

# IPTDS Subcommittee Meeting

March 24, 2021, 9am-12pm, Online

**Attendees:** Attendees: Brian Knoth, Ryan Gerstenberger, Zack Mays, Randy Johnson, Gabriel Brooks, Brian Davis, Brady Allen, Ben Truscott, Rick Orme, Nicole Tancreto, Daniel Wilson, John Tenney, Nick Yaniw

## Member Updates

### Gabriel Brooks NOAA

- R&D Project funded
- working on new multiplexor transceiver IS1001-MUX
  - tested with 4 antennas
  - read-range potentially less than standalone IS1001
  - lower power consumption requirements
  - will drive 6 antennas
  - Target price: \$5K to \$7K
- Working on upgrading pile dike site PD7
  - Permitted for 7 sites
  - Will add one across river of PD7 using flexible antenna array
  - Testing lithium-based battery source
- Flexible array for trawl upgrades
  - Sync-over-fiber: unlimited distance between master controller & node
  - NOAA will be operating trawl (single crew 7 days a week) April 15<sup>th</sup> or earlier thru mid-June with existing
- GRS: upgrading sync + remote exciter to control antenna power remotely
- Joined PDT for north shore antenna replacements and PIT detection in Ice and Trash Sluiceway at Bonneville Dam
- Working with Westfork for stagger-wall antenna 83' x 7.5' at restoration project with two smaller antennas on sides, and one smaller upstream

### Ben Truscott, WDFW

- Trending to install a PIT-Barge in upper Columbia (lower Wenatchee and Methow)
  - Concerns about data collection, submission and remote monitoring
  - Discuss with NOAA R&D
  - Not funded through BPA FWP
- Noise spike on an instream site (from 20% up to 90%)
  - Discovered short in the electrical system of an old fire truck at nearby volunteer fire station when battery charger was enabled
  - Will install temporary site upstream until resolved
- Experimenting with flexible antennas
- Upgrading some sites on lower Methow to replace QUBE system
- Adding instream sites to Puget Sound area
  - Question: PTAGIS support for that area?
  - Nicole: yes, unless a burden on data collection.

**Brady Allen, BPA**

- BPA staff still 100% telework
- Question for WDFW about PIT-BARGE install – BPA Funded? Ben: No
  - Considered using floating array antenna similar to Lower Klickitat? Ben: cable issue with recreational activity in area. Barge would also need to find balance with recreational use.

**Brian Knoth, IDFG**

- Working on a new array for the upper South Fork Clearwater

**Brian Davis, USFWs**

- Instream projects slow due to teleworking
- Supporting Raspberry PI installations, hoping to use the PTAGIS API to submit data when ready
  - Using Linux application to communicate with Mux and dump data to log file
  - Upload log file to GITHUB
  - RDP to tune transceivers and clear buffers etc.
  - Gabriel asked about documentation for this setup? Brian: notes only

**Nick Yaniw, ONA**

- May deploy an early version of a Biomark PIT Barge
- Issues with OKC site where one antenna loses current; high flows preventing swapping out of antenna

**Randy Johnson, CCT**

- Installing 4 new temp sites for barrier assessment, not expecting detections so wondering if should still register them as interrogation sites. Nicole: he can submit any detections as Passive Recaptures through P4 to PTAGIS.
- Planning a site near drainage area pending logistics
- Planning for another site on mainstem Okanagan between OKL and ZOSL, still determining funding, logistics, etc.
- Okanagan sites: flows dependent on spill from dams, difficult to schedule around to access antennas
- Brady Allen question: how are temporary sites different from permanent?
  - 2" HDPE antenna
  - IS1001 board in pod attached to antenna
  - Power via battery, eventually solar
  - Anchor with T-Post; easier to remove when no longer needed

**Rick Orme, NPT**

- Produced report with IDFG for NOAA Fisheries using 10 years of PIT data
  - Abundance estimates for 20 steelhead and 15 Chinook TRT populations
  - Estimates of age and sex. IDFG included genetic sampling
  - Used for NOAA status assessment (in progress)
- Shared an interesting bull trout individual one fish history: 3DD.007775F156

**Ryan Gerstenberger, CTWS**

- Continuous operation of Hood River off-reservation site

- Working to add on-reservation sites to PTAGIS

#### **Zach Mays, YN**

- Building many antennas for installation this summer
- Installed new sites for screen diversions, with some alarming results
- Installing new antennas in the flume at Cle Elum dam for relative survival study of juvenile sockeye

#### [Review Draft Site Diagram Document](#)

Gabriel presented the draft site diagram document. It assumes that everyone has access to PowerPoint and Google Earth, all agreed that these are reasonable.

Two parts to the document:

1. How to create a site diagram using Power Point and Google earth to show the estimated high and low water marks, antenna arrangement and flow direction on a 300 ft eye elevation image from Google earth
2. How to create a stream bottom profile and antenna depth using Excel and measuring depth across the stream at 12inch intervals

Gabriel asks that members try it out with one or two of their sites and let him know if it is unreasonable or if it won't work for any types of sites.

Nicole asked if this should be a slow introduction – when sites are updated or new sites are registered – or ask the stewards to replace existing diagrams. Gabriel thought that we should seek to get existing diagrams replaced within a year of publishing the document.

Randy asked if a picture could be used, they are useful for small sites with pass-through antennas. Nicole said it is possible to include both site diagrams and pictures on the metadata page.

The stream profile will likely be optional and the goal is to show where the antennas are along the stream bottom, water height at low and high water, and read range of the antennas. This can provide a visual as to which part of the stream are likely to allow fish to pass without detection.

Rick indicated that 12-inch measurement intervals are probably not necessary, especially if the stream bed is relatively flat. Measurements can be taken in a few key places and still provide necessary information. Gabriel suggested that Rick update this section of the document to reflect his experience.

John asked if a USGS or other website exists to which PTAGIS could link to show the current or average flows of a stream, maybe via lat/long. No members knew if something like that existed, but agreed it would be useful information to have on the metadata page.

Ben said that WDFW is looking into equipping all sites with temperature and transducer probes and wondering if the environmental data could be part of a site's metadata and hosted on PTAGIS. Several members indicated that researchers are interested in water level at the interrogation sites. The group decided to discuss this more in the section on device diagnostics and metadata later in the meeting.

## PTAGIS Business

Nicole demonstrated the metadata page of the new PTAGIS website to the group to show how configuration diagrams are displayed only with a selected configuration sequence (version) and that multiple diagrams and photos can be displayed for a site. She also showed that inactive interrogation sites are now shown with a gray circle on the map of sites.

PTAGIS plans to update how interrogation site RKM and lat/longs are displayed, so that if a site moves the location/RKM at the time of the detection is displayed with that detection record. Currently, PTAGIS only displays the current location with all detection records. The group agreed that this would be a better way to handle a change in location for a site.

PTAGIS has released a beta of the I5 application to those who expressed interest in testing it, if anyone else is interested, let Nicole know. PTAGIS will soon be releasing a beta of the new website, which also includes a new RESTful API for submitting interrogation data in the new file format; asking this committee to perform a cursory review and report any issues. John will work with Brian Davis again to test submitting his site data through the new API.

## Next Subcommittee Tasks

Nicole asked what the next subcommittee task should be, once the site diagram document is finalized and presented a few options:

- Device diagnostics and or environmental metadata
- Installation and equipment guidance
- Training

### **Device Diagnostics and Environmental Data**

This has been discussed by the subcommittee before, but the outcome was unclear. Before PTAGIS can move forward with adding these types of metadata, would need clear direction from the Subcommittee and the PTSC. This would mean deciding what types of diagnostics to bring in and how best to serve them to the public. She suggested focusing on information that is useful for data consumers who use data from instream sites.

Gabriel said that any data generated from BPA funded sites is public data and should be made available to the public.

After discussion of options which included timer tags, transceiver alarms, and environmental data, the group agreed to start with virtual timer tags (VTTs). VTTs are already included in most data sent to PTAGIS. A report could be developed to show on a site's metadata page for a defined interval (e.g. the last week) and a similar report could also be run for any user-defined time period.

Gabriel suggested we would need a guidance document for setting VTTs which we could use to build a standard report (e.g. timer tag should fire every hour). Rick suggested a site steward could specify the VTT interval they have set for each site and the report could use that to show the percentage of expected timer tags seen per day. Randy said that some sites work better during different times of day, so hourly might be better than daily. The group agreed that the details need to be worked out offline and Rick Orme agreed to work with Kyle Meier on that. Nicole offered to show the PTAGIS O&M timer tag report and/or build prototype reports for them.

## **Guidance Documents**

Gabriel discussed his idea for a series of guidance documents warehoused on the PTAGIS website that would be focused on specific best practices, e.g. antenna anchoring, antenna construction, or communications. These would collect and document the various methods that are in use in the Basin for all to use. He asked if anyone in the group would be willing to start one of these or if they have an internal one that could be the start. Brady indicated that Biomark had put together a couple of documents that might be useful. Gabriel said he would work on drafting a shell that could be filled in with sections or categories that he thinks would be useful, then group members could work to fill in the details.

PTAGIS offered to set up a team (in Microsoft Teams) for collaboration for the group. John will set up the team, upload the site diagram document, and invite members to join. If everyone can access, we can use it for collaborating on these documents and for future meetings.

## **Elect Co-chairs**

Gabriel asked if anyone was willing to volunteer for the chair position for this year, with no takers. All agreed that Gabriel should remain as chair and Ben agreed to remain as co-chair.