



## 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](mailto: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

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## Lower Granite Spillway Project 2019

SCOTT LIVINGSTON (PTAGIS Kennewick Office)



**Figure 1. October 2019. GRS Spill bay # 1 under construction. Phase 1: Concrete removal.**

On September 1, 2019, construction began on the re-slope and PIT tag antenna installation of spill bay #1 at Lower Granite Dam. The PIT tag portion of this project includes the installation of 11 antennas embedded into the new OGEE slope to enable detection of PIT-tagged fish that pass over the spillway.

Pacific States Marine Fisheries Commission (PSMFC), National Oceanic and Atmospheric Administration (NOAA) and Biomark Inc. successfully reached all base milestones in September with respect to transceiver tuning (signal to noise ratios), capacitor selections with various antenna cable lengths, along with antenna and transceiver synchronization performance. Completion of these milestones was the last step in a many-year design and prototyping process during which all organizations worked together to ensure the success of this project.

The PSMFC PTAGIS Kennewick office will continue to provide technical support during the PIT tag installation portion of the project and beyond. Kennewick field staff will assume the long term operation and maintenance of the system when complete and detection data will be available through a new PTAGIS interrogation site with the code GRS. The project is scheduled for completion in March of 2020. 🌀

## Instream PIT Tag Detection System (IPTDS) Subcommittee

JOHN TENNEY (PTAGIS Portland Office)

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I am pleased to announce the formation of the IPTDS Subcommittee and plans are already underway for the first official meeting. Through coordination with the PIT Tag Steering Committee (PTSC) and regional agencies, the following members make up this subcommittee:

MEMBER	ORGANIZATION
<b>Brady Allen</b>	Bonneville Power Administration
<b>Ben Truscott</b>	Washington Dept. of Fish and Wildlife
<b>Gabriel Brooks</b>	NOAA Fisheries
<b>Rick Orme</b>	Nez Perce Tribe
<b>Nick Yaniw</b>	Okanagan Nation Alliance
<b>Ryan Gerstenberger</b>	Confederated Tribes of Warm Springs
<b>Derrek Faber</b>	Oregon Dept. Fish and Wildlife
<b>Brian Knoth</b>	Idaho Dept. of Fish and Game
<b>Randy Johnson</b>	Colville Confederated Tribes
<b>Brian Davis</b>	U.S. Fish and Wildlife Service

Additional members may be added before the first official meeting. If your agency would like to be included, please review the [IPTDS Steering Committee Charter](#) and contact your [PTSC representative](#).

The principle goals for this subcommittee are:

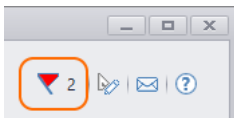
- Improve data management and support between PTAGIS and instream sites
- Provide technical guidance for installation, operation, and maintenance of instream sites
- Develop specifications/recommendations for instream sites

A contact page for the IPTDS Subcommittee will be available from the PTAGIS website where meeting notes and other information will be posted. 

## P4 Tagging Software Update

DANIEL WILSON (PTAGIS Portland Office)

Version 1.26 of the PTAGIS P4 Tagging Software has been released with additional features, enhancements and bug fixes. In order to ensure you have the most stable and efficient experience with P4, please update to the latest version as soon as possible when new versions are released. New version announcements can be found in several places: the PTAGIS [Home](#) and [News](#) pages, the PTAGIS newsletter, and the Notifications area in P4 (accessed using the toolbar located in the upper-right corner of the application).

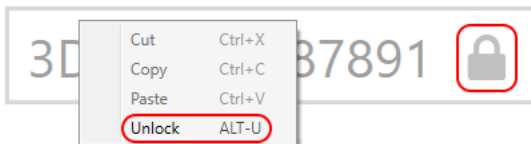


Notifications button

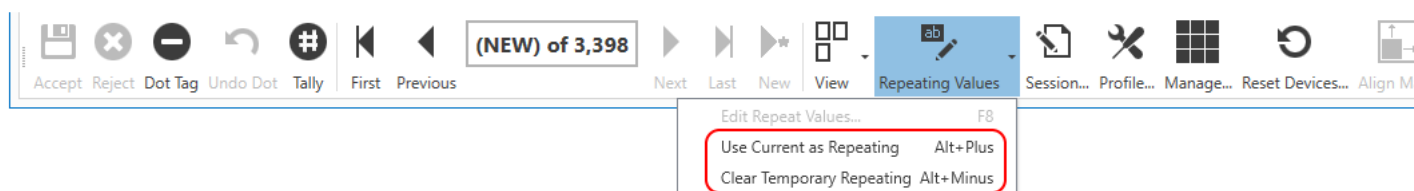
### New Features in v1.26:

- During Session Data Entry, the PIT Tag field is now locked after a tag is scanned to prevent accidental data loss. The field can be unlocked by clicking the Lock icon, or by selecting Unlock after right-clicking in the field.

#### PIT Tag:



- Two new Repeating Value features have been added to Session Data Entry. Analogous to the digitizer commands of the same name, the *Use Current as Repeating* and *Clear Temporary Repeating* features can be found in the Repeating Values submenu at the bottom of the Session Data Entry view.



- *Use Current as Repeating* - Set the values in the current record to a temporary Repeating Value that will only be in use while the current session is open.
  - *Clear Temporary Repeating* - Clear the temporary Repeating Value set from the open Session and go back to using the Repeating Value that was in use when the Session was opened.
- Restoring a backup from an older version of P4 will now automatically update the restored database to the current version.

For the full list of changes, please visit <https://www.ptagis.org/software/p4-release-notes>.

P4 runs on the latest Windows PCs and can be downloaded from the PTAGIS website at

<https://www.ptagis.org/software/p4>. 

## New PTAGIS Website

NICOLE TANCRETO (PTAGIS Portland Office)

PTAGIS staff have been working on developing a new website which we plan to reveal early next year. It has been a multiyear effort and includes a complete site redesign and development of new tools for daily PTAGIS users. The main goals are to improve usability for daily users and to improve information discovery for everyone, but particularly for those new to PTAGIS.

To that end, the new site will be organized a bit differently, with the main home page targeted at users who are unfamiliar with PTAGIS and all tasks that require a login moved to a separate dashboard page.

The home page includes a whole new About section aimed at introducing new users to what PTAGIS is and does. You will also find easy access to Quick Reports, Site Metadata, News, Software, Data Specifications, and Videos among other resources.

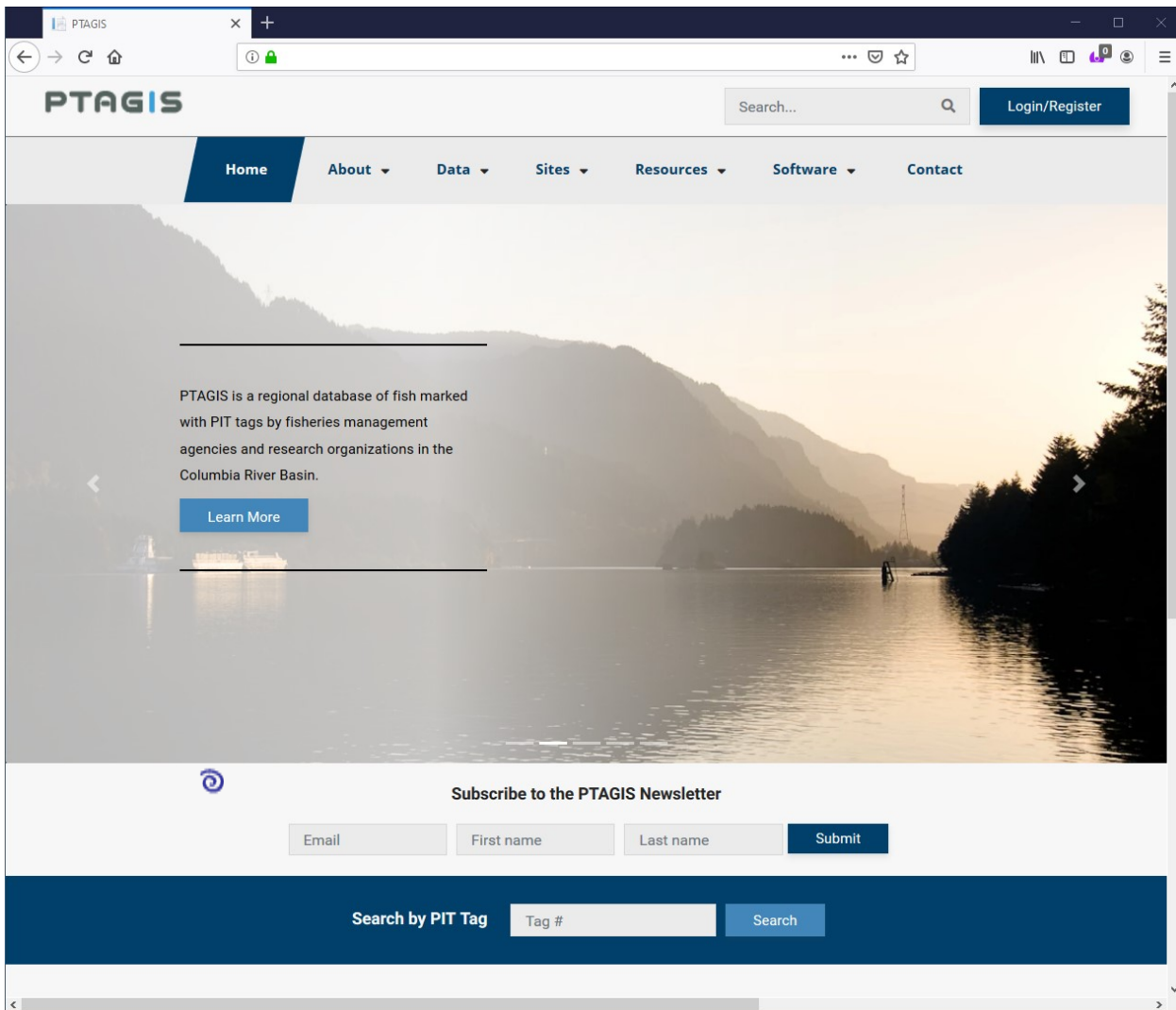


Figure 2. Home page of redesigned PTAGIS website.

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## New PTAGIS Website


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The dashboard will be accessible to users who are registered and have logged in to the website. It provides access to Advanced Reporting, Validation Code Requests, Tag Distribution Requests, Clip Files, Separation by Code Requests, MRR Project management, Raw Data Files, and Interrogation Site management. Anything that you have to log in to complete will be located on the dashboard.

The screenshot shows the PTAGIS Tag Distribution Request page. The browser address bar shows 'https://'. The page header includes the PTAGIS logo and 'PTAGIS Information System'. The user is logged in as 'testingreg!'. The page features a sidebar with navigation options: Dashboard Home, Ptagis Website, Data Access, Interrogation Sites, MRR Project Admin, Request New Site or Code, Separation By Code, Tag Distribution (selected), Requests, Download Clip Files, and Tag Forecast. The main content area displays a table of Tag Distribution Requests. The table has columns for Date, Fiscal year, Status, and Project number. There are 9 entries in the table. The first entry is dated 9/18/2018, fiscal year 2018, status Approved, and project number TEST-9999. The second entry is dated 8/30/2018, fiscal year 2018, status In process, and project number 1990-080-00. The third entry is dated 8/30/2018, fiscal year 2019, status Submitted, and project number TEST-9999. The fourth entry is dated 8/30/2018, fiscal year 2019, status Approved, and project number TEST-9999. The fifth entry is dated 1/24/2018, fiscal year 2017, status In process, and project number 1990-080-00. The sixth entry is dated 1/24/2018, fiscal year 2018, status No Tags Needed, and project number 1990-080-00. The seventh entry is dated 8/9/2017, fiscal year 2017, status In process, and project number TEST-9999. The eighth entry is dated 9/22/2016, fiscal year 2017, status In process, and project number TEST-9999. The ninth entry is dated 8/11/2016, fiscal year 2017, status No Tags Needed, and project number TEST-9999. The table includes filters for Date, Fiscal year, and Status, all set to 'All'. The page shows 'Showing 1 to 9 of 9 entries' and a pagination control with 'Previous', '1', and 'Next' buttons.

Date	Fiscal year	Status	Project number	
9/18/2018	2018	Approved	TEST-9999	Details
8/30/2018	2018	In process	1990-080-00	Submit   Edit   Details   Delete
8/30/2018	2019	Submitted	TEST-9999	Details
8/30/2018	2019	Approved	TEST-9999	Details
1/24/2018	2017	In process	1990-080-00	Submit   Edit   Details   Delete
1/24/2018	2018	No Tags Needed	1990-080-00	Details
8/9/2017	2017	In process	TEST-9999	Submit   Edit   Details   Delete
9/22/2016	2017	In process	TEST-9999	Submit   Edit   Details   Delete
8/11/2016	2017	No Tags Needed	TEST-9999	Details

**Figure 3. Tag Distribution Request page on the new PTAGIS website dashboard.**


If you currently have an account on the PTAGIS website, it will be migrated to the new website. The Advanced Reporting system will not change (except it will be upgraded to the latest version) and all your saved reports will be available through the new website. One feature that will not be migrated to the new site is the public forum, as this feature was rarely used. If you have any suggestions for website features, please [contact us](#). 

## PIT Tag Workshop Planned for 2021

NICOLE TANCRETO (PTAGIS Portland Office)

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PTAGIS and the PIT Tag Steering Committee are planning to host a PIT Tag Workshop during the first quarter of calendar year 2021. Final approval and details on where and when the workshop will take place have yet to be decided, but we wanted to let the community know to assist with budget planning.

We anticipate the format will be similar to those held previously. If you have suggestions for content, format or location, please [let us know](#). 

## PTAGIS Data Specification Final Version Published


NICOLE TANCRETO (PTAGIS Portland Office)

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PTAGIS staff and the PIT Tag Steering Committee are pleased to announce that the final version of the PTAGIS Data Specification (version 1.0) has been published. The PTAGIS Data Specification is a living web publication and replaces the PIT Tag Specification Document that has traditionally been published as a static document. When changes are implemented at PTAGIS that require updates to the specification, it will be published with a new version number and a list of those changes.

The Data Specification includes an [introduction](#) that provides an overview of the PIT tag data as it is managed in PTAGIS for those who may be unfamiliar with the system. It also provides a brief introduction to other items that fall under the PTAGIS scope of work, such as software development, field operations, Separation by Code and coordination.

The primary purpose of the Data Specification is to provide details about both [MRR](#) and [interrogation](#) data and file requirements, [submission](#) procedures, and lists of current [validation codes](#). A [change log](#) provides links to past specification documents and will record any changes made to current specification.

The PTAGIS Data Specification is available online at [www.ptagis.org/data/data-specification](http://www.ptagis.org/data/data-specification). If you have any comments or questions, please [contact us](#). 

## PTAGIS Field Operations & Maintenance Summary for 2019

SCOTT LIVINGSTON (PTAGIS KENNEWICK OFFICE)



**Figure 4. Bonneville Dam Powerhouse 1 Intake Deck.**

### O&M Summary

The PSMFC PTAGIS Kennewick office is responsible for ensuring that the PIT tag detection systems in main stem juvenile fish bypass facilities and adult fish ladders are functioning at peak performance while those passage systems are in operation. The Kennewick office also monitors and cooperatively maintains Separation by Code (SbyC) hardware at nine of those facilities, allowing researchers to selectively separate PIT-tagged fish as they move through passage facilities. Kennewick staff also provide technical assistance for multiple other projects involving the installation or development of new detection systems, such as the new spillway tag system currently being installed at Lower Granite dam.

Juvenile fish bypass facilities on the Snake and Columbia Rivers began operating in March and April. Detection efficiency rates for 2019 are being kept at or above previous year's rates of greater than 99%. The single antenna in the Bonneville Corner Collector is the exception to this with an estimated efficiency rate in the seventies based on NOAA live fish testing using 12mm tags. Separation by Code diversion efficiency rates remain high for 2019 with all diversion gates running above 97%. Adult ladder detection efficiency also remains high in dam-to-dam comparisons, all sites maintained an approximate 98 to 99% detection efficiency over a 12-month rolling report period.

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## PTAGIS Field Operations & Maintenance Summary for 2019

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### Other PTAGIS Field Office Projects for 2019

#### Prosser (Chandler Dam) Radio Communication Upgrade

Chandler Dam PIT tag transceivers in the right, center, and left ladders transmit detection data via radio link to a central data collection platform located at the Juvenile Fish Facility approximately ½ mile east of Chandler Dam.

The legacy Freewave Inc. FGR 915 radios that were originally installed back in 2005 were at End of Life and no longer supported by the manufacturer. These radios were becoming problematic and un-reliable requiring more and more attention from PTAGIS maintenance staff. Kennewick staff made a recommendation to the Yakama Nation Fisheries project to upgrade all radios to the latest models from Freewave, the ZumeLink 900 series. These new radios incorporate many new features and diagnostic tools that were not available with the legacy radios.

Some of the new features of these radios are:

- Serial-to-Ethernet communications.
- Remote access via radio link to the slave radio for diagnostics and configuration.
- Both Master and Slave radios are accessible via Ethernet I/P.
- Radio diagnostic data is transmitted via Ethernet to the Kennewick office SCADA interface, allowing for real-time monitoring and alerting.

With approval and funding provided by the Yakama Nation Fisheries Project, PTAGIS staff completed this upgrade in April of 2019. Since the upgrade, the radio link reliability has increased significantly and demonstrated solid performance without failure.

#### Slide-Gate Cylinder Replacement Prototype

With support of the USACE site biologists and site maintenance personnel at three of the Snake River dams, PTAGIS Kennewick staff began research and development to replace the legacy pneumatic cylinders currently used to actuate the slide diversion gates with a more reliable and consistent actuator. PTAGIS proposed the use of an electric motor and actuator which is digitally controlled by a Programmable Logic Controller (PLC). This allows for precise positioning and control of the slide gates, which should drastically reduce the daily and annual maintenance required by the current pneumatic cylinders.

In March of this year, with full support of the Lower Monumental Dam site biologist, a prototype electric cylinder and actuator was installed on the B-side slide gate in place of the pneumatic cylinder. The year-to-date 2019 diversion efficiencies on the B-side slide gate meet or exceed efficiencies from 2018.

After some slight modifications and enhancements to the prototype cylinder this winter, it will remain in service during the 2020 season for further evaluation.

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## PTAGIS Field Operations & Maintenance Summary for 2019

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*Figure 5. New Electric Cylinder at LMJ B-Side Gate.*

### Bonneville Dam PH1 PIT Tag Detection

As part of the USACE Portland Design Team (PDT) PTAGIS Kennewick continues to provide technical support and design ideas to the PDT. The PDT is tasked with developing PIT tag detection systems to cover the entrances of the Ice and Trash Sluiceway at Power House 1.

### UPDATE: Lower Granite Dam Juvenile Bypass System

The full flow bypass antennas (with IDs 01, 02, and 03) on the newly installed transport flume at Lower Granite Dam continue to perform exceptionally well. The 2019 YTD detection efficiency for the full flow antenna group is greater than 99.5 %. [🔄](#)