

2018 Imnaha River Chinook Salmon and Bull Trout summaries

Joseph Feldhaus (ODFW) & Ryan Kinzer (NPT)

June 14, 2018

Noteable Highlights/Data issues

- Imnaha Weir installation date: **11 June, 2018.**
 - A staff injury on June 11th precluded the ladder from being watered to allow fish passage.
 - The ladder was potentially watered either Tuesday the 12th or Wednesday the 13th. (**check with weir staff**)
- On June 11th, 2018 we discovered that IR5 had not been uploading tag detections to PTAGIS since 5/26. Joseph contacted BioMark staff to help diagnose and fix the problem. All other tag detection sites were working correctly (e.g. IR4 & IML).
 - Last tag detected before IR5 went offline was on May 25th at 3:14 a.m.
 - IR5 was brought back online on June 13th and almost immediately started detecting Bull trout tags at 1:10 p.m.
 - The cause of the downtime was attributed to a faulty master controller.

Unique PIT-tag observations by species

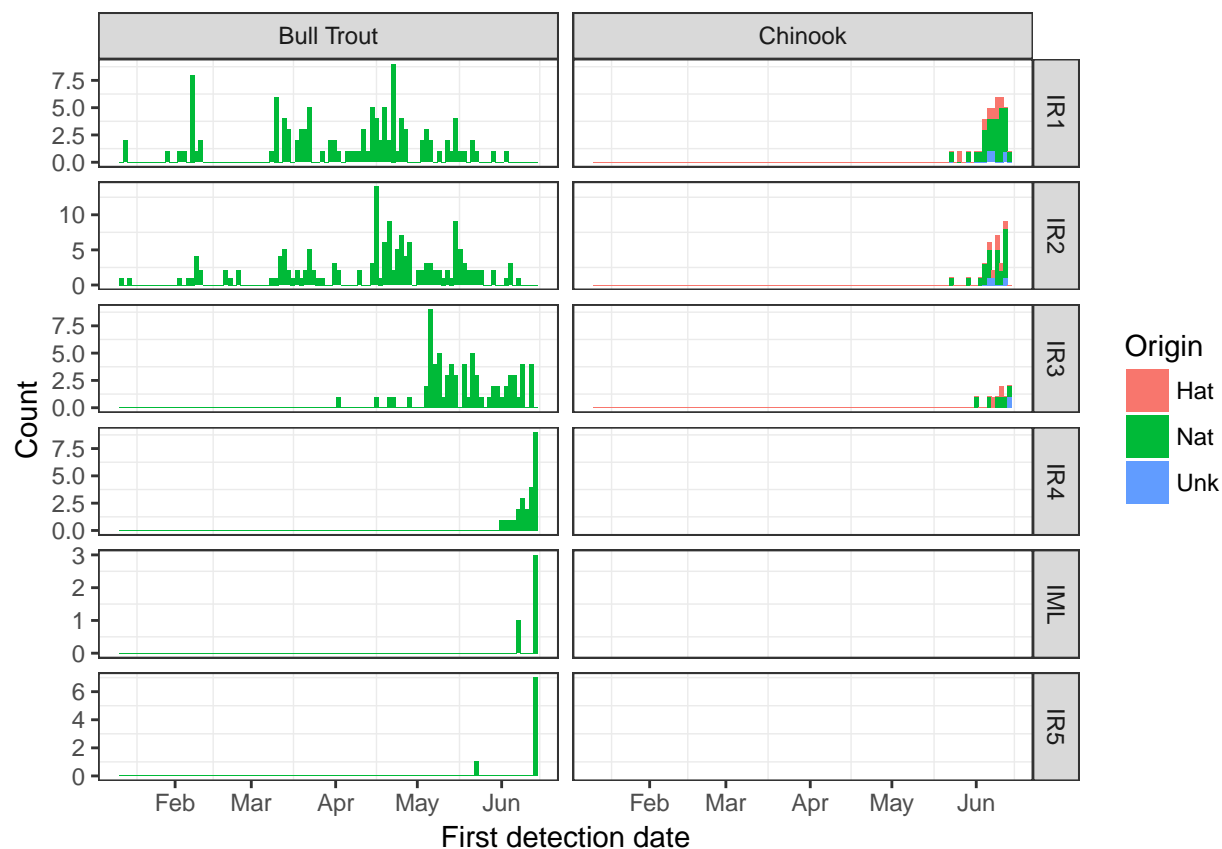
Mark.Species	Origin	Unique_Tags
Bull Trout	Nat	173
Chinook	Hat	7
Chinook	Nat	27
Chinook	Unk	3

Unique PIT-tag observations by speices, origin and release site

Mark.Species	Origin	Release.Site.Code	Unique_Tags
Bull Trout	Nat	IMNAHW	26
Bull Trout	Nat	IMNTRP	16
Bull Trout	Nat	SNAKE3	10
Bull Trout	Nat	SNAKE4	121
Chinook	Hat	IMNAHW	6
Chinook	Hat	LGR LDR	1
Chinook	Nat	IMNTRP	5
Chinook	Nat	LGR LDR	22
Chinook	Unk	BONAFF	3

Unique PIT-tag observations by species, origin and arrival date

Do we want to truncate the dates for Bull trout observations?



Unique PIT-tag observations by site, detection efficiencies and estimated tags

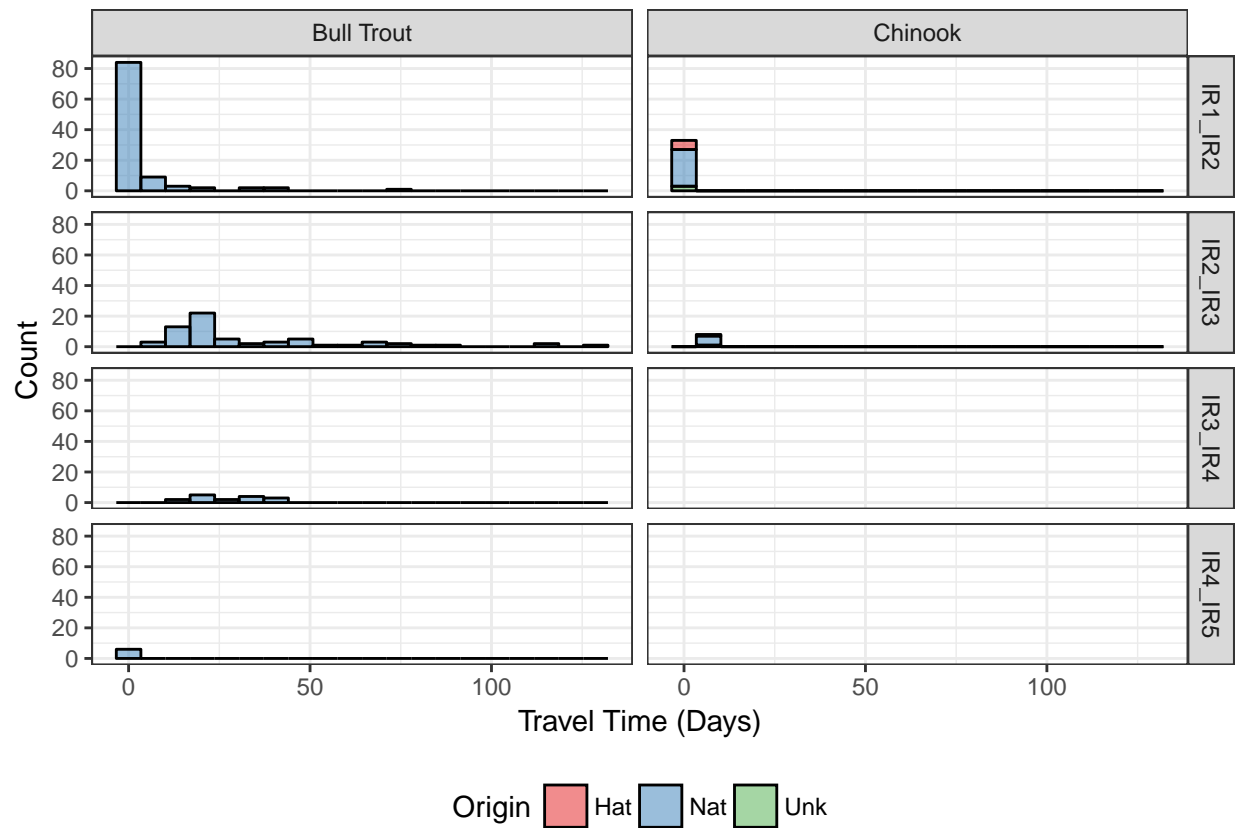
Mark.Species	SiteID	Unique_Tags	det_eff	N_tags	lwr_N	upr_N	Conversion
Bull Trout	IR1	114	0.65	174.7	170.7	178.7	NA%
Bull Trout	IR2	158	0.89	177.2	167.7	186.7	101%
Bull Trout	IR3	73	0.83	88.21	82.3	94.12	50%
Bull Trout	IR4	24	0.75	32	23.09	40.91	36%
Bull Trout	IML	4	1	4	4	4	NA%
Bull Trout	IR5	8	1	8	8	8	25%
Chinook	IR1	37	1	37	37	37	NA%
Chinook	IR2	33	0.89	37.12	30.78	43.47	100%
Chinook	IR3	9	1	9	9	9	24%

Unique PIT-tag observations by fate

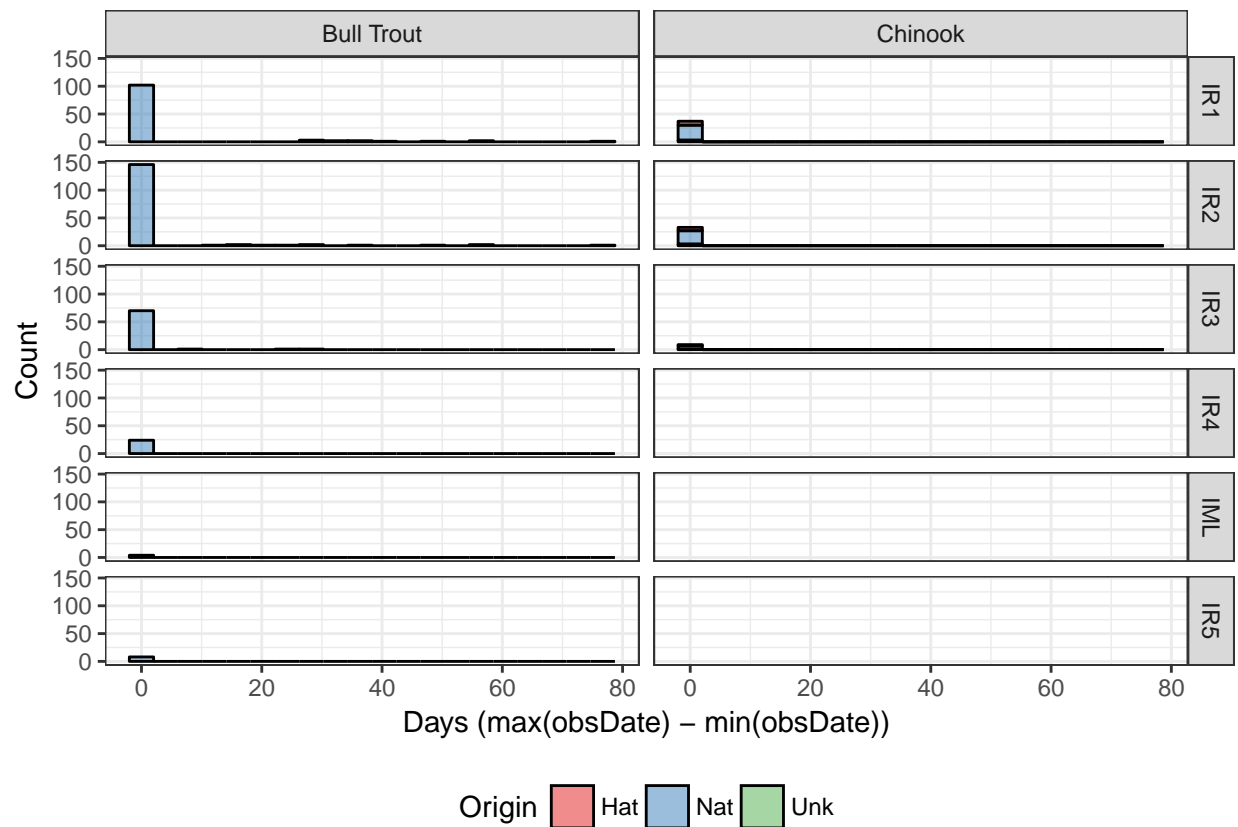
Mark.Species	Origin	TagFate	Unique_Tags
Bull Trout	Nat	At Weir	5
Bull Trout	Nat	Attempting Ladder	2
Bull Trout	Nat	Last Seen at BSC	13
Bull Trout	Nat	Last Seen at IML	2
Bull Trout	Nat	Last Seen at IR1	5
Bull Trout	Nat	Last Seen at IR2	71

Mark.Species	Origin	TagFate	Unique_Tags
Bull Trout	Nat	Last Seen at IR3	56
Bull Trout	Nat	Passed Prior Weir	11
Bull Trout	Nat	Successfully Passed	8
Chinook	Hat	Last Seen at IR2	5
Chinook	Hat	Last Seen at IR3	2
Chinook	Nat	Last Seen at BSC	1
Chinook	Nat	Last Seen at IR1	3
Chinook	Nat	Last Seen at IR2	17
Chinook	Nat	Last Seen at IR3	6
Chinook	Unk	Last Seen at IR2	2
Chinook	Unk	Last Seen at IR3	1

Travel time between sites



Number of days spent at a site



Source Data

The complete PIT-tag histories for Chinook Salmon and Bull trout detected during 2018 in the Imnaha River Basin were downloaded as two separate files located on the PTAGIS ftp server. The files are the result of running “Complete Tag History” queries that were parameterized on the PTAGIS website and set-up to run and save automatically at 6:00 a.m. each day. The first file contains Chinook Salmon PIT-tag detections and is stored at the “feldhauh/2018_Imnaha_CompleteTagHistory.csv” file path within the ftp server. The second file contains Bull trout detections and is stored within the “rkinzer/Imnaha_Bull_Complete_Tag_History.csv” filepath. We are then using an R-script to download the files from the PTAGIS ftp server and combine them into a single file. Once the file is combined all Chinook Salmon and Bull trout tag detections are processed using the R package PITcleanR. The final dataset provides a simplified tag history with the first and last detection dates at each PIT-tag detection node (i.e., a single spanning array or antenna) and information regarding upstream and downstream movements and a more general migration direction.

Creating the PTAGIS Chinook Complete Tag History report:

- *Tag list #1:* Static Tag list for all Chinook tagged in 2018 and released at BONAFF or LGRLDR.
- *Tag list #2:* Static Tag list for Chinook released into the Imnaha River for MY2015-2017 and detected at a mainstem adult ladder interrogatoin site in 2018.
- *Event Date:* Between 5/1/2018 and 10/1/2018
- *Event Sites:* IR1, IR2, IR3, IR4, IR5, IML, IMNAHW, BSC, IMNAHR

- *Mark Species:* Chinook
- *Event Type:* Observation, Recapture, Recovery

Creating the PTAGIS Bull Trout Complete Tag History report:

- **Query:** All PIT-tagged Bull trout detected in the Imnaha River Basin in 2018.
- *Event Date:* Between 1/1/2018 and 10/1/2018
- *Event Sites:* IR1, IR2, IR3, IR4, IR5, IML, IMNAHW, COC, BSC, IMNAHR
- *Mark Species:* Bull Trout
- *Event Type:* Observation, Recapture, Recovery