

Memorandum

To: Wells, Rocky Reach, and Rock Island HCP
Coordinating Committees

Date: May 23, 2023

From: John Ferguson, HCP Coordinating Committees Chairman

cc: Kristi Geris, HCP Coordinating Committees Support

Re: Final Minutes of the April 25, 2023, HCP Coordinating Committees Meeting

The Wells, Rocky Reach, and Rock Island Hydroelectric Projects Habitat Conservation Plan (HCP) Coordinating Committees met in person at Douglas PUD Headquarters in East Wenatchee, Washington, on Tuesday, April 25, 2023, from 12:00 p.m. to 2:00 p.m. Attendees are listed in Attachment A to these meeting minutes.

Action Item Summary

1. Chelan PUD will continue providing Rocky Reach Dam and Rock Island Dam turbine unit maintenance updates as information becomes available (Item I-C).
2. Chelan PUD will revise the *Rock Island Dam Smolt Monitoring and Gas Bubble Trauma Evaluation Plan 2023* (2023 Rock Island Bypass Monitoring Plan) and *2023 Rocky Reach Juvenile Fish Bypass System Operations Plan* (2023 RRJSF Protocol) to clarify the origin of adipose fin (ad)-present fish examined, before distributing the final approved plans (Item I-C).
3. National Marine Fisheries Service (NMFS) will provide a summary of study fish and tagging protocols used in studies conducted at federal dams on the Columbia and Snake rivers in recent years (Item I-C).
4. U.S. Fish and Wildlife Service (USFWS), NMFS, and the Confederated Tribes of the Colville Reservation (CTCR) will submit edits and comments on the draft *Rock Island and Rocky Reach Anadromous Fish Agreements and Habitat Conservation Plans 2023 Comprehensive Progress Report* to Lance Keller by May 12, 2023 (Item III-A). (Note: Jim Craig and Kirk Truscott submitted USFWS and CTCR comments, respectively, on May 8, 2023.)
5. Chelan PUD will provide a 2023 Rocky Reach Confirmation Survival Study (CSS) update each Friday throughout the study period, which summarizes activities and progress to date (Item III-C). (Note: Lance Keller has been providing these updates each Friday since April 28, 2023.)
6. Chelan PUD will amend the *2023 Fish Spill Plan, Rock Island and Rocky Reach Dams Public Utility District No. 1 of Chelan County* (2023 Rock Island and Rocky Reach Fish Spill Plan) to reflect a modification to the Rock Island Dam spill gate sequence for 2023 to address needed spillway repairs, for redistribution to the HCP Coordinating Committees (Item III-D).
7. Chelan PUD will inquire internally about the appropriate timing to engage the HCP Coordinating Committees in discussing the collection of additional run-timing information

and conducting species composition monitoring at Rock Island Dam and Rocky Reach Dam in 2024 (Item III-G).

8. Washington Department of Fish and Wildlife (WDFW) will revise the presentation *Steelhead Overshoots (Part 3)* to show the number of fish (sample sizes) in each bar in the histogram charts presented (Item V-A).
9. The next scheduled HCP Coordinating Committees meeting is on Tuesday, May 23, 2023, from 12:00 p.m. to no later than 4:00 p.m. and is to be held in person at the Douglas PUD Auditorium in East Wenatchee, Washington (Item VI-B).

Decision Summary

1. There were no HCP Decisions approved during today's meeting.

Agreements

1. There were no HCP Agreements discussed during today's meeting.

Review Items

1. The draft *Rock Island and Rocky Reach Anadromous Fish Agreements and Habitat Conservation Plans 2023 Comprehensive Progress Report* was distributed to the Rock Island and Rocky Reach HCP Coordinating Committees by Kristi Geris on February 10, 2023, and was available for a 60-day review with edits and comments due to Lance Keller by April 11, 2023. This review period was extended to May 12, 2023 (Item III-A).
2. The draft 2022 Wells HCP Annual Report was distributed to the Wells HCP Coordinating Committee by Geris on February 20, 2023, and is available for a 75-day review with edits and comments due to Geris by May 5, 2023 (Item VI-A). A revised report was distributed on May 16, 2023.
3. The draft 2022 Rock Island and Rocky Reach HCP Annual Reports were distributed to the Rock Island and Rocky Reach HCP Coordinating Committees by Geris on March 9, 2023, and are available for a 60-day review with edits and comments due to Geris by May 10, 2023 (Item VI-A). Revised reports were distributed on May 16, 2023.
4. A draft non-capacity amendment to revise the Rock Island Recreation Plan for the Walla Walla Point Park improvements was distributed to the Rock Island HCP Coordinating Committee by Geris on March 27, 2023, and is available for review with edits and comments due to Keller by April 28, 2023.
5. Wells Project Land-Use Permit Application for LUP 782.0A-01 was distributed to the Wells HCP Coordinating Committee by Geris on April 5, 2023, and is available for a 30-day review with edits and comments due to Tom Kahler by May 5, 2023 (Item IV-A).

6. The draft Statement of Agreement (SOA) *Closure of Rock Island Right Bank Adult Fishway Tailrace Entrance (TRE) During High Flows and Tailwater Elevation* was distributed to the Rock Island HCP Coordinating Committee by Kristi Geris on April 17, 2023 (Item III-B).

Finalized Documents

1. There are no documents that have been recently finalized.

I. Welcome

A. Review Agenda (John Ferguson)

John Ferguson welcomed the HCP Coordinating Committees and reviewed the agenda. Ferguson asked for any additions or changes to the agenda. The following revisions were requested:

- Lance Keller added the following: 1) 2023 Rocky Reach CSS Update; and 2) 2023 Rock Island and Rocky Reach Fish Spill Plan Update regarding the Rock Island Dam Spill Gate Sequence.
- Tom Kahler added the following: 1) Wells Dam Bypass Operations Update.
- Kirk Truscott added the following under Chelan PUD: 1) collection of additional run-timing information and conducting species composition monitoring at Rock Island Dam and Rocky Reach Dam in 2024.
- Keely Murdoch added the following under Douglas PUD: 1) Wells HCP 2023 Comprehensive Progress Report.

B. Meeting Minutes Approval (John Ferguson)

The HCP Coordinating Committees reviewed the revised draft March 28, 2023, meeting minutes. Kristi Geris said edits and comments received from members of the Committees were minor clarifications, and edits were incorporated into the revised minutes. There are two outstanding comments under the 2023 Rocky Reach CSS discussion. Tom Kahler clarified a statement made by Andrew Murdoch about diminishing passive integrated transponder (PIT) detections at juvenile bypass systems due to increased spill, and Kahler hoped to verify his edits were accurate. A. Murdoch confirmed these edits are accurate, and the changes were accepted. HCP Coordinating Committees representatives present approved the March 28, 2023, meeting minutes, as revised.

The HCP Coordinating Committees reviewed the revised draft March 31, 2023, conference call minutes. Geris said all edits and comments received from members of the Committees were minor clarifications, and edits were incorporated into the revised minutes. Keely Murdoch clarified a statement she made about a discussion that occurred within the HCP Policy Committees. She had stated the discussion was regarding a dispute resolution, which was not accurate (there was no dispute to resolve). The edits were accepted. HCP Coordinating Committees representatives present approved the March 31, 2023, conference call minutes, as revised.

The HCP Coordinating Committees reviewed the revised draft April 7, 2023, conference call minutes. Geris said all edits and comments received from members of the Committees were minor clarifications, and the edits were incorporated into the revised minutes. Rocky Reach HCP Coordinating Committee representatives present approved the April 7, 2023, conference call minutes, as revised.

C. Last Meeting Action Items (John Ferguson)

Action items from the HCP Coordinating Committees meeting on March 28, 2023, and follow-up discussions were as follows (*Note: Italicized text corresponds to agenda items from the meeting on March 28, 2023*):

1. *Chelan PUD will continue providing Rocky Reach Dam and Rock Island Dam turbine unit maintenance updates as information becomes available (Item I-C).*
This action item will be discussed during today's meeting and will also be carried forward.
2. *Chelan PUD will edit Slide 7 of the 2023 Rocky Reach CSS presentation shared during the HCP Coordinating Committees conference call on February 28, 2023, to clarify that fish noted in this slide had already met the minimum fish-length selection criteria and will provide the modified presentation to Kristi Geris for distribution to the HCP Coordinating Committees (Item I-C).*
Lance Keller provided the modified presentation, which Geris distributed to the HCP Coordinating Committees on March 30, 2023.
3. *WDFW will provide additional project-specific steelhead overshoot data, including the following: 1) fish behavior in forebays; 2) creel data on steelhead harvest rates; and 3) a comparison between the 2010 to 2017 dataset (harvest) and the 2018 to 2022 dataset (no harvest) (Item I-C).*
A presentation of these data was distributed to the HCP Coordinating Committees by Geris on April 13, 2023. This will be further discussed during today's meeting.
4. *Chelan PUD will provide the final 2023 Rocky Reach CSS discussion slides that were shared during today's meeting to Geris for distribution to the HCP Coordinating Committees (Item III-A).*
Keller provided the final slides, which Geris distributed to the HCP Coordinating Committees on April 18, 2023.
5. *Chelan PUD will revise the 2023 Rock Island Bypass Monitoring Plan and 2023 RRJSF Protocol to clarify the origin of ad-present fish examined before distributing the final approved plans (Item III-B).*
This action item will be carried forward.
6. *Chelan PUD will distribute a draft Rock Island Dam Right Bank Adult Fishway TRE Closure SOA for review no later than April 15, 2023 (10 days prior), for discussion and decision during the HCP Coordinating Committees meeting on April 25, 2023. The SOA will be provided along with background information on the following: a) Chelan PUD will verify dates and times the*

Rock Island adult ladder TRE was closed while calculating adult conversion rates for the 2021 Rock Island CSS; and b) Chelan PUD will provide a synopsis of the engineering options considered to meet the minimum 1.0-foot head differential target at all four entrances at the Rock Island Dam right bank adult fishway during high spring flows in the Columbia River (Item III-D).

A draft SOA was distributed to the Rock Island HCP Coordinating Committee by Geris on April 17, 2023. This will be further discussed during today's meeting.

There were no action items from the HCP Coordinating Committees conference call on March 31, 2023.

Action items from the HCP Coordinating Committees conference call on April 7, 2023, and follow-up discussions were as follows (*Note: Italicized text corresponds to agenda items from the conference call on April 7, 2023*):

1. *NMFS will provide a summary of study fish and tagging protocols used in studies conducted at federal dams on the Columbia and Snake rivers in recent years (Item II-B).*

Scott Carlon said NMFS is still working on this. This action item will be carried forward.

2. *Anchor QEA will notify NMFS of the outcome of today's vote following the conference call (Item II-C).*

Geris provided this notification following the call on April 7, 2023, as discussed.

II. HCP Hatchery and Tributary Committees Update

A. HCP Hatchery and Tributary Committees Update (Tracy Hillman)

Tracy Hillman updated the HCP Coordinating Committees on the following actions and discussions that occurred during the HCP Tributary Committees meeting on April 13, 2023:

- *Review of HCP Tributary Committees' Policies and Procedures:* The Committees approved their updated Policies and Procedures document, which no longer includes the Small Projects Program. Only General Salmon Habitat Program (GSHP) and Monitoring/Assessment applications will be accepted.
- *Cascade Orchard Irrigation Company Budget Amendment (Joint Discussion with the Priest Rapids Coordinating Committee [PRCC] Habitat Subcommittee):* In January 2023, the Rock Island HCP Tributary Committee received a budget amendment request from Chelan County Natural Resources Department (CCNRD) and Washington Water Trust on the *Cascade Orchards Icicle Creek Flow Restoration Project*. The sponsor requested an additional \$250,000 from the Rock Island HCP Tributary Committee (the Rock Island HCP Tributary Committee previously approved \$500,000 for the project). In February 2023, the Rock Island HCP Tributary Committee decided to table the budget amendment because they would like to review the draft report of examination prepared by Washington State Department of Ecology (Ecology) before approving the budget amendment. Members indicated that Ecology

has received many comments on the draft report of examination and there remains several unknowns regarding water usage and legal water rights. Some members noted that until Ecology completes an extent and validity analysis and finalizes the report of examination, they cannot vote on the budget amendment at this time. They will cast their votes once the extent and validity analysis and final report of examination are available.

- *East Fork Mission Creek Restoration Project:* The Committees received a GSHP application from CCNRD titled *East Fork Mission Creek Restoration Project*. The purpose of this project is to remove the effects of a U.S. Forest Service road that was built within the floodplain of East Fork Mission Creek, a tributary to Mission Creek, and to restore stream and floodplain function by adding wood structures and engineered log jams along 2.8 miles of the stream. Because the road has been formally closed, the stream and its floodplain can now be restored, which will benefit steelhead and Coho Salmon. The total cost of the project is \$722,478. The sponsor requested \$405,478 from HCP Plan Species Account Funds. The Rock Island HCP Tributary Committee elected to contribute \$555,478 to the project. This includes the original ask of \$405,478 plus the \$150,000 funding gap identified by the sponsor.
- *Wilson Side Channel Adaptive Management Project:* The Committees received a GSHP application from CCNRD titled *Wilson Side Channel Adaptive Management Project*. The purpose of this project is to prepare conceptual designs that will improve flows through the Wilson Side Channel located at river mile (RM) 6.5 on the Entiat River. Establishing perennial flows through the side channel will benefit Plan Species by reducing stranding, improving water quality, and improving juvenile fish survival during summer and winter. The total cost of the project is \$68,977.01. The sponsor requested \$68,977.01 from HCP Plan Species Account Funds. The Rocky Reach HCP Tributary Committee elected to contribute \$68,977.01 to the project.
- *Assessment/Monitoring Application:* Hinchinbrook, Inc., submitted a revised monitoring application titled *Floodplain Restoration: Monitoring Fish Responses at Site, Reach, and Population Scales*. In the revised application, the sponsor thoroughly addressed all comments and questions raised by the Committees in February 2023 and updated their objectives. By addressing the HCP Tributary Committees' comments and expanding the study into the Methow River subbasin, the total cost of the project over a 3-year period is now \$1,893,848. From HCP Plan Species Account Funds, the sponsor asked for \$388,521 for the first year, \$243,961 for the second year, and \$250,454 for the last year. The Rocky Reach HCP Tributary Committee elected to contribute \$388,521 for the monitoring project. Because of some potential concerns with the study, the HCP Tributary Committee elected to fund only the first year of the study at this time. They view the first year of monitoring work as a pilot study to determine whether the approach will provide robust results. After reviewing results from the first year of work, the Committee will decide whether they will fund additional years of monitoring.

- *Eagle Rocks Presentation:* The Methow Salmon Recovery Foundation (MSRF) joined the meeting to discuss 60% designs for the *Eagle Rocks Project* located between RM 42.8 and 43.5 on the Methow River. The sponsor described the various elements of the 60% designs and asked the Wells HCP Tributary Committee for feedback. The Wells HCP Tributary Committee provided feedback, which MSRF will use to prepare final designs. MSRF will share the final designs with the Committee later this year.
- *Next Meeting:* The next meeting of the HCP Tributary Committees will be on May 11, 2023. The Committees will join the Upper Columbia Regional Technical Team for project tours from May 8 to May 10, 2023.

Hillman updated the HCP Coordinating Committees on the following actions and discussions that occurred during the HCP Hatchery Committees meeting on April 19, 2023 (*Note: Joint HCP Hatchery Committees/PRCC Hatchery Subcommittee items are noted by "joint," Wells HCP Hatchery Committee items are noted by "Wells," and Rock Island and Rocky Reach HCP Hatchery Committees items are noted by "Rock Island/Rocky Reach"*):

- *10-Year Comprehensive Report Review (joint):* The HCP Hatchery Committees began their evaluation of results in the 10-year comprehensive report with a focus on Monitoring and Evaluation (M&E) Objectives 1 and 2. These two objectives address adult and juvenile abundance and productivity. Members are identifying the main points within the 10-year comprehensive report that will be included in the management report prepared by the HCP Hatchery Committees. This evaluation also includes identifying potential changes to the M&E Plan for the PUDs' Hatchery Programs.
- *Next Meeting:* The next meeting of the HCP Hatchery Committees will be on May 17, 2023.

III. Chelan PUD

A. Rock Island and Rocky Reach Anadromous Fish Agreements and Habitat Conservation Plans 2023 Comprehensive Progress Report (Lance Keller)

Lance Keller said the draft *Rock Island and Rocky Reach Anadromous Fish Agreements and Habitat Conservation Plans 2023 Comprehensive Progress Report* was distributed to the Rock Island and Rocky Reach HCP Coordinating Committees by Kristi Geris on February 10, 2023, and was available for a 60-day review with edits and comments due to Keller by April 11, 2023.

Keller said comments were received from the Yakama Nation (YN) and WDFW. He asked whether USFWS, NMFS, or the CTCR have no comments or whether they need additional time for review. Chelan PUD is still working through the YN's and WDFW's comments, so the District would be amenable to extending the comment period if Parties needed additional time for review.

Kirk Truscott asked, when is the deadline for submission? Keller said the deadline was March 2023. He recalled that this deadline was driven by submittal of the 2013 progress report in March 2013, which established a 10-year timeline for the next progress report. John Ferguson suggested extending the deadline for comments to 2 weeks from this Friday. USFWS, NMFS, and the CTCR will submit edits and comments on the draft *Rock Island and Rocky Reach Anadromous Fish Agreements and Habitat Conservation Plans 2023 Comprehensive Progress Report* to Keller by May 12, 2023. (Note: Jim Craig and Truscott submitted USFWS and CTCR comments, respectively, on May 8, 2023.)

B. Rock Island Dam Right Bank Adult Fishway TRE Closure SOA (Lance Keller)

The draft SOA, *Closure of Rock Island Right Bank Adult Fishway TRE Entrance During High Flows and Tailwater Elevation*, was distributed to the Rock Island HCP Coordinating Committee by Kristi Geris on April 17, 2023.

Lance Keller recalled in 2022, committing to develop a timeline of when the TRE was opened and closed to support these discussions. He has completed this for 2022 but is still reviewing tailwater elevation and head differential data for prior years. Currently, river flow is still very low at Rock Island Dam, and spring runoff is expected to be low; therefore, he is confident there is still time for the Rock Island HCP Coordinating Committee to review these data before there are sustained tailwater elevations at Rock Island Dam that would require a TRE closure in 2023.

Kirk Truscott noted that it is getting warmer, so there may be some runoff soon. Keller reiterated that the TRE is only closed when there are sustained high flows. He believes there is still time to compile the additional data. Jim Craig noted that there are still three other entrances. Keller said that is correct, there are two on the right powerhouse and one on the left powerhouse where Powerhouse 2 and Gate 32 meet.

John Ferguson asked whether these data will be distributed once available. Keller said yes, he hopes to have the data ready soon and walk through everything with folks before a decision.

C. 2023 Rocky Reach CSS Update (Lance Keller)

Lance Keller said Chelan PUD has been monitoring fish numbers at Rocky Reach Dam. River temperatures are cold, river flow is low, and the initial pulse of fish that is typically observed in mid-to-late April at the sampling facility has not yet occurred. Chelan PUD is also monitoring PIT tag lists at the PIT tag detector in the Rocky Reach Juvenile Fish Bypass Surface Collector. Among the Chelan Falls releases, approximately 500 fish have been detected to date. The Columbia River Data Access in Real Time database is estimating that the yearling Chinook Salmon run-at-large is around the 5th percentile of the run, with the 10th percentile expected in the coming days. Crews have been ready to initiate the study since last week. Last Sunday, April 23, 2023, was the first transport day, fish were tagged yesterday, and the first treatment group was released in the Wells Dam tailrace this morning at 9:03 a.m. The tagger said 4 of 23 fish received only an acoustic tag. With the first

treatment release being today, the last release at Wells Dam will be on May 22, 2023. With the 3-day travel time lag, the first release in the Rocky Reach Dam tailrace and surface collector structure will be this Friday, April 28, 2023, which puts the last release of fish at this location on May 25, 2023.

John Ferguson asked whether Chelan PUD plans to provide regular updates on progress of the study. Keller said nothing has been established, but he can plan to provide a 2023 Rocky Reach CSS update each Friday throughout the study period, which summarizes activities and progress to date.

D. 2023 Rock Island and Rocky Reach Fish Spill Plan Update – Rock Island Dam Spill Gate Sequence (Lance Keller)

Lance Keller said that periodically, crews conduct structural inspections at Rock Island Dam. Gate 16 is located to the south of the middle fish ladder, and the pier on the northern side of the gate slot has a structural crack. Recently, maintenance staff started seeing effervescence coming from the crack. Divers were deployed and discovered there were changes in the crack from previous inspections. Rock Island mechanics want to install visual and detection monitoring equipment in this location and requested that Gate 16 not be used in the spill gate sequence in 2023. This is because once this equipment is installed, spill through this gate may dislodge the equipment. In the final 2023 Rock Island and Rocky Reach Fish Spill Plan (approved on March 28, 2023), the spill gate sequence to meet daily fish spill targets is as follows: First, Gates 32, 31, 30 are opened and stay open. Next are the six notch gates, Gates 1, 26, 16, 18, 24, 29. Lastly, there is the full gate sequence to meet spill targets. To date, the daily river flow has not reached a level that would require operating deep into the spill gate sequence where Gate 16 is located.

Chelan PUD is proposing to amend the fish spill plan by simply removing Gate 16 from the spill gate sequence and leaving everything else the same. A note can also be added about why Gate 16 was removed from the spill gate sequence. Rock Island and Rocky Reach HCP Coordinating Committee members agreed this seemed like a reasonable approach.

Chelan PUD will amend the 2023 Rock Island and Rocky Reach Fish Spill Plan to reflect a modification to the Rock Island Dam spill gate sequence for 2023 to address needed spillway repairs, for redistribution to the HCP Coordinating Committees.

E. Rock Island Dam Powerhouse 1 Maintenance Update (Lance Keller)

Lance Keller said work continues on Turbine Unit B3, the second of four original units in Powerhouse 1 from the 1930s. The estimated return-to-service date of Q1 2024 is still holding.

F. Rocky Reach Dam Turbine Units Maintenance Update (Lance Keller)

Lance Keller said work continues on Turbine Unit C11, and the estimated return-to-service date of January 2024 is still holding.

Chelan PUD will continue providing Rocky Reach Dam and Rock Island Dam turbine unit maintenance updates as information becomes available.

G. Collection of Additional Run-Timing Information and Conducting Species Composition Monitoring at Rock Island Dam and Rocky Reach Dam in 2024 (Kirk Truscott)

Kirk Truscott asked when Chelan PUD plans to initiate conversations about the collection of additional run-timing information and conducting species composition monitoring at Rock Island Dam and Rocky Reach Dam in 2024. He does not want this to fly under the radar until it is too late to have fruitful discussions.

Lance Keller recalled that Truscott made it clear during the last meeting that this was an important topic, and the Rock Island and Rocky Reach HCPs also stipulate these expanded operations on a 10-year interval, with 2024 being the next year of extended operation. Chelan PUD is already coordinating internally regarding the operations and monitoring, and he will further inquire about the appropriate timing to engage the HCP Coordinating Committees in discussing this topic.

IV. Douglas PUD

A. Wells Project Land-Use Permit Application for LUP 782.0A-01 (Tom Kahler)

Wells Project Land-Use Permit Application for LUP 782.0A-01 was distributed to the Wells HCP Coordinating Committee by Kristi Geris on April 5, 2023, and is available for a 30-day review with edits and comments due to Tom Kahler by May 5, 2023.

Kahler said this is another existing land use that Douglas PUD is now formally permitting, and he asked whether there are any questions.

Jim Craig asked how many permits are issued. Kahler said there is supposed to be a permit for every existing activity or use. If there is a new activity or use, this requires issuance of another permit. Scott Carlon asked whether these existing activities are grandfathered in. Kahler said if it is a permissible activity or use, Douglas PUD will issue a permit. If it is impermissible, this is another issue.

Keely Murdoch asked whether these permits cost anything. Kahler said there is a fee, and the landowner also needs to obtain liability insurance. John Ferguson asked whether there is a time limit on these. Kahler said yes, they are in place for 10 years.

B. Wells Dam Bypass Operations Update (Tom Kahler)

Tom Kahler said Wells Dam juvenile fish bypass operations started on April 9, 2023, at 00:00 hours, per the 2023 Bypass Operating Plan (as distributed to the HCP Coordinating Committees by Kristi Geris on April 10, 2023).

C. Wells HCP 2023 Comprehensive Progress Report (Keely Murdoch)

Keely Murdoch said she thought Douglas PUD and Chelan PUD were on the same timeline for a 10-year progress report, and she asked when the Douglas PUD report will be available for review.

Tom Kahler recalled discussing this a few months ago (during the HCP Coordinating Committees meeting on September 27, 2022). He said Douglas PUD is waiting for data from Canada to finish drafting their report and requested to postpone submitting a final report. Kahler noted that Douglas PUD is considering comments submitted on the Chelan PUD report while drafting the Douglas PUD report.

V. Washington Department of Fish and Wildlife

A. PRESENTATION: Steelhead Overshoots (Part 3) (Andrew Murdoch)

The presentation *Steelhead Overshoots (Part 3)* (Attachment B) was distributed to the HCP Coordinating Committees by Kristi Geris on April 13, 2023.

Slide 2

Andrew Murdoch said this presentation is an update on overshoot fallback success, based on known overshoots. It also looks at potential effects of hooking mortality on fallback success. Eventually, he plans to rerun the full model to estimate total fallback success. On average, the model has slightly lower fallback success rates versus looking at known overshoot abundance. He is not sure this will continue. Once reconciliation of the Priest Rapids Dam (PRD) fish count data has been completed, all models will need to be updated.

Slide 3

A. Murdoch said, in general, there is a similar distribution in both time series, and hatchery and wild fish are distributed proportionally.

John Ferguson asked about the note in the presentation file that says, "Overshoot distribution is not related to origin." A. Murdoch said, during the first period, there were still a lot of activities funded by the Bonneville Power Administration. Now, most data are from the Snake and Yakima rivers. This is because in other populations, such as those from the Umatilla, Walla Walla, Touchet, and John Day rivers, there has been a reduction in the number of tags. Since he has been reviewing these data, these other populations have had really low numbers of steelhead returning.

Slide 4

A. Murdoch said that in the last update, the model number was 59%, which was a little lower than the known overshoot number (69%). In this update, the known overshoot number is also 59%. He

guessed the model number will likely be a little lower than this. He noted that there is more variability in the years with lower numbers of overshoots due to fewer PIT-tagged fish.

Andrew Gingerich asked, what is the definition of fallback migration success? A. Murdoch said that it is any fish from a downriver population that is detected at PRD or higher and is subsequently detected downstream of PRD. This is not following the fish back to the tributary of origin. Detection locations are Ice Harbor Dam, Prosser Dam, Three Mile Dam, Walla Walla/Touchet, and John Day. Gingerich asked whether a model exists for these data. A. Murdoch said these are raw PIT-tag data that can be modeled, but this will take a while. Gingerich asked whether these data can be pooled together. A. Murdoch said yes.

Tom Kahler asked whether these data include any detections below PRD. A. Murdoch said yes. The model includes all detections at downstream locations for the entire detection history of the fish.

Kirk Truscott asked whether these data only include steelhead originating from below PRD. A. Murdoch said yes, he did not look at in-basin overshoots.

Slide 5

A. Murdoch said this is harvest information from Chad Jackson. There is a short 6-year period where a recreational fishery occurred and then a longer period with no recreational fishery. The data are relatively similar between the harvest and no-harvest periods. There is more variability in the more recent (no-harvest) period, likely due to the smaller sample size due to lower adult returns. Interestingly, a lot of the project operations were consistent throughout this evaluation period, relatively speaking. He is not sure there were any unique operations during this period. Scott Carlon noted that 2014 was a unique year for Wanapum (WAN). A. Murdoch said, true, but WAN does not have PIT-tag detection systems.

Ferguson asked where the harvest occurred. A. Murdoch said this slide only includes PRD and WAN, including tributaries and the mainstem, depending on harvest rules. This area had the largest number of detections. This also includes any indirect harvest below PRD. There is an impact limit in this reach that is tiered to overall abundance, and once this limit is reached, the fishery closes. Harvest is based on creel surveys and angler interviews. A correction factor is applied based on hatchery ad-present fish in the system. There is also an assumed 5% hooking mortality.

Gingerich asked whether this slide is an effort to correct the previous slide by adding estimated effects of harvest. A. Murdoch said this slide is trying to detect harvest impacts using the fish last detected over PRD.

Truscott asked, during harvest years, the average fallback success was 87%, and during no-harvest years, the average fallback success was less? A. Murdoch said yes.

Ferguson asked why the means for the first and second periods are different. A. Murdoch said these are based on the patch occupancy model results. These are raw data. He never intended to look at what mechanisms were responsible for fish not showing up. Ferguson said the differences in the two means could be anything. It could be environmental, ocean conditions, etc. A. Murdoch agreed and said he would hypothesize that prior migration experience is important for spawning success.

Gingerich said that knowing the sample sizes per bin would be useful and the data is potentially set up for an easy t-test to determine whether 87% and 81% are different. A. Murdoch said sample size decreases through time and by location. He thinks there is variability in the data and thinks there would be no difference between the means of the two periods. When these overshoot discussions started, he suggested that researchers focused on overshoot populations PIT tag a similar proportion of juveniles consistent across all populations of fish, but no one did this. This would have eliminated all of these sample size issues and there would be less uncertainty.

Slide 6

A. Murdoch said at Wells Dam, there is a similar effect, which is negligible. There is a lot more variability due to the smaller sample size. In 2014, there were no successful migrants of known overshoot fish.

Gingerich said it would be helpful to include the sample size counts on each bar. A. Murdoch said he will revise the presentation, *Steelhead Overshoots (Part 3)*, to show the number of fish (sample sizes) in each bar in the histogram charts presented.

Kahler said one online source does report downstream detections in 2014. A. Murdoch clarified that he did not include wild fish in the harvest years. Jackson further clarified that below PRD, there is a fall Chinook Salmon fishery that is covered under the same Endangered Species Act permit as the upstream fishery. There is a take limit on steelhead there, which is an issue that is taken into consideration when closing the fall Chinook Salmon fishery. Jackson said what Kahler is referring to is an ABC fishery (or an "acceptable biological catch" fishery) to collect wild broodstock. This is a controlled effort which does not occur during the fall Chinook Salmon fishery in that reach.

Slide 7

A. Murdoch said the patch occupancy model estimates wild steelhead to Wells Dam, the Methow River, and the Okanogan River. The "Unknown" are unassigned. At the start of assigning fish to tributaries, the full detection history was considered, which resulted in thousands of fish not being assigned to a population. It was suspected that these discrepancies in model counts were overshoots. The "C&R Mortality" is based on creel data. Assuming that all indirect mortality ("C&R Mortality") are overshoots, that mortality equals 1.8% of overshoots.

Ferguson asked whether there is high confidence in the "Unknown" numbers. A. Murdoch said the model can control for overshoots not assigned to a tributary population, so he is confident in these numbers.

Slide 8

A. Murdoch said this slide shows the actual proportion of successful and unsuccessful overshoots, relative to mortality.

Slide 9

A. Murdoch summarized the findings in this presentation.

Discussion

A. Murdoch said WDFW has harvest data for the entire Columbia River. The data presented today are not based on a temporal aspect. There are a lot of different ways to look at these data.

He also looked at behavioral information collected via a radio telemetry contract with the University of Idaho. Radio telemetry data, which was collected during the second time series, showed four fish detected near the buoy line above Wells Dam. Three fish were detected in the fall during bypass operations, and one fish was detected in the spring right before bypass operations. This appears to suggest that fish are milling just upstream of the dam, and he has heard that this milling occurs at downriver locations.

Truscott asked, when do these fish fall back? A. Murdoch said that previous radio telemetry studies showed the distribution of downstream migrants. There was a 4- to 5-day lag, but the timing was similar in both years. Fish started falling back as soon as they ascended PRD, starting in September through mid-to-late November, and then there was another bump in the spring. These were unknown overshoots. For the fish that stay longer, there is a higher likelihood of succumbing to natural mortality. There was also a group of fish from the Yakima River that did not overshoot at all. If fish do overshoot, most will go upstream to PRD because the Snake River is so hot. Some fish do not overshoot and presumably reside in the mainstem. If there is interest, he can try to control for the natural mortality piece.

Truscott noted that there are a lot of fish above Wells Dam, and the assumption is these fish are not contributing anywhere. A. Murdoch said some go back downstream. Keely Murdoch said the idea is to not prohibit them from getting back safely. A. Murdoch clarified that just because the fish was last detected at Wells Dam does not imply anything about the dam. Truscott said fish overshoot and there is a longer delay because they are farther upstream. A. Murdoch said this cannot be teased out because there are no downstream detection data. The radio telemetry project stopped at the downstream array below PRD.

Gingerich said these fish are not being detected in the tributaries, and he asked whether A. Murdoch can speak more to this. A. Murdoch said there have been a few detections. He thinks 13 fish in total, including 5 to 6 “dip-ins” during the fall, and 5 fish observed during a spawning period in the spawning areas, which suggests those fish were spawning. However, this is a small fraction of the overshoot component. Most of these fish were in the Okanogan River, and maybe one in Gold Creek.

A. Murdoch thinks WDFW will analyze the Snake River data because there are a lot of overshoots everywhere in that system. He thinks this is due to operational differences and the lack of a cue to move downstream. At Lower Granite Dam, there is a new downstream detection location that will help enable him to calculate the overshoot rate. WDFW is doing work between Lower Granite Dam and the U.S./Canada border, monitoring these independent tributaries to the Snake River. WDFW conducted a study in 2014 that could not differentiate between any steelhead populations because fish have presumably been spawning together for so long. They are all genetically the same.

K. Murdoch said in the Snake River, the projects have started providing overshoot passage 4 hours per day, 3 days per week, and she asked whether A. Murdoch has observed a difference in the data. A. Murdoch said these operations are included in their Biological Opinion. Projects are now spilling 12% of the time. Ritchie Graves (NMFS) noted that all of the fish are going over the spillway detector. A. Murdoch said there has not yet been a formal analysis of these data. Kahler asked whether this is occurring at McNary Dam too. A. Murdoch said yes, these operations apply to all four Snake River dams and McNary Dam.

Lance Keller said Chelan PUD appreciates WDFW bringing forward these three presentations. Chelan PUD is also working on a dataset, and the HCP Coordinating Committees can expect a presentation in the coming months.

Kahler said, similarly, Douglas PUD has been working on a dataset in coordination with Chelan PUD and plans to present these data in the coming months.

Ferguson thanked WDFW for presenting these data.

VI. HCP Administration

A. HCP Annual Reports (John Ferguson)

John Ferguson said comments on the draft 2022 Wells HCP Annual Report are due on May 5, 2023, and comments on the draft 2022 Rock Island and Rocky Reach HCP Annual Reports are due on May 10, 2023.

B. Next Meetings (John Ferguson)

The next scheduled HCP Coordinating Committees meeting is on May 23, 2023, from 12:00 p.m. to no later than 4:00 p.m., and will be held in person at the Douglas PUD Auditorium in East Wenatchee, Washington.

The HCP Coordinating Committees meeting on June 27, 2023, is from 12:00 p.m. to no later than 4:00 p.m. and will be held in person at the Douglas PUD Auditorium in East Wenatchee, Washington.

The HCP Coordinating Committees meeting on July 25, 2023, is from 9:00 a.m. to no later than 12:00 p.m. and will be held in person at the Wanapum Dam Hydro Building, Room 103, in Beverly, Washington.

List of Attachments

Attachment A List of Attendees

Attachment B *Steelhead Overshoots (Part 3)*

Attachment A
List of Meeting Attendees

Name	Organization
John Ferguson	Anchor QEA, LLC
Kristi Geris	Anchor QEA, LLC
Tracy Hillman ^{††}	BioAnalysts
Lance Keller [*]	Chelan PUD
Bill Towey [*]	Chelan PUD
Tom Kahler [*]	Douglas PUD
Andrew Gingerich [*]	Douglas PUD
Scott Carlon [*]	National Marine Fisheries Service
Jim Craig [*]	U.S. Fish and Wildlife Service
Chad Jackson ^{††}	Washington Department of Fish and Wildlife
Andrew Murdoch [*]	Washington Department of Fish and Wildlife
Kirk Truscott [*]	Confederated Tribes of the Colville Reservation
Keely Murdoch [*]	Yakama Nation

Notes:

- * Denotes HCP Coordinating Committees member or alternate
- †† Joined by phone for the HCP Hatchery and Tributary Committees update
- † Joined by phone

UCR Overshoot Steelhead

Part 3

Andrew R. Murdoch

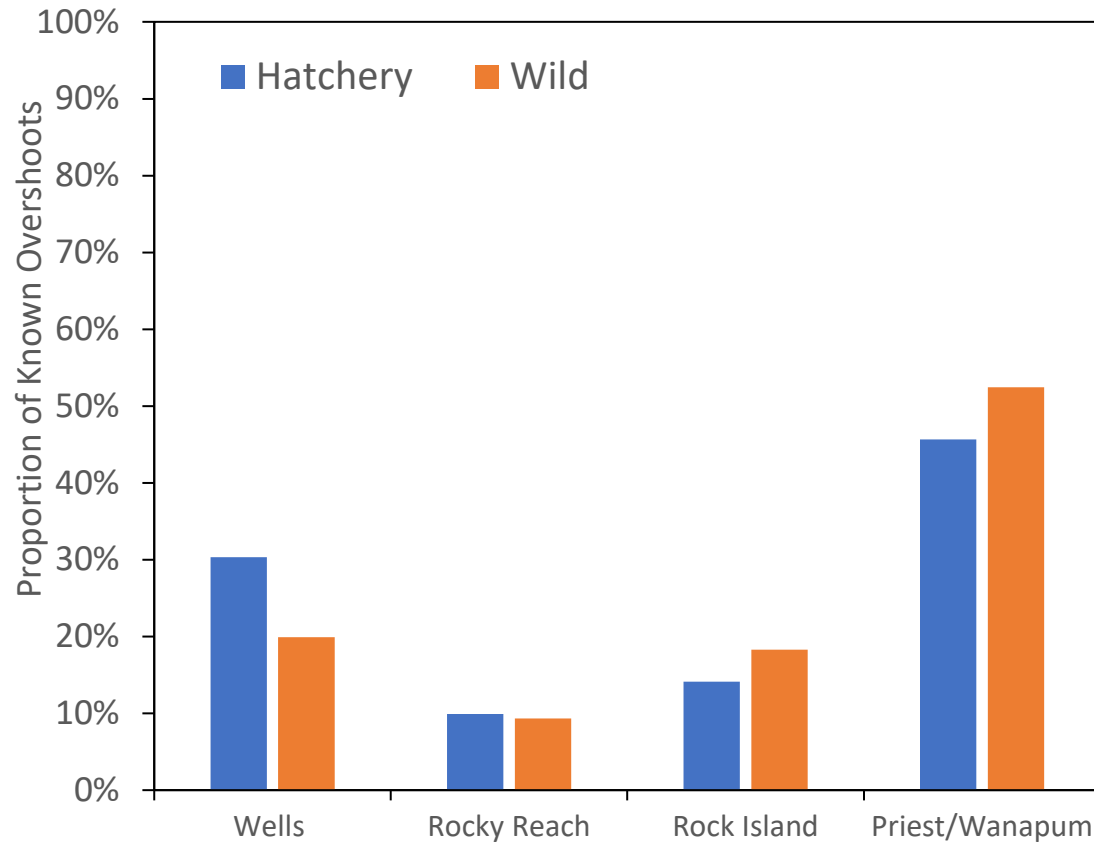
WDFW

Objective

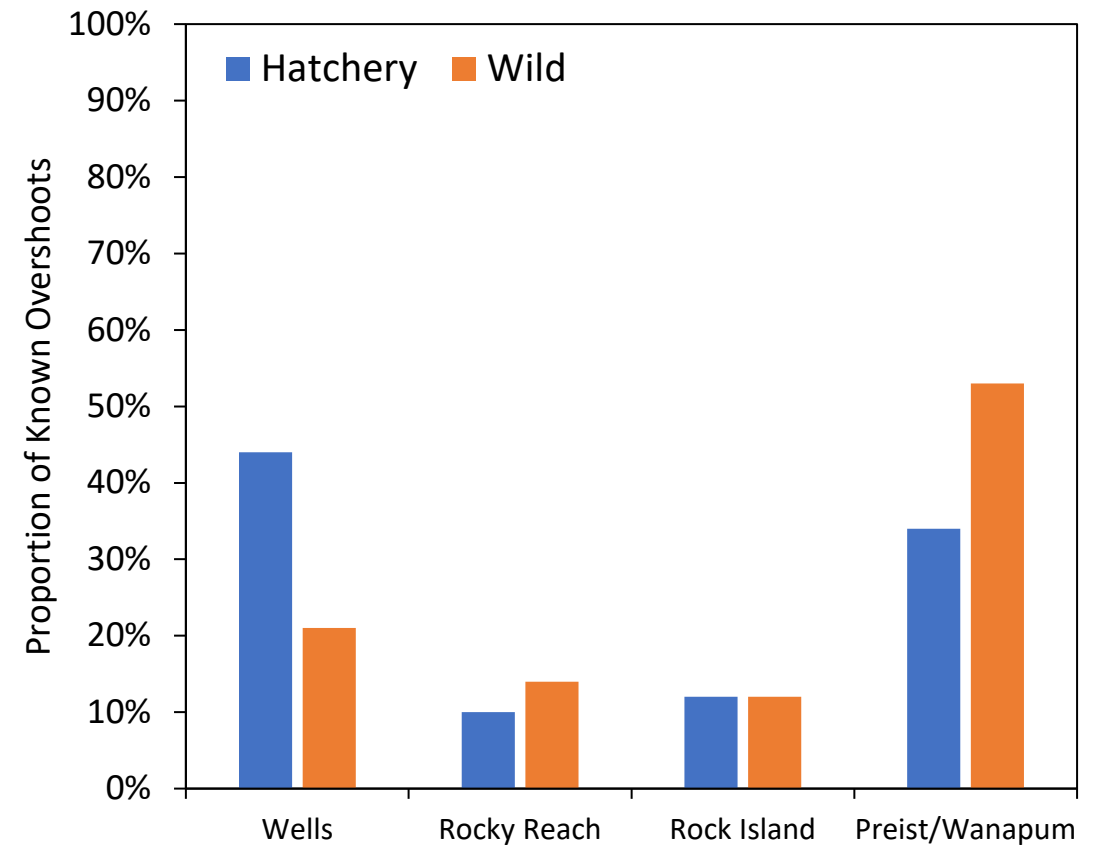
- Update overshoot fallback success (2018-2022)
 - Data presented are just known overshoots (fish PIT tagged as juveniles)
- Examine potential effects of hooking mortality on fallback success
 - 2010 – 2015 sport fishery
 - 2016 – 2022 no fishery (included hatchery fish to increase sample size)

Steelhead Overshoot Distribution

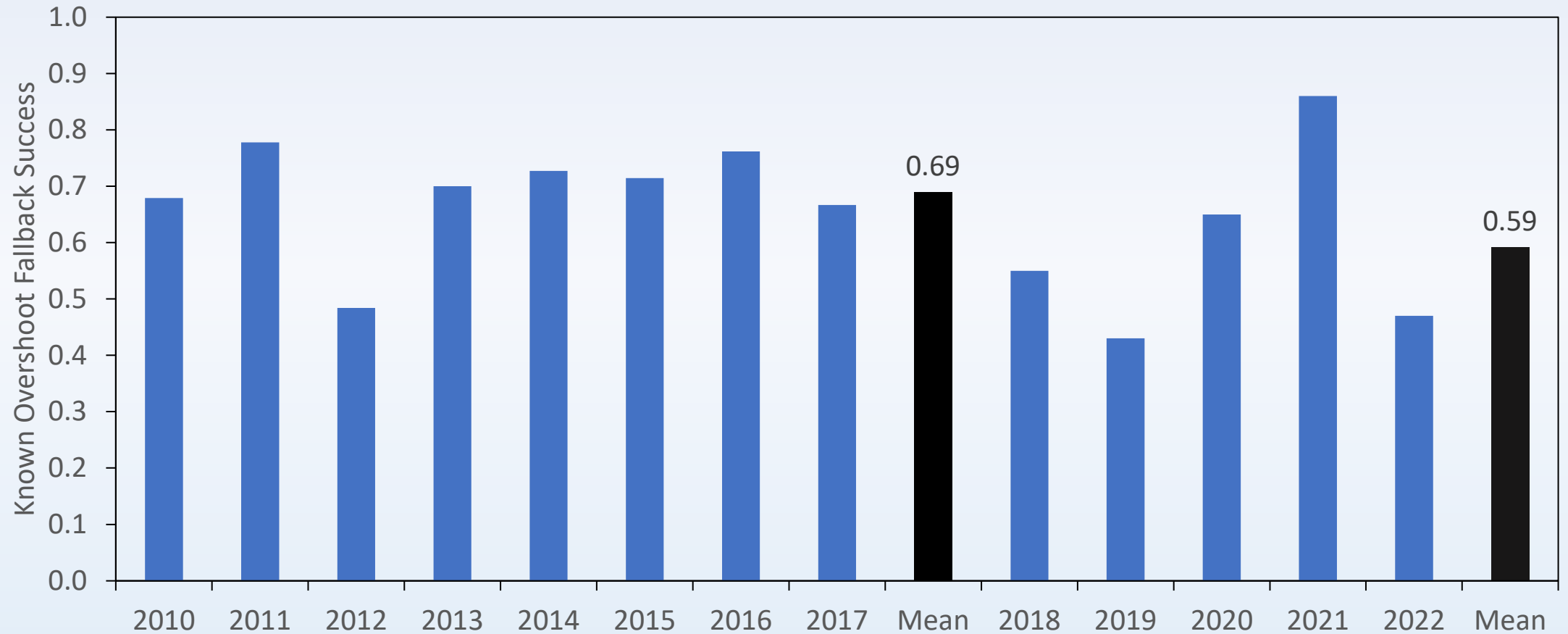
(2010-2017)



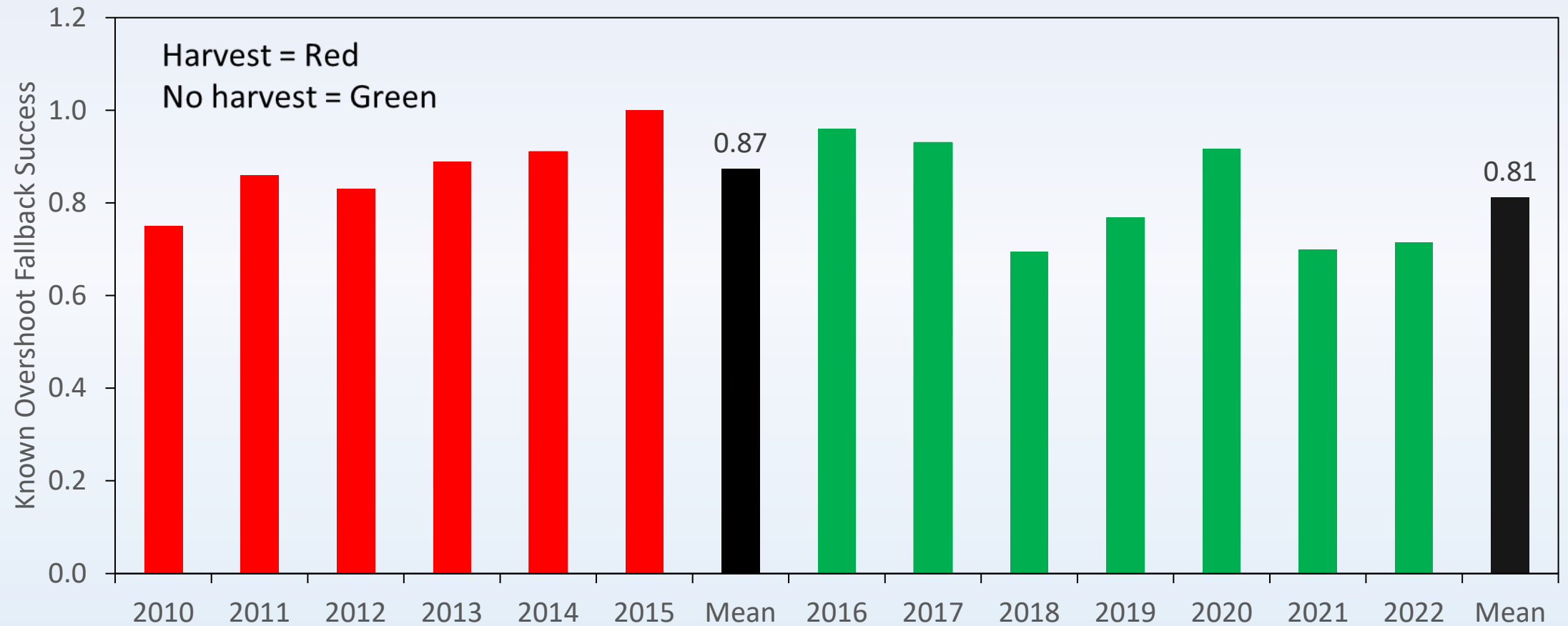
(2018-2022)



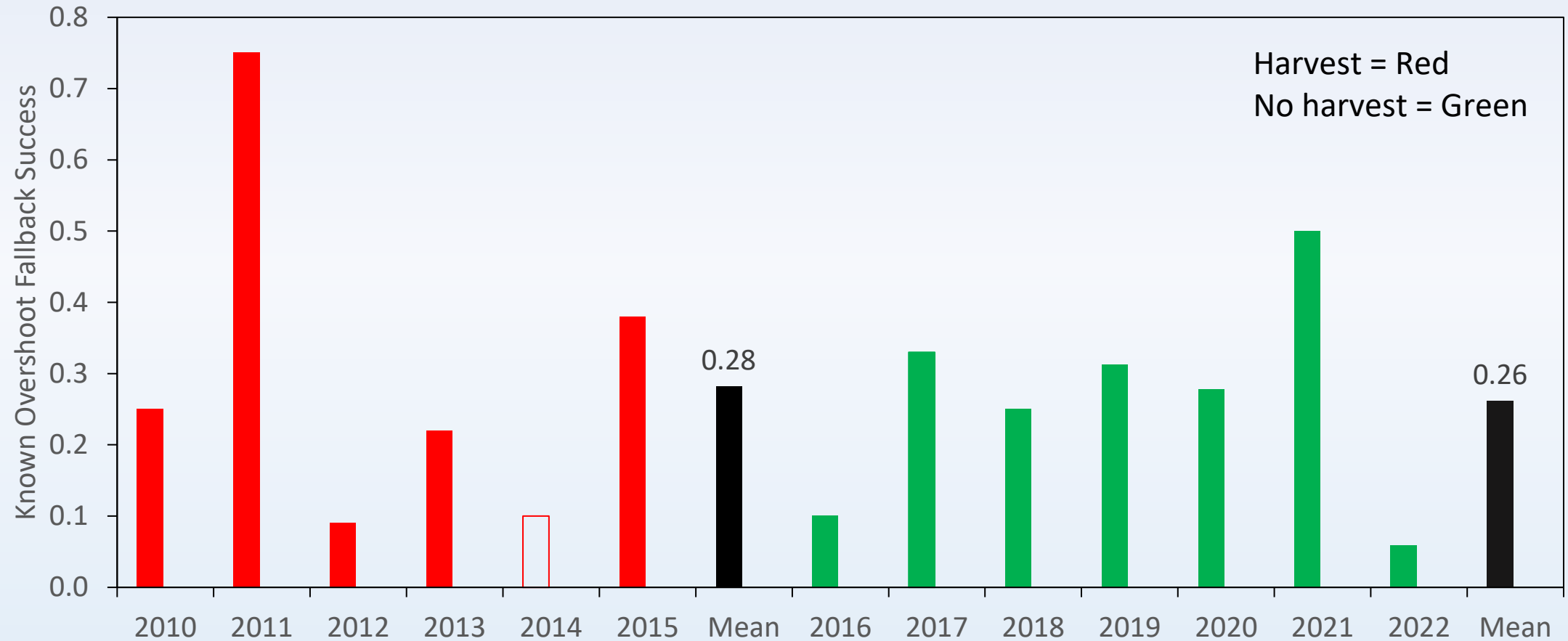
Wild Steelhead: Known Fallback Migration Success



Priest/Wanapum Project: Harvest effects



Wells Project: Harvest effects



Wells Pool Harvest Data

Year	Wells Dam	Methow	Okanogan	Wells Pool		
				Unknown (overshoots)	C & R Mortality	%
2010	2150	1139	157	854	19	2.2
2011	1609	1008	73	529	6	1.1
2012	1028	524	126	378	12	3.2
2013	1853	1005	443	405	6	1.5
2014	2026	1020	433	562	7	1.2
2015	1883	1021	377	470	6	1.3
Mean	1758	953	268	533	9	1.8

Wells Pool Harvest Data

Year	Known Overshoots		C&R/ Unsuccess
	Success	Unsuccess	
2010	0.25	0.75	0.03
2011	0.75	0.25	0.05
2012	0.09	0.91	0.03
2013	0.22	0.78	0.02
2014	0.00	1.00	0.01
2015	0.38	0.62	0.02
Mean	0.28	0.72	0.03

Summary

- In general, 2018-2022 was similar to 2010-2017
- Harvest impacts are minor (< 2%) relative to overshoot fallback success