Grant County
PUBLIC UTILITY DISTRICT
Excellence in Service and Leadership

Priest Rapids Fish Forum
Conference Call

Wednesday, 3 March 2021
9:00 – 11:00 a.m.

FINAL MINUTES

PRFF REPRESENTATIVES

Steve Lewis, USFWS	Patrick Verhey, Laura Heironimus, WDFW
Ralph Lampman, Donella Miller, YN	Breean Zimmerman, WDOE
TBD, Wanapum	Aaron Jackson, Carl Merkle, CTUIR
Jason McLellan, Bret Nine, CCT	Marchelle Foster, BIA
Mike Clement, Chris Mott, Grant PUD	Tom Skiles, CRITFC/CTUIR
Tracy Hillman, Facilitator	Erin Harris, Grant PUD

ATTENDEES

RD Nelle, USFWS	Ralph Lampman, YN
Mike Clement, Grant PUD	Patrick Verhey, WDFW
Steve Lewis, USFWS	Laura Heironimus, WDFW
Jason McLellan, CCT	Paul Grutter, Golder
Erin Harris, Grant PUD	Breean Zimmerman, WDOE
Donella Miller, YN	Tracy Hillman, Facilitator

Action Items:

- Tracy Hillman will add Nathan Patterson (Yakama Nation) to the PRFF distribution list.
- Grant PUD will work on a plan for using Upper Columbia larvae if broodstock cannot be collected. Grant PUD will share the plan and timeline with Jason McLellan.
- Tracy Hillman will set up a meeting/conference call with the PRFF, RRFF, and ASWG following the first four weeks of adult lamprey trapping at Priest Rapids Dam. The purpose of the call is to determine if adults collected during the second four weeks of trapping will be translocated to sites upstream from Wells Dam or released at Kirby Billingsley Hydro Park.
- Comments on the draft 2020 white sturgeon annual report are due on 11 March 2021.
- Comments on the draft 2020 aquatic invasive species annual report are due on 1 April 2021.

I. Welcome and Introductions - Tracy Hillman welcomed everyone to the call and participants introduced themselves.

II. Agenda Review – Members reviewed and approved the March agenda with the following additions or updates. Tracy Hillman reported that the draft Aquatic Invasive Species Annual Report was sent to the PRFF for review. Comments are due to Carson Keeler by 1 April 2021. Tracy added that comments on the draft Pacific Lamprey Management Plan Annual Report were due on 25 February 2021. Grant PUD addressed comments received and sent the report to FERC. Unfortunately, Grant PUD was unable to fully address comments received after the due date. Tracy noted that the Yakama Nation provided comments on the lamprey report today (3 March 2021), which could not be fully addressed before the report was submitted to FERC. Tracy reminded members that they have 30 days to review and provide comments on draft annual reports. Because Grant PUD has reporting requirements to FERC, comments received after the due date may not be addressed in the final report. However, those comments will be addressed in the next annual report. Tracy asked members to please let him and Grant PUD know if they need additional time to review draft reports. Depending on the reporting timeline to FERC, addition review days may be possible. Mike Clement added that comments from the Yakama Nation that were consistent with other comments received were addressed in the final report.

III. Approve February Meeting Notes – Draft February Meeting Notes were reviewed and approved.

A. Review Action Items from February Meeting

1. Laura Heironimus will contact ODFW regarding their plans to capture and tag adult sturgeon downstream from McNary Dam in 2021. Complete. Laura shared the following email, which she received from Peter Stevens (ODFW). Peter wrote: "*We do have some tags leftover. The arrangement with Corey (Blue Leaf now LGL) was that he would put them in some Broodstock they could not use during the 2020 Broodstock Collection. However, COVID precluded that effort from occurring so the tags never got out. My understanding is the future of the project is being debated/decided as we speak. The outcome of that would likely decide if it's worth it to try and get the remaining tags out. That's Phil's area now so I can't be much help*."
2. Mike Clement will discuss with Donella Miller the plan to use Upper Columbia larvae if the pandemic precludes the collection of brood stock in 2021. Mike will see if Donella is okay with using larvae as a backup and whether larvae can be reared at the Yakama Nation Sturgeon Hatchery. Complete. Mike said Donella supports using larvae as a backup and the Yakama Nation Sturgeon Hatchery can rear larvae if necessary.
3. Grant PUD will work on a plan for using Upper Columbia larvae if brood stock cannot be collected. Grant PUD will share the plan and timeline with Jason McLellan. This is an ongoing action item. Mike said Grant PUD will know more as we get closer to the time when broodstock are to be collected.
4. Jason McLellan will contact managers to see if surplus sturgeon can be used in the Priest Rapids program and will see how long the hatcheries can hold the surplus fish. Jason contacted managers and the managers are evaluating requests for any surplus fish. At this time, they are not sure how many fish are available, and no final decisions have been made. This action will be ongoing depending on the needs of the PRFF.
5. Tracy Hillman will set up a meeting/conference call with the PRFF, RRFF, and ASWG following the first four weeks of adult lamprey trapping at Priest Rapids Dam. The purpose of the call is to determine if adults collected during the second four weeks of trapping will be translocated to sites upstream from Wells Dam or

released at Kirby Billingsley Hydro Park. Ongoing. This action item will be addressed in July.

IV. PRFF Administration

A. Voice Recording Meetings to Improve Accuracy of Meeting Notes – Tracy Hillman reported that in order to assist Erin Harris with note taking and to make sure the notes accurately reflect discussions and decisions within the PRFF, he is requesting the use of voice recordings. He said these recordings will be used only to assist with note taking. They will be destroyed after the notes are compiled. He reminded the PRFF that the Rocky Reach Fish Forum records meetings to assist with note taking. He added that our note takers are not biologists and we in the Forums tend to use jargon that is unknown or unfamiliar to our note takers. Thus, it is very difficult for them to capture scientific discussions accurately. The use of recordings will help our note takers better capture our discussions.

Tracy asked members present whether they were okay with using voice recordings to improve the accuracy of the meeting notes. All members present supported the use of voice recordings to improve the accuracy of the meeting notes.

V. White Sturgeon

A. Update on Juvenile Rearing – Donella Miller reported that juvenile sturgeon at the Yakama Nation Sturgeon Hatchery are doing well. She indicated that mortality is low and most of the "snaky" fish have died. Fish on station average about 2 pounds per fish or 900 grams per fish. She also noted that because of her new responsibilities, she is training Nathan Patterson to take on the role of communicating hatchery activities with the Fish Forums. Tracy will add Nathan to the PRFF distribution list.

B. 2021 White Sturgeon Activities: Broodstock Collection, Spawning, and Rearing – Mike Clement reported that Grant PUD will move their Coulter Counter to the Yakama Nation Sturgeon Hatchery. Set up and training on the Coulter Counter will occur at the hatchery. All juveniles on station will be evaluated for autopolyploidy and marked/tagged.

Mike commented on the good discussion the Forum had during the last meeting regarding a backup plan if Grant PUD cannot collect broodstock this year. He said they intend to use two boats to fish for sturgeon broodstock downstream from McNary Dam over a similar period as previous years. This, however, will depend on the State's COVID restrictions and policies. Mike said they may not know until shortly before broodstock collection begins whether they will be able to fish for broodstock this year. If they cannot collect broodstock, the PRFF has identified a good backup plan, which includes the use of wild-caught larvae from the Upper Columbia.

C. 2020 White Sturgeon Annual Report and Presentation – Mike Clement stated that the draft white sturgeon annual report provides a lot of information and he voiced his appreciation to Jason for his helpful comments on the report. Mike introduced Paul Grutter with Golder, who helped draft the annual white sturgeon report and will provide an overview of the annual report.

Paul Grutter gave a presentation titled, "Grant County White Sturgeon Monitoring & Evaluation Program: 2020 Summary" (see Attachment 1). Paul provided a brief overview of the presentation and talked briefly about the effects of the COVID pandemic on the sampling program including health screening, PPE requirements, and risk management. He then described the BY 2019 juvenile sturgeon tagging and release activities. He also showed Columbia River temperatures and discharges within the project area and identified when fish were released and when different aspects of monitoring occurred. Paul identified the number, size (length and weight), and percent fin deformities of fish released at each

location in the project area. Paul noted that no broodstock were collected in 2020 because of the pandemic.

Paul described the natural spawning assessment work they conducted in 2020. He identified the sampling sites located just downstream from Rock Island Dam and indicated the number and timing of eggs collected at each sampling site. He then correlated spawning activities with water temperature and discharge over time.

Next, Paul described juvenile indexing work in 2020. He briefly described the sampling design, sampling locations, gear used, and sampling effort. He also talked about the gear lost or damaged during sampling. He then showed the number of juveniles captured by brood year in both Wanapum and Priest Rapids reservoirs over time (i.e., 2002-2019). He also showed the distribution of catch and CPUE among sampling sites within each reservoir and the catch by river mile. In addition, he showed the length frequency of fish capture by brood year. These data are important as they show fish recruitment to the gear and away from the gear based on fish size. Paul described the mark-recapture methods used to estimate abundance and survival, which are biased low because of the size-selectivity of the sampling gear. In general, survival from release to age-1 is less than 50%, while survival for fish older than age-1 is greater than 90%. Paul also showed abundance estimates by reservoir. Finally, Paul showed growth rates for each brood year within each reservoir. Growth appears to reach an asymptote in Priest Rapids Reservoir; there is no apparent limit in Wanapum Reservoir. However, it is important to point out that growth rates need to be evaluated in light of gear selectivity.

Based on monitoring results, Grant PUD is considering releasing juvenile sturgeon at new locations. This should increase survival and growth of released sturgeon in the project area.

Steve Lewis asked why brood year 2016 fish vanished. Paul responded that it is likely those fish migrated out of the project area. Steve asked whether we can assume an overall increase in the level of natural spawning based upon previous sampling? Paul answered, no. One would need to monitor over the entire spawning period (mid-June to end of July) and look at spawning frequencies.

Laura Heironimus asked if fin curl is affecting survival. Paul indicated that they are recording fin deformities during sampling; however, they are not tracking survival of fish with deformed fins. He said it may be possible to use existing data to determine survival issues for fish with fin deformities.

Mike Clement asked when juvenile sampling could be reduced or potentially end. Paul responded that marked fish are growing and recruiting away from the gear and they do not yet have substantial natural recruitment. Thus, it is difficult to determine at this time when sampling should be reduced or stopped. He said at some point we should have enough data to determine if sampling should be reduced or ended. Jason McLellan noted that stock assessment strategies depend on the objectives of the assessments. Thus, we need to examine the objectives of the study and the data collected to determine if less frequent sampling is necessary.

Patrick Verhey asked if they are seeing any natural-origin fish recruiting to the gear. Paul answered, yes, they are capturing natural-origin sturgeon. Thus, we know there is some natural reproduction and survival of naturally produced progeny.

Tracy thanked Paul for the presentation and reminded members that comments on the draft white sturgeon annual report are due to Mike Clement by 11 March 2021.

D. Other White Sturgeon Items – Jason McLellan noted that the Upper Columbia white sturgeon population model can be used to model sturgeon within the Priest Rapids project area.

VI. Bull Trout

A. Update on USFWS Five-Year Status Review – Tracy Hillman shared that the USFWS held a conference call on 26 February 2021 to discuss threats assessments as part of their bull trout five-year status review. RD Nelle stated that the USFWS is currently compiling demographic and threats assessment data across the state. They are hoping to come back to all working groups in June to give an update and/or summary on status and threats across the state. If entities have not yet sent in their threats assessment worksheets, they need to send them to Erin BrittonKuttel by 12 March 2021. Mike Clement indicated that he participates on the calls even though very few bull trout interact with Grant PUD projects. Mike said Grant PUD sees about 3-12 bull trout on average within the fishways each year.

B. Other Bull Trout Items – None.

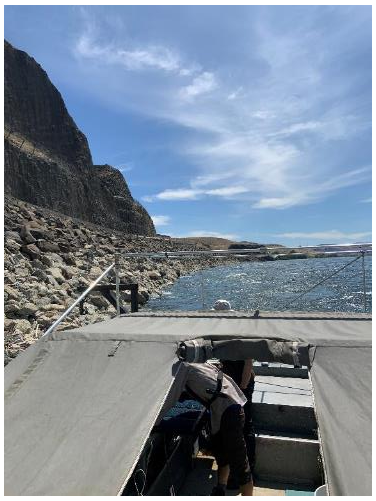
VII. Next Meeting: 7 April 2021

Attachment 1

Presentation by Paul Grutter on White Sturgeon Monitoring within the Priest Rapids Project Area

Presentation Outline

MONITORING & EVALUATION PROGRAM: 2020 SUMMARY



- 2019BY Juvenile Marking and Release
- Natural Spawning Assessment below Rock Island Dam
- Juvenile White Sturgeon Population Indexing

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COVID-19

EFFECT ON THE 2020 WSMP M&E PROGRAM

- Grant PUD Health Screen Policy v4 (HR-BC-POL-315)
  - Health screening requirements and self-monitoring guidance to mitigate virus spread among Grant PUD and contractor
  - Self-monitoring for symptoms; COVID-19 exposure contact tracing and proof of testing
- Grant PUD COVID-19 PPE Requirements v4.2 (SA-BC-POL-206)
  - PPE requirements specific to work location and work environment
  - Face coverings required on District Property and when working withing 2m (6ft) of others
- COVID-19 Risk Management Plan developed for M&E study components
  - Successfully implemented for Natural Spawn Monitoring and Juvenile Indexing
    - No delays or disruption of these components; controlled environment, small crew with consistent crew members
  - Implemented with partial success for tagging 2019BY
    - Schedule delays
    - Equipment availability delays
    - Cancellation of 2020 broodstock collection

GOLDER

2019BY White Sturgeon Juvenile Tagging and Release

MONITORING & EVALUATION PROGRAM: 2020 SUMMARY

- 2019BY: partial 5Fx5M spawning matrix conducted on June 14, 2019 at YNSH
- 24 genetic crosses (4 unique crosses; 20 half-sib crosses). Maternal families kept separated.
  - Broodstock were tested for polyploidy – tests were negative (all 8N)
  - Genetic testing of brood (April 2019): low but detectable level of spontaneous autopolyploidy detected in brood in 4 of 5 maternal families (between 2% to 4%)
- Tagging was delayed until July when COVID rates decreased
- Original plan was to test individuals with a Coulter Counter and only tag 8N fish
  - COVID delayed receipt and training; testing of individuals in families with polyploidy was not possible
- 2019BY release limited to single family that originally tested negative during initial screening
- 672 fish PIT-tagged and scute marked July 7, 2020

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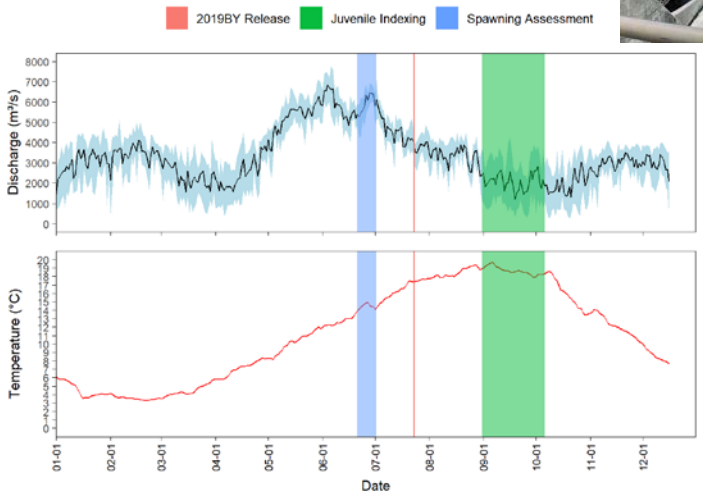
2020 Hydrograph

ROCK ISLAND DISCHARGE AND TEMPERATURE



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2019BY White Sturgeon Juvenile Tagging and Release

RELEASE LOCATION, LENGTH AND WEIGHT

- Released July 23 2020, Wanapum **(62%);** Priest Rapids **(38%)**

	2020 White Sturgeon 2019BY Release		
Release Location Reservoir (River Mile)	No. of Fish	Mean FL (± SD) mm	Mean Weight (± SD) g
Wanapum (424.5)	411	358 (53)	292 (107)
Priest Rapids (415.6)	261	351 (50)	282 (104)
Total	**672**	**355 (52)**	**288 (106)**
2018BY	2,657	267 (29)	128 (43)
2017BY	3,224	285 (43)	144 (58)
2016BY	3,248	272 (31)	126 (45)
2015BY	3,258	303 (26)	171 (46)

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2019BY Release

FIN DEFORMITIES

2019BY Primary Fin Deformity	No. of fish with Primary Deformity
Caudal only	155
Pectoral only	56
Both Caudal & Pectoral	428
Caudal, Pectoral and Other	14
Other fins	2
Total fish with fin deformities	654 (97%)
Total fish without fin deformity	18 (3%)
Total 2019BY Release	672

Past fin deformity rates: 2018BY (31%); 2017BY (43%); 2016BY (42%); 2015BY (14%); 2014BY (78.5%)

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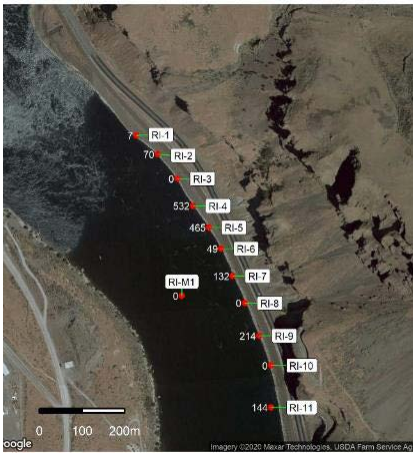
2020 Broodstock Capture not conducted

CAPTURE EFFORT AND CATCH

- Broodstock usually captured by guide-assisted angling below McNary Dam
- 2021 Release will consist of approximately 2000 2019BY age-2 fish
  - Oldest and largest fish released in PRPA to date
  - High survival expected

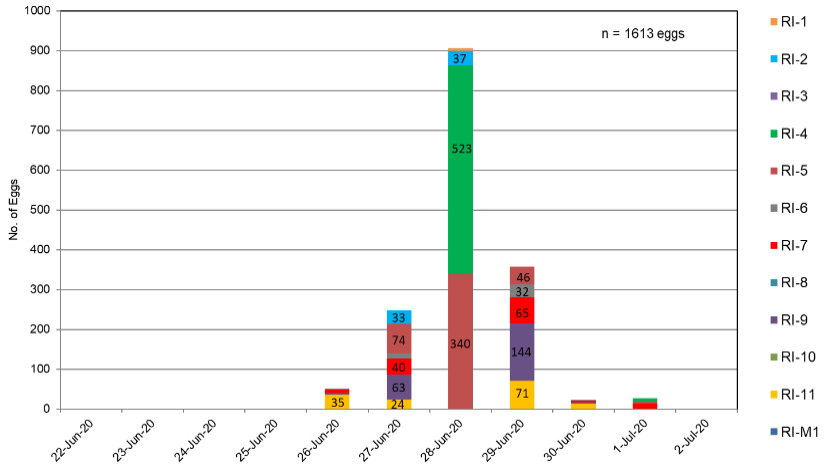
Natural Spawning Assessment 2020

CATCH BY SAMPLE SITE



Natural Spawning Assessment

CATCH BY DATE AND SITE



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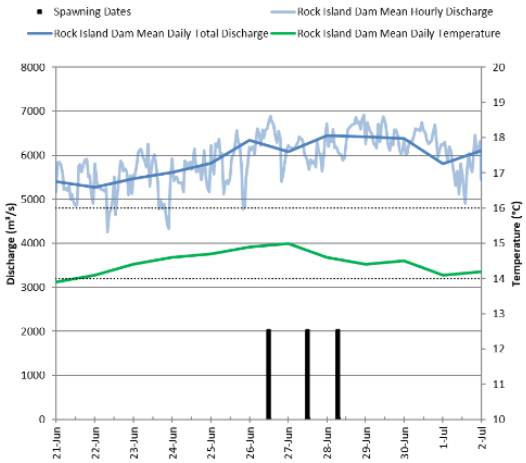
Natural Spawning Assessment 2020

DETECTED SPAWNING EVENTS



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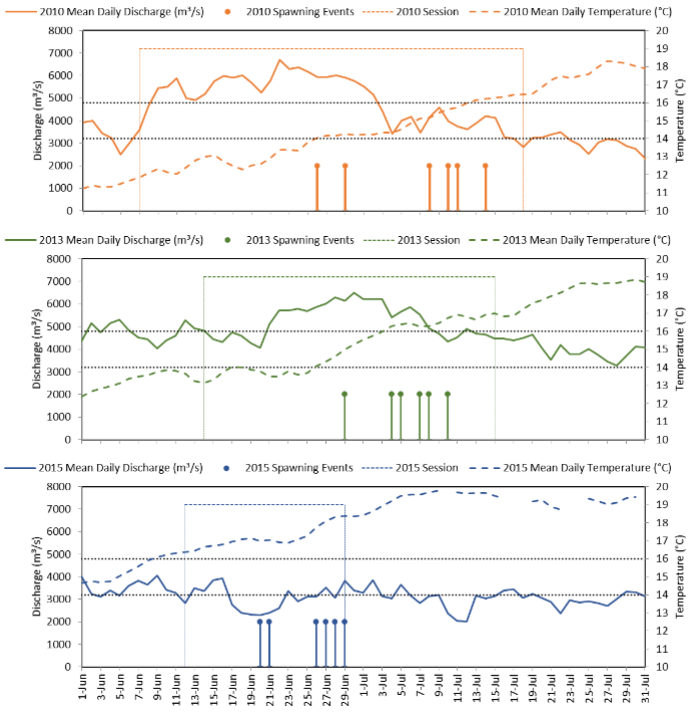

Natural Spawning Assessment

***IN SITU* INCUBATION**

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2020 Juvenile Indexing

SAMPLING DESIGN AND EFFORT

- 2020 Sample Design was similar to the 2014, 2016, 2017, 2018 and 2019 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
- August 31 to October 6, 2020

GOLDER

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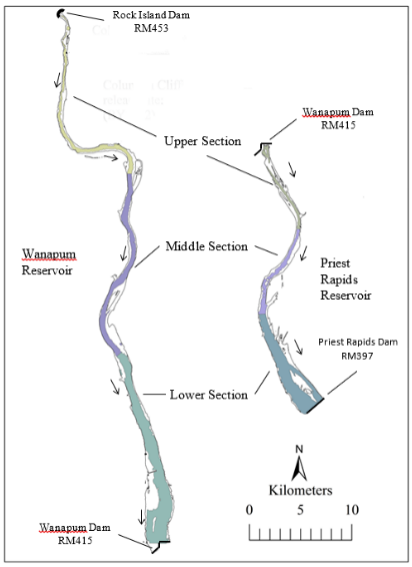

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2020 Juvenile Indexing

SAMPLING DESIGN AND EFFORT

	Reservoir							
	Wanapum (15 m 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/100Ha	5	12.4	29.2	10	2	8.7	14.1	5
Sample depths (m)								
mean	21.5	20.8	17.8	20.0	13.3	11.4	9.2	11.3
min	11.3	9.1	7.0	7.0	7.0	2.8	5.0	2.8
max	40.5	37.2	38.0	40.5	24.5	21.2	14.5	24.5

- 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

GOLDER

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2020 Juvenile Indexing

SAMPLING GEAR

Assembled by Grant PUD staff

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

GOLDER

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Juvenile Indexing

GEAR LOST/DAMAGE

		Gangions			Hook/Gangion Fate				
Reservoir	Hook Size	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	5,400	400		47	1	48	0.9	12.0
	4/0	5,400	400		42	2	44	0.8	11.0
Total		10,800	800		89	3	92	0.9	11.5
Priest Rapids	2/0	1,800	200		27	2	29	1.6	14.5
	4/0	1,799	200		30	2	32	1.8	16.0
Total		3,599	400		57	4	61	1.7	15.3
	2020	**14,399**	**1,200**		**146**	**7**	**153**	**1.1**	**12.8**
	2019								15.0
PRPA	2018								13.3
	2017								12.0
	2016								32%

Reservoir	Hook Size	Catch		Fork Length (cm)			
		n		Mean	SD	Min	Max
Wanapum	2/0	208		**63.9**	16.7	34.0	113.5
	4/0	276		**67.5**	17.2	34.5	118.0
Priest Rapids	2/0	55		**59.1**	12.6	37.0	89.0
	4/0	88		**66.8**	16.6	30.0	119.0

GOLDER

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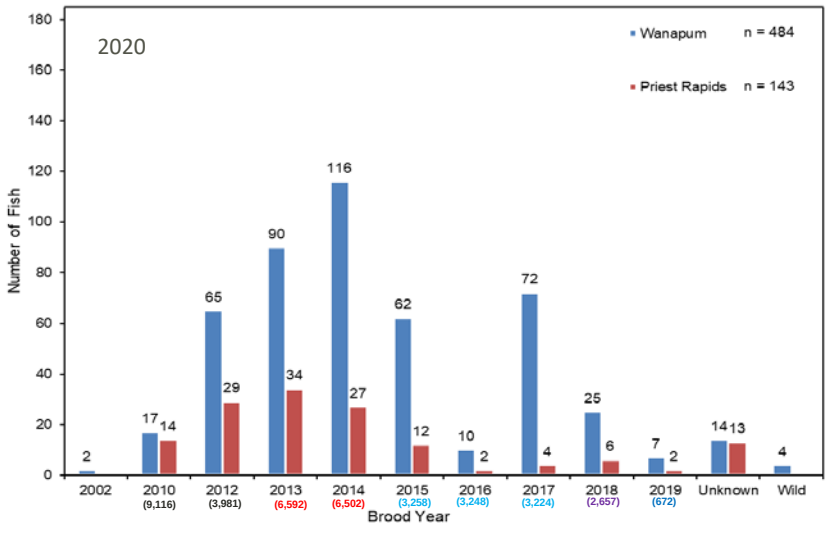
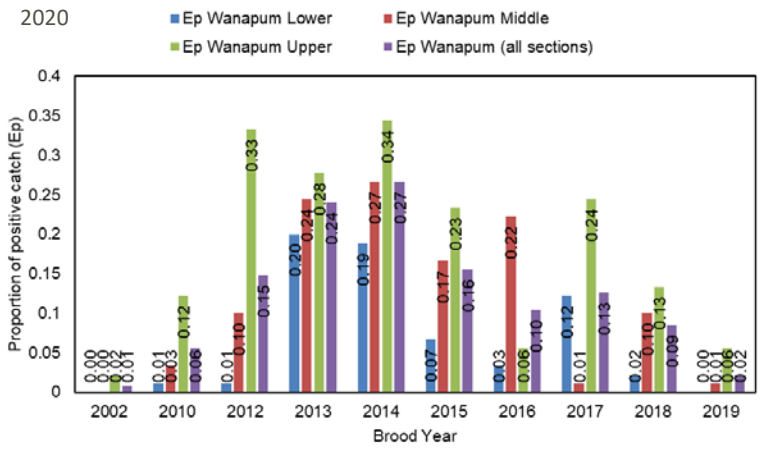
Juvenile Indexing

JUVENILE INDEXING CATCH BY BROOD YEAR



Juvenile Indexing

EP BY WANAPUM RESERVOIR SECTIONS



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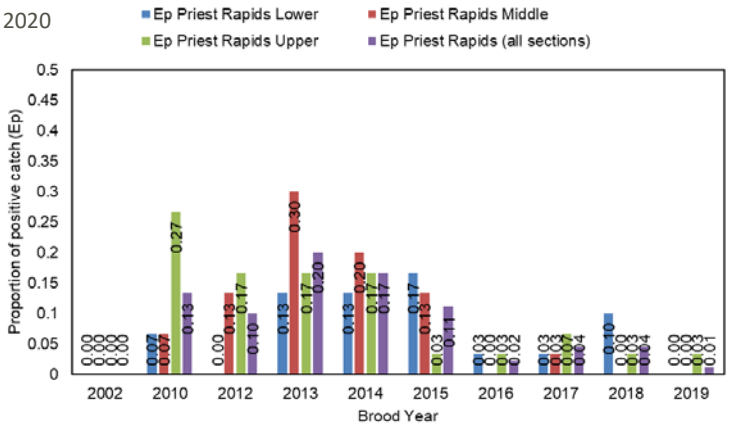
Juvenile Indexing

EP BY PRIEST RAPIDS RESERVOIR SECTIONS



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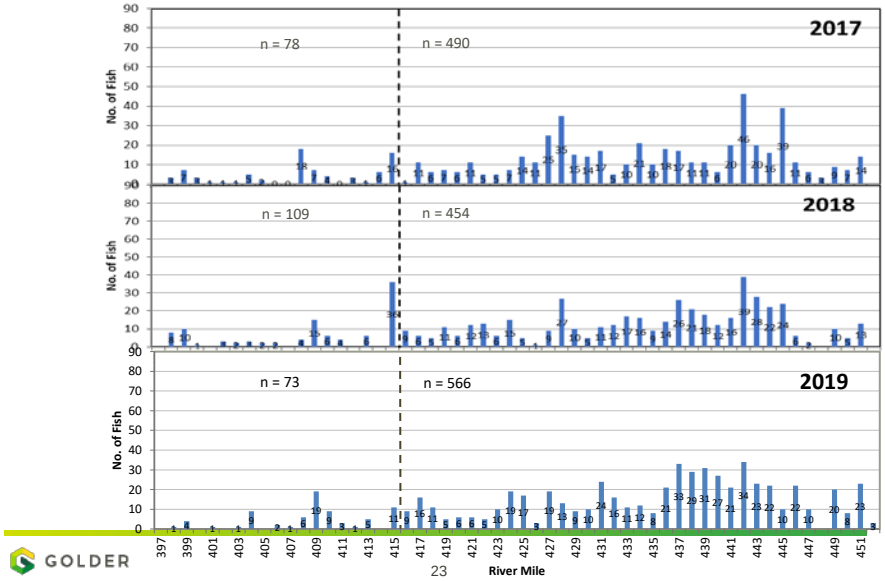
2017-2019 Juvenile Indexing

CATCH BY RIVER MILE



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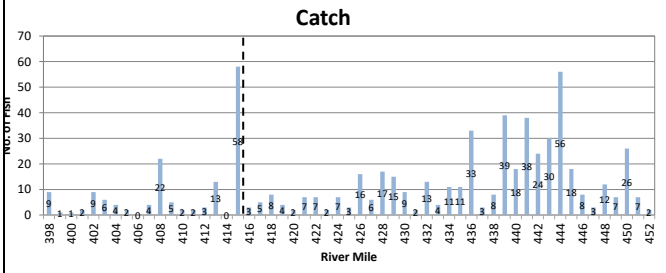
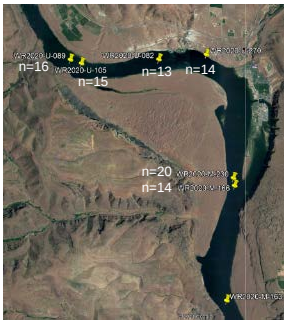
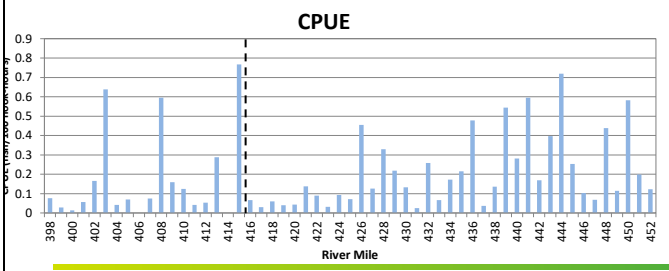
2020 Juvenile Indexing

CATCH BY RIVER MILE







GOLDER

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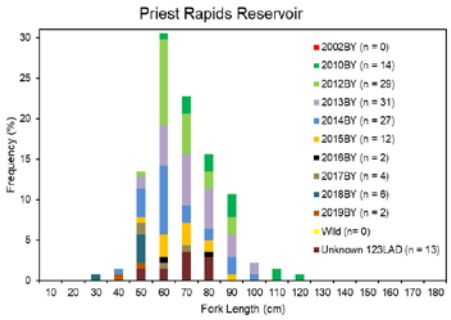
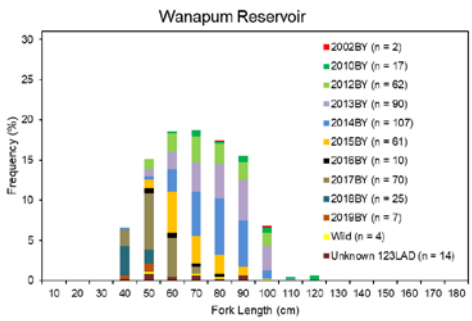
Juvenile Indexing

LENGTH FREQUENCY BY BROOD YEAR





Juvenile Indexing

R MARK ABUNDANCE ESTIMATE ASSUMPTIONS

2020 Model – Sufficient data to model year 1 survival and all subsequent years for the Project by brood year; Recapture probabilities by brood year reservoir

Models were constructed using all combinations of the following survival and recapture specifications:

Survival:

a. as an additive function of brood year and first year post-release and all subsequent years

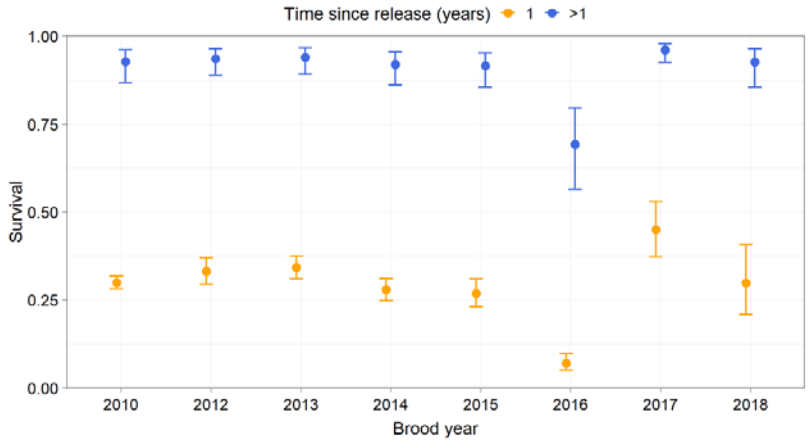
b. as an additive function of release reservoir and whether the period was in the first year post-release or in all subsequent years

Recapture:

a. as function of age
b. as a linear function of age
c. as a parabolic function of age
d. as a multiplicative function of release reservoir and age
    i) as a categorical variable
    ii) as a as a continuous variable with a linear effect
    iii) as a continuous variable with a parabolic effect

Juvenile Indexing

R MARK SURVIVAL BY BROOD YEAR IN PROJECT



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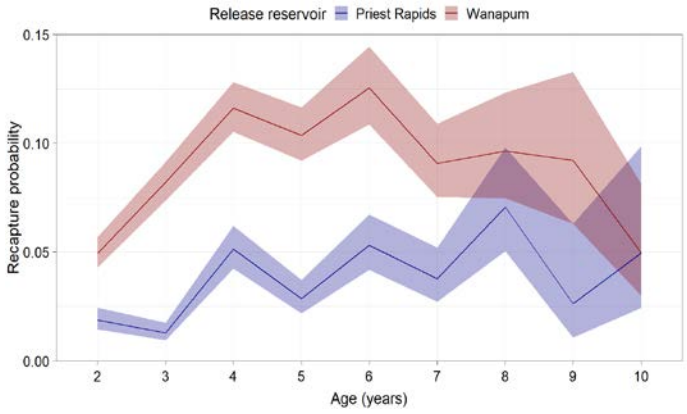
Juvenile Indexing

R MARK RECAPTURE BY BROOD YEAR



GOLDER

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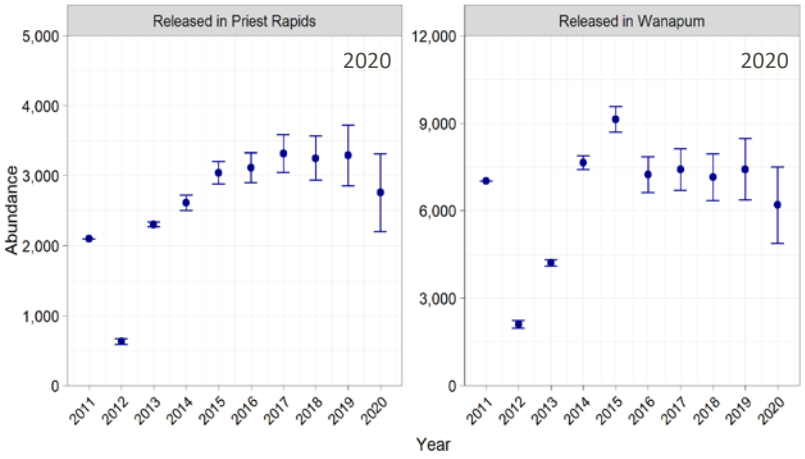
Juvenile Indexing

ABUNDANCE ESTIMATES OF HATCHERY FISH BY RESERVOIR



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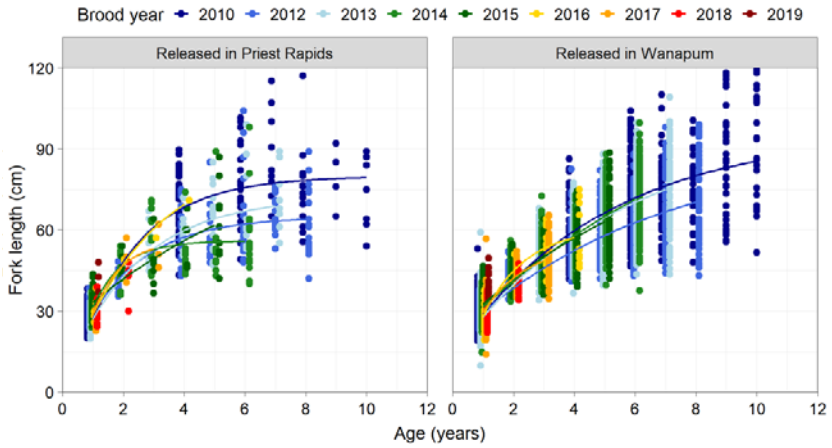
Juvenile Indexing

GROWTH



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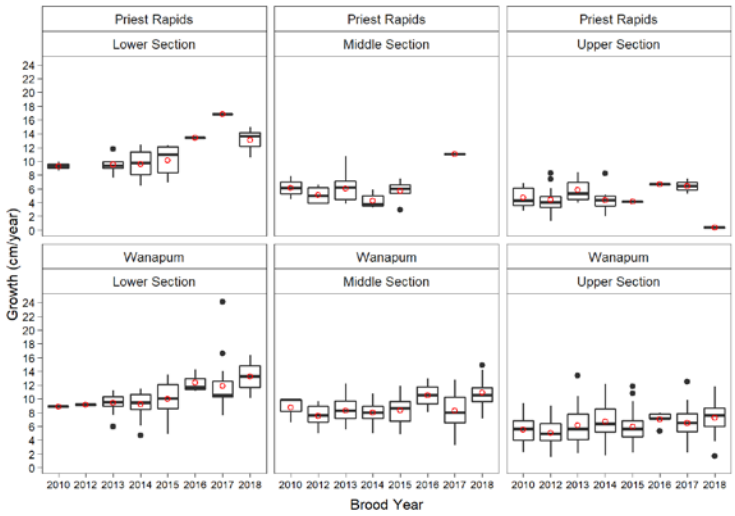
Juvenile Indexing

GROWTH RATE BY RESERVOIR SECTION



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Priest Rapids Hatchery Juvenile Release

PROPOSED NEW RELEASE LOCATION

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Grant PUD White Sturgeon Monitoring & Evaluation Program

2020 SUMMARY

- 2019BY fin deformity rate higher than previous brood year releases
- Natural spawning detected in June 2020 and likely continued into July
- Juvenile population model estimate high post release survival (>0.9) for nearly all brood year releases more than 1 year at large
  - population estimate slightly higher in both reservoirs compared to previous estimates
  - Recapture probability in Priest Rapid much lower than in Wanapum
  - Older brood year recruiting away from the gear
  - future modeling will likely need to include the hatchery catch encountered during the adult indexing program
- Lower growth rates recorded in Priest Rapids Reservoir and in the upper section of each reservoir in general compared to downstream sections.
  - Likely attributed to higher energetic requirements in the upper section

GOLDER

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GOLDER

Questions?