

MEMORANDUM

TO: Matt Wilkening, US EPA, Region 10
FROM: Alaska District, USACE
DATE: May 31, 2012
RE: Northeast Cape questions

Question: Do you, the Corps, have any idea to what degree Blackfish is used as a food source by the Savoonga residents? (Particularly Blackfish from the Suqi. R.)

Response: According to the Human Health and Ecological Risk Assessment (MWH, March 2003), “fish collected or observed in the Drainage Basin were of inadequate size for human consumption, as well as of inadequate size to be collected by traditional subsistence methods”. Furthermore, ATSDR made a similar assumption in their Health Consultation (March 2006) that “Alaska Blackfish from the area are eaten only rarely, if at all”.

However, according to an information sheet produced by the Alaska Department of Fish and Game, blackfish are used as a subsistence food source.

http://www.adfg.alaska.gov/static/education/wns/alaska_blackfish.pdf

Question: Did the Corps look at Blackfish either from a human health risk perspective or eco-risk perspective?

Response: Yes, from an ecological risk perspective only. Blackfish were considered when evaluating ecological risks at Site 28, as an exposure source for the glaucous winged gull. Based on the evaluation, no adverse ecological effects on representative receptors are anticipated.

Blackfish were not considered when evaluating human health risks, only the Dolly Varden data. However, ATSDR did include a statement in their health consultation that in the unlikely event that blackfish are consumed, it is recommended that consumption be limited to no more than one meal per month.

Question: Sylvia is concerned about this since all 5 samples of Blackfish presented in Dr. Scrudato's PowerPoint presentation had PCB concentrations above EPA screening values for unlimited ingestion.

Response: According to the ACAT Slides presented at the December 2011 Dialogue meeting, they collected 5 blackfish samples from the Suqi River, which had concentrations of total PCBs ranging from 7-35 ng/g wet weight (ppb). USACE was not aware of this data previously.

EPA Fish Consumption Guidelines for PCBs

Unlimited Consumption for non-cancer risks (all diseases except cancer): 5.9 ppb

Unlimited Consumption for cancer risk: 1.5 ppb

As the levels go higher, the EPA recommends fewer meals per month

For comparison, from USACE Phase III Remedial Investigation (March 2003):

Blackfish were collected from the Site 28 Drainage Basin and 3 composite blackfish samples were analyzed. The concentrations of PCB-1260 ranged from 60 to 140 ppb (0.06 to 0.14 mg/kg).

From ATSDR Health Consultation (March 2006):

ATSDR understands that the Alaska Blackfish from the area are eaten only rarely, if at all. Thus, Alaska Blackfish are not a focus of this health consultation. However a note about contaminant levels in the Alaska Blackfish is included at the end of the "Discussion" section.

The composite samples of Alaska Blackfish contained PCBs at a level of 100 ppb. It is understood that few, if any, of these fish are eaten. However, in the unlikely event that these fish are consumed by humans, it is recommended that consumption be limited to no more than one meal per month.

From the Human Health and Ecological Risk Assessment (HHERA) (March 2004):

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Whole fish samples (e.g., Alaska blackfish) were only collected for the evaluation of potential ecological exposures, and portions of fish (e.g., fillets, eggs, heads and remains of Dolly Varden) were collected to characterize potential human exposures to chemicals through the food chain.

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Fish collected or observed in the Drainage Basin were of inadequate size for human consumption, as well as of inadequate size to be collected by traditional subsistence methods. Although one of the main subsistence fish species (i.e., Dolly Varden) occurs in the Suqitughneq River and has potential access to the Drainage Basin, this species is not expected to use the Drainage Basin because the physical characteristics are unsuitable (i.e., it has generally low flow, is clogged with vegetation and provides unsuitable habitat for Dolly Varden). Therefore, subsistence fishing is considered to be an incomplete pathway for Site 28. However, future seasonal residents could potentially catch fish of harvestable size from the Suqitughneq River (Site 29). Therefore, risks associated with potential consumption of fish harvested from the Suqitughneq River were included in total cumulative risk estimates for future seasonal residents of Site 28 (refer to Section 4.15.1.2).

Fish collected or observed in the Drainage Basin were of inadequate size for human consumption, and were not screened for evaluation in the Human Health Risk Assessment (HHRA).

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Site 28 is a wetland, characterized by wet tundra and a fresh surface water drainage that discharges to the Suqitughneq River. Wildlife expected to use the site include herbivorous and omnivorous small mammals, herbivorous and omnivorous birds, and carnivorous mammals. Alaska blackfish were captured in the Site 28 Drainage Basin during the 2001 sampling investigation.

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Maximum Hazard Quotient (HQ) estimates for the cross fox (0.71) and glaucous-winged gull (0.19) (Table 4-84) are below the ADEC ecological criterion, and indicate that no adverse effects on representative receptors are anticipated.

Appendix H, Table H-30, Site 28 Drainage Basin.

Ecological hazard calculation for the glaucous winged gull, includes an exposure point concentration based on fish, including a value of 0.14 mg/kg PCB-1260. (this was maximum value detected in 3 composite blackfish samples) (see Table I-29, appears based on all blackfish data)

Appendix H, Table H-33, Site 29 Suqi River.

Ecological hazard calculation for the glaucous winged gull, includes an exposure point concentration based on fish, including a value of 0.019 mg/kg PCB-1254 and 0.012 mg/kg PCB-1260. (see Table I-30, appears based on all dolly varden data)

Appendix H, Table H-36, Sites 28 and 29 Combined.

Ecological hazard calculation for the glaucous winged gull, includes an exposure point concentration based on fish, including a value of 0.005 mg/kg PCB-1254 and 0.14 mg/kg PCB-1260. (appears based on Table I-16 fish, human health, may be dolly varden data for fillets only)

Other info from Appendix B - USACE Trip Report, Biological Sampling

Alaska blackfish are exceptionally hardy and can overwinter in muddy areas of the drainage with low oxygen concentrations.