Section 319
NONPOINT SOURCE PROGRAM SUCCESS STORY
Idaho

Restoring Streams Decreases Sediment Levels and Improves Fish Habitat in Middle Tepee Creek

Waterbody Improved

Excessive sedimentation from eroding forest roads impacted cold-water aquatic life in Idaho's Middle Tepee Creek. As a result, the waterbody assessment unit was added to the state's 1994 Clean Water Act (CWA) section 303(d) list of impaired waters for sediment. Since the 1990s, watershed stakeholders, led by the U.S. Forest Service–Idaho Panhandle National Forests (USFS), have removed or repaired failing roads and restored stream habitat. In this section of stream and upstream in the watershed, these activities reduced sediment levels, improved aquatic habitat, and enhanced an important cutthroat trout fishery. As a result, the Idaho Department of Environmental Quality (DEQ) has proposed to remove the Middle Tepee Creek assessment unit from the state's list of impaired waters in 2012 for sediment.

Problem

The Middle Tepee Creek watershed is in the headwaters of the North Fork Coeur d'Alene River Subbasin in the northern Rocky Mountains of Idaho. Most of the watershed is managed by the Idaho Panhandle National Forests, but some of the land is privately owned. The Middle Tepee Creek assessment unit (ID17010301PN020 _ 03) includes the main stem of Tepee Creek between Short Creek and Trail Creek (Figure 1). The stream's headwaters and tributaries are designated as a separate assessment unit (Upper Tepee Creek, ID17010301PN020 _ 02).

Intensive timber harvesting and associated road-building occurred in the watershed from the 1930s to the 1990s. Culvert failures and eroding roads (particularly at stream crossings and in riparian areas) contributed large amounts of sediment to streams. In the early 1990s, riffle stability studies and other habitat data were used to determine that cold-water aquatic life was impaired due to sediment; as a result, the Middle Tepee Creek assessment unit (a total of 4.6 miles) was added to the 1994 CWA section 303(d) list. The suspected source of excess sediment was erosion from forest roads.

In 1996 DEQ conducted biological monitoring under the Beneficial Use Reconnaissance Program (BURP) at two sites in Tepee Creek. BURP results showed that both sites did not qualify as fully supporting the cold-water aquatic life beneficial use, confirming that the creek should remain listed as impaired by sediment. A 2001 subbasin assessment further confirmed the sediment impairment based on available biological data and riffle armor stability index values.

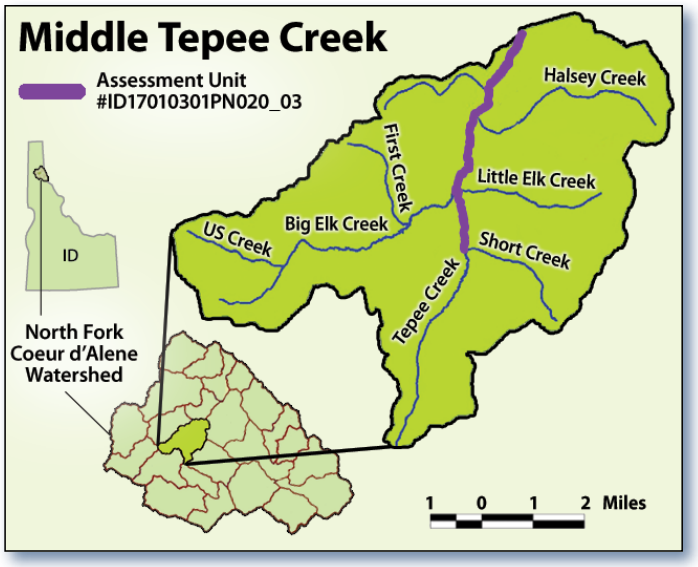

Figure 1. Idaho's Middle Tepee Creek assessment unit includes the mainstem of Tepee Creek.

In 2001, DEQ completed sediment total maximum daily loads (TMDLs) for the North Fork Coeur d'Alene River Subbasin, which included the Middle Tepee Creek assessment unit. The TMDL established a sediment reduction target of 1.5 times the natural background annual sediment load to support cold-water aquatic life.

Figure 2. The Tepee Creek Meadows Restoration Project included reconstruction of stream meanders (blue) where the stream had been channelized (orange).

Figure 3. Middle Tepee Creek after reconstruction of meanders and revegetation, 2008.

Project Highlights

Beginning in the mid-1990s, the USFS restored 86 eroding stream crossings and removed 47 miles of eroding forest roads that were impacting the headwater tributaries of Tepee Creek. In the fall of 2000, USFS initiated the Tepee Creek Meadows Restoration Project, a major stream restoration effort along the mainstem of Tepee Creek. The project restored fish habitat and riparian function along a 7,200-foot degraded section of the creek and adjacent meadow complex. Past land management efforts on this portion of Tepee Creek had stripped the vegetation from the floodplain and channelized the stream. The restoration project re-established a natural stream channel and incorporated materials such as boulders, trees and rootwads to stabilize streambanks and improve fish habitat. Eighteen constructed meanders improved fish habitat by increasing pool frequency, depth and volume (Figures 2 and 3).

Results

In 2008 DEQ worked with the North Fork Coeur d'Alene River Watershed Advisory Group (WAG) and the USFS to review the subbasin's sediment TMDLs. Because stakeholders had performed extensive restoration and TMDL implementation work in Upper Tepee Creek, project partners identified the need for post-project monitoring to assess water quality improvement. DEQ and USFS used modeling and geographic information system analyses to estimate the sediment load reductions achieved since the TMDLs were established. The model suggested that restoration projects reduced the estimated annual sediment load by 22 percent in the Tepee Creek watershed.

To validate the modeled results, USFS and DEQ conducted biological monitoring on Tepee Creek in 2009. Crews used DEQ's BURP protocols and USFS' PACFISH/INFISH Biological Opinion (PIBO) Effectiveness Monitoring Program protocols to collect information about the biological, chemical and physical condition of the streams. BURP data collected in Tepee Creek just upstream of Big Elk Creek in 2009 showed an average score of 2.7, which meets the minimum average score of 2.0 required to support cold-water aquatic life according to DEQ's *Water Body Assessment Guidance*.

Macroinvertebrate sampling in Tepee Creek showed good diversity and included species associated with cold, clear mountain streams. Fish surveys detected westslope cutthroat trout and sculpin, both native species associated with good water quality. Fish population monitoring conducted by the Idaho Department of Fish and Game in Tepee Creek has shown an increase in cutthroat trout densities in the past 10 years—from almost no fish in 2001 to more than 1.5 fish per 100 square meters in 2011.

Modeling and post-restoration data indicate that the mainstem of Middle Tepee Creek fully supports cold-water aquatic life with respect to sediment. As a result, DEQ has proposed to remove the Middle Tepee Creek assessment unit (4.6 miles) from the state's list of impaired waters in 2012 for sediment. The assessment unit will remain listed for temperature impairment, although the riparian planting projects of the past decade should help to increase shade in the future.

Partners and Funding

Partners in the TMDL five-year review included the USFS Idaho Panhandle National Forests Coeur d'Alene River Ranger District, the USFS PIBO Effectiveness Monitoring Program, DEQ's Coeur d'Alene Regional Office, the U.S. Environmental Protection Agency and the North Fork Coeur d'Alene River WAG. USFS spent approximately $350,000 in funding collected from timber sale receipts on restoration projects in the Middle Tepee Creek watershed. The Idaho Department of Transportation contributed $30,000 in wetland mitigation dollars to support the Tepee Creek Meadows Restoration Project. The North Idaho Fly Casters provided thousands of hours of volunteer service for the Tepee Creek Meadows project.

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Section 319
NONPOINT SOURCE PROGRAM SUCCESS STORY
Idaho

Removing Roads and Restoring Streams Improves Steamboat Creek

Waterbody Improved

Eroding forest roads contributed excessive sediment to northern Idaho's Steamboat Creek, damaging aquatic habitat and impairing cold-water aquatic life such as the native westslope cutthroat trout. As a result, Steamboat Creek was added to the state's 1994 Clean Water Act (CWA) section 303(d) list for sediment impairment. Beginning in 1992, the U.S. Forest Service–Idaho Panhandle National Forests (USFS) removed or repaired failing roads, restored riparian areas and implemented in-stream habitat improvement projects. Sediment loads in Steamboat Creek have declined, and monitoring results show that sediment no longer impairs cold-water aquatic life. Therefore, the Idaho Department of Environmental Quality (DEQ) has proposed to remove a seven-mile-long segment of Steamboat Creek from the state's list of impaired waters in 2012 for sediment.

Problem

Steamboat Creek is in the North Fork Coeur d'Alene River Subbasin, which drains the west flank of Idaho's Bitterroot Mountain Range in the northern Rocky Mountains (Figure 1). Idaho Panhandle National Forests manages nearly all of the Steamboat Creek watershed.

Intensive timber harvest and road building occurred through much of the North Fork Coeur d'Alene River Subbasin from 1890 until the early 2000s. A dense network of roads was constructed, including some roads spaced 300 feet apart across hillsides to accommodate "jammer logging," a system in which logs are pulled with cables from the cutting area to a collection point. Access roads were often built directly adjacent to streams, which led to heavy sediment loading into the waterbodies from forest roads. Even after active logging ceased, runoff and floodwaters continued to erode and wash out roads, particularly those near or adjacent to streams.

Water quality investigations in the early 1990s suggested that sediment inputs were impairing cold-water aquatic life in Steamboat Creek. As a result, Steamboat Creek (seven stream miles) was added to the 1994 CWA section 303(d) list for sediment. To confirm impairment, in 1996 DEQ conducted biological monitoring under the Beneficial Use Reconnaissance Program (BURP). The data showed a low diversity of macroinvertebrates at a site near the mouth of the creek, confirming that the stream did not fully support cold-water aquatic life and should remain listed as impaired by sediment. In 2001 DEQ completed sediment total maximum daily loads (TMDLs) for the North Fork Coeur d'Alene River Subbasin, which identified erosion from forest roads as the subbasin's largest sediment source. The TMDL established a sediment load target of 1.5 times the natural background sediment load in the Steamboat Creek watershed, which meant that sediment loads needed to be reduced by approximately 53 percent to support cold-water aquatic life.

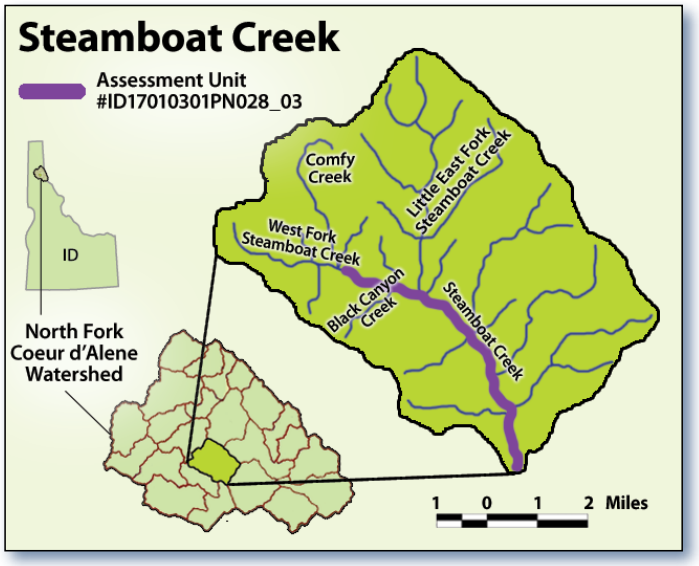

Figure 1. Idaho's Steamboat Creek assessment unit (seven stream miles) includes the main stem of Steamboat Creek and a portion of West Fork Steamboat Creek upstream to the confluence with Comfy Creek.

Project Highlights

In 1988 the USFS launched the Steamboat Creek watershed restoration project beginning with an intensive inventory of all roads and potential sediment sources. In 1992, the USFS removed 74 channel crossings and treated 41 miles of roads in the headwaters and 3.7 miles of roads in riparian areas within the East Fork Steamboat Creek watershed. USFS restored the streambanks and riparian areas, placed 500 logs in the channel and used 300 cubic yards of boulders to construct pool-forming structures. The structures: (1) helped to stabilize the stream by providing additional grade control and (2) created cold-water aquatic life habitat by providing cover (hiding places) and increased channel complexity (different types of habitat in the same area). USFS planted approximately 3,850 shrubs and trees in riparian areas. Between 1992 and 2007, USFS removed additional eroding forest roads in East Fork Steamboat Creek, for a total of 68 miles (Figure 2). Beginning in the early 1990s and continuing until 2010, USFS also completed extensive road removal and restoration work in the West Fork Steamboat Creek watershed and along the main stem Steamboat Creek.

Results

In 2008 DEQ and USFS initiated a state-mandated TMDL five-year review of Steamboat Creek and other watersheds within the North Fork Coeur d'Alene River Subbasin. Initially, the partners performed modeling and geographic information system analyses to evaluate which watersheds with extensive restoration work likely had made significant progress toward meeting the sediment TMDL goals. The model indicated that sediment loads in Steamboat Creek had declined by an estimated 43 percent between 1986 and 2007 (close to the TMDL goal of 53 percent reduction), which prompted further study.

In the second phase of the TMDL review, DEQ and USFS verified modeling results in eight watersheds (including Steamboat Creek watershed) using DEQ's BURP assessment and USFS' PACFISH/INFISH Biological Opinion (PIBO) Effectiveness Monitoring Program protocols. BURP data collected in East Fork Steamboat Creek in 2009 showed that the creek had an average BURP index score of 3.0, well above the minimum average BURP index score of 2.0 that is required to indicate support of cold-water aquatic life. Macroinvertebrate sampling showed an increase in diversity and included species associated with cold, clear mountain streams. The fish survey detected sculpin, westslope cutthroat trout

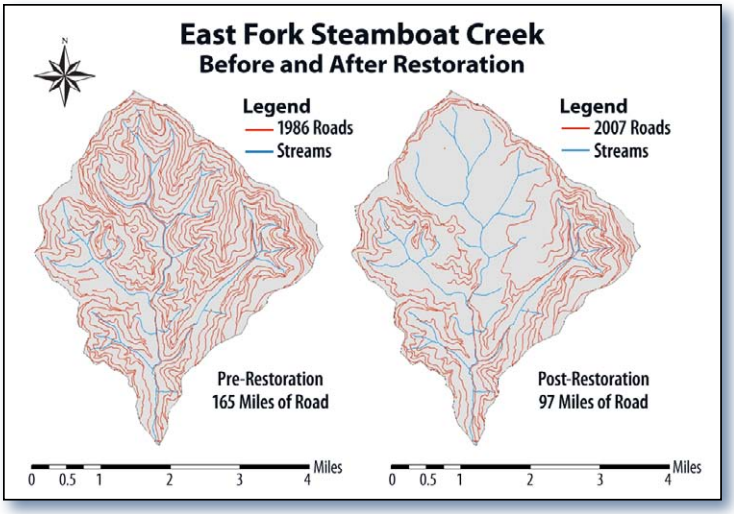

Figure 2. Road density declined following road removal in the East Fork Steamboat Creek watershed.

and longnose dace—all native species associated with good water quality. These data in the headwaters, combined with 2003 and 2007 DEQ BURP data on the main stem Steamboat Creek demonstrate improvements in water quality and aquatic life. These data were further confirmed by the PIBO data collected on physical habitat, temperature and macroinvertebrates, which indicate that the Steamboat Creek assessment unit fully supports cold-water aquatic life with respect to sediment. On the basis of these data, DEQ has proposed to remove Steamboat Creek from the state's list of impaired waters in 2012 for sediment. Steamboat Creek remains listed as impaired for temperature.

Partners and Funding

USFS spent nearly $1 million collected from timber sale receipts (a funding source established by the Knudtsen-Vandenberg Act) and USFS-appropriated funds on restoration projects in the Steamboat Creek watershed. Numerous partners collaborated with USFS on planning and implementation, including the Army Corps of Engineers, Idaho Department of Water Resources, Idaho Department of Fish and Game, DEQ, North Idaho Fly Casters and the Kootenai Environmental Alliance. Partners in the TMDL five-year review included the USFS Idaho Panhandle National Forests Coeur d'Alene River Ranger District, the USFS PIBO Effectiveness Monitoring Program, DEQ's Coeur d'Alene Regional Office, the U.S. Environmental Protection Agency and the North Fork Coeur d'Alene River Watershed Advisory Group.

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Section 319
NONPOINT SOURCE PROGRAM SUCCESS STORY

Idaho

Watershed Restoration Decreases Sediment Levels and Improves Fish Habitat in Upper Tepee Creek

Waterbody Improved

Excessive sedimentation from eroding forest roads impacted cold-water aquatic life in Idaho's Upper Tepee Creek. As a result, the waterbody assessment unit was added to the state's 1994 Clean Water Act (CWA) section 303(d) list of impaired waters for sediment. Since the 1990s, watershed stakeholders, led by the U.S. Forest Service–Idaho Panhandle National Forests (USFS), have removed or repaired failing roads and restored stream habitat. These activities have greatly reduced sediment levels, improved aquatic habitat and enhanced an important cutthroat trout fishery. As a result, the Idaho Department of Environmental Quality (DEQ) has proposed to remove the Upper Tepee Creek assessment unit from the state's list of impaired waters in 2012 for sediment.

Problem

The Upper Tepee Creek watershed is in the headwaters of the North Fork Coeur d'Alene River Subbasin in the northern Rocky Mountains of Idaho. The watershed lies within the boundaries of the Idaho Panhandle National Forests, but some of the land is privately owned. The Upper Tepee Creek assessment unit (ID17010301PN020 _ 02) includes the watershed's first- and second-order streams (Figure 1).

Intensive timber harvesting and associated road-building occurred in the watershed from the 1930s to the 1990s. Culvert failures and eroding roads (particularly at stream crossings and in riparian areas) contributed large amounts of sediment to streams. In the early 1990s, riffle stability studies and other habitat data were used to determine that cold-water aquatic life was impaired due to sediment; as a result, the assessment unit (a total of 49 miles) was added to the 1994 CWA section 303(d) list. The suspected source of excess sediment was erosion from forest roads.

In 1996 DEQ conducted biological monitoring under the Beneficial Use Reconnaissance Program (BURP) at two sites in Big Elk Creek. BURP data showed a low diversity of macroinvertebrates in upper Big Elk Creek, confirming that the streams should remain listed as impaired by sediment. A 2001 subbasin assessment further confirmed the sediment impairment based on available biological data and riffle armor stability index values.

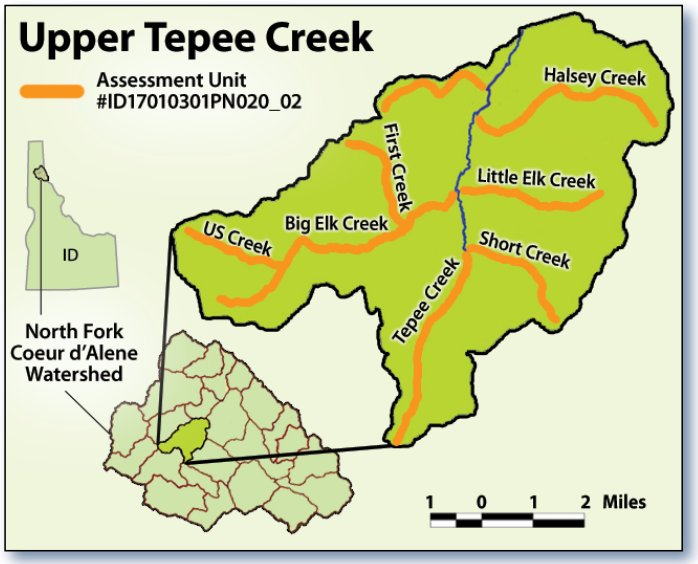

Figure 1. Idaho's Upper Tepee Creek assessment unit includes the watershed's first- and second-order streams, totaling 49 miles. (Note: some smaller tributaries comprising assessment unit do not appear on map).

In 2001, DEQ completed sediment total maximum daily loads (TMDLs) for the North Fork Coeur d'Alene River Subbasin, which included the Upper Tepee Creek assessment unit. The TMDL established a sediment load target of 1.5 times the natural background sediment load, which meant that sediment loads needed to be reduced by approximately 21 percent to support cold-water aquatic life.

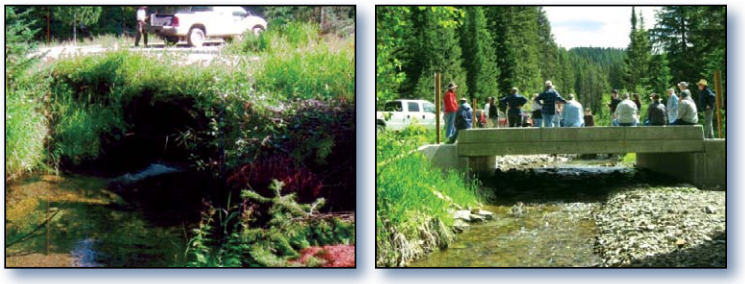

Figure 2. Project partners replaced an undersized culvert that had partially blocked fish passage (left) with a bridge (right) on lower Short Creek in 2010.

Project Highlights

Beginning in the 1990s, the USFS and its partners implemented numerous restoration projects. The USFS restored 17 stream crossings on 12 miles of road in the Big Elk Creek tributary watershed. In 1999 and 2000, the USFS decommissioned an additional 35 miles of road and treated 69 channel crossings. The projects included planting trees and placing woody debris at stream crossings and on treated roads.

Restoration continued into 2010 along tributaries to Upper Tepee Creek (Riley and Short creeks). The USFS and the North Idaho Fly Casters, with the support of other partners, led a project to decommission 18 miles of road, remove 19 culvert crossings, plant riparian areas and improve in-stream habitat (Figure 2). The projects reduced the amount of sediment and, in some cases, removed barriers to upstream spawning habitat.

Results

In 2008 DEQ worked with the North Fork Coeur d'Alene River Watershed Advisory Group (WAG) and the USFS to review the subbasin's sediment TMDLs. Because stakeholders had performed extensive restoration and TMDL implementation work in Upper Tepee Creek, project partners identified the need for post-project monitoring to assess water quality improvement. DEQ and USFS used modeling and geographic information system analyses to estimate the sediment load reductions achieved since the TMDLs were established. The model suggested that restoration projects reduced the estimated annual sediment load by 22 percent, exceeding the target of 21 percent prescribed by the TMDL.

To validate the modeled results, USFS and DEQ conducted biological monitoring on Big Elk Creek in 2009. Crews used DEQ's BURP protocols and USFS' PACFISH/INFISH Biological Opinion (PIBO) Effectiveness Monitoring Program protocols to collect information about the biological, chemical and physical condition of the streams. BURP data collected near the mouth of Big Elk Creek in 2009 yielded an average score of 2.0. The site meets the minimum average score of 2.0 required to support cold-water aquatic life according to DEQ's *Water Body Assessment Guidance*.

Macroinvertebrate sampling collected in 2009 in Big Elk Creek showed good diversity and included species associated with cold, clear mountain streams. Fish surveys detected westslope cutthroat trout and sculpin, both native species associated with good water quality. Fish population monitoring conducted by the Idaho Department of Fish and Game in Upper Tepee Creek has shown an increase in cutthroat trout densities in the past 10 years—from almost no fish in 2001 to more than 1.5 fish per 100 square meters in 2011.

Modeling and post-restoration data indicate that the streams in the Upper Tepee Creek assessment unit fully support cold-water aquatic life with respect to sediment. As a result, DEQ has proposed to remove the Upper Tepee Creek assessment unit (49 miles) from the state's list of impaired waters in 2012 for sediment. The assessment unit will remain listed for temperature impairment, although the riparian planting projects of the past decade should help to increase shade in the future.

Partners and Funding

Partners in the TMDL five-year review included the USFS Idaho Panhandle National Forests' Coeur d'Alene River Ranger District, the USFS PIBO Effectiveness Monitoring Program, DEQ's Coeur d'Alene Regional Office, the U.S. Environmental Protection Agency (EPA) and the North Fork Coeur d'Alene River WAG. Multiple partners provided funds to restore the headwater tributaries of Tepee Creek, including the USFS ($195,000 in funding collected from timber sale receipts), the National Fish and Wildlife Foundation ($55,090), the Idaho Department of Fish and Game ($180,000), North Idaho Fly Casters, EPA's CWA section 319 program ($20,000), the National Interagency Fire Center (in-kind and matching funds: $13,333), and a combination of the President's Fund (special funding for watershed restoration work) and special appropriated watershed funds ($106,000).

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Section 319
NONPOINT SOURCE PROGRAM SUCCESS STORY
Idaho

Removing Forest Roads and Restoring Streams Reduces Sediment in Yellowdog Creek

Waterbody Improved

Eroding forest roads had contributed excessive sediment to northern Idaho's Yellowdog Creek. As a result, the Yellowdog Creek assessment unit, encompassing 12.2 stream miles, was added to the state's 1994 Clean Water Act (CWA) section 303(d) list for sediment impairment. Beginning in 2000, the U.S. Forest Service (USFS) removed or repaired failing roads, restored riparian areas and implemented in-stream habitat improvement projects. Sediment loads in Yellowdog Creek have declined, and monitoring results show that sediment no longer impairs cold-water aquatic life such as the native westslope cutthroat trout. Therefore, the Idaho Department of Environmental Quality (DEQ) will propose removing the Yellowdog Creek assessment unit from the state's list of impaired waters in 2012 for sediment.

Problem

The 7.8-square-mile Yellowdog Creek watershed is in the North Fork Coeur d'Alene River Subbasin, which drains the west flank of Idaho's Bitterroot Mountain Range in the northern Rocky Mountains (Figure 1). Idaho Panhandle National Forests manages the entire Yellowdog Creek watershed.

Intensive timber harvest and road building occurred through much of the North Fork Coeur d'Alene River Subbasin from 1890 until the early 2000s. A dense network of roads was constructed, including some roads that were spaced 300 feet apart across hillsides to accommodate "jammer logging," a system in which logs are pulled with cables from the cutting area to a collection point. Access roads were often built directly adjacent to streams. Historically, sediment inputs from forest roads were excessive. Over the years, runoff and floodwaters continued to erode and wash out roads, particularly those near or adjacent to streams.

Water quality investigations in the early 1990s suggested that sediment inputs were impairing cold-water aquatic life in Yellowdog Creek. As a result, the Yellowdog Creek assessment unit (12.2 stream miles) was added to the 1994 CWA section 303(d) list for sediment. To confirm sediment impairment, in 1996 DEQ completed a Beneficial Use Reconnaissance Program (BURP) wadeable streams rapid bioassessment on two Yellowdog Creek sites, which yielded low scores for both the stream habitat index (SHI) and stream macroinvertebrate index (SMI). Because fish were not sampled, the stream fish index (SFI) could not be calculated. The middle site had an SHI score of 1 and an SMI score of 0, for an average score of 0.5; the lower site had an SHI score of 2 and an SMI score of 1, for an average score of 1.5. Index scores at both sites failed to meet the minimum average score of 2.0 that would have indicated full support of cold-water aquatic life according to DEQ's *Water Body Assessment Guidance*. When DEQ completed a total maximum daily load (TMDL) for the North Fork Coeur d'Alene Subbasin in 2001, the TMDL study identified erosion from road encroachment as the subbasin's largest sediment source.

Figure 1. The Yellowdog Creek watershed is in the North Fork Coeur d'Alene River Subbasin in northern Idaho. USFS, as part of its extensive restoration efforts, removed a 2-mile-long road from the riparian area, added large woody debris and restored riparian and in-stream habitat.

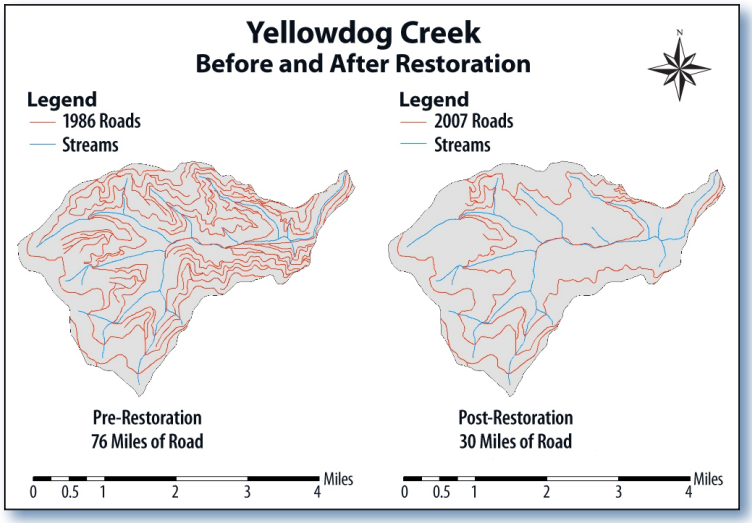

Figure 2. Road density declined following road decommissioning in the Yellowdog Creek watershed.

Project Highlights

The DEQ Nonpoint Source Management Program developed a statewide Nonpoint Source Management Plan in 1999. The plan included a memorandum of understanding between state and federal agencies that encouraged restoration on federal lands. In accordance with the plan, USFS implemented numerous restoration projects in the Yellowdog Creek watershed from 2000 to 2006. USFS decommissioned 46 miles of roads in the watershed (60 percent) and removed 111 stream crossings (Figure 2). The projects reduced sediment loads by stabilizing eroding streambanks and revegetating road surfaces and riparian areas. The most significant improvements occurred in the lower watershed, where USFS removed two miles of road directly adjacent to the stream. USFS restored the streambanks and riparian areas, placed 765 logs in the channel and used boulders to construct more than 100 pool-forming structures (see Figure 1). The structures (1) helped to stabilize the stream by providing additional grade control and (2) created cold-water aquatic life habitat by providing cover (hiding places) and increased channel complexity (different types of habitat in the same area).

Results

In 2008 DEQ and USFS initiated a state-mandated TMDL five-year review of Yellowdog Creek (and other watersheds within the North Fork Coeur d'Alene River Subbasin). In phase one, the partners selected 19 watersheds that had undergone extensive restoration work and then performed modeling and geographic information system analyses to evaluate which ones had likely made significant progress toward meeting the sediment TMDL goals. The model indicated that sediment loads in Yellowdog Creek had declined by an estimated 44 percent between 1986 and 2007, which prompted further study.

In the second phase of the TMDL review, DEQ and USFS verified modeling results in eight watersheds (including Yellowdog Creek watershed) using DEQ's BURP assessment and USFS' PACFISH/INFISH Biological Opinion (PIBO) Effectiveness Monitoring Program protocols. BURP data collected near the mouth of Yellowdog Creek in 2009 showed that the SHI, SMI and SFI scores had each improved to scores of 3, 3 and 2, respectively, for an average score of 2.7. Macroinvertebrate sampling showed an increase in diversity and included species associated with cold, clear mountain streams. The fish survey detected sculpin, westslope cutthroat trout and longnose dace—all native species associated with good water quality.

The BURP index scores and PIBO data on physical habitat, temperature and macroinvertebrates indicate that Yellowdog Creek fully supports cold-water aquatic life with respect to sediment. Following restoration, sediment loading is now within the assimilative capacity of the stream, based on modeling and post-restoration monitoring results. On the basis of these data, DEQ will propose removing the Yellowdog Creek assessment unit from the state's list of impaired waters in 2012 for sediment. The assessment unit will remain listed for a temperature impairment, which was added in 2010.

Partners and Funding

USFS spent approximately $1 million in funding collected from timber sale receipts on restoration projects in the Yellowdog Creek and the adjacent Downey Creek watersheds. Numerous partners collaborated with USFS on planning and implementation, including the Army Corps of Engineers, Idaho Department of Water Resources, Idaho Department of Fish and Game, DEQ, North Idaho Fly Casters and the Kootenai Environmental Alliance. Partners in the TMDL five-year review included the USFS Idaho Panhandle National Forests Coeur d'Alene River Ranger District, the USFS PIBO Effectiveness Monitoring Program, DEQ's Coeur d'Alene Regional Office, the U.S. Environmental Protection Agency and the North Fork Coeur d'Alene River Watershed Advisory Group.

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