



Independent Environmental Monitoring Agency

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Brett Wheler
Executive Director
Wek'eezhii Land and Water Board
#1-4905 48th Street
Yellowknife NT X1A 3S3

Eric Denholm
Superintendent-Traditional Knowledge and Permitting
Dominion Diamond Ekati Corp.
1102, 4920-52nd Street
Yellowknife NT X1A 3T1

Dear Mr. Wheler and Mr. Denholm

Re: Improvements to Ekati Fish Sampling

After careful review of Rescan's 2012 AEMP fish monitoring results, as well as Dominion Diamond Ekati Corp. (DDEC) responses to our concerns about those results, the Agency has a few issues we would like to raise to improve future fish monitoring. Specifically, there is room for improvement to the fish sampling protocol that was separately approved by the Board.

Monitoring Objectives and Sample Size

The Agency noted that only 2 slimy sculpins were sampled from Leslie Lake during the 2012 AEMP, in comparison to over 20 in every one of the other AEMP lakes. We know from previous AEMP results that Leslie Lake fish show exposure to hydrocarbons. It is unfortunate that there appears not to be enough flexibility built into the AEMP fish monitoring program to ensure such sampling deficiencies are addressed in a timely fashion. For example, after a poor sampling season, it should be possible and perhaps even required, to sample in the following season rather than waiting the regular 3-year (sculpin) or 6-year (whitefish and lake trout) interval.

We understand that DDEC will be making efforts to catch a greater number of sculpin from Leslie in 2015 (see WLWB Aug 7, 2013 staff report on AEMP, Table 1, pg.3 DDEC response to DFO comment #2). To help ensure there is a sufficient sample size for sculpin we recommend the use of baited traps if electro-fishing does not yield a sufficient target sample size.

To be clear, the Agency is recommending that the AEMP fish sampling program be amended as follows:

- 1. Fish species appropriate to the objectives of the AEMP and specific hypothesis testing should be selected wherever possible. For example, sculpins should be the preferred species to test for exposure to contaminants in lake sediments.**
- 2. In the event that minimum sample sizes are not achieved (see Work Plan for the Fish Component of the 2012 Aquatic Effects Monitoring Program May 2012, Table 1.2-1, pg. 1-2) using standard methods, other methods should be considered (e.g. baited traps for sculpin). If logistical considerations, weather conditions or other matters prevent minimum sample sizes from being achieved, a further sampling attempt should be made later that same season or the following year if not possible in the same year.**

Dioxins and Furans in Kodiak Lake

A 2011 Environment Canada study of the sediments in Kodiak Lake showed that dioxins and furans were well above the Canadian Sediment Quality Guidelines for dioxins and furans. The high levels found are likely due to on-site incineration and may have led to fish in Kodiak Lake having taken up dioxins and furans from the sediments. Based on the 2012 AEMP fish monitoring results, the Agency cannot draw any conclusions as to whether there is any dioxin or furan contamination in Kodiak Lake fish. This is due to an insufficient sample size for whitefish tissue analysis (only one fish sampled) and because no sculpins were sampled for dioxins and furans from Kodiak Lake. Sculpin would seem be ideal for such purposes given it lives and feeds on lake bottoms within a limited spatial range. **If individual sculpin do not provide sufficient tissue for analysis, composite samples of more than one fish per sample could be used.**

The Agency is aware that the company has moved its incineration operations so it is no longer in close proximity to Kodiak Lake and that the current incinerator is known to be releasing far fewer dioxins and furans than the previous incinerators likely released. However, the dioxin and furan contamination in the sediments found by Environment Canada in 2008 samples (Wilson et al. 2011) is presumably still there. Some of our Society members have raised this issue with us and we have also identified this as a concern and potential risk for the company.

DDEC's 2012 Environmental Impact Report Close-out Report (pg. 3-2, Response #3) states that a risk assessment of dioxins and furans to fish in AEMP lakes "will be considered in 2015". The Agency supports this work to determine if there is a potential problem with uptake of dioxins and furans into the aquatic food-chain in Kodiak Lake.

We would appreciate a response from the company. We would be happy to discuss these concerns further with DDEC and WLWB staff at your convenience.

Sincerely,

A handwritten signature in black ink, appearing to read "W.A. Ross". The signature is fluid and cursive, with the first letters of the first and last names being capitalized and prominent.

Bill Ross
Chairperson

cc. Society Members
Claudine Lee, Dominion Diamond Ekati Corp.
Veronique d'Amours-Gauthier, DFO
Sarah Lacey-McMillan, Environment Canada