Below: Researchers snorkel in the Middle Fork looking for fish.[6]

Above: Scientists monitor the Middle Fork year round.[5]

Benefits of River Restoration

Salmon and steelhead are important to the Pacific Northwest's economy, recreation, and culture.

Habitat restoration affects more than just fish. Restoration efforts have the potential to:

- Improve air and water quality
- Improve a community's ability to withstand floods and droughts
- Create habitat for fish and wildlife
- Create jobs and increase local spending

The Middle Fork IMW is studying how the local community is affected by restoration. Researchers are tracking job creation, tourism, and the amount of funding brought into the community from restoration projects.

Elsewhere in Oregon, studies indicate that restoration creates 16-24 jobs for every million dollars invested.[7] On average, 80 cents of every dollar spent on restoration stays within the county where it is spent.[8]

Crews catch and relocate fish to prevent them from being impacted by construction of a restoration project.[9]

Want to Learn More?

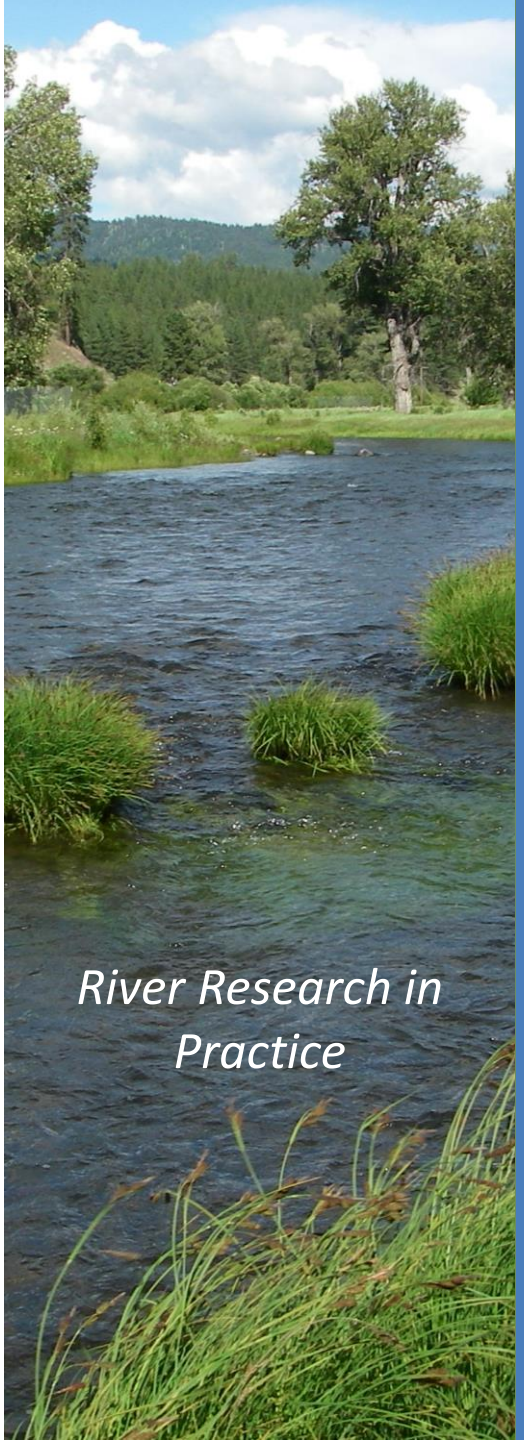
For more information, visit our website:
www.middleforkimw.org

Or email us:
info@middleforkimw.org

Photo credits and references

Cover photo: University of Oregon, **1.** Oregon Department of Fish and Wildlife, **2.**NOAA, **3.**The Freshwater Trust, **4.**Oregon Department of Fish and Wildlife, **5.**Oregon State University, **6.**Confederated Tribes of the Warm Springs Reservation of Oregon, **7.**Nielsen-Pincus, M. and C. Moseley. 2010. "Economic and Employment Impacts of Forest and Watershed Restoration in Oregon." University of Oregon: Ecosystem Workforce Program, Working Paper Number 24. **8.**Hibbard, M. and S. Lurie. 2006. "Some Community Socio-Economic Benefits of Watershed Councils: A Case Study from Oregon." *Journal of Environmental Planning and Management* 49: 891-908. **9.**NOAA.

September 2013



River Research in Practice

Middle Fork John Day River Intensively Monitored Watershed

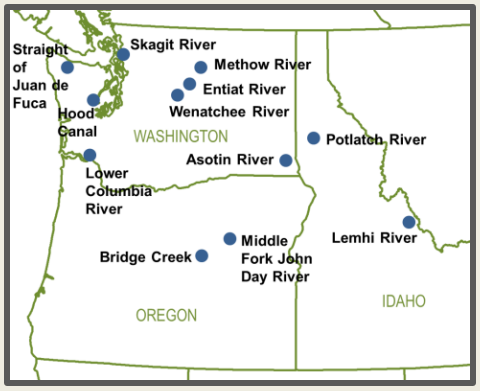
What is an Intensively Monitored Watershed?

Threatened steelhead trout are being monitored at the Middle Fork IMW.[1]

Intensively Monitored Watersheds (IMWs) are long-term research projects designed to deepen our understanding of how fish populations respond to habitat restoration.

The guiding principle behind IMWs is to learn what works to recover salmon, steelhead, and their habitat by concentrating rigorous, coordinated monitoring efforts across watersheds.

IMWs are strategically located to maximize what we can learn. In the long-term, IMWs will help communities focus stream restoration on the places and projects that provide the greatest benefit to fish.



Map of Intensively Monitored Watersheds throughout the Pacific Northwest.

Middle Fork of the John Day River near Galena, Oregon.[2]

Why Study the Middle Fork?

The Middle Fork of the John Day River (Middle Fork) has a long history of human activity. For generations, the Middle Fork has played an important role in the lives of Native Americans, homesteaders, miners, loggers, ranchers, residents, and visitors. Given all these uses, the river has been altered from historic conditions. Efforts are now underway to restore the Middle Fork to a more natural condition.

The Middle Fork became an IMW in 2008. In addition to its history, this river was chosen because it has the type of fish, habitat, and restoration projects that can inform others in the Pacific Northwest.

Scientists are particularly interested in the Middle Fork because it is home to both steelhead trout and Chinook salmon. Steelhead are listed as *threatened* under the Endangered Species Act. Chinook numbers have also been of concern. Research in the Middle Fork will help us learn more about the importance of water resources, riparian and stream ecosystems, and the fish and wildlife they support.

What do the Scientists Study?

Researchers are working to answer the following questions:

- What is limiting fish recovery?
- How successful are fish at reproducing?
- What habitats do fish use?
- What influences water temperature in the river?
- How do floodplains affect river flows?
- What restoration is best for fish?
- How is the local economy impacted by restoration?

Below: A fish trap in the Middle Fork tracks the number of young fish passing through the river.[4]

Above: Habitat construction underway on the Middle Fork.[3]

What Has Been Done So Far?

Since 2008, more than 20 restoration projects have been implemented in the Middle Fork watershed.

Scientists are monitoring the Middle Fork to understand how these restoration projects are affecting fish populations and habitat.

When Will We Know More?

It takes many years for habitats and fish to respond to restoration activities. In order to detect a response, monitoring will last for at least 10 years. Preliminary results are already emerging.