

# Silver Valley Remediation and Restoration

## Tour Tribal Superfund Working Group 5-25-16



### Ninemile Creek

The Ninemile Creek watershed holds a large history of multiple mine and mill sites. Over the years these sites have released high concentrations of dissolved zinc, lead, arsenic, and other metals into the stream and groundwater. Work within the watershed includes the design and construction of a Waste Consolidation Area (WCA). Waste from the mine and mill sites will be hauled to the WCA for final management of the materials. As of 2015, the WCA was completed and began receiving waste from the first clean-up site – Interstate Callahan. In 2016, the Success Mine will begin hauling material to the WCA. Clean-up in Ninemile may take more than a decade to complete.



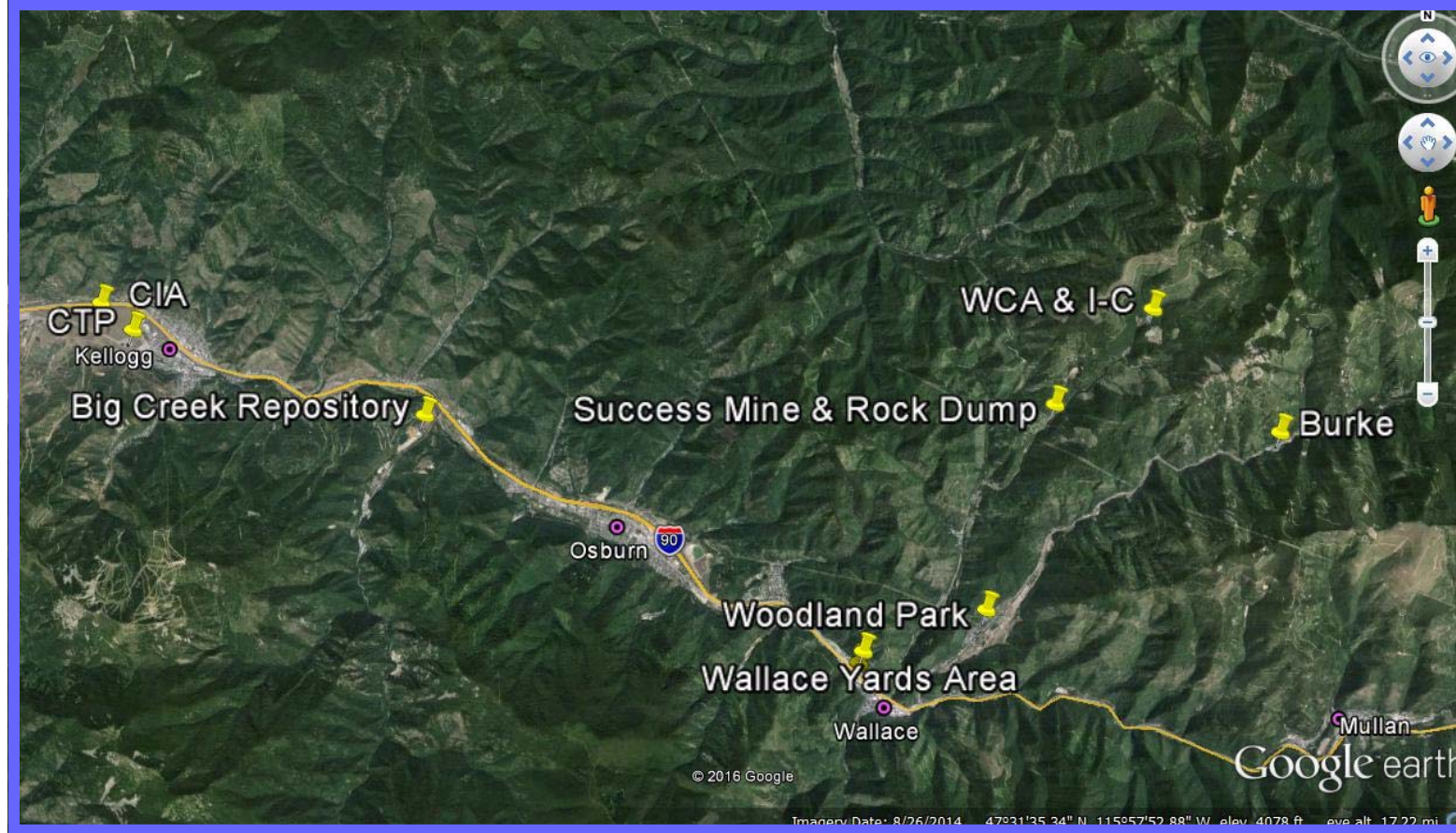
### Central Treatment Plant (CTP) Overview

The CTP primarily treats acid mine drainage (AMD) from the Bunker Hill Mine, as well as smaller areas of other waste and storm water. Currently the CTP uses lime addition to treat the dissolved zinc in the waste water. That water is then discharged to Bunker Creek which flows into the South Fork Coeur d'Alene River (SFCDR). Contaminated flows also enter in Bunker Creek via surface and ground water discharge. As upstream remediation occurs, additional flows may be added to the CTP, therefore overflowing the existing system. The upgrades consist of larger volume for treatment. Additional flows will be introduced once the proposed groundwater collection system is installed.



This system will cutoff groundwater flow leaving the Central Impoundment Area to the SFCDR using a perimeter cutoff wall. The water contained in the wall, will be pumped and treated at the upgraded CTP.

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### Canyon Creek/Burke Canyon

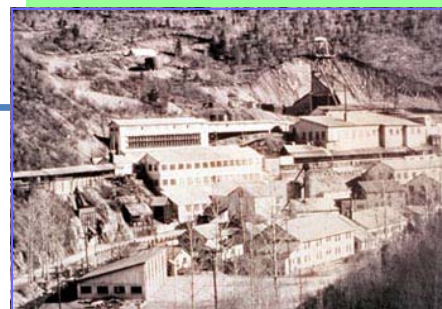
Burke Canyon is one of oldest mining communities in the Silver Valley, and has been one of the largest contributors of pollution to the Coeur d'Alene Basin. At one time, approximately 5,000 people inhabited this narrow canyon. However, the mines gradually closed, and most people abandoned the canyon for more prosperous communities. The canyon is marked by ghost towns, and the creek remains essentially devoid of aquatic life because of its high lead, cadmium and zinc content.

The Canyon Creek watershed, located in the Woodland Park area, has been identified as a priority area for cleanup. This area housed the Hermosa mine as well as impoundments from the Hecla Star Mine. The selected remedy for the watershed includes source control and water treatment remedial actions to address contaminated surface water, soil, sediments, and source materials. Some actions that may occur include, but are not limited to, excavation and consolidation of waste rock, tailings, and floodplain sediments; using the site as a regional repository for other remedial action projects; capping, regrading and revegetating tailings and waste rock areas; collection and treatment of contaminated discharges to the CTP; and stream and riparian stabilization actions in conjunction with sediment and floodplain removal areas.



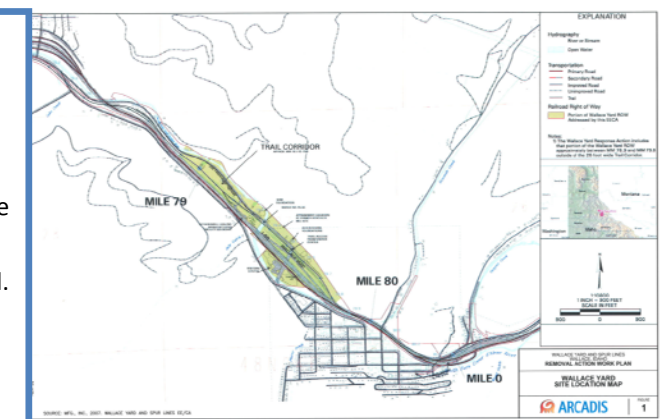
### Big Creek Repository/Sunshine Mine

Big Creek Soil Waste Repository is one of several areas where contaminated soil from remediation (clean-up) projects in the Coeur d'Alene Basin, including material from residential yard clean-ups, school clean ups, and other projects. It has been open since 2002, and is slated for closure in 2014. It is located near the Sunshine Mine.



### Wallace Yards/ Hercules Mine & Mill Site

In the late 1800s, railroad usage increased in order to transport the mining materials. Wallace Yard area was historically used for railroad car storage, switching, and other operations. Later, starting in 1910, Hercules Mining Company leased part of Wallace Yard to begin mine and mill operations. The lease lasted for approximately 50 years, when operations ceased. Over the next few decades, the facilities at the site were abandoned and/or removed. Over the years there were also remediation and road projects resulting in removal and/or capping of the spur line ROWs and the Yard. In 1990, the Visitors Center was capped and remediated. In 2000, UPRR implemented a response action for an area that passed through the Yard. Finally, 2011 the entire Wallace Yard and Spur Lines were remediated.

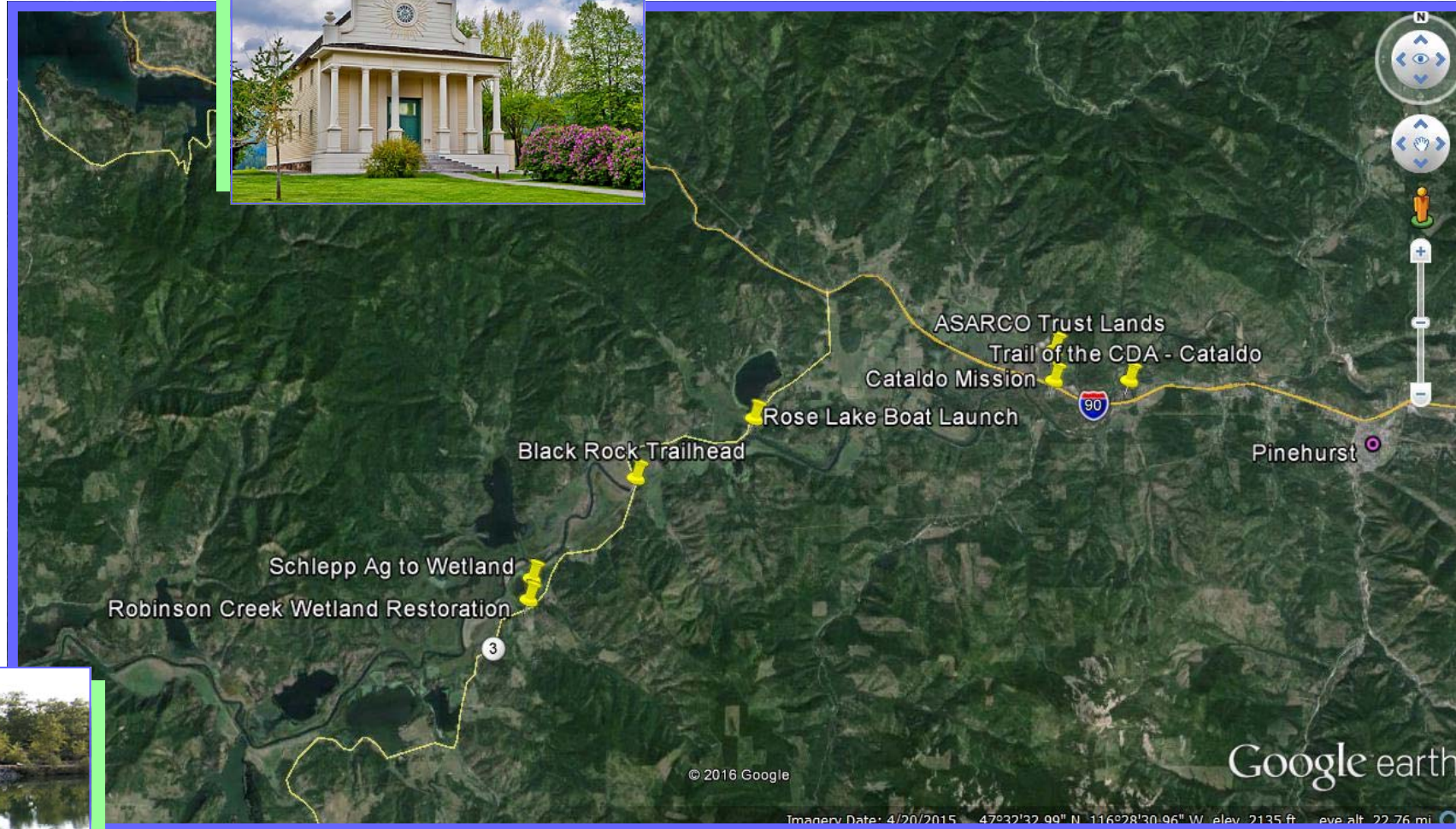


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## Rose Lake/Black Lake Boat Launches

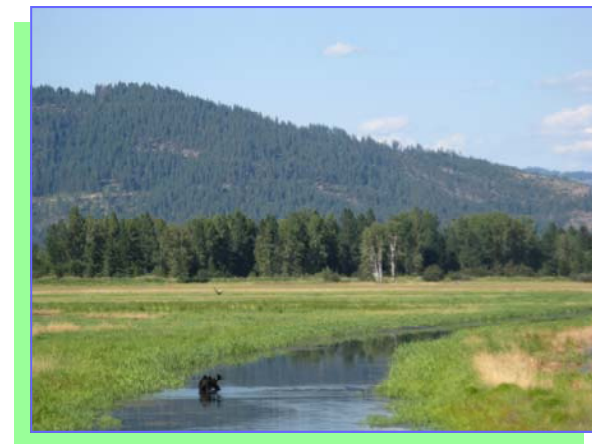
*Rose Lake Boat Launch* was completed in May 2004. The site had a dusty dirt parking lot with high levels of metals in the soils/sediment that posed a high health risk to humans, especially small children and pregnant women. Remedial actions at the site included capping the parking lot, constructing a low water boat launch, grade the parking lot to flow away from the River, perform bank stabilization near the boat launch, close off and relocate site access from Highway 3 to East River Road, close off informal access to the site, and install protective fence around the historic pioneer schoolhouse. By paving the parking lot, any recontamination that occurs during spring runoff is able to be sprayed off the parking lot once the waters recede.

*Black Lake Boat Launch* was also completed in 2004. This site is located adjacent to the Coeur d'Alene River and the Trail of the Coeur d'Alenes. There exists trail and boat access at this location. Remedial action activities included: 20-foot wide paved strip for picnic area, 20-foot wide grass barrier adjacent to the picnic area, 5-foot wide gravel and boulder area between the parking lot and picnic areas, trees to block the view from the downstream eagle's nest, and restorative work to approximately 100' feet of excavated riverbank (geogrid



## Trail of the Coeur d'Alenes (Rails to Trails)

The Trail of the Coeur d'Alenes is a 72-mile paved trail spanning the Idaho panhandle between Mullan and Plummer. The UPRR line was constructed in the late 1880s to serve the mining industry in the Silver Valley. Mine waste rock and tailings containing heavy metals was used in some locations to build the rail bed. In 1991, the Tribe filed a CERCLA lawsuit against UPRR to address releases from this rail bed. Finally, in 2000, the United States, Coeur d'Alene Tribe, State of Idaho and UPRR entered into a consent decree (CD). The consent decree outlined duties responsible for UPRR, Coeur d'Alene Tribe and the State of Idaho. As part of the consent decree, the UPRR was required to transfer all of its right, title and interest



## Schlepp Agriculture to Wetland

EPA and USFWS identified the agricultural property of Mr. and Mrs. Michael Schlepp as a prime candidate for an agriculture to wetland conversion project. The property is about 535 acres located adjacent to the Coeur d'Alene River and Highway 3. The property was converted in the past from a wetland habitat to a series of ditches and dikes to drain the property to use for agricultural purposes. Water levels were controlled using a head gate and pumping stations at the Coeur d'Alene River. Many factors went into the decision to use this property: the land owner was willing to be involved, the land is hydraulically separated from the Coeur d'Alene River, Robinson creek provides a clean source of water, the site provides excellent habitat for waterfowl use, and there exists easy access to the site. During construction, multiple activities were completed. These included, levee repairs, access road construction/reconstruction, earth moving activities to remove and/or remediate contaminated soils, creation of new drainage swales, water control and diversion structures construction, gravity drain the site, and install new pumps. Remediation began in 2009 with final completion in November 2011.



## Robinson Creek Wetland Restoration

In 2011, Idaho Department of Fish and Game was able to purchase property in the Robinson Creek Habitat Segment. The final land was acquired in 2012 to add property adjacent to the previous purchase. The total number of acres for the site is 62 acres. This project is designed to provide high quality waterfowl habitat, restore beneficial functions of wetlands, and guide partnerships of agencies to coordinate other projects in the Coeur

d'Alene Basin. 35 acres of newly created wetlands were constructed in 2015. This included the construction of various habitats important for waterfowl, shore birds, and wildlife. It also included water control mechanisms and the use of native vegetation.