

Edge of the Knife

Summer

2010

Knife River Steelhead 2010



Largest Female 2010
30.3" and 7.96 lbs

The spring steelhead run on the Knife River has again concluded. Adults have completed their migration downstream after spawning and will spend the next ten months of their lives in Lake Superior before returning again next April.

Each spring run varies, and weather influences how each run proceeds. In 2010, precipitation amounts were low and spring was early. From January through April, the Duluth area received lower than average precipitation amounts every month. Overall precipitation amounts were 2.53 inches below average, throughout this time. Low precipitation produced less spring runoff and low stream flows, which likely limited how far upstream steelhead could migrate to spawn in some tributaries. Secondly, the steelhead run came early in 2010. Steelhead start their migration

upstream when nighttime water temperatures are approximately forty degrees, which started on March 28th this year. In the past fifteen years, March 26th was the earliest date when night time water temperatures exceeded forty degrees. Night time water temperatures over forty degree have occurred in March in only three of the past fifteen years.

In 2010, there were large numbers of adults that migrated upstream, and a record number of larger individuals (greater than 28 inches). As of early June 2010, 713 adults were passed upstream to spawn. The only two other years when more adults were passed upstream were 2004 (773) and 2009 (797). So there were a high number of adults spawning to produce the next generation of steelhead, and there were many adults available for anglers to catch. Secondly, there were 99 steelhead 28 inches or

greater that migrated upstream to spawn this year, or 13.9% of the run. In the past fifteen years, the previous high was in 1999 (58), which comprised 11.4% of the run. The primary reason for the high number of large adults in 2010 was the longevity of the 2001 through 2004 year classes, which had more individuals live longer than most year classes we have observed since the trap opened.

When looking back, the 2010 run will be remembered as the year that spring came early and rains never materialized, and steelhead numbers were good with more large fish than had been seen in the past 15 years.

- Matt Ward
MN DNR Fisheries

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Knife River Residents Unite!

The Knife River has many branches and many different names. Are you a fan of Captain Jacobsen? Or maybe you like McCarthy? Which branch of the Knife are you on?

The Knife has many different landscapes, too. Do you live in the sugar maple highlands? Do you farm on the clay soils of Stanley Creek? Maybe you're right in town where the many branches come together

and meet mighty Lake Superior.

Whatever part of the Knife River you call home, you have neighbors near and far who care about the river too. You're part of a watershed community.

The Total Maximum Daily Load (TMDL) process has taught us all a lot about the Knife River. We know where the sediment comes from, and we know a lot about forest

cover and soil types. There have been controversies about beaver dams, forest management and ditches. Three townships and two counties have come together to plan for the future of the watershed.

As the TMDL study winds down and the clean-up plan revs up, now is a great time for residents and landowners to come together. There is so much work to do. A lot

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River Improvement Plan Nears Completion



Largest Male 2010
29.4" and 8.01 lbs

The South St. Louis Soil and Water Conservation District is developing a clean-up plan to reduce the excess sediment carried by the Knife River. This is formally referred to as an "implementation plan" that lists practices to be completed in the watershed or in the stream to reduce sediment. The plan is being developed with the assistance of the Knife River Stewardship Committee, which is made up of area residents, members of organizations interested in the fishery and the quality of the river, and staff from various natural re-

source agencies.

The plan will address the most significant sediment contributors and provide information on the best management practices (BMPs) to manage those sources. For example, because large sediment loads are seen when high water flows accompany spring snowmelt and storms, implementation activities will focus on reducing impacts during those times. Bank and stream bed erosion occur during all storms. These problems may be corrected through "targeted" projects to stabilize banks or re-align the

stream channel. Targeted refers to a key or critical location in the watershed, like the large clay banks along the Knife. Locations are identified and prioritized during the development of the plan.

Gully stabilization, good ditch maintenance practices, proper use of techniques to control stormwater run-off from construction sites, tree planting, maintaining undisturbed buffer zones along the river, and installing water storage devices like rain barrels and stormwater retention ponds,

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For more information on implementation plan meetings and completion of the final plan, visit the South St. Louis Soil and Water Conservation District website

www.southstlouisswcd.org

or contact

Nathan Schroeder

218-723-4867.

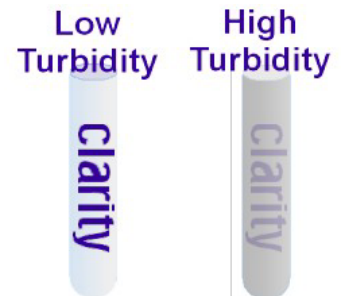
Financial and Technical Assistance Available!

The South St. Louis SWCD provides technical and financial assistance to land occupiers as incentives to install best management practices that protect water quality. We have several different sources of financial assistance available, and the technical capabilities to support these programs. Most recently we were awarded a Clean Water Fund grant (from MN Board of Water and Soil Resources) to plant trees on almost 3 miles of the Knife

River, install stormwater retention structures, and help landowners with water quality related problems.

Partial list of practices:

- Critical Area Stabilization (Erosion Control)
- Animal Waste Management
- Riparian Buffer Strips
- Sediment Retention, Erosion or Water Control Structures
- Streambank, Shoreland and Roadside Protection



Anglers on the Knife River

Knife River Residents Unite! (continued from page 1)

of the most important work will happen on private land like yours. Working with the Minnesota Environmental Partnership, I've been meeting with small groups of landowners and residents since winter. Everywhere I go I meet residents who care deeply about their part of the Knife River. Neighbors introduce other neighbors, and the word spreads through the watershed.

Knife River landowners are a community. One that crosses over township borders and county lines

just as the mighty Knife does.

If in the future the DNR wants feedback on beaver dams, they would probably appreciate having a group of residents to discuss their plans. When a big grant comes along to restore the white pine trees that once filled these valleys, residents from throughout the watershed will want to participate. Organized landowners could do a great job of volunteer water testing on their own favorite branches of the river.

If you're interested in being part of an informal Knife River landowner group, please contact me at andrewslade@mepartnership.org or at 218-727-4873.

-Andrew Slade
Minnesota Environmental Partnership



“The Great Beaver Debate”

Paul Sandstrom, Stewardship Committee Chair

A debate over the impacts of beaver to trout streams in our area has been going on for at least 20 years. Most people involved have strong opinions based upon a host of feelings. Some people just have a personal preference for beaver or trout. Others love the frogs, birds, and diversity of life that surround a beaver pond. For some, memories of big brook trout caught from the pond up the river shape opinion. For others it is the memory of a river system full of migratory fish and great days angling for them. We all make decisions and form opinions based upon personal preference, desires, and memories. Often our feelings are a combination of them all.

For some, sound science based on facts documented by research is the game changer, yet even these folks let personal preference, desires and memories steer opinions.

A very dedicated and wise member of the Watershed Stewardship Committee pointed out that our natural resources are often managed according to themes. For example - the Prairie Pothole region of North America has a migratory waterfowl theme for management. For over 50 years, the Knife River's management theme has been as a trout stream supporting migratory trout. This theme has driven the investment of considerable state resources and generated the donation of countless hours of volunteer organization time and treasure. The public as a whole wins when individuals with decision-making authority support the resource theme.

Professional resource managers dedicate their careers to making sound management decisions for the good of the resources they manage. When making decisions on resource management context is crucial for example- sound management for mountain regions does not apply to our boreal forest region. DNR fisheries folks for mountain regions accept and recognize the benefits of beaver colonies in that landscape. Beaver ponds are a good thing in high elevation mountain valleys for trout streams fed by summer snowcap melt. Mountain valleys are composed of porous water storing colluvial and alluvial soils.

MN DNR Fisheries staff have accumulated a host of facts that show beaver activity is detrimental to the Knife River's brook, brown, and rainbow trout. Ponds; warm the water, reduce oxygen levels, kill shade trees, disrupt natural sediment flow, disrupt the stream food web, and hinder fish migration. The Knife is fed by surface runoff with very little groundwater, not alpine summer snowmelt. The valley soils of the knife are dense glacial till or tight lacustrine clay. Beaver ponds do not store floodwater, and evaporation from ponds lowers stream flow. Abandoned ponds turn into meadows of invasive grass that chokes out any hope of native forest re-colonizing.

The erosion and sediment problems we strive to reduce through the TMDL process have solutions that benefit the Knife as a trout stream. The Knife River Stewardship Committee hopes people will choose a cold-water management theme and steer the Knife towards a cold flowing stream shaded by large old trees. The alternative is warm still water lined with exotic invasive grass and a spring run of fish from Lake Superior primarily composed of suckers.

Protecting fish and the people who catch and consume them is the theme for much of the nations water quality improvement work. This is especially true for the Great Lakes. The following excerpt is from the EPA website on “Water Quality Guidance for the Great Lakes System”

“SUMMARY: EPA is publishing Final Water Quality Guidance for the Great Lakes System. Great Lakes States and Tribes will use the water quality criteria, methodologies, policies, and procedures in the Guidance to establish consistent, enforceable, long-term protection for fish and shellfish in the Great Lakes and their tributaries, as well as for the people and wildlife who consume them.”

Source http://www.epa.gov/fedrgstr/EPA-WATER/1995/March/Day-23/pr-82DIR/Facts/Fact_Sheet.txt.html

Trout fishing on North Shore streams adds to the quality of life and is often a reason people choose to visit or live here. Trout fishing on North Shore streams and shoreline is a source of local economic stimulus, generating \$21 million in direct sales and an additional \$12+ million in direct income. Source <http://files.dnr.state.mn.us/fisheries/management/coldwateranglingreport.pdf>

The Knife River is a unique resource. It is a natural trout hatchery stocking the largest freshwater lake in the world. The real value of this resource to our region is priceless. Let's all work together to protect this river and the resources it supports.



Beaver and Trout Management

“Professional resource managers dedicate their careers to make sound management decisions for the good of the resources they manage.”



**THE KNIFE RIVER
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More Information
[www.southstlouisswcd.org/
knife_TMDL.html](http://www.southstlouisswcd.org/knife_TMDL.html)

Events

- Aerial spraying for Gypsy moths in mid to late July. For more information go to www.mda.state.mn.us/gypsymoth or call Michael Schommer (MDA) at 651-201-6629
- Duluth Raingarden Workshop Wednesday, August 11th, 2010. For more information contact Minnesota Sea Grant at 218-726-6182

Knife River Stewardship Committee Mission Statement:

Restore, protect and manage the Knife River Watershed as a cold water ecosystem focusing on flow stabilization, reducing temperature extremes, and minimizing sediment loads.

The Stewardship Committee is composed of representation from:

- MN DNR Fisheries, Forestry, and Wildlife
- Saint Louis County Land Department
- Lake County Forestry Department
- University of Minnesota Extension
- MN Board of Water and Soil Resources
- South St. Louis Soil and Water Conservation District
- Lake County Soil and Water Conservation District
- MN Pollution Control Agency
- Trout Unlimited
- Izaak Walton League
- Lake Superior Steelhead Association
- Natural Resources Research Institute
- Minnesota Environmental Partnership
- Laurentian Resource Conservation and Development Area

River Improvement Plan Nears Completion (continued from pg. 2)

are some of the ways stormwater runoff can be managed throughout the watershed to reduce the sediment in the river. These practices can be used by homeowners on residential lots as well as on large acreages of forest managed by county and state agencies.

Involvement by all - citizens, landowners and agencies, groups or organizations that manage land in the watershed is critical for the Knife River clean-up plan to succeed. Look for opportunities to learn how you can help in the coming months - landowner meetings, workshops, and visits to demonstration sites will be offered for watershed residents. Specialized workshops will be available to those who work routinely on roads, drive-ways, culverts and other con-

struction or maintenance work. Landowners or interested residents may want to form a watershed organization. Group support and assistance will be provided to citizens wishing to explore that option. Lastly, local governments and regional agencies will continue to provide support for watershed restoration and also address new issues that may develop with time.

- Karen Evens,
MPCA

Contributors:

Paul Sandstrom - Chairman of Stewardship Committee

Andrew Slade - Minnesota Environmental Partnership

Karen Evens - Minnesota Pollution Control Agency

Nathan Schroeder - South St. Louis SWCD

