

Conserving, protecting, and restoring coldwater fisheries in Montana's Missouri, Little Blackfoot, and Smith River watersheds.

PBMIR NEWS

PAT BARNES MISSOURI RIVER TU • www.patbarnestu.org • SPRING 2010



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PAT BARNES MISSOURI RIVER CHAPTER
Chapter No. 055
PO Box 275
Helena, MT 59624-0275
patbarnestu@gmail.com

– Thank you for your continued support of the Pat Barnes Missouri River Chapter of Trout Unlimited. –

New Sign Brings Emphasis to the Regulations below Hauser



Growing traffic is a concern in this area and all crafts and anglers should be sensitive to no-wake and catch and release for brown trout regulations, and be careful around the extensive spawning taking place in this area.

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Don't Take It for Granted

Well it is that time again and the fishing is on! It's time to get into the rivers and experience some of the best trout fishing available in this country. In Montana, some may have a tendency to take for granted what we have out our back door, but I've learned this isn't true for members of the Pat Barnes Missouri River Chapter of Trout Unlimited. PBMRTU members think it over and then work to make things better, or at least maintain what we have. Hard work goes on through volunteer efforts to teach casting and fly tying, restore rivers and streams, support projects that benefit habitat and fisheries, manage our ever important Trout in the Classroom Project, and work with state and regional officials to develop sensible policy. In my tenure as a board member, I've witnessed firsthand the level of contributions made daily by board members to manage the organization, develop funds needed to operate, work on organizing various events throughout the year including film festivals, river cleanup, clinics and others, and interface with Montana TU. We all need to keep in mind that our environment is under constant natural and political challenges, and we each need to do our part to help it along.

So as you are out there this year staring down that torpedo of a trout and try to get him (or her) to take your fly, remember we are among the luckiest in the world; let's not take it for granted. And then go right ahead and catch that fish!

Board of Director Meetings are held the 4th Wednesday of each month from September through April. Non-board members are invited and encouraged to attend.



Tony Herbert is a long time Helena resident and conservation-minded fisherman.

President, Tony Herbert
PO Box 275
Helena MT 59624-0275
www.patbarnestu.org
patbarnestu@gmail.com
406/449 7252

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Articles, letters, and artwork related to conservation, restoration, and preservation of Montana's coldwater fisheries are welcome. The editor reserves the right to reject or edit any material submitted. Guidelines for submission format, methods, and deadlines are available upon request by emailing patbarnestu@gmail.com, or calling publications coordinator, Melissa Brown 406/495 2309.

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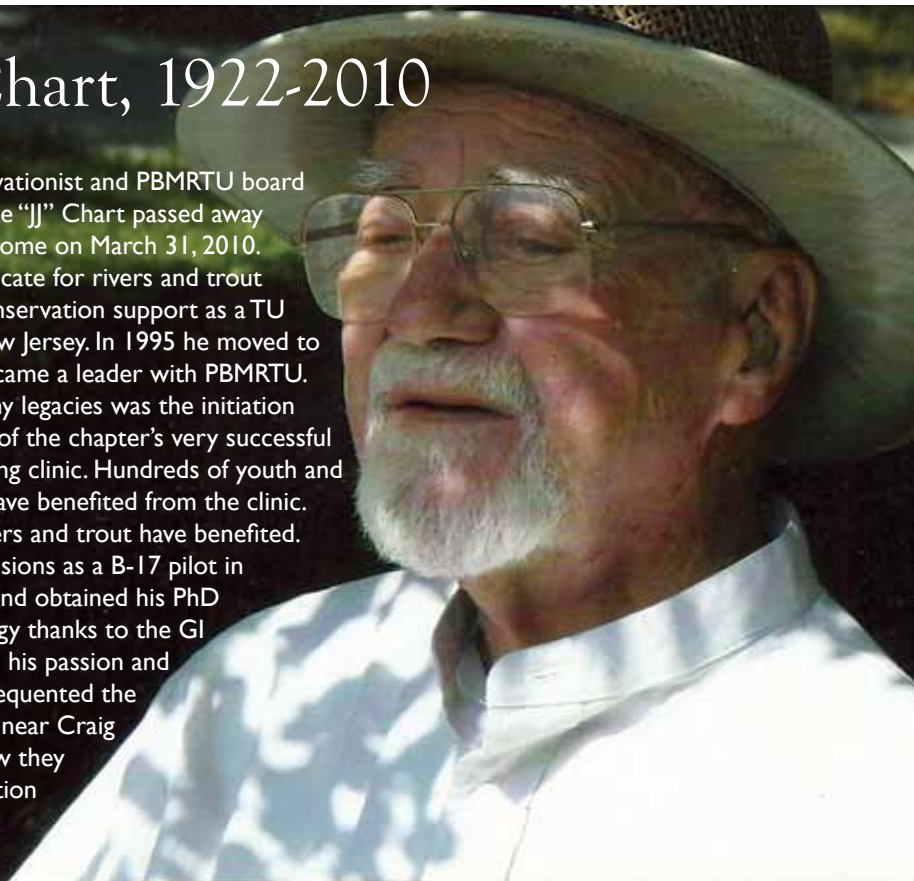
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"JJ" Chart, 1922-2010

Angler, conservationist and PBMRTU board member Jerome "JJ" Chart passed away at his Helena home on March 31, 2010. A lifetime advocate for rivers and trout JJ began his conservation support as a TU member in New Jersey. In 1995 he moved to Helena and became a leader with PBMRTU. One of JJ's many legacies was the initiation and operation of the chapter's very successful annual fly-casting clinic. Hundreds of youth and adult anglers have benefited from the clinic. In turn the rivers and trout have benefited. He flew 28 missions as a B-17 pilot in World War II and obtained his PhD in Endocrinology thanks to the GI bill. Fishing was his passion and anyone who frequented the Missouri River near Craig likely had a how they bitin' conversation with JJ at some point.



Missouri River Fisheries Report

by Jay Erickson

On February 9, 2010 at the Great Northern Hotel, Montana Fish, Wildlife and Parks Region 4 Fisheries Biologist Grant Grisak reported that the FWP's fish shocking surveys this year indicate rainbow and brown trout numbers are up in the Missouri River between Holter Dam and Cascade. FWP biologists found 3,458 rainbow trout greater than 10 inches long near the town of Craig on the Missouri. The long-term average for that section is 2,917. "The rainbows in the Craig section were remarkably high

quality," says Grisak. "About 85% of the rainbows were 15 inches and larger, and fish in the 18-inch length group alone represented 24% of the total population." The largest rainbow sampled was 4.8 pounds. In the Pelican Point section just upstream from the town of Cascade, rainbows were estimated at 1,577 per mile, which is higher than the long-term average of 1,494. Grisak said: "Sixty-four percent of the rainbows in the population were 15 inches and larger." Brown trout populations in the river were also up. The spring estimate of brown trout in the Craig section was 584 per mile in the Craig section; the long-term average there is 578. In the Pelican Point section spring browns were estimated at 611 per mile, higher than the long-term average of 358.

Brown trout populations are sampled in the spring and rainbow populations are sampled in the fall. During late summer and early fall, Missouri River anglers reported good fly-fishing for larger rainbows, which Grisak says is consistent with the number of large rainbows observed during the population estimates. Anglers also reported many brown trout in the Craig section, which is likely a result of unusually cooler weather in early October causing browns to swim upstream and start their spawning run about a month earlier than normal.

The presentation was well attended. The PBMRTU Chapter appreciates this report and we look forward to another presentation from Grant Grisak next winter.

Project Healing Waters Program

by Garrett Fawaz

This article marks the first anniversary of PBMRTU's participation in the Project Healing Water's program. Much has been accomplished over the past several months in preparation for this summer's trips to support Montana's disabled Veterans. The program members were able to:

- Raise over \$2,400 in donations
- Present several informational briefings to local organizations in Helena and Billings
- Recruit several new program members to the program
- Establish some internal operational business practices
- Coordinated two trips for the summer of 2010. Fly-casting and fly-tying instructions will be provided prior to each trip.

The first trip this summer is a one-day trip on June 17, 2010 for six Veterans. The Klick family is donating the use of their K Bar L Ranch located on the Sun



K Bar L Ranch on the Sun River

River. The Veterans will practice their flyfishing skills on several ponds and the Sun River, enjoy a nice lunch at the lodge, and relax in an extraordinarily beautiful setting.

The second trip is an over-night trip on the Missouri River on August 19 and 20, 2010 for eight Veterans. Mr. Jim Hunt of Helena is donating the use of his cabins located near the Pelican Point fishing access site. The Veterans will be transported to the cabins on August 19, receive some fly-casting lessons, enjoy a nice dinner, and be able to relax along

the banks of the Missouri River. On August 20, they will spend a relaxing day with a professional guide floating and fishing on the river.

The program members would like to extend a sincere "Thank You" for the support the program has received throughout the past year from numerous community members, local businesses, and non-profit organizations across the state. Without this support, the program would not be able to continue to support our truly deserving Montana disabled Veterans.

Civic Center Banquet a Terrific Event

The annual PBMRTU banquet went off without a hitch on March 20 at the Civic Center. The Chapter earned over \$16,000 to be used for upcoming conservation efforts. The food provided by Chili O'Brien's received rave reviews again, and the combination of talent and hard work by emcee Ed Tinsley and auctioneer Mike Cooney kept the event fun. Our sincere thanks and appreciation goes out to all of the contributors of goods and services from around Helena that make this event what it is. And of course a big thank you to all the volunteers who worked so hard on this event, and particularly to Nola Freestone for her tireless leadership as Banquet Committee Chair.



PBMRTU President, Tony Herbert.

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Valley Bank of Helena
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Windbag Restaurant

Annual Film Event

by Brian Lehl

The 2010 PBMRTU Annual Film Event included *Red Gold* and *Once in a Blue Moon*. *Red Gold*, produced by Felt Soul Media and TU Alaska, highlights the issues of large-scale foreign mining in the heart of America's richest salmon fishery. Set in the backdrop of Bristol Bay, Alaska this film highlights the possible consequences of open-pit mining atop the Nushagak and Malchatna rivers. The Nushagak river has been the largest Sockeye (Red)

Salmon run in the world for possibly hundreds if not thousands of years. Countless generations of Upek natives have relied on this life-blood of the region. The question is, "Can such a large scale mining operation be conducted unhitched?" One of The proposed earthen dams would be over 750 feet deep stretching over four miles. Over 2.5 billion tons of rock would be removed, most of would will be waste. *Red Gold* shows the lives of subsistence fishermen as well as sport fishermen and their fight for one of the last healthy remaining salmon fisheries on earth.

The second film, *Once in a Blue Moon* was a raucous romp through the trials

and tribulations of catching big browns in New Zealand. As we have our Skwala, Caddis, and sometimes big hopper hatches, Kiwis have massive rodent "hatches." The best way to catch a big fish is to use a big fly, right? These fellas redefine *obsessive-compulsive* in their quest to catch big fish.

With over 100 fly enthusiasts in attendance, free goodies from Cross Currents and La Fontaine Private Label, and Blackfoot River Brewing beer the evening was a whole lot of fun. Mark your calendars for next year's event in February. Look for new fishing flicks and more give-aways. Thanks to everyone who came.

New Missouri River Reservoir Fisheries Plan Adopted

by John Wilson

The Montana Fish, Wildlife and Parks (FWP) Commission has adopted a newly revised 10-year Upper Missouri River Reservoir Fisheries Management Plan. The plan covers Canyon Ferry, Hauser and Holter Reservoirs and the Missouri River sections below Canyon Ferry and Hauser Dams as well as the river section from Toston Dam to Canyon Ferry Reservoir. The plan does not include the Missouri River below Holter Dam. The new plan revises the existing plan and states, "Fish communities in these reservoirs have changed dramatically in the past

10 years...and existing management strategies warrant review." Notably the old plan legitimized and attempted to manage illegally introduced walleye in the system. PBMRTU and Montana TU actively participated in the drafting of the new plan as it was crafted. Many thanks go to Mark Aagenes of Montana TU for his leadership.

Much has been learned over the past ten years and significant challenges face the new plan. The attempt to manage the system as a multi-species fishery, which includes previously suppressed walleye populations has been challenging to say the least. Fisheries managers have truly done their honest best to make the past plan a workable success.

Despite strong warnings from fisheries professionals, managers were handed a no-win situation with the decision to legitimize illegally introduced walleyes. Nowhere in the United States has a management plan with walleyes and stocked trout flourished. Walleyes are efficient predators and their proliferation has negatively impacted the wild and stocked trout fishery as well as the once abundant perch fishery.

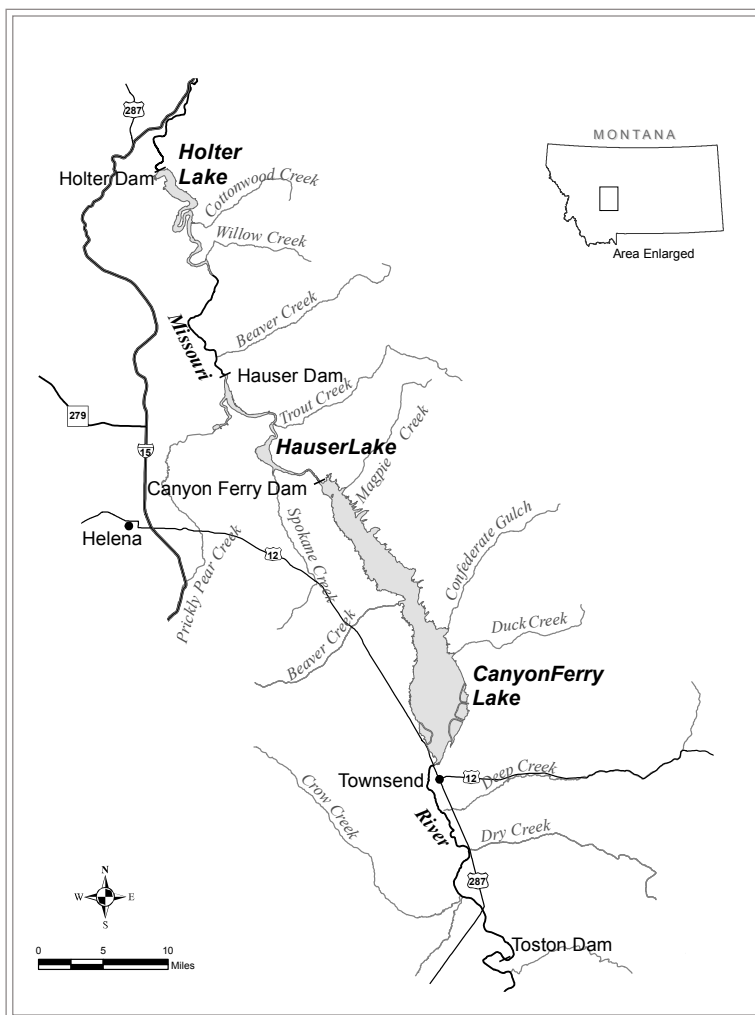
While the new plan is an improvement over the old plan, significant challenges remain and it is unlikely we will see the caliber of trout fishery enjoyed in the past. PBMRTU is pushing for

measures to ensure the world-class wild trout fishery below Holter Dam is protected from the potential threat of escalated walleye predation.

Past Plan Missed the Mark

The ambitious goals of the 2000-2009 management plan were three fold; the reservoir system should be managed as a high quality, cost-effective, multi-species fishery with high levels of angler satisfaction. None of these goals have been met. The quality of the fishery has declined as measured by the precipitous drop in trout, perch and kokanee abundance. Walleye

abundance has increased. However as predicted by fisheries biologists when the management plan was adopted, walleye have eaten their way through the rainbow and perch populations and now are predominantly stunted and small. To maintain even a diminished trout fishery in Canyon Ferry fisheries biologist had to switch from stocking predation-susceptible two-inch trout to stocking eight-inch trout, which cost seven times as much. So much for the goal of being cost-effective. With dramatically fewer perch, fewer trout and stunted walleyes it is no surprise that the number of angling days have dropped simply reflecting low levels of angler satisfaction.



Unintended Dangerous Consequences

There is growing concern that walleye numbers are proliferating in the world-class wild trout section of the Missouri below Holter Dam. It is well documented that walleyes flush over the dams in high water years. The new plan does not address this issue despite TU's request to do so. PBMRTU continues to advocate for FWP to assess this potentially debilitating risk to the fishery **before** this very popular wild trout fishery is adversely impacted. Similarly anglers who regularly fish the trophy trout fishery in the river below Hauser Dam have reported declines in the trout population and increases in the walleye population.

New Plan Lowers Targets, Adjusts Regulations

The new plan attempts to right some of the woes of the 2000-2009 plan. The

new management plan adjusts the harvest and possession limits to provide some balance to the relationship between predator and prey species while trying to meet angler expectations and preferences. It also adjusts (mostly lowers) the acceptable population targets for each fish species. Because brown trout populations are at record lows they are now only catch and release. Because walleye are stunted in all three reservoirs the harvest limits have been pushed upward for small fish with slot limits protecting larger fish. Yellow perch limits remain unchanged at 15 per day in Canyon Ferry, but dropped from 50 per day possession in Holter and Hauser Reservoirs to 25 per day. Rainbow trout harvest and possession limits remain unchanged at 5 per day and 10 in possession.

Say No to Forage Fish

The profound and largely irreversible negative impacts resulting from introductions of exotic forage species elsewhere in Montana, combined

with the stunted condition of walleyes in the Missouri reservoirs and the history of illegal introductions in the system are all well documented. None-the-less some walleye advocates have proposed introduction of new forage species. PBMRTU and Montana TU were successful in including strong language that precludes both legal and illegal introduction of new forage species into the system. The new plan also includes strong language precluding the use of live bait and clearly delineates the stiff monetary and loss of hunting and fishing privileges penalties for violators.

The complete plan is online at <http://fwp.mt.gov/fishing/management/upperMissouriRiver.html>

Table 1. Fishing Regulations in Place Under the 2000-2009 Management Plan and Proposed Regulations for the 2010-2019 Management Plan

	Canyon Ferry		Hauser		Holter	
	2000-2009 Plan	2010-2019 Plan	2000-2009 Plan	2010-2019 Plan	2000-2009 Plan	2010-2019 Plan
Walleye	20 daily and 40 in possession, only 1 > 28"	See Alternatives 1-3 on Page 30.	10 daily and 20 in possession, only 1 > 28"	20 daily and 40 in possession, only 1 > 28"	6 daily and 12 in possession, includes 5 fish < 20" and 1 fish > 28"	10 fish daily, with only one fish over 28". No harvest of fish between 20 and 28"
Yellow perch	15 daily and in possession	15 daily and in possession	50 daily with no possession limit	25 daily with no possession limit	50 daily with no possession limit	25 daily with no possession limit
Rainbow trout	Combined trout 5 daily and 10 in possession	Rainbow trout 5 daily and 10 in possession	Combined trout and salmon 5 daily in any combination and 10 in possession	Combined trout and salmon 5 daily in any combination and 10 in possession	Combined trout and salmon 5 daily in any combination and 10 in possession	Combined trout and salmon 5 daily in any combination and 10 in possession
Kokanee	N/a	N/a	Combined trout and salmon 5 daily in any combination and 10 in possession	Combined trout and salmon 5 daily in any combination and 10 in possession	Combined trout and salmon 5 daily in any combination and 10 in possession	Combined trout and salmon 5 daily in any combination and 10 in possession
Brown trout	Combined trout 5 daily and 10 in possession	Catch and release only	Catch and release only	Catch and release only	Catch and release only	Catch and release only
Burbot	5 daily and in possession	5 daily and in possession	5 daily and in possession	5 daily and in possession	5 daily and in possession	5 daily and in possession
Northern pike	10 daily and in possession	No limit	10 daily and in possession	No limit	10 daily and in possession	No limit

Please note that the specific walleye regulation for Canyon Ferry is not yet final. FWP explains that, "The specific walleye regulations for Canyon Ferry will be determined for the August Commission meeting and the regulations will include a daily bag limit between 10 to 16 fish and some sort of protective range of fish over 14 to 18 inches."

New Whirling Disease Study Released

by Jerry Wells

Most anglers greeted the announcement of whirling disease (WD) in the Missouri River tributaries with trepidation. Now, some 14 years later, trout fishing in the Missouri River below Holter Dam remains world class despite well-documented severe WD infection levels. What happened?

The impacts of WD on wild trout population dynamics in five Montana rivers is the subject of a fascinating, recently released paper by Dr. Tom McMahon and colleagues at Montana State University. Utilizing a vast array of Montana Fish, Wildlife and Parks trout population data collected by electrofishing, the study compared the years prior to significant WD infection rates with the years after the onset of severe WD infections. The results for the Missouri River are interesting and a bit perplexing. Highlights of the paper follow and those interested in more detail should read the complete paper (see side bar for directions to the study on the web).

Thanks to the intrepid Montana Fish, Wildlife and Parks (FWP) fishery crews, the Missouri River has an extensive data set of population estimates for both the Craig (9 km) and Cascade (6.6 km) study sections. The data has been collected spring and fall since 1980, utilizing night electrofishing (don't try this at home) to capture and mark fish. WD was first detected in Little Prickly Pear Creek (LPP), the major spawning and rearing stream for the Craig study section, in 1996 and by 1998 had reached severe levels. Rainbows produced by LPP typically entered the Missouri as yearlings so the years 1980 to 1999 were used

as the pre-WD population data set and 2000 to 2005 as the post-WD data set. WD was not detected in the Dearborn River, the major spawning and rearing stream for the Cascade Study section until 2001 and was not severe until 2004. Therefore, the Cascade section data set was used as an uninfected control through 2005.

So, what do the data show? Brown trout age and population structure remained pretty much the same for the Craig and Cascade study sections, which is not a surprise since brown trout evolved in the presence of WD and have apparently developed resistance to its effects. Notably, age I and II brown trout made up nearly half of the age I and older populations both before and after WD and age III and older brown trout increased slightly. Good news for brown trout.

Now for the bad news. Young rainbow trout appear to have been severely affected by WD (similar results for the other four rivers). Age I and II rainbow declined from an average of 64% of the population in the Craig section prior to WD to an average of 26% of the population after WD. Interestingly, relative numbers of age I and II rainbow in the Cascade section dropped only slightly from the pre-WD 64% of the rainbow population two years (2005-06) after the effects of WD. Now for the perplexing, but good news. Numbers of age III and IV and older rainbow (these are the 16-inch and larger models we like to catch) in the Craig study section increased from 36% of the population pre WD to an average of 74% of the population in the five years (2000-2005) since the WD onset. If the young fish have declined to an average of only about 25% of the population,

where are the older fish coming from and can we maintain that population structure? Are the rainbows living longer and is the population of large rainbows made up of older and older fish? It does appear that our older aged fish average a longer length now than in the 1980s. Trout can be aged accurately by reading their scales up to about age III or IV. Trout older than that are just called IV plus so we really don't know the age structure of that group of fish. Work currently underway will attempt to verify ages of fish, but that information is not available quite yet.

Have Missouri River rainbow trout developed immunity to WD? The authors did not have an explanation for the big increase in numbers of older rainbow but the FWP data for the Missouri for 2006 to 2009 tells us that the rainbow population greater than 10 inches (essentially age I and older) is at or above the 30 year average of nearly 3,000 per mile in the Craig study section and 1,500 per mile in the Cascade study section. It gets even better, for the 2010 fishing season we can expect the greatest number of 18-inch and larger rainbow since the record setting years of the late 1990s.

Recent data from sentinel cages (which measure WD infection rates) in the LPP and the Dearborn has not been made available, so we do not know if the severity of WD has declined and if these waters are recruiting more rainbow trout to the river. Hopefully additional monitoring will provide answers and sentinel cages requested for 2010 in LPP and the Dearborn will be installed. We do know that Lyons and Wolf creeks (tributaries of LPP) continued to successfully provide rainbow trout re-



Brown trout evolved in the presence of whirling disease and have apparently developed resistance to its affects.

cruitment to the Missouri even when LPP displayed severe infections levels.

Sounds like everything is great, doesn't it? Well, maybe but maybe not. Adequate numbers of rainbow trout are recruiting to maintain the population. However, if both LPP and the Dearborn remain severely infected with WD and don't provide fry and yearling fish, the bulk of the recruitment to the rainbow population must come from spawning and rearing in Lyons, Wolf, and Sheep creeks as well as spawning and rearing in the Missouri itself. If that is the case, then these tributaries together with the main stem of the river have become much more important in terms of providing fish to the population and the rearing habitat for young fish. In general, higher flows in the Missouri are good for

young fish because they create more diversity and higher quality habitat and more places to rear away from predators like walleye (yes, there are some walleye in the river) and adult trout. However, high flow years that provide flushing flows can also mobilize the sediment to the point where they will scour the incubating rainbow trout eggs. Drought years and accompanying warm water temperatures exacerbate the effects of WD.

This year snowpack in the upper Missouri River drainage is way below average and we are looking for 2010 summer flows in the Missouri of only 3,800 cfs or less, which is less than typical summer flows. Small trout rearing habitat, especially in the side channels will be reduced as will the ability for young fish to stay away

from predators. Recruitment of young rainbow trout to the population will be the canary in the mine for the Missouri River in the future. This is particularly important in light of there currently being 18 months between emerging from spawning beds and first showing up in fall electrofishing runs as yearlings.

FVP has done an excellent job of managing the Missouri River trout fishery, including getting stable spawning and rearing flows from the Bureau of Reclamation and the power company. Their next challenge may well be to maintain what is one of the finest, most productive wild trout fisheries in the world in light of WD and lower flows due to climate change.

To access a copy of the report "A Before-After Control -Impact Comparison of the Effects of Whirling Disease Epizootics on Trout Population Dynamics in Montana Rivers" go to:
<http://www.montana.edu/~wwwbi/staff/mcmahon/mcmahon-msu-ecol.html>
or e-mail Tom McMahon at tmcmahon@montana.edu.

Invertebrate Organisms Undergoing Changes in the Smith River

by Dave Stagliano, Aquatic Ecologist,
Montana Natural Heritage Program

The Smith River of Montana has been called the perfect float; a great blend of scenery, seclusion and of course awesome trout fishing. A river where you must always bring your sense of adventure, because you never know if it'll rain or snow in June, or if the marauding raccoons will find a way to unlatch your cooler lid. I remember living in Idaho reading about the Smith River in some fly fishing magazine, when my friend Travis Horton took the job of Fisheries Biologist in Great Falls (currently held by Grant Grisak), which oversees the study and monitoring of the fisheries of the Blue Ribbon stretch of the Missouri River and the Smith River. I know he has presented numerous updates and trout population reports to the PBMR TU chapter over the years, including many informative presentations concerning whirling disease effects on the Missouri River fishery, rainbow trout age class success linked to stream flows and the recent (within fewer than 20 years) huge increase in brown trout numbers over rainbows in the Smith River. Needless to say, I was extremely envious that he got to float the Smith for work, talk about a dream job! It was that year when I started throwing my chances in to draw a Smith River permit, back then odds were closer to a 40% success rate, compared to last year's 16%.

So, whether we're talking about trout populations or float permit success

rates, times are changing significantly on the Smith River; that goes for the aquatic invertebrates as well. Cumulative effects of drought, dewatering and warmer water temperatures are surely implicated in the cause of many of the biological changes. Mark Canfield a former fishing guide on the Smith and Missouri Rivers, as well as having a background in aquatic biology, reported to me recently that many stonefly populations are undergoing significant shifts since his years of guiding. "I used to regularly sample insect densities in repeated locations along the river," Mark recounts "...there have been some fairly radical changes on this river since 'peak health' in 1992, not the least of which is the steady decline in the populations of the famous salmonfly (*Pteronarcys californica*)."

This reduction of salmonflies has also occurred in many of our famous trout waters including the Big Hole and Madison Rivers, and Rock Creek. By Mark's sampling data, salmonfly densities in the Smith are now less than 10% of what they were in 1992-93! Now, for those lucky enough to have experienced a good salmonfly hatch while floating the Smith, think of how much better it could have been 15 or 20 years ago with 10 times the number of bugs hatching on the water. Additionally, that would have been a lot more biomass of insects available for trout growth. However, another stonefly species (*Hesperoperla pacifica*), a nocturnally emerging golden stonefly is beginning to establish itself in the place of the salmonfly. This is an important shift in species structure be-

cause salmonfly nymphs are shredders (eating large particulate plant materials, such as leaves, detritus), while *Hesperoperla pacifica* nymphs are predators eating other insects, particularly midges and blackflies, but also many small mayfly species such as Baetis and Trico nymphs. So whether this species shift has implications and ripple effects on other populations of insects within the riffle and runs of the Smith River needs to be further investigated.

Although anglers become familiar with certain species of aquatic insects in the river, particularly mayflies, stoneflies and caddisflies; one of the most overlooked trout stream inhabitants in Montana is the western pearlshell, a native mussel. Of course the average person has heard very little about this little mussel, all the press goes to the exotic zebra mussels, which have not even arrived in Montana yet. For the record, the western pearlshell arrived in the Missouri drainages of Montana more than 5 million years ago on the gills of westslope cutthroat trout (their host fish) when the Missouri River from about Canyon Ferry Lake used to flow into the Snake River to the south. It became abruptly separated from the Snake River system when the Yellowstone Caldera rose up to form the plateau and the Centennial Mountains near Monida Pass. This species had millions of years to spread throughout the upper Missouri River drainages by hitching rides on their host fish down to the Great Falls.

The first officially reported pearlshell sighting in the Smith River was a shell collected near Trout Creek by me in

2004, making the Smith River Montana's furthest eastern population of this mussel. Undoubtedly others have seen them and not reported them. Mark Canfield reported mussel beds and many dead shells from the confluence of the North and South Fork of the Smith River all the way downstream to Fort Logan in the early 1990s, but he reports that sightings have diminished to virtually nothing over the years. Habitat in the North and South Fork Smith Rivers likely would have supported very large and dense mussel beds prior to white settlement, and the subsequent replacement of native cutthroat trout by rainbows, brookies and browns. Fort Logan and a few other stream reaches in the Smith basin support remnant, old and dying populations

of this once abundant mussel; these populations are likely to be extirpated within the next 20 years. The main factor for their decline is consistent with factors causing the loss of westslope cutthroat trout; introduction of non-native salmonids, dewatering, habitat loss and warming water temperatures. This coincides with what I have been finding in our mussel surveys of numerous basins around the state. Some streams in the upper Big Hole and Beaverhead Rivers contain a few viable reproducing populations, but for the most part, the Missouri River basins have become void of pearlshell mussels or these remnant populations will be gone in our lifetimes.

Have You Seen a Western Pearlshell?

If you said no, you're not alone, over the last three years I've given workshops to over 60 fisheries biologists in Montana and Idaho and probably 80% had never seen one, despite some of them working many field seasons on rivers that had existing populations. They are cryptic organisms looking like rocks on the river bottom, so unless you encounter a shell on the bank, you're not likely to realize that you are wading on or floating over these cool invertebrates. Unfortunately, at the rate of disappearance of the

western pearlshell in the Missouri River basins, the chance of seeing this unique aquatic invertebrate in our trout rivers is becoming rarer every year.

For more information on the native and introduced mussels in the state go to the website: http://mtnhp.org/reports/Mussel_Booklet.pdf or just Google "freshwater mussels of Montana" or to report a mussel sighting email: dstagliano@mt.gov



Smith River Riparian Fencing Project Completed

by John Wilson

With the cooperation of the ranch owner, a mile of the North Fork of the Smith River is now buffered from historic cattle and sheep access through the installation of fencing on both sides of the river and river-friendly livestock crossings. The project was a joint venture funded by PBMRTU, Missouri River Fly Fishers and Montana Fish, Wildlife and Parks (FWP). The total cost of the project was \$26,500. The Future Fisheries Program contributed \$14,500, the Smith River Corridor Enhancement Account (floaters fees) contributed \$10,000, and the Missouri River Fly Fishers and the Pat Barnes Chapter of TU each contributed \$1,000. The project was managed by Linnaea Schroerer of FWP.

Previously, cattle and sheep had uncontrolled access to the river and its riparian corridor, which had resulted in significant bank erosion and almost no willow recruitment. Fencing the livestock out will allow willows to become reestablished along the entire section, which should reduce stream temperatures and provide shade and cover. Erosion on the banks will also be reduced, which will hopefully improve local spawning beds and also reduce fine sediment downstream. In sum, the goal of this project is to improve local fish habitat and water quality that will hopefully have



river-wide effects.

The project involved installing fencing on both sides of nearly a mile of the North Fork of the Smith just outside of White Sulphur Springs. One side was traditional barbed wire, the other side high-tensile electric with a solar energizer. Also, two fabric and gravel covered stream crossings were put in on the main channel, and one culvert installed in a side channel, in order to minimize disturbance to the stream-bed during livestock and equipment crossings.

