Fort Peck Reservoir
Fisheries Management Plan

June 2012

Montana Fish, Wildlife & Parks

FORT PECK RESERVOIR FISHERIES MANAGEMENT PLAN

2012 - 2022

MONTANA FISH, WILDLIFE & PARKS
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1. Place the primary management emphasis on walleye. Continue ongoing large-scale hatchery program with the goal of producing a three-year running average of 3.6 walleye per net during late summer gillnetting series.

2. Achieve angler catch rates of 0.4 walleye per hour during periods of the summer creel. This catch rate will likely not occur throughout the reservoir but seasonally in regions of the reservoir. (reservoir-wide angler creel surveys will be conducted every 2-3 years depending on funding)

3. Stock a minimum of 3.0 million fingerlings annually. Fingerling production will depend on quality and quantity of eggs collected, egg hatching success and pond production (spring weather conditions). If fingerling production exceeds 3 million, biological and environmental conditions (reservoir water level, predator/prey densities, and walleye condition factors) will be reviewed to determine if stocking more walleyes is justified. Stocking rates may be reduced if these conditions are unfavorable to maintaining a sustainable, high quality walleye fishery. Continue to evaluate walleye fry contribution to the fishery and augment fingerling stocking with fry as conditions and availability allow.

4. Walleye Limits: 5 daily and 10 in possession

Management program for northern pike:

1. Monitor population relative abundance and production through annual field surveys. Maintain a three-year running average of 2 northern pike per net in late summer gillnetting series.

2. Rely on variable natural reproduction and survival to determine population levels. If relative abundance falls below 2 northern pike per net for two consecutive years, evaluate stocking northern pike.

3. Northern Pike Limits: 10 daily and in possession.

Management targets for smallmouth bass:

1. Monitor smallmouth bass during annual netting and seining surveys. Investigate survey techniques that provide better insight of smallmouth bass population dynamics.

2. Rely on variable natural reproduction and survival to determine population levels.

3. Bass Limits: 5 daily and in possession.

Management targets for sauger:

1. Rely on variable natural reproduction and survival of sauger to determine population levels 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 gill netting and seining surveys.

3. Ensure angler harvest on sauger populations is sustainable. Continue to monitor reservoir and river populations to gain better understanding of how environmental variables in the two habitats are related.

4. Sauger Limits: 1 daily and 2 in possession.

Management targets for lake trout:

1. Initiate standardized annual surveys (i.e., netting and/or creel surveys) to determine lake trout abundance and population dynamics; establish a sustainable relative abundance management target by 2013.

2. Utilize fisheries computer models to evaluate the impacts of angler exploitation on the lake trout population.

3. Rely on variable natural reproduction and survival to determine population levels. Reservoir management guidelines that benefit lake trout populations will be submitted annually to the USACE.

4. In the event that lake trout relative abundance shows significant decline, supplemental stocking will be considered. Number of lake trout stocked will be guided by historical stocking rates, availability of spawning stock, habitat and forage availability.

5. Lake Trout Limits: 3 daily and in possession.

Management targets for chinook salmon:

1. Implement standardized annual surveys (i.e., netting and/or creel surveys) to determine chinook salmon survival and recruitment. Although salmon catch rates vary widely from year to year, determine stocking thresholds and strategies required to produce acceptable angler harvest rates.

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

3. Stock a minimum of 200,000 fingerlings (4-5 inches) or equivalent variations during June. Stock 50,000 advanced fingerlings (8 inches) during September-October. This stocking will continue to be evaluated to determine survival and contribution of these late release fish to

the fishery. This stocking strategy will be discontinued if survival estimates demonstrate poor survival. Stocking targets will be adaptive depending on survival estimates, spawning stock strength, habitat and forage availability.

4. Continue working with the Tri-State Salmon Group to maintain and improve the disease-free chinook salmon populations of the Missouri River Reservoirs.

5. Chinook salmon Limits: 5 daily and 10 in possession.

Management targets for shoreline forage fish:

1. Make annual water level recommendations to the USACE; specifically, a rising pool beginning in early April will provide the greatest benefit for shoreline spawning species.

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

3. Attempt to maintain a three-year running average of at least 100 shoreline forage fish (combined young-of-yellow perch, young-of-year crappie, spottail shiners, and emerald shiners) per seine haul.

Management targets for coldwater forage fish (cisco):

1. Make annual water level recommendations to the USACE; specifically, stable reservoir elevations during December through March.

2. Monitor cisco populations through standardized vertical gill net 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.

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

Management program for burbot, channel catfish and paddlefish:

1. Monitor relative abundance of these native species through a variety of gear types.

2. In concert with upstream Missouri River biologist, determine need to establish annual relative abundance trend sampling for these species.

3. Make annual reservoir operation recommendations to USACE that are suitable for management of these species.

Management program for pallid sturgeon:

1. Make annual reservoir operation recommendations to USACE that are suitable for management of this riverine species.

2. Determine impacts of reservoir operations on recovery of pallid sturgeon.

Management program for fishing tournaments:

1. A maximum of 16 tournaments will be permitted per calendar year.
    a. No more than 12 open water and 4 ice tournament will be permitted per calendar year.
    b. No more than 6 tournaments will be permitted from June 1st through July 30th.
    c. No tournaments will be permitted for the weekends of Memorial Day, Father's Day, Fourth of July, or Labor Day.
    d. Only one tournament per weekend will be permitted.
    e. Established Fort Peck tournaments of 10 consecutive years or more will be given preference.
    f. Applicants will be required to list first, second and third choice tournament dates on applications.
    g. In years where more applications are received than available tournament dates will be entered in a lottery.
    h. Unsuccessful applicants will receive one bonus point. Tournament applications will be entered into the lottery in subsequent years and bonus points will be applied (e.g. If an applicant has accumulated one bonus point, that application will be entered into the lottery two times).

2. Tournaments will be reviewed on an individual basis. Evaluation of proposed tournaments will include potential biological and social impacts. Proposed tournaments will undergo a 30-day public review and comment period.

3. All catch and release tournaments with weigh-in type format will be limited to cool weather periods: May-June 15th, or after September 15th.

4. Tournament boundaries must be clearly defined in the application. Proposed boundary size should be minimized in an effort to reduce tournament related fish mortality caused by fish being held in live-wells for extended periods of time and/or traveling long distances.

5. Tournament directors will be required to report post-tournament catch rate information in a standardized format.

Management actions for water quality and zooplankton monitoring programs:

1. Pursue USACE funding to investigate impacts associated with water level management on water quality and zooplankton communities of Fort Peck Reservoir.

2. Implement seasonal limnological monitoring program to determine seasonal and annual reservoir productivity trends.

3. Utilize seasonal zooplankton data to guide fish stocking schedules.

Aquatic Invasive Species

1. Reduce the risk of spreading Aquatic Invasive Species (AIS) by coordinating with FWP's Fish Health staff to conduct disease testing during any egg take operations.

2. Clean, inspect and dry sampling gear to reduce the spread of AIS during FWP sampling.

3. Assist with education efforts to reduce the spread of AIS by participating in the Eurasian Water Milfoil taskforce (USACE, Department of Agriculture, USFWS, local county weed districts, etc.)

4. Work with FWP Aquatic Nuisance Species Coordinator to coordinate annual water testing in Fort Peck Reservoir and boat-check and boat washing stations during periods of high angler use.

II. INTRODUCTION

Montana Fish, Wildlife & Parks (FWP) understands the public is highly invested in natural resource management issues and has a strong desire to be involved in decision making processes that relate to Montana's fish and wildlife resources. Throughout the development of this plan, the Department made extensive effort to facilitate public involvement and collect as much input as possible. The Department, through numerous press releases, web-based notices, radio and television announcements alerted the public to a host of opportunities that provided easy access to the plan and comment options.

The previous management plan guided fisheries management activities on Fort Peck Reservoir over a ten-year period (2001-2011). During this time fish communities in Fort Peck Reservoir fluctuated in response to variable reservoir elevations. Drought conditions, which began in the late 1990's and persisted through 2007, adversely affected the reservoir biota. Conversely, reservoir elevations increased beginning in 2008 continuing through 2011. These increases in reservoir elevation combined with strategic stocking of sport fish have led to improvements in the fishery.

The Department recognizes the importance of the Fort Peck Reservoir fishery to the local and regional economies. Angler use and the economics associated with a high quality fishery are directly correlated with reservoir water level management. For example, following several years of increasing reservoir water levels angler use peaked in 2001 at 109,564 angler days resulting in a total angling-related revenue of approximately $15,606,296. Conversely when reservoir elevations declined to the record lows in 2007 angling pressure declined by more than 50% to 44,946 days. The resultant economic impact of reduced reservoir levels was significant, declining to an estimated $7,500,000. Angler use has nearly doubled since 2007 with 2009 levels of use increasing to 81,036 angler days (Montana Fish, Wildlife & Parks 2009).

This plan modifies components of the previous management plan that were identified as in need of change during initial scoping while retaining aspects of the previous plan where there was general satisfaction. Additionally, this plan reflects and incorporates biological data that has been collected during the previous 10-year period. Changes made to the previous plan were highlighted throughout the draft process to direct the reader to areas where public comment and/or technical information was incorporated.

The planning process used to develop this document involved multiple stages. An on-line scoping survey was used as an initial barometer to gauge the level of satisfaction with the previous plan and determine the number and magnitude of issues. In addition, 1,500 survey cards were sent out to randomly selected Warm Water stamp holders. Survey results were used to identify specific areas of the plan where the public wanted to see a change in the management direction on Fort Peck Reservoir. The Department drafted a plan which was vetted internally as well as with agency cooperators. The draft plan was then released electronically on the Department website and presented at eight public scoping meetings throughout central and eastern Montana. This formal comment period was open from June 6, 2011 through July 31, 2011. Written and oral comments received during this period were evaluated and incorporated into the plan or addressed based on biological or social merit. Management plan targets were developed using public comment in tandem with the Department's technical expertise of the limiting factors of the fishery. The tentative plan was approved by the FWP Commission on October 13, 2011 which was followed by a 30-day comment period (October 17-November 17, 2011).

The plan was presented to the FWP Commission at critical junctures of development. Initially, the plan was presented to inform the Commission of the proposed planning process and timeline to completion. In addition the Commission was alert to components of the plan that were deemed to be potentially contentious. The draft plan was presented to the Commission three times during development; June 9, October 13 and December 8, 2011. The plan was approved in its final form by the Commission on December 8, 2011.

III. PLAN ADAPTABILITY

This plan will guide fisheries management on Fort Peck Reservoir for a ten-year period (2012-2022). Throughout the life of this plan FWP will host annual Fort Peck Reservoir fisheries status update meetings in late winter/early spring. The goal of these meetings is to provide an opportunity for interested parties to be involved in the management of the fishery though information sharing. In the event that conditions require revisions or change to a particular component of the Plan during this period, the document may be amended. Any significant changes will comply with MEPA requirements for public notice, and be presented to the Region 6 Citizen Advisory Committee (CAC) and the FWP Commission.

The CAC is comprised of interested citizens representing a variety of interests across Region 6. The advisory group, chaired by FWP, will monitor implementation of the Fort Peck Fisheries Management Plan. Periodic updates of the Plan will be presented to the CAC to ensure the management actions reflect the goals and objectives presented in the Plan.

The Plan reflects the public's desire for a high quality, cost effective, multi-species fishery in Fort Peck Reservoir. Additionally, this plan represents the next step in the on-going evolution of fisheries management on Fort Peck Reservoir. Of principal importance over the next 10-year period is to efficiently develop scientifically sound sampling methods that quantify the essential metrics needed to gain insight into the Fort Peck Reservoir fishery.

IV. BACKGROUND ON FORT PECK RESERVOIR AND FISHERY

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, it is the largest body of water in the state, with 240,000 surface acres 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 (USACE) in accordance with Memorandum of Agreement No. DACW 45-9-97-6039. The reservoir is operated by the Corp of Engineers to provide water for power, flood control, irrigation, navigation and recreation.

In the reservoir's early years, little was recorded regarding the quality of its fishery. Scattered reports indicate sauger, yellow perch, crappie, freshwater drum, catfish and goldeye comprised the bulk of the fishery. Sixteen species, mostly game fish, have been introduced to develop sport-fishing opportunities. Walleyes and northern pike were both introduced in 1951 followed by lake trout in the mid 1950's. Smallmouth bass were introduced in 1981 and chinook salmon in 1983. During the 1980's spottail shiners and cisco were also introduced to supplement the existing forage base.

During the late l950's and early 1960's rising water levels inundated vegetation and produced an outstanding fishery for northern pike, crappie, and yellow perch. Management efforts to maintain this high quality fishery were continued with additional stocking. Efforts to direct the ACOE to provide suitable water level management were not successful. Current reservoir operations are defined by significant interannual water level variability which has been shown to have deleterious effects on the Fort Peck Reservoir fish community.

Attempts to improve habitat to enhance the fishery have been undertaken by local sportsman's groups over the years, in the form of spawning fences and Christmas tree reefs. However, due to the vastness of the reservoir, no measurable benefits to the fishery have been realized. 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 significant siltation in some areas and water level fluctuations. A prime example is the rock breakwater at the Fort Peck Marina. It was initially constructed in 1996 when reservoir elevations were at an all time high. However, drought conditions and declining reservoir elevations beginning in the early 2000’s persisted for several years leaving this cobble structure severely dewatered.

The quality multi-species fishery found in the reservoir today is the result of the ongoing management efforts by the Department. Key to this effort has been an understanding by the Department of the variable nature of fish populations. Specifically, natural reproduction is largely influenced by reservoir water levels and environmental conditions at time of spawn. As a result, extensive stocking programs for walleye and chinook salmon are in place to reduce population variability. The management history of Fort Peck Reservoir includes two forage fish introductions. These introductions were carefully analyzed to determine the long-term benefits to the fishery. Additionally, potential negative food-web interactions are reviewed prior to introduction. Final evaluation of management success is done through the standardized monitoring combined with angler surveys. This basic monitoring program allows estimates of catch rates, average size of the fish, and overall angler satisfaction with the fishery.

V. MANAGEMENT AGENCIES AND AUTHORITIES

The following agencies are involved in the management of the Fort Peck Dam and Reservoir. A brief description of their management authorities and activities is provided.

Corps of Engineers

The United States Army Corps of Engineers (USACE) was responsible for the original construction of Fort Peck Dam and Reservoir and continues to operate the facility under authority of the Flood Control Act of 1944. Fort Peck is one of six main stem dams on the Missouri River operated by the USACE in accordance with guidelines contained in the Missouri River Master Water Control Manual. Drought conditions within the upper basin during the late 1980's/early 1990's and again during the period of 2002 though 2008 resulted in substantial drawdown of Fort Peck Reservoir and other upper reservoirs in order to meet navigational and other authorized purposes. This affected the fishery and recreational uses of Fort Peck. In response to the drawdown, the USACE extended boat ramps at Fort Peck to maintain recreational use.

In August 2008, the USACE completed the update of Fort Peck Lake Master Plan, Design Memorandum MFP-105D, for Fort Peck Dam and Reservoir. This Plan represents overall policy and management concepts applicable to Fort Peck. The broad intent of the Plan is to document policies which do the following:

1) Determine appropriate uses and levels of recreation development of Fort Peck's resources;

2) Provide a framework within which the Operational Management Plan and Annual Management Plan can be developed and implemented;

3) Establish a basis on which outgrants and recreational development proposals can be evaluated.

Fish and Wildlife Service

The U. S. Fish and Wildlife Service (FWS) manage the 1.1 million acre Charles M. Russell National Wildlife Refuge which encompasses the entire Fort Peck project area. Refuge specific goals and objectives 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. To the extent possible, the refuge will manage riparian and shoreline vegetation to benefit fish habitat that develops as the result of fluctuating reservoir levels. The Fish and Wildlife Service refuge management plan is set forth in a Final Environmental Impact Statement, which was finalized 1985. This plan is currently being rewritten and, when published (target year of 2012), will be known as the Charles M. Russell NWR Comprehensive Conservation Plan. The FWS and the Corps of Engineers cooperatively developed the Fort Peck Lake Master Plan (Design Memorandum MFP-105D), which specifically identifies recreation facilities and development on the lake.

Local Agencies

The Corps of Engineers occasionally issues permits to other agencies and private individuals to manage recreation sites on the lake. Recreation facilities such as camping areas, marina and boat docks are operated by a concessionaire. Leases are issued for up to twenty years and can be revoked at any time by the Secretary of the Army.

Montana Fish, Wildlife & Parks

The Fort Peck Reservoir fishery is managed by the Montana Department of Fish, Wildlife & Parks (FWP) through the Region Six Fisheries Division. The Department also manages State Parks and State Recreation Areas located on lands leased from the Federal Government. Specific recreation sites managed by the department include Duck Creek Fishing Access Site, Rock Creek Fishing Access Site on the Big Dry Arm of the reservoir, and Hell Creek Recreation Area north of Jordan which is managed out of FWP Miles City Parks division (Region 7).

Joint Agency Efforts

Various projects have been implemented over the years to improve access to Fort Peck Reservoir through the joint efforts of five counties, federal agencies, and the Department. Various local, state and federal funds were used to accomplish this work. The projects included work on access roads and boat ramp facilities at the Duck Creek FAS, Pines recreation area, Hell Creek, Crooked Creek, Flat Lake/Spillway, and Nelson Creek Recreation areas. Efforts by six surrounding counties, Fish and Wildlife Service, USACE, BLM, and FWP resulted in additional improvements on access routes to

Hell Creek, Crooked Creek, McGuire Creek, the Pines, Fourchette Bay, Slippery Ann, and Rock Creek (west end).

VI. PUBLIC INVOLVEMENT IN THE DEVELOPMENT OF THE PLAN

Public involvement components are detailed below in chronological order.

Fort Peck Management Plan on-line survey

An on-line scoping survey was conducted from November 2010 to January 2011to gain public input about the existing Fort Peck Reservoir management plan. Two press releases were issued to ensure recreational users were aware of the on-line survey. The survey was followed by 1,500 postcards that were mailed to a random sample of warm water stamp holders to encourage response to the on-line survey. A total of 88 respondents submitted comments to the survey. Respondents were asked what they liked, disliked, and what changes (if any) they would recommend to the existing Fort Peck Reservoir Management plan.

According to the survey, most respondents (39%) liked the current management plan and that the primary emphasis was placed on walleye. Respondents also liked the stocking program for walleye but also liked the stocking of other fish species (i.e., chinook salmon) and the opportunity to fish for them.

A majority of the respondents (17%) disliked there were not enough walleye fingerlings being stocked. Some respondents also disliked the current number of tournaments allowed on Fort Peck.

When survey participants were asked what changes they would recommend to the current plan, a majority of the respondents suggested increased stocking rates of larger walleye (fingerlings) and limiting the number of tournaments. Respondents stated they wanted FWP to have a larger role in water level management on Fort Peck Reservoir.

Scoping Meetings

Eight public scoping meetings were hosted during the initial public comment period. Meetings were held in the evening in the following communities: Great Falls (6/29), Havre (6/22), Glasgow (6/21), Wolf Point (6/20), Glendive (6/7), Miles City (6/6), Billings (6/28), and Lewistown(6/27) (Appendix A). The draft plan was presented at these meetings and all changes made from the previous management plan were highlighted.

Public Review of Draft Plans

Public comments on the draft Fort Peck Reservoir Fisheries Management Plan were accepted during the open comment period from June 6 to July 31, 2011. During this time, the public had a variety of comment opportunities including email, written (prepared comment cards or general letter format) and oral. Those comments are addressed in Appendix U. The public was made aware of these through numerous press releases, radio and television announcements. Links were also provided on FWP's website to the draft Management Plan, a Summary of Changes that were made to the previous Management Plan, and meeting dates and locations of public scoping meetings.

Additional opportunity for public comment was through an on-line survey which was posted on FWP's website. These comments were in response to proposed changes to the previous management plan that were highlighted in the draft plan. The on-line survey was scheduled to run from June 22 to July 22, 2011 (30-day public comment period) but was extended twice (July 25 and July 31) due to glitches with Survey Monkey software. The survey officially ended July 31, 2011.

Final Plan

The tentative plan was presented and approved by the FWP Commission on October 13, 2011. A final round of public comment ran from October 17 through November 18, 2011. No comments were received during this period. The final Plan will be presented for approval to the FWP Commission at the December, 2011 meeting.

VII. FISHERIES MANAGEMENT

The fishery in Fort Peck is diverse with 47 different fish species, most of which are native to the Missouri River (Appendix B). Sixteen species, mostly game fish, have been introduced to develop sport-fishing opportunities. Methods for sampling, sampling periods and measures of sampling for these species are outlined in Appendix T. Fish populations and management efforts cannot be expanded indefinitely, both are finite resources. Increasing effort and funding for one species often results in reduced effort and funds directed for another. The Department will strive to maintain the unique diversity of the Fort Peck fishery. Management of game fish species will be prioritized on angler preference. In turn, the Department will allocate resources proportionally.

The Fort Peck fishery is a complex and dynamic biological ecosystem that is defined by population fluctuations, where changing environmental conditions may favor a species or group of species over other species. As an example, attempting to maximize abundance of one predator by stocking without consideration of other game species and/or forage fish populations could result in severe declines in abundance of these species. This approach could lead to unintended decreases in growth and survival of several sport or forage species from which recovery can be slow. To date the Fort Peck Reservoir fishery has not experienced a forage base collapse, but biologists remain aware of this possibility.

Throughout this plan fisheries information is analyzed and presented on a species by species basis. Each section will first address: 1) fisheries data and the resource capability, 2) angler's desires, 3) management options, and 4) recommended management actions.

Walleye

Walleye were first introduced into Fort Peck Reservoir in 1951 by FWP. During the late 1960's and early 1970's, 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 the creek (Liebelt 1979). The reservoir has very little suitable walleye spawning habitat, which consists of gravel and cobble substrate, along its shoreline (Benson 1980). Annual shoreline seining in the upper reservoir indicates that natural reproduction also occurs on a limited basis in the Missouri River above Fort Peck.

The walleye fishery fared poorly in the late 1970's and early 1980's due to lack of natural reproduction and a decline in forage fish abundance. Stocking was resumed in 1977 to address the declining walleye population (Wiedenheft 1983). Since 1977, fry and fingerling plants have totaled more than 659 million and 42.1 million, respectively by 2010 (Appendix C). Spottail shiners and cisco were introduced during the 1980's to augment the existing forage base and improve the growth and condition of walleye. Both species reproduced well and expanded their populations throughout the reservoir. As a result, average weight, and condition factors of walleye have improved (Wiedenheft 1989).

Drought conditions began in the late 1990's 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 a 100,000 surface acres. 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 gill netting surveys (Appendix E). During this time, walleye growth and relative weights for most length groups decreased indicating forage limitations (Appendix F and G). Conversely, when reservoir elevations began to increase in 2008, walleye relative weights and growth improved.

Fisheries efforts have been devoted primarily to walleye management based on angler preference and biological capabilities of the reservoir. Public scoping comments and creel surveys have indicated that the majority of anglers want the Department to continue management efforts on walleye. Walleye were ranked first in preference in both the 1990 and 1997 creel surveys. Similarly, walleye were the primary species fished for during the 2004 and 2008 creel survey at 71% and 79%, respectively.

Angler catch rates for walleyes were a major component of the 2001 plan. Anglers requested that Department achieve a walleye catch rate of 0.5 fish per hour. Since the previous plan, two reservoir-wide creel surveys have been implemented. Both of these creel surveys take into account walleye catch rates of all anglers ranging from novice to expert. The highest documented angler catch rate for walleye on the reservoir occurred in 2008, with 0.28 fish per hour, which was slightly higher than 1997 catch rate of 0.27 fish per hour. Angler catch rate during the 2004 creel survey was 0.16 walleye per hour. Walleye fisheries in surrounding states and provinces and throughout the Midwest, which have limited natural reproduction, like Fort Peck, consistently have lower catch rates. Furthermore, a survey of over 1,000 walleye waters revealed that only 13.7% of walleye fisheries reported a catch rate of 0.4 walleye per hour or greater (Appendix H). Walleye catch rates exceeding 0.3 fish per hour are generally considered excellent (Colby et al. 1979). It should be noted that walleye catch rates of 0.4 fish per hour were met and exceeded in the month July during the 2008 Fort Peck creel survey (Brooks and Headley 2009). This is due to water temperatures increasing during the summer month which increases the metabolic activity of predatory fish and limited numbers of small forage items during this time.

Fisheries investigations have consistently documented that angler catch rates of walleyes are not related to abundance but rather most 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).

Management program for walleye:

1. Place the primary management emphasis on walleye. Continue ongoing large-scale hatchery program designed to produce a three-year running average of 3.6 walleye per net during late summer gillnetting series.
    a. Maintain a three-year running average of 3.6 walleye per net during summer gillnetting series
    b. Maintain a proportional stock density (PSD) between 40 and 65 during summer gill netting series. PSD is the proportion of all walleye greater than 15” divided by the total number of walleye greater than 10”.

2. Achieve angler catch rates of 0.4 walleye per hour during periods of the summer creel. This catch rates will likely not occur throughout the reservoir but seasonally in regions of the reservoir. (reservoir-wide angler creel surveys will be conducted every 2-3 years depending on funding)

3. Stock a minimum of 3.0 million fingerlings annually. 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 walleyes is justified. Stocking rates may be reduced if biological and environmental conditions are unfavorable to maintaining a high quality walleye fishery.   Continue to evaluate walleye fingerling and fry survival and recruitment. Augment fingerling stocking with fry as conditions and availability allow.

    The following criteria will be used to guide walleye stocking rates. If conditions in these criteria are met, walleye may be stocked at rates greater than 3 million.
    a. Physical Condition of Existing Walleye Population
        i. 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.
    b. Reservoir Water Levels
        i. Reservoir should have forecast of rising or stable pool in spring of present year. This is precursor to increased shoreline forage fish production.
    c. Shoreline Forage Fish
        i. Average beach seine combined catch rate for emerald shiner, spottail shiner, young-of-year crappie, and young-of-year yellow perch should be greater than 100/seine haul. This would indicate adequate abundance of forage fish for walleye less than quality length.
    d. Cisco Abundance
        i. Average vertical gill-net catch rate for young-of-year cisco should be greater than 20/gill-net. This would indicate adequate production of forage fish for walleye greater than preferred length.

4. Walleye Limits: 5 daily and 10 in possession

Northern Pike

Northern Pike are native only in the south Saskatchewan drainage in Montana. Records indicate pike were first introduced into Fort Peck Reservoir by FWP in 1951. From the mid 1960's to early 1990's recruitment was variable. Reproduction was documented as the reservoir filled from 1993 through 1997 (Appendices I and J). However, recruitment dropped quickly as reservoir levels declined from 1998 to 2007. Low pool elevations de-watered shoreline vegetation necessary for successful spawning and limited shoreline cover for juveniles. Over the years, fluctuating water levels have provided intermittent northern pike spawning conditions resulting in large fluctuations in relative abundance.

In response to declining northern pike populations, stocking was increased in the early 1970's 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 again during the most recent drought (2001-2007) when a total of 589,172 were stocked during this seven year period (Appendix K). Despite these limited stocking efforts, relative abundance of northern pike captured during annual gill netting and seining surveys remained relatively constant.

Angler catch rates for northern pike increased from 0.01 per hour in 2004 to 0.03 per hour in 2008. Angler catch rates are similar to those observed during the 1997 creel survey when catch rates were 0.04 fish per hour. This was a period of high reservoir elevations and also coincided with increasing relative abundance. Northern pike were the fourth most sought after species during the 2004 and 2008 creel surveys behind walleye, chinook salmon, and lake trout.

Management targets for northern pike:

1. Monitor population abundance and production through annual field surveys. Maintain a three-year running average of 2 northern pike per late summer/fall gill net.

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

3. If relative abundance falls below 2 northern pike per net for two consecutive years, evaluate stocking northern pike.

4. Northern Pike Limits: 10 daily and in possession.

Smallmouth Bass

Smallmouth bass were first introduced into Fort Peck Reservoir in 1981 with fingerling stocking occurring in 1982 and 1983. Stocking was resumed in 1993, and continued on an annual basis through 2001. More than 280,000 fingerlings have been planted during this period (Appendix L). Smallmouth bass have survived well with natural reproduction increasing steadily over the years

(Appendix J). Successful natural reproduction has made smallmouth bass young-of-year the most common game fish observed during annual seining surveys.

Interest in the smallmouth bass fishery has increased as the population has expanded and angler catch rates have increased. Smallmouth bass tournaments are gaining in popularity with three proposed for Fort Peck during the 2011 open water season. The catch rate in 1997 was 0.02 fish per hour, nearly double that of the catch rate in 1991. This slight upward trend has continued into 2004 and 2008 with a catch rate of 0.03 fish per hour and 0.04 fish per hour, respectively. In addition, lake-wide gillnetting surveys since 1985 have indicated a gradual increase in the number of smallmouth bass captured per net (Appendix M). The current Montana state record smallmouth bass was caught in Fort Peck Reservoir in 2002 weighing 6.7 pounds.

Smallmouth bass were ranked fifth in terms of species targeted by anglers during the 2004 and 2008 creel surveys. Anglers caught over 3,000 smallmouth bass during the creel in 1997, an increase of over 1,000 from the 1991 reservoir-wide creel. This trend continued into the 2004 and 2008 creel survey when approximately 3,933 and 4,890 were caught. The current creel limit of five fish per day has been shown to be sustainable. Fort Peck Reservoir receives low angling pressure relative reservoir size.

<u>Management targets for smallmouth bass:</u>

1. Monitor smallmouth bass during annual netting and seining surveys. Investigate survey techniques that may provide better insight of smallmouth bass population dynamics.

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

3. Bass Limits: 5 daily and in possession.

<u>Sauger</u>

Sauger are native to Montana and are found in the mainstem Missouri and Musselshell and Marias River drainages of the Missouri River above Fort Peck Reservoir. Populations have shown declines following the prolonged drought of the 2000's (McMahon and Gardner 2001). Portions of the mid-Missouri River and areas upstream of Fort Peck Reservoir have suffered drought related population reductions (Appendix N). Following a state-wide status review of the species, sauger were added to Montana's list of Species of Special Concern in 2000. Sauger are distributed throughout Fort Peck Reservoir with a majority captured in the upper Missouri arm of Fort Peck Reservoir. Young-of-year sauger are collected exclusively in this area during annual beach seining surveys. Undoubtedly, 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).

Anglers are aware and concerned about declining sauger numbers in the reservoir and in the Missouri River above Fort Peck. In general, this has led to more restrictive limits. During the previous planning process, anglers suggested stocking sauger into Fort Peck Reservoir to augment the existing population. If stocking sauger fingerling and fry is determined to be necessary to augment wild populations, enhancement efforts are more likely to be sustained by populations upstream in native habitat. Sauger prefer more turbid lakes and rivers than walleye (Carlander 1997). Waters with secchi disc readings less than 0.9 meters are better suited for walleye and those with readings of 0.9 to 3.0 meters are better suited for sauger (Schlick 1978).

Management targets for sauger:

1. Rely on variable natural reproduction and survival of sauger 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 gill netting and seining surveys.

3. Ensure angler harvest on sauger populations is sustainable. Continue to monitor reservoir and river populations to gain better understanding of how environmental variables in the two habitats are related.

4. Sauger Limits: 1 daily and 2 in possession.

Lake Trout

Lake trout were first introduced into Fort Peck Reservoir by FWP in 1953 to diversify the fishery and utilize the cold water habitat of the reservoir. Follow-up stockings occurred in 1954, 1955, 1956, and 1957. Since this time, stocking has occurred in 1978, 1991, 1992, and 2004 with plants totaling 241,324 fingerlings (Appendix O). When reservoir levels declined during drought years, lake trout were stocked to supplement limited natural reproduction.

According to the previous Fort Peck Reservoir Fisheries Management Plan, lake trout should 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 USACE). 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 and Poe 1987; Dux 2005). Additional spawning areas may exist in Fort Peck Reservoir; however, this is the only known lake trout spawning location. Therefore, 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 cold water habitat.

In an effort to better monitor the lake trout population, netting and tagging studies have been ongoing from 2004 to 2010 during the spawning period. Netting takes place from the end of October to the first of November when water temperatures decline from 57°F to 46°F which is within the desired spawning range for lake trout (Gunn 1995). Only spawning adults are collected during this sampling period. Periodic reservoir-wide creel surveys are the only other sampling effort directed at monitoring lake trout populations. Creel surveys were conducted near the dam from 1985 to 2000 but were discontinued due to redirection of staff to walleye and chinook salmon spawning programs.

Lake trout age and growth information collected from fall netting surveys and angler harvested fish show numerous age classes present with some individuals up to 30 years old (Headley 2010). Annual angler exploitation rates ranged from a low of 0.9% in 2007 to a high of 4.8% in 2008 based on tag returns. Creel surveys conducted on Fort Peck Reservoir have shown that lake trout harvest is relatively low with an estimated 0.05 kg/ha (Brooks and Headley 2009). Healey (1978) reported that exploitation rates of lake trout should not exceed 0.5 kg/ha. An abundance of older fish in the population and a low harvest rate suggest that angling exploitation is not having a significant impact on the population in Fort Peck Reservoir. A conservative daily and possession limit of three is also in place to reduce the potential for overharvest.

In the past, fishing activity for lake trout occurred during spring and fall in the vicinity of Fort Peck dam. However, other fishing opportunities for lake trout are being realized by anglers during summer as more sophisticated equipment is being utilized. Lake trout were the third most targeted fish species during the 2004 and 2008 angler creel surveys. Lake trout catch rates were 0.17 fish per hour in 2004 and 0.11 during the 2008 lake wide summer creel surveys.

<u>Management targets for lake trout:</u>

1. Initiate standardized annual surveys (i.e., netting and/or creel surveys) to determine lake trout abundance and population dynamics; establish a sustainable relative abundance management target by 2013.

2. Utilize fisheries computer models to evaluate the impacts of angler exploitation on the lake trout population.

3. Rely on variable natural reproduction and survival to determine population abundance. Reservoir management guidelines that benefit lake trout populations will be submitted annually to the USACE.

4. In the event that lake trout relative abundance shows significant decline, supplemental stocking will be implemented. Number of lake trout stocked will be guided by historical stocking rates, availability of spawning stock, habitat and forage availability.

5. Lake Trout Limits: 3 daily and in possession.

<u>**Chinook Salmon**</u>

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 the only chinook salmon fishery in the state of Montana. These landlocked chinook salmon do not reproduce naturally in the reservoir because there is no suitable spawning habitat and require annual stocking efforts to maintain the population. Initial chinook salmon fingerlings stocked into Fort Peck were from eggs collected in Lake Michigan.

Introductory chinook salmon stocking took a conservative approach to prevent undue pressure on the developing cisco population. Initial stocking rates averaged 15,000 fingerlings per year from 1983 to 1985. Numbers increased from 1986 to 1988 averaging 100,000 each year; however stocking numbers were largely dependent on surplus eggs from surrounding states. Stocking efforts became variable in the late 1980’s and 1990’s due to problems in obtaining disease-free eggs. The only source for disease-free chinook salmon in the lower 48 states are located in the Missouri mainstem reservoirs of Oahe, Sakakawea, and Fort Peck. From 2008 to 2010 chinook salmon stocking numbers have averaged 160,000 and sizes have increased to 30 per pound and 8 per pound for spring and fall released fish, respectively (Appendix P).

Return of adult chinook salmon has been variable over the years. Number of adults captured and eggs collected during the annual spawning operation increased in 2009 and 2010 (Appendix Q). The number of female chinook salmon spawned and eggs collected in 2010 was the most since the spawning operation was initiated in 1994. Prior to 2006, most adult salmon were collected through the use of a portable fish ladder which was set up in the marina bay. This approach was extremely labor intensive and numbers of returning adults were variable. Since 2007, salmon have been collected using boat mounted electrofishing gear. Electrofishing collections have located adult salmon in several areas near the face of the dam. This approach has proven to be more efficient and cost effective.

Biological information has been collected from adult chinook salmon during the spawning operation to provide more information on growth, age, and stocking-and-rearing history. Chinook salmon in Fort Peck typically mature at age three and four with males maturing 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 female chinook collected in the fall of 2010 was 17 pounds compared to 14 pounds in 2008. The current state record chinook salmon was caught in 1991 from Fort Peck Reservoir weighing 31 pounds 2 ounces.

Most fishing activity for chinook salmon occurs during late summer and fall near the dam. Anglers typically begin using downriggers in July and continue through September. A snagging season begins October 1 and runs through November 30 which provides opportunities for shoreline anglers. Angler catch rates have been relatively low since their introduction but it is hypothesized that poor survival during the drought limited population size. Despite this, chinook salmon were the second most targeted species during the 2004 and 2008 angler creel surveys. During these creel survey periods, the number of chinook salmon caught per hour increased slightly from less than 0.01 in 2004 to 0.02 in 2008.

<u>Management targets for chinook salmon:</u>

1. Initiate standardized annual surveys (i.e., netting and/or creel surveys) to determine chinook salmon survival and recruitment. Determine stocking thresholds required to produce consistent angler harvest rates.

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

3. Stock a minimum of 200,000 fingerlings (4-5 inches) or equivalent variations during June. Stock 50,000 advanced fingerlings (8 inches) during September-October. This stocking strategy will continue to be evaluated to determine survival and contribution to the fishery. This stocking strategy will be discontinued if survival estimates demonstrate consistently poor survival. Stocking targets will be adaptive depending on survival estimates, spawning stock strength, habitat and forage availability.

4. Continue working with the Tri-State Salmon Group to maintain and improve the disease-free chinook salmon populations of the Missouri River Reservoirs.

5. Chinook Salmon Limits: 5 daily and 10 in possession.

Shoreline forage

The shoreline forage fish community consists of nearly 14 fish species that occupy the littoral areas of Fort Peck Reservoir. 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. The littoral area is comprised of the 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.

Relative abundance of shoreline forage fish typically follows changes in reservoir elevations on Fort Peck Reservoir (Appendix D). Increases in reservoir elevations inundate terrestrial shoreline vegetation which creates new spawning and rearing habitat for a variety of fish species. However, timing of inundated shoreline vegetation 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. Yellow perch spawn in early spring when water temperatures are between 44°F and 55°F (Scott and 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 (Appendix D). Accurate relative abundance estimates of shoreline forage are difficult to obtain due to high water periods because of inundated shoreline vegetation which renders seining ineffective.

Many of the shoreline forage fish discussed above have been observed in the stomach contents of walleye, northern pike, sauger, and smallmouth bass during annual gill netting surveys (Appendix R). Relative weights of walleye less than 20 inches decreased during the mid 2000's which corresponded to decreases in relative abundance of shoreline forage (Appendix D).

<u>Management targets for shoreline forage fish:</u>

1. Make annual water level recommendations to the USACE; specifically, a rising pool beginning in early April will provide the greatest benefit for shoreline spawning species.

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

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

Coldwater forage – 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.

Large adult cisco were collected in the fall of 1986, but since the summer and fall of 1988 average size has decreased (Wiedenheft 1989). The decrease in size was attributed to the elimination of cladocerans in the zooplankton community (Mullins 1991). This situation was viewed as being beneficial to game fish because cisco decreased to a size in which they could be utilized more frequently as prey. Concurrent to this, relative weights and size structure of walleye and northern pike improved (Appendices E, G, and I). Adults, yearlings, and young-of-year cisco have been recovered from the stomachs of walleye, sauger, northern pike, smallmouth bass, chinook salmon, and lake trout (Mullins 1991; Brunsing 1998, Headley 2010).

Vertical gill net sampling from 1986 through 2010 indicates cisco production has been variable on Fort Peck Reservoir (Appendix S). Fluctuations in young-of-year cisco abundance have been attributed to declines in reservoir elevation, which have been shown to dewater incubating eggs (Gaboury and Patalas 1984; Zollweg and Leathe 2006). In addition, 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 results 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.

Management targets for coldwater forage fish (cisco):

1. Make annual water level recommendations to the USACE; specifically, stable reservoir elevations during December through March.

2. Maintain a three-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 gill net 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.

Burbot, Channel Catfish, and Paddlefish

Burbot are a native species to Montana which occupy the Yellowstone and Missouri River drainages. However, construction of dams in their native ranges has impacted them differentially. In addition, data is limited because sampling on reservoir systems is difficult due to timing and spawning under the ice. Because there is limited information on burbot, they have been listed as a potential species of concern in Montana. Burbot are occasionally captured on Fort Peck during the annual 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.

Channel catfish are native to Montana and they are routinely sampled during annual gill netting surveys on Fort Peck Reservoir. During the drought (2000-2008), channel catfish were the second most abundant species during gill netting surveys. In contrast with increasing water levels, relative abundance of channel catfish decreased suggesting they moved into more riverine stretches (Missouri River and Big Dry Creek). While channel catfish do not comprise a large portion of the recreational fishery in Fort Peck Reservoir, they are targeted more frequently in the Missouri River above the reservoir.

Paddlefish are native to the Missouri and Yellowstone River drainages of Montana. 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 and Scarnecchia 2002). Although paddlefish are a species of concern in Montana, a recreational fishery does exist. Creel surveys are conducted annually to monitor angler harvest. Currently a 500 fish quota for the Missouri River above Fort Peck Reservoir is in place to ensure that angler harvest levels are sustainable.

<u>Management program for burbot, channel catfish and paddlefish</u>:

1. Monitor relative abundance of these native species through a variety of gear types.

2. In concert with Missouri River biologist, determine need to establish annual relative abundance trend sampling for these species.

3. Make annual reservoir operation recommendations to USACE that are suitable for management of these species.

<u>Pallid sturgeon</u>

Pallid sturgeon populations in Montana have declined as a result of mainstem Missouri River impoundment; they were listed as a federally endangered species in 1990. As a result, monitoring and research efforts have been increased dramatically to address the limiting factors of this species. A successful stocking program was instituted in 1997 to preserve the genetics of the population. During the severe drawdowns of Fort Peck Reservoir in the early 2000's, six juvenile, hatchery-reared pallid sturgeon were captured during annual gill netting surveys in the upper Missouri arm of Fort Peck Reservoir. This headwater area is highly variable due to fluctuations in reservoir elevation which dictates the amount of river/reservoir habitat that is available. It has been postulated that reservoirs are limiting pallid sturgeon populations. Studies are ongoing to determine the impacts of Fort Peck Reservoir elevations and more specifically the headwaters region on survival of pallid eggs and larvae. As of the writing of this plan, this study has not been completed.

<u>Management program for pallid sturgeon</u>:

1. Make annual reservoir operation recommendations to USACE that are suitable with management of this riverine species.

2. Determine impacts of reservoir operations on recovery of pallid sturgeon.

Tiger Muskellunge

The tiger muskellunge is cross between a muskellunge and a northern pike. The result of this cross is a sterile hybrid which cannot reproduce. Since muskellunge are not native to Montana, eggs were secured from disease-free water waters in the Midwest. Tiger muskellunge have been stocked in a limited number of small to medium sized Montana reservoirs since 1989, usually to control large populations of unwanted non-game fish. The objective species of this management action is primarily white suckers and to create a "trophy" fishery. The current Montana record is 30 pounds and 48.4 inches long was caught from Deadman's Basin Reservoir.

Stocking of tiger muskellunge in Montana was discontinued when viral hemorrhagic disease (VHS) was discovered in the waters of the Midwest in 2008 that contained brood muskellunge. In 2010, a new source of fish was found from a private hatchery in South Dakota which was certified disease free. Fourteen hundred tiger muskellunge fingerlings (8" to 10") were stocked into four Montana reservoirs during 2010 at a total cost of $8.00 per fish (Ken Staigmiller, MFWP, personal communication).

Tiger muskellunge have been suggested to be stocked into Fort Peck Reservoir because of their "trophy" potential. However, due to the immense size of the reservoir, large stocking numbers would be required. Stocking guidelines suggest that 1 to 5 fingerlings be stocked per acre (Wisconsin Department of Natural Resources 1999). This would require a minimum of 200,000 fingerlings for Fort Peck Reservoir costing $1.6 million. Tiger muskellunge are generally stocked on a semi-annual basis. It is also uncertain how successful stockings would be due to a high relative abundance of predators like northern pike and walleye. Walleye in particular have been suggested to influence survival of stocked muskellunge (McKewon et al. 1999).

VIII. OTHER MANAGEMENT COMPONENTS

Fishing Tournaments

Tournaments on Fort Peck Reservoir continue to gain popularity as more tournaments are proposed for species other than walleye. In the first management plan, approval was given to three walleye tournaments and one smallmouth bass tournament. Ten tournaments were proposed and held in 2000 which included eight walleye tournaments, one northern pike tournament, and one smallmouth bass tournament. In 2011, a total of 13 tournaments were proposed which consisted of eight walleye, three smallmouth bass, one northern pike, and one salmon/lake trout tournament.

Statewide regulations for fishing contests do not outline specific guidelines (i.e., number of derbies, format type, time, or number of participants) for tournaments on specific waters. Each tournament application is reviewed by fisheries personnel to determine if any adverse impacts to the fisheries resource are anticipated or if there would be conflicts with other recreational uses. The FWP Parks Division also reviews tournament proposals if they are proposed to be headquartered out of State Parks. The Fisheries Bureau reviews all tournaments based out of a state Fishing Access Site. Site use fees are assessed depending on locations and type of tournament. Proposed tournaments are posted in major news outlets as per MEPA guidelines for a 30-day public review and comment period. If no controversial issues arise and FWP determines that the proposed tournament will have limited or no significant biological or social impacts, it is approved.

The increased number of proposed tournaments in 2011 on Fort Peck Reservoir led to the denial of one tournament entry because current management plan stipulations state that no more than 12 open water tournaments will be held per year. The management plan further states that preference will be given to applicants who held previous tournaments on Fort Peck Reservoir. This structure has led to inequality for non-established tournaments because established tournaments occupy the 12 available slots.

Because of the increasing number of tournaments and scheduling conflicts with holiday weekends, the 2011 open water season had a tournament scheduled every weekend during the months of June and July minus the holiday weekends. Non-tournament anglers have expressed frustration with the lack of tournament-free weekends during peak summer months and state that impacts associated with tournament pre-fishing needs to be addressed.

The on-line survey conducted in 2010-2011 indicated that most respondents supported the limited amount of tournaments held on Fort Peck Reservoir. Respondents were also in favor of holding catch and release tournaments as opposed to weigh-in-type tournaments. One weigh-in-type walleye tournament held in 2000 resulted in high mortality rates of walleye which caused extreme controversy. Because of this, catch-and-release tournaments are now held during the warm water periods (June 16-September 14) and boundaries are in place to limit the distance fish are transported.

Tournament directors will be made aware of the threat aquatic nuisance species pose to the fishery. Monitoring efforts will have to be increased with the finding of Eurasian Water Milfoil to limit transmission to other water bodies as more participation increases with tournaments held on Fort Peck Reservoir.

<u>Management program for fishing tournaments:</u>

1. A maximum of 16 tournaments will be permitted per calendar year.
    a. No more than 12 open water and 4 ice tournament will be permitted per calendar year.
    b. No more than 6 tournaments will be permitted from June 1st through July 30th.
    c. No tournaments will be permitted for the weekends of Memorial Day, Father's Day, Fourth of July, or Labor Day.
    d. Only one tournament per weekend will be permitted.
    e. Established Fort Peck tournaments of 10 consecutive years or more will be given preference.
    f. Applicants will be required to list first, second and third choice tournament dates on applications.
    g. In years where more applications are received than available tournament dates will be entered in a lottery.
    h. Unsuccessful applicants will receive one bonus point. Tournament applications will be entered into the lottery in subsequent years and bonus points will be applied (e.g. If an applicant has accumulated one bonus point, that application will be entered into the lottery two times).

2. Tournaments will be reviewed on an individual basis. Evaluation of proposed tournaments will include potential biological and social impacts. Proposed tournaments will undergo a 30-day public review and comment period.

3. All catch and release tournaments with weigh-in type format will be limited to cool weather periods: May-June 15, or after September 15.

4. Tournament boundaries must be clearly defined in the application. Proposed boundary size should be minimized in an effort to reduce tournament related fish mortality caused by fish being held in live-wells for extended periods of time and/or traveling long distances.

5. Tournament directors will be required to report post-tournament catch-rate information in a standardized format.

Fishing and Recreational Access

Currently there are a total of 13 public access sites (12 boat ramps) located around the reservoir, which are administered by Army Corp of Engineers (USACE). These recreation sites are managed privately or by government natural resource agencies. The following inventory lists the site name along with the entity responsible for the day-to-day recreation management of the site:

Fort Peck Marina ………………………….USACE and private concessionaire
Duck Creek Fishing Access Site ………….FWP and USACE
The Pines ………………………………….USACE
Bonetrail …………………………………..USACE
Fourchette Bay …………………………….USACE
Crooked Creek …………………………….USACE and private concessionaire
Devils Creek ……………………………....USACE
Hell Creek Marina and state park……….....USACE, FWP, and private concessionaire
Nelson Creek ……………………………...USACE
McGuire Creek ……………………………USACE
Rock Creek Marina ……………………….USACE and private concessionaire
Rock Creek Fishing Access Site ………….FWP and USACE
Spillway/Flat Lake…………………………USACE

Since 2002, many on-site improvements have been made at several of the lake's access sites. The following is a summary of these enhancements of recreation sites on Fort Peck Lake:

Following the expansion of the Duck Creek Fishing Access Site in 2001, additional on-site improvements have been made and are proposed. In 2003, during lower water levels, the existing concrete boat ramp was extended by FWP. In 2009 a temporary ADA access was developed to the bathroom facilities at the boat ramp, with plans to 'harden' this access trail in the future. As a partner in a cooperative effort with a local Walleyes Unlimited chapter and the USACE, FWP will participate in the construction and long term management of a fish cleaning station to be located at the entrance of the Fishing Access Site. With the electricity that will be supplied at the fish cleaning station, FWP plans to provide new lighting service in the area of the boat ramp.

Since the major revamp at FWP's Hell Creek State Park in 2000 and 2001, additional recreation services have been created. In 2003 FWP continued to provide improvements in this park by developing a "comfort station," which includes a shower facility. Then in 2005, electrical hook-ups were installed at 44 campsites, followed by the addition of several picnic shelters in 2009. Beginning in March of 2011, a campground reservation program for all state parks was provided where campground users can make campsite reservations in advance of their arrival.

<u>Management actions for fishing and recreational access:</u>

1) Utilize the specific results from the questionnaire to guide future development of fishing and recreational sites with federal aid and state funding.

2) Continue to encourage and cooperate with federal and county agencies, along with non-government organizations in the development of recreational access.

<u>Reservoir Water Levels</u>

The Missouri River Mainstem Reservoir System Master Water Control Manual for the Missouri River Basin was prepared by the USACE in 1995. This document is the blueprint for the Corps to carry out water management activities as required by Federal laws and directives. The Master manual was updated in 2006. The Master Manual details the construction history of Fort Peck Dam, authorized purposes, operational guidelines, as well as recreation and fish and wildlife components associated with the operation of the dam. The following excerpts are taken directly from the 2006 Master Manual.

> The system of six dams on the Missouri River affects not only the States within the Missouri River basin in which the dams and associated reservoirs are located, but also the downstream reaches of the Missouri River to its mouth near St. Louis, Missouri. The States are located within the Corps' Omaha and Kansas City Districts; therefore, the Missouri River Basin Water Management Division (MRBWMD), Programs Directorate, of the Corps' Northwestern Division (NWD) located in Omaha, Nebraska has prepared the Master Manual. A subset of the MRBWMD, known as the Reservoir Control Center (RCC), is responsible for the day-to-day regulation of the Missouri River Mainstem Reservoir System (System).
>
> 4-02. **Authorized Purposes of the Mainstem Reservoir System.** The six System dams are regulated as a hydrologically and electrically integrated system for the Congressionally authorized purposes of flood control, navigation, hydropower, water supply, water quality, irrigation, recreation, and fish and wildlife. The 1944 Flood Control Act authorized construction of the System dams, with the exception of Fort Peck Dam, which was authorized by the Rivers and Harbors Act of 1935. The Fort Peck Power Act of 1938 authorized the construction of hydropower facilities at Fort Peck Dam. The 1944 Flood Control Act also recognized that all of the authorized purposes for the other System projects should apply to Fort Peck as well as making this project a part of the System. The Endangered Species Act of 1973 (Public Law 93-205, as amended in Public Laws 95-632, 96-159 and 97-304) states that the policy of Congress is for all Federal departments and agencies to seek to conserve endangered and threatened species and to utilize their authorities in furtherance of the purposes of the Act. This Act is discussed in greater detail in Chapter 2, Paragraph 2-01.14.6 of this Master Manual. The System has endangered species and has, therefore, operated for the continued existence of these species in coordination with the Service. This Missouri River Mainstem System Master Water Control Manual presents the guidelines and operational objectives for regulating the System for the Congressionally authorized purposes, with recognition that other incidental benefits are also achieved.

VII – CURRENT WATER CONTROL PLAN FOR THE SYSTEM

7-01. **System Water Control Plan.** In enacting the 1944 Flood Control Act, Congress adopted the recommendations contained in the underlying Pick-Sloan documents. These documents identified flood control, navigation, irrigation, hydropower, water supply, water quality, recreation, and fish and wildlife as project purposes and also 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 Corps, 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.

7-02.2. **Fort Peck – Fort Peck Lake.** Fort Peck'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.

7-08. **Recreation Purpose System Regulation.** Historic System regulation to serve the recreation purpose is detailed in Appendix B of this Master Manual. Numerous adjustments of both a temporary and a relatively permanent nature have been made to the regulation of individual System projects to enhance recreational activities. For example, a limitation is placed on power peaking during particular periods in order that downstream boating or fishing tournaments may be facilitated. Recreational use of the System has increased through the years, with the visitor-hour attendance approaching or slightly exceeding 60 million visitor hours during the past 7 years. 7-08.1.

Recommendations from the Department to enhance and maintain the Fort Peck fishery are submitted annually to the Corps for inclusion into the Annual Operating Plan process. Montana requests are coordinated with other Missouri River states through the Missouri River Natural Resource Committee. Reservoir water level management and river release flows take into consideration existing reservoir levels, runoff forecasts, and downstream storage capacity.

The Department has prepared recommendations as general guidelines for long-term water level management of Fort Peck Reservoir to help maintain and enhance the fishery. Storage reservoirs typically have annual varial zones where annual water level fluctuation produce a suite of impacts to the aquatic environment and associated terrestrial environment. This unstable region is subject to loss of aquatic and terrestrial plants and associated populations of phytoplankton and benthic organisms. Lack of submerged vegetation causes a decline in the overall productivity of the entire fish population by reducing food supply, spawning habitat, and rearing cover. Submerged vegetation also provides protective cover for forage fish and young game fish species. Additionally, varial zones my provide areas for successful colonization of aquatic invasive species such as Eurasian Watermilfoil due to the lack of competition if a healthy native aquatic plant community were present.

The goal in providing a water level management plan is to enhance shoreline vegetation growth and enhance reservoir productivity through water management while taking into account annual water yield variability. The following strategies are submitted for this purpose:

1. The absolute 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 crucial 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 terrestrial vegetation and the resultant nutrient upsurge that occurs should be done in a controlled fashion. This can be accomplished by flooding terrestrial 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 during December through March during the incubation of cisco eggs. Decreases in reservoir elevations, particularly greater than five feet, should be avoided.

<u>Management actions for water quality and zooplankton monitoring programs:</u>

1. Pursue USACE funding to investigate impacts associated with water level management on water quality, and zooplankton production throughout Fort Peck Reservoir.

2. Establish a limnological monitoring program to determine seasonal and annual reservoir productivity trends.

3. Utilize seasonal zooplankton data to guide fish stocking schedules.

Aquatic Nuisance Species

Fort Peck Reservoir is a highly recognized fishery for a variety of fish species that inhabit the reservoir. Due to the high amount angling pressure from outside the region, Fort Peck Reservoir has the ability to facilitate the movement of Eurasian water milfoil as well as become exposed to additional aquatic nuisance species and diseases. Introductions of aquatic nuisance species (zebra and quagga mussels, and Asian carp) and diseases (viral hemorrhagic septicemia) all have the potential to adversely affect the existing native and sport fish community.

The goals and objectives during this 10-year management plan period are to prevent new diseases and exotic aquatic plant and wildlife species from entering Fort Peck Reservoir and limit the expansion of Eurasian water milfoil.

Aquatic Invasive Species

1. Reduce the risk of spreading Aquatic Invasive Species (AIS) by coordinating with FWP's Fish Health staff to conduct disease testing during any egg take operations.

2. Clean, inspect and dry sampling gear to reduce the spread of AIS during FWP sampling.

3. Assist with education efforts to reduce the spread of AIS by participating in the Eurasian Water Milfoil taskforce (USACE, Department of Agriculture, USFWS, local county weed districts, etc.)

4. Work with FWP Aquatic Nuisance Species Coordinator to coordinate annual water testing in Fort Peck Reservoir and boat-check and boat washing stations during periods of high angler use.

Fort Peck Fish Hatchery

During the previous plan, anglers expressed concern about the availability of sufficient walleye fingerlings. The USACE added seven additional walleye rearing ponds in the 1990's to the existing four ponds constructed in the late 1980's in the Duck Creek area of Fort Peck Reservoir. Partial funding for these ponds was provided by Walleyes Unlimited. These ponds were utilized by FWP to increase the number of fingerlings stocked in Fort Peck. In addition, a new hatchery for warmwater species was proposed to the state legislature and approved in 1999. Authorization for the hatchery was then sought from Congress and the project was approved in 2000 and appropriated funding followed in 2001 which facilitated engineering and design. Construction of the hatchery was completed in 2005 and the first year of fish production began in 2006.

Typical timeline operation of the Fort Peck Hatchery operation consists of the incubating walleye and northern pike eggs during the months of April and May. Once walleye and northern pike eggs hatch into fry, they are transported to rearing ponds for fingerling production or they are directly stocked into waters were a biologically based request has been submitted by the management biologist. Walleye and northern pike fry stocked into rearing ponds will remain there for 4 to 6 weeks until they reach fingerling size (1-2") and then transported to waters where a walleye or northern pike fingerling request had been placed. Some walleye fingerlings are held back and reared to an advanced fingerling stage if a request has been placed. Pond production for walleye and northern pike will cease in July/August and no fish are held during the winter months in hatchery ponds.

Chinook salmon eggs are collected during the month of October and incubation generally lasts until December or January depending on water temperatures. Once the eggs hatch, fry are transported to rearing tanks inside the hatchery. Salmon fingerlings remain in rearing tanks from March to May. Once they reach a certain density and size, salmon fingerlings are then moved to outdoor raceways. Chinook salmon are released during June as a spring released fingerlings, and others are held back until late October. It should be noted that production goals of walleye and northern pike are not affected because of the difference in spawning times.

The average number of walleye fingerling stocked in Fort Peck Reservoir from 2000 to 2005 averaged 1.65 million and the average number of fry stocked within the same period was 26.2 million. With the addition of the Fort Peck Hatchery in 2006, the number of walleye fingerlings stocked from 2006 to 2010 in Fort Peck Reservoir was 2.9 million, and the average number of fry stocked was 28.3 million. This represented a 44% increase in fingerling and 7% increase in fry stocking. It was anticipated that with the addition of the Fort Peck Hatchery, state-wide walleye fingerling production would exceed 4 million. In 2006, the total number of fingerlings stocked into Fort Peck was 4.1 million which were the most fingerlings planted in Fort Peck Reservoir since the stocking program began (Appendix C). However, hatchery pond production has shown to be variable due to fluctuations in water temperatures and weather which affects plankton production. This was evident when pond production of walleye fingerlings at the hatchery decreased in 2007, 2008, and 2010.

Annual costs and problems with long-term viability of hatchery operations regarding pumped water need to be evaluated. The intake structure for the Fort Peck Hatchery is located in the Fort Peck Dredge Cuts which is located away from the main channel of the Missouri River. The location and design requires water to be pumped into the hatchery as opposed to a gravity fed water system (potentially from Fort Peck Dam). Water being pumped at all times of the year can generate high utility costs during times of fluctuating water temperatures from water received from the Fort Peck Dredge Cuts. In the past water temperatures entering the hatchery ranged from an average of 38° F in the winter to as high as 82°F in the summer. These temperatures can negatively influence condition and growth of fish species if not controlled by mechanical means. Currently, the Fort Peck Hatchery can only heat water during the cold water temperature months. The hatchery has no means of cooling water during the warm water temperature months.

IX. APPENDICES

Appendix A. Meeting locations, dates, and attendance during public scoping meeting for the Fort Peck Fisheries Management Plan.

Miles City – June 6th 2011
Number attending: 3

Glendive – June 7th 2011
Number attending: 3

Wolf Point – June 20th 2011
Number attending: 3

Glasgow – June 21st 2011
Number attending: 12

Havre – June 22th 2011
Number attending: 1

Lewistown – June 27th 2011
Number attending: 5

Billings – June 28th 2011
Number attending: 50 (20 Fort Peck Reservoir management plan)

Great Falls – June 29th 2011
Number attending: 0

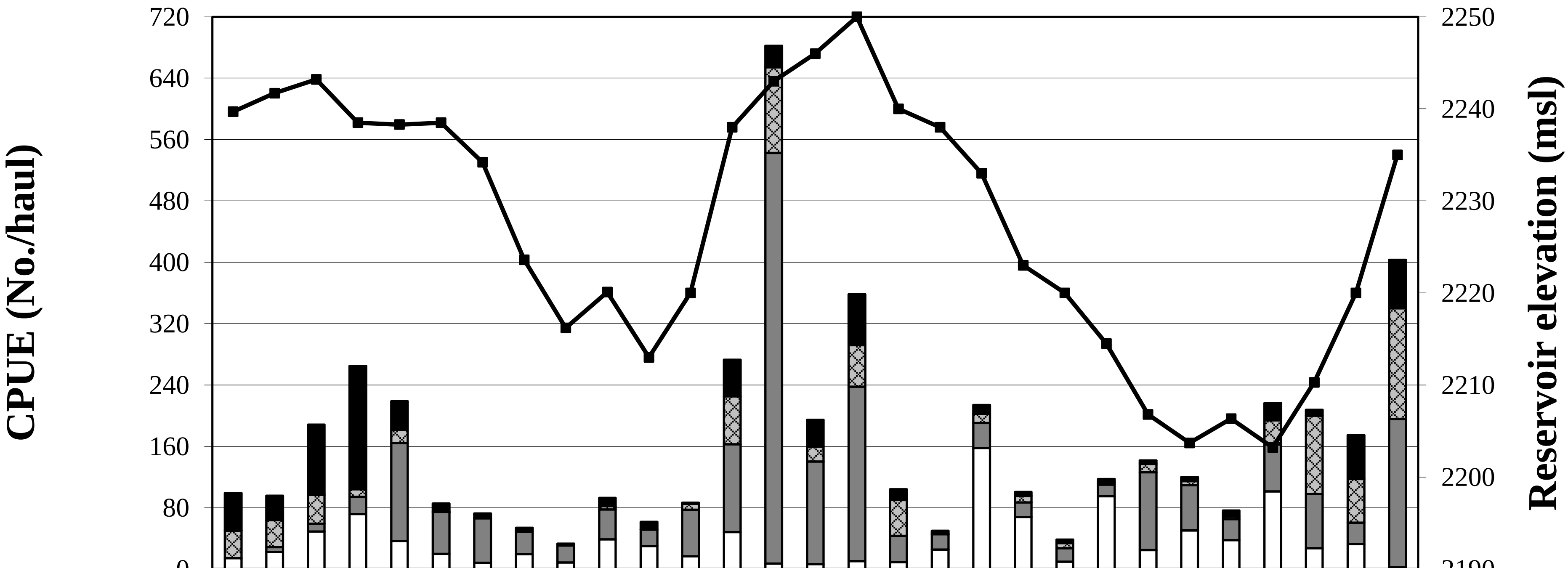
Appendix B. List of introduced and native fish species found in Fort Peck Reservoir.

Common Name	Scientific name	Native (N) or Introduced (I)	Year of Introduction
Bigmouth buffalo	*Ictiobus cyprinellus*	N	NA
Black bullhead	*Ictalurus melas*	I	1946
Bluegill	*Lepomis macrochirus*	I	1945
Black crappie	*Pomoxis nigromaculatus*	I	1940
Blue sucker	*Cycleptus elongates*	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
Coho salmon	*Oncorhynchus kisutch*	I	1969
Cisco	*Coregonus artedii*	I	1984
Common carp	*Cyprinus carpio*	I	Unknown
Creek chub	*Semotilus atromaculatus*	N	NA
Emerald shiner	*Notropis atherionoides*	N	NA
Fathead minnow	*Pimephales promelas*	N	NA
Flathead chub	*Hybopsis gracilis*	N	NA
Freshwater drum	*Aplodinotous 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
Largemouth bass	*Micropterus salmoides*	I	1941
Longnose dace	*Rhinichthys cataractae*	N	NA
Longnose sucker	*Catostomus catostomas*	N	NA
Northern pike	*Esox lucious*	I	1951
Paddlefish	*Polyodon spathula*	N	NA
Pallid sturgeon	*Scaphirhynchus albus*	N	NA
Plains killifish	*Fundulus albus*	I	Unknown
Plains minnow	*Hybognathus placitus*	I	NA
Rainbow trout	*Oncorhynchus mykiss*	I	1942
River carpsucker	*Carpoides carpio*	N	NA
Sand shiner	*Notropis stramineus*	N	NA
Sauger	*Sander canadense*	N	NA
Shorthead redhorse	*Moxostoma macrolepidotum*	N	NA
Shovelnose sturgeon	*Scaphiryhynchus platorynchus*	N	NA
Silvery minnow	*Hybognathus argyritis*	N	NA
Smallmouth bass	*Micropterus dolemieu*	I	1983
Smallmouth buffalo	*Ictiobus bubalus*	N	NA
Spottail shiner	*Notropis hudsonius*	I	1982
Stonecat	*Noturus flavus*	N	NA
Walleye	*Sander vitreum*	I	1951
White crappie	*Pomoxis annularis*	I	Unknown
White sucker	*Catostomus commersoni*	N	NA
Yellow perch	*Perca flavescens*	I	1938

Appendix C. Number of walleye eggs collected from Fort Peck Reservoir and number of fry and fingerlings stocked in Fort Peck Reservoir from 1951-2010.

Year	Eggs collected (million)	Fry stocked (million)	Fingerlings stocked
1951		0.88	
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
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
Total	1,737	659.6	42,549,670
Average	69.5	20.6	1,289,383

Appendix D. Maximum annual reservoir elevation compared to mean catch per unit effort (CPUE) of emerald, spottail, young-of-year yellow perch, and young-of-year crappie collected during annual seine hauls in Fort Peck Reservoir, 1982-2010.

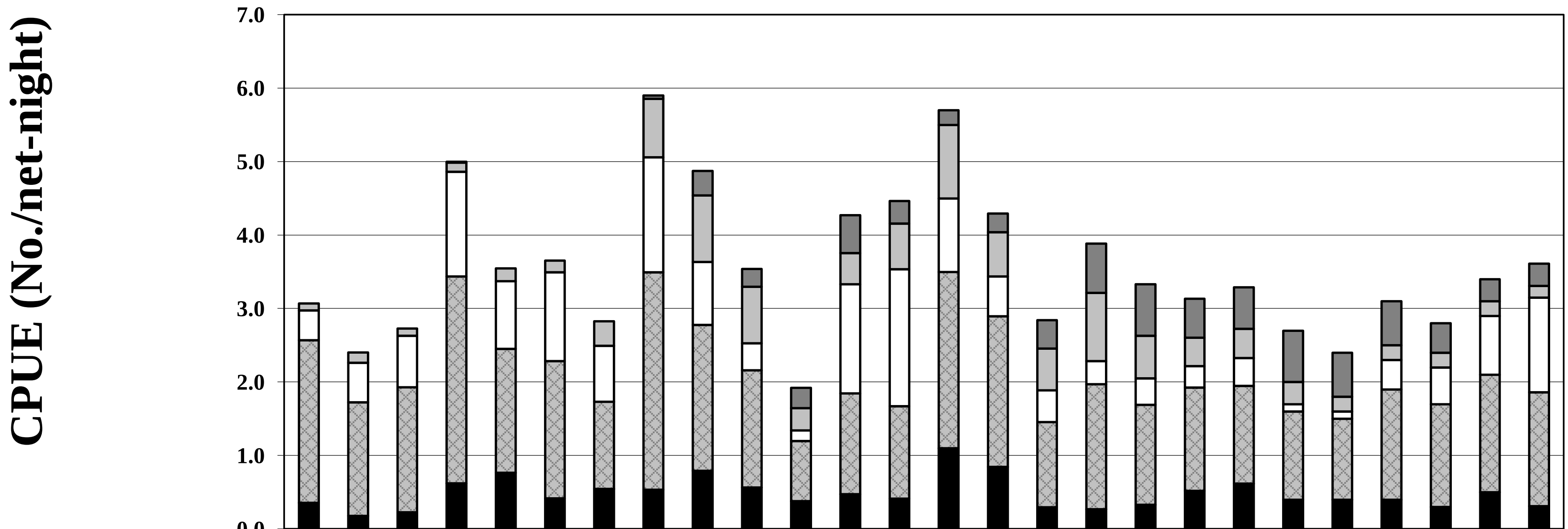


	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96
Perch	49.3	32	91.8	161	37.5	11.3	6	5.1	1.9	10.9	10	1.3	47.9	27.9	35.1
Crappie	35.7	35.1	37.4	9.7	17.1	0.2	0	0.1	0.7	4.1	0.4	7.6	62.6	112	19.3
Spottails	0	6.4	10.1	22.6	128	54.2	58	28.9	22	39.2	21.4	60.7	114	535	134
Emeralds	14.2	22.3	49.1	71.6	36.6	19.9	8.3	19.6	8.6	38.7	29.9	16.8	48.4	7.3	6.5
Elevation	2240	2242	2243	2239	2238	2239	2234	2224	2216	2220	2213	2220	2238	2243	2246

	97	98	99	00'	01'	02'	03'	04'	05'	06'	07'	08'	09'	10'
Perch	66.5	14.1	4.4	11.4	5.3	4.3	5	4.9	5.2	8.4	22.6	8.01	57.2	63.3
Crappie	54	46.7	0.2	11.9	8.2	6.7	2.5	10.6	5.2	3.1	31.6	102	56.9	144.
Spottails	228	34.4	20	32.6	19.1	17.7	15.2	102	58.8	27.4	61.1	70.8	28.2	193.
Emeralds	10.4	8.8	25.5	158	67.9	9.6	94.8	24.6	50.5	37.6	101	27.1	32.4	2.2
Elevation	2250	2240	2238	2233	2223	2220	2215	2207	2204	2206	2203	2210	2220	2235

Year

Appendix E. Length structure, in terms of catch per unit effort (CPUE), of walleye collected in standardized experimental gill net series in Fort Peck Reservoir during, July-August, 1982-2010. No gill netting was conducted in 1990, 1991, and 1997.



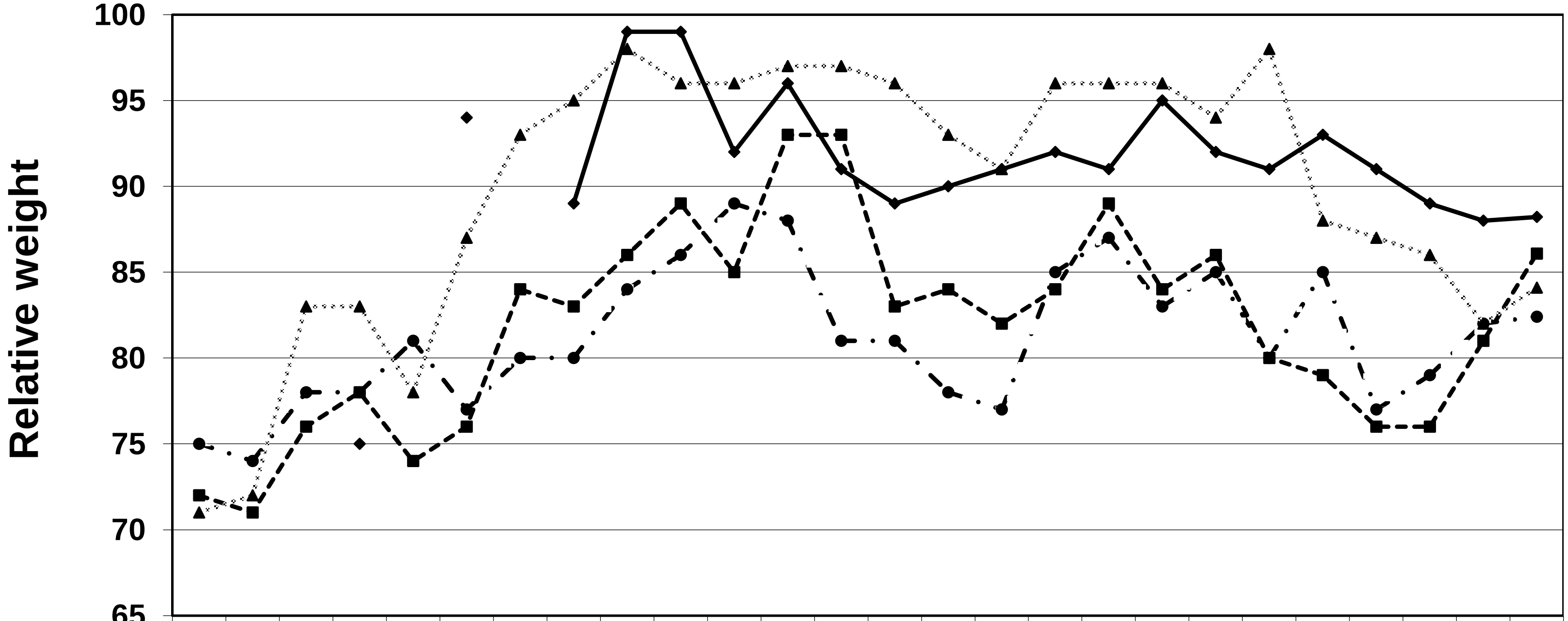
	82	83	84	85	86	87	88	89	92	93	94	95	96	98	99	00'	01'	02'	03'	04'	05'	06'	07'	08'	09'	10'
Memorable > 25"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.2	0.3	0.5	0.3	0.2	0.3	0.4	0.7	0.7	0.5	0.6	0.7	0.6	0.6	0.4	0.3	0.3
Preferred 20" - 24.9"	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.8	0.9	0.8	0.3	0.4	0.6	1.0	0.6	0.6	0.9	0.6	0.4	0.4	0.3	0.2	0.2	0.2	0.2	0.2
Quality 15" - 19.9"	0.4	0.5	0.7	1.4	0.9	1.2	0.8	1.6	0.9	0.4	0.1	1.5	1.9	1.0	0.5	0.4	0.3	0.4	0.3	0.4	0.1	0.1	0.4	0.5	0.8	1.3
Stock 10" - 14.9"	2.2	1.5	1.7	2.8	1.7	1.9	1.2	3.0	2.0	1.6	0.8	1.4	1.3	2.4	2.1	1.2	1.7	1.4	1.4	1.3	1.2	1.1	1.5	1.4	1.6	1.6
Sub Stock < 9.9"	0.4	0.2	0.2	0.6	0.8	0.4	0.5	0.5	0.8	0.6	0.4	0.5	0.4	1.1	0.8	0.3	0.3	0.3	0.5	0.6	0.4	0.4	0.4	0.3	0.5	0.3

Year

Appendix F. Mean length-at-age at time of capture (in) for walleye collected in standardized experimental gill net series in Fort Peck Reservoir during, July-August, 2006-2010. Walleye collected were aged from sectioned otoliths.

Year		Length at age at capture (in)													
		1	2	3	4	5	6	7	8	9	10	11	12	13	14
2006	Mean	7.9	9.9	11.2	12.6	12.5	14.3	12.7	26.5	20.7	22.7	26.9	26.7	28.2	25
	N	30	10	24	32	17	8	2	1	12	4	4	11	2	2
	SE	0.1	0.3	0.2	0.2	0.3	0.3	1.1	--	1.2	2.6	1.3	0.5	1.6	2
	Range	6.7-9.5	8.9-11.6	8.2-13.3	10.4-17.3	10.2-14.5	13.1-15.7	11.6-13.8	--	14.6-26.7	15.0-26.8	23.4-29.3	24.0-29.0	26.6-29.8	23.0-27.0
2007	Mean	8	9.9	12.1	13.1	14	15.7	15.6	13.5	20.9	20.3	24.4	27.5	27.4	27.5
	N	7	55	19	37	36	19	6	2	2	11	6	5	8	2
	SE	0.3	0.1	0.3	0.2	0.2	0.5	0.8	0.7	6.6	1.4	1.5	0.9	0.9	1.1
	Range	6.9-9.1	7.7-12.8	10.0-13.9	11.5-15.2	12.0-17.0	11.7-20.8	13.8-18.4	12.8-14.2	14.3-27.6	13.3-26.6	17.1-27.2	24.5-29.7	23.5-31.2	26.3-28.6
2008	Mean	8.1	10.6	11.9	13	14.3	14.9	17.5	15.8	16.4	19.5	23.9	24.2	25.6	26.3
	N	12	31	57	14	15	21	23	8	3	2	5	4	2	2
	SE	0.2	0.2	0.2	0.3	0.5	0.3	0.6	0.7	0.8	4.9	2.2	1.5	3	1.8
	Range	7.9-9.3	8.0-12.3	9.1-15.4	11.4-14.6	9.5-19.4	12.1-18.0	13.8-24.8	13.1-19.7	14.9-17.3	14.6-24.4	15.4-28.3	20.3-27.4	22.5-28.6	24.5-28.1
2009	Mean	7.8	10.8	12.7	14.5	15.1	16.2	17.3	17.8	19.5	15.7	23	15.6	26.7	26.4
	N	47	57	49	100	16	20	27	14	6	1	1	1	4	4
	SE	0.1	0.2	0.2	0.1	0.4	0.4	0.5	0.7	1.4	--	--	--	1.9	1
	Range	7.0-9.3	7.8-14.0	10.5-15.7	11.7-18.3	13.0-18.3	13.8-21.2	13.4-22.3	14.0-21.6	14.6-23.3	--	--	--	21.5-29.5	24.2-29.0
2010	Mean	7.4	10.3	13.3	14.9	16.1	16.5	17.8	19.1	18.7	23.6	--	--	27.8	26.3
	N	2	95	40	50	79	12	18	15	5	2	--	--	1	1
	SE	1.5	0.1	0.2	0.2	0.2	0.6	0.6	0.6	1.4	3.1	--	--	--	--
	Range	5.9-8.2	7.6-15.0	7.6-15.1	10.4-19.4	11.0-22.5	14.4-21.3	13.3-22.9	14.4-23.2	14.0-23.1	20.5-26.8	--	--	--	--
Mean of means		7.8	10.3	12.2	13.6	14.4	15.5	16.2	18.5	19.2	20.4	24.5	23.5	27.1	26.3

Appendix G. Relative weights of various length categories of walleye collected in the standardized experimental gill net series in Fort Peck Reservoir during, July-August, 1982-2010. No gill netting was conducted in 1990, 1991, and 1997.



	82	83	84	85	86	87	88	89	92	93	94	95	96	98	99	00'	01'	02'	03'	04'	05'	06'	07'	08'	09'	10'
Stock 10" - 14.9"	75	74	78	78	81	77	80	80	84	86	89	88	81	81	78	77	85	87	83	85	80	85	77	79	82	82
Quality 15" - 19.9"	72	71	76	78	74	76	84	83	86	89	85	93	93	83	84	82	84	89	84	86	80	79	76	76	81	86
Preferred 20" - 24.9"	71	72	83	83	78	87	93	95	98	96	96	97	97	96	93	91	96	96	96	94	98	88	87	86	82	84
Memorable > 25"				75		94		89	99	99	92	96	91	89	90	91	92	91	95	92	91	93	91	89	88	88

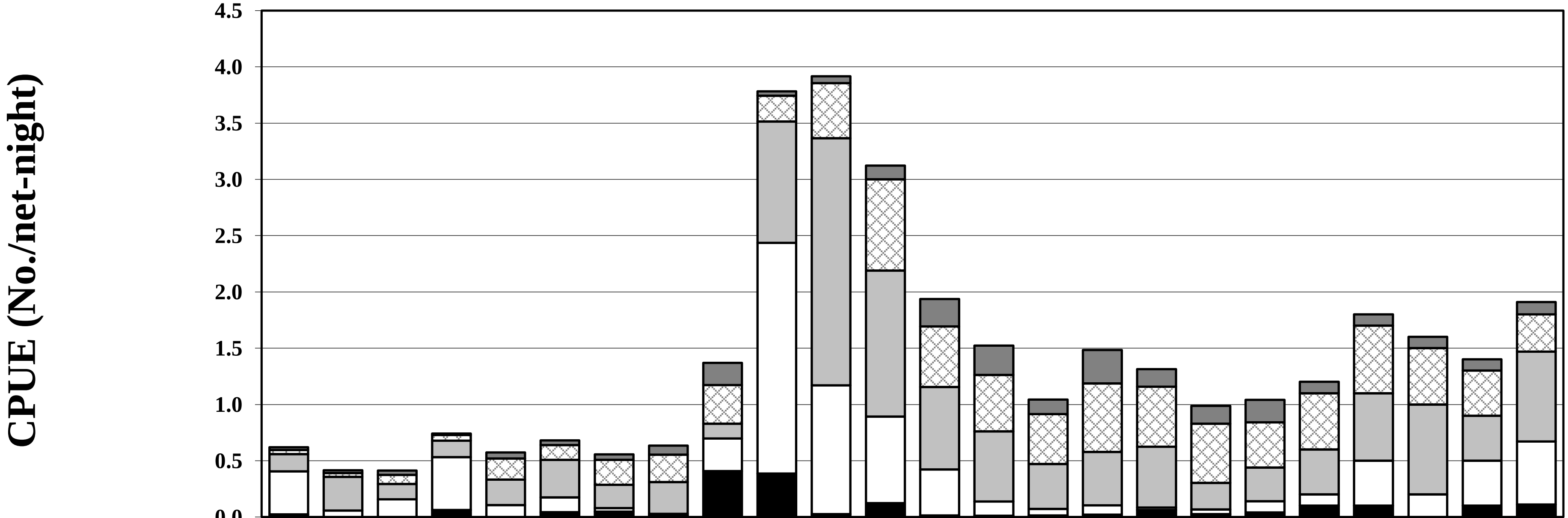
Year

Appendix H. Summary of walleye catch and harvest rates from Mid-Western and Western lakes and reservoirs.

	Catch rate summary			Harvest rate summary		
No. walleye per hour	Total surveys	Individual percent	Cumulative percent	Total surveys	Individual percent	Cumulative percent
< 0.01	26	5.8%	5.8%	35	3.0%	3.0%
0.0.1-0.05	59	13.1%	18.8%	397	34.4%	37.4%
0.06-0.10	56	12.4%	31.2%	351	30.4%	67.8%
0.11-0.15	64	14.2%	45.4%	126	10.9%	78.7%
0.16-0.20	43	9.5%	54.9%	80	6.9%	85.6%
0.21-0.25	39	8.6%	63.5%	59	5.1%	90.7%
0.26-0.30	31	6.9%	70.4%	39	3.4%	94.1%
0.31-0.35	35	7.7%	78.1%	26	2.3%	96.4%
0.36-0.40	21	4.6%	82.7%	17	1.5%	97.8%
0.41-0.45	16	3.5%	86.3%	11	1.0%	98.8%
0.46-0.50	15	3.3%	89.6%	3	0.3%	99.0%
0.51-0.55	6	1.3%	90.9%	2	0.2%	99.2%
0.56-0.60	8	1.8%	92.7%	1	0.1%	99.3%
0.61-0.65	5	1.1%	93.8%	3	0.3%	99.6%
0.66-0.70	4	0.9%	94.7%	0	0.0%	99.6%
0.71-0.75	4	0.9%	95.6%	0	0.0%	99.6%
0.76-0.80	1	0.2%	95.8%	0	0.0%	99.6%
0.81-0.85	2	0.4%	96.2%	1	0.1%	99.7%
0.86-0.90	2	0.4%	96.7%	2	0.2%	99.8%
0.91-0.95	0	0.0%	96.7%	2	0.2%	100.0%
0.96-1.00	4	0.9%	97.6%	0	0.0%	100.0%
>1.01	11	2.4%	100.0%	0	0.0%	100.0%
	452			1155		

A request was placed with several states and provinces in December, 2001, to obtain angler catch and/or harvest rates of walleye in walleye waters. Information was received from Iowa, Minnesota, Montana, North Dakota, Saskatchewan, Alberta, South Dakota, Wisconsin, and Wyoming. Over 1,000 surveys conducted on walleye waters with catch or harvest rates great than 0.0 walleye per hour were used to create the table below. Walleye catch rates of .51 or greater made up only 9.9% of all surveys. Catch rates less than 0.21 made up 54.9% of all creel reports. Walleye harvest rates below 0.15 walleye per hour made up 78.7% of all surveys. Other notes received by Minnesota and Wisconsin indicated walleye waters with natural reproduction typically had higher catch rates than reservoirs that required stocking of walleye. Walleye waters with high catch rates typically had moderate or lower harvest rates which relate to smaller, less desirable size walleye.

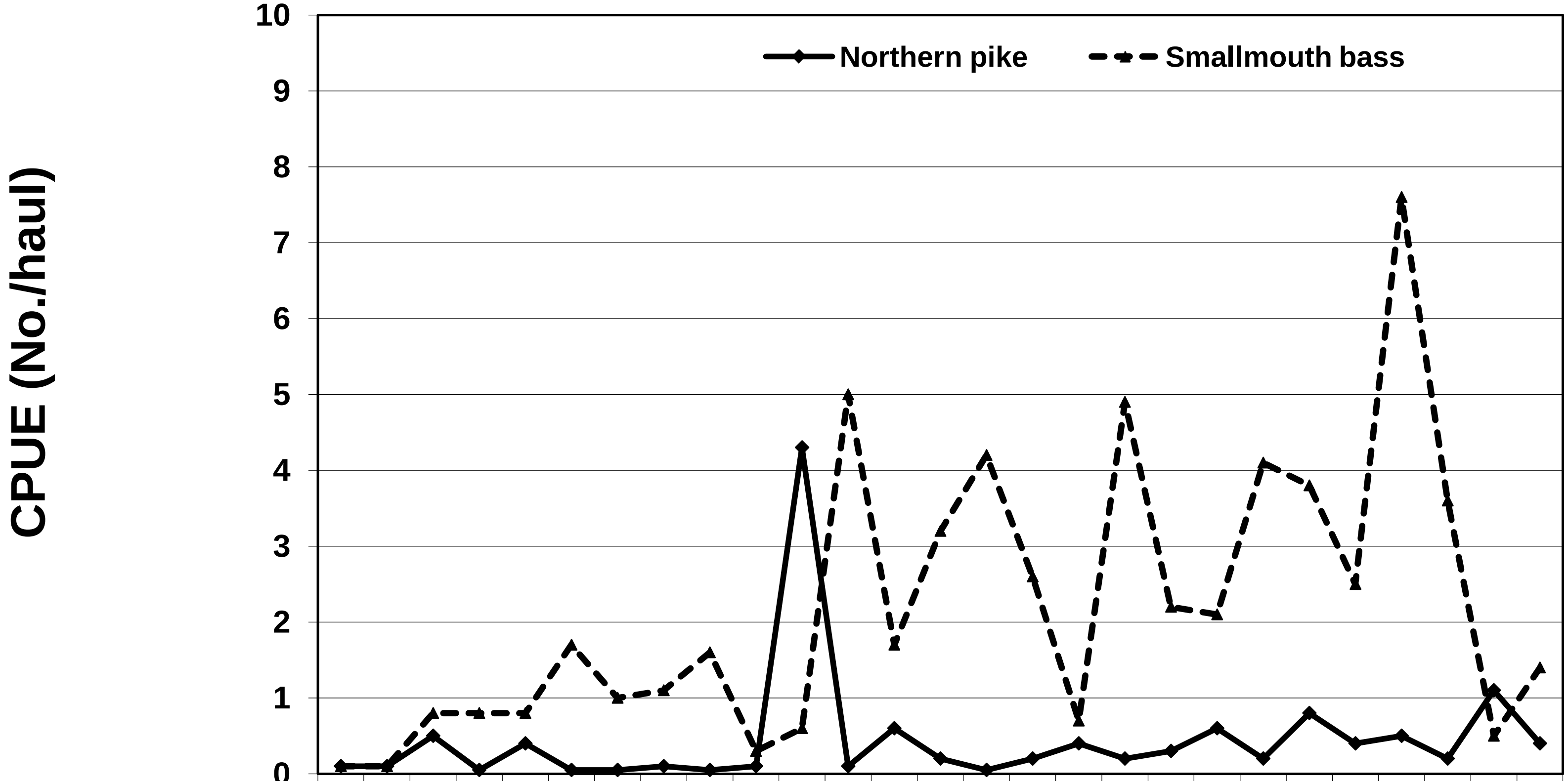
Appendix I. Length structure, in terms of catch per unit effort (CPUE), of northern pike collected in standardized experimental gill net series in Fort Peck Reservoir during, July-August, 1984-2010. No gill netting was conducted in 1990, 1991, and 1997.



	84	85	86	87	88	89	92	93	94	95	96	98	99	00'	01'	02'	03'	04'	05'	06'	07'	08'	09'	10'
Memorable >34"	**0.0**	**0.0**	**0.0**	**0.0**	**0.1**	**0.0**	**0.0**	**0.1**	**0.2**	**0.0**	**0.1**	**0.1**	**0.2**	**0.3**	**0.1**	**0.3**	**0.2**	**0.2**	**0.2**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**
Prefered 28"-33.9"	**0.0**	**0.0**	**0.1**	**0.0**	**0.2**	**0.1**	**0.2**	**0.2**	**0.3**	**0.2**	**0.5**	**0.8**	**0.5**	**0.5**	**0.4**	**0.6**	**0.5**	**0.5**	**0.4**	**0.5**	**0.6**	**0.5**	**0.4**	**0.3**
Quality 21" - 27.9"	**0.2**	**0.3**	**0.1**	**0.1**	**0.2**	**0.3**	**0.2**	**0.3**	**0.1**	**1.1**	**2.2**	**1.3**	**0.7**	**0.6**	**0.4**	**0.5**	**0.5**	**0.2**	**0.3**	**0.4**	**0.6**	**0.8**	**0.4**	**0.8**
Stock 14"-20.9"	**0.4**	**0.1**	**0.2**	**0.5**	**0.1**	**0.1**	**0.0**	**0.0**	**0.3**	**2.1**	**1.1**	**0.8**	**0.4**	**0.1**	**0.1**	**0.1**	**0.0**	**0.0**	**0.1**	**0.1**	**0.4**	**0.2**	**0.4**	**0.6**
Substock <13.9"	**0.0**	**0.0**	**0.0**	**0.1**	**0.0**	**0.0**	**0.0**	**0.0**	**0.4**	**0.4**	**0.0**	**0.1**	**0.0**	**0.0**	**0.0**	**0.0**	**0.1**	**0.0**	**0.04**	**0.1**	**0.1**	**0**	**0.1**	**0.1**

Year

Appendix J. 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, 1984-2010.



	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	00'	01'	02'	03'	04'	05'	06'	07'	08'	09'	10'
Northern pike	0.1	0.1	0.5	0.1	0.4	0.1	0.1	0.1	0.1	0.1	4.3	0.1	0.6	0.2	0.1	0.2	0.4	0.2	0.3	0.6	0.2	0.8	0.4	0.5	0.2	1.1	0.4
Smallmouth bass	0.1	0.1	0.8	0.8	0.8	1.7	1	1.1	1.6	0.3	0.6	5	1.7	3.2	4.2	2.6	0.7	4.9	2.2	2.1	4.1	3.8	2.5	7.6	3.6	0.5	1.4

Year

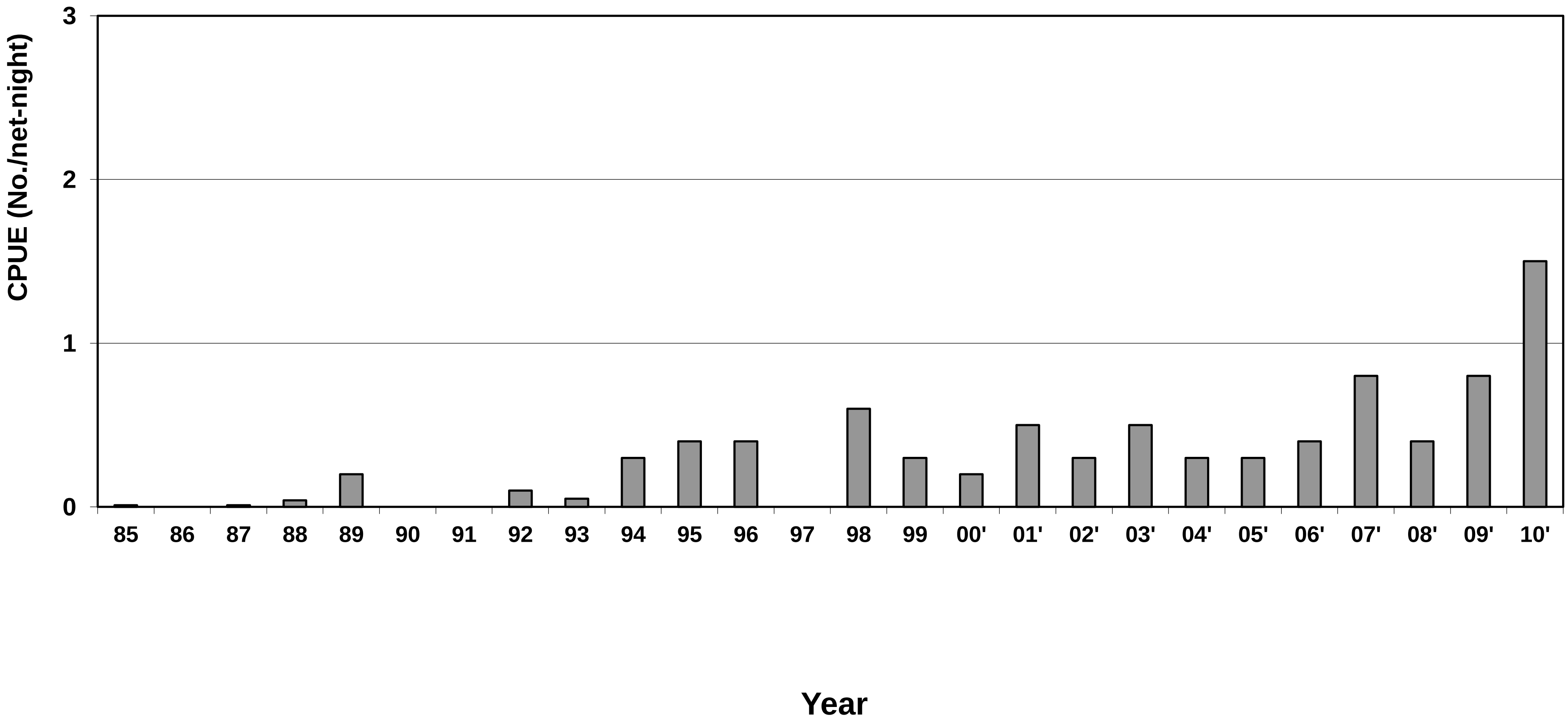
Appendix K. Number of northern pike fry and fingerlings stocked in Fort Peck Reservoir from 1951 to 2009.

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
Total	12,687,626	1,344,145

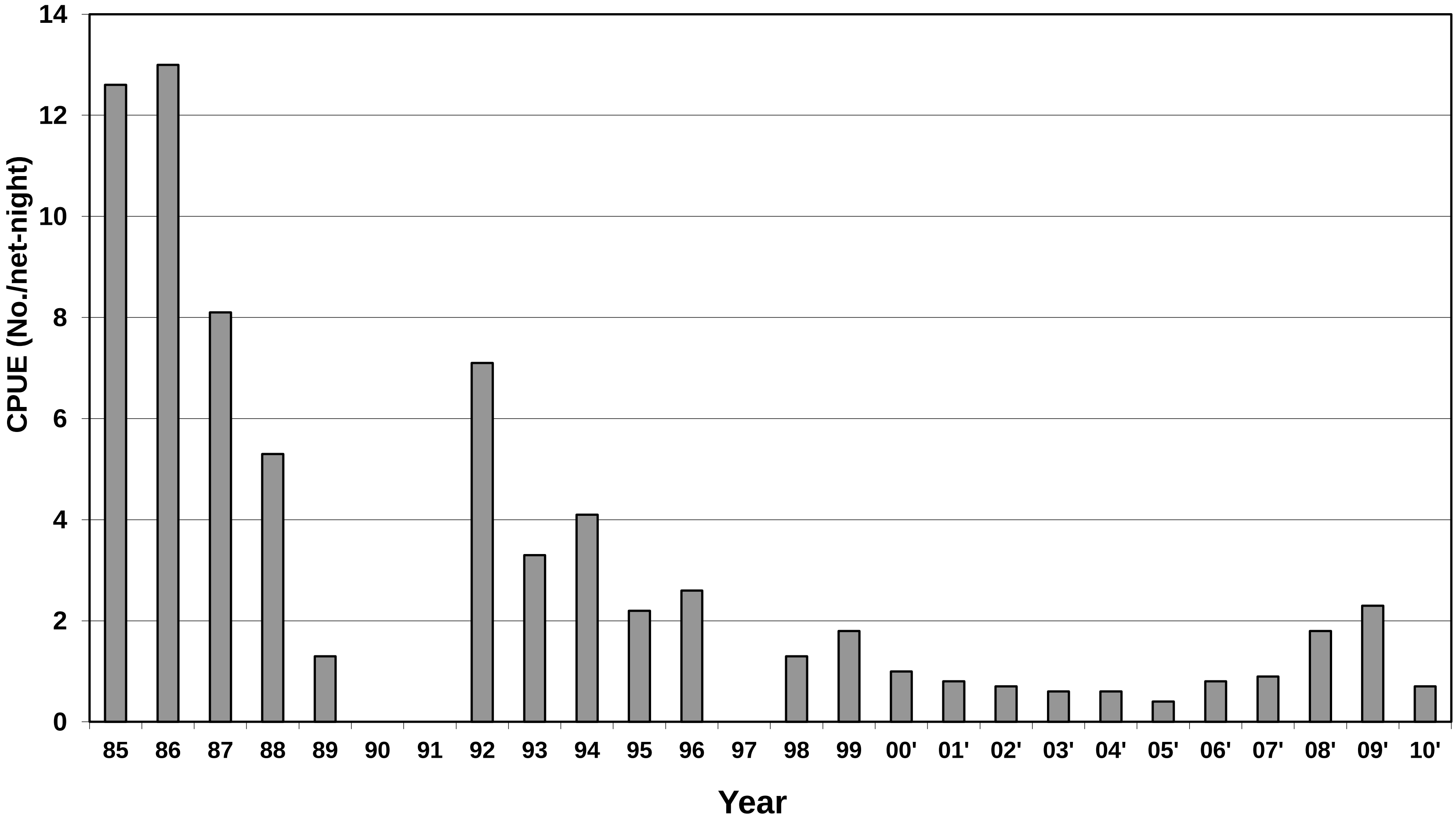
Appendix L. Number of smallmouth bass fingerlings stocked in Fort Peck Reservoir, 1981-2001. No smallmouth bass were stocked from 1984-1992 and 2002-2010.

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
Total	368,835

Appendix M. Mean catch per unit effort (CPUE), of smallmouth bass collected in standardized experimental gill net series in Fort Peck Reservoir during, July-August, 1985-2010. No gill netting was conducted in 1990, 1991, and 1997.



Appendix N. Mean catch per unit effort (CPUE) of sauger collected in the standardized experimental gill net series in the upper Missouri Arm* of Fort Peck Reservoir from 1985-2010.



*Upper Missouri Arm includes the following areas: Bone Trail, Timber Creek, Seven Blackfoot, Fourchette Bay, and Devils Creek.

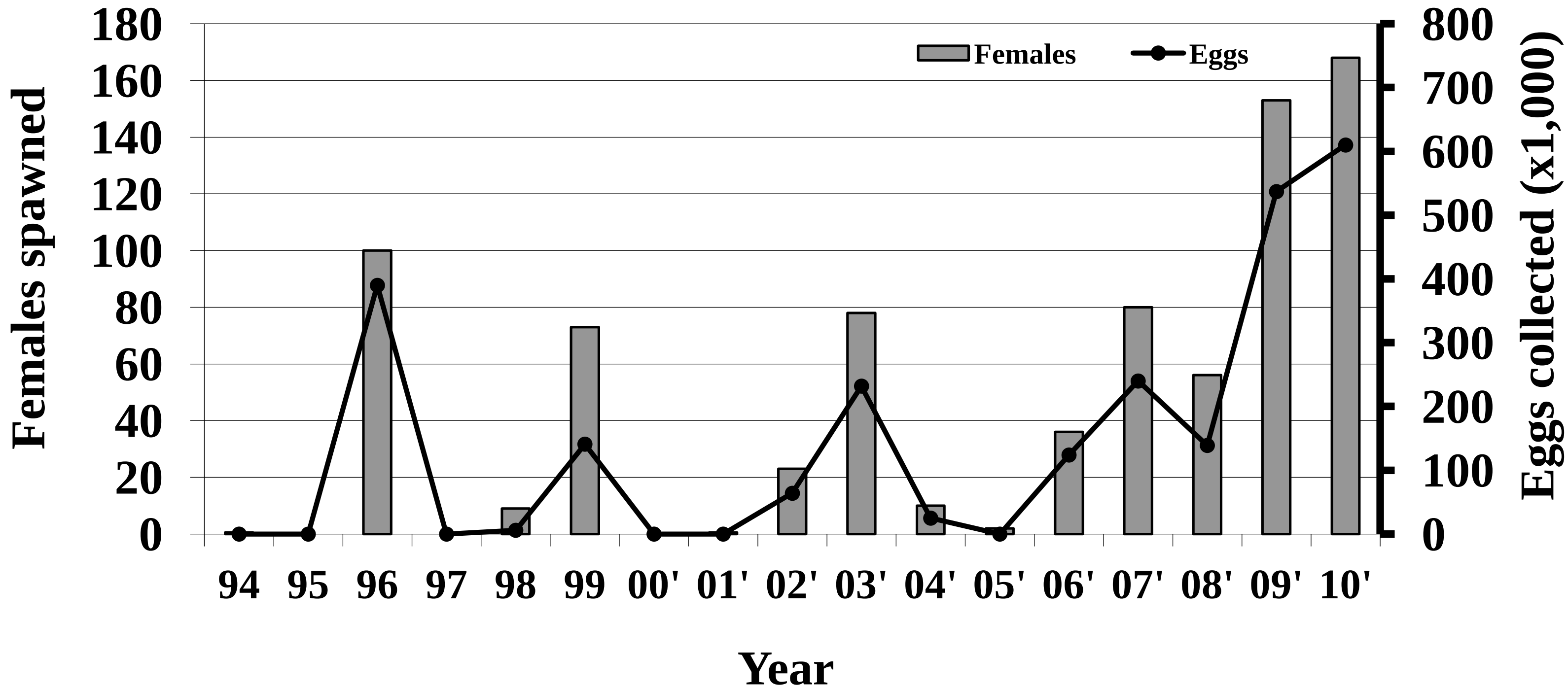
Appendix O. Lake trout stocked by date, number, and size in Fort Peck Reservoir, 1954-2004.

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	

Appendix P. Chinook salmon stocked by number, size, and location in Fort Peck Reservoir, 2001-2010.

Date	Number	Pounds Stocked	No./lb	Mark	Location
6/11/2001	88,283	2,207	40	None	Marina Bay
6/12/2001	46,247	575	80.5	None	Milk Coulee Bay
3/13/2002	22,021	202	108.8	None	Pines Bay
4/25/2002	93,465	1144	81.7	None	Marina Bay
4/25/2002	66,000	303	218	None	Marina Bay
4/25/2002	14,400	75	192	None	Marina Bay
5/31/2002	71,744	2,424	29.6	None	Pines Bay
6/13/2002	107,331	4,128	26	None	Marina Bay
4/22/2003	232,618	3,366	69.1	None	Marina Bay
6/13/2003	70,522	2,457	28.7	Adipose Clip	Marina Bay
6/14/2004	70,537	2,574	27.4	None	Marina Bay
10/5/2004	13,622	1,603	8.5	Adipose Clip	Marina Bay
6/30/2005	97,008	1,647	58.9	None	Marina Bay
9/28/2005	11,534	923	12.5	Adipose Clip	Marina Bay
6/7/2006	65,558	509	128.92	None	Marina Bay
6/14/2006	60,283	502	120	None	Milk Coulee Bay
6/15/2006	49,376	457	108	None	Marina Bay
10/13/2006	4,988	529	9.43	Adipose Clip	Marina Bay
6/18/2007	36,418	331	110	None	Marina Bay
10/25/2007	15,559	841	18.5	Adipose Clip	Marina Bay
6/5/2008	60,482	1,960	30.86	None	Marina Bay
6/11/2008	35,100	716	49	None	Marina Bay
6/12/2008	30,900	1,000	30.9	None	Marina Bay
8/12/2008	12,913	683	18.9	None	Marina Bay
8/12/2008	15,291	823	18.58	None	Marina Bay
11/18/2008	4,402	823	5.35	Adipose Clip	Marina Bay
6/16/2009	188,906	5,145	36.71	None	Marina Bay
11/4/2009	56,513	7,859	7.19	Adipose Clip	Marina Bay
6/10/2010	143,966	4,223	34.09	None	Marina Bay
10/22/2010	23,801	3,365	7.1	Adipose Clip	Marina Bay

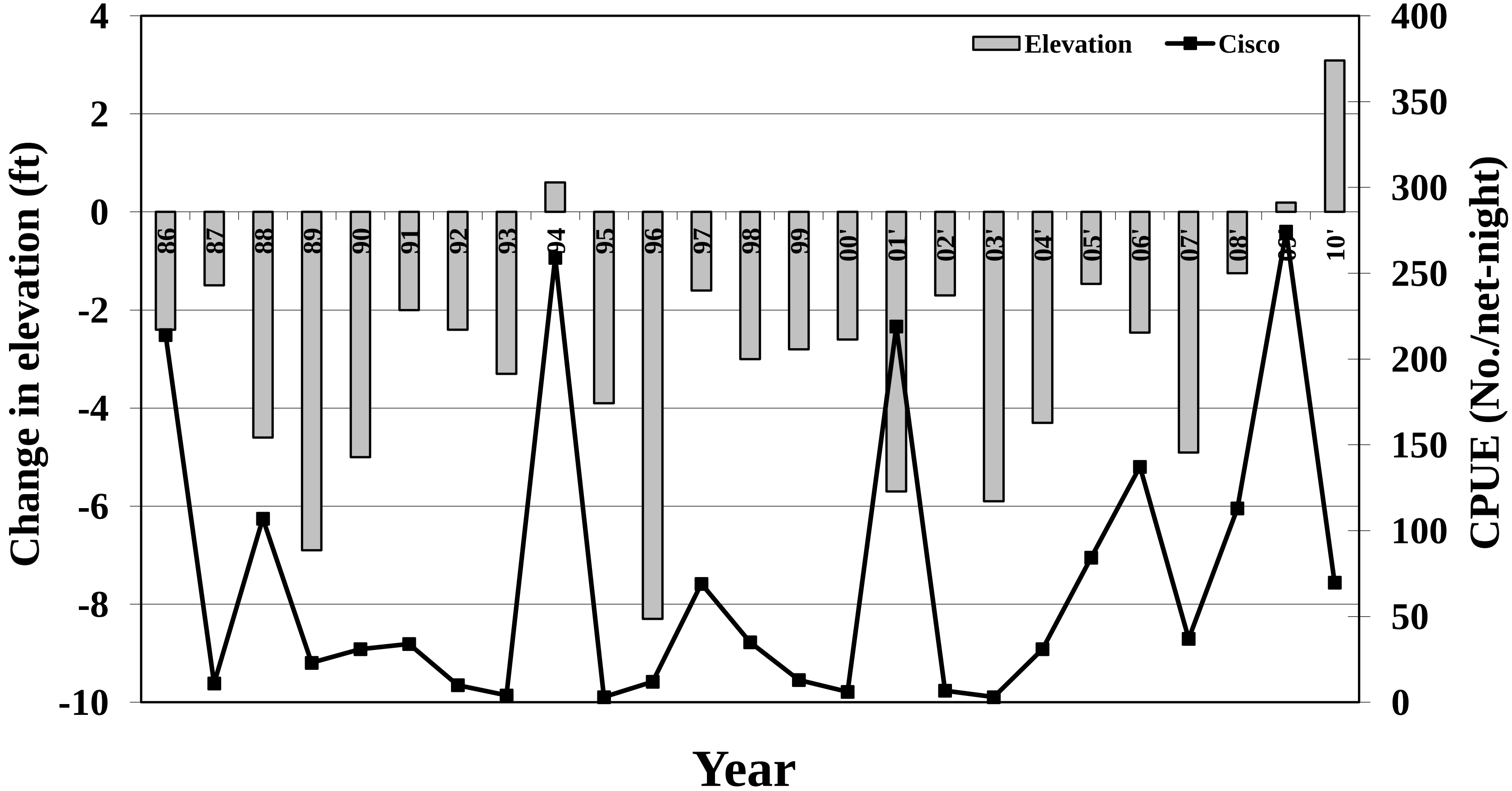
Appendix Q. Annual comparison of female salmon spawned and eggs collected from Fort Peck Reservoir, 1994-2010.



Appendix R. Percent frequency of occurrence for various forage items found in stomach contents of walleye, northern pike, sauger, and smallmouth bass captured in experimental gill nets in 2010. Sample size is given in parentheses.

Forage items	Walleye (338)	Northern pike (183)	Sauger (41)	Smallmouth bass (72)
Chinook salmon	--	1.1%	--	--
Cisco	4.4%	19.1%	--	2.8%
Crayfish	--	1.1%	--	5.6%
Empty	56.2%	69.4%	56.1%	51.4%
Freshwater drum	0.3%	--	--	--
Invertebrates	15.7%	1.1%	24.4%	22.2%
Northern pike	0.3%	--	--	--
Pomoxis spp.	0.3%	--	--	--
Smallmouth buffalo	0.9%	--	--	--
Smallmouth bass	0.6%	--	--	--
Unknown	21.3%	3.3%	17.1%	18.1%
Walleye	--	0.5%	--	--
Yellow perch	--	4.4%	2.4%	--

Appendix S. 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 gill nets in Fort Peck Reservoir, 1986-2010.



Appendix T. Methods of sampling, sampling periods and measures of sampling 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' experimental nets (¾"-1"-1 ¼" -1 ½" -2" mesh panels)**	**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' mono nets (½" mesh)**	**Yes**	**YOY cisco**	• **Relative abundance**
Electrofishing	**October**	**Electrofishing boat**	**No**	**Chinook salmon**	• **Egg source** • **Age and growth analysis**
Gillnetting	**November**	• **300' (3"x4"x5")** • **300' (1 ½"x2"x2 1/2")**	**No**	**Lake trout**	• **Relative abundance** • **Age and growth analysis** • **Potential egg source**

Appendix U. Responses to public comment during the open comment period (June 6th to July 31st, 2011).

On-line Comments

Walleye angler catch rates

Comment: Why would you lower walleye angler catch rates from 0.5 to 0.3 walleye per hour on Fort Peck Reservoir?

Response: A catch rate of 0.5 walleye per hour is a high goal. Other walleye water bodies throughout the Midwest and parts of Canada typically see catch rates less than 0.25 walleye per hour. The highest documented catch rate for walleyes on Fort Peck was 0.28 walleye per hour. In addition, when angler catch rates of walleye begin to exceed 0.5 fish per for an extended period of time, it may be an indication of reduced forage. Severe reductions in forage levels can lead to poor condition and slow growth which will ultimately lead to increased mortality (angling and natural). Therefore, angler catch rates are strongly influenced by forage densities. Walleye catch rates of 0.3 per hour sets the bar above what has been documented in previous creel surveys on Fort Peck Reservoir and would be a more sustainable catch rate.

Walleye stocking rates

Comment: Why is the maximum number of walleye fingerlings being released decreasing from 4.5 million to 4 million?

Response: It was anticipated that that the Fort Peck Hatchery would consistently produce 2 million + walleye fingerlings annually. However, number of fingerlings stocked annually is dependent egg harvest, eye-up percentage, fry to fingerling survival and variables associated with annual pond production from the Miles City and Fort Peck Hatcheries. FWP will strive to maximize hatchery production of walleye to ensure that biologically based stocking rates are met but realize limitations associated with walleye production.

Comment: Planting walleye fry is a waste of time. Walleye fingerlings have a much better survival rate.

Response: Some literature has found survival of walleye fingerlings to be greater than fry. However, previous research on Fort Peck has shown that 50% of the walleye collected during annual gill netting surveys were from fry releases, 25% were from fingerling releases, and 25% were from natural reproduction. In addition, survival of walleye fry will increase during years when shoreline vegetation becomes inundated providing increased rearing habitat along with an increase in overall lake productivity caused by a nutrient upsurge.

Tournament formatting

Comment: There are too many tournaments on Fort Peck Reservoir. I don't think any should be allowed.

Response: FWP has proposed only 6 open water tournaments from June 1 to July 30 and only one tournament be held per weekend. Fort Peck Reservoir is a large body of water that is capable of hosting tournaments but the number of access locations is a limiting factor. This change in tournament permitting structure is designed to alleviate conflict between tournament and non-tournament anglers while ensuring that the tradition of tournament fishing on Fort Peck Reservoir continues.

Comment: Small, one day tournaments should not be treated the same way as larger tournaments.

Response: FWP provides opportunities for smaller tournaments. Fishing contests that are smaller than 30 people with cash and prizes less than $500 are not required to obtain a tournament and would not count towards the quota of annual tournaments permitted on Fort Peck Reservoir.

Tournament lottery

Comment: Why have some proposed open water tournaments for Fort Peck Reservoir been denied?

Response: The previous management plan stated only twelve open water tournaments would be held during a calendar year and preference would be given to established tournaments. A proposed lottery system with preference points would allow new tournament applicants a chance to hold a tournament regardless of previous tournament involvement on Fort Peck Reservoir.

General Comments

Walleye

Comment: This plan does not address the overharvest of trophy walleyes on Fort Peck Reservoir.

Response: For this plan to address the overharvest of trophy walleye, a maximum size limit would have to be implemented. Maximum size limits are designed to protect brood stock fish. For maximum size limits to be necessary on Fort Peck Reservoir, a certain set of conditions needs to be met, including high exploitation rates with a low density of mature fish, and where recruitment would be low. According to the latest fishing pressure estimate in 2009, Fort Peck Reservoir received a total of 80,000 angler days compared to 110,000 on Canyon Ferry which is eight times smaller in surface acre. In addition, sustainable catch and harvest rates continue to be documented during creel surveys. With the exception of the last two years, twenty percent of the walleye collected during annual gill netting surveys have exceeded 20 inches in length. In addition, female walleye collected during the annual walleye spawning operation have averaged 7.5 pounds over the last 10 years. FWP also stocks walleye fry and fingerlings on an annual basis to address the limited amount of recruitment.

Northern Pike

Comment: Northern pike should be stocked on a more consistent basis.

Response: Abundance of northern pike in Fort Peck Reservoir is highly related to fluctuations in water levels. Northern pike require flooded vegetation for both spawning and rearing habitat. Northern pike stocking efforts on Fort Peck Reservoir were increased during the drought years (2001-2007) when a total of 589,172 were released. Despite these stocking efforts, relative abundance of northern pike captured during annual gill netting and seining surveys remained constant. However, as reservoir elevations increased during the mid to late 1990's, relative abundance increased during annual gill netting surveys despite no fry or fingerling stockings.

Paddlefish

Comments: I would like to see an archery paddlefish season be included on Fort Peck Reservoir.

Response: A paddlefish quota of 500 fish is in place during the snagging season from Fort Peck Dam to Fort Benton. This fishery is highly monitored to ensure that conservative regulations protect this fishery. Enforcement of this quota could be difficult if this fishery is expanded into an archery season and/or quota.

Burbot

Comment: What has happened to the burbot population in Fort Peck Reservoir?

Response: It is uncertain what has happened to the burbot population in Fort Peck. Drought conditions beginning during the late 1990's likely influenced recruitment. Data is also limited because sampling on Fort Peck Reservoir systems is difficult due to timing and spawning under the ice.

Fish habitat and water level management

Comment: Why hasn't FWP initiated any artificial fish habitat projects?

Response: Fort Peck Reservoir is a large body of water that covers 250,000 surface acres at full pool. Because of its large size, the feasibility and practicality of implementing artificial fish habitat projects would be ineffective. For example, some artificial fish habitat projects use Christmas tree reefs to provide spawning and rearing habitat. Canyon Ferry uses two thousand Christmas trees which equals about two acres in size. This equates to 0.0000083% of the surface area on Fort Peck which would make little biological impact to the fishery. Sedimentation would pose a problem with the spawning/rearing of habitat structures. Severe fluctuations in reservoir elevations would also pose a problem as a considerable amount of effort may have to be placed on moving the structures or ensure that they would be able to fluctuate with some of the greater changes in reservoir elevation (i.e. the drawdown beginning in 2000).

Comment: What say does FWP have in water level management? Don't you want drawdowns in reservoir elevations?

Response: FWP submits recommendations on a biannual basis during the Annual Operating Plan (AOP) process which is held by the ACOE. Specifically, FWP recommends a rise of two to three feet during early April to mid-May to accommodate spring spawning fish. In addition, stable reservoir elevations should occur during December through March during the incubation of cisco eggs.

Severe drawdowns in water levels can negatively impact the fishery, but they can also benefit it in the long run when reservoir elevations begin to increase. Decreases in reservoir elevation lead to the establishment of sweet clover; willows, cottonwoods and a variety of other grasses/forbs along the shoreline of Fort Peck Reservoir.   Not only does this inundated shoreline vegetation provide good spawning and rearing habitat for a variety of fish species but it also causes an increase in nutrients as plant material breaks down over time.

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