The New 49'ers

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2 December 2009

Mark Stopher
California Department of Fish & Game
601 Locust Street
Redding, CA 96001

SUBJECT: Mercury issues and suction dredging

Dear Mr. Stopher,

On the chance that the Department has not yet received them, I am attaching several important files concerning mercury and suction dredging:

A) A letter from myself dated 20 June 2007 to the California State Water Resources Control Board concerning the report authored by Rick Humphries about his suction dredge recovery testing within a mercury hot spot.

B) A letter from Greene Environmental Services dated December 2 2009 to the California Governor, also on the subject of mercury.

C) A Declaration made by Claudia Wise on 9 June 2009, also very much on the subject of mercury.

As these documents speak for themselves, I will only summarize several of the important points here and make a few comments:

1) Having quite a substantial background in this area, I can tell you with certainty that the dredge Mr. Humphries used in his experiment, even though of the older design which created more turbulence in a "crash box," did not flour the very small percentage of mercury that he discovered in the dredge tailings. The period of time it takes for dredged material to pass through a dredge's sluice box is only a few seconds. While that could potentially break mercury down into smaller-sized goblets (which Mr. Humphries did not find in the dredge tailings), it requires a prolonged period of violence to succeed in breaking mercury down into particles so small as to become the size of flour.

Since Mr. Humphries neglected to test the raw material (the material that was fed into the dredge), he was not able to determine if the floured mercury already existed prior to the

dredging, and was perhaps just too small in size to receive a 100% recovery rate in the dredge's recovery system.

The very same report by Mr. Humphries showed an image of mercury (partially floured) that he panned out of a waterway without the use of a dredge, and the report also acknowledged that he returned later to the very same place where he dredged during the test and found more mercury there. In light of these two findings, a reasonable conclusion would be that mercury is continuously migrating downstream from hot spots, at least during flood events.

While we could debate over how productive it is to remove 98% of the mercury (with a suction dredge) from a mercury hot spot, anti-mining activists have tried to make a big issue that suction dredges are busy out there flouring mercury. We do not accept this. And we believe that careful testing will prove that suction dredges do not create an environment with enough extended violence to flour mercury. We would be pleased to participate in further study along this line. But until further study is done, we ask that you please refrain from accepting an incorrect, unproven theory that suction dredges contribute to mercury-flouring.

2) It has been suggested, even by some people within the scientific community who ought to know better, that because Rick Humphries was only able to recover 98% of the mercury in the dredge he was using, all suction dredging across the State should be stopped.

First of all, I want to point out that Mr. Humphries performed his dredge test in an established mercury hot spot, a location where he described seeing puddles of mercury along the bedrock!

As far as I know, there have been no studies to identify or characterize the levels of mercury within California's waterways outside of just a few identified hot spots. The vast majority of California's waterways do not contain mercury hot spots (we know, because dredgers are not finding mercury in most places).

Just because some isolated places of concern exist should not mean that the entire State should be shut down. That line of thinking will not facilitate an economic recovery in California! Make no mistake about it, there will become a point where continued economic downturn will also affect employment which requires government revenue. The time ti find reasonable balance between the need to protect the environment, and the need to create wealth-substance has arrived.

It has also been suggested that before dredgers should be allowed to dredge within an area, they should first be forced to pay for required, certified sampling in advance to make certain hazardous levels of mercury are not present. I have been involved with two such certified testing programs in concert with the USFS and US F&W agencies, and it is quite clear that the time and costs involved with this sort of testing would basically amount to a prohibition against suction dredging. That is not the answer.

We need to discuss mitigation measures during the occasional times when some dredger does turn up a mercury hot spot. We look forward to working closely with you on this issue.

3) Please take special note of the comments which Claudia Wise made (in number 17 of her Declaration) concerning the type of environments where mercury is convertible to Methyl. She points out that environments which are ripe for methyl conversion are normally very far away from the places where gold dredging is taking place. This needs further study; because if methyl conversion is not a concern within the immediate area, serious consideration should be given to the use of standard suction dredges to recover at least 98% of the mercury from known hot spots.

Please find my attached comments on this subject.

Sincerely,

Dave McCracken