

PTSC Conference Call – Lamprey and Full Duplex Tags

July 14, 2017

Attendees: Courtney Newlon, Scott Putnam, Pat Keniry, Tiffani Marsh, Brandon Chockley, Jeff Fryer, Charles Morrill, Don Warf, Nicole Tancreto, John Tenney

Action Items

Don, Charlie, Courtney: Work on a summary of the issue and proposal for testing dual mode at The Dalles, or other suitable site, which can be used for both a newsletter article and to bring to FPAC before scheduling a dual mode test. See if Gordy or Ben Sandford available to assist with analysis.

Nicole: Produce a summary of instream sites showing ability to run in dual mode

Courtney: Contact Lamprey Technical Group to request information about regional plans for lamprey research involving PIT tags

Don: investigate use of Vexar to prevent Lamprey from holding near antennas

Background:

When researchers first started tagging lamprey years ago, the initial concern was that a lamprey attaching close to an antenna could shut it down, so it was recommended that they use half-duplex technology at that time. When BPA brought up the possibility of trying to transition lamprey researchers to full-duplex in order to take advantage of the considerable infrastructure in place, there had already been some FDX tagging of lamprey and some anecdotal experience didn't seem to indicate any issues.

This year a researcher tagged and released ~150 lamprey directly below Prosser Dam. Many of them got behind one of the antennas and greatly impacted detections in the adult ladder. The ladder was dewatered so the lamprey could be removed.

Biologists working with lamprey think that the application of vexar (a textured plastic material) to the areas behind the antenna can prevent lamprey from attaching and doing this in the future. They wish to continue using FDX tags to make use of instream systems in tributaries – they are very interested in detection data there.

Discussion:

The same type of antenna design is in place at Little Goose, McNary and Lower Monumental, so there is potential for this to happen there. There is also a concern for the new ladder sites, like The Dalles and John Day, that only have two antennas around the counting window. If the lamprey do something unexpected in those ladders that impacts those antennas, detection efficiency could be affected. There just isn't very much information on how lamprey act and the potential for losing adult salmonid detections exists.

Vexar has been applied at Prosser, but primarily after the lamprey passed it. Don understands they were planning to apply it at Roza Dam, but was unable to find out if that has occurred yet. He did notice that the first lamprey to reach Roza stayed in the ladder for 19 days, but the next group seems to have passed through relatively quickly. Unknown if this is due to vexar or other factors.

It may be possible to apply vexar at USACE dams, but will have to go through approval process and not much is known about the material and its longevity or other impacts it may have.

If the primary concern is with dam passage studies, perhaps coordination with the technical workgroup could help mitigate some of the potential issues. There seems to be enough use of FDX and interest in detections in the tributaries that we should consider other mitigation before requesting that they don't use FDX tags anymore.

It would be good to know what lamprey researchers are planning for the future. We know that a Yakama Nation researcher is planning to tag and release ~250 lamprey each year for the next 4-5 years. The Lamprey Technical Workgroup could provide more information about other plans. A newsletter would also help to get the word out to the community and ask for feedback from researchers about the possibility of lamprey impacting detections at both adult ladder sites and instream detection systems.

Another option is to revisit turning on dual mode for those transceivers that support it. Two years ago, we could not support doing so, but more information about adult salmonid burst speed leads us to believe that detections of salmonids would not be impacted if it was enabled. Don would like to work on performing a test at The Dalles or other suitable location with the help of NOAA.

The newer instream transceivers (IS1001) have dual mode capability, so if it is possible to enable it without impacting salmonid detections, lamprey researchers could go back to (or keep using) HDX and still take advantage of existing infrastructure. PTAGIS has metadata on existing sites to see which are capable of enabling dual mode.

Before a test is conducted, FPAC should be consulted to make sure it won't impact any major adult return studies.

Possible actions:

1. Evaluate enabling dual reading mode on adult transceivers, to determine if possible for HDX tags to take advantage of existing infrastructure
2. Publish article in next PTAGIS newsletter and request feedback from other researchers
3. Investigate use of vexar as a preventative measure