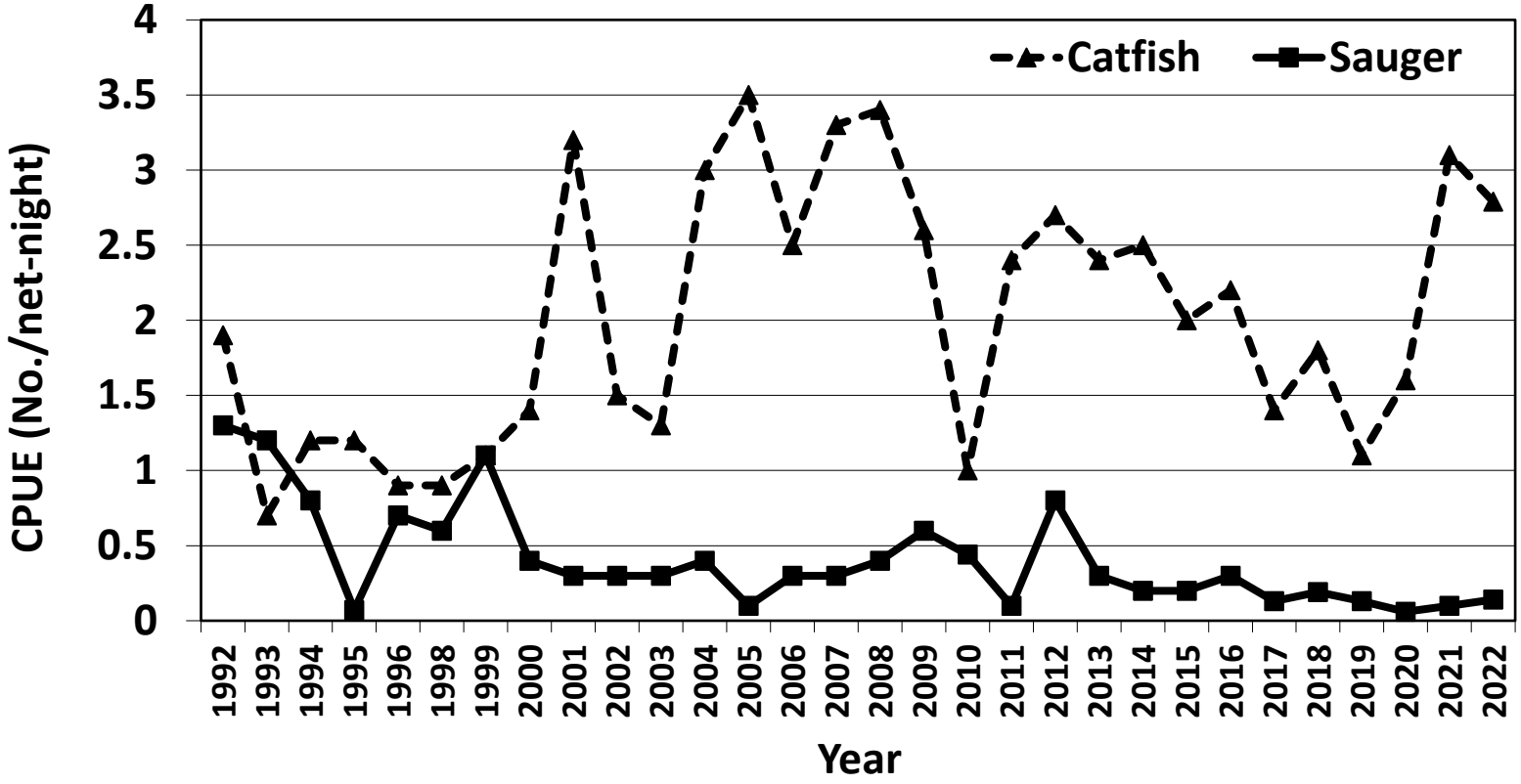

Figure 13. Mean catch per unit of effort (CPUE; No./net-night) of channel catfish and sauger collected by experimental gillnets in Fort Peck Reservoir, July-August 1992-2022. No gillnetting was conducted in 1997.

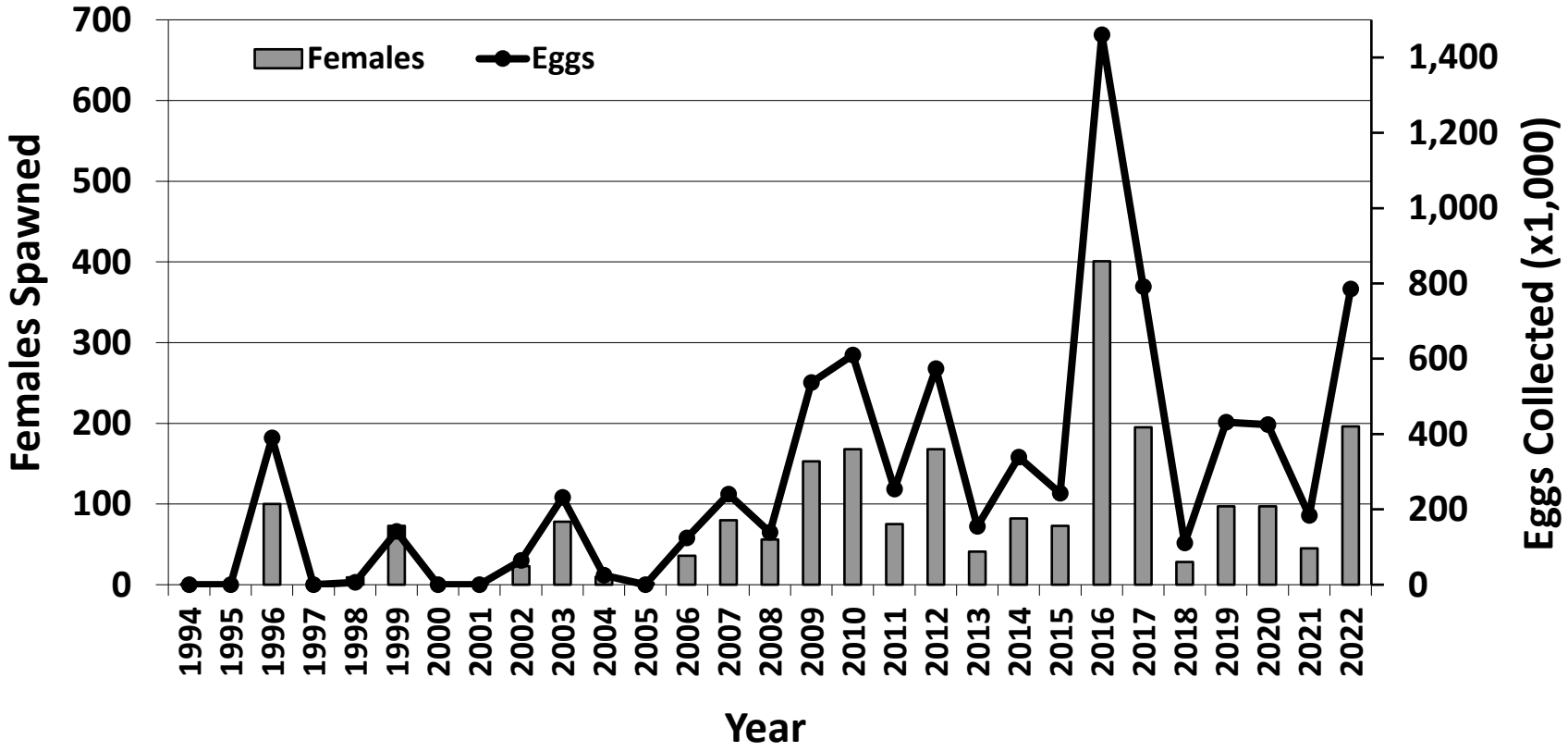

Figure 14. Number of female chinook salmon spawned and number of eggs collected from Fort Peck Reservoir, 1994-2022.

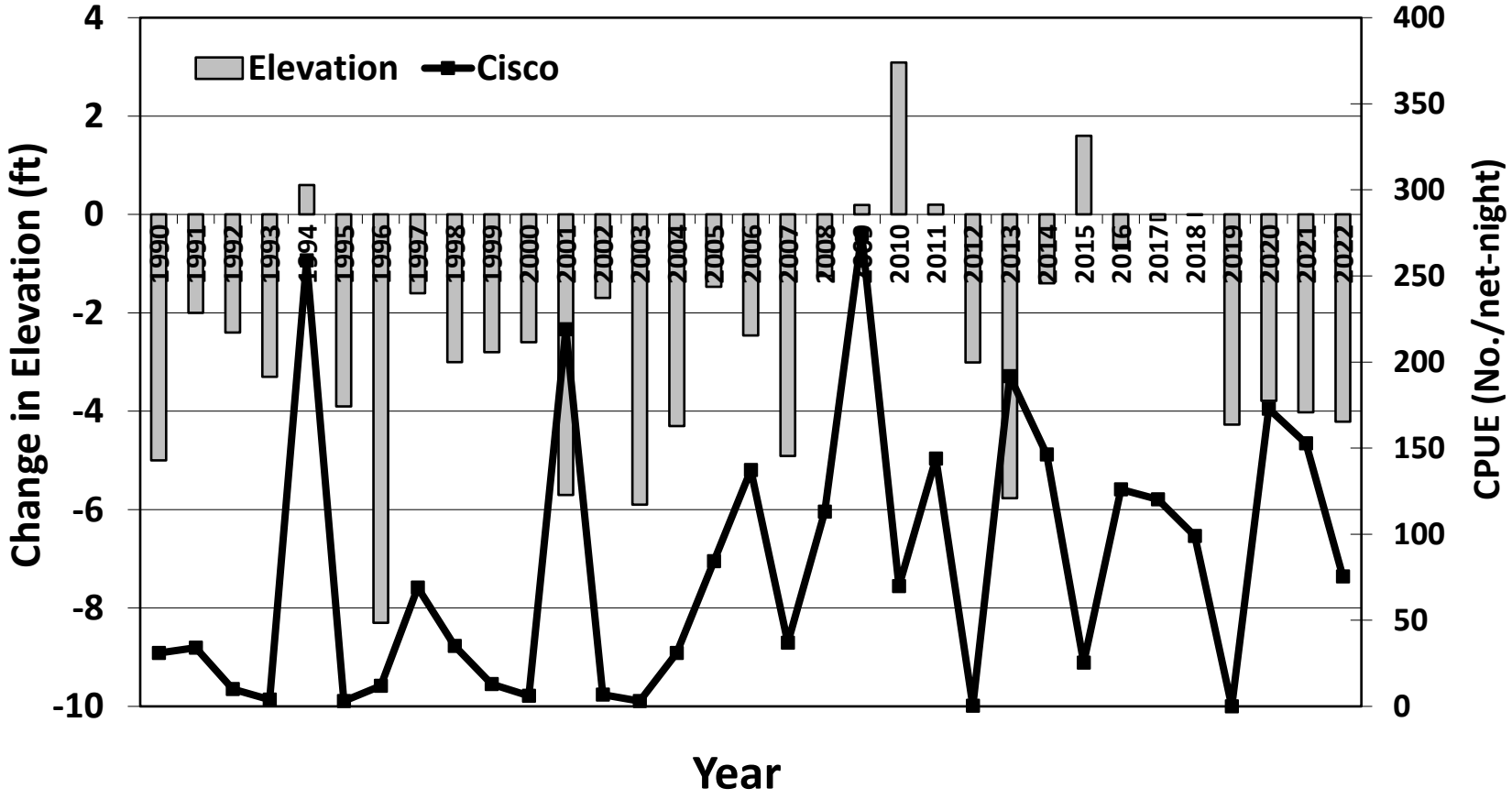

Figure 15. Change in reservoir elevation from December (high) to March (low) compared to mean catch per unit effort (CPUE) of young-of-year cisco collected in vertical gillnets in Fort Peck Reservoir, 1990-2022.

Table 5. Summary of mean catch per unit effort (CPUE), mean length (in), mean weight (lb), and mean relative weight (*Wr*) of lake trout collected in deep water gillnets on Fort Peck Reservoir during August-September, 2010-2022. No gillnetting was conducted in 2012, 2013, or 2016.

Year	CPUE	N	Length	Weight	PSD	*Wr*
2010	1.0	6	24.9	6.6	67	92.1
2011	1.2	7	22.7	4.4	57	88.3
2014	3.0	19	22.2	5.3	47	93.9
2015	2.2	14	23.7	5.8	78	101.3
2017	1.2	8	25.7	6.5	100	101.5
2018	3.5	35	27.5	8.4	97	103.7
2019	3.2	22	27.3	8.3	90	101.8
2020	3.8	17	26.7	7.8	94	103.5
2021	3.2	23	21.4	5.2	65	101.6
2022	3.8	43	20.6	4.8	56	98.2

Table 6. Number of walleye eggs collected from Fort Peck Reservoir and number of fry and fingerlings stocked in Fort Peck Reservoir from 1951-2022.

Year	Eggs Collected (million)	Fry Stocked (million)	Fingerlings Stocked
1951		0.88	
1954			
1955			
1972			
1977			62,920
1978		0.25	260,000
1979			260,247
1980		0.75	
1981			415,000
1982		1.42	119,000
1983		4.4	146,670
1984		15.7	348,090
1985		11.2	425,507
1986	4	5.2	15,073
1987	7	12.2	29,935
1988	25	25.1	25,000
1989	32	32.4	614,473
1990	30	9.6	837,660
1991	4	9.6	404,795
1992	32	17.6	972,539
1993	36	24.3	2,151,010
1994	49	23.4	2,086,170
1995	76	22.4	1,694,082
1996	87	23.1	2,011,007
1997	132	51.4	1,603,154
1998	83	27.1	1,431,538
1999	121	43.1	1,930,539
2000	99	29.1	882,338
2001	94	24.1	2,129,829

Table 6 (cont.). Number of walleye eggs collected from Fort Peck Reservoir and number of fry and fingerlings stocked in Fort Peck Reservoir from 1951-2022.

Year	Eggs Collected (million)	Fry Stocked (million)	Fingerlings Stocked
2002	84	26.6	1,903,907
2003	83	23.8	2,273,645
2004	95	30.8	1,592,749
2005	92	22.8	1,418,295
2006	125	35.5	4,121,539
2007	82	16	2,536,910
2008	48	15.6	2,149,741
2009	132	45.6	3,260,498
2010	85	28.6	2,435,810
2011	40	5.4	2,582,205
2012	48	17.6	2,603,680
2013	39	9.6	2,760,448
2014	62	14.7	2,274,350
2015	67	25.4	3,610,223
2016	79	20.5	2,265,822
2017	81	30.2	1,892,418
2018	23	0	811,266
2019	68	21.8	1,926,210
2020	69	33.0	4,230,556
2021	74	21.8	2,055,750
2022	96	29.8	2,854,240
Total	2,483	889.4	72,416,838
Average	67	20.2	1,609,263.1

Table 7. Number of northern pike fry and fingerlings stocked in Fort Peck Reservoir from 1951 to 2014.

Year	Fry Stocked	Fingerlings Stocked
1951	550,000	1,200
1961	420,000	
1969		5,000
1970		93,500
1971		110,662
1972	119,126	38,073
1973		3,759
1974		1,000
1975		53,000
1976		72,215
1977	100,000	24,532
1979		114,500
1980		82,100
1981	1,200,000	
1982		83,500
1986	10,000,000	
1988	225,000	
1990		18,000
1992		15,820
1993		31,734
2001		87,289
2002		160,000
2003		248,785
2005		9,338
2006		42,286
2007		41,474
2008		3,723
2009	73,500	2,655
2011	373,000	
2012	160,000	
2014	200,000	
Total	13,420,626	1,344,145

Table 8. Number of smallmouth bass fingerlings stocked in Fort Peck Reservoir, 1981-2012. No smallmouth bass were stocked from 1984-1992. No smallmouth bass have been stocked since 2012.

Year	Fingerlings Stocked
1981	22,500
1982	67,000
1983	36,121
1993	20,000
1994	20,000
1995	20,000
1996	34,700
1997	10,000
1998	63,889
1999	2,610
2000	37,515
2001	34,500
2011	20,000
2012	24,826
Total	413,661

Table 9. Lake trout stocked by date, number, and size in Fort Peck Reservoir, 1953-2004.

Date	Number	Length
5/18/1953	24,000	1"
5/17/1954	65,659	1"
5/19/1954	71,628	1"
7/23/1955	7,000	3"
5/11/1956	153,318	1"
5/16/1957	94,000	1"
6/15/1978	65,200	3"
5/21/1991	19,580	2.8"
5/23/1991	73,870	2.8"
9/19/1992	29,551	5.2"
9/21/1992	25,133	5.5"
5/20/2004	27,900	2.5"
Total	656,839	

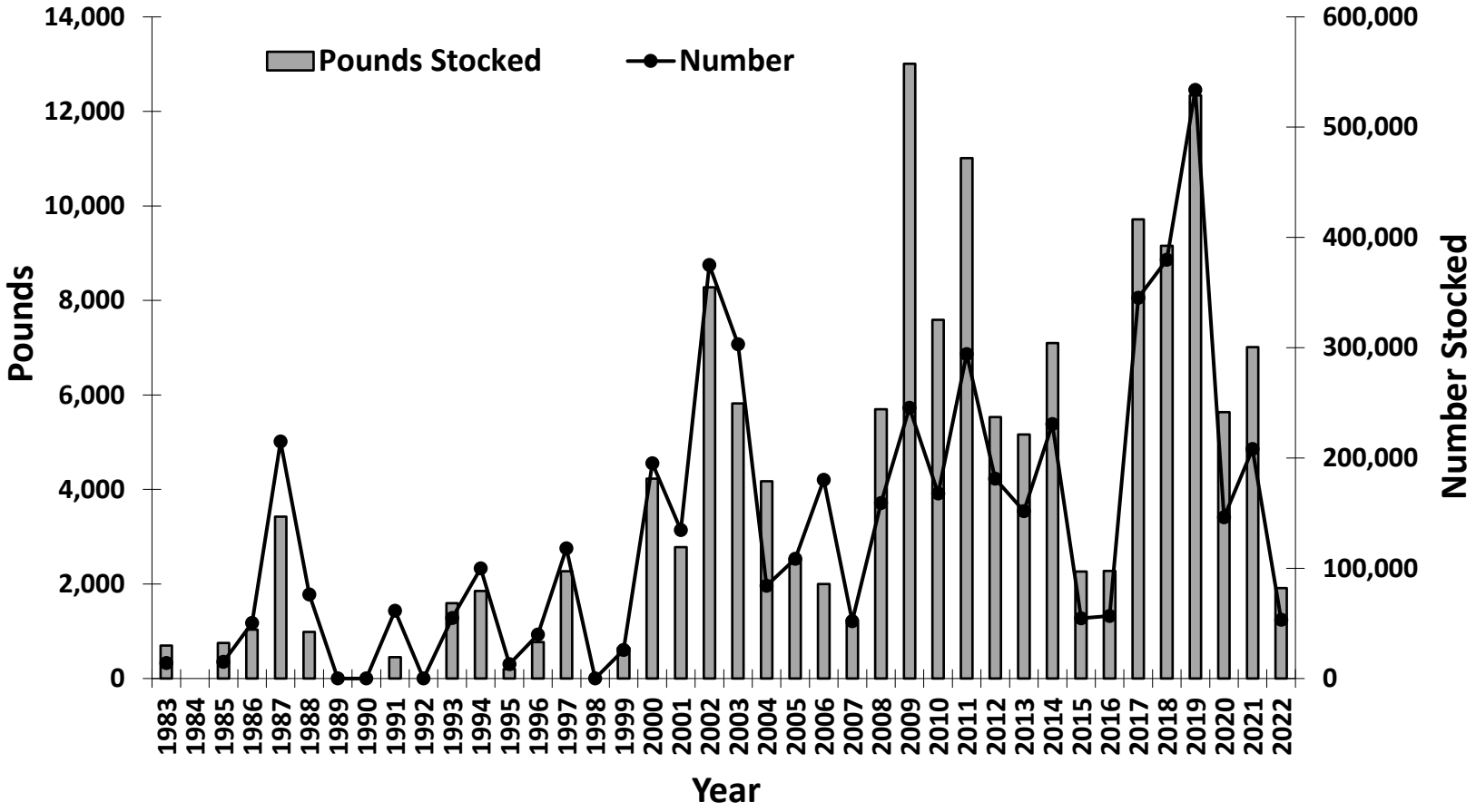

Figure 16. Total pounds and numbers of chinook salmon stocked in Fort Peck Reservoir, 1983-2022.

Table 10. Responses during Fort Peck Reservoir Fisheries Management Plan online survey period (April 25 – September 2, 2022).

	Strongly Oppose	Oppose	Neutral	Support	Strongly Support
The current priority of the Fort Peck Reservoir Fisheries Management Plan calls for a large-scale hatchery program that strives to stock 3 million walleye fingerlings annually. This target maximizes walleye fingerling production capacity at the Fort Peck and Miles City State Fish hatcheries. To what extent do you support or oppose the current priority of the Fort Peck Reservoir Fisheries Management Plan?	4.1%	1.5%	8.2%	16.4%	69.7%
Fort Peck Reservoir fishing regulations currently allows a limit of 5 walleye daily and 10 in possession. This is an Eastern Fishing District standard and is biologically justified based on walleye survival and harvest information. To what extent do you support or oppose the current walleye fishing regulations for Fort Peck Reservoir?	4.1%	2.5%	14.2%	14.7%	64.5%
The current Fort Peck Reservoir Fisheries Management Plan relies on the natural reproduction of northern pike which can vary in terms of the number of pike naturally reproduced each year (including survival rates). To what extent do you support or oppose the current Fort Peck Fisheries Management Plan action to rely on variable natural reproduction of northern pike?	2.1%	2.6%	21.9%	24.5%	49.0%
To what extent do you support or oppose stocking northern pike if their abundance significantly declined in Fort Peck Reservoir? Of note, prey abundance would need to be evaluated prior to stocking.	22.6%	11.6%	21.6%	18.4%	25.8%
Fort Peck Reservoir fishing regulations currently allows a limit of 10 northern pike daily and 10 in possession. This is an Eastern Fishing District standard and is biologically justified based on northern pike survival and harvest information. To what extent do you support or oppose the current northern pike fishing regulations for Fort Peck Reservoir?	3.7%	4.7%	20.3%	18.2%	53.1%

Table 10 (cont.). Responses during Fort Peck Reservoir Fisheries Management Plan online survey period (April 25 – September 2, 2022).

	Strongly Oppose	Oppose	Neutral	Support	Strongly Support
To what extent do you support or oppose the current Fort Peck Fisheries Management Plan action to stock a minimum of 200,000 chinook salmon fingerlings annually?	3.6%	1.6%	17.6%	22.3%	54.9%
Fort Peck Reservoir fishing regulations currently allows a limit of 5 chinook salmon daily and 10 in possession. This is an Eastern Fishing District standard and is biologically justified based on chinook salmon survival and harvest information. To what extent do you support or oppose the current chinook salmon fishing regulations for Fort Peck Reservoir?	5.2%	3.1%	25.1%	18.9%	47.6%
The current Fort Peck Reservoir Fisheries Management Plan relies on the natural reproduction of lake trout which can vary in terms of the number of lake trout naturally reproduced each year (including survival rates). To what extent do you support or oppose the current Fort Peck Fisheries Management Plan action to rely on variable natural reproduction of lake trout?	4.7%	4.7%	25.7%	20.4%	44.5%
To what extent do you support or oppose stocking lake trout if their abundance significantly declined in Fort Peck Reservoir? Of note, prey abundance would need to be evaluated prior to stocking.	22.5%	7.3%	18.3%	20.9%	30.9%
Fort Peck Reservoir fishing regulations currently allows a limit of 3 lake trout daily and 6 in possession. This is an Eastern Fishing District standard and is biologically justified based on lake trout survival and harvest information. To what extent do you support or oppose the current lake trout fishing regulations for Fort Peck Reservoir?	13.0%	8.3%	23.4%	17.7%	37.5%

Table 10 (cont.). Responses during Fort Peck Reservoir fisheries management plan online survey period (April 25 – September 2, 2022).

	Strongly Oppose	Oppose	Neutral	Support	Strongly Support
The current Fort Peck Reservoir Fisheries Management Plan relies on the natural reproduction of smallmouth bass which can vary in terms of the number of bass naturally reproduced each year (including survival rates). To what extent do you support or oppose the current Fort Peck Fisheries Management Plan action to rely on variable natural reproduction of smallmouth bass?	5.3%	4.2%	22.8%	21.2%	46.6%
Fort Peck Reservoir fishing regulations currently allows a limit of 5 smallmouth bass daily and 5 in possession. This is an Eastern Fishing District standard and is biologically justified based on smallmouth bass survival and harvest information. To what extent do you support or oppose the current smallmouth bass fishing regulations for Fort Peck Reservoir?	2.7%	6.9%	19.6%	21.7%	49.2%
To what extent do you support or oppose maintaining the number of fishing tournaments currently allowed on Fort Peck Reservoir?	17.0%	11.2%	23.4%	14.4%	34.0%
To what extent do you support or oppose increasing the number of fishing tournaments allowed on Fort Peck Reservoir?	52.1%	11.7%	17.0%	4.3%	14.9%
To what extent do you support or oppose decreasing the number of fishing tournaments allowed on Fort Peck Reservoir?	24.5%	8.0%	26.1%	14.9%	26.6%
To what extent do you support or oppose the creation of a separate sub-category for three smaller fishing tournaments?	24.1%	4.8%	32.1%	13.9%	25.1%
To what extent do you support or oppose increasing the number of large fishing tournaments if the 3 smaller fishing tournaments are not included in the count of 12 open-water fishing tournaments allowed on Fort Peck Reservoir?	43.3%	14.4%	20.9%	8.6%	12.8%

Table 11. Management agencies and authorities

Agency	Authority	Responsibilities
U.S. Army Corps of Engineers (USACOE):	Responsible for reservoir and river operations under authority of the Flood Control Act of 1944. Operate Fort Peck as part of the Missouri River system as per the Missouri River Master Manual (USACOE 2018). Implement the Fort Peck Lake Master Plan for Fort Peck Dam and Reservoir. This plan represents overall policy and management concepts applicable to Fort Peck.	1. Determine appropriate uses and levels of recreational development. 2. Monitor AIS in and around Fort Peck Reservoir. Participate as a cooperative agency with FWP on AIS matters. 3. Permit shoreline activities including bank stabilization.
U.S. Fish & Wildlife Service (USFWS):	Manages the 1.1-million-acre Charles M. Russell National Wildlife Refuge which encompasses the entire Fort Peck project area. The USFWS Refuge Management Plan is set forth in the Charles M. Russell NWR Comprehensive Conservation Plan. The USFWS and the USACOE cooperatively developed the Fort Peck Lake Master Plan (Design Memorandum MFP-105D), which specifically identifies recreation facilities and development on the reservoir.	1. Establish refuge-specific goals and objectives and outline habitat and population levels for a variety of species. Upland and shoreline vegetation is managed through the administration of livestock grazing and prescribed fire program. 2. To the extent possible, manage riparian and shoreline vegetation to benefit fish habitat that develops as a result of fluctuating reservoir levels.
County Conservation Districts:	Under Senate Bill 310, have permitting authority over streambed and streambank activities including Fort Peck Reservoir shoreline stabilization proposals.	1. Review and administer 310 permits. 2. Active partners in AIS prevention through the operation of inspection stations.
Little Shell Tribe of Chippewa Indians:	Under a USACOE outgrant, operate Hell Creek Recreation Area.	1. Manage Hell Creek Recreation Area. This transition from Montana state parks occurred in 2022.

[TO BE ADDED WHEN AVAILABLE]