-----Original Message-----
From: Matthew G Mesa [mailto:matt_mesa@usgs.gov]
Sent: Friday, August 17, 2007 11:40 AM
To: Bao Le
Subject: Re: tags to evaluate juvenile lamprey passage?

Hi Bao

Well, I don't know where you got the pers. comm, but it's wrong. We had plans to develop "dummy" tags of different sizes and weights to see how small a tag would really have to be. Then, we were going to take the "winning" size and work with a manufacturer to assess the logistics of developing one. So, no, there is no tag currently available and we simply didn't have the resources to complete this work. Obviously, a tag suitable for use in juveniles would be a boon--but were not there yet.

Cheers

Matt

BTW--I don't know if you guys would be interested, but I sent a one page research summary to the COE for funding on the effects of dissolved gas supersaturation on lampreys. They were interested, but it didn't fly this year. I think it could be a big issue re: passage and fish health--what about you guys? Any interest in research along these lines (i.e., funding some work?)

(See attached file: lamprey 1-pager (DGS 3.1.07).doc)

"Bao Le"
<baol@dcpud.org>

To <matt_mesa@usgs.gov>
08/15/2007 04:51 PM

Subject: tags to evaluate juvenile lamprey passage?

Matt, I am reading a letter hear that has a pers. comm. from you that says, “the USGS is in the process of developing specific tags to evaluate juvenile lamprey passage.” I wanted to get more info regarding the availability of such technology to measure passage routes and survival. This letter implies that current technology is available and useful for macrophthalmia. I was unaware that we have produced a radio tag of such a size and weight that does not affect swimming ability, etc. If this is truly the case, this is very exciting. I have not seen any other assessments using such technology and wanted to try and get more information as to its development. Any feedback you have re: this is much appreciated. Cheers. Bao

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Northwestern Division - Corps of Engineers

ANADROMOUS FISH EVALUATION PROGRAM

RESEARCH SUMMARY

STUDY CODE: ADS-P-xxx

TITLE: Effects of Dissolved Gas Supersaturation on Adult Pacific Lampreys

FISH PROGRAM FEATURE: System - Adult Passage

PROBLEM STATEMENT: There is significant regional concern regarding lamprey populations in the Columbia Basin. In 1993, the Oregon Department of Fish and Wildlife designated Pacific lamprey at risk of being listed as threatened or endangered. The U.S. Fish and Wildlife Service designated Pacific lamprey as a Category 2 candidate species in 1994. The Northwest Power Planning Council's (NPPC) 1994 Fish and Wildlife Program acknowledged the apparent decline of Pacific lamprey and requested a status report to identify research needs. Columbia River treaty tribes have repeatedly voiced concern about the decline of Pacific lamprey, a culturally important species. Before lamprey population decline can be adequately addressed, fundamental biological questions must be answered, including identification of the biological and ecological factors affecting lamprey production in the Columbia River Basin. One limiting factor for lamprey production may be exposure to high levels of total dissolved gas (TDG) at dams as lampreys migrate up the Columbia River basin to their spawning grounds. The potential for lampreys to be exposed to high TDG levels at dams is high because these fish are known to reside at dams for several days or weeks, perhaps in relatively shallow water, prior to passage. Because lampreys encounter several dams during their upstream migration, cumulative effects are possible. However, nothing is known about the responses of lampreys to high levels of TDG.

BIOP MEASURES: Pacific lamprey are not listed under the Endangered Species Act.

OBJECTIVES:

1. Collect adult lampreys at Bonneville Dam and implant them with depth-sensitive radio tags.

2. Monitor fish location, depth, and TDG levels at Bonneville Dam during the spring-summer migration of lampreys. Derive field-based TDG exposure histories from the telemetry data.

2. Assess the effects of exposure to high levels of TDG on lamprey physiology and survival in laboratory bioassays based on results of field studies.

SCHEDULE: 2007-2009