PIT Tag Information System
Columbia Basin

Newsletter

NOVEMBER 2025
Volume 23
ISSUE 2

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.

Contributors for this issue include:

GORDY AXEL
gaxel@psmfc.org

NICOLE TANCRETO
ntancreto@psmfc.org

JOHN TENNEY
jtenney@psmfc.org

JENNIFER LUNDY
jlundy@psmfc.org

IN THIS ISSUE

A Fisheries Data Project of the Pacific States Marine Fisheries Commission

Transition from P4 to P5 Tagging Software

Nicole Tancreto (PTAGIS Portland Office)

With the successful release of the P5 tagging software in March 2025, it's time to begin transitioning away from P4. Both the P4 software and its file format will be officially retired on **December 1, 2026**.

What's New in P5

P5 offers a familiar user interface and feature set for current P4 users, but with some upgrades:

- Modernized backend database and file submission process
- Multi-user support
- Compatibility with the Biomark BPR reader
- Option to replace the legacy digitizer tablet with an Android mobile tablet
- Enhanced Length and Weight validation

For a full list of new features, visit the New Features in P5 section of the online documentation.

Easy Migration and Setup

P5 can be installed alongside P4 and supports importing data and configuration from it. If you're comfortable with P4, you'll be able to get started with P5 quickly. Download the software and access documentation on the P5 Software page of the PTAGIS website.

File Format Changes

P5 uses **JSON** instead of XML for file creation. Starting **December 1, 2026**, JSON will be the only accepted format for MRR data submissions. If you're generating P5 files outside of PTAGIS software, ensure your process:

- Produces properly formatted JSON files
- Submits files via the correct PTAGIS API endpoints

Refer to the Submitting P5 Files section in the PTAGIS Data Specification for detailed instructions.

Action Required

Please plan to transition your PIT tag mark/recapture/recovery data collection and submission from P4 to P5 before **December 1, 2026**. If you anticipate any issues meeting this deadline, contact us as soon as possible.

Kennewick Office Personnel Update

Gordy Axel (PTAGIS Kennewick Office)

We are excited to announce that Gabriel Brooks has joined the Kennewick PSMFC staff to assist with estuary PIT tag operations and maintenance in addition to general PTAGIS needs. Gabriel has worked for NOAA Fisheries on the PIT Research and Development project for the last couple of decades and has extensive knowledge of the PIT tag program working alongside Earl Prentice and many of you. He helped kickstart the STREAMS subcommittee under the PIT Tag Steering Committee and has been involved in a lot of the in stream PIT detection development. His abilities and collaborative relationships will provide a benefit to the PTAGIS team and the community.

O&M Summary 2025

Gordy Axel (PTAGIS Kennewick Office)

The PSMFC Kennewick office is responsible for ensuring 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. The Kennewick staff continues to provide technical assistance for multiple other projects involving the installation or development of new detection systems.

Juvenile fish bypass facilities on the Snake and Columbia Rivers began operating in March and April. Detection efficiency rates for 2025 were at or above the previous year's rates of greater than 99%. The Lower Granite Spillway detector (GRS) and the single antenna in the Bonneville Corner Collector (BCC) are the exceptions to this, with an estimated efficiency rate in the 60-70% range based on prior NOAA live fish testing using 12mm tags. 2025 BCC YTD detections are 43,945. GRS YTD detections are 145,669 while the Lower Granite juvenile system detected 34,401 unique fish.

Separation by Code diversion efficiency (SbyC) rates remained high for 2025 with the diversion gates above 99%.

Adult ladder efficiency remains high in dam-to-dam comparisons. All sites maintained an approximate 98.4 to 100% detection efficiency over a 12-month rolling report period. John Day (98.4%) and Ice Harbor (98.9%) are the only two sites below 99%.

Other PTAGIS Field Office Projects for 2025

Bonneville Dam Powerhouse 1 Ice and Trash Sluiceway PIT tag Detection

PTAGIS Kennewick team continues to work closely with the USACE-Portland District PDT regarding the antenna shield construction and structural modifications to the chain gate. The objective is to mount a series of 4 PIT tag antennas on the top of the chain gate in slot 1B. The structural and mechanical engineering required for this project is being provided by the USACE Portland District. The shield design was completed and the Corps selected Transco Industries to begin construction this winter. Antennas are being constructed in the Kennewick office by staff. Installation is targeted for March 2026.

CONTINUED → HOME

O&M Summary 2025 - continued from page 3

BO4 ladder remodel

The flow control channel in the Washington Shore adult fish ladder was rebuilt this past winter to improve fish passage for lamprey and salmonids. PSMFC incorporated new antennas (B04) provided by Biomark to replace the existing ones during the construction process. The new system consists of twelve antennas in all: four slot antennas, four salmon orifice antennas and four lamprey orifice antennas. The B04 detection site was back online March 5th and ready for fish to begin passage once water was flowing in the ladder. The new site configuration was provided in the previous newsletter and is also available on PTAGIS.

Bonneville Washington Shore Adult Fish Ladder Exit Antenna

PSMFC and NOAA Pasco staff designed and constructed a new antenna, pictured below, to replace the old half duplex antenna that was still located at the ladder exit. The new antenna in the channel exit is full duplex and was installed on June 12, operating under the B04 site ID with an antenna/transceiver ID of A1. To date we have detected 8,772 unique tagged fish passing through the ladder exit.

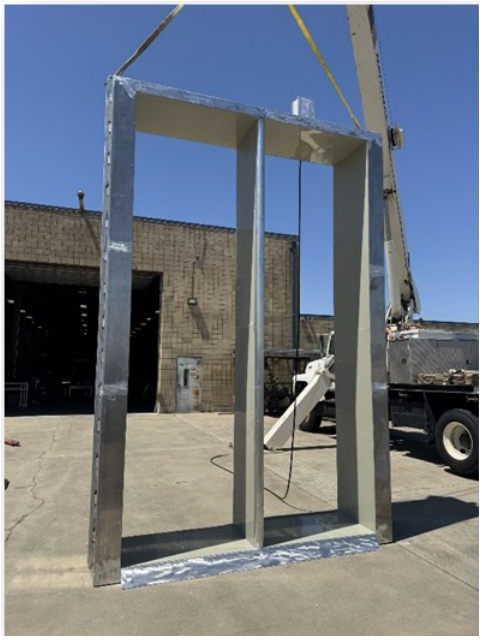

Figure 1. New antenna design.

Figure 2. New antenna installation.

SPECIES	UNIQUE TAGS
STEELHEAD	3,080
CHINOOK	2,808
SOCKEYE	1,318
COHO	1,163
PACIFIC LAMPREY	203
UNKNOWN	177
NORTHERN PIKEMINNOW	19
CUTTHROAT TROUT	2
WHITE STURGEON	2
TOTAL DETECTED	8,772

Table 1. Unique PIT tag detections.

CONTINUED ⟶ HOME

O&M Summary 2025 - continued from page 4

Electronic Diversion Gate Installation

An effort was completed last winter for a second SbyC system, at the Lower Granite juvenile fish facility, that uses all new electronic diversion gate actuators (pictured below). This system was developed by Mark Leonard in the Kennewick office and improves system efficiency while reducing noise during operation. Mark is planning to install a similar system at Little Goose this winter.

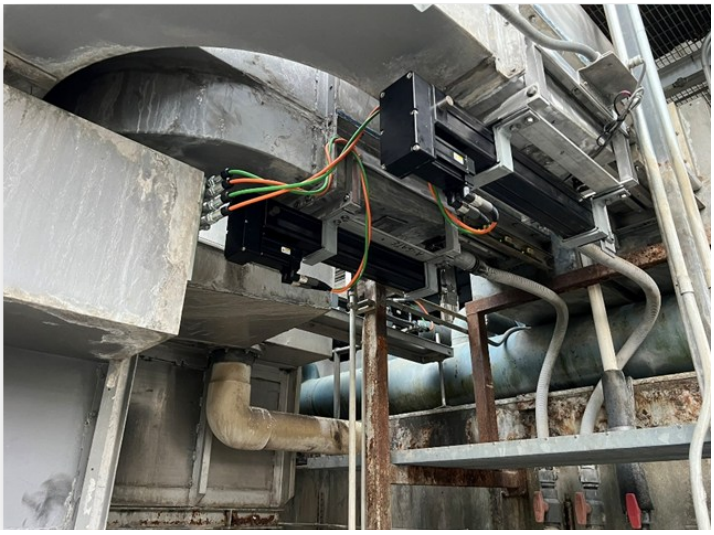

Figure 3. Electronic diversion gate at Lower Granite Dam.

Klickitat Hatchery Detection System Install

Construction has continued at the Klickitat Hatchery, now in the process of a large-scale upgrade. The PIT antennas are currently being constructed at the Kennewick PSMFC shop with the expectation to be installed around June or July. We plan to have the detection systems operational in the summer/fall of 2026.

Remote Site Communications Upgrades

Scott Livingston and Darren Chase continue to evaluate communications upgrades as needed. Some systems have been upgraded to Starlink systems that are more reliable and cost-effective as we can put them into a stand-by mode during periods of inactivity. We are currently in the process of evaluating this system change for John Day to alleviate comms issues we have experienced over the last year.

PTAGIS Data Collection Platform (DCP)

Roger Clark performed the annual Windows 10 LTSC (Long Term Service Contract) updates. These updates install security patches and other important Windows components to ensure the DCPs remain secure and stable. Note: Due to the lean nature of the Win 10 LTSC along with PTAGIS DHCP's update policies, these system-wide update activities are performed on an annual basis only, generally in late fall/winter when fish movement is low. A standard operating procedure was written to ensure no PIT tag detections were lost during this upgrade process.

McNary Dam Spillway Detection

Kennewick staff are collaborating with USACE Walla Walla District and NOAA to identify and develop a PIT detection system that would boost detections of fish passing through a spill bay at McNary Dam. Ideas will be presented to regional agencies for a final selection to be made at a later date.

PIT Tag QA and Delivery

Jennifer Lundy and Roger Clark continue to provide oversight of annual tag quality assurance and timely delivery for BPA orders. The Kennewick lab tests ~3% of the PIT tags distributed throughout the region in order to verify optimal results for Columbia River Basin passage and survival estimation.

HOME

Recoveries of PIT Tags from Long-term Ocean Sampling Added to PTAGIS

Nicole Tancreto (PTAGIS Portland Office)

The Juvenile Salmon and Ocean Ecosystem Survey (JSOES) has been in operation since 1998 by NOAA Fisheries and Oregon State University. Every year during May and June they collect juvenile salmon and other open-ocean fish at multiple stations off the Washington and Oregon coasts, along with physical ocean characteristics. Up to 60 juvenile salmon of each species and size class are measured and frozen to bring back to the lab for further evaluation.

Some of the sampled juvenile salmon have PIT tags implanted in them and PTAGIS recently partnered with Cheryl Morgan at Oregon State University to bring the PIT tag recovery data into PTAGIS for the first time. The data have been loaded under the **PIT** project code and can be queried from PTAGIS by running a *Mort Detail* query builder report and filtering on *Mort Data Project* = **PIT,** *Mort Site* = **OCEAN,** and *Mort File* ends with **JSO.json.**

Year	Chinook	Coho	Steelhead	Sockeye
1999	9			
2000	4			
2001	6	1		
2002	22			
2003	15			
2004	25	1	2	
2005	3			
2006	16			
2007	5			1
2008	37		1	
2009	23	3		
2010	20	1		2
2011	31	2		
2012	12	2	1	
2013	4	1		
2014	1	1		
2015	13	2	8	1
2016	20	1		1
2017	1		1	
2018	11		1	2
2019	4			
2020		1		
2021	2	1		3
2022	3	1		
2023	7	1		1
2024	5		1	
Total	**299**	**19**	**15**	**11**

Table 2. Summary of recovery records from Juvenile Salmon and Ocean Ecosystem Survey sampling.

HOME