Coffman Cove Road (FS 3030 Road)

Issue

Pyritic rock was inadvertently used for construction of a portion of a two-lane highway on Prince of Wales Island. The Forest Service, Federal Highway Administration, Environmental Protection Agency, and State of Alaska have been working together to stop the acid rock drainage (ARD) and restore affected streams.

Background

Sampling and analysis confirmed that the B5 rock used in the road construction along a 3½ mile stretch of the Coffman Cove Road Project on Prince of Wales Island contained iron pyrite. The combination of pyrite, oxygen and water formed an acid solution that dissolved metals from the rock, which contaminated ground and surface waters. Copper and zinc were confirmed as metal contaminates of concern in the ARD-affected water. Cadmium and nickel were also monitored as ARD-affected analytes. Precipitates that formed in the water down gradient from the road adversely affected nearby aquatic, insect, and vegetative life forms. ARD from the rock in the roadway caused displacement of fish and degradation of water quality and habitat.

The Forest Service began working with the FHWA and other federal and state agencies in summer 2008 to address the lower-than-normal pH levels and elevated levels of dissolved metals in streams. All of the effected streams cross the FS 3030 road on National Forest System lands. The streams all drain into Sweetwater Lake near the community of Coffman Cove. Approximately 100,000 cubic yards of pyritic rock have been excavated and replaced with limestone. The removal of the pyritic rock and addition of limestone to neutralize the acid resulted in elevation of pH and changes in metal concentrations in the downstream waters in post removal water samples to date. High stream flows have been successful in flushing precipitates through most streams. Monitoring information from the first stream to have the pyritic rock removed in 2008 indicates that recovery is underway.

The State of Alaska and EPA are looking at listing some of the waterways under Cleanwater Act 303(d). The recommended listing consistent with CERCLA will be 4b, under as water quality recovery plan. The differences between two different applicable laws (CERCLA and Clean Water Act) and the work needed to coordinate outcomes with both continue to be challenging.

Current Situation

Excavations of the road were completed in early July 2010, and a long term monitoring plan is being implemented. FHWA will work to finish filter trenches, containment area, and to complete the highway paving and striping. Mid-September 2010 completion is expected. Monitoring field work is scheduled for late August/early September 2010. The monitoring plan calls for a review of monitoring results in Spring 2014.

More Information

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