

# PIT Tag Information System Columbia Basin

# Newsletter

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August 2006 Volume 7 Issue 3

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The PTAGIS Newsletter is published periodically by Pacific States Marine

We welcome input from the PTAGIS community, so email or write us with your story ideas.

Fisheries Commission.

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### ON THE HORIZON

## 2007 PIT-Tag Forecast

The 2007 PIT-Tag Forecast is just around the corner, and PSMFC would like the Sponsors and Managers for the Northwest Power and Conservation Council's Fish and Wildlife Program projects, funded by Bonneville Power Administration, that require PIT tags to be aware of the upcoming process of determining PIT-tag requirements for 2007.

#### TAG DISTRIBUTION PROCESS

There are five key steps to the process:

#### 1 FORECAST

The Project Sponsor provided PSMFC with a Forecast Request Letter detailing tag requirements for BPA fiscal year (typically this occurs once per year, usually in August). This forecast is used to identify approved projects and to schedule deliveries from the manufacturer. The forecast can be found online at:

#### **Forecast Spread Sheet**

NOTE: If you did not participate in the forecast process, you will still need to fill out a forecast form prior to requesting tags..

#### **2** CONTRACT NEGOTIATION

The Project Sponsor works with BPA COTR to negotiate project budget and work statement.

#### 3 PRE-APPROVAL

Upon agreement the Project Sponsor's tag requirement is approved by the COTR. (This typically occurs once per year prior to the beginning project performance period.)

#### 4 PDRF SUBMISSION

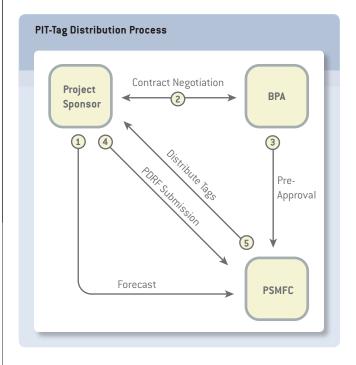
A Project Sponsor or Tag Coordinator verifies project approval (see step 1) then submits PIT-Tag Distribution Request Form (PDRF) to PSMFC. This happens at least 30 days prior to the date tags are shipped.

#### 5 DISTRIBUTE TAGS

Pre-approved PIT tags are distributed to the Project Sponsor or Tag Coordinator.

To find out if a project has been pre-approved, check the link (Column K in the Forecast Spread Sheet). Call your COTR if your project is not listed or approved for the proper amount.

For distribution information, call Kristiana Kroneck at PSMFC, 503-595-3100.



Digital Angel has released the new and improved TX1400SST PIT tag (For details on tag type see the article, "More Information Regarding the New Tag on the Block" in the November 2005: Volume 6, Issue 5 PTAGIS Newsletter). The TX1400SST PIT-tag will be available for distribution this year, although PSMFC's PIT-tag distribution policy remains as: first in first out. Therefore, the TX1400SST PIT-tags will be available for distribution after PSMFC has distributed all of the remaining TX1400ST PIT tags. Please refer any questions regarding PSMFC's PIT-tag distribution policy to Kristiana Kroneck at PSMFC, 503.595.3117.

The 2007 PIT-Tag Forecast Request Letter will be available in early September 2006. Future PTAGIS Newsletters will provide further information on the 2007 PIT-Tag Forecast.

## DATA OUTAGE AT BONNEVILLE DAM

DAVE MARVIN (PACIFIC STATES MARINE FISHERIES COMMISSION)

On 26 June 2006, following a scheduled power outage at the Bonneville Dam Adult Fish Facility (AFF), a communication fault occurred between the site computer and all four PIT-tag transceivers at the Bonneville Dam Washington Shore Fish Ladder Exit (B04) interrogation site.

PTAGIS staff was not immediately alerted to the situation and the issue was not corrected until 28 June 2006. During the 52-hour interval, PIT-tag detections were stored to the memory buffers on each of the BO4 transceivers, but

the detections were not relayed to the site computer. The computer clock is used to timestamp each detection. PTAGIS staff downloaded the detection records stored to each of the four transceivers, and was able to identify 264 separate PIT-tag codes that were detected during the 52-hour interval of the communication fault.

The BO4 interrogation site is located upstream of the counting window in the common section of the Bonneville Washington Shore Adult Fishway above the junction with the Cascades Island Fish Ladder [Figure 1].

CONTINUED  $\longrightarrow$ 

# FIGURE 1 Bonneville Dam: Washington Shore Ladder Vertical Slots (BO4) PTAGIS PIT Tag Information Systems PIT Tag Interrogation Coil Map: Version 1.0, Cnfg. #100; Created March, 2005 Antenna Dimensions (ID): 28" wide x 120" high (slots 5 & 7); 28" wide x 138" high (slots 9 & 11) Columbia Basin | ptagis.org Ladder Overview: Vertical Slot Detail: Site Overview: Ladder եղեղեղեղ UMT Channel to Cascades Island Fish Ladder (BO2) Ladder Detail:

Bonneville Dam Washington Shore Ladder Vertical Slots (B04) site configuration can be viewed at www.ptagis.org/ptagis.
Navigate to Data → Sites → Select "Adult Interrogation" from

the list on the left of the screen  $\rightarrow$  Select B04 from the list of Adult Interrogation Sites  $\rightarrow$  Click on View Reports at the bottom of the list on the left  $\rightarrow$  Choose Site Configurations from the menu bar.

#### DATA OUTAGE AT BONNEVILLE DAM

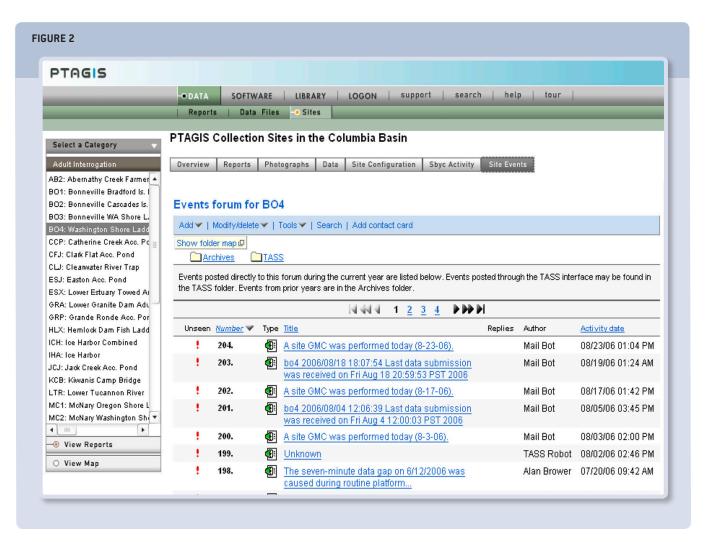
Tags detected at the BO4 transceivers during the communication gap included fish previously detected near the Cascades Island Ladder Entrance (BO2) and near the Washington Shore Ladder Entrance (BO3), as well as fish that were tagged and released into the Washington Shore Ladder at the AFF.

PIT- tag detections reported in interrogation files are associated with timestamps precise to the second. Since the B04 computer did not receive the detection records, and timestamps could not be generated, no such temporal precision is possible for the detections of the 264 tags. PTAGIS has instead submitted the records for these 264 detected tags as recapture events at the Bonneville Washington Shore Ladder, and assigned all of the events a common timestamp on 27 June 2006, the midpoint of the communication gap. Any comprehensive survey, such as

a One-Fish History, of PTAGIS events pertaining to these 264 tag codes will return a recapture event record for the fishes' detection in the vertical slot weirs at the Bonneville Washington Shore Fishway.

The 264 recapture records are recorded in the **DPM06176.** 

B04 data file, which also contains detailed documentation regarding the B04 communication fault and its resolution. The data file is available from the PTAGIS file server at <a href="http://www.psmfc.org/pittag/Data\_and\_Reports/data/FDVL/loaded/tagging/DPM/2006/DPM06176.B04-L\_1">http://www.psmfc.org/pittag/Data\_and\_Reports/data/FDVL/loaded/tagging/DPM/2006/DPM06176.B04-L\_1</a> Additional information pertaining to the communication fault is documented in the B04 Site Events log [Figure 2].



# SLIDE GATE MECHANICAL PROBLEMS

DON WARF AND TROY HUMPHREY (PACIFIC STATES MARINE FISHERIES COMMISSION)

Pacific States Marine Fisheries Commission (PSMFC) would like all PTAGIS data users, especially those with projects that implement Separation by Code (SbyC), to be aware that the annual interrogation diversion efficiency average was lower than usual at Lower Granite, Little Goose, and Lower Monumental Dams due to slide gate mechanical failures at these sites.

PSMFC staff has been working diligently in an effort to resolve the troublesome mechanical failures that have occurred this season. Details of these problems are fully documented in the PTAGIS facility event logs.

The diversion gates are installed at fish bypass facilities operated and maintained by the U.S. Army Corps of Engineers (COE). The gates were designed, constructed, and originally maintained by staff from National Oceanic & Atmospheric Administration (NOAA) Fisheries office in Pasco, WA. Many of the gates installed at Lower Granite, Little Goose, and Lower Monumental Dams are more than 10 years old.

In response to the numerous mechanical failures and in assistance to the COE, PSMFC staff has worked tirelessly to resolve the mechanical problems. PSMFC has also assisted the COE by proposing monitoring and troubleshooting practices to aid future operation and maintenance of diversion gates. PSMFC has recommended that COE Separator Inspectors increase monitoring of gates by pushing diversion gate test buttons periodically throughout the day to observe gate function. Troy Humphrey of PSMFC

has also devised a collection of maintenance activities and a list of parts that should be kept in stock at each facility to ensure timely maintenance and repair of diversion gates when necessary.

Additionally, the PSMFC Kennewick staff has met with Jim Simonson of the NOAA Fisheries Office in Pasco, WA to discuss how to improve gate operation and functionality. PSMFC will continue to collaborate with the COE and NOAA Fisheries in an effort to resolve current problems, and improve future operation, maintenance, and function of diversion gates at all facilities.

For more detailed information on mechanical failures at specific sites please refer to the Site Reports and Facility Event Logs located in the Data Sites section of the PTAGIS Web Portal.

Separator Slide Gate at Lower Monumental Lock and Dam.



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### PTAGIS TEN YEARS AGO

## Highlights from the June and July 1996 PTAGIS Newsletters

#### **MAILING DATA FILES**

In 1996 PTAGIS began accepting data files via email.
Registration was required for parties interested in emailing data files to PTAGIS. Detailed instructions for emailing PTAGIS data files were provided in the <u>June 1996: Volume 1, Issue 5 PTAGIS Newsletter</u>.

#### **FORWARDING MAIL**

PTAGIS enabled an email-forwarding feature to the PTAGIS database in 1996. PTAGIS data users were able to have email from the PTAGIS database forwarded to a designated email address. When a report finished running it would automatically be forwarded to the users desktop via the email address provided by the PTAGIS data user. The email-forwarding feature eliminated the time consuming steps PTAGIS users had to complete manually to check on the status of a report and then download once a report was complete.

#### THE "X" CODES

Beginning in 1996 new experimental interrogation sites were assigned "X" codes as a way to distinguish experimental sites from other existing sites. Many of the sites deemed experimental were also operational in that the sites provided PIT-tag interrogation data to PTAGIS. The sites were considered experimental because they were non-production, and work was being performed to improve technical and biological aspects of the facility. Also, the experimental sites were not necessarily operated continuously throughout the season.

# In 1996 the following sites were included on the experimental sites list:

#### GRX

The Separation by Code system at Lower Granite was an experimental site. All PIT-tagged fish that were routed through the diversion at Lower Granite Juvenile (GRJ) passed through at least two of the three monitors located at GRX. The GRX facility layout can be viewed in Appendix D of the 1996 PIT Tag Specification Document.

#### BVX

The BVX site contained a prototype flat-plate (pass-over) PIT-tag interrogation system located down stream of the migrant channel at Bonneville Dam's first powerhouse. At BVX the antenna was installed on top of the juvenile fish-sampling box. The system was designed to detect PIT-tagged fish as they passed over a large, flat antenna surface (about 7' wide x 4' across), rather than having to pass through an orifice. Advantages of this approach were considered to be that fish would not be constrained as they passed over the antenna and debris would wash over the antenna without endangering the fish or clogging the passage way. Future applications of this design were considered for monitoring adult fish in fish ways or ladders, and detection of PIT-tagged fish in small streams or experimental raceways.

#### TWX

TWX was the code for the PIT-tag detector trawl operated near Jones Beach around river kilometer 75 with an area range of about 20 kilometers. The trawl consisted of a set of underwater detectors located at the exit of a trawl being towed by two boats that face up river. Fish enter the trawl upstream and exit at the end of the trawl where two interrogation units with two coils are located. This work targeted the NOAA Fisheries transportation study groups in the Columbia River Estuary.

# **STAY TUNED**

Future PTAGIS Newsletters will contain valuable and exciting news and information on the progress of the PTAGIS project so stay tuned to keep your finger on the pulse of such topics as:

1 M4 DEVELOPMENT UPDATES

2 THE 2007 PIT-TAG FORECAST

3 UPDATES TO PTAGIS APPLICATIONS

4 PSMFC FIELD ACTIVITIES

