Craver, Patti

From: Logan, Dennis
Sent: Wednesday, September 28, 2011 3:55 PM
To: Grange, Briana
Subject: Columbia revised BA conclusion for bull trout
Attachments: Revised BA conclusion for bull trout 2011-09-28.docx

Briana,

I was thinking of something like this for the e-mail.

Dennis

B/25

Dear Mr. Gunthier,

The NRC staff's biological assessment concluded that the continued operation of the CGS would have no effect on the bull trout. After further consideration, however, the NRC staff has revised its conclusion and now believes that operation of the CGS is not likely to adversely affect bull trout. The following discussion summarizes the findings of the biological assessment and presents the justification for the revised conclusion.

The NRC's Federal action is the decision whether to renew the Columbia Generating Station's (CGS) operating license an additional 20 years. The affected area for bull trout is the Hanford Reach of the Columbia River.

In generating electricity, the power plant produces heat, which is transferred to the atmosphere through evaporation using six mechanical draft cooling towers. The plant also routinely discharges a portion of cooling water to the Columbia River. The total water losses are placed by withdrawal from the Columbia River (replacement water is called make-up water). During normal operating periods, the average makeup-water withdrawal is about 17,000 gpm (1.1 m^3/s). The plant withdraws water about 300 ft (91 m) from the shoreline through two intake screens that have an outer and inner perforated pipe sleeve to exclude adult fish. The outer sleeve has a 42-in. (107-cm) -diameter sleeve with 3/8-in. (9.5-mm)-diameter holes (composing 40 percent of the surface area). The inner sleeve has a 36-in. (91-cm) -diameter sleeve with 3/4-in. (19-mm) -diameter holes (composing 7 percent of the surface area). For the discharge, the State of Washington authorizes discharge in accordance with the special and general conditions of National Pollutant Discharge Elimination System Permit No. WA-002515-1.

Bull trout were listed as threatened throughout their range in 1999. The Columbia Generating Stations action area lies within the Columbia River Distinct Population segment of bull trout. The FWS considers the Hanford Reach of the mainstem Columbia River to be a potential migratory corridor for bull trout. The Mainstem Upper Columbia River critical habitat unit (CHU) provides connectivity to the Mainstem Lower Columbia River CHUs and to 13 additional CHUs. This critical habitat is the main foraging, migration, and overwintering (FMO) habitat for the Entiat River core area and provides connectivity between several other core areas or critical habitat units. The FWS indicates that bull trout reside year-round in certain areas of the mainstem of the Columbia River as either sub-adults or adults. The FWS indicates that spawning adults may also use the mainstem of the Columbia River for up to 9 months.

Observation of bull trout in the Hanford Reach is rare, and they may seldom use this migratory corridor. Resource scientists at DOE's Hanford Site have characterized the use of the Hanford Reach by bull trout as transient. USFWS indicated that the accounts of bull trout in the Hanford Reach are "anecdotal" and are "likely individuals moved downstream during the spring freshet. Furthermore, the habitat and water temperatures in the Hanford Reach are not ideal for spawning, and there are no reports of spawning activity by bull trout in the vicinity of the CGS

The lack of spawning in the Hanford Reach means that there is no potential for young bull trout or bull trout eggs to be entrained or impinged at the CGS site. Furthermore, entrainment studies conducted in 1979–1980 and 1985 did not collect any life stage of fish. Impingement

studies conducted over the same period did not observe any fish impinged on the intake screens. Healthy adult bull trout that commonly inhabit rivers with water velocities above 4 fps (1.2 m/s) would not be susceptible to impingement with a through-screen velocity of 0.5 fps (15 cm/s).

Regarding the heated effluent, bull trout actively select for cooler water, thus there would be little potential for them to be affected by the thermal or chemical discharge from the CGS plant. The thermal effluent from the blowdown discharge during the spring is a long, narrow plume, comprising approximately one percent of the width of the river, and bull trout would likely avoid it while migrating or foraging.

Because Hanford Reach of the river is neither spawning nor rearing habitat for bull trout and because bull trout are so rare in this area, the NRC staff's biological assessment concluded that the continued operation of the CGS would have no effect on the bull trout. After further consideration, however, the NRC staff now believes that rarity does absolutely preclude a take of bull trout. Therefore, the NRC staff revises its conclusion and now believes that operation of the CGS is not likely to adversely affect bull trout.