
North Coast Regional Water Quality Control Board

Date: May 10, 2013

To: Fred Blatt, Supervisor, Regional Water Board (RWB)
Timber/Nonpoint Source Division

From: Thomas R. Williams, P.G., Engineering Geologist, RWB

Subject: KNF Goff Fire Inspection

I. INTRODUCTION

On December 31, 2012, Mr. Felice Pace forwarded an email to the RWB and Klamath National Forest (KNF) from Mr. Luke Ruediger dated December 12, 2012. The email from Mr. Ruediger was in regard to a possible fire salvage project in response to the Goff Fire. Mr. Pace's email stated, "One of the top objectives for this project should be the recovery of Fort Goff and Portuguese Creeks from the damage imposed by ill-advised and destructive discretionary suppression. You must identify what is needed to restore the high water quality which suppression actions damaged. Please consult with Fred Blatt at the NCWQCB concerning what is required to comply with the CWA in this instance where impacts of fire suppression – and to a lesser extent wildfire – has damaged and degraded water quality."

II. INSPECTION PARTICIPANTS

Greg Laurie, KNF Forest Hydrologist
Tom Williams, RWB

III. INSPECTION BACKGROUND

According to information taken from a news report from the Redding Record Searchlight, the Goff Fire was a part of the Fort Complex Fire that burned over 22,000 acres in the Klamath and Rogue River-Siskiyou National Forests. The Goff Fire was ignited by lightning on August 5, 2012. Approximately 700 firefighters fought the fire. Nine engines, four water tenders, eighteen hand crews, and seven helicopters were used to fight the fire. Approximately 300 people had to be evacuated from their homes. Although the fire reached into the backyards of some of the homes, no homes were lost.

According to information provided by KNF, firefighters attempted to contain the Goff Fire by constructing hand fire lines along the east side of Fort Goff and Portuguese Creeks. The fire lines were then burned and snags in the vicinity of the fire line were felled. Back burns were also used to help stop the fire's advance. The fire lines along the creeks were not fully successful in containing the fire because they did not extend into the steep headwall areas of the creeks. The Goff Fire did an "end run" north of the containment lines and continued to burn to the west and east. The fire was ultimately contained along Highway 96 and Seiad Creek Road to the south, Fort Goff Creek and high mountains to the west and north, and Forest Service 48N20 Road to the east.

A map of the Goff Fire Soil Burn Severity prepared by KNF was provided to RWB staff and is attached. The map shows that the Goff Fire had mostly a low or very low soil burn severity. The areas of high soil burn severity were limited primarily to steeper headwalls near the top of the watercourses.

In his email, Mr. Ruediger stated, "The Goff Fire of 2012 burned entirely within the Kangaroo Roadless Area, a vast rugged, and inaccessible regions of mountains and streams adjacent to the community of Seiad Valley....The Kangaroo Roadless Area represents the most intact fire regime in the Eastern Siskiyou Mountains. The area is one of the best representations of fire adapted forest in our region. It has long been a goal of the Klamath National Forest to restore the process of fire; however, the Kangaroo Roadless Area does not need such restoration as natural ignitions have been adequate to maintain healthy conditions and encourage healthy fires."

It is the understanding of RWB staff that KNF has decided not to conduct a fire salvage project for the Goff Fire.

IV. INSPECTION OBSERVATIONS

RWB staff conducted a limited inspection of the Goff Fire on March 6, 2013, by walking north from Highway 96 along the fire lines established along the east side of Fort Goff and Portuguese Creeks. We also inspected the Seiad Creek Road along the south boundary of the fire and the Forest Service 48N20 Road along the east boundary of the fire.

The fire line along the east side of Fort Goff and Portuguese Creeks was constructed within the Riparian Reserve. An area was cleared using hand crews and then underburned to establish the fire line. Back burning was also used to stop the fire's advance. Snags were felled within the burned area to prevent embers from starting spot fires beyond the fire line. Instead of leaving the snags on the ground with the possibility of recruiting into large woody debris (LWD), the snags were cut into short lengths. Both of the creeks had a noticeable lack of LWD.

The soil burn severity map showed a large area of moderate to high severity along the west side of the Seiad Creek watershed. It is expected that there will be elevated levels of

erosion and sediment delivery to Seiad Creek and the West Fork of Seiad Creek as a result of the fire. Burned Area Emergency Response (BAER) activities included road repair work at a number of watercourse crossings along the 48N20 Road. The road repair work was completed successfully at most of the crossings and ditch relief culverts. Culverts designed to carry the 100-year flood flow were installed at the watercourse crossings. However, several of the new culverts were installed subgrade at the inlet. This has resulted in additional incision and erosion and sediment delivery to the watercourses at these culvert inlets. The BAER road work along the 48N20 Road should be inventoried and additional repairs made at the watercourse crossings that were not installed correctly.

V. INSPECTION CONCLUSIONS AND RECOMMENDATIONS

The fire suppression activity within the Riparian Reserves did not appear to result in burn severity that was significantly greater than on the surrounding KNF lands. The map showed the burn severity along Fort Goff and Portuguese Creeks was low to very low, within a patchwork of moderate soil burn severity. This agrees with the conditions observed during the field inspection.

It has been well documented that fires result in increased erosion and sediment delivery to watercourses. Fire suppression within the Riparian Reserves has the potential of also increasing sediment delivery to watercourses. The Goff Fire apparently burned in a natural mosaic that was within the range of natural variability for a mixed conifer ecosystem. This fire was ultimately halted along ridges, using man-made firebreaks such as roads. Fire lines in riparian areas should be used only when necessary and with caution, as they may increase potential impacts to water quality.

BAER road work was conducted at a number of watercourse crossings along the 48N20 Road. Several of the new culverts were installed incorrectly and this has resulted in additional incision and erosion and sediment delivery to the watercourses at the culvert inlets. The BAER road work along the 48N20 Road should be inventoried and additional repairs made at the watercourse crossings that were not installed correctly.