

**From:** Balsam, Briana  
**To:** Logan, Dennis  
**Subject:** RE: Columbia revised BA conclusion for bull trout  
**Date:** Wednesday, September 28, 2011 4:26:00 PM  
**Attachments:** Revised BA conclusion for bull trout 2011-09-28 BAB edits.docx

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My comments are attached.

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**From:** Logan, Dennis  
**Sent:** Wednesday, September 28, 2011 3:55 PM  
**To:** Balsam, Briana  
**Subject:** Columbia revised BA conclusion for bull trout

Briana,

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

Dennis

B/26

Dear Mr. Gunthier:

The NRC staff's August 2011 biological assessment concluded that the continued operation of the Columbia Generating Station (CGS) would have **no effect** on the bull trout (*Salvelinus confluentus*). 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.

**Comment [BAB1]:** Your call—but the bolded text helps to identify the major change in the NRC's conclusion.

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### Proposed Action

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

**Comment [BAB2]:** The headings might help with clarity, but since it's an email and is more informal, you might want to just leave them out.

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### CGS Water Withdrawal and Discharge Summary

In generating electricity, the ~~power plant~~ CGS produces heat, which is transferred to the atmosphere through evaporation using six mechanical draft cooling towers. ~~The plant~~ CGS also routinely discharges a portion of cooling water to the Columbia River. The total water losses are replaced 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<sup>3</sup>/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.

**Comment [BAB3]:** Maybe define the CGS license renewal action area here, and move this sentence down to where you begin to discuss bull trout, specifically.

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### Assessment of Impacts to Bull Trout

~~The FWS listed Bull trout were listed as threatened~~ throughout their range in 1999. The ~~Columbia Generating Stations CGS's~~ 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.

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**Comment [BAB4]:** Was this during a phone conversation or something? The wording is kind of confusing.

If this is just from a fact sheet or some online FWS reference, I would leave FWS out of the sentence and just say "Bull trout reside year-round..."

If it is from a teleconference or something like that, say, "During a teleconference with NRC staff, the FWS indicated that bull trout reside year-round..."

Observation of bull trout in the Hanford Reach is rare, and ~~they~~ the species 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. ~~The USFWS indicated that~~ the accounts of bull trout in the Hanford Reach are "anecdotal" and are "likely individuals moved downstream during the

**Comment [BAB5]:** same as last comment.

**Comment [BAB6]:** same as last comment.

spring freshet. Furthermore, the habitat and water temperatures in the Hanford Reach are not ideal for spawning, and ~~there are~~ the NRC did not identify any reports of spawning activity by bull trout in the vicinity of the CGS during its review for the proposed CGS license renewal.

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).

Comment [BAB7]: fish or bull trout?

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.

#### Conclusion

Because the 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 not 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.