



NEWS RELEASE

USDA Forest Service
Bighorn National Forest

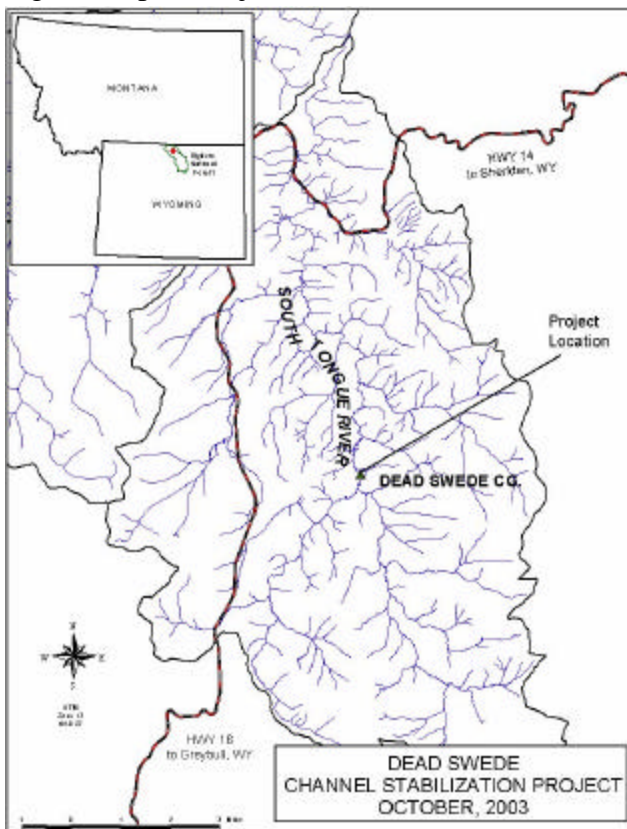


Successful Completion of Dead Swede Channel Stabilization Project South Tongue River, Bighorn National Forest, Wyoming

The Dead Swede Channel Stabilization Project was initiated to mitigate the excessive migration of the stream channel and subsequent streambank erosion of the South Tongue River, in the vicinity of the Dead Swede Campground (see Figure 1). By using natural channel design restoration methods, streambank stability projects like this help in reducing sediment delivery into the watershed, preserving healthy habitat for fish wildlife and plants, and maintaining aesthetically pleasing views. The Dead Swede project was completed with shared funding from the U.S. Forest Service and U.S. Army Corps of Engineers.

In addition to its highly erodible geology, the stream channel's excessive migration can likely be attributed to the large amount of management activities that have occurred throughout the South Tongue River watershed. As a result of these cumulative effects, the streambanks along the South Tongue River have become destabilized and tend to erode more readily under high flow conditions, especially during spring runoff.

Fig. 1: Map of Project Area



Evidenced by flumes and splash dams visible to this day, organized timber harvesting in the South Tongue watershed began with tie hack operations which probably resulted in the first alteration of the watershed's hydrology. With one of the highest road densities in the Forest, hydrology of the South Tongue watershed has also been affected by roads, which increase drainage efficiency and provide a conduit for sediment into the stream network. While the average road density for the Bighorn National Forest is one mile of road per square mile of Forest, the South Tongue watershed has a road density of approximately three miles of road per square mile of Forest. The high potential for erosion is also related to the sandy composition of precambrian granite that dominates the geology of the South Tongue River watershed. This geology produces soils that are easily destabilized under improper management activities.

TONGUE RANGER DISTRICT
2013 Eastside 2nd St.
Sheridan, WY 82801
Phone: (307) 674-2600

BUFFALO RANGER DISTRICT
1415 Fort St.
Buffalo, WY 82834
Phone: (307) 684-7806

MEDICINE WHEEL/PAINTROCK RANGER DISTRICT
604 E. Main – PO Box 367
Lovell, WY 82431
Phone: (307) 548-6541



NEWS RELEASE

USDA Forest Service
Bighorn National Forest



Figure 2 shows a stream reach along the South Tongue River through one of the typical meadows described above.

Fig. 2: West Fork of South Tongue River



Figure 3 shows an area where the South Tongue River was encroaching on the Dead Swede Campground, prior to stabilization of streambanks. The left bank (background of photo) was vertical and constantly eroding every year. Figure 4 shows the same area after construction and stabilization of its streambanks after which the vertical bank was sloped back and a flood prone area was created.

Fig. 3: Before Construction



Fig. 4: After Construction



**FOREST SUPERVISOR'S OFFICE
TONGUE RANGER DISTRICT**
2013 Eastside 2nd St.
Sheridan, WY 82801
Phone: (307) 674-2600

POWDER RIVER RANGER DISTRICT
1415 Fort St.
Buffalo, WY 82834
Phone: (307) 684-7806

**MEDICINE WHEEL/PAINTROCK
RANGER DISTRICT**
604 E. Main – PO Box 367
Lovell, WY 82431
Phone: (307) 548-6541



NEWS RELEASE

USDA Forest Service
Bighorn National Forest



Figure 5 also shows the same vicinity, with one of the in-channel structures that was placed for grade control and sediment transport through the reach. Such a construction helps to create habitat diversity for aquatic organisms and is aesthetically pleasing both visually and audibly.

Fig. 5: After Construction



The Dead Swede Channel Stabilization Project was completed in two phases: plan design and project construction. Steady Stream Hydrology, Inc. of Sheridan, WY was awarded the contract for the project's plan design phase and Garber Agri-Business, Inc. of Big Horn, WY was awarded the contract for the project's construction phase. Construction was completed in October, 2003 under the supervision of U.S. Forest Service and Steady Stream Hydrology employees. Future monitoring of the project will include observation of changes in fish populations, increased vegetation in the flood prone area, and reduction of streambank erosion.

**FOREST SUPERVISOR'S OFFICE
TONGUE RANGER DISTRICT**
2013 Eastside 2nd St.
Sheridan, WY 82801
Phone: (307) 674-2600

POWDER RIVER RANGER DISTRICT
1415 Fort St.
Buffalo, WY 82834
Phone: (307) 684-7806

**MEDICINE WHEEL/PAINTROCK
RANGER DISTRICT**
604 E. Main – PO Box 367
Lovell, WY 82431
Phone: (307) 548-6541