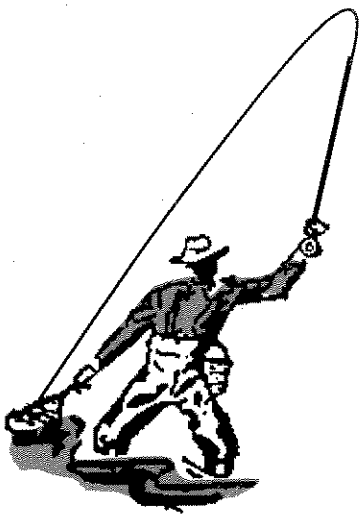

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FISHING LOG NEWSLETTER

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FWP photo

1996 Whirling Disease Update

Fred Nelson, Fisheries Biologist

Montana Fish, Wildlife and Parks (FWP), the Bozeman Fish Technology Center of the U.S. Fish and Wildlife Service, staff and students at the University of Montana and Montana State University, the Governor's Whirling Disease Task Force and the Whirling Disease Foundation continue the battle to beat Montana's whirling disease (WD) problem. In 1996, much was learned about WD; funds were directed at long-term studies; and new research facilities were planned and construction started. On-going research is beginning to provide some fundamental answers. Here are a few brief highlights of the 1996 research season.

WD Distribution

FWP, in conjunction with the Coop. Fishery Unit at MSU, completed in Fall 1996 the first round of testing to map the statewide distribution of WD in Montana. Over 300 sites on Montana's rivers, streams, lakes, ponds and reservoirs were tested.

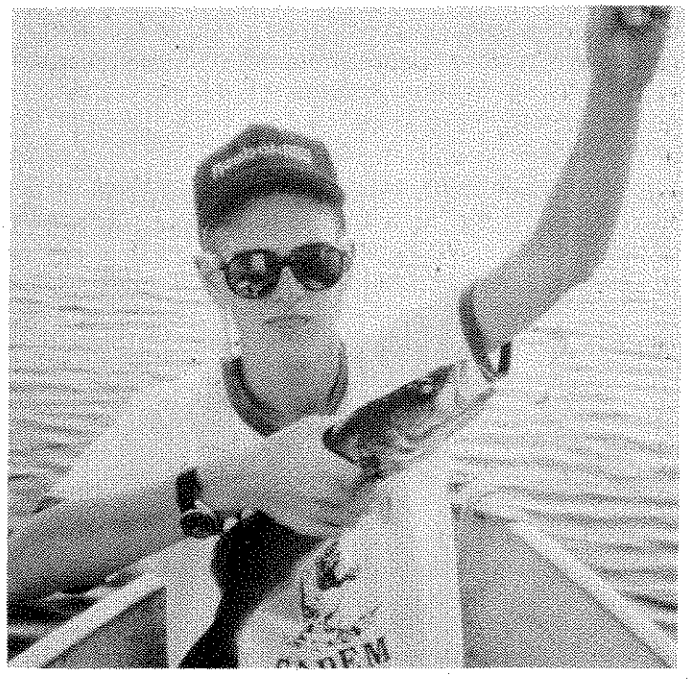
Since December 1994 when WD was first detected in the Madison River, 38 additional positive waters in the upper Missouri, upper Clark Fork and Flathead drainages have been identified. Only in the Yellowstone and St. Mary's drainages has testing failed to detect WD- positive waters.

In 1996, isolated pockets of infection surrounded by "clean" waters were discovered in Cottonwood Creek (Blackfoot Drainage); East Fork Rock Creek (Rock Creek Drainage near Missoula); and the Missouri River below Holter Dam and one of its prime spawning tributaries, Little Prickly Pear Creek. Mechanisms other than the normal downstream movement of disease from upstream sources might be responsible for these isolated outbreaks. FWP will test these isolated sites and surrounding waters more intensively in 1997 in an effort to identify a common link and possibly narrow the field of suspects to more specific factors. How WD first entered Montana and how it is spreading from water to water are questions that future testing could help to resolve.

Major waterways that presently test WD-free include the Yellowstone, Bighorn, Stillwater, Boulder (of the Yellowstone), Gallatin, East Gallatin, Big Hole, upper Missouri (Headwaters- Canyon Ferry Reservoir), Teton, Smith, Bitterroot, Flathead, Kootenai and Marias rivers; Big Spring Creek; and the Madison River above Quake Lake. Montana's nine state,three federal and ten private hatcheries remain "clean."

Species Susceptibility

FWP and the Bozeman Fish Technology Center continued in 1996 their live box experiments on Willow and Blaine Spring creeks to measure the susceptibility of Montana's native and introduced salmonids to WD. In conjunction, laboratory experiments are being conducted at the University of California at Davis. Overall, the preliminary findings of this on-going research are disappointing. Yellowstone and westslope cutthroat trout and three strains of rainbows, including the Deschutes rainbow, are susceptible. Researchers wrongly theorized that the reported resistance of the Deschutes rainbow to Ceratomyxa shasta, a highly virulent WD- related parasite, might transfer to the WD organism. A "bullet proof" strain of rainbow trout has so far proved elusive. Experimental findings for bull trout and arctic grayling, although more promising, are based on too few fish to draw any firm conclusions at this time.



1996 Madison River Wild Trout Studies

FWP continues to monitor trout populations in the upper Madison River between Quake and Ennis lakes to assess the long-term effects of WD. A noticeable change from previous years is a significant increase in the population of yearling (5-8 inch) rainbow trout, whose numbers in Fall 1996 reached the low end of pre-WD levels. Whether this increase marks the beginning of a population recovery or is simply a one year aberration won't be known until 1997 and later. In contrast, the decline of adult rainbows continued, reaching an all time population low in Fall 1996. On the bright side, the population of older brown trout remains healthy and yearling browns (6-9 inches) exceed normal historic levels.

Trout populations in the lower Madison River at Norris are unchanged from previous years. However, this stability could be short lived. As expected, the upper river's WD infection has slowly moved downstream, finally reaching the Norris section in 1996. Although the lower river's infection is presently mild, it could blossom in the next few years and begin to impact trout populations as occurred in the upper river. Time will tell.

Fish health testing in the lower Madison revealed another potential threat to the fishery. Proliferative kidney disease (PKD), a parasitic infection that has caused significant losses among salmon and trout in western North America, was discovered. At only one other site in Montana has PKD been confirmed. What role this disease will eventually play in Montana's wild trout fisheries is unknown.

FWP ended its upper Madison study to determine if the incidental mortality associated with catch-and-release angling was hindering the recovery of trout populations in WD- infested waters. In conjunction with the study, the 4 1/2-mile-stretch of the Madison between Squaw Creek and Windy Point was closed to all fishing the past two years. The study basically concluded that the fishing closure provided little to no benefit to trout populations in a WD environment. The closed area re-opens to fishing on May 17, 1997.

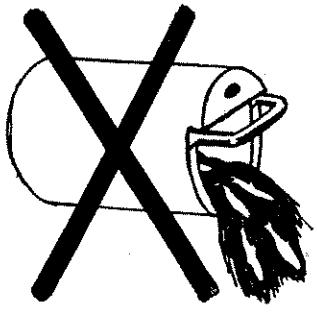
Worm Surveys

Thread-like Tubifex worms that live within the mud on stream bottoms are a critical host in the life cycle of WD. In the absence of Tubifex worms, the life cycle is broken and the disease cannot prosper. The severity of infection within a river's trout population could well depend on the abundance and distribution of Tubifex worms. A team of researchers from the University of Montana and Montana State University has begun to map the distribution and abundance of Tubifex worms in Montana's waterways to determine where trout populations are at greatest risk. Based on Tubifex abundance, a number of high risk waters have been identified. These include the Madison, Jefferson, Beaverhead, Missouri, Bighorn, East Gallatin, Ruby and Red Rock rivers and most spring creeks. WD has already reached a number of these waters. Lower risk waters include the Bitterroot, upper Yellowstone and Gallatin rivers. Time will tell if Tubifex abundance provides a reliable index of the potential impact of WD on fish.

FOR FURTHER INFORMATION CHECK OUT THE WEB SITE:

HTTP://RIVERS.OSCS.MONTANA.EDU/MTFWP/WHIRL.HTM

ANGLERS! ! !
Don't dump your bait bucket in a lake or stream.



Dumping live bait fish can cause irreparable harm to our fisheries. . . .

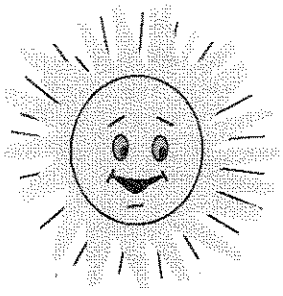
and it's against the law! ! !

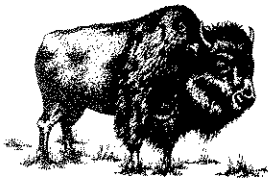
For more information on the problems unplanned, illegal introductions of fish can cause, contact

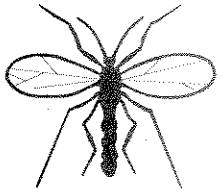
Montana Fish, Wildlife & Parks

For the "Young" angler --- "Wuzzles"

Name the Fish

1. 

2. 

3. 

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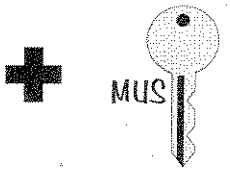
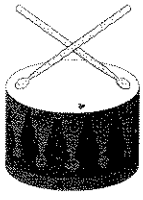


8. 

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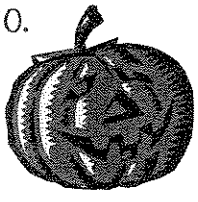
10. 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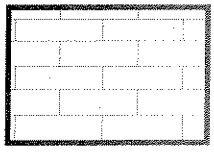
12. 


Answers on page 19.

MONTANA REGIONAL UPDATES

REGION ONE - KALISPELL

HUNGRY HORSE DAM

After 20 years of anticipation, selective withdrawal was finally implemented on Hungry Horse Dam this summer. A series of sliding gates allow dam operators to regulate the temperature of water discharged to match the temperature of the Flathead River. In the past, surges of 39° water would drop the Flathead as much as 15°. That stopped the insect hatches and fishing cold. Biologists hope the warmer water will result in better insect populations, two to five times the trout growth and more consistent fishing.

MITIGATION

Hydroelectric mitigation will continue to be a major activity in the region. Relicensing of Noxon Rapids and Cabinet Gorge dams on the Clark Fork is underway with bass and bull trout management and fish passage as major issues. The Federal Energy Regulatory Commission (FERC) issued a draft notice on Kerr Dam (Flathead Lake). While there are some good points, FWP doesn't feel the FERC order properly recognizes the state's role in managing Flathead Lake. And mitigation proposals for Libby Dam on the Kootenai River will kick off in 1997. Some exciting mitigation work this last year included channel work to make 12 miles of spawning habitat in Hay Creek more accessible to North Fork Flathead spawners, shared funding with the Forest Service to replace some barrier culverts on Hungry Horse Reservoir tributaries, and the use of instream incubators to better imprint westslope cutthroat on a Lake Koocanusa tributary.

RECORD PRECIPITATION

Northwest Montana received record precipitation in the last year and the resulting runoff rearranged streams, bridges, culverts, roads, and a couple houses. But the flush also cleaned out spawning gravels and they're now in the best shape they've been in over a decade. Spawning bull trout showed up in record numbers in the Swan, South Fork Flathead, and Kootenai (Lake Koocanusa) drainages. That good news was tempered by record low runs of spawning bull trout in the main Flathead. FWP and the Confederated Salish and Kootenai Tribes will hold public forums in Winter 1997 to discuss the balance of lake trout and bull trout in the Flathead and some possible management strategies.

FISHING EDUCATION

Efforts continue to introduce new folks to the joys of fishing. Along with youth and women angler education programs, the Evergreen schools have been chosen for one of three "Hooked on Fishing, Not Drugs" in the state. Plans are also afoot for fishing equipment loaner programs and family fishing days. The Flathead "Crossing the Barriers" Committee has been the driving force behind several new handicap accessible access sites and a highly successful fishing day on Flathead Lake with charter boat captains.

ILLEGAL INTRODUCTIONS

Illegal introductions continue to plague the state. FWP has documented over 300 illegal fish introductions in nearly 190 waters. Fisheries crews poisoned Bootjack Lake, a trophy trout lake near Whitefish, just this fall to remove illegal sunfish. Lion Lake near Hungry Horse was poisoned four years ago to remove sunfish, bass, perch, and northern pike. The lake was restocked with trout and fishing use zoomed from near zero to several thousand days of fun per year. In a real discouraging development, perch and northern pike have now reappeared and the perch are becoming a real problem. Some "bucket biologists" just don't get it. Please do your part to curtail this destructive practice.

REGION TWO - MISSOULA

Region 2 encompasses the Clark Fork drainage from its headwaters to the confluence of the Flathead River. This includes the Bitterroot, Big and Little Blackfoot rivers, Rock Creek and of course the Clark Fork River. Rivers and streams are our most abundant resource and harbor our most important fisheries. Our lake resources consist of several hundred high mountain lakes, a few low elevation lakes in the Clearwater drainage and a few reservoirs. Our management emphasis is on habitat protection and enhancement which is what it takes to have a quality wild trout fishery. Our biggest challenges are illegal introductions, whirling disease and increasing human population.

BITTERROOT RIVER

If you have fished the Bitterroot lately, you've probably caught more westslope cutthroat trout than in previous years. No-kill rules, adequate river flow and tributary habitat improvements have probably all contributed to this welcome resurgence of this native fish. This summer, significant progress was made in improving habitat conditions along Sweathouse Creek. Sweathouse Creek is an important tributary for spawning, rearing and recruitment to the Bitterroot River. Projects such as this, the leasing of water for instream flow in Tin Cup Creek, and the addition of instream flow in the main Bitterroot River will contribute to continued good fishing on the Bitterroot.

The rebuilding of Como Dam had a fishery's aspect to it. The dam was raised approximately 3 feet to increase storage capacity. The additional 3,000 acre feet capacity is dedicated to improved instream flow in the Bitterroot River. This year, the reservoir filled to capacity and 3,000 acre feet of water was used in late summer to maintain a good river flow. Between Painted Rocks Reservoir and Lake Como we now have 18,000 acre feet of water to help minimize the effects of drought on Bitterroot River fisheries.

Anglers need to be aware that flow augmentation in the Bitterroot River would not be possible without the cooperation of valley ranchers. Thanks are due to all of those who cooperate year after year with the water commissioner to deliver reservoir water to Bell Crossing and special thanks are due the board of directors of the Bitterroot Irrigation District for allowing us to increase the storage capacity at Lake Como and use that water to maintain instream flow in the main river.

BLACKFOOT RIVER

Westslope cutthroat trout and bull trout are making a come back in the middle Blackfoot River. Anglers are catching more of them now than in the past and our electrofishing data reflects the same trend. The Blackfoot basin has been the focus of an all-out effort to restore fisheries function to the whole drainage done by removing passage barriers on tributary streams and restoring habitat in those tributaries so that spawners from the Blackfoot can access the tributary and find livable conditions. In addition, the young fish that hatch in the tributaries will have the quality habitat they need to survive for a year or two before they are ready to make the sojourn to the big river. Once they have survived to that stage they need safe passage to the main river. Irrigation ditches have been major stumbling blocks to safe passage for young trout. One phase of this all out effort has been to screen irrigation diversions so that young fish can survive their first migration. A majority of this work has been completed this year so the results are yet to come -- but come they will!

We anglers owe thanks to the landowners in the Blackfoot basin who have been cooperative and generous in allowing us to work on their ranches to do what is necessary to rebuild a viable wild trout fishery. Many of them have invested their money to help the projects along; they have committed to long-term maintenance of new structures such as fences, irrigation diversion fish screens, and off stream water developments; and some have voluntarily made many changes in their operations such as rest rotation grazing, reduction or elimination of riparian grazing, and conservation easements on some entire ranches.

CLARK FORK RIVER

This year we redirected the efforts of one of our biologists to put major emphasis on habitat restoration along the tributaries to the Clark Fork above Milltown Dam. The main stem remains the focus of the superfund cleanup process so our efforts are aimed at restoration on the tributaries. This project is in the initial phase of locating landowners we can work with and developing projects that appear to hold promise of improving conditions for fish.

On the mainstem, ice scour and consequent high metal levels were observed in the Clark Fork last winter. Population numbers appeared to be down from previous years as a result of these severe events.

Below Milltown Dam trout numbers were reduced by 60 to 70 percent apparently because of high metal levels during the ice and flood event last winter. We will continue to monitor trout populations and gather population data from further down the river to see if there are any lingering effects of winter events.

ROCK CREEK

Residents and visitors in the Rock Creek drainage received a scare this summer when a leak was discovered in the East Fork Dam. Subsequently, the reservoir was drained and the dam rebuilt. This was a major effort and expense to the irrigators who use the water from that project. Fishery investigation revealed a substantial spawning population of bull trout above the dam and prompted the beginning of negotiations with the board of directors of that project for water to maintain a minimum pool in the reservoir. This opportunity could benefit both interests by helping irrigators fund the repairs and creating a better environment for bull trout.

Whirling disease was discovered in the East Fork below the dam. This was a very disturbing discovery which prompted more testing above the dam and on the mainstem of Rock Creek. We have not received results of that testing at this time.

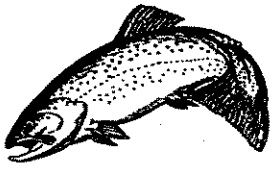
Rock Creek was identified as an important drainage for bull trout and westslope cutthroat trout. A citizen advisory group was formed and held several meetings this year to identify issues related to fishery management in the drainage. As a result, bull trout spawning surveys were conducted in which several local residents and interested anglers participated in a one-day training workshop and helped conduct the surveys. Their efforts resulted in the discovery of more than 250 bull trout spawning sites throughout the basin.

Next spring and summer the department will conduct an angler survey on the entire creek and measure trout population levels especially between Gillies Bridge and the confluence of the East and West forks.

LAW ENFORCEMENT

Our Law Enforcement leaders have taken a new approach to their responsibilities by writing a Fisheries Enforcement Management Plan for the region. It is a compilation of issues, ideas and approaches gathered from inside and outside the department. It will be completed and they will begin implementing it in 1997. In developing the plan they learned that a majority of anglers cannot accurately identify the fish they are catching; that illegal introductions and live fish transport are causing many problems, including the potential spread of whirling disease; that increasing angler numbers is causing increased conflict on our streams; that the complexity of the regulations makes it difficult for people to understand what's legal and what isn't; and that our enforcement personnel should play a larger role in enforcement of stream protection laws to protect fish habitat.

The plan is not yet complete but you can expect some changes in the way our wardens do their jobs. There will be more emphasis on education through our schools, sportsman clubs, individual contacts in the field and signs. There will be an increase in warden presence on our streams and lakes. There will be more emphasis on native species protection especially bull trout when they are in their spawning streams and most vulnerable. Other changes will no doubt come as the plan is completed and all of the major issues addressed.



REGION THREE - BOZEMAN

RUBY RIVER ACCESS INITIATIVE

Significant progress was made in the effort to maintain and improve public fishing access to the Lower Ruby River (48 miles of stream form Ruby Reservoir Dam to the Beaverhead River). The effort, led by FWP regional fisheries personnel, resulted in: formation of a task force, a formal written and executed access plan, and evaluation of potential private properties for best utility for providing public access. As of years end, prioritization of candidate properties will be completed and negotiations with landowners to obtain public access through either easement, lease, or fee title purchase will begin.

STREAM HABITAT IMPROVEMENT

The following projects were initiated and/or completed in the region during 1996:

Significant improvement in fisheries habitat was obtained through stream restoration projects on the following streams: "Unnamed Spring Creek" (near $3 Bridge on Madison River), the Shields River near Clyde Park, Yellowstone River tributaries Mill and Mol Heron creeks, the Big Hole River between Glen and Twin Bridges, the Lower Ruby River near Alder, and the Left Fork of Stone Creek in the Ruby Mountains, and three spawning habitat projects in tributaries to the Canyon Ferry/Missouri River system (Deep Creek, Crow Creek, and Dry Creek). The Deep Creek project is part of a 3-year watershed restoration being undertaken in cooperation with the Broadwater Conservation District.

WHIRLING DISEASE

Trout from all mainstem rivers and streams in the region have been tested for whirling disease, and all watercourses tested have revealed presence of the whirling disease organism with the exceptions so far of the Yellowstone, Gallatin, Big Hole, and Missouri (from Three Forks to Canyon Ferry Reservoir) Rivers.

Intensive monitoring of juvenile and adult trout in the Madison River continues, and a FWP sponsored graduate student research project on effects of whirling disease on brown trout in the Ruby River was initiated.

ARCTIC GRAYLING RECOVERY PROGRAM

The grayling population is stable to increasing in the Big Hole River; FWP (in partnership with USFWS) drilled seven stock water wells to provide an alternative to diversion of stream flows during critical mid-summer periods.

WESTSLOPE CUTTHROAT RECOVERY PROGRAM

Regional and statewide fisheries personnel initiated planning on a recovery project for Westslope Cutthroat Trout (WCT) in the Madison River Drainage. Goals of the project are to restore resident WCT in tributary headwaters and possibly to supplement the whirling disease affected mainstem with fishable cutthroat produced in the more whirling disease "friendly" tributaries.

An agreement was signed by FWP and the USFS to provide for initiation of WCT recovery in the Elkhorn Mountains.

YELLOWSTONE DRAINAGE

The upper Yellowstone experienced record high flooding this spring. Peak discharge exceeded 37,000 cfs. Despite extensive flood damage to many homes and other property in Park County, the outlook for the fishery is great. Flood water scoured and resorted many miles of stream substrate to create dramatic and improved instream habitat features. In some places, entirely new river channels were formed. Fish populations should benefit from the increased availability of clean spawning sites and additional rearing areas. Anglers can look forward to many hours of enjoyment finding fish in the reshaped river system: a favorite old fishing hole may have disappeared, but for each such loss there are many new sites waiting to be discovered.

Flood waters damaged the famous Armstrong spring creek system; the most significant damage occurred when a flood channel of the Yellowstone captured most of the old spring creek channel. By July, a proposal to block the channel with a berm had been submitted to the Corps of Engineers for their approval. In November, that project is still being reviewed by the Corps, and in the meantime the Armstrong

Spring Creek situation has generated considerable controversy. Balancing private property rights, landowner needs, public rights, the river's need to access its floodplain, and basic fishery resource concerns is a difficult task. Informational meetings have helped define these issues for many interested individuals and groups. Current FWP involvement is to hire a knowledgeable private consultant to develop options which would contribute to a solution and best balance FWP's responsibilities to the resource and the public, while recognizing the rights, needs, and requirements of the affected landowners. Meanwhile, an emergency partial block of the channel has been permitted to decrease flow in the new channel, thus minimizing further erosion, reducing the possibility of ice scouring, and allowing the landowner access to the calving area of their ranch.

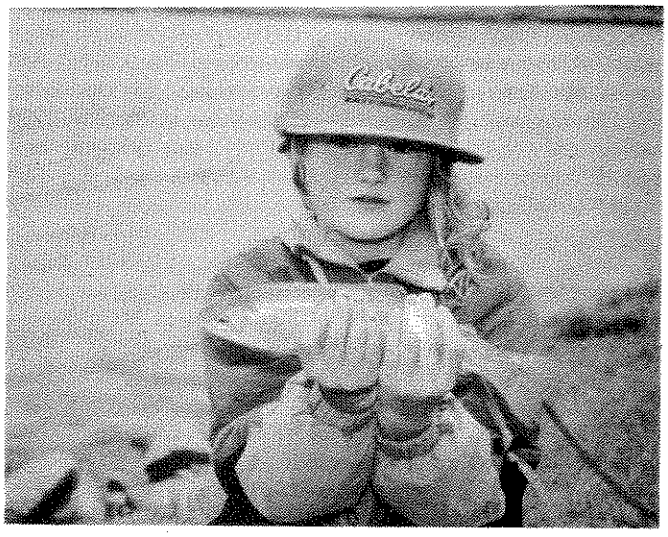
REGION FOUR - GREAT FALLS

WHIRLING DISEASE IN MISSOURI RIVER

In last years' newsletter, we were pleased to report that whirling disease (WD) had not been found anywhere in Region 4 - north central Montana. That all changed in July when it was announced the whirling disease parasite was found in samples of rainbow trout taken during the spring 1996 in the Missouri River below Holter Dam and in Little Prickly Pear Creek, a critical spawning tributary. This section of river has one of the best rainbow trout fisheries in the nation. Anglers and biologists were shocked and puzzled since most had hoped it would take years for the parasite to make its way down the Madison and through the large reservoirs in the upper Missouri.

The threat and subsequent discovery of WD in the Missouri prompted a flurry of activity in the past few months. A special investigation of populations of young rainbow and brown trout in the Missouri below Holter and in Little Prickly Pear Creek was initiated in early summer and will continue through late fall. An aquatic invertebrate specialist from Montana State University is also conducting surveys to determine the distribution and abundance of microscopic Tubifex worms in the drainage. These worms are a critical intermediate host for the WD parasite and the disease is not expected to be a problem in areas where the worms are absent or present in very low densities. The final leg of 1996 activities involved fall sampling young rainbow trout in two sections of the river, three areas on Little Prickly Pear (LPP), three tributaries to LPP, and Sheep Creek - a key rainbow spawning tributary located about 25 miles downstream from Holter Dam.

Complete results from the fall surveys are not available since some of the field and laboratory work is still ongoing. Preliminary findings are WD is not present in Sheep Creek but is present at low levels throughout the mainstem of LPP Creek. Young of the year rainbows were numerous throughout the LPP Creek drainage and few visible external symptoms of the disease have been noted thus far. River fish populations remain healthy and there is no sign of significant WD impact thus far. Tubifex worm densities are very high in the river and variable in the tributary system. It appears the infection is in a very early stage and nobody knows what the ultimate consequences will be. The fact that Missouri rainbows utilize several different spawning tributaries (some of which have few or no Tubifex worms) may lessen the impacts of WD in the system.



SMITH RIVER ICE JAMS DAMAGE FISH

Major ice jams traveled down the Smith River canyon in late winter, causing substantial riverbank and property damage and killing some fish as well. Photos in the Great Falls Tribune showed the river choked with huge ice chunks stacked 10 feet tall from wall to wall in the canyon area. Landowners reported finding dead fish of all species which had been stranded in floodplain areas when temporary ice dams burst. Many wondered what the effect would be on trout populations in this popular blue ribbon river.

FWP has monitored trout populations in two sections of the Smith periodically since 1969. Preliminary results for Fall 1996 show significant declines in rainbow and brown trout in both sections compared to 1995. Populations of catchable sized rainbows (over 10 inches) in the upper section around Eagle Creek were similar to 1993, which was the lowest on record. Catchable brown trout numbers in the upper section were lower than 1992-95 yet were higher than any of the 10 surveys made during 1969-1986. For unknown reasons, brown trout began to increase markedly in the upper river during the late 1980's while rainbow numbers declined substantially.

In the lower section around Deep Creek, the number of catchable rainbows in Fall 1996 was the lowest seen since the 1970's. Brown trout did not fare as poorly. Their numbers were lower than in 1995 but were above the historic average for this area.

These results reinforce the idea that the Smith is a tough place for trout to make a living. Dramatic ice jam events are not rare in the Smith - a similar event happened in the mid-1980s and smaller jams are probably common. Summertime can be tough too. Fish kills have been observed several times in the past decade during low water in July and August when water temperatures in the canyon exceed 70 degrees. These factors keep trout numbers generally lower than what one might expect for similar rivers elsewhere. However, fishing on the Smith is often surprisingly good for a river with relatively low trout numbers.

TIBER RESERVOIR - CISCO UPDATE

In last year's Newsletter, we reported our intent to prepare an Environmental Assessment on the proposal to introduce cisco (lake herring) into Tiber Reservoir to enhance the forage supply for walleye and northern pike. The assessment was prepared last winter and was released in May for public comments. Public comments were overwhelmingly in favor and a final decision to introduce cisco was made during the summer. Approximately five million eggs will be purchased from Saskatchewan and newly hatched fry are scheduled to be stocked in Tiber in Spring 1997. In addition, an attempt was made to trap and transplant adult cisco from Fort Peck Reservoir this fall but the effort failed.

It is impossible to accurately predict the effects of adding a new fish species to a new environment. We hope to duplicate the substantial improvements that occurred in the walleye fishery of Fort Peck Reservoir following cisco introduction. The fact that the major fish species in Tiber (walleye, yellow perch, northern pike, and white suckers) are typically found in Canadian lakes together with cisco should work in favor of a successful outcome. However, each lake is different and it is impossible to precisely predict the ultimate consequences of the planned Tiber introduction. It will take up to 10 years or more to determine if the goal of boosting the Tiber walleye and pike fisheries is achieved via establishment of a new, naturally reproducing prey fish species. During that time, biologists will be carefully monitoring effects on reservoir plankton populations, walleye growth and reproduction, other fish species, and angling success.

RESULTS OF 1996 SURVEYS

Tiber continues to produce good catches of small walleye. The summer creel survey shows that the average catch for walleye in 1996 was 0.39 fish per hour. This compares with other surveys conducted since 1991, with 1994 having the highest catch rate of 0.72 fish per hour. The average length of walleye caught in 1996 was 14.6 inches, a slight increase over 1994 and 1995. Anglers fishing Tiber are inclined to keep approximately 50 percent of the walleye caught. Northern pike numbers and catch rates remain low and are comparable to past years at 0.07 fish per hour.

Netting investigations during the Spring of 1996 showed that walleye numbers are comparable to past years while northern pike have increased slightly. Voluntary angler tag returns show a harvest of approximately eight percent for walleye and ten percent for northern pike, which is comparable to past years.

Shoreline seining in August indicates that spottail shiner are the most abundant forage species and population levels are comparable to 1994 and 1995. Young-of-year yellow perch are abundant but numbers are down somewhat from recent years. Crayfish occur in shallow and shoreline areas but few are found in deeper, open-water areas. Stomach analysis shows limited use of crayfish by walleye. Yellow perch and fish remains were the most common items found in walleye stomachs during the fall netting surveys. Northern pike stomachs contained mostly fish remains and crayfish.

Natural reproduction of walleye in Tiber Reservoir is generally quite good and adequate numbers appear to recruit into the fishery so supplemental stocking is unnecessary. Large numbers of young-of-the-year walleye were sampled in shoreline seining in 1995 and 1996.

Fall netting investigations indicate a general downward trend in recent years in walleye and adult yellow perch numbers, while northern pike remain fairly stable. An upward trend in walleye numbers is anticipated in the near future based on the abundant numbers of young-of-the-year sampled in recent years. The 1996 surveys indicate that approximately twenty percent of the walleye population is 16 inches or larger.

BYNUM RESERVOIR

Anglers reported limited success for walleye in Bynum Reservoir throughout 1996. Trap netting surveys conducted in the spring show that walleye populations were comparable to past years. In the spring, 250 walleye were tagged and released to help determine the rate of harvest. Angler success was low, as less than two percent of the tagged fish have been reported caught. Harvest generally approaches 8-10 percent a year.

If the fish are present, why was fishing so poor? It may be that walleye have abundant natural food available and aren't interested in various lures, etc. Yellow perch and spottail shiner are the main forage fish in Bynum Reservoir. Numbers appear to be down somewhat, based on forage surveys conducted in August. However, contents of walleye stomachs examined in September indicate a high occurrence of small yellow perch and fish remains. (Fish remains are more than likely yellow perch and spottail shiner). Anglers also reported walleye stomachs containing large numbers of small fish. Crayfish are extremely abundant in the reservoir and may be providing a major portion of the walleye diet at certain times of the year.

Walleye were originally introduced into Bynum Reservoir in 1985, with annual stocking occurring through 1992. Natural reproduction was documented in 1993 and 1994. Shoreline seining during August of 1996 also showed natural reproduction of walleye occurring throughout the reservoir. If natural reproduction continues and the walleye eventually recruit into the fishery, stocking should not be necessary. If successful recruitment does not occur, periodic maintenance plants will be made.

Annual gill netting surveys conducted in the fall indicate that adult yellow perch numbers increased slightly over 1995, which was the lowest level ever recorded. The survey also showed walleye populations are comparable to past years, nearly identical to 1995. Nearly three-fourths of the walleye population are available to anglers as 16-inch fish or larger.

Water levels during 1996 were good, ranging from full pool in the spring to approximately eight feet lower by the end of the irrigation season. The boat ramp and breakwater completed in 1994 are a welcome addition to this reservoir.

LAKE FRANCES

Lake Frances also experienced lower than desired catches of walleye during 1996. A summer creel census shows anglers caught an average of 0.11 walleye per hour in 1996. This compares to 0.17 fish per hour in 1993, and 0.13 in 1994 and 1995. In 1989, the walleye catch rate was much better at 0.35 fish per hour. Anglers generally keep between 75 and 85 percent of the walleye caught. Average length of walleye in the creel has steadily increased from 14.4 inches in 1989 to 17.3 inches in 1996. Anglers report good catches of northern pike and the creel survey shows that the average catch rate was 0.35 fish per hour in 1996.

Netting investigations carried out in the Spring of 1996 on Lake Frances were hampered by excessive winds, thereby limiting the amount of useful information gathered. As a result, few walleye and northern pike were taken. Tag returns of angler-caught fish throughout the summer again show that walleye catches were quite low while northern pike catches were much better (approximately 9% return of tagged fish).

Sampling of forage fish was conducted by shoreline seining in August and it appears that Lake Frances has a very good forage base. The two main forage species, yellow perch and spottail shiner, show significant increases in numbers when compared to 1994 and 1995. Crayfish are also abundant, as good numbers are caught in fall netting surveys. Stomach analysis of walleye taken in fall netting surveys indicates that yellow perch, crayfish and fish remains are the predominant items eaten. Fish remains include yellow perch and spottail shiner. Crayfish were the most common item in northern pike stomachs in the fall.

Although walleye fishing success has been down for the past three years, the outlook for the future is not as bleak. There has been very good natural reproduction of walleye in five of the last seven years. If enough of these recruit into the fishery over the next few years, walleye fishing will improve. The question that remains unanswered is how much predation occurs on young walleye by the abundant northern pike population? The fall netting shows a slight increase in the walleye population with approximately sixty percent 16 inches or larger.

MARIAS RIVER STREAMFLOW/FISHERIES EVALUATION

In recent years, biologists noticed unnatural flow patterns in the Marias River below Tiber Dam that were likely not favorable for warmwater fish species like sauger, sturgeon, and catfish that migrate upstream from the Missouri River to spawn in the spring. The typical operating pattern for Tiber Dam was to store most or all of spring runoff water in Tiber Reservoir, then release the excess water in late summer and fall. This resulted in abnormally low springtime flows and high summer/fall flows. The U.S. Bureau of Reclamation has provided a more natural flow pattern in the past two years. A special fisheries study was initiated by FWP this year to evaluate the effects of the new flow regime.

The 80-mile reach of the Marias below Tiber Dam was electrofished and netted repeatedly in several areas to monitor abundance and spawning movements of migratory warmwater fish. Redhorse suckers were the most common species but of particular interest were the relatively high numbers of blue suckers and low numbers of sauger found. A total of 61 blue suckers were sampled, averaging 28.7 inches long and 7.4 pounds. Blue suckers migrate up the Marias to spawn and later return to the Missouri River where most reside in canyon areas.

Information collected on sauger trends was dismal. A total of 137 sauger averaging 15.3 inches and 1.08 pounds were sampled. The size of these sauger was normal for Montana rivers but the average catch of only three sauger for each hour of electrofishing was only 22% of that observed during the mid- to late 1980's. There are no obvious reasons for the sauger decline, though reduced spawning or rearing success are suspected.

ILLEGAL INTRODUCTIONS CONTINUE TO PLAGUE AREA WATERS

In the last newsletter we relayed a report of northern pike in Bynum Reservoir, a popular walleye fishing lake along the Rocky Mountain Front near Choteau. Fortunately, no northerns were captured in fisheries surveys during the spring and fall of this year and biologists are hopeful a population does not establish. Northerns would be impossible to eradicate without great effort and expense and would undoubtedly compete with walleye for a limited forage fish resource.

Northern pike were found in a couple of new locations this year. Three pike were taken for the first time in nets set in Wadsworth Pond in Great Falls this spring. Biologists suspected illegal introduction but felt they'd be unable to prove it since there was a slight chance the fish could have trickled in via a seldom-used canal connecting to the Sun River. The issue was resolved when closer inspection of one of the pike revealed a fish tag. Lo and behold, the fish was tagged a year earlier in Lake Frances, 90 miles away. This fish would have had to have swam more than 200 miles and jumped five dams to reach Wadsworth Pond on its own.

Illegal introductions were also discovered on two ponds on the Pelican Point Fishing Access Site on the Missouri River this year. Northern pike were found in one pond, while walleye and pumpkinseed sunfish were found in another. Yellow perch were found for the first time this year in a private pond managed by FWP east of Great Falls. As reported in the 1994 newsletter, at this pace approximately 1/3 of all public fishing reservoirs/lakes/ponds in Region 4 will be contaminated with illegal fish introductions in the next decade alone. This problem does not appear to be diminishing.

HAUSER AND HOLTER RESERVOIRS

Hauser Reservoir's reputation for being one of the best kokanee fisheries in the Pacific Northwest has been tarnished the past few years. Catch rates in 1996 were less than 0.1 kokanee per hour, a ten year low. Biologists speculate that one of the major causes for the kokanee crash has been increased spill at Hauser Dam. Spill in 1993 and 1995 was approximately 10 times the amount of water spilled annually over Hauser Dam during the 1980's.

Juvenile kokanee are very susceptible to spill because they winter near the face of the Dam and are either swept out or attracted to the current during spring runoff. Montana Power Company has agreed to begin funding research aimed at quantifying the significance of spill losses and identifying solutions to the problem. The bright spot for Hauser Reservoir has been the yellow perch fishing. Catch rates last summer were at an all time high and the upcoming ice fishing season should be good.

Many of the kokanee that spilled over Hauser Dam apparently survived the ride and took up residency downriver in Holter Reservoir. Trend netting results from Holter Reservoir for juvenile kokanee increased from a pre-1993 average of 4.5 kokanee per gill net to 15.2, 21.0, and 77.0 in 1993, 1994, and 1995, respectively. Creel results also showed that anglers caught kokanee at a record setting pace during the summer of 1996. It is too early to tell if the kokanee population in Holter Reservoir will continue to expand or peak as high as Hauser did, but kokanee anglers can expect good fishing for at least the next few years.

Several other changes occurred in Holter Reservoir in 1996. First, the walleye slot limit was widened to protect more spawning sized fish. Under the new regulation, three walleye under 18 inches and one over 28 can be kept while those in between must be released. Biologists are monitoring walleye population trends by tagging about two hundred fish each spring. Results from 1995 tag returns were alarming. Out of 9 tag returns, 6 (67%) were taken from walleye caught below Holter Dam. Another change for Holter Reservoir was stocking the Eagle Lake strain of rainbow trout instead of Arlee. Eagle Lake rainbow have been doing exceptionally well in Canyon Ferry Reservoir. The new strain is longer lived and has shown more potential for successful natural reproduction. Fall trend netting in Holter Reservoir indicated that early survival for the new strain was excellent. Prospects for yellow perch, however, are not so good. Catch rates have been declining in recent years and 1996 data showed no signs of recovery. The bottom line for Holter and Hauser Reservoirs is that good fishing for kokanee, rainbow and yellow perch can be had, but you may have to break from traditional fishing locations to find your fish of choice.

Region Five - Billings

Bighorn River

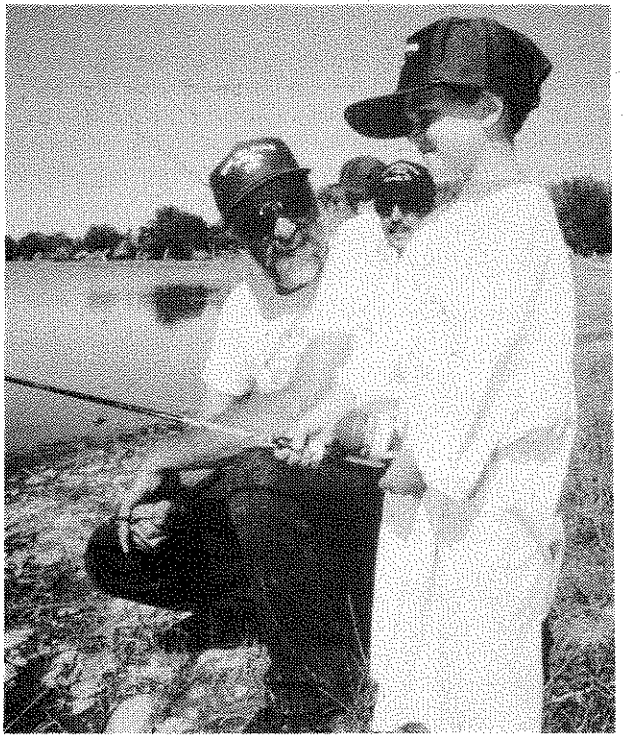
Flow levels in the Bighorn River remained good throughout the year without any extreme highs or lows. Flows were maintained above the preferred minimum of 2,500 cfs throughout the period, with maximum flows only reaching about 6,500 cfs. For most anglers, this was a welcome change from the high spring flows experienced the past couple of years.

Fishing success started off good in the spring and remained good to excellent throughout the year. Scattered dry fly fishing was reported early followed by reports of excellent dry fly action later in the summer. Hopper fishing, although not as hot as last summer, did provide an opportunity for dry fly fishermen to fish with larger flies on the Bighorn.

Trout numbers in the upper section looked good during early summer sampling. Both rainbow and brown trout in the 10"- 13" size range comprised a large part of the population, although there were still plenty of larger trout available. The average size of these larger trout may have been down slightly. A strong population of yearling brown trout was sampled in the upper section during early summer, while very strong populations of yearling rainbow and brown trout were sampled in the lower section near Mallards Landing in the fall. Overall, trout numbers were up in the lower sampling section in 1996 with lots of nice rainbow in the 15" range. Fair numbers of larger rainbow were also collected in this section. The brown trout population in the lower section consisted almost entirely of younger fish with very few large (18"+) brown trout being collected. Prospects for the trout fishery look great for next season.

Two tagged walleye were caught by anglers in the upper Bighorn River just below the Afterbay Dam in the spring. Both fish had been tagged in Bighorn Lake in the Spring of 1994 and had apparently gone over Yellowtail Dam when water was spilled in the Spring of 1995. The largest of these was 14.5 pounds! A number of other walleye were also caught from the river last spring. A day of electrofishing in this section of river in the spring only produced one walleye; however, most walleye were probably holding in the deeper holes where shocking was not very effective.

Numerous trout collected in the upper three miles of river in the spring were checked for symptoms of gas bubble disease. Many of the trout collected just downstream of the Afterbay Dam exhibited some symptoms, although none of them were extreme. Symptoms decreased rapidly a short distance below the dam. So far all tests for whirling disease in the Bighorn River have come back negative. Let's be extra careful and keep whirling disease away from this fantastic fishery.

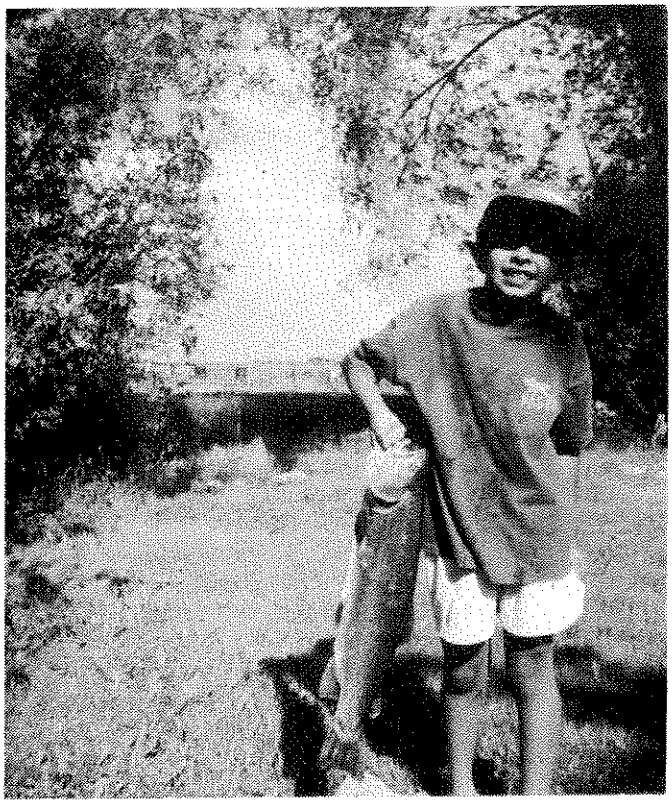


Family Fishing Adventures

In Montana, a state with 53,000 miles of streams and 850,000 acres of lakes, it's hard for many of us to even imagine that there are residents who never have an opportunity to get out and wet a line once in awhile. Unfortunately, even with one of the highest rates of angler participation in the nation, there are still some Montanans who find that there are just too many barriers standing in the way of spending some time fishing with their families.

Last August, it was with this in mind that FWP Director Pat Graham announced the creation of Montana's new angler education program to Governor Racicot's Council on Families, which was searching for ways to strengthen Montana's families.

Five reasons were preventing newcomers from participating in the sport of fishing were identified. They are: lack of knowledge about fish and fishing, initial cost of a fishing license, no prior fishing experience or skills, lack of fishing tackle, and lack of suitable locations to try fishing for the first time. The new education program will consist of five main elements, all designed to address these barriers to new or inexperienced anglers; they include:



Cameron Robinson- age 8

* A group of trained volunteer angler education instructors to teach at fishing clinics and events. Instructors will be trained in communities around the state, and can teach at fishing clinics and classes on a local basis, or at their discretion, work with individual groups such as Boy Scouts and Girl Scouts. For more information on becoming a volunteer instructor, see sidebar page 13.

* Establishing a free fishing equipment lending program across the state, where kids and their families can borrow basic tackle for a fishing trip. Already successfully implemented in nearly twenty states, Montana's fishing tackle loaner program will use sites such as the public library or city park within each community to house and lend the equipment, which will be provided by FWP. Local volunteers or fishing clubs will be called upon to help maintain the equipment in working order. The communities of Sheridan, Evergreen and Havre are pilot testing the fishing loaner program, which will be expanded next year.

*Establishing an angler education program for Montana's schools based on the successful "Hooked on Fishing, Not on Drugs" program. This program, already present in twenty two states , uses fishing as a positive alternative to drugs and alcohol. Fishing and fisheries resources are infused into all subject areas in the classroom, and used to build and hold students' interest. Currently, schools in Havre, Sheridan and Evergreen are pilot testing the program, which will be expanded next year to other interested schools and communities.

* Introducing a bill during the 1997 legislative session for a fishing license exemption. This bill will allow for a fishing license exemption for participants at FWP approved angler education events. Although many children are not legally required to posses a license to fish, older children and parents would now be encouraged to participate and try fishing without initially incurring the expense of a fishing license.

* Development of easily accessible fishing areas where kids and their families can try out their new skills. Without areas where newcomers to the sport can experience some measure of initial success, there is little incentive for them to continue their progression as anglers. Special attention will be focused upon areas that can provide initial success for families and beginning anglers. Many states have successful angler education programs, which often tie in closely with the states' hunter education program. Fishing methods, fish identification, water safety, fisheries ecology and management, equipment selection and rigging and casting are just a few of the topics that are commonly covered in such programs. For several years, individuals and fishing clubs across Montana have introduced new anglers to the sport, but this will be the first attempt at organizing them at the state level.

Nearly all of the funding for this effort will come from Federal Aid in Sport Fish Restoration Funds. Money in the form of excise taxes paid by anglers on their purchases of fishing equipment and tackle is distributed to the states, where some of the money is spent on educational programs such as Montana's Family Adventures.

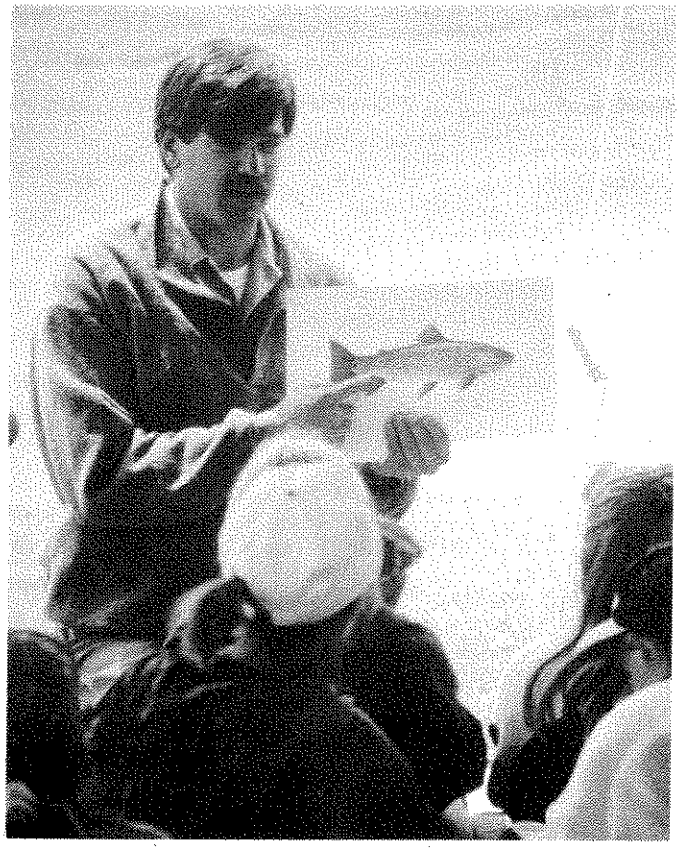
Just a few weeks before the Family Fishing Adventures program was unveiled at the state capitol, a working example of several of the program components was taking place at Lake Josephine near Billings, in the form of a fishing clinic for local kids and their parents. Brought together by volunteer fishing instructors from local Walleyes Unlimited, Trout Unlimited and rod and gun Clubs, the kids attending this event were taught the basics of casting, fishing knots, fly tying, water safety, and fisheries management and ecology, with a little time left over to try out their new skills at the end of the day. Many of the kids at the event belonged to Billings boys or girls clubs, or participated in the Big Brothers - Big Sisters program.

"It's great to see these diverse sporting groups unite towards the common goal of introducing new anglers to the sport of fishing." said Bill Pryor, Region 5 Information Officer who coordinated the event. "This is a winning situation all the way around. The instructors get to share their knowledge and love of fishing with others, the kids and their families learn a new life-long recreational activity together, and the state's fisheries benefit because, ultimately, these new anglers will be knowledgeable, responsible stewards of the resource."

With this new combination of dedicated anglers, kids, families and fishing, it does indeed seem as if everybody is a winner.

For more information on Montana's new Angler Education program, contact:

Dave Hagengruber
Angler Education Specialist -Montana FWP
1420 E 6th Ave
Helena MT 59620
406-444-9736



Wanted: Fishing Instructors

Fish, Wildlife & Parks' new Angler Education Program is searching for volunteer fishing instructors. This program, modeled after our highly successful Hunter Education Program, will use volunteer instructors to reach children and adults with a message of safe, ethical and successful angling.

We'll supply you with training, equipment and assistance; you supply a willingness to share your knowledge, experience and love of fishing with beginning anglers. Short instructor training classes are now being scheduled around the state for the upcoming winter and spring.

If you belong to an organized club, this is a great opportunity for your members to work together to "give something back" to the resource, and provide a valuable community service in the process. To find out more about becoming a fishing instructor, or to schedule a training workshop in your town or for your club, call FWP's angler education specialist Dave Hagengruber at 406-444-9736.

The future of quality fishing in Montana depends upon cooperation from all of us to correctly train the anglers of tomorrow. Do your part to ensure that they grow up as knowledgeable, ethical outdoor enthusiasts who will protect Montana's fish and water resources. Become a fishing instructor.

MUSSELSHELL RIVER

Despite a very dry summer, flows remained good in the Musselshell River throughout the season. The combination of a late spring, which delayed the start of irrigation, and full storage reservoirs helped pull the river through the summer drought.

Reports from anglers fishing the upper Musselshell were generally good with stories of several nice brown trout filtering in. An attempt to do a population estimate in the section of river above Two-Dot was foiled by nature. The shocking section was successfully marked with good numbers of brown trout being found. A majority of these fish were 12"- 17" long with a second group of 6"- 9" fish also present. A rapid thaw and resulting high water prevented the completion of a recapture run so no actual population estimate was obtained.

Twenty-eight brown trout were collected from the Musselshell River near Selkirk Fishing Access Site this summer and tested for whirling disease. All results came back negative.

Few reports were received from catfish or bass fishermen fishing the Musselshell River downstream of Lavina, but the fish seemed to be available for the few anglers willing to try. These fish populations should continue to build thanks to another good flow year. No sampling was conducted on the lower Musselshell River this past season.

YELLOWSTONE RIVER

Two weeks of electrofishing were conducted on the lower Yellowstone River just upstream from the mouth of the Bighorn River to sample both game and non-game fish and to complete mark-recapture population estimates on as many species as possible. A total of 30 species were collected during this shocking. Channel catfish up to 14.7 lbs and walleye up to 6.05 lbs were the most common game species collected. Sauger, ling, large- and smallmouth bass, and a few trout were also collected. One smallmouth bass weighed over 3.0 lbs! It was surprising to see how many more non-native walleye there were than native sauger in this section of river.

Work continues with the Bureau of Reclamation on a study to improve fish passage over some of the low-head irrigation dams on the lower Yellowstone. If successful, this project should result in increased numbers of migratory game fish like sauger and channel catfish in this section of river.

STILLWATER RIVER

Preliminary spring fish population estimates conducted in the Moraine Section of the upper Stillwater River indicate a decline of about 10% in brown trout numbers and an increase of 50% in rainbow trout. Brown trout outnumber rainbow trout in the section by about four to one. Total trout numbers for fish over five inches within the Moraine section are about 1650 per mile.

EAST BOULDER RIVER

A two-pass fish population estimate was made in a section of the East Boulder River located just inside the Forest Service boundary. This work is part of a continuing effort to gather baseline fisheries data prior to proposed mine development within the drainage. The combined trout estimate of 301 for a 1000 foot section was comprised of 209 rainbow, 68 brown, and 24 brook trout.

ROCK CREEK

Spring fish population estimates conducted in Rock Creek near Fox indicate that the brown trout population increased over 75% from estimates made in 1993. Rainbow trout populations within the section increased 114% during that period. Although not very abundant within the section, brook trout numbers also increased.

BAD CANYON CREEK

In a cooperative project involving the USFS, BLM, and FWP, brown trout were removed from the headwaters of Bad Canyon Creek in 1993 and 1995, and a barrier to block upstream fish passage was installed in 1993. Additional work to enhance the height of the barrier and another brown trout removal effort were completed in the fall of 1996. Backpack electrofishing units used for the brown trout removal project have not been very efficient as a removal tool. The project is intended to enhance the Yellowstone cutthroat trout population in the upper 3 to 4 miles of stream. Future plans call for re-evaluating other fish removal alternatives and transplanting additional cutthroat into the stream's headwaters.

SODA BUTTE CREEK

For the third year, an effort was made to remove brook trout from the headwaters of Soda Butte Creek near Cooke City. This is a cooperative project involving the USFS and FWP. Seven brook trout and 78 Yellowstone cutthroat trout were sampled from the confluence of Soda Butte Creek and Woody Creek to the headwaters in 1995. In 1996, electrofishing the same reach took 26 cutthroat and two brook trout. As water quality in Soda Butte Creek has improved, cutthroat numbers have increased each year except for 1996. High flows in 1996 are probably related to the cutthroat decline from the 1995 level.

RED LODGE CREEK

During the Fall of 1996, we electrofished an 800 foot section of Red Lodge Creek immediately downstream from Cooney Dam. The stream was rich in aquatic invertebrates and fish species. Species sampled in decreasing order of abundance included mountain whitefish, white suckers, longnose dace, black crappie, rainbow trout, lake chubs, brown trout, longnose suckers, mountain suckers and walleyes. Walleyes, black crappies, rainbow trout and possibly other species have moved downstream into Red Lodge Creek through Cooney Dam.

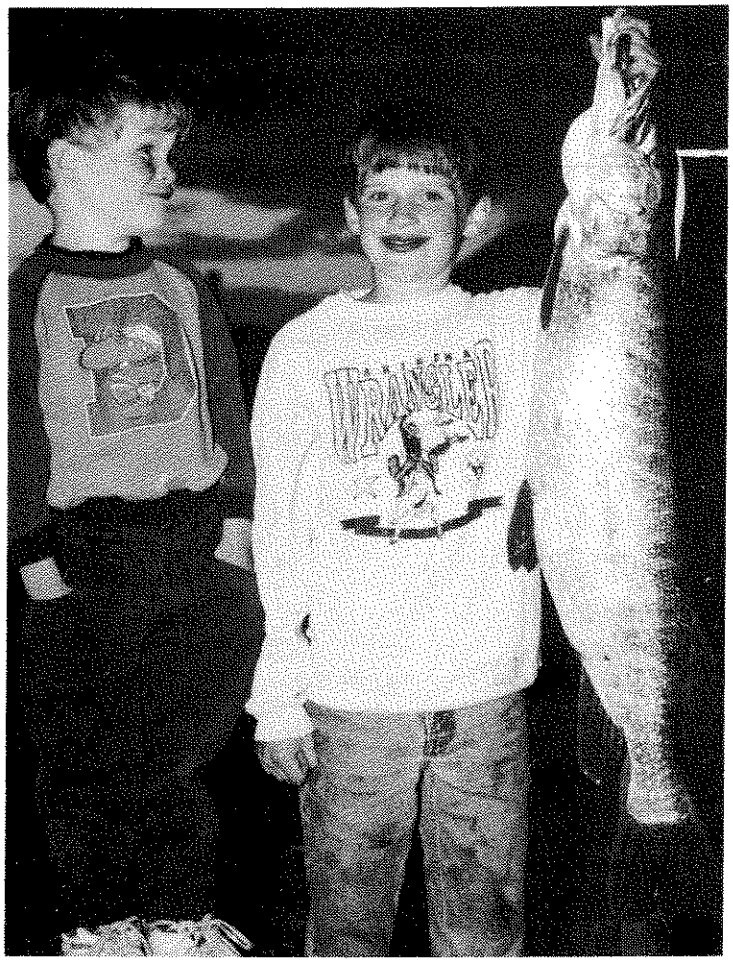
GOOSE CREEK AND WHEELER CREEK

Cutthroat trout collected from Goose Creek, in the headwaters of the Stillwater River and Wheeler Creek, a small stream on the east side of the Crazy Mountains, were sent in for genetic purity analysis but the results are still pending.

BIGHORN LAKE

Reservoir levels on Bighorn Lake were good throughout the year. They began to increase in late spring, reached close to full pool in July and remained fairly constant through the summer and fall.

The real story on Bighorn Lake this year was forage, with tremendous populations of small carp and emerald shiners found throughout the Montana section of the lake during spring and early summer. This boom was great for the fishery but not so good for the anglers. Fishing started off very slow this spring as evidenced by the results of a Walleye Unlimited tournament conducted on the lake in early June. One hundred anglers, fishing for two days only caught four walleye. Results of a Kiwanis Club tournament conducted a week later weren't any better. It appeared the fish had all they wanted to eat with the abundant forage available, and they were not interested in offerings from the anglers. Fishing did start to pick up in late summer and fall as these schools of forage dispersed, and the carp grew large enough to become less desirable forage. A few reports of very good walleye fishing were received.



The exciting story for Bighorn Lake this year is the future potential. Spring electrofishing in 1996 didn't collect many large walleye, but did turn up two strong year classes of young walleye. This increase was followed by an above normal walleye plant this summer. The normal walleye request for Bighorn Lake is 4 million fry and 200,000 fingerlings. This year Bighorn Lake received 4 million fry plus over 400,000 fingerlings. There should be three strong year classes of walleye in a row to capitalize on the expanding forage population. Anglers should see some great walleye fishing in the reservoir during upcoming years.

Another exciting development is the smallmouth bass fishery that is developing in Bighorn Lake. Smallmouth probably first entered Bighorn Lake when high water in 1990 flushed them down from the Big Horn River in Wyoming. Scattered reports of smallmouth bass being caught in Bighorn Lake have been received during the past several years with several of these reports confirmed. It now looks like smallmouth numbers have reached levels necessary to develop a self-sustaining fishery. One evening of late summer electrofishing near Barry's Landing captured three year classes of smallmouth bass including large numbers in the 5"- 7" range. There has to be at least one or two more year classes of larger bass present that were responsible for the spawning. Smallmouth bass are becoming established just in time to take advantage of the expanding forage population in the lake. Smallmouth are generally found associated with rocky habitat and could do great in Bighorn Lake. Despite a slow spring and summer of fishing this year, the future for fishing in Bighorn Lake looks great.

COONEY RESERVOIR

Because of its proximity to Billings, Cooney Reservoir continues to receive heavy use by recreationists. Fishing pressure on the walleye-trout fishery increases each year. Spring electrofishing captured a number of large walleyes attempting to move up tributaries to spawn. These spawning walleyes averaged 26.1 inches and 7.85 pounds. Numbered tags were placed in 151 of these larger walleyes. A volunteer angler creel census was initiated at the main access points to help monitor harvest on these large fish but, to date, returns by anglers have been very low. Several walleyes over 15 pounds were taken during 1996 and the new state record walleye, weighing 16.38 pounds, was taken from Cooney last summer. Cooney walleyes are preying heavily upon suckers and black crappies, and this predation by walleyes is controlling both species. Rainbow trout sampled in the spring averaged 13.7 inches. The main road to Cooney was paved in 1995 and, along with major improvements to other access roads and facilities, has led to additional increases in recreational use. Because of heavy daytime use on Cooney, more and more anglers are using the lake at night to get away from the mass confusion of many conflicting uses.

ABSAROKA-BEARTOOTH MOUNTAIN LAKES

Thirty-nine alpine lakes in the Absaroka-Beartooth Mountains were surveyed in 1996. Mountain lakes are surveyed by a two-person crew that backpacks into the majority of these remote waters. Information collected is used to update the high mountain lake data base. Our goal is to survey

approximately 30-35 lakes each year and cover all the 328 lakes supporting fisheries about once every 10 years. A graduate student research project to investigate highly variable fish growth rates in several similar lakes was initiated in 1993 and the results are still being tabulated.

REGIONAL PONDS AND RESERVOIRS

Good winter precipitation and a wet spring helped maintain most regional ponds in good condition through the recent dry summer.

Largemouth bass in Arapooish pond near Hardin made it through another winter with the help of the aeration system operated by Bighorn County. Arapooish continued to be one of the most popular pond fisheries in the region. Aquatic vegetation did not get as thick in the pond this summer, so fishing remained good throughout the season. Large numbers of 8"- 10" bass were available for everyone, with enough larger bass present to keep things exciting. No reports were received of real large bass being caught, but there should be some nice ones available and waiting for the right presentation. Bass spawning was successful, producing lots of small bass for the future. Approximately 600 bass were transplanted from Arapooish into two new ponds when the Miles City hatchery was unable to provide bass.

Lake Josephine became part of the Yellowstone River this spring when high water completely inundated the pond. There was undoubtedly some exchange of fish in and out of the pond, but the overall fish populations probably didn't change much. Netting shortly after water levels dropped found lots of black crappie from 6.5" to 8.0", quite a few smaller yellow perch and pumpkinseed sunfish, and a few channel catfish. Most of the catfish were between 8" and 11" with the largest one being 14.7" long. No channel catfish have been available for planting the past two years, but plans are to continue stocking catfish into Lake Josephine when they become available. Only one 11" largemouth bass was captured during sampling, but bass seldom get caught in nets. Reports from anglers indicated that Lake Josephine continued to produce some nice catches of largemouth bass.

Lake Elmo provided a popular fishery again this year with lots of anglers using the fishing pier. Small yellow perch kept many young anglers busy while catfish fishing was a little slow getting started. Channel catfish started to bite by mid-summer, once water temperatures warmed, and they provided some great fishing. The largest catfish collected during spring and fall netting weighed 3.32 lbs and was 20.8" long. A number of smaller catfish were also netted. For the second year in a row, no channel catfish were available through the Miles City hatchery, however 1,400 catfish were purchased from a private hatchery in Nebraska and planted into Lake Elmo. The annual catfish request for Lake Elmo is 7,800 fish, and we hope to have these available again by next season. Numerous suckers, some small black crappie and yellow perch, and a 4.5 lb brown trout were also collected during normal sampling.

Broadview Reservoir was netted in the spring and fall with a total of 14 tiger muskie being captured. These fish ranged from 24.6" to 33.0" with the largest one weighing 8.4 lbs. Half of these fish were longer than the minimum legal length of 30". Angler reports indicated that a few tiger muskie have been caught, but it takes a lot of time and effort to find one willing to attack a lure. There is so much natural food in Broadview, it is hard to find a muskie that is hungry.

Rainbow from two trout plants made in 1995 were captured in the spring of 1996. The largest rainbow netted was 13.6" long. Approximately 5,000 rainbow stocked into Broadview in 1996 were 8.5" to 9.0" long by October. These fish could provide some ice fishing this winter.

The average size of crappie in Broadview has increased to about 8" and there seemed to be plenty available. Fish, Wildlife and Parks and local sportsmen did some bank stabilization and willow planting along the dike down the center of the reservoir to help reduce wave erosion and decrease turbidity in the water. This will be an ongoing project over the next few years.

Lebo lake continued to be a very popular fishery with lots of anglers trying their luck at catching a trophy tiger muskie. It takes a lot of dedication, but anglers who were on the lake when the muskie decide to feed did quite well. Lots of fish have been landed with rumors of fish over 30 lbs floating around. So far the state record of 27.0 lbs, set in 1994, still stands. Only one 9.2 lb tiger muskie was collected during fall sampling in 1996. Seven white suckers were collected in 6 net sets compared to an average catch of over 80 suckers per net before the tiger muskie were introduced. The muskie have definitely been successful at the task they were originally introduced for.

Water levels in Deadmans Basin were drawn down significantly this summer to meet the irrigation demands of a dry summer. Fortunately, the lake was full at the beginning of the irrigation season, so water levels never dropped low enough to dewater the boat ramp. Reports from anglers indicated that fishing success at Deadmans for both trout and salmon was up considerably over the past several seasons. This resulted in an increase in fishing pressure on Deadmans for the summer.

Both spring and fall netting collected several year classes of rainbow and kokanee, indicating our stocking program has been successful. Kokanee plants were reduced by half in 1994 to try and increase the average size of mature kokanee in Deadmans. This tactic has been successful with many 14" to 15" kokanee seen in the net samples this fall. Several additional management options are being considered for Deadmans. Montana Fish, Wildlife and Parks will be seeking public input on these various proposals in the near future.

WHIRLING DISEASE

Fish collected this year from Pryor Creek, Musselshell River, Boulder River (downstream from the natural bridge), Stillwater River at Absarokee and Sylvan Lake have all tested negative for whirling disease. We have not received the test results on fish collected from the Clarks Fork of the Yellowstone. To date, all fish sampled from waters within Region 5 have tested negative for whirling disease.

REGION SIX - GLASGOW

FORT PECK RESERVOIR

The melting of mountain snowpack and heavy rainfall during the Spring and Summer of 1996 resulted in Fort Peck Reservoir rising to a peak elevation of 2,247 during July. This water level was about 3 feet below full pool.

Approximately 3,300 walleye spawners were captured and released during spring trap netting in the upper Big Dry Arm. The average weight of female walleye spawners was 8.5 pounds, with male spawners averaging 3.33 pounds. A record 88 million walleye eggs were obtained from 500 females. Fort Peck received 23.1 million walleye fry and 2 million fingerlings from this egg-taking effort.

Anglers reported that walleye fishing was good throughout most of the season. Officials from the Montana Governor's Cup Walleye Tournament, held in July, reported 934 fish were captured and released.

The catch rate for the 1996 spring lake trout creel survey was lower than those of previous years. An average weight of 9.6 pounds was recorded for both sexes of lake trout sampled during the survey. Examination of lake trout stomachs during this survey also revealed that nearly 50% of the fish sampled fed on ciscoes.

Approximately 40,000 chinook salmon fingerlings were obtained from South Dakota for stocking into Fort Peck. These fish were placed in a rearing cage in the Marina Bay for one month and released into the lake at 3-5 inches. Adult chinook salmon were captured in the fall with a portable spawning ladder at the Fort Peck Marina bay. The average weight for male and female chinook salmon spawners was 12.7 pounds. For the first time since the introduction of salmon in 1983, 370,000 viable eggs were successfully taken from 141 females, which will hopefully result in the stocking of a significant number of fingerlings in Spring 1997.

Annual sampling of young-of-year cisco by small mesh, vertical gill nets in late summer indicated an increase in production. Fall sampling of young-of-year cisco averaged 11.8 fish per net set in 1996.

Game and forage fish abundance was evaluated by beach seining in August and September 1996. Walleye, sauger, northern pike and yellow perch catches all indicated increased production from 1995. Spottail shiner, emerald shiner and smallmouth bass catches showed a decrease in production.

LOWER MISSOURI AND YELLOWSTONE RIVER PALLID STURGEON STUDY

The pallid sturgeon was listed as an endangered species in October 1990 and a recovery plan was formulated and initiated in November 1993. The recovery plan identifies the area of this study as a priority reach for pallid sturgeon recovery efforts. A population estimate of pallids in the study area indicates a total population of only about 250 adults. No juvenile or young pallid sturgeon have been found since studies were first initiated in 1989. The reason for this is unknown at the present.

This study was funded entirely by the Western Area Power Administration during 1996. Objectives of this research were generally to: identify potential spawning areas, seasonal distribution, habitat use, and, movement patterns of shovelnose and pallid sturgeon; capture adult, juvenile and larval sturgeon to find evidence of reproduction; tagging of all sturgeon and measure morphological characteristics to check for possible shovelnose/pallid sturgeon hybridization; measure habitat parameters of sturgeon capture locations; capture associated native and introduced fish species.

Attempts will be made during the Spring of 1997 to artificially spawn two female pallids (50+ pounds) which are currently being held at the Garrison National Fish Hatchery, North Dakota. Several males are also being held at the hatchery. This is a very important segment of the recovery plan. If the spawning is successful and the progeny can be reared under hatchery conditions, future plans include the possible release of hatchery-reared pallid sturgeon into the wild. The initial stocking effort may be in the Missouri River segment about Fort Peck Reservoir. A population estimate of pallids in this river reach indicates there are only about 50 adults present and, again, no evidence of recent natural reproduction has been documented.

Shovelnose and pallid sturgeon appear to be genetically very similar. Indeed, a recently completed genetic study using mitochondrial D-loop DNA material could not positively differentiate the two species. Also, morphological keys to identify larval pallid and shovelnose sturgeon are not complete. The possibility of having early life history stages of both species in the hatchery may provide the morphological evidence necessary to differentiate these sturgeon. This would enable us to detect the possible presence of larval pallid sturgeon collected in the Missouri and Yellowstone rivers and determine if successful reproduction was occurring.

Additional research concerning pallid sturgeon, their habitat, and associated native and introduced fish species is needed if we are to solve the mysteries surrounding this fish and prevent its final demise. It is imperative that we continue to pursue all avenues of research in order to assure the survival of pallid sturgeon in the future.

OTHER MAJOR WATER BODIES IN NORTHEASTERN MONTANA

Water levels throughout most of the region were adequate going into the winter of 1995-96. However, several reservoirs were drawn down for late season irrigation, resulting in some fish kills during the long winter.

FRESNO RESERVOIR

The large walleye population and relatively good water levels continued to provide excellent fishing through 1996. Northern pike are still abundant. The third annual Northern Pike Roundup yeilded 280 pike in only a few hours. A

cooperative effort with MSU-Northern produced another year of water chemistry/productivity information for the reservoir. One million walleye fry were planted in 1996 to help ensure a strong year-class, in light of last year's reduced walleye spawn. Two thousand walleye and northern pike were captured, marked and returned in April 1996 to estimate the total numbers of fish in each population. Estimates have not been calculated at the time of this article, but will be used with creel information to determine percent of the population harvested, which will assist in developing fishing regulations. A creel census was conducted from April through September. Final results have not been completed as yet, but preliminary information indicates fishing pressure has increased approximately 40% from the last creel survey conducted in 1990. Catch rates in June and July were very high for walleye and northern pike. Most of the catch was filleted by the department interviewer in order to collect stomachs for food habit studies. An experimental shoreline plot was seeded to investigate the potential for larger scale seedings to improve perch spawning habitat. A project to install woody vegetation in selected shoreline areas to enhance perch spawning is proposed for 1997.

NELSON RESERVOIR

Water levels and the walleye population continue to be better than normal. Natural reproduction of walleye appears to be increasing, possibly in response to recently installed artificial shoals. Another large shoal project is scheduled for the end of 1996-97. A population estimate/creel census has been proposed for 1998.

FABER RESERVOIR

An illegal introduction of white suckers into this once thriving trout fishery has resulted in the collapse of this fishery. Sucker numbers continue to increase, while survival of hatchery stocked trout declines. The condition of the few surviving trout is good, perhaps this is due to less competition for food. Public meetings to discuss management options for this fishery will be held this winter.

BEAR PAW LAKE

A sucker reduction plan, utilizing smallmouth bass and walleye, appears to be working. Two year-classes of suckers have been almost eliminated by predation from introduction of these species. Though adult sucker numbers are still high, no recruitment appears to be occurring. Reduction of the adult sucker population by trapping is scheduled for 1997. Though trout growth has not improved as yet, smallmouth bass up to one pound are providing a lot of action for anglers.

H.C. KUHR RESERVOIR

This reservoir, known for its tiger muskie fishing, winter killed in 1995-96. A small remnant population of suckers and perch survived. Rainbow trout were reintroduced in 1996 and should provide excellent fishing for the next several years until it is overwhelmed by an "exploding" sucker population.

GRASSHOPPER RESERVOIR

This reservoir also winter killed in 1995-96 and was restocked with rainbow trout. It is expected to provide excellent fishing next summer.

BEAVER CREEK RESERVOIR

This fishery is a wonderful success. There are few places in Montana where an angler can catch lots of 1-2 pound trout, walleye up to 6 pounds, baskets full of 8-11 inch perch, and trophy northern pike (20-35 pounds). The facilities around the lake are improving and boat access is good. This reservoir at one time suffered from the same problems as Bear Paw Lake. However, introduced predator fish reduced sucker numbers which has allowed trout to flourish. As long as pike abundance remains low, loss of trout due to predation will be manageaable. Ice fishing is anticipated to be excellent this upcoming winter.

MISSOURI RIVER ABOVE FORT PECK

Fishing pressure above Fort Peck Reservoir remains high and the harvest of paddlefish was good in 1996. Recent tagging efforts still indicate an annual harvest of less than 5% of the population. Fishermen continue to release about half the paddlefish they catch and are very supportive of the two-fish limit and tagging system initiated in 1992.

REGION SEVEN - MILES CITY

Tongue Reservoir Dam - Spillway Project

This project was begun in late Summer 1996 and will continue through at least Fall 1998. The reservoir will remain open to anglers, but not all of the shore recreation areas will be open. For 1997 there will be no access to the Camper's Point - Marina area. A new boat ramp will be available in 1997 at Pee-Wee Point, where the marina will be located temporarily. Roads in the Neck Bay and Dam areas will also be closed to the public. Normal public access will continue in the Rattlesnake, Pee-Wee and Sand Point areas.

Reservoir water levels will be near seasonal normals until Fall 1997. The reservoir will be drawn down to 9,000 acre-feet, with only a brief rise from May-August 1998 to supply downstream irrigation. Reservoir levels will not return to normal until May or June 1999. At 9,000 acre-feet, the upper end of the reservoir will be near Rattlesnake Point.

The rehabilitation project will raise the spillway level four feet to obtain additional reservoir storage. This higher water level will require roads and recreation facilities to be replaced at a higher level. This replacement should be completed by late 1998.

The long period of reservoir drawdown will cause a decrease in the numbers of most fish species. Following reservoir refilling, natural reproduction of smallmouth bass and crappie will bring these species back to their former abundance in 3-4 years. Walleye will require a little longer. Annual walleye stocking will be increased in 1999 and 2000 to speed the return of this species to its former abundance. No changes

in fishing regulations are planned for the drawdown period.

YELLOWSTONE RIVER FISH PASSAGE

In 1996, FWP began a cooperative Yellowstone River project with the Bureau of Reclamation. As a part of this project, we are doing fisheries and engineering evaluations to provide for improved fish passage at the Cartersville Diversion Dam near Forsyth. Sauger and shovelnose sturgeon are much less abundant upstream of the Cartersville Diversion Dam than downstream. By 1998, we expect to develop design alternatives with cost estimates. When fish passage is built, FWP will evaluate its effectiveness.

SOUTH SANDSTONE RESERVOIR TRANSFER

The 90 acre South Sandstone Reservoir is a FWP owned site not far southwest of Baker. A number of game fish are present but yellow perch, walleye and northern pike are most abundant. In the 1995 legislative session, the Department requested spending $264,000 for repair of the dam and spillway. The legislature authorized spending the requested amount, but also directed the Department give the property to an appropriate party so that FWP would not incur any future repair expense. An agreement is close to being finalized. It calls for the property to be transferred along with the $264,000 to the Little Beaver (Fallon County) Conservation District. The District will use the money to maintain the facility. FWP will maintain the developed recreation areas, and responsibility for fisheries management. Public access will continue. The public should not see any change at the reservoir.

Answers to "Wuzzles"

1. Sun Fish
2. Buffalo Fish
3. Mosquito Fish
4. Cat Fish
5. Rainbow Trout
6. Gold Fish or Golden Trout
7. Tiger Muskie
8. Freshwater Drum
9. Bullhead or Bull Trout
10. Pumpkinseed
11. Paddlefish
12. Walleye

Participant of the FISHING LOG PROGRAM

Montana Department of Fish, Wildlife & Parks

Fishing success summaries for December, 1994 though November, 1995 are listed below.

A total of 520 logholders were heard from for the 1995 season with 109 new participants signing on. There are 912 anglers in the current Fishing Log Program after a thorough updating of the database.

The statewide hourly catch rate for the angler logholders was 1.5 fish per hour. The daily catch rate was 5.5 per day. Logholders recorded 7,640 days of fishing in their books, fishing 741 different waters and catching 42,314 game and sport fish and 857 course fish. Rainbow trout comprised the largest sport and game fish catch (25.4%) followed by Kokanee, Yellow Perch, Brown trout and Cutthroat. Northern Squawfish comprised the largest course fish caught (25.7%) followed by Stonecat and Freshwater Drum.

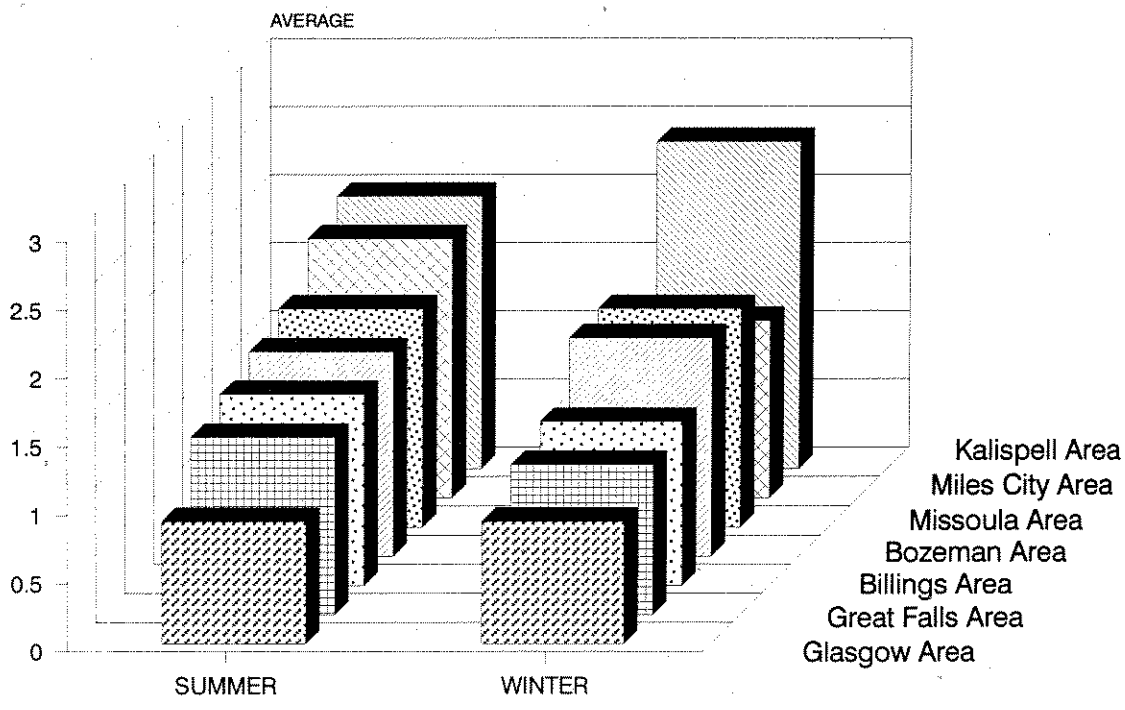
The Montana Fish, Wildlife and Parks Department thanks all the participants of the Fishing Log Program for their interest and dedication to this program. The data recorded from your logs has proven to be of great value to the Department's fisheries biologists. If you have a fishing friend or know of someone who likes to fish and doesn't have a log but would be a great logholder, please send their name and address to:

Jan Hughes
Fisheries Information Services
FWP Building, MSU Campus
PO Box 173230
Bozeman MT 59717-3230 or phone Jan at (406) 994-6838.

* *

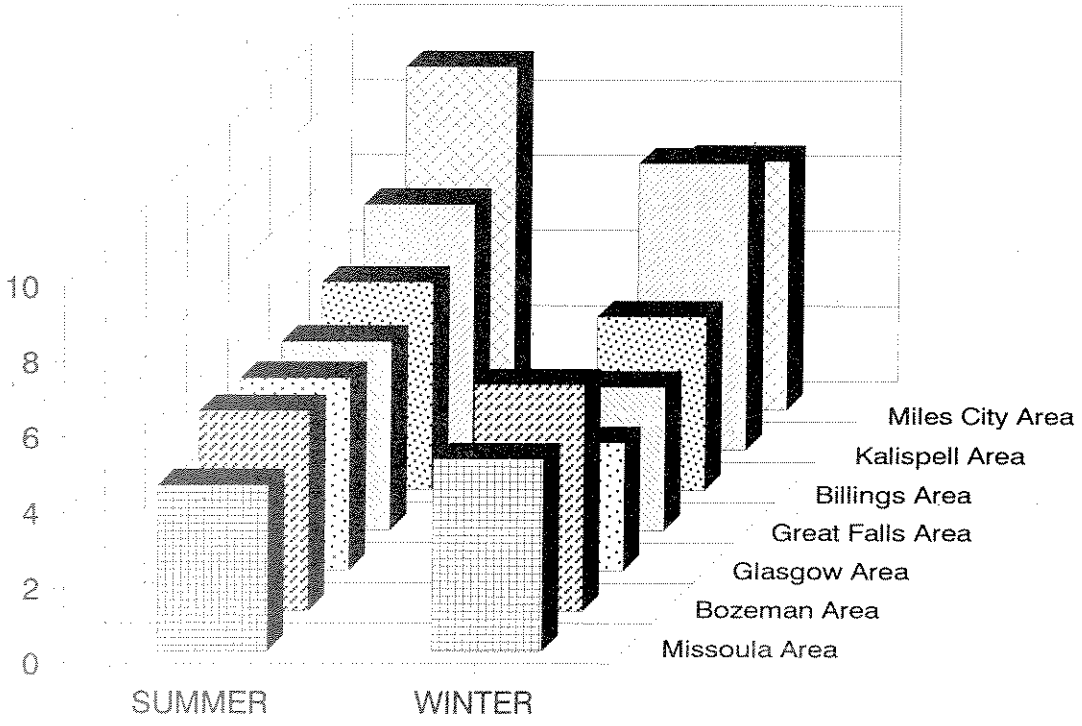
AVERAGE NUMBER OF FISH CAUGHT PER HOUR

1995



AVERAGE NUMBER OF FISH CAUGHT PER DAY

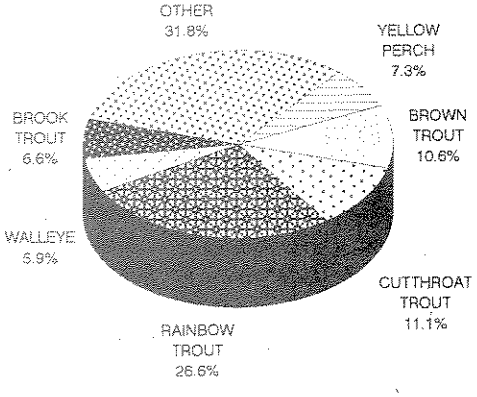
1995 Log Year



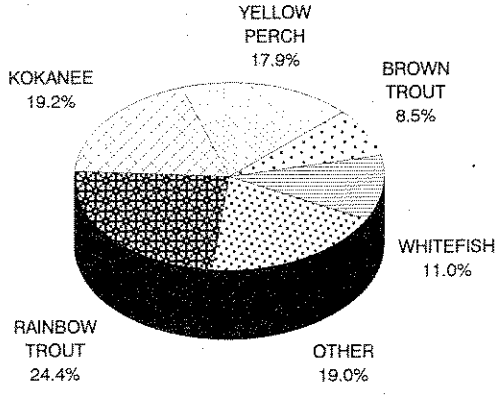
STATEWIDE TOP GAME AND SPORT FISH

DECEMBER 1994 THRU NOVEMBER 1995

SUMMER



WINTER



Fort Peck Reservoir Steals the Show

The fertile waters of northeastern Montana's Fort Peck Reservoir have produced another state record fish--a 16.29-pound walleye--to go with records for several other species, including smallmouth bass, sauger, channel catfish, and chinook salmon.

When Randy Townsend got in the boat with partner Greg Pauley last October and headed for Timber Creek in the reservoir's Missouri Arm, he wasn't thinking about a record walleye. If he had been, he might have brought along something more substantial than an ultralight spinning rod with 4-lb.-test line, and he definitely would have remembered a net.

Despite the light tackle, Townsend eventually was able to work the big fish up to the boat. But getting it into the boat proved an even greater challenge. "My partner had to reach into the water and grab it," said Townsend. "He missed it on the first try, but got it on the second."

Townsend, who lives in Acton, was using a chartreuse jig and minnow when he hooked the 33.5-inch walleye. "I didn't even know what the record walleye weighed, but my partner did," said Townsend. "At first we thought my fish might go about twelve pounds, but every time Greg lifted it, he got more and more excited. Finally we decided we'd better get it officially weighed."

Townsend's fish bested another record walleye taken from Fort Peck Reservoir earlier in 1995 by Eric Thorpe. Thorpe's fish weighed 15.63 pounds. The previous record walleye, a 14.88 pounder, was caught in the Yellowstone River near Miles City in 1989.

Because so many sauger and walleye records were being shattered in such rapid succession at Fort Peck in mid-1994 and early 1995, biologists began to question whether the increased size was due to the abundance of forage fish alone, or whether some hybridization was occurring. "Anglers catching these fish were also curious about the phenomenal size," says Bill Wiedenheft, FWP fisheries manager for Region 6 (Glasgow). "so we began asking them to send their trophies to Robb Leary at the University of Montana for genetic testing." using a process called electrophoresis, Leary can distinguish sauger from walleye by analyzing liver and muscle tissue samples for four proteins.

"Robb found that some of these new record fish were indeed walleye/sauger hybrids," says Wiedenheft. "A 15.66-pound fish caught by Myron Kibler in Fort Peck Reservoir in January of 1995 that appeared to be a walleye turned out to be a hybrid, or saugeye," he says. "So we've added the saugeye as a separate Montana fish records category beginning with 1995." Kibler now holds the saugeye record with his 15.66-pounder.

Because external features can't be relied on to determine species, or hybrids, in the genus *Stizostedion* (walleye and sauger), FWP policy now requires that new walleye, sauger, or saugeye records be verified by electrophoresis. "When one of these fish potentially qualifies as a new state record," explains Wiedenheft, "fisheries personnel will take the necessary muscle and liver tissue samples and send them to a lab for genetic testing."

Two additional fish records fell in 1995; Lewistown angler Darren D. Johnson caught a 0.30-pound Flathead chub in the Missouri River near the Fred Robinson Bridge, besting a chub caught in 1994 in the same locale. And Edward Field, of Sheridan, Wyoming, took a 2.44-pound white crappie through the ice at Tongue River Reservoir, edging out a 2.38-pound specimen taken from the same water in 1990. Field caught his crappie using a minnow on a chartreuse ice jig. ---***Dave Books, Montana Outdoors***

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HTTP://FWP.MT.GOV

1995 LIST OF MONTANA'S RECORD FISH

Species	Weight	Angler	Year	Location
Arctic grayling	3.21 lbs.	Frederick C. Dahl	1994	Handkerchief Lake
Bigmouth buffalo	57.75 lbs.	Craig D. Grassel	1994	Nelson Reservoir
Black bullhead	2.33 lbs.	Darwin Zempel, Jr.	1994	Lower Flathead River
Black crappie	3.13 lbs.	Al Elser	1973	Tongue River Reservoir
Blue sucker	11.46 lbs	Doug Askin	1989	Yellowstone River (near Miles City)
Bluegill	2.64 lbs.	Brent Fladmo	1983	Peterson's Stock Dam
Brook trout	9.06 lbs.	John R. Cook	1940	Lower Two Medicine Lake
Brown trout	29.00 lbs.	E.H. "Peck" Bacon	1966	Wade Lake
Bull trout	25.63 lbs.	James Hyer	1916	unknown
Burbot (ling)	17.08 lbs.	Jeff E. Iwen	1989	Missouri River (near Wolf Point)
Carp	38.50 lbs.	Don Bagley	1986	Eyraud Lakes
Channel catfish	25.89 lbs.	Gordon Wentworth	1984	Fort Peck Reservoir
		Tom Hilderman (tie)	1988	Fort Peck Reservoir
Chinook (king salmon)	31.13 lbs.	Carl L. Niles	1991	Fort Peck Reservoir
Cisco	1.46 lbs.	Jim Liebelt	1990	Dredge Cut Trout Pond
Coho salmon	4.88 lbs.	Irven Stohl	1973	Fort Peck Reservoir
Cutthroat trout	16.00 lbs.	William D. Sands	1955	Red Eagle Lake
Flathead chub**	**0.30 lbs.**	**Darren Johnson**	**1995**	**Missouri River (Fred Robinson Bridge)**
Freshwater drum	20.44 lbs.	Richard C. Lee	1987	Fort Peck Reservoir
Golden trout	4.90 lbs.	Carl Radonski	1993	Lightning Lake
Goldeye	2.91 lbs.	Vance "Bubba" Kielb	1989	Irrigation canal (West of Malta)
Green sunfish	0.56 lbs.	Roger Fliger	1991	Castle Rock Reservoir
Kokanee (salmon)	5.94 lbs.	Forrest Johnson	1976	Pishkun Reservoir
Lake trout	42.00 lbs.	Dave Larson	1979	Flathead Lake (east shore)
Lake whitefish	10.00 lbs.	Ruby Mutch	1986	Lower St. Mary Lake
Largemouth bass	8.16 lbs.	Juanita A. Fanning	1984	Milnor Lake
Longnose sucker	3.27 lbs.	Ray Quigley	1988	Marias River
Mountain whitefish	5.09 lbs.	Mervin "Frog" Fenimore	1987	Kootenai River
Northern pike	37.5 lbs.	Lance Moyler	1972	Tongue River Reservoir
Northern squawfish	7.88 lbs.	Darrel Torgrimson	1991	Noxon Rapids Reservoir
Paddlefish	142.5 lbs.	Larry Branstetter	1973	Missouri River
Peamouth	0.64 lbs.	Gordon Stewart	1991	Ashley Creek
Pumpkinseed	0.95 lbs.	Tim Colver	1985	Milnor Lake
Pygmy whitefish	0.16 lbs.	Orlin Iverson	1982	Ashley Lake
Rainbow trout	29.02 lbs.	Stanley Ross	1991	Kootenai River (David Thompson Bridge)
Rainbow-cutthroat hybrid	30.25 lbs.	Pat Kelly	1982	Ashley Lake
River Carpsucker	3.50 lbs.	James Jessen	1991	Yellowstone River near Terry
Rock bass	0.57 lbs.	Don Holzheimer	1989	Tongue River Reservoir
Sauger	8.81 lbs.	Gene Moore	1994	Fort Peck Reservoir
Saugeye**	**15.66 lbs.**	**Myron Kibler**	**1995**	**Fort Peck Reservoir**
Shorthead redhorse sucker	4.68 lbs.	Ray Quigley	1985	Marias River near Loma
Shortnose gar	3.06 lbs.	John Johnson	1977	Fort Peck dredge cuts
Shovelnose sturgeon	13.72 lbs.	Sidney L. Storm	1986	Missouri River
Smallmouth bass	6.09 lbs.	Terry L. Druyvestein	1990	Fort Peck Reservoir
Smallmouth buffalo	32.63 lbs.	Richard Liesener	1994	Nelson Reservoir
Stonecat	0.42 lbs.	Robert M. Garwood	1985	Milk River at Havre
Tiger Muskellunge	27.00 lbs.	Dan Dupea	1994	Lebo Lake
Utah chub	1.81 lbs.	Eugene Bastian	1992	Canyon Ferry Reservoir
Walleye*	**16.29 lbs.**	**Randy Townsend**	**1995**	**Fort Peck Reservoir**
White bass	1.13 lbs.	Ludwig Dubbe	1986	Fort Peck dredge cuts
White crappie*	**2.44 lbs.**	**Edward Field**	**1995**	**Tongue River Reservoir**
White sturgeon	96.0 lbs..	Herb Stout	1968	Kootenai River
White sucker	5.33 lbs.	Fred Perry	1983	Nelson Reservoir
Yellow bullhead	0.72 lbs.	Wade Fredenberg	1987	Yellowstone River
Yellow perch	2.37 lbs.	Vernon Schmid	1988	Ashley Lake

***New Montana record for 1995**

****New to Montana's record list**

RIVER USERS:

Be a good sport

BOATERS:

Be organized before you approach the launch area.

Allow space between your boat and others when fishing.

Watch for wading anglers and *plan a path* to avoid them and their fishing hole.

Attempt to travel at a *no-wake speed* near floaters or wading anglers.

Kayakers or canoeists *"playing the river"* should yield to boaters traveling by.

Do not drag an *anchor* on streambeds.

ANGLERS:

Don't crowd other anglers - keep *out of sight* of others if possible.

Let others enjoy good *fishing spots*, too.

Yield to boats when there is no other channel to navigate.

Avoid using the *streambed* as a pathway.

Compiled by the River Recreation Conflicts Group, Ethics and Education Committee.

FWP - USFS - MPC - MRAN - FOAM - BLM