



# MIDDLE METHOW NEWS

A newsletter highlighting habitat improvement actions proposed in the Middle Methow Project Area, known as M2.

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Newsletter prepared by Methow Salmon Recovery Foundation  
For previous newsletters, project designs, and general information on the M2 Reach 1 Habitat Project, visit [www.methowsalmon.org/m2](http://www.methowsalmon.org/m2)

## Reach 1 Habitat Project Contacts

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## M2 Reach 1 Update: WDFW Floodplain and Whitefish Island Designs Available for Review

Reach 2 Update on Page 5

Over the past three months, Methow Salmon Recovery Foundation (MSRF) and the Bureau of Reclamation (Reclamation) have refined earlier conceptual plans for two project areas in Reach 1 of the M2 to address comments received from local landowners and regional review boards. MSRF will now submit the refined project designs to local, state and federal permitting agencies in preparation for construction in 2012. Full detailed 30% plans will be available at [www.methowsalmon.org/m2](http://www.methowsalmon.org/m2) in January, 2012.

The first two construction projects will be at Whitefish Island and WDFW Floodplain (see map inside). The goal of these projects is to restore habitat elements that are currently missing from the river to enhance both immediate and long-term fish survival and production. The projects will create high quality side channel rearing habitat, improve surface and groundwater connection to the floodplain, and enhance riparian vegetation. Both projects propose to supplement existing large wood with a variety of log structures and placements to provide more habitat complexity and pool depth in both the side channels and the mainstem of the river.

The proposed designs for these sites will increase feeding, hiding and resting habitat for juvenile fish, improve winter rearing conditions, and provide refuge habitat for these young fish as they migrate downstream. The projects meet the recommendations in the Upper Columbia Salmon Recovery Plan and the Federal Columbia River Power System Biological Opinion. In November, the Regional Technical Team completed technical review of the Whitefish Island and WDFW Floodplain designs, clearing the way for BPA funding of these projects. MSRF will implement and manage both projects.



Natural log jam in the Methow River

These two projects have also undergone extensive design and local public review. MSRF and Reclamation have met with landowners at scheduled public meetings and individually to discuss aspects of project design. With these comments reflected in the 30% designs developed by Anchor QEA, the next phase of public review will come with submittal of the Joint Aquatic Resources Permit Application and the Draft Environmental Impact Statement (DEIS) this winter. The project partners want to continue engaging with interested landowners and the community as the review process moves along.

The WDFW Floodplain and Whitefish Island project areas represent the first construction phase of the larger Reach 1 M2 Habitat Project. MSRF and Reclamation have identified potential project areas in the upper reach and are discussing options within these areas with interested parties. MSRF is interested in identifying additional projects in the M2 reach. If you have ideas, please contact Michael Notaro at (509) 429-2939.



Young salmon use logs and roots for shelter

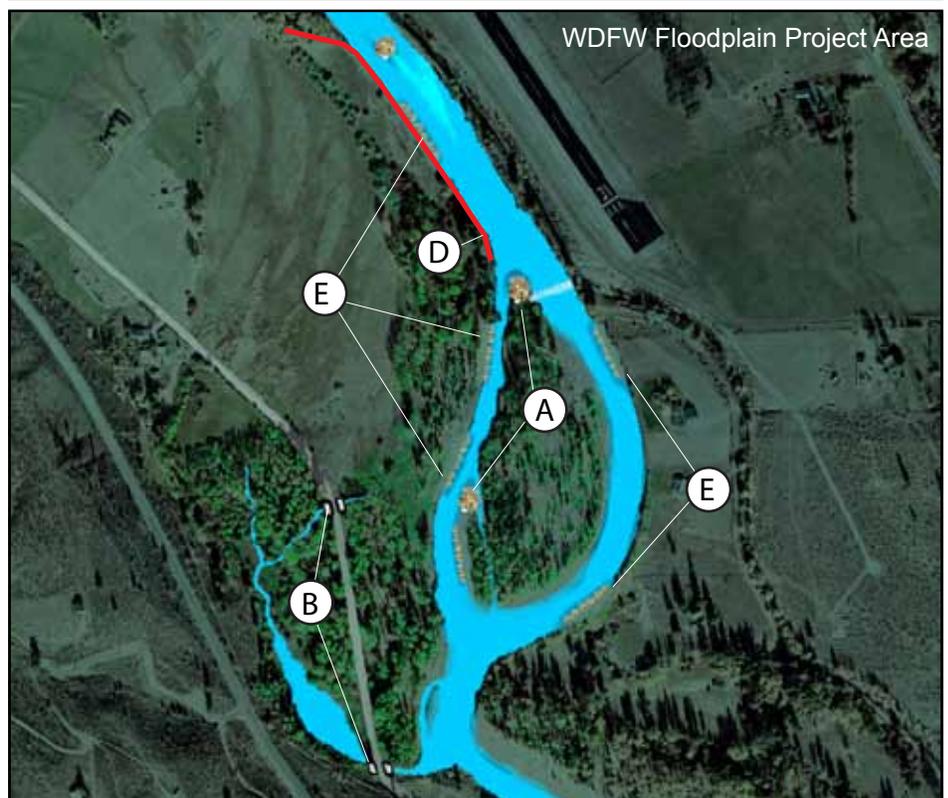
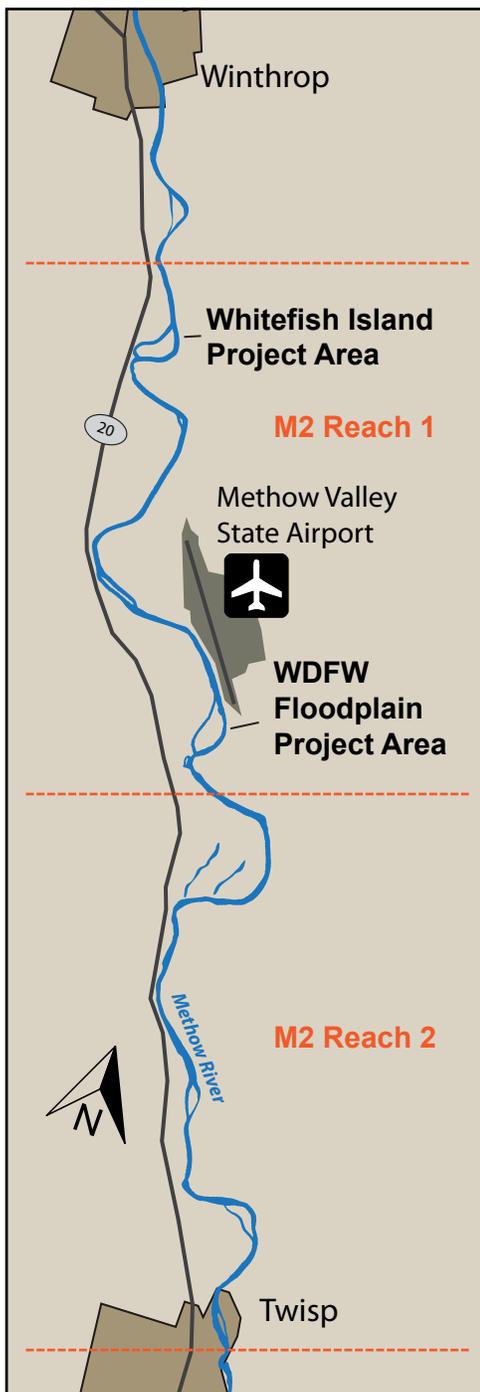
## Whitefish Island & WDFW Floodplain Share Important Project Elements

It's hard to envision from engineer's drawings what a project will look like when its built. These graphics were developed to help visualize what the proposed projects would look like in the Methow River.

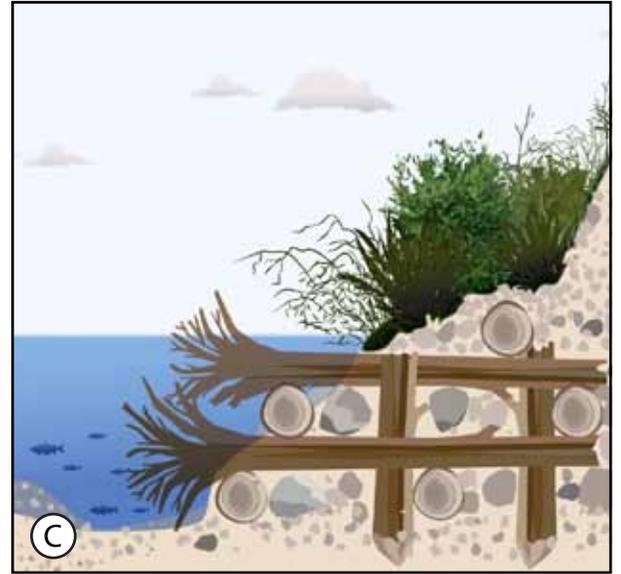
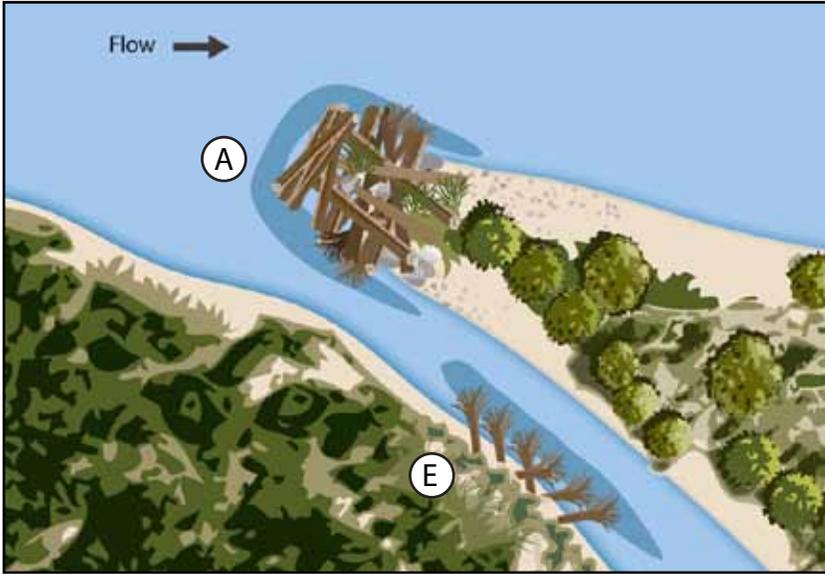
**(A) Engineered structures** at heads of islands are planned at both Whitefish Island and WDFW Floodplain project areas. The addition of wood structures at the head of the islands and in the side channels help define flow and create habitat for juvenile fish.

**(B) Culvert** improvements at WDFW Floodplain project area will provide better connection between the river and wetland complex. The culvert design will accommodate a wide variety of animals without continuous maintenance. Juvenile fish will find food and places to hide from high flows and predators.

\* Graphics are artist renditions for conceptual purposes only.



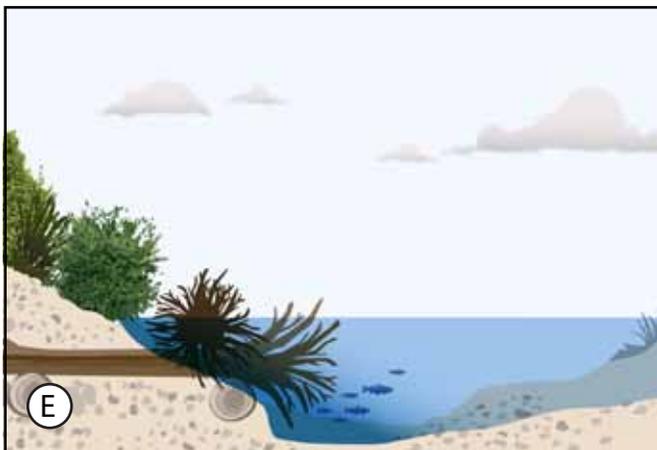
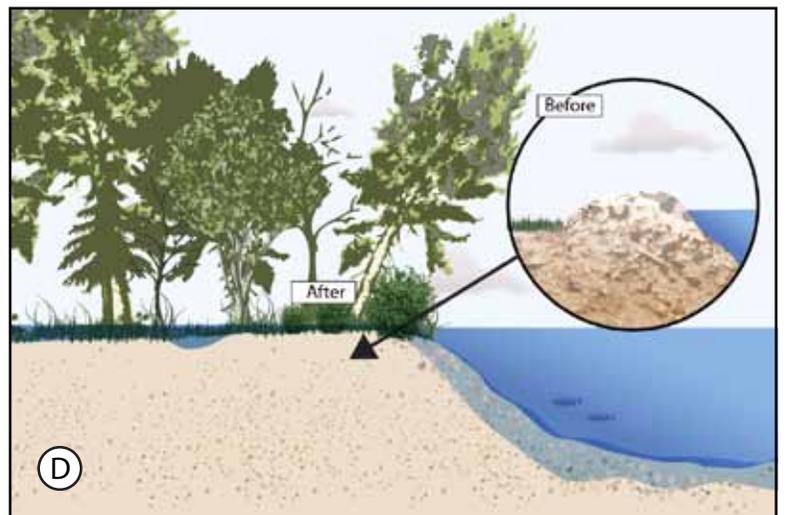
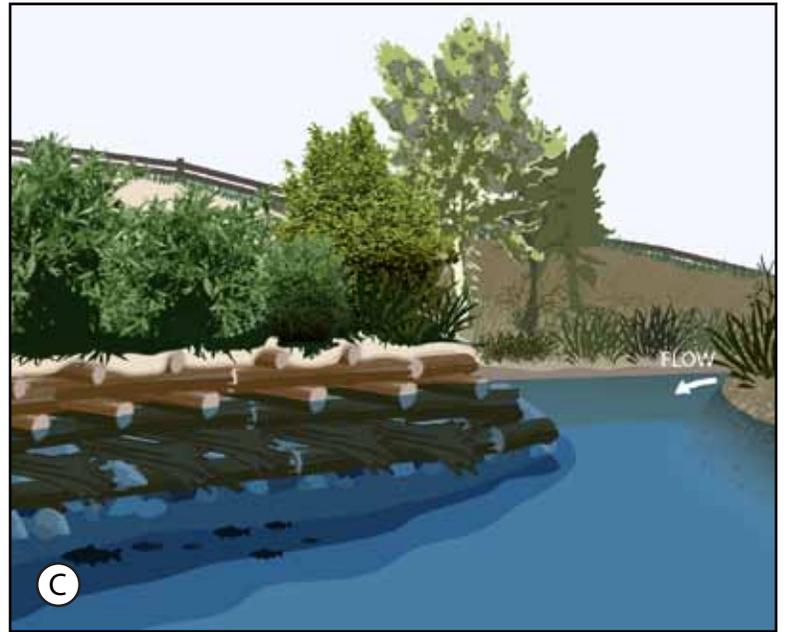
\* Graphics are artist renditions for conceptual purposes only.



**(C) Log crib structures** protect the riverbank by dissipating energy during high flow while providing habitat for fish and opportunity for growth of riparian vegetation. Riprap installation increases energy and jeopardizes resting habitat for fish. At Whitefish Island, vegetation installed as part of the new log crib will provide shade to keep water cool and leaf litter to feed fish. This “live crib” will protect an existing deepwater pool that is vulnerable to road maintenance activities.

**(D) Removal of levee material** at the WDFW Floodplain project area will allow overbank flow to reinvigorate existing off channel areas. The wood structures will provide habitat for fish and are designed to accumulate sediment. The levee removal will reduce energy, reinvigorate floodplain vegetation, provides fish access to the side channel during high flows.

**(E) Wood structures** will be installed in both project areas to create deeper pools with places for young fish to hide and feed on increased insect populations. The additional wood will help sort and store sediment needed to improve spawning habitat.





## Measuring Success

John Crandall of the Wild Fish Conservancy coordinates the Methow monitoring effort within the overall upper Columbia monitoring framework. An important part of implementing the Upper Columbia Salmon Recovery Plan is assessing progress toward meeting targets for the recovery of upper Columbia spring Chinook salmon, summer steelhead and bull trout. These native fish populations are all listed under the Endangered Species Act, and their recovery is based on how these populations fare over time, not just within one particular watershed, but across the entire upper Columbia Watershed. John helps coordinate the local Methow monitoring effort within the overall upper Columbia monitoring framework.

In the Methow, fish and habitat recovery is measured by examining the trends in fish populations and habitat condition over time. Fish population and habitat monitoring programs are conducted by state, tribal, non-profit and Federal agencies. This partnership monitors many fish population and habitat parameters. These monitoring efforts allow for multiple factors to be evaluated, providing data critical to evaluating progress toward fish and habitat recovery. This scientifically-based information can then be meshed with data from the other watersheds across the upper Columbia to gauge overall salmon recovery.

Fish population recovery is evaluated by several factors including: Abundance (“How many adult fish are there?”); Productivity (“What is the growth rate of the population as a whole?”); Spatial Distribution (“Where are the fish?”), and Genetic Variability (“How genetically diverse are they?”). Assuring there is enough natural genetic variation in salmon populations across the upper Columbia will help the species adapt to changing environments (such as warmer water) over the long term.

The numerous monitoring programs in the Methow are designed to investigate the factors described above. For example, some monitoring studies collect data on where and when fish are spawning and what types of habitat young fish use. Other monitoring efforts analyze physical and biological data in the streams before and after habitat restoration projects. This monitoring helps to determine if fish are using the restored habitat, which in turn helps decide if additional habitat improvements would benefit fish productivity.

Since similar work is going on in the Okanogan, Entiat and Wenatchee basins, monitoring partners are working toward a fully coordinated monitoring scheme in the Methow and across the other watersheds in the upper Columbia. Data collected here are being made available at the regional level to assess salmon recovery at a scale that is relevant to the assessment of population level recovery.

John plays a significant role in coordinating Methow data collection efforts among all the agencies and programs within the Upper Columbia Salmon Recovery Plan. The goal is to work in the most effective manner possible to avoid duplication of effort and provide information across the programs on effective

methods, sampling strategies, and data management. From the Methow, data is transferred to the upper Columbia data steward, James White, who facilitates data analysis to answer some key recovery-related questions. At that level, combined data from multiple watersheds help address the status of recovery targets as well as compare improvement between watersheds. Eventually this analysis will be available to the public in an accessible, usable format. For more information contact John at [john@wildfishconservancy.org](mailto:john@wildfishconservancy.org).



## Meet The Scientist: John Crandall

John Crandall is often seen around the streams, springs and ponds of the Methow Valley snorkeling in a wetsuit, identifying insects in a small side-channel, or gawking at large steelhead. John is an aquatic ecologist working with Wild Fish Conservancy who studies the relationships amongst aquatic organisms and their habitat. John’s specialty is freshwater ecology, which involves rivers, lakes, ponds and groundwater springs.

Aquatic ecologists like John study populations of organisms in the water, learning about natural variations and the impact of influences like temperature, sediment, and fish community structure. Ecologists may be interested specifically in organisms of economic importance like salmon, or in the biology of an ecosystem as a whole. Aquatic ecologists are also interested in human interactions with the environment and the impact of human activity on aquatic ecosystems. In the Methow, the ecology of the entire watershed is important to functioning fish habitat.

John’s professional life has focused on many aspects of watershed science. His keen interest in native fish and the relationship of fish to their habitat keeps him busy deciphering these complex systems. Since graduating with a masters degree from Occidental College, John has spent over 20 years working across the Pacific Northwest from Yellowstone National Park to the Klamath Basin, where he worked on projects assessing the response of fish populations to habitat restoration efforts. One of John’s special interests is in unraveling the mysteries of the Pacific lamprey. One of the most ancient vertebrates still living on earth, lamprey are the most imperiled fish in the Methow watershed. Their parasitic lifestyle is a key factor that has prevented lamprey from receiving widespread attention and appreciation, and there is much to learn about the role of lamprey in the Methow River ecosystem.

Drawn to the Methow Valley by family and the dynamic local community, John appreciates the remarkable access to the wildlands of local mountains and streams. John is married to Lori Valentine and they have a six-year old son, Sawyer Ray. With his family he enjoys growing chili peppers and making salsa, sourdough baking, skiing and rambling in the local hills. John often participates in the educational programs including Watershed Watchers, which offers a wide range of learning opportunities for children of all ages in and around river habitat. John can shift quickly from scientific query over a dissecting scope to a fire juggling team finale that never fails to please the crowd.



### Yakama Nation M2 Reach 2 Update:

The Yakama Nation Upper Columbia Habitat Restoration Project is continuing habitat restoration planning and design phases to meet 2012 and 2013 implementation goals. We are getting close to having permitting level designs completed for one large side-channel restoration project in the lower part of the M2 Reach. This project may be implemented in 2012, along with some wood placement projects along the main channel of the Methow River. Environmental permitting and adherence to the Washington State SEPA process will likely be done for these projects this coming winter or early next spring. The main goal of these projects will be to 1) create high quality sidechannel rearing and spawning habitat with a perennial surface water connection to the mainstem river, and to 2) supplement the volume of large wood that likely historically provided more complex cover and rearing habitat in the mainstem river. Preliminary planning and design is still taking place for restoration opportunities at two other large sidechannel sites, which will not see implementation actions until 2013. Some additional field studies and partnership building with local landowners will be conducted at these project sites over the next year.

Given known concerns from the community about potential conflicts between river recreation users and engineered large wood habitat in the Middle Methow Reach, the Yakama Nation has been working for the past six months with swiftwater safety consultant Wave Trek Rescue out of Index, Washington, to better understand the nature of these potential conflicts and to come up with solutions so that an appropriate amount of needed restoration work can be done. The goal of the work with Wave Trek Rescue is to 1) objectively assess the current trends of recreational use in the Middle Methow Reach, and 2) to use that information and communications with emergency response entities to facilitate planning and engineering of mainstem habitat restoration projects so that such projects are appropriately sized and placed to reduce conflict opportunities.



USGS Photo

### What's a Redd?

A female salmon digs a gravel nest called a redd, where she will lay her eggs. The redd needs to be in well oxygenated gravel. Her digging helps remove fine sediment that blocks flow of water and oxygen through the gravel.

### For Anglers, Fall Means Steelhead Season

WDFW biologists monitor steelhead runs and angler harvest in the Methow Basin, and estimate that currently 12,000 steelhead are above Wells Dam. This is about 2% more than the 10-year mean. Of these fish, over 10,000 are estimated to be hatchery fish, allowing for a popular sport-fishery from September 28th, 2011 to January 2nd, 2012. Visit <http://1.usa.gov/methowfishing> for up-to-date fishing information.



**NEW!** *Living with the Methow River* calendars are available. Illustrating the connections between salmon and farms, salmon and wildlife, and salmon and community, the calendars are sponsored by Methow Salmon Recovery Foundation, Methow Arts Alliance and Methow Restoration Council partners.

The calendars are available at the Twisp and Winthrop Libraries and at the Riverbank Office at 206 Glover Street in Twisp.



## What's Happening in the Methow River?

Fall was a busy time for salmon and scientists, as adult fish completed their life cycle and spawned in local rivers and streams. WDFW biologists were busy counting redds, and they found 765 spring Chinook salmon redds in the Methow River basin in 2011. Of these, they found approximately 62% in the Methow River and its tributaries upstream of Winthrop, 31% in the Chewuch watershed, and 7% in the Twisp watershed. This total redd count was about 10% above the 5-year mean for the Methow watershed.

As winter approaches, many juvenile salmon migrate out of smaller, cooler, tributaries that provided favorable rearing habitat during the heat of summer. Low flows and freezing water temperatures mean smaller tributaries are less hospitable places to wait out the winter, and many young salmon move to over-winter habitats with deeper pools and woody debris to provide protection and cover during the long wait for the spring migration to begin. These fall movements provide important data to researchers monitoring the numbers of juvenile fish with smolt traps and PIT tag antenna arrays. At the WDFW Twisp smolt trap, about 43% of the juvenile spring Chinook estimated to migrate out of the Twisp River do so during the fall period, moving into the larger mainstem river to over-winter.

Chinook are not the only fish moving around. Bull trout also spawn during the fall, and since they do not necessarily die after they spawn, many adult fish may migrate from spawning grounds

in cold, clear headwater streams back to more favorable rearing habitat in larger tributaries or lakes where prey is more abundant. This migration may take these fish to the Columbia River or other nearby tributaries. During October, 26 individual bull trout were recorded at the WDFW Twisp PIT tag antenna array.

One of the bull trout detected has a very interesting history. Initially captured and PIT tagged at a USFWS smolt trap in the Entiat River in October 2008, the 15-inch fish migrated over the Rocky Reach and Wells Dams in 2009 and entered the Twisp River in July 2009. This was believed to be a spawning emigration as the fish was recorded again leaving the Twisp River in October 2009, consistent with the spawn timing of bull trout. This perky fish was recorded again at the Twisp River PIT antenna array in October, 2011, presumably after spawning in the Twisp River for the second time. For more information, contact WDFW biologist Charles Snow at (509) 997-0048.



Detection Site for Tagged Salmon, USGS Photo



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