



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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IN THIS ISSUE

1

[PTAGIS User Survey Results](#)

2

[2022 Annual PTSC Meeting](#)

3

[MiniMon File Format to be Retired](#)

4

[I5 and M5 Interrogation Software Released](#)

5

[IPTDS Subcommittee Meeting](#)

6

[New Interrogation Site Configuration Diagram Guidelines](#)

7

[PIT Tag Workshop \(Tentatively\) Scheduled for 2024](#)

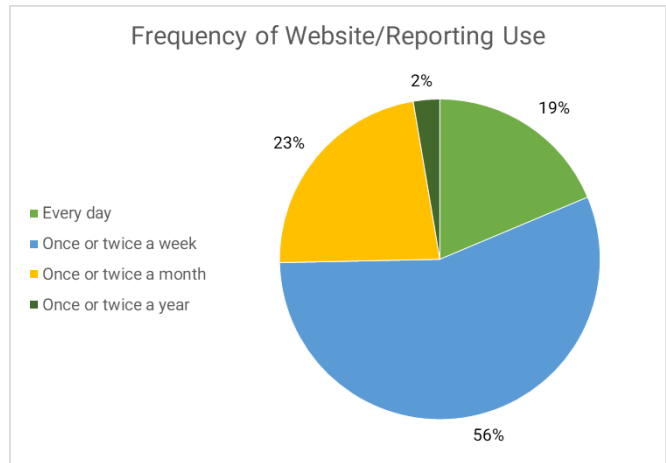
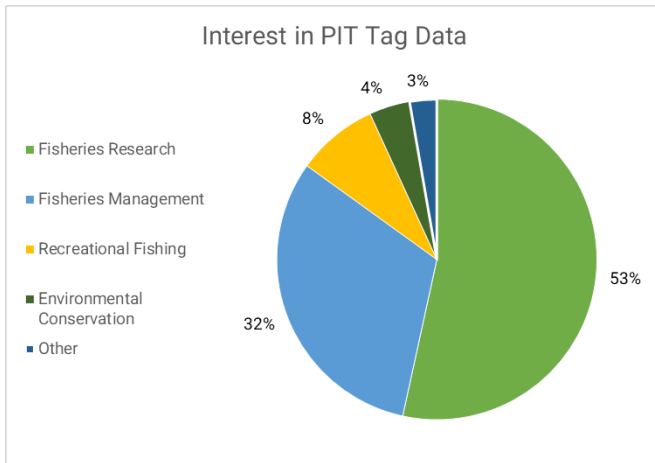


PTAGIS USER SURVEY RESULTS

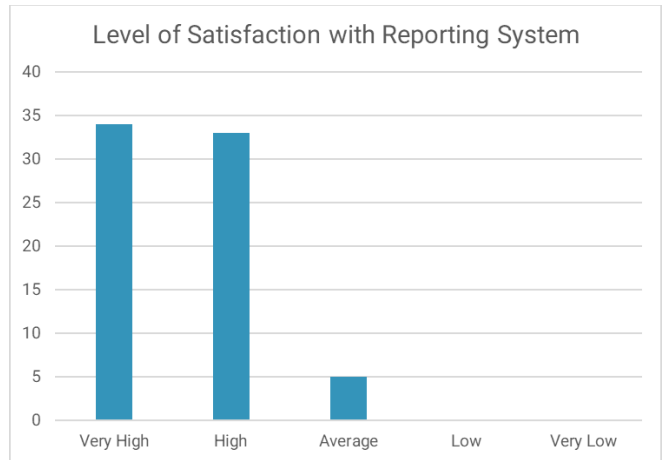
NICOLE TANCRETO (PTAGIS Portland Office)

Around 80 users took the time to complete the user survey last December and January. They answered questions about their use of and level of satisfaction with the PTAGIS website, reporting system and P4 tagging software.

Most of the survey respondents were interested in PIT tag data for fisheries research or management. The majority of respondents were also daily or weekly users of the website.



Reported satisfaction levels with the website and reporting system were quite high, with only a few users reporting average or low satisfaction.



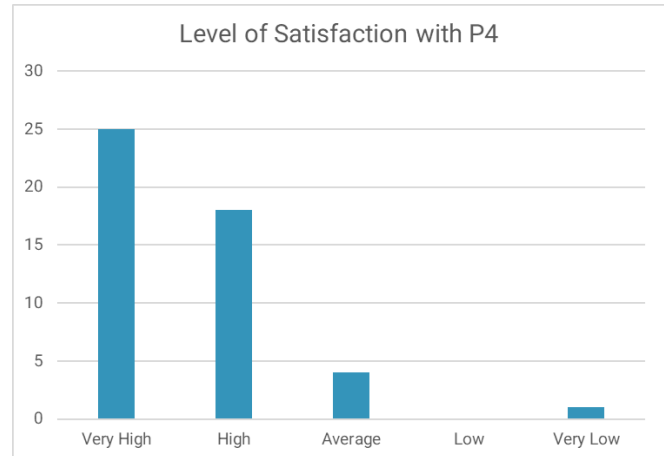
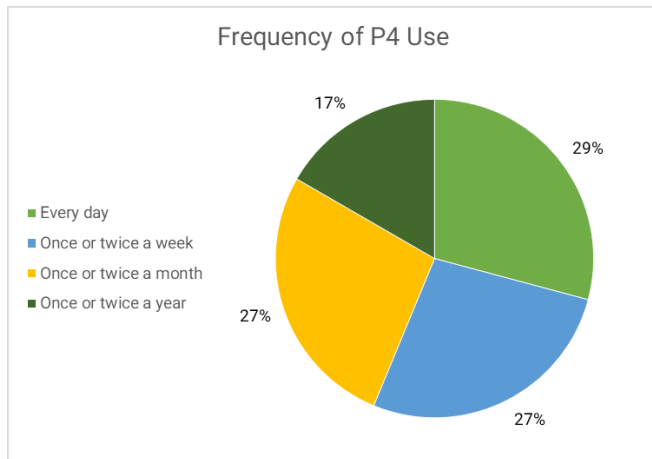
About half of the total number of respondents used P4, and about half of those were daily or weekly users of the software. They reported generally high satisfaction, with only a few users reporting average and one user reporting very low satisfaction. This user commented that they are unable to use P4 on a government computer. We are aware of installation issues with P4 due to its use of SQL Server as the backend database will work to ensure that P5 (or whatever comes next) will minimize those issues.

CONTINUED →

[HOME](#)

PTAGIS USER SURVEY RESULTS - CONTINUED

CONTINUED FROM PAGE 2



Quite a few people left suggestions for improvements that could be made to all three of these tools, and we have already made some changes based on those comments.

We would like to thank everyone who took the time to complete the survey. If you did not get a chance to do so, and you have suggestions, comments, or questions about any of the tools we provide, please do not hesitate to [contact us](#). 📧

2022 ANNUAL PTSC MEETING

NICOLE TANCRETO (PTAGIS Portland Office)

The annual [PIT Tag Steering Committee](#) (PTSC) meeting was held online on February 7, 2022. The [meeting notes](#) can be viewed in the [Document Library](#), where all previous PTSC annual meeting notes are also available.

John Tenney [provided an update](#) about the PTAGIS Portland office accomplishments in 2021 and plans for 2022. Highlights include:

- New website released in June 2021
- M5 collecting production interrogation data at 25 PTAGIS sites
- Community release of M5 coming soon, including version able to run on Raspberry Pi devices
- I5 released February 2022
- User survey showed high user satisfaction with website, reporting system and P4

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[HOME](#)

2022 ANNUAL PTSC MEETING - CONTINUED

CONTINUED FROM PAGE 3

Don Warf [provided an update](#) about the PTAGIS Kennewick office accomplishments in 2021 and plans for 2022. Highlights include:

- Upgraded PIT tag rooms at 25 PTAGIS sites to install new industrial PCs, PLCs, HMIs and UPSs
- Upgraded LMJ to be the first SbyC site to run M5 in production for 2022
- Plan to upgrade the remaining SbyC sites over the next few years
- Remaining construction issues at Lower Granite Spillway resolved in 2021
- BO2 Cascades Island relocation project will be completed before start of 2022 season, new UMT and counting window antennas will replace original weir orifice antennas
- BO4 slot antennas were replaced prior to 2021 season
- Developed prototype antenna for an automated gate at the Bonneville Ice and Trash Sluiceway
- Installed antennas to monitor barge load lines at LMJ, GOJ and GRJ

Gabriel Brooks [provided an update](#) on the NOAA PIT R&D project and the IPTDS Subcommittee. Gordon Axel provided an update on the plans for a live fish test of the Lower Granite Spillway detection system (GRS). Tim Ludington briefed the committee on PIT tag procurement for the Fish and Wildlife Program. 

MINIMON FILE FORMAT TO BE RETIRED

NICOLE TANCRETO (PTAGIS Portland Office)

PTAGIS will be retiring the MiniMon file format by the end of 2022. PTAGIS promoted a [new interrogation file format](#) into production last year and it has been in use at most of the PTAGIS-maintained sites since fall 2021 when the sites were upgraded to the latest interrogation software, M5. This February, we released an interrogation data utility, called I5, that allows users to connect to transceivers at their interrogation sites to download stored data, format the data into the M5 file format and submit the file to PTAGIS for processing. With these changes we are ready to move forward with our plans to retire file submissions by email and FTP, which also requires retiring the MiniMon file format.

For those still using PIFF, PIFF2 or MiniMon to format interrogation data for submission to PTAGIS, we recommend transitioning to using I5 at this time. [I5 can be downloaded here](#), and a [tutorial video](#) is available. Those creating their own MiniMon-formatted files and submitting then via email will need to transition to the new [file format](#) and [submission process](#).

A community release of real-time interrogation software [M5](#) is available to replace any MiniMon installations that may still be in place. Along with the regular release for Windows 10/11, there is also a Linux version that is capable of running on low-powered devices such as a Raspberry Pi.

Please see the article about [I5 and M5](#) in this newsletter for more information on those new software tools. 

I5 and M5 Interrogation Software Released

NICOLE TANCRETO (PTAGIS Portland Office)

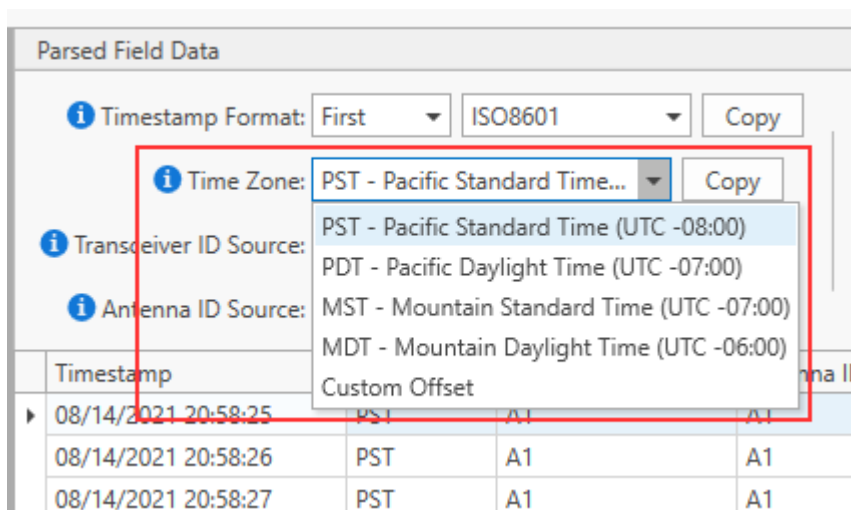
A new PTAGIS interrogation utility software application, called I5, was released in February. This application is intended to replace PIFF, PIFF2 and MiniMon for downloading stored data from transceivers at interrogation sites, formatting the observation records, and submitting those records to PTAGIS.

I5 allows users to connect directly to transceivers or controllers via serial or Ethernet protocols and download the stored data into a Site Dataset in I5. The Site Dataset keeps track of all previously downloaded records that have been submitted to PTAGIS in an interrogation file. This allows the user to download from transceivers multiple times, yet still only submit unique records.

I5 also allows the user to validate the records and make some edits, such as changing antenna IDs or adjusting timestamps, in case the detection equipment was reset back to factory defaults. After validation and editing the user can then submit those records in a file to PTAGIS for loading into the database. I5 keeps track of that submission and reports the final status of the file after it is processed.

The most recent release of I5 (v1.3.0) includes a few features that were requested by users, such as the ability to set [a password](#) when connecting to password-protected Biomark Master Controllers, and the ability to [download previously submitted data from PTAGIS](#) to compare against device memory downloads. This feature can be used to patch a data gap at a site where data is normally uploaded automatically, but a communications outage caused a gap in those uploads.

This version also includes a way to set the time zone in which observation data was collected. The M5 file format transmits timestamps in date time offset format. This format includes a value that indicates the numbers of hours offset from Coordinated Universal Time (UTC) in which the timestamp was collected. For example, Pacific Daylight Time (PDT) has an offset of -7:00 and Pacific Standard Time (PST) has an offset of -8:00.



CONTINUED →

[HOME](#)

I5 and M5 Interrogation Software Released

CONTINUED FROM PAGE 5

Including the time zone offset value in the timestamp allows data to be collected in any time zone and then converted to Pacific Standard Time when it is loaded into PTAGIS. Previous versions of I5 used the time zone setting of the computer on which it was installed. Starting with version 1.3.0, the user can specify the time zone in which data was collected. This can be useful if the transceiver clocks at a site were set to PST, but the data is being processed on a computer that is set to PDT. In that case, the user will want to change the Time Zone selector to indicate the data was collected in PST. When the file is created and submitted to PTAGIS, it will include the -8:00 offset value.

[I5 can be downloaded here](#), and a [tutorial video is available here](#).

M5, the new real-time interrogation software was released in May. M5 is a replacement for both M4 (which has primarily been used at PTAGIS-maintained interrogation sites) and MiniMon (which is still in use at some smaller interrogation sites managed by other organizations). It is intended to run continuously on a computer at an interrogation site to collect data from connected transceivers or controllers and automatically submit the collected data to PTAGIS.

It consists of two main components: the M5 Monitor Service and the M5 Control Panel. The Monitor Service can be installed on 64-bit Windows or ARM64 Debian Linux and runs in the background to communicate with the devices and submit data files to PTAGIS. The Control Panel can only be installed on Windows and provides a user interface to configure and interact with the Monitor Service. It can communicate with a Monitor Service running on the same machine or a different machine, providing it can connect to that machine through a network address. A third component, called the M5 Terminal Utility, is also provided primarily to assist with troubleshooting device connections.

The [M5 page](#) provides links to download installers for the Windows and Linux versions of the M5 Monitor Service, along with the Windows installers for the M5 Control panel and the M5 Terminal Utility. The [M5 help file](#) provides extensive documentation on how to install, configure, and monitor M5.

M5 has been running in production on Windows IPCs at most PTAGIS-maintained sites since fall of 2021. The Linux version of the M5 Monitor Service has been tested extensively on a Raspberry Pi running a standard version of Raspberry Pi OS (previously called Raspbian) in the Kennewick lab, but has not been tested on any other versions of Linux. Please [contact us](#) if you have any questions about installing and running any of the M5 components on Windows or Linux. 🌀

IPTDS Subcommittee Meeting

NICOLE TANCRETO (PTAGIS Portland Office)

The [IPTDS Subcommittee](#) held a meeting on April 5, 2022. The [meeting notes](#) have been published and are available to view in the PTAGIS [Document Library](#). The attendees introduced themselves for the benefit of several new members and shared information about their organizations activities and plans related to managing or installing interrogation sites.

Gabriel Brooks gave an update on the NOAA R&D project. Of particular interest to instream site operators is the upcoming release of a new multiplexing transceiver from Biomark. The IS1001-Mux is intended as a replacement for the original mux, the Destron-Fearing FS1001M. It has a target price range of \$5,000 - \$7,000 and the capability to power six antennas with a 23-25 inch read range on a 100-foot cable. Two production units will be available soon for field testing.

The flexible antenna array that is operated in tandem with the trawl interrogation site ([TWX](#)) in the lower Columbia River will be operated primarily to gather as many detections as possible during the 2022 season. After the season is over, they will be testing several options to help improve noise and deployment. The original pile dike interrogation site ([PD7](#)) was reinstalled in April with new batteries, communication equipment and antennas. A new pile dike site will be installed nearby on a small pontoon with solar power. The R&D project also worked on power supplies for the Lower Granite Dam Spillway site ([GRS](#)) and conducted a live fish test to measure detection efficiency.

John Tenney gave an update on PTAGIS activities and plans focusing on those related to instream interrogation sites. New software, called I5, was released in February and is intended to replace PIFF and PIFF2. It allows users to connect directly to transceivers, download stored data, review/edit the data, create a file and submit that file to PTAGIS. M5 is the new real-time interrogation data collection software and will be released to the public in May 2022. This is a direct replacement for MiniMon and runs on 64-bit Windows 10/11 or LINUX ARM 64 (Raspberry Pi). Several members of the subcommittee agreed to work with John on testing M5 operations on a Raspberry Pi in the field and writing up an SOP for getting it set up. PTAGIS will be retiring MiniMon, the MiniMon file format, and file submissions from email and FTP at the end of the year, so all site operators are encouraged to convert to using I5 or M5 in the next few months

One subcommittee member brought up the topic of potentially obfuscating the locations of instream sites to help prevent theft and vandalism. PTAGIS will review potential solutions for this and bring them back to the subcommittee who will then decide if they want to recommend a solution to the PTSC for review and a final decision. If you have any input on the matter, please [contact us](#).

Gabriel Brooks agreed to remain the subcommittee chair for 2022 and Carley Simpson volunteered to be co-chair. 🌀

New Interrogation Site Configuration Diagram Guidelines

NICOLE TANCRETO (PTAGIS Portland Office)

The Instream PIT Tag Detection System (IPTDS) Subcommittee recently approved new guidelines for instream (and other small interrogation site) configuration diagrams. These guidelines provide a standardized format which includes information useful to data consumers and can be created using commonly available software.



The [IPTDS Subcommittee](#) requests that stewards of currently active interrogation sites replace existing site diagrams with new diagrams created using [these guidelines](#). To assist with that process, PTAGIS has developed a new [Manage Sites](#) page on the dashboard where stewards can submit replacement diagrams. Functionality will be added to this page in the coming year to allow stewards to update additional site metadata, but it can only be used for replacement diagrams currently.

An email was sent to stewards of active sites with more information about how to replace existing configuration diagrams with diagrams using the new guidelines. If you are managing a site and did not receive this email, please [contact us](#). 📧

PIT Tag Workshop (Tentatively) Scheduled for 2024

JOHN TENNEY (PTAGIS Portland Office)

PTAGIS and the PIT Tag Steering Committee plan to host the next *PIT Tag Workshop* in early 2024. Budgeting issues and COVID concerns unfortunately prevented us from scheduling this overdue event any sooner. The overwhelmingly positive feedback we received from [previous workshops](#) obligated us to host the next workshop as an in-person event at a high-capacity venue. We'll make an official announcement later this year once the next PTAGIS budget is approved. Please don't hesitate to [contact us](#) if you have any questions or concerns in the meantime. 🌀