Instream PIT Tag Session
Instream PIT Tag Detection System Subcommittee (IPTDS)

Derrek Faber
Chair ISPTDS Subcommittee
Oregon Department of Fish and Wildlife

ISPTDS Subcommittee - Charter

o Provide technical guidance for the installation, operation, and maintenance of IPTDS.

o Establish and update system specifications to assure integrity and continuity of data.

o Coordinate training for IPTDS site stewards and other field personnel.

o Facilitate webinars or forums on data analysis topics to ensure comparable methodologies and results from IPTDS sites.

o Provide coordinated recommendations through the PTSC to appropriate agencies on activities and programs that further the PTSC's goals.

o Identify and discuss policy issues with the PTSC for resolution.

ISPTDS Subcommittee - Members

o **Brady Allen**, Bonneville Power Administration

o **Gabriel Brooks**, NOAA Fisheries

o **Brian Davis**, U.S. Fish and Wildlife Service

o **Derrek Faber** (Chair), Oregon Department of Fish & Wildlife

o **Jeff Fryer**, Columbia River Inter-Tribal Fish Commission

o **Randy Johnson**, Colville Tribes

o **Ryan Kinzer,** Nez Perce Tribe

o **Brian Knoth**, Idaho Department of Fish & Game

o **Zack Mays**, Yakama Nation Fisheries

o **Carley Simpson** (Co-chair), Okanagan Nation Alliance

o **Matthew Stilwater**, Washington Department of Fish and Wildlife

Development and Implementation of Site Diagram Standards

o Introduction of new methods for creating site diagrams, utilizing tools like PowerPoint and Google Earth.

o Agreement on the preferred method for site diagrams, emphasizing the importance of a standardized approach.

o Discussion of including optional elements like stream contour profiles in the standards.

Advancements in Interrogation Metadata and Software Tools

o Sounding board for the interrogation site metadata page and integration with new software tools like I5 and M5.

o Exploration of new features and functionalities in interrogation software for improved data management.

o Focus on enhancing metadata availability and ensuring the metadata is more informative.

Summary of Files and Tags Loaded for 2024

Site Code		Number of Files Requiring Action	Number of Files Loaded	Earliest File Opened	Latest File Closed	Number of Unique Tags Detected	Number of Observations Recorded	Minimum Observation Date	Maximum Observation Date
CCU			563	01/01/24 0:00	01/24/24 0:00	7	3,522	01/01/2024 00:07	01/24/2024 09:54
CCW			562	01/01/24 0:00	01/24/24 0:00	1	2	01/02/2024 22:43	01/02/2024 22:43
IR5			131	01/01/24 0:00	01/24/24 0:00				
JD1			137	01/01/24 0:00	01/24/24 0:00				
MTD			94	01/01/24 0:00	01/24/24 0:00	1	6	01/18/2024 11:39	01/20/2024 17:04
PEL			562	01/01/24 0:00	01/24/24 0:00	28	182	01/01/2024 00:19	01/23/2024 10:55
SID			562	01/01/24 0:00	01/24/24 0:00	1	1	01/13/2024 02:59	01/13/2024 02:59
SJ1	View Files Requiring Action	4	12	01/09/24 0:00	01/22/24 0:00	11	14	01/09/2024 21:30	01/20/2024 13:06
SJ2			7	01/01/24 0:00	01/12/24 0:00				
WEN	View Files Requiring Action	1	562	12/31/23 23:00	01/24/24 0:00	1	1	01/22/2024 23:39	01/22/2024 23:39

Technical Innovations and Research Updates

o Updates from all subcommittee members on various R&D projects, including new equipment testing and implementation.

o Reports on fieldwork and technical challenges encountered, as well as solutions developed.

o Focus on collaborative efforts for technical improvements and sharing best practices.
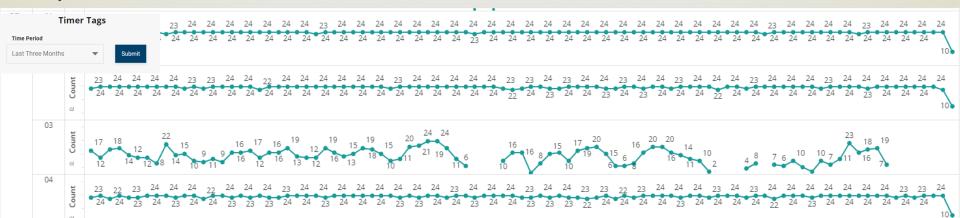
Electronics Development

Figure 12. GRS prototype Biomark antenna and prototype NOAA shield – Gabriel Brooks, NOAA

Figure 13. GRS Biomark FS3001 Transceiver with external capacitors – Gabriel Brooks, NOAA

Challenges and Solutions in Data Management

o **Environmental Data Integration:** Consideration of incorporating environmental data like temperature and water level into site metadata.

o **Virtual Timer Tags (VTTs):** Implementation of VTTs and developing SOPs for VTT settings to enhance the reporting system's utility.

o **Handling 'Ghost Tags':** Addressing the challenge of ghost tags in data records, with discussions on potential removal or screening procedures.

Workshop Planning and Community Engagement

o Detailed planning for PIT Tag Workshops, including topic selection, presenter coordination, and community surveys.

o Emphasis on sharing techniques and methods in PIT Tag Workshops for instream site management.

o Efforts to improve feedback mechanisms and engage more effectively with the IPTDS community.

1. Ian Jezorek, Earl F. Prentice, Patrick J. Connolly:
Explores the installation and challenges of an instream PIT-tag detection site in Rattlesnake Creek, WA, including improvements and data on rainbow trout movement.

2. Kevin See, Ryan Kinzer, Mike Ackerman:
Discusses PITcleanr, an R package for managing PIT tag data, offering solutions for data import, condensation, and analysis in fish survival studies.

3. Marika Dobos, Megan Dethloff:
Presents the PNAMP Fish Monitoring Work Group's task on improving data management and analytical methods for PIT tag array data, focusing on challenges in managing and analyzing complex species data.

4. Matthew Stilwater:
Examines the use of remote power systems, such as thermoelectric and solar power, for powering PIT-Tag arrays in the Pacific Northwest, including case studies and operational challenges.

5.   **Kyle Meier**: Offers an overview of communication platforms for remote Instream PIT Tag Detection Systems, covering types, deployment schemes, and security practices.

6.   **Gabriel Brooks**: Provides insights into PIT tag antennas, covering construction, installation, and principles of loop antennas, resonant frequency, and tag-antenna interaction.

7.   **Derrek Faber**: Highlights the use of Raspberry Pi and M5 software for direct data upload to the PTAGIS database, focusing on setup, networking, and remote management for PIT tag monitoring sites.