



Grant County
PUBLIC UTILITY DISTRICT
Excellence in Service and Leadership

Priest Rapids Fish Forum
Meeting

Wednesday, 7 March 2018

9:00 a.m. – 12:00 p.m.

Grant PUD, 11 Spokane St., Suite 205B, Wenatchee, WA

Call-In Number: 1-800-977-8002, Bridge: 7422882

MEETING MINUTES

PRFF REPRESENTATIVES

Steve Lewis, USFWS

Bob Rose, YN

Doris Squeochs, Wanapum/Grant PUD

Jason McLellan, CCT

Mike Clement, Grant PUD

Tracy Hillman, Facilitator

Patrick Verhey, Chad Jackson, WDFW

Breean Zimmerman, WDOE

Aaron Jackson, Carl Merkle, CTUIR

Keith Hatch, BIA

Chris Mott, Grant PUD

Erin McIntyre, Grant PUD

ATTENDEES

Mike Clement, Grant PUD

Tom Skiles, CTUIR (Via Phone)

RD Nelle, USFWS

Paul Grutter, Golder (Via Phone)

Breean Zimmerman, WDOE (Via Phone)

Kirk Truscott, CCT

Ralph Lampman, YN (Via Phone)

Chris Mott, Grant PUD

Erin McIntyre, Grant PUD

Doris Squeochs, Wanapum/Grant PUD (Via Phone)

Donella Miller (Via Phone)

Steve Lewis, USFWS

Bob Rose, YN (Via Phone)

Tracy Hillman, Chair

Action Items:

1. Steve Lewis will add Wanapum to the invasive species action plan's participation list. He will also provide updates to the PRFF on the status of the draft action plan.
2. PRFF members will review the draft Aquatic Invasive Species Annual Report and provide comments to Carson Keeler by 29 March 2018.
3. PRFF members will review the draft Pacific lamprey annual report and provide comments to Mike Clement by 9 March 2018.

4. PRFF members will review the draft white sturgeon annual report and provide comments to Chris Mott by 14 March 2018.
 5. Tom Skiles will work with Blaine Parker on finding data for white sturgeon captured in the tribal harvest in the Priest Rapids Project Area for the period 2017-2018.
 6. Mike Clement will send numbers and timing of adult lamprey captured at Priest Rapids dam in 2017 to Ralph Lampman.
- I. **Welcome and Introductions** – Tracy Hillman welcomed everyone to the Priest Rapids Fish Forum (PRFF or Forum) meeting. Participants introduced themselves.
 - II. **Agenda Review** – Members reviewed and approved the draft agenda.
 - III. **Approve February Meeting Notes** – The February 2018 Draft Meeting Minutes were reviewed and approved during the meeting.
 - A. Review Action Items from February Meeting.
 1. Chris Mott will work with Golder on how to estimate the number of PIT-tagged sturgeon harvested in the Tribal and recreational fisheries. **Complete. Tracy Hillman said Tom Skiles sent him a file that contains a listing of PIT-tagged fish that have been captured in the commercial fishery. Chris Mott will work with Golder on including these data in the annual report.**
 2. Tracy Hillman will contact Lisa DeBruyckere to see if she can call into a future PRFF meeting to discuss the invasive species draft action plan. **Complete.**
 3. Steve Lewis will add Wanapum to the invasive species action plan's participation list. He will also provide updates to the PRFF on the status of the draft action plan. **Ongoing.**
 4. PRFF members will review the draft resident fish report and provide comments to Mike Clement by 7 March 2018. **Comments are due by the end of the day.**
 5. PRFF members will review the draft Pacific lamprey annual report and provide comments to Mike Clement by 7 March 2018. **Comments are due by the end of the day.**
 - IV. **Aquatic Invasive Species**
 - A. **ESA Compliance for Invasive Species Response** – Tracy Hillman reported that he and Bob Rose have been in communication with Lisa DeBruyckere about her giving the PRFF an update on the Draft Action Plan for ESA Compliance for Quagga/Zebra mussel response in the Columbia River Basin. Tracy noted that she is available to call into the April PRFF meeting if members so desire. Members present indicated they would like Lisa to call into the April meeting and provide updates on the Action Plan and answer questions. Tracy will invite Lisa to the April PRFF meeting, which will be on 4 April 2018. If the PRFF does not meet in April, Tracy will coordinate with Lisa to see if she is available to call into a future meeting.
 - B. **AIS Annual Report** – Tracy Hillman said comments on the Aquatic Invasive Species Annual Report are due to Carson Keeler by 29 March 2018.
 - V. **White Sturgeon Management Plan**
 - A. **Update on Juvenile Rearing** – Donella Miller said the juvenile sturgeon at Marion Drain are doing well and average 110 grams. Their sizes are on par with previous years. Chris Mott indicated that tagging and release will occur in the next month or two. He added that Blue Leaf will insert 32 acoustic tags in juveniles this year.

- B. **Sturgeon Fishery in the Priest Rapids Project Area** – Tom Skiles shared the following harvest data with the PRFF. These data indicate the size (length and weight) and PIT-tag number if present.

Table 1. PIT-tagged sturgeon captured in the tribal commercial fishery in the Priest Rapids Project Area (16 December 2016).

Fish No.	Length (cm)	Weight (lbs)	Pit-tag No.
1	173	96	3D9.1BF1DAEAC7
2	178	122	3D9.1BF1DAEE8B
3	182	108	4110526D61
4	140	68	3D9.1BF2600EBB
5	168	85	3D9.1BF2605A32
6	112	N/A	3D9.1C2D6754A8
7	144	50	3D9.1BF1B64681
8	152	67	NO TAG
9	147	56	3D9.1BF1B6288D
10	134	43	3D9.1BF1B5C099
11	149	57	3D9.1C2DE411A0
12	143	44	3D9.1BF1B847BC
13	143	49	NO TAG
14	138	45	3D9.1BF1B6A7EC
15	152	70	3D9.1BF1B730DC
16	125	37	NO TAG
17	137	39	3D9.1BF1B73B97
18	125	27	3D9.1BF1B77766
19	155	74	3D9.1BF25E487F

Table 2. PIT-tagged sturgeon captured in the tribal commercial fishery in the Priest Rapids Project Area (23 December 2016).

Fish No.	Length (cm)	Weight (lbs)	Pit-tag No.
1	159	95	3D9.16F1677B96
2	141	50	3D9.1666DE1
3	106	20	3D9.1db900a
4	146	52	3D9.1B7E38C
5	169	89	NA
6	136	45	HATCHERY
7	147	51	3D9.C2D6C4E11
8	142	49	3D9.1B6397A
9	144	59	3D9.1B60A57
10	149	56	3D9.1C2D6C1CFC
11	142	40	3D9.1B6CC04
12	164	73	3D9.1BB265B
13	114	23	3D9.1B6565C
14	107	18	HATCHERY
15	113	22	WILD

Fish No.	Length (cm)	Weight (lbs)	Pit-tag No.
16	125	32	3D9.1B7B30F

Tom said he will work with Blaine Parker to find 2017-2018 harvest data. Chris Mott indicated that he will work with Golder on including these data in their population assessments.

- C. **Draft Annual Report** – Tracy Hillman indicated that comments on the draft annual white sturgeon report are due to Chris Mott by 14 March 2018.
- D. **Presentation on 2017 M&E Work** – Paul Grutter with Golder gave a presentation on White Sturgeon Monitoring and Evaluation in the Priest Rapids Project Area in 2017 (see Attachment 1). Paul explained marking/tagging, fish condition (length, weight, fin deformity, etc.), and release of juvenile sturgeon into the project area and described the environmental conditions (river flows and temperature) before, during, and after release of the sturgeon. He then described the movement and entrainment of juvenile sturgeon released in Wanapum and Priest Rapids reservoirs. Next, he described the sampling design and effort for juvenile index monitoring conducted in 2017, including the amount of gear lost or damaged during the surveys. He shared with the Forum the catch by brood year and by reservoir and reservoir sections. He also reviewed the catch and effort by river mile and the size of fish captured by brood year. He described how abundance was estimated and showed how abundance has changed over time in both reservoirs. He concluded by offering the following summary:
- There was higher fin deformity in the 2016 brood year than in the 2015 brood year.
 - The 2016 brood year exhibited less upstream movement after release and higher entrainment (25%) compared to previous releases (based on active tag data).
 - Small-hook sampling was effective for fish from 30-70 cm fork length.
 - Recapture rate was sufficient to generate a reasonable population estimate in 2017 with smaller confidence intervals than in 2016.
 - With additional indexing effort, recapture rate will improve as will the population estimate.
 - Older hatchery fish are recruiting away from juvenile indexing gear and will be captured by adult indexing gear.
 - The 2018 adult indexing data may allow an estimate of survival for 5-year or older fish (4-5 years post-release).

Mike Clement asked what is the primary factor causing fin deformity? Paul did not know for sure but said it is probably related to fish chewing on each other's fins as the fish develop teeth. He added it is not a genetic deformity. Mike noted that there was an issue with the quality of the bait and asked if Paul contacted the distributor. Paul indicated that he did not contact the distributor. Paul believes the bait was likely rotting before it was pickled. Mike asked why few CRITFC fish were captured during the surveys. Paul said most of those fish are likely too large to be captured on gear targeting juvenile sturgeon. Paul added that CRITFC fish vary greatly in size. Mike asked if dislodged macrophytes floating through the project area affected set lines. Paul said no. Tom Skiles asked why there was a large increase in juvenile sturgeon abundance in Priest Rapids Reservoir from 2015-2017. Paul wasn't sure but thought it was related to larger releases of juvenile sturgeon in the project area.

- E. **Other White Sturgeon Items** – No additional sturgeon items were discussed.

VI. Resident Fish Study

- A. **Resident Fish Draft Report** – Comments on the draft resident fish report are due to Mike Clement today (7 March 2018). Mike noted so far he has receive no comments. He said Grant PUD will provide results for each reservoir separately in the next report. Tracy Hillman reminded the PRFF that WDFW would like the Forum's input on what metrics should be included in the IBI metric and how many sites should be sampled in the future. Members will consider these issues before the next resident fish survey.
- B. **Other Resident Fish Items** – No additional resident fish items were discussed.

VII. Pacific Lamprey Management Plan

- A. **Draft Comprehensive Report** – Comments on the draft annual lamprey report are due to Mike Clement by Friday, 9 March 2018.
- B. **Grant PUD Draft SOA on Adult Lamprey NNI** – Tracy Hillman reported that in February the PRFF reviewed the draft adult Pacific lamprey NNI SOA prepared by Grant PUD. During the February meeting, the PRFF recommended that Grant PUD commit to trapping adult lamprey for 15 days (not weekends) during the peak period of the adult lamprey run. Grant PUD would maximize the number of adults trapped, with the assumption that catch is correlated positively to effort. Additional trapping could occur before or after the proposed three-week trapping period, but those efforts would be funded by other entities (e.g., Chelan and/or Douglas PUD). Based on these recommendations, Grant PUD revised the SOA and shared it with the PRFF on Monday, 5 March 2018.

The PRFF reviewed and discussed the revised draft SOA and made edits to it during the meeting. The revised draft SOA and edits made to it during the meeting are appended to these notes as Attachment 2. Members noted that the other PUDs may want to collect fish at Priest Rapids Dam. These efforts would occur before and/or after Grant PUD's three-week collection period. Mike Clement indicated that the PUDs will need to coordination with Grant PUD on adult lamprey collections. Ralph Lampman asked if Mike could send him the adult lamprey catch data from last year. Mike said he will send those data to Ralph.

Following discussion, Tracy asked members present if they approve the revised adult Pacific lamprey NNI SOA as edited. The PRFF approved the SOA as follows: Yakama Nation, Colville Tribes, and Grant PUD approved the SOA on 7 March 2018; Umatilla/CRITFC, USFWS, and Wanapum approved the SOA on 9 March 2018; and WDFW approved the SOA on 19 March 2018.

- C. **Other Pacific Lamprey Items** – No additional lamprey items were discussed.

VIII. Next Meeting: 4 April 2018 at the Grant PUD Natural Resources Wenatchee Office. Tracy will poll everyone to see if an April meeting is necessary.

Attachment 1

Presentation by Paul Grutter on White Sturgeon Monitoring and Evaluation in the Priest Rapids Project Area in 2017



Presentation Outline

MONITORING & EVALUATION PROGRAM: 2017 SUMMARY



- 2016BY Juvenile Marking and Release
- VR2W Telemetry and 2016BY Movement and Entrainment
- Juvenile White Sturgeon Indexing
- Summary



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2016BY White Sturgeon Juvenile Tagging and Release

MONITORING & EVALUATION PROGRAM: 2017 SUMMARY



- Six maternal families (6Fx6M) that resulted in 36 genetic crosses (6 unique crosses; 30 half-sib crosses)
- 3,248 fish PIT-tagged and scute marked over three days from March 28 to 30, 2017
- 32 fish (1%) received a V9 acoustic tag
- Nicole Ogan (BLE)
- Lucia Ferreira (LGL)
- Donella Miller (MDH)



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2016BY White Sturgeon Juvenile Tagging and Release

RELEASE LOCATION, LENGTH AND WEIGHT

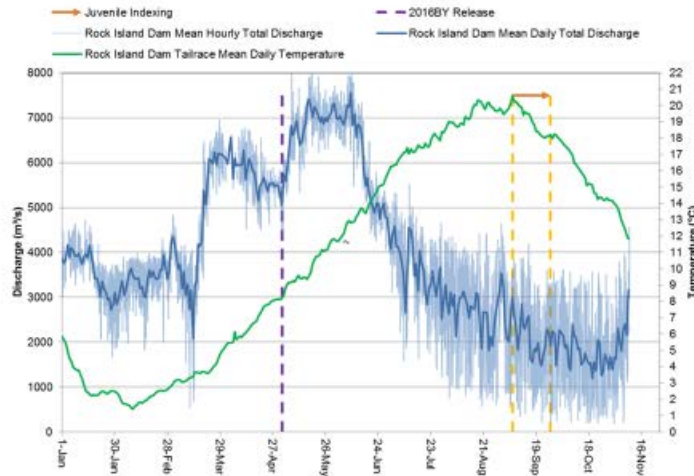
- Released May 2 2017, 2016BY release by reservoir: Wanapum (62%); Priest Rapids (38%) SOA (March 11, 2016)
- Tagged about 4 weeks prior to release; size at release likely larger than at tagging
 - Typically highest growth rates in last couple months before release
 - Implication for use of weight as covariate in pop est

2017 White Sturgeon 2016BY Release			
Release Location Reservoir (River Mile)	No. of Fish (acoustic-tagged)	Mean FL (\pm SD) mm	Mean Weight (\pm SD) g
Wanapum (424.5) ¹	1,999 (20)	270 (32)	125 (47)
Priest Rapids (415.6) ²	1,249 (12)	275 (29)	129 (43)
Total	3,248 (32)	272 (31)	126 (45)




2017 Hydrograph

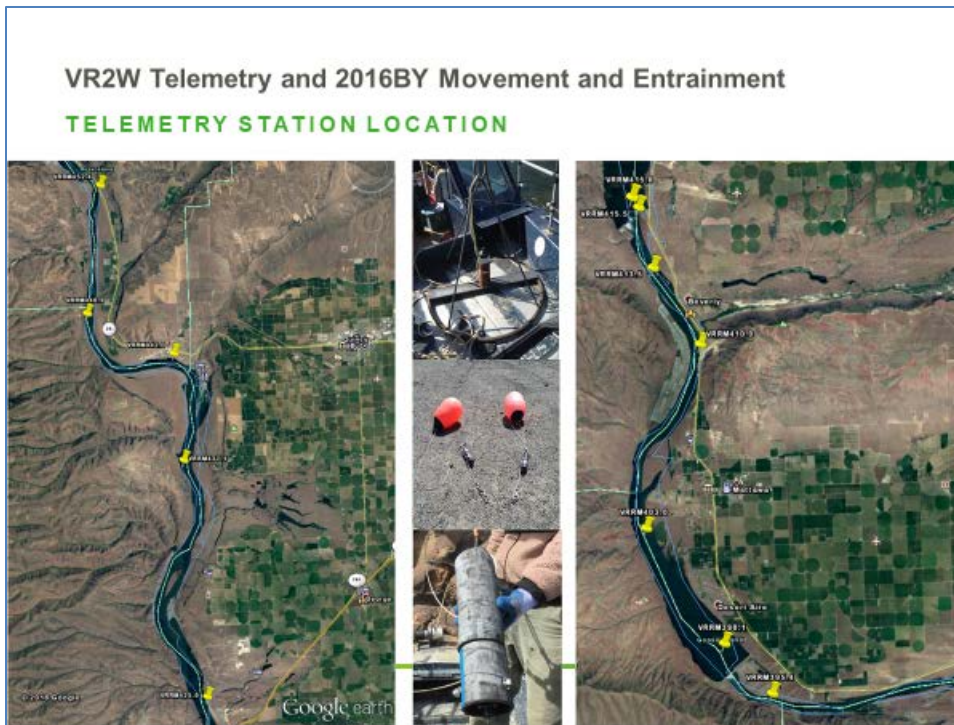
ROCK ISLAND DISCHARGE AND TEMPERATURE



2016BY Primary Fin Deformity	Fin Deformity Sub-type	No. of fish with Primary Deformity	No. of fish with Sub-type Deformity
Caudal deformity only		214	
	Deformed, curled, or damaged		214
Both caudal and pectoral deformity		156	
	Two deformed, curled, or damaged fins		113
	One deformed, curled, or damaged fin, one missing fin		3
	Three deformed, curled, or damaged fins		36
	Two deformed, curled, or damaged fins; one missing fin		3
	One deformed, curled, or damaged fin, two missing fins		1
Pectoral deformity only		966	
	One deformed, curled, or damaged fin		799
	One missing fin		33
	Two deformed, curled, or damaged fins		146
	One deformed, curled, or damaged fin, one missing fin		14
	Two missing fins		4
Dorsal, pelvic, or anal fin deformity		5	
	Deformed dorsal, pelvic or anal fin		5
Total fish with fin deformities		1,371 (42%)	
Total fish without fin deformity		1,877 (58%)	
Total 2016BY Release		3,248	

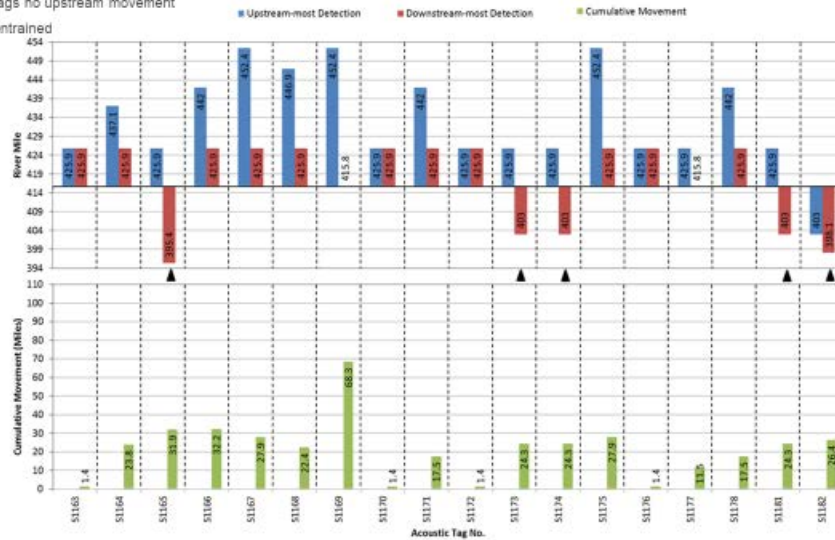
Past fin deformity rates: 2015BY 14%; 2014BY 78.5%
 Similar fin deformity rate by BY recorded during Juvenile Indexing for most BY's

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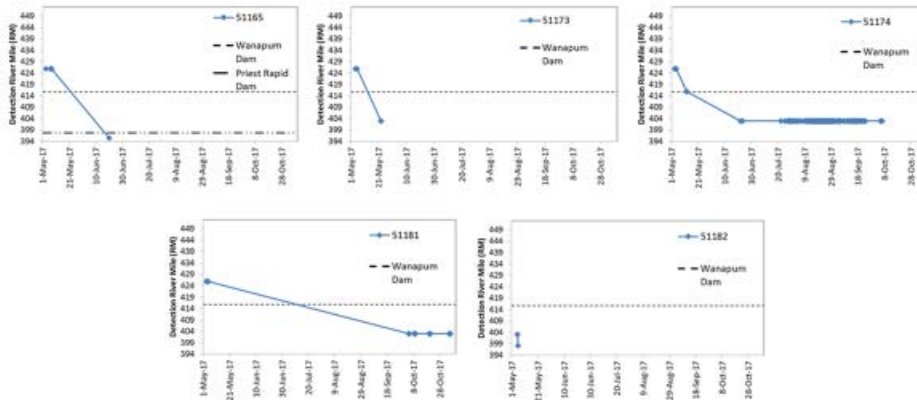


Acoustic Telemetry and Juvenile Movement POST-RELEASE 2016BY: WANAPUM RESERVOIR RELEASE

- 8 tags detected upstream of RM425.9
- 5 tags no upstream movement
- 5 entrained
- 18 of 20 tags detected at least once



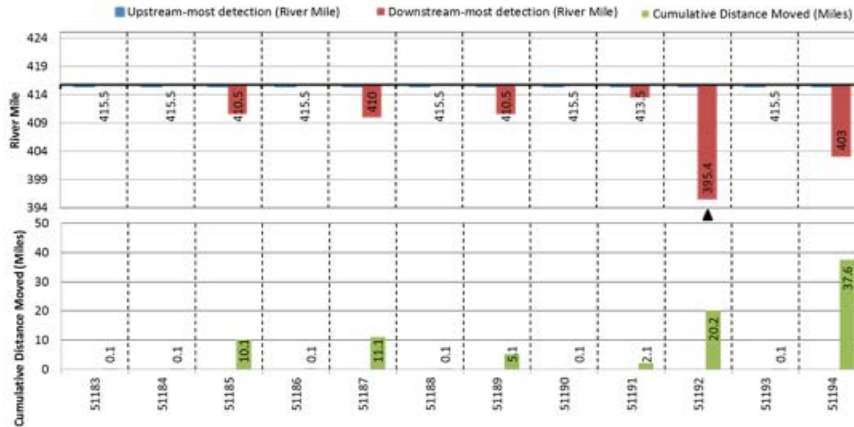
Acoustic Telemetry and Juvenile Movement POST-RELEASE 2016BY: ENTRACTED FROM WANAPUM



Acoustic Telemetry and Juvenile Movement

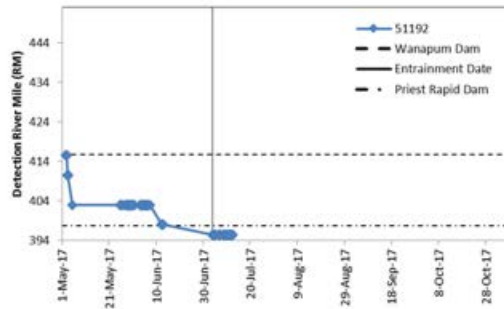
POST-RELEASE 2016BY: PRIEST R. RESERVOIR RELEASE

- All 12 tags detected at least once
- 6 tags only detected upstream near launch
- 2 tags detected downstream of RM410.0 and 1 of 2 entrained in McNary



Acoustic Telemetry and Juvenile Movement

POST-RELEASE 2016BY: ENTRAINED FROM PRIEST



Acoustic Telemetry and Juvenile Movement

ENTRAINMENT OF ACOUSTIC TAGGED FISH

Release Details				Entraining Dam (RM)	Number Entrained	Percent Entrainment (%)
Pool	Year	n	Release RM			
Wanapum	2011 (2010BY)	70	450.6	Wanapum (415.6)	9	12.9
Wanapum	2013 (2012BY)	24	450.6/442.0	Wanapum (415.6)	0	0.0
Wanapum	2014 (2013BY)	52	421.5	Wanapum (415.6)	3	5.8
Wanapum	2015 (2014BY)	48	424.5	Wanapum (415.6)	7	14.6
Wanapum	2016 (2015BY)	25	424.5	Wanapum (415.6)	3	12.0
Wanapum	2017 (2016BY)	20	424.5	Wanapum (415.6)	5	25.0
Subtotal		239			27	11.3
Priest Rapids	2011 (2010BY)	21	415.6	Priest Rapids (397.1)	2	9.5
Priest Rapids	2013 (2012BY)	6	415.6	Priest Rapids (397.1)	0	0.0
Priest Rapids	2014 (2013BY)	14	415.6	Priest Rapids (397.1)	0	0.0
Priest Rapids	2015 (2014BY)	15	415.6	Priest Rapids (397.1)	0	0.0
Priest Rapids	2016 (2015BY)	7	415.6	Priest Rapids (397.1)	0	0.0
Priest Rapids	2017 (2016BY)	12	415.6	Priest Rapids (397.1)	1	8.3
Subtotal		68			3	4.4

2017 Juvenile Indexing

SAMPLING DESIGN AND EFFORT

- 2017 Sample Design was similar to the 2014 and 2016 approaches
- Unstratified, Unequal Probability GRTS Survey Design,
 - Wanapum Reservoir partitioned into three sample areas (three multidensity categories) defined as the Upper, Middle, and Lower Reservoir sections
 - Allocate more catch effort/unit area to the upper and middle portions of each reservoir suspected of moderate to high use by White Sturgeon
- September 6 to 27, 2017

2017 Juvenile Indexing

SAMPLING DESIGN AND EFFORT

	Reservoir							
	Wanapum (15m Bathymetric Contour)				Priest Rapids (6 m Bathymetric Contour)			
	Lower	Middle	Upper	All	Lower	Middle	Upper	All
Number of GRTS sites sampled	90	90	90	270	30	30	30	90
Sampling area (Ha)	1,664	727	308	2,699	1,369	346	213	1,928
Samples/100 Ha	5.4	12.4	29.2	10.0	2.2	8.7	14.1	4.7
Sample depths (m)								
mean	20.9	20.8	20.2	20.6	14.3	10.9	9.6	11.6
min	11.7	7.9	5.4	5.4	3.1	3.0	5.2	3.1
max	39.5	30.5	47.0	47.0	25.0	20.0	18.5	25.0

- 270 overnight sets in Wanapum - 2 crews, Golder and BLE
- 90 overnight sets in Priest Rapids - 1 crew, Grant PUD biologists
- All fish scanned for a PIT-tag, measured for Fork Length & Weight, and assessed for fin deformities
- All data directly entered in the Juvenile Indexing Database

2017 Juvenile Indexing

SAMPLING GEAR



Assembled by Grant PUD staff - big help!

Line Length: 400 ft (122m), ¼" Everson Aqua tarred line - 3 strand nylon - soft lay

40 hooks per line, attached at marked intervals ~ 9 ft (3 m) apart

2/0 and 4/0 Mustad Demon Circle Perfect 2X Strong. Twenty of each size hook per line

Jinkai (or similar) monofilament leaders; 150lb test, 12" in length excluding hook and clip

Stainless snaps sized for main line being used with attached swivels.

Gilmore Pickled Squid

2017 Juvenile Indexing

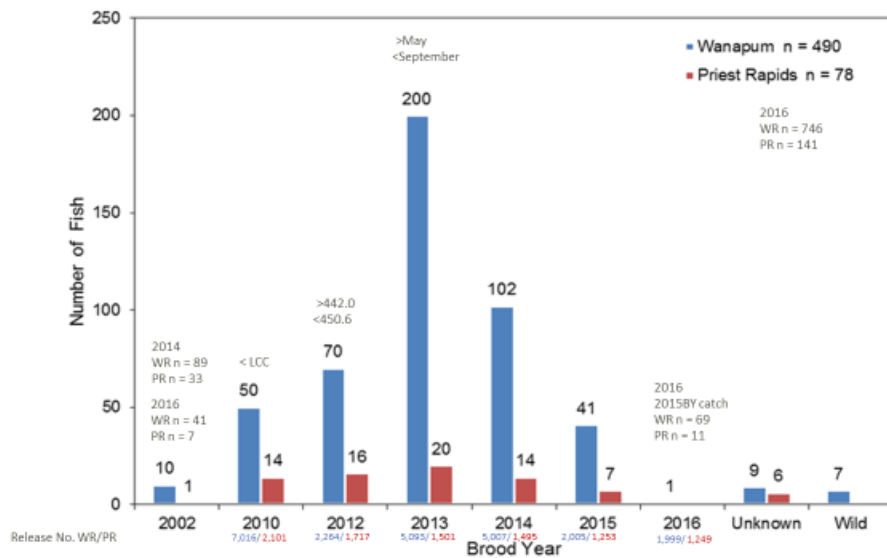
GEAR LOST/DAMAGE

Reservoir	Hook Size	Gangions		Hook/Gangion Fate					
		Set #	Gear Inventory	Bent	Lost	Total	Proportion of Set Gangions with Lost or Damaged Hooks	Proportion of Gangion Inventory with Lost or Damaged Hooks	
		n	n	n	n	n	%	%	
Wanapum	2/0	5396	400	53	2	55	1.0	13.8	
	4/0	5398	400	49	4	53	1.0	13.3	
Total		10794	800	102	6	108	1.0	13.5	
Priest Rapids	2/0	1800	200	17	1	18	1.0	9.0	
	4/0	1800	200	14	4	18	1.0	9.0	
Total		3600	400	31	5	36	1.0	9.0	
PRPA		14394	1200	133	11	144	1.0	12.0	

- 2016, 32% of the all hooks were damaged

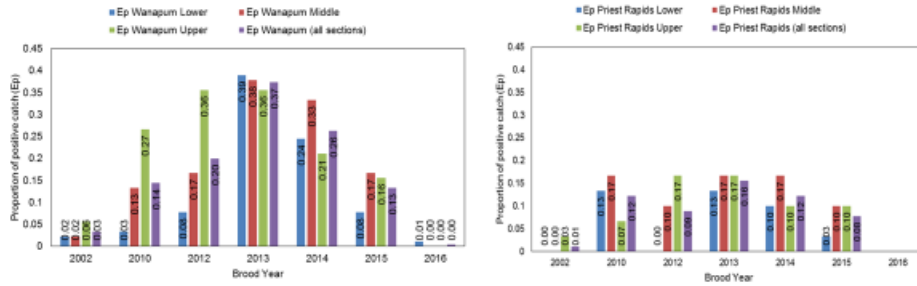
2017 Juvenile Indexing

2017 JUVENILE INDEXING CATCH BY BROOD YEAR



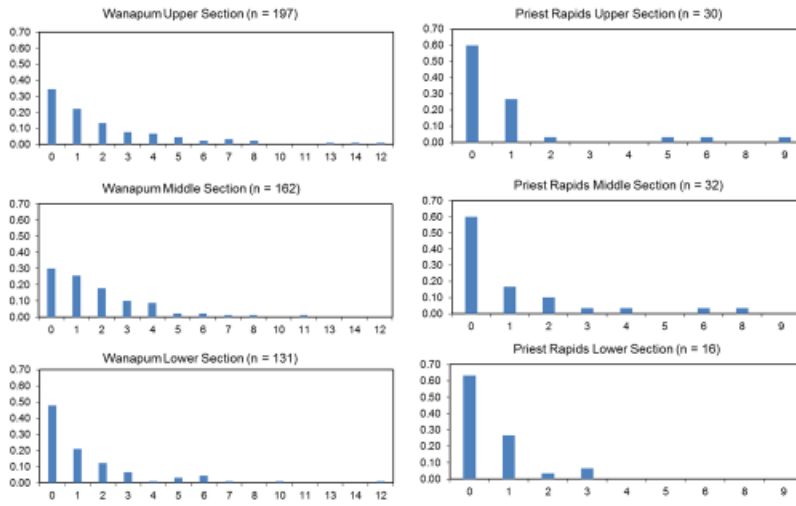
2017 Juvenile Indexing

EP BY RESERVOIR AND RESERVOIR SECTION



2017 Juvenile Indexing

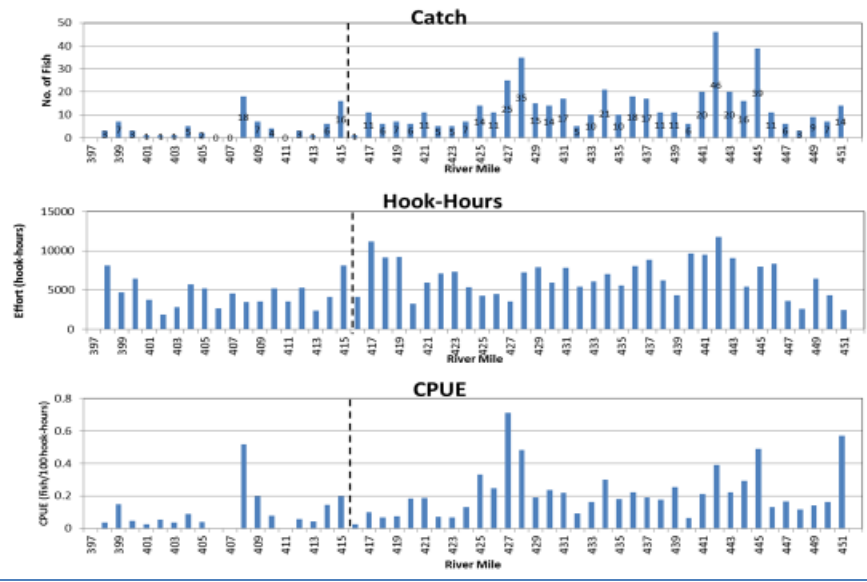
FREQUENCY HISTOGRAMS OF STURGEON CATCH-PER-OVERNIGHT-SET



Catch per overnight set

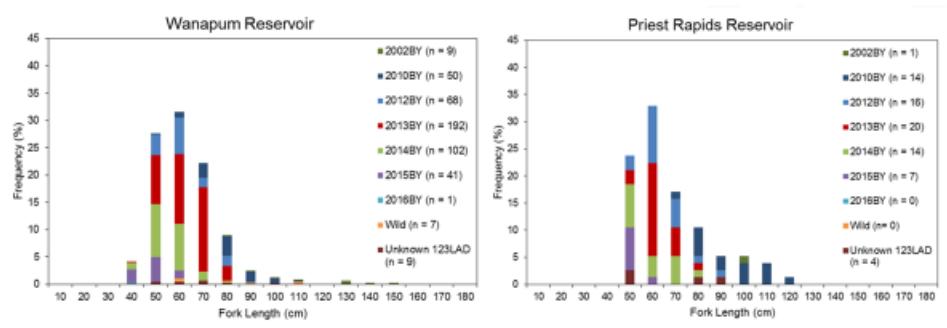
2017 Juvenile Indexing

CATCH AND EFFORT BY RIVER MILE



2017 Juvenile Indexing

LENGTH FREQUENCY BY BROOD YEAR



2017 Juvenile Indexing

MARK ABUNDANCE ESTIMATE ASSUMPTIONS

Assumptions:

- 1) Only used fish in the Golder juvenile release database, to a total of 32,697 fish between both Wanapum (n = 23,382 fish) and Priest Rapids (n = 9,315 fish)
- 2) Ignore entrainment (including from Rock Island/Rocky Reach)
- 3) Ignore wild fish
- 4) Does not include any covariates (like fish weight at release), due to some missing values
- 5) Assumes all fish were released at age-1
- 6) Assumes no difference between survival for first year and subsequent years (mainly due to lack of data, since that model did not converge). So the outcome is more of an average between lower survival of the first year and the high survivals afterwards.
- 7) Checked all models made of the combinations of the following options:
 - a. Survival as constant and as function of release reservoir;
 - b. Recapture as constant, as function of sampling year, and as function of release reservoir
- 8) Used AICc for model selection, and model-averaged the results (excluding non-converged models)

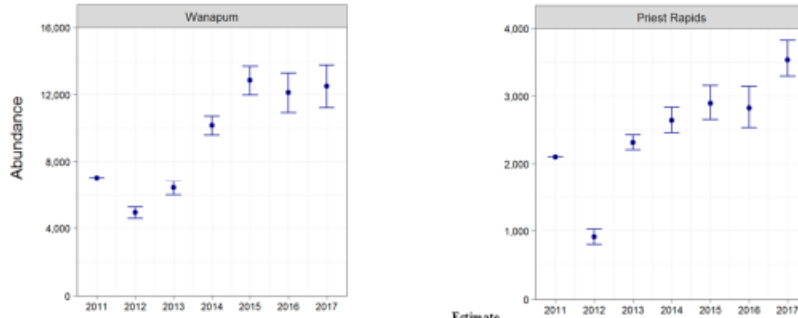


2017 Juvenile Indexing

ABUNDANCE ESTIMATES OF HATCHERY FISH BY RESERVOIR

Wanapum 2017 = 12,504 (11,233-13,766) of 23,382 fish released

Priest Rapids 2017 = 3,539 (3,296-3,824) of 9,315 fish released



Reservoir	Parameter	Mean	Lower 95% Confidence Limit	Upper 95% Confidence Limit
Shared by both Wanapum and Priest Rapids	Recapture, 2013	Fixed	--	--
	Recapture, 2014	0.021	0.018	0.025
	Recapture, 2015	Fixed	--	--
	Recapture, 2016	0.048	0.043	0.054
	Recapture, 2017	0.037	0.032	0.042
Wanapum	Survival (Phi) All Years	0.840	0.810	0.866
Priest Rapids	Survival (Phi) All Years	0.658	0.617	0.698



Grant PUD White Sturgeon Monitoring & Evaluation Program

2017 SUMMARY

- Higher fin deformity in 2016BY compared to 2015BY
- 2016BY exhibited less upstream movement after release and higher entrainment (25%) compared to previous releases
- Small-hook juvenile indexing methodology effective for fish up to 30-70 cm FL)
 - Moderate recapture rate sufficient to generate reasonable population estimate in 2017 with tighter confidence intervals than in 2016
 - With additional indexing effort, recapture rate will improve as will the population estimate
- Older hatchery fish recruiting away from juvenile indexing gear and will be captured by adult indexing gear
 - The 2018 adult indexing data may allow estimate survival of 5yr+ fish (4-5 years post-release)



Attachment 2

Adult Pacific Lamprey No Net Impact Statement of Agreement

1. Statement:

The Priest Rapids Fish Forum (PRFF) agrees by consensus to this adult Pacific Lamprey No Net Impact Trap and Transportation Statement of Agreement (SOA).

As a result of this SOA, Grant PUD will deploy, operate, and maintain, four mechanical traps at Priest Rapids Dam, which have been used in previous years in support of adult Pacific lamprey trapping and tagging evaluations (2014-2017).

Grant PUD will fish ~~four~~these traps for a total of approximately 15 days during nighttime hours only to collect a maximum number (as determined by run size and trap efficiency) of adult lamprey annually during the peak migration period and transport collected individuals upstream from Rock Island Dam (Kirby-Billingsly Park, unless otherwise determined by the PRFF), thereby removing the Priest Rapids Project area from their upstream migration or the potential effect of the Project. Grant PUD will include a description of trapping period, total trapping effort, total number of fish collected (by trap) and transported, health and mortality of captured fish, and the proportion of the run captured and transported in their annual Pacific lamprey report. Other entities will coordinate with Grant PUD and the PRFF on the collection of genetic samples, tagging fish, and possible release locations. Grant PUD will coordinate annually with the PRFF on the timing of trapping at Priest Rapids Dam each year. The annual review by the PRFF will include evaluation of compelling evidence for possible changes in the trap-and-haul program.

This SOA maintains Pacific lamprey as a “Non-Covered Species” as defined in Grant PUD’s 401 Certification and achieves specific requirements in Grant PUD’s Pacific Lamprey Management Plan (PLMP, Objective 1: No Net Impact (NNI). Identify, address, and fully mitigate Project effects to the extent reasonable and feasible) for implementation measures associated with adult

passage evaluations and goals and objectives associated with No Net Impact. This SOA does not supersede other PLMP requirements related to adult Pacific Lamprey.

2. Terms of the Agreement:

This SOA will remain in effect for a period of 10 years (with a 5-year check-in to evaluate the performance of the trapping program) unless there is compelling¹ evidence that demonstrates that the Priest Rapids Project has an impact on adult Pacific lamprey migration through the Priest Rapids Project. This SOA satisfies ~~any further obligations related to~~ adult lamprey NNI for the 10-year term of this ea-Agreement.

¹ Compelling evidence ~~should be eouid-related~~ to but not limited to -information collected as part of the annual HDX Passive Integrated Transponder fishway monitoring program in the fishways of Wanapum and Priest Rapids Dams, through the white sturgeon monitoring and evaluation program (predation impacts), etc.