PIT Tag Information System
Columbia Basin

Newsletter

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The PTAGIS Newsletter is published periodically by Pacific States Marine Fisheries Commission.

We welcome input from the PTAGIS community, so email us at ptagis_newsletter@ptagis.org with your story ideas.

If you have questions regarding the contents of this publication, or about the PTAGIS program, please contact PTAGIS Staff.

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A Fisheries Data Project of the Pacific States Marine Fisheries Commission

Updated PIT Tag Steering Committee Guidelines

John Tenney (PTAGIS Portland Office)

The PIT Tag Steering Committee (PTSC) has updated guidelines that describe the Committee's purpose, membership and operating procedures. The updated guidelines can be viewed from the PTSC page of PTAGIS website: https://www.ptagis.org/About/Ptsc.

The new guidelines replace the original PTSC charter created over 30 years ago to guide the PTAGIS program when it first began. Stale terms and references in the antiquated charter were removed from the new guidelines with a principal goal of enhancing membership of this long-serving Committee:

> *The PTSC currently includes designated representatives from the Columbia River Inter-Tribal Fish Commission (CRITFC), the States of Idaho, Oregon, and Washington, various federal entities, and others included by the PTSC such as the Fish Passage Center (FPC). Sovereigns may choose to be represented by CRITFC or participate directly. Membership is open to all Fish & Wildlife Agencies with management responsibilities within the CRB, pending approval by the PTSC.*

Please review these guidelines carefully and contact the PTSC Chairperson if your agency is interested in joining the Committee.

Changes in the PTAGIS Program's Kennewick Office

John Tenney (PTAGIS Portland Office)

Don Warf recently retired as the Field Engineering Supervisor at the PTAGIS Kennewick field office. Since joining the PTAGIS program in 1993, Don played a crucial role in overseeing the design, installation, operation and maintenance of large-scale PIT tag detection sites. Alongside his team of five field engineers and an administrative assistant, he successfully expanded the network of sites, improved instrumentation, and enhanced automation. These sites operate year-round, ensuring seamless data collection in near real-time with nearly 100% detection efficiency. Don's expertise, diligence, and collaborative approach greatly contributed to the program's success.

The PTAGIS program is pleased to introduce Gordon Axel as Don's successor. With extensive experience in fisheries research and PIT tag technology, Gordy brings decades of expertise to the team. He previously led NOAA's PIT tag technology R&D program, serves on the PIT Tag Steering Committee, and has overseen crews of technicians marking fish with PIT tags across the Columbia River Basin. The team will continue to succeed with the highest levels of workmanship and reliability under Gordy's leadership.

Alan Brower, a field engineering technician with the Kennewick team, retired last December after being an integral part of the team for almost 20 years. As the resident expert on PIT tag performance and evaluation, Alan ensured the quality of millions of PIT tags distributed from the Kennewick office to researchers associated with the Columbia Basin Fish and Wildlife Program. His impressively detailed 3D CAD designs effectively communicated the fabrication, installation, and operation of antennas to our partner agencies. Beyond his technical prowess, Alan is also a gifted musician who crafts custom guitars and amplifiers. The program plans to hire Alan's replacement later this year.

The PTAGIS program and PSMFC leadership extend our heartfelt thanks to Don and Alan for their immense success and support over the years. They both will be missed.

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2024 PIT Tag Workshop

Nicole Tancreto (PTAGIS Portland Office)

After a few delays due to the global pandemic, the PIT Tag Steering Committee, Pacific States Marine Fisheries Commission and PTAGIS convened the 2024 PIT Tag Workshop to bring many users of PIT tag technology and PIT tag data together at the beautiful Skamania Lodge from January 29 to February 1, 2024.

Figure 1. Sitting area at Skamania Lodge.

Over the two and half days of the conference we learned about the origins of using PIT tags in fish, listened to a wide variety of talks about collecting, managing, analyzing and using PIT Tag data; networked with colleagues; made new friends; and got our hands wet during the newly added hands-on sessions that took place Thursday afternoon.

Figure 2. General session at the 2024 PIT Tag Workshop.

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2024 PIT Tag Workshop - continued from page 3

Nicole Tancreto (PTAGIS Portland Office)

The hands-on sessions were well received according to comments from the post-workshop survey, which also showed that most attendees were very satisfied with the workshop overall.

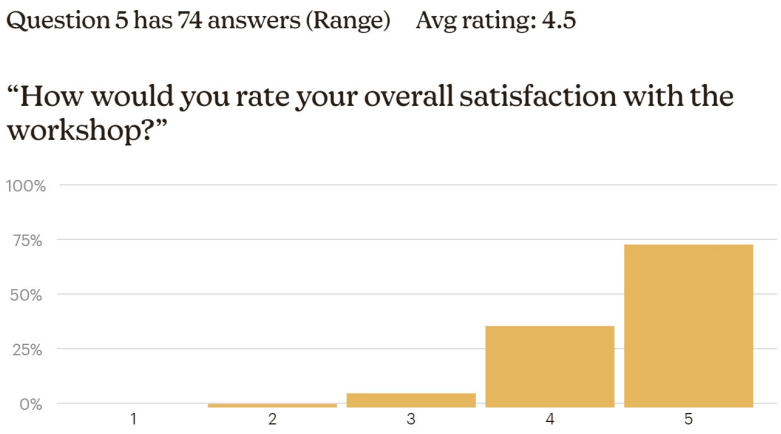

Figure 3. Results from question 5 of the PIT Tag Workshop Survey.

Thank you to all those who presented talks, posters, or hands-on training sessions during the workshop, and all those who attended. Special thanks to Earl Prentice and Scott Putnam for their work on the Origins of PIT Tags for Fish video and the IPTDS Subcommittee (now the STREAMS Subcommittee) for organizing the hands-on training sessions. The video, presentations and posters are now available to view on the 2024 Workshop page on the PTAGIS website.

2024 Annual PIT Tag Steering Committee Meeting

Nicole Tancreto (PTAGIS Portland Office)

The annual PTSC meeting was held the day after the workshop, February 2, 2024, at Skamania Lodge. PTAGIS presented accomplishments from 2023 and plans for 2024 for both the Portland and Kennewick offices. The steering committee and PTAGIS staff held a debrief about the workshop, discussing some potential improvements for next time. Some of the other topics discussed include:

- Update on the NOAA R&D project
- Addition to PTAGIS of bull trout PIT tag data from the Pend Oreille region
- Updates to the Marking Procedure Manual
- Updates to the PTSC Charter
- Continued O&M of the Rapid River Hatchery interrogation site
- Need to edit large number of observation records with timestamps an hour off due to bad time zone offset value

The meeting notes are available to download from the PTAGIS Document Library, as are notes from previous PTSC meetings.

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IPTDS/STREAMS Subcommittee April 2024 Meeting

Nicole Tancreto (PTAGIS Portland Office)

The IPTDS Subcommittee held a meeting on April 24, 2024, during which it was decided to change the name of the subcommittee to the Stream Tag Research & Environmental Analysis Monitoring Systems (STREAMS) Subcommittee. In addition, the following topics were discussed:

- Adding equipment lists to interrogation site metadata for power, communications and tag decoding technology
- Creation of a Chat GPT program using device manual and PTAGIS documents to help site stewards find information

The meeting notes are available to download from the PTAGIS Document Library, as are notes from all previous meetings.

PTAGIS Website and Software Updates

Nicole Tancreto (PTAGIS Portland Office)

The PTAGIS website and interrogation software were updated in May.

Updates to the website include:

- Updates to improve overall security on the website and REST API
- Upgraded to .NET 8 framework
- Updates to the Separation by Code request process
- Updates to the Data File Browser
- Updates to management of interrogation site metadata to allow the addition of the type of Power, Communications and Tag Decoding technology in use
- Updates to the Clip File Download page

The latest version of **M5 interrogation software** includes an upgrade to .NET 8 framework and a few bug fixes. See the release notes for more details. In addition, if you are running M5 on a Raspberry Pi, there are now two versions of the Debian installation package: one for the 32-bit version of Raspbian and one for the 64-bit version. See the M5 software page for more details and to download the installers.

The latest version of **I5 interrogation software** includes a new Archive feature to clean up old Site Datasets that are no longer needed, support for importing observation data downloaded using the Biomark Device Manager software, and native Bluetooth connection support for HPR handheld readers. See the release notes for more details and download the installer from the I5 software page.

Tag Code Mask Metadata Enhancements

John Tenney (PTAGIS Portland Office)

Tag Mask validation codes will soon have enhanced metadata to help researchers identify unknown tags or contact an individual to discuss if a certain tag technology is suitable for their research purposes. For example, when a researcher encounters a tag code like '384.3515A23F35', they will use the first significant digits of the tag code (the tag mask) to lookup metadata from the PTAGIS Validation Codes; so a tag mask of '*384.3515'* would return something like this:

Tag Mask Code

Manufacturer Name	Oregon RFID
Manufacturer Code	384
Die Code	3515
Tag Mask	384.3515
Size	23 MM
Length (mm)	
Diameter (mm)	
Tag Description	23 mm Half duplex tags applied to bull trout and lamprey by the CTWSRO Fisheries Department (and/ or its research partners) in Deschutes River Basin. Tags are applied to investigate movement of bull trout in reservation streams and the Deschutes Basin. Data collected at reservation arrays is stored on our local network. However, we would like to utilize PTagis as a repository of our tagging data.
Tag Technology	HALF-DUPLEX
Compatibility Testing Description	These tags have been used by the CTWSRO fish research program since 2007. Currently, 7 HDX arrays are operated on the reservation, and plans are in progress to install three new dual reading arrays in 2016. Each of the arrays is tested for read range and antennae efficiency a minimum of 3 times per year.
Requester Name	Jens Lovtang
Requester Email	jens.lovtang@ctwsbnr.org
Request Submitted On	3/14/2016 9:05 AM

Figure 4.Example of Tag Mask Validation Metadata.

Only new tag masks added to the PTAGIS validation codes will have robust metadata associated with them. Many existing tag masks are associated with legacy technology and are no longer in use. Other tag masks were added from comprehensive performance testing to guide BPA in purchasing PIT tags for the Columbia Basin Fish and Wildlife Program. **NOTE:** PTAGIS is unable to perform any ad-hoc performance evaluations of tag technology outside of the BPA procurement process.

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John Tenney (PTAGIS Portland Office)

Requesting New Tag Masks

To add new tag code masks to the PTAGIS validation code set, researchers will log into the PTAGIS website and complete an online request form that includes metadata about the tag technology and the performance testing the researcher has completed to evaluate whether the tag is compatible for use with PIT detection systems within the Columbia Basin (see Comprehensive PIT Tag Evaluation Procedure for more information about how PTAGIS evaluates tag compatibility). The PIT Tag Steering Committee (PTSC) will review these requests. Approval will be based solely on whether the metadata are sufficient, not on whether the tag associated with the requested tag mask is compatible with existing infrastructure.

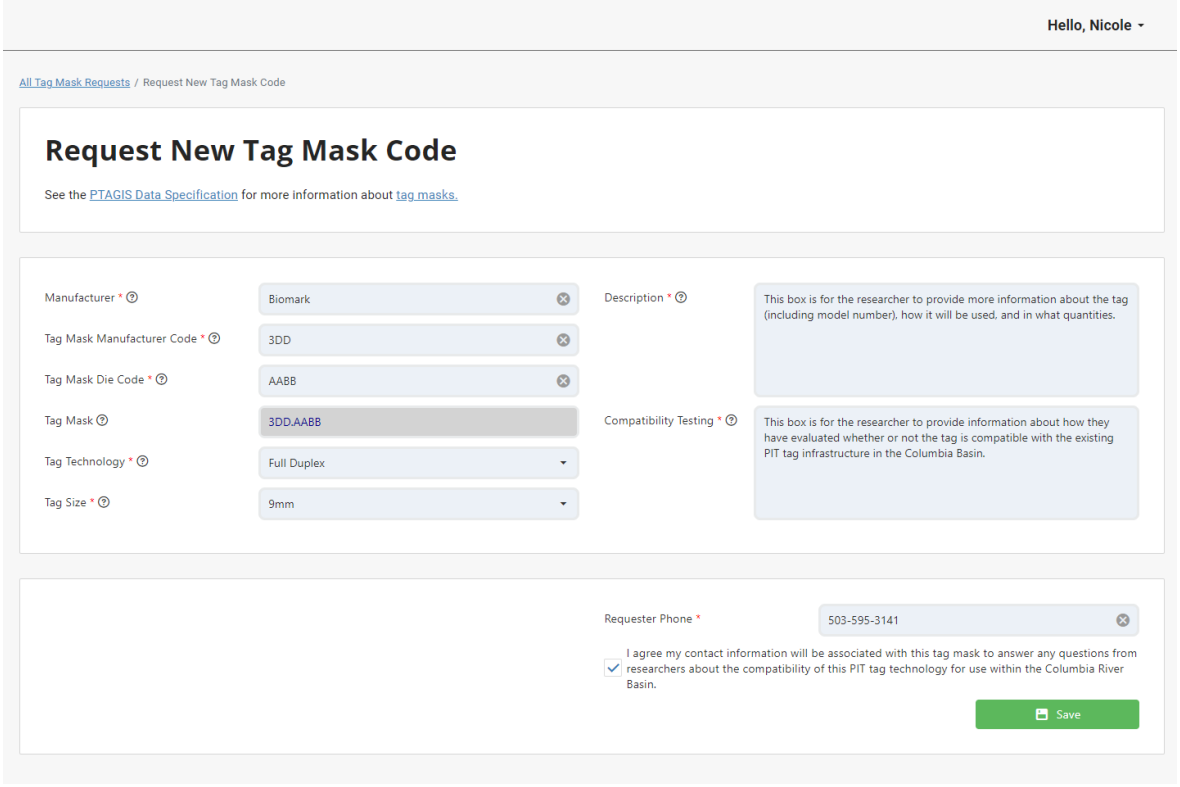

Figure 5. Updated tag mask request form.

NOTE: Neither the PTSC nor PTAGIS can confirm whether the compatibility or performance testing for a new tag mask request is sufficient. It is incumbent upon the requester to evaluate tag compatibility and describe how it was evaluated in the request. The requester will also need to agree that their contact information be made available on the PTAGIS website to answer any questions that other researchers/potential users may have about the suitability of the tag technology.

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Large Number of Observation Record Timestamps to be Corrected

Nicole Tancreto (PTAGIS Kennewick Office)

Many interrogation files were submitted to and processed by PTAGIS in 2022 and 2023 with observation timestamps that were incorrect by one hour – they were reported as being in Pacific Daylight Time (PDT) but were actually in Pacific Standard Time (PST). These interrogation files were submitted for small-scale, instream interrogation sites and were not associated with any large-scale interrogation sites operated by PTAGIS.

Due to the scope of the issue, we will be making corrections directly in the database and updating the files separately. The total scope of the issue covers over 180,000 interrogation files from 140 interrogation sites and over 10 million records. However, almost half of those records are timer tags, test tags, or unknown tags which are not included in the reporting system (outside of some operational reports). After all the corrections are made, about **5.4 million real tag observation records will be corrected.**

The corrections will increase the observation record timestamps by one hour. For example, if the original timestamp was 1/10/2023 08:00, the corrected timestamp will be 1/10/2023 09:00. **This can also result in a change to the observation date, e.g. 1/20/2023 23:30 will be changed to 1/21/2023 00:30.**

The update process for these corrections is scheduled to begin later in July or early August and is expected to take approximately one week to complete. PTAGIS will maintain a log of all updated files, both in the file archive and the database. A corresponding interrogation site event log will be added. Additionally, a news item will be published on the PTAGIS website listing the interrogation sites and date range associated with these corrections. If you have any questions or concerns about these corrections, please feel free to contact us.