Superfund Program Cleanup and Restoration

Milltown Reservoir Sediments Operable Unit
Milltown Reservoir/Clark Fork River Superfund Site
March 2007

Spring 2007 Update: Site Activities and Public Meeting

Milltown Site Activities

Construction and cleanup is underway and on schedule at the Milltown site. The Milltown Dam is scheduled for removal in the spring of 2008, and the sediments excavated from 2008 to 2009. Restoration activities are scheduled to be complete by 2012.

Project Summary

The cleanup of the Milltown Reservoir Sediments Superfund Site will remove the Milltown Dam, excavate approximately 2.2 million cubic yards of the most highly contaminated sediments in the Milltown Reservoir, restore the Milltown drinking water supply, allow unrestricted fish passage, and return the Clark Fork and Blackfoot Rivers to a more natural and free-flowing state.

Immediate risks to public health from a contaminated drinking water supply have been temporarily addressed. With the implementation of the Milltown Reservoir Sediments Record of Decision (December 2004), EPA expects the Milltown drinking water supply to be cleaned up permanently. The groundwater should be clean within a decade following removal of the source of pollution (reservoir sediments contaminated with arsenic) and the Milltown Dam (which provides hydraulic pressure, driving the pollution into the Milltown groundwater).

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Public Meeting and Community Fair!

When: ***Wednesday, April 4, 2007 from 5:00 – 8:00 pm.***

Where: ***Bonner School (9045 Highway 200 in Bonner)***

What: ***Food, drinks, informational booths, and activities for children from 5:00 to 8:00 p.m. There will be a presentation by EPA and discussion from 6:30 to 8:00 p.m. Childcare will be provided during this time.***

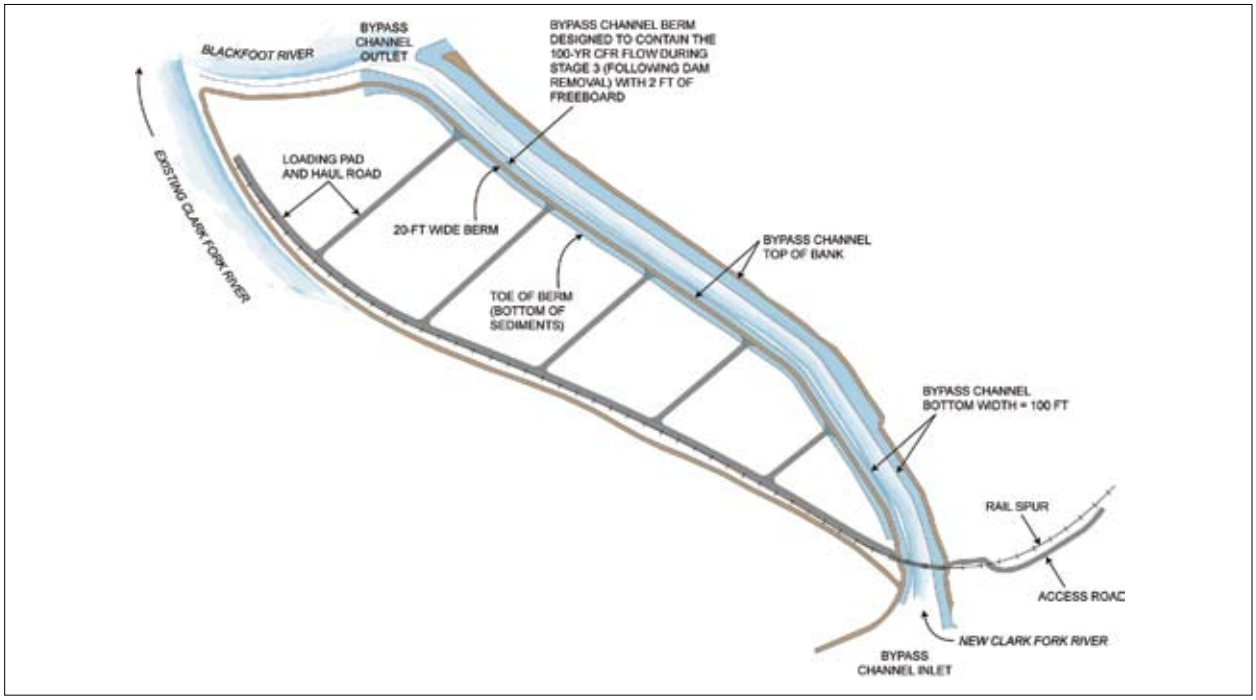
EPA is working closely with the State of Montana, the U.S. Fish and Wildlife Service, the Confederated Salish and Kootenai Tribes, Missoula County, the Milltown Redevelopment Working Group, the Clark Fork River Technical Assistance Committee, and other local groups and community members to clean up the pollution and leave the community with new hiking, biking, and equestrian trails, a clean and safe drinking water supply, restored fishery, new boating opportunities, and preservation and celebration of the area's rich history.

Project Activities

Dewatering Reservoir Sediments

To determine how efficiently and how quickly water could be removed from the contaminated sediments in the Milltown Reservoir, a dewatering test was performed in 2006 and completed in January 2007. Approximately 40,000 cubic yards of sediments were excavated from a "test pit." This "test pit" is located in what will become part of the bypass channel. In October 2006, Envirocon began dewatering the sediments by pumping a series of wells drilled into the alluvium. To facilitate drainage from the sediments into the alluvium, a network of smaller wells with perforated casings were drilled to convey water into the deeper alluvium so it, too, can be pumped out.

Pumping test results showed that approximately one-third less water was being removed from the sediments than anticipated, and that the arsenic concentrations in the recovered water were more highly concentrated (700 ppb) than expected. Still, the sediments dewatered quickly, and the workers were able to stockpile the material at a 3:1 slope. The stockpiled sediments will be hauled by rail to the repository at the Anaconda Smelter Superfund Site near Anaconda beginning in September.



Site Infrastructure

Managers concluded that the dewatering test was successful. This is good news and important to the building of the bypass channel and implementation of the cleanup plan as designed.

Site Infrastructure

Before sediment excavation can begin, all of the necessary site infrastructure must be constructed to safely support removal and transport. Infrastructure includes the Clark Fork River bypass channel, roads, containment areas, flood berms, and sedimentation basins to keep rain and snowmelt from flowing to the Clark Fork River, as well as offices, repair, and onsite maintenance shops.

The extensive road network is used to move materials to and from various areas of the site. The roads will eventually be used to move sediments excavated from the reservoir to the rail line for transport to the repository at the Anaconda Smelter Superfund Site.

Clark Fork and Blackfoot River Flood Berms

Workers are constructing flood berms along the Clark Fork and Blackfoot Rivers that will ensure sediments are not washed downstream with rains or during high flow. A temporary berm was constructed around the 40,000 cubic yards of contaminated sediments excavated during the dewatering test.

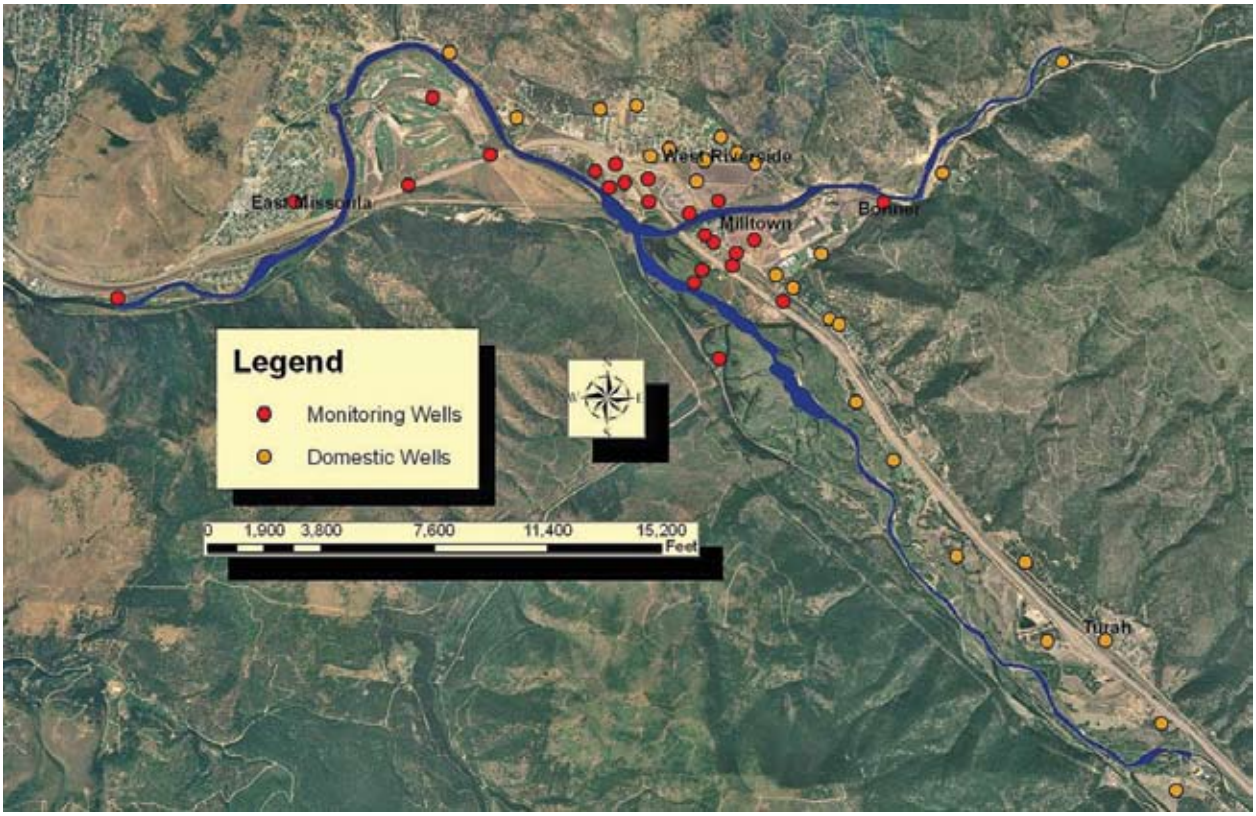
Construction of the Clark Fork River flood berm (along the bank of the river) began in February; construction of the Blackfoot River flood berm began in March. All flood berm work will be complete by April 2007. Once the berms are complete, the temporary flood berm located around the stockpiled sediments will be removed and the materials can then be used for other site infrastructure work. Construction of the bypass channel is scheduled to begin this May and be completed in October 2007.

Monitoring

EPA has set up an extensive network of groundwater monitoring wells and surface water monitoring stations located upstream and downstream of the project area. EPA is partnering with the US Geological Survey (USGS), University of Montana, Missoula County and Montana Fish, Wildlife and Parks (FWP) to carry out the monitoring programs.

Area wells are monitored daily for water level, dissolved copper, and dissolved arsenic. Surface water is monitored daily for turbidity and total suspended solids (TSS). Montana FWP also has a caged fish monitoring program and conducts telemetry studies to document fish responses to river conditions.

Results from December 2006 monitoring wells (well # 905, #107c, and #103b) along



Monitoring Well Network

the reservoir showed that arsenic concentrations have dropped by more than 50 percent. These are the lowest concentrations on record for these wells. EPA expected to see the arsenic levels drop and is encouraged to see these results. The aquifer is still contaminated, and EPA estimates that it will take 4 to 10 years after the contaminated reservoir sediments are removed before the aquifer meets the federal drinking water standard for arsenic (10 parts per billion). EPA expects that the concentrations may fluctuate somewhat with the rise and fall of the water table; yet, the results are promising.

USGS has set up a number of sediment transport monitoring stations at the following locations: Blackfoot above the Reservoir (Bonner); Clark Fork above the Reservoir (Turah); Clark Fork immediately below dam (Deer Creek Bridge); Bitterroot River (above confluence with Clark Fork River); Flathead River (above confluence with Clark Fork River); and the Clark Fork River at Perma (above Thompson Falls).

The USGS monitors these sites about 15 times per year for TSS, copper, and arsenic (dissolved and total). The frequency of monitoring varies with the seasons; monitoring is more frequent during periods of high flow and less frequent during late fall and winter.

The cleanup project must meet performance standards and project managers will make modifications to operations as needed, such as changing operations or raising water level, to meet those standards. Monitoring information is available at *ftp://milltown@envirocon.com*

Milltown Area Private Wells

This is the time of year when the water table is naturally low—just before high flow. This, combined with 12 foot drawdown of the reservoir, has caused problems for some Milltown area wells. As with previous well problems related to the drawdown of the Milltown Reservoir, EPA accepts the responsibility. EPA's pump and well drilling contractors are available to investigate and remedy the problems as quickly as possible. To date, 18 wells have been replaced and EPA and its contractors have responded to some 50 service calls. If residents have concerns about their wells related to the drawdown, please call EPA.

Work Planned for Area Bridges

As the Milltown Reservoir level drops and the dam is removed, the five bridges over the Blackfoot River in Bonner are likely to settle and may become structurally unstable. Therefore, each of these bridges will need to be upgraded, removed, or replaced before the dam spillway is removed next spring (2008).

I-90 Bridges

EPA is working with the State of Montana, the U.S. Army Corps of Engineers (USACE), and CH2M HILL on precautionary measures to stabilize the I-90 bridges. Construction work this summer, which is scheduled to begin in April and be completed in November 2007, includes three phases.

First, the Corps will begin underpinning the west ends of the I-90 bridges by installing new H piles to ensure the roadway and the bridges stay aligned. To safely do this, each bridge would be closed (alternately) for a period of 1 to 3 weeks. This work is anticipated

to begin in May. During late April, prior to the beginning of the underpinning, a crossover system will be constructed to allow two-way traffic on the other bridge, while construction occurs on the closed bridge.

Second, the USACE will use a technique called "jet-grouting" to strengthen the I-90 embankments by injecting grout into the bank. This activity will occur on both Blackfoot River banks under the I-90 Bridges and will begin in early May. No closure of the Interstate is anticipated for this work.

Third, in July, beginning with low flow, the Corps will be reinforcing the center piers in the river on the two bridges. This work will consist of installing eight 30 inch piles through the existing pier cap and into the bedrock below, and is expected to take until early December to complete. There will be temporary work platforms in the river, and structures built around the piers, but no closure of the Interstate lanes is anticipated for this work.

Highway 200 Bridge

Upgrades needed for the 60-year-old Highway 200 bridge would be so expensive and difficult that engineers determined that it would be more cost-effective and a bet-

ter long-term solution to replace it. A public meeting was held on March 15 to discuss this project. The preliminary plan by Montana Department of Transportation calls for building a temporary bridge in October to November 2007, removing the existing bridge shortly thereafter, and then having the new bridge completed by December 2008.

Railroad Bridge

The railroad bridge is the property of Montana Rail Link and they are responsible for its upgrade. Present plans call for excavation around piers and placement of rip rap to prevent scouring. This work will occur later in 2007 and will be coordinated with other bridge work in the area.

Pedestrian Bridge

Current plans for the pedestrian bridge over the Blackfoot River seek to retain the historic character of the bridge while replacing it with a safe, longer-lasting structure. Renovating the bridge is costly, and after the Milltown Dam is removed, the bridge will no longer be safe. The County had proposed to remove and replace the old bridge with a new pedestrian bridge; however, local residents favor the historic structure. The County recently proposed a "hybrid" bridge that would retain the historic truss structure of the

current bridge but install new wood decking, railings, and lighting. To provide for natural resource restoration and protection, as well as river recreation safety, the existing center pier and original two abandoned piers would be removed from the river channel and the bridge would span the river.

Missoula County received a grant of nearly $1 million for the pedestrian bridge from the Natural Resource Damage Program, and is considering modifying its grant application to include the new design. EPA has provided $250,000 toward completion of the project, and additional funds may be provided through the federal transportation bill funding for Milltown area pedestrian trail and bridge projects. The hybrid bridge option is more costly than other options (approximately $2.2 million), so the County is investigating additional potential funding sources. A public meeting was held on March 19 to discuss these various options, and more

What is being done to address traffic concerns?

Most of the project-related traffic will be limited to workers going to and from work and intermittent hauling of construction materials to the site. The project has been designed to avoid much of the road traffic by sending the excavated sediments by rail to a repository at the Anaconda Superfund Site.

EPA and the Watershed Education Network gave a presentation to Bonner School students about the cleanup and safety.

Project-related traffic will run on Hwy 210 E and Rustic Road. To address traffic concerns along the haul routes, a pedestrian trail is being built this year from the School to the Piltzville Fire Station. Also, during the periodic hauling, "Trucks Entering" and "Speed Limit" signs have been posted to alert the community. The speed is reduced to 45 mph along Hwy 210 E and Rustic Road during active hauling. The speed limit applies to all motorists.

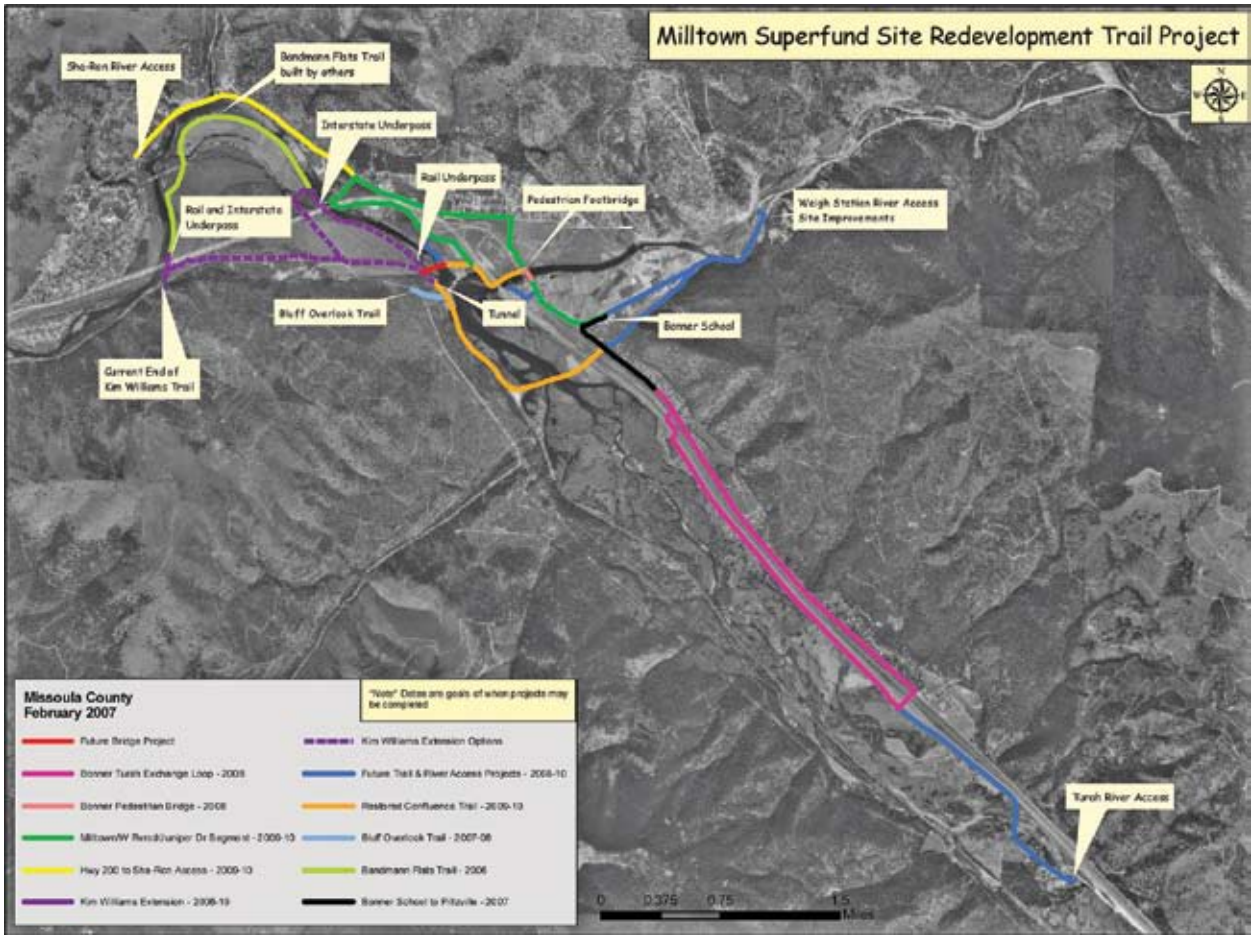
information will be available at the April 4 public meeting.

Health and Safety

Since June 2005, EPA has been holding community health and safety meetings to ensure effective coordination. It is critical for the police and fire departments, as the emergency responders, to be aware of site activities done by EPA, USACE, the State of Montana, Envirocon, and the Atlantic Richfield Company. Bonner School is closely involved in this, and community members and local organizations often attend safety meetings. Traffic is a recurring topic at the health and safety meetings and it was the top issue raised by the community during EPA's 2006 interviews. To address safety concerns, a new 45 mph speed limit is in place on Rustic Road during periods of active hauling. Project managers decided that the safest route for hauling was along Rustic Road, so it will be the primary route for bringing materials onsite. If Highway 210 E is used for hauling, "Trucks Entering" and 45 mph speed limit signs will be posted during those periods.

Pedestrian Trail along Highway 210 E

To address community safety concerns during the project, EPA has provided $500,000 to Missoula County to construct a dedicated pedestrian trail along Highway 210 E. The trail will extend from the Bonner School, create an improved pedestrian crossing



over the bridge, and continue east along Highway 210 E to the Piltzville Fire Station. Eventually, the trail may extend to the Turah exit and along Rustic Road, creating a 4-mile loop trail. This trail addresses two key safety concerns: children crossing the railroad tracks behind Bonner School, and frequent use of State Highway 210 E and Rustic Road as a walking path.

When sediment hauling begins in late summer, the rail spur behind Bonner School will be used daily and the shortcut will be fenced. Construction of the Bonner School to Piltzville Fire Station segment is planned to begin this summer and be complete by August. The goal is to have this trail done before construction of the rail spur behind the Bonner School begins in September 2007.

A new trail along State Highway 210 E and Rustic Road will allow adults and children to continue to safely use these routes. Additional pedestrian trail construction along Highway 21 and Rustic Road may be completed in 2008.

Historic Preservation

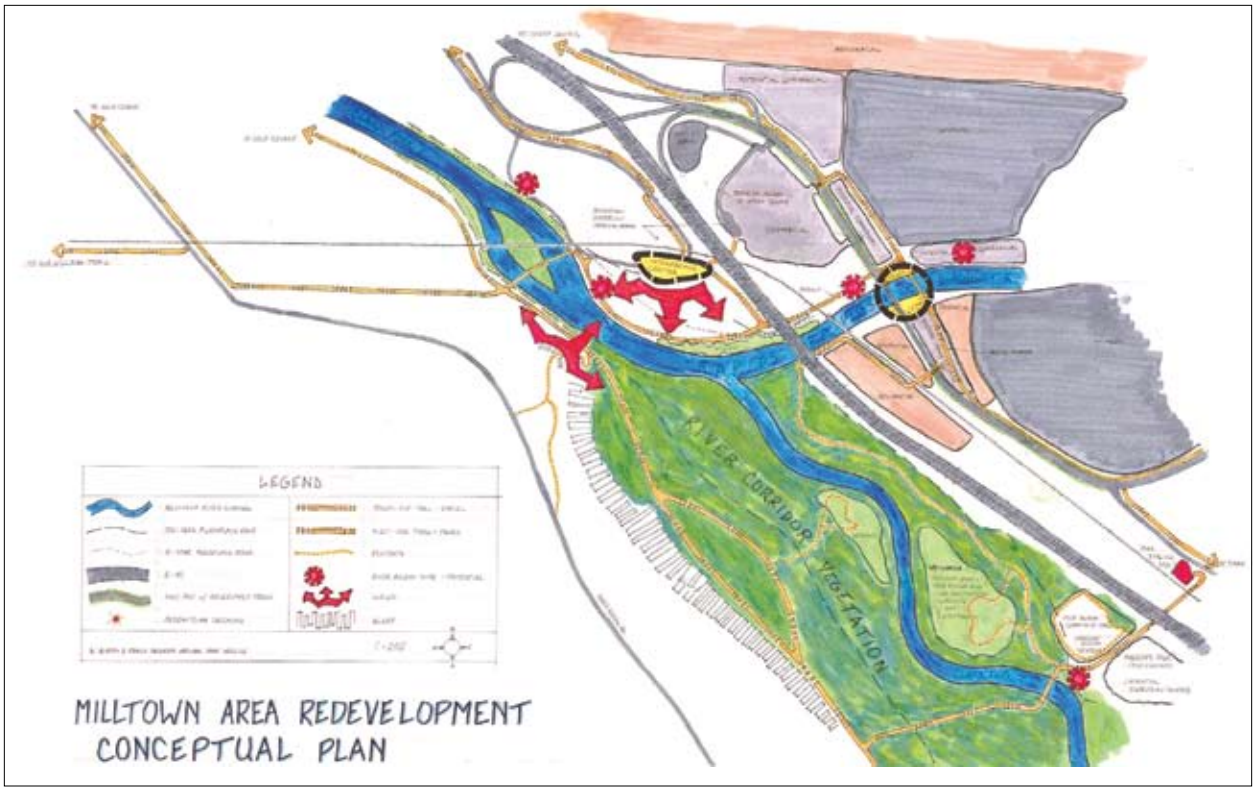
EPA (through the US ACE) has completed its required documentation of the Old Duck Bridge. Since the Superfund cleanup is a federal action, EPA is required under Section 106 of the National Historic Preservation Act to document any potential impacts to historic structures within the project area (area of impact). The original covered bridge was built in 1907 for the Chicago, Milwaukee, St. Paul and Pacific Railroad and was needed to serve the milling and logging interests in the area. The name "Duck Bridge" refers to bridge serving as the line between the "reserve" over the Milltown Reservoir where hunting was prohibited and the upstream portions of the Clark Fork River where hunting was allowed. The bridge was upgraded in 1950 and dismantled in 1980. The Duck Bridge Report is now on file with the Library of Congress. Copies are available from EPA.

The Montana Department of Transportation is completing its documentation of the black pedestrian bridge over the Blackfoot River in Bonner. The black bridge (aka "truss" or "pedestrian" bridge) was built in 1921 and served as the original bridge for State Highway 200. The bridge piers and decking are in need of repair and a number of options are under consideration about how to preserve the historic aspects of this pedestrian bridge. The final report is expected soon.

EPA is also documenting the historical nature of the timber crib piers adjacent to Stimson Lumber. These piers are scheduled to be removed this summer by EPA and the USACE.

Envisioning the Future

The Superfund cleanup (remediation) portion should be completed in about two years (2009). The restoration portion should be completed about two years later (2011). *What will the area look like once the remediation and restoration programs are complete?*



This is the question the Milltown Reservoir Redevelopment Working Group seeks to answer. This group of citizens was appointed by the Missoula County Commissioners to listen to their neighbors and craft a vision for the community. Building on previous community visioning efforts, as well as the results of open houses and meetings, the work group drafted a Conceptual Redevelopment Plan for the area. This plan was presented to the Missoula County Commissioners in February and adopted by the County in March 2005 and is accessible from *http://www.co.missoula.mt.us/wq/.*

The working group intends to fund some plans and have also applied for grants. Nearly $4 million is presently available to create walking, biking, hiking and equestrian trails, upgrading the pedestrian bridge, and historic preservation activities. Three subcommittees in the working groups continue to seek additional funds for their projects and to continue working with neighbors:

- Recreation and Trails (chaired by Sue Furey, Piltzville)
- Historic Preservation (chaired by Judy Matson, West Riverside)
- Outreach (chaired by Gary Matson, West Riverside)

The workgroup meets the fourth Tuesday of each month from 6:30 to 9:00 pm in the basement of the Lutheran Church in Bonner. The meetings are open to the public. For more information, please contact EPA or Missoula County.

As envisioned by the Redevelopment Working Group, lands now within the

Milltown Reservoir would be converted to a publicly-owned park with trails, river access sites and an interpretive center. A trail system would be completed throughout the site, connecting to Missoula's Riverfront Trail and extending upstream along the Blackfoot and Clark Fork Rivers. An interpretive center describing the history of the Blackfoot and Clark Fork Rivers, Native American History, the history of Bonner/Milltown and historic cleanup of the Superfund Site and river restoration would be built on the new floodplain, near where the dam now stands.

Community Involvement

EPA strives to keep the community involved and informed about site activities through on-going community involvement efforts. EPA welcomes your suggestions!

Community Office

EPA established a Milltown Reservoir Superfund Site Community Information Office, located near the Milltown Market (315 Anaconda). EPA and DEQ staff are available to meet with the public from noon until 3:30 pm on Tuesdays. Stop by or give us a call at (406) 258-5155.

Bluff Overlook

Recognizing that people will want to view site cleanup activities, EPA is negotiating a temporary access agreement with Plum Creek Timber Company to build a trail from Deer Creek Road to the NorthWestern Energy property on the bluff overlooking the Milltown Dam. EPA and the USACE would then construct a viewing platform on the bluff, providing a place for the public to safely view the cleanup. An informational kiosk and small parking area are also planned for this site. Construction is scheduled to begin in April 2007, pending successful and timely completion of the access agreement with Plum Creek.

Artist's rendition of post-remedy confluence, looking upstream from the bluff above Milltown Dam

Reader Board

EPA purchased a "reader board" to be used to advertise project related events and Community Council meetings. It is located near the intersection of 1st Street and Highway 200.

Informational Kiosks

Informational kiosks are planned to tell the story of the Milltown Reservoir Sediments Superfund Site from early mining history through planned restoration and redevelopment. EPA intends to install these install these kiosks at various area locations, including the Milltown Reservoir Community Office in Milltown, the bluff overlook, one of the recreation areas on the Blackfoot River upstream of Bonner (perhaps the Weigh Station), and at the beginning of the Kim Williams' trail near the southern end of the Van Buren Street footbridge. The kiosks should be installed this spring.

Bonner School

EPA and the Watershed Education Network (WEN) gave safety presentations to the Bonner School students in December. The presentations discussed the need and plans for the cleanup, as well as how to be safe during cleanup. Seventh and eighth grade students from Mr. Kiffe's Science Class and Ms. Hale's Drama Class participated in the presentations. EPA and WEN hope to do more presentations in the future.

Weekly Updates

In January, EPA began sending out weekly updates by email. The weekly updates are intended to provide you with the latest information about remediation, restoration and redevelopment activities at the Milltown Reservoir. To receive these updates, please contact EPA's Diana Hammer.

Project Schedule

2007	2008	2009	2010	2011
• Build haul roads • Build flood berms • I-90 and railroad bridge mitigation • Build bypass channel • Build pedestrian trail • Construct rail lines • Begin rail hauling • Stimson BFR pier removal • Stimson berm upgrade	• Stage 2 drawdown • Highway 200 bridge replacement • Build coffer dam • Diversion of Clark Fork River • Dam removal • Rail hauling sediment • Powerhouse removal • Restoration • Redevelopment	• Sediment removal • Rail hauling sediment • Floodplain re-grading • Restoration • Redevelopment	• Restoration • Redevelopment	• Restoration • Redevelopment

on the web

For More Information

Please visit EPA's web page: http://www.epa.gov/region8/superfund/sites/mt/milltowncfr/home.html	**Please visit Clark Fork River Technical Assistance Committee web page:** http://www.cfrtac.org
Diana Hammer, US EPA (406) 457-5040 hammer.diana@epa.gov	Russ Forba, US EPA (406) 457-042 forba.russ@epa.gov
Keith Large, MT DEQ (406) 841-5039 klarge@mt.gov	Doug Martin, MT NRDP (406) 444-0234 dmartin@mt.gov
Pat Saffel, MT FWP (406) 542-5500 psaffel@mt.gov	Peter Nielsen, Missoula County (406) 258-4968 NielsenP@ho.missoula.mt.us

EPA
United States
Environmental Protection
Agency

EPA Montana Operations Office
Federal Building
10 West 15th Street, Suite 3200
Helena, MT 59626

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