



## Meeting Minutes

### Hanford Reach Working Group Friday, February 01, 2008 10:00 – 2:00 Grant PUD Ephrata Headquarters

#### **Technical Members**

Scott Carlon/Paul Wagner, NMFS	Don Anglin/Steve Lewis, USFWS
Jerry Marco/Joe Peone, CCT	Mark Miller/Howard Schaller, USFWS
Steve Parker/Bob Rose, YN	Scott Bettin, BPA
Steve Hemstrom/Shawn Seaman, CPUD	Bob Clubb/Tom Kahler, DPUD
Bill Tweit/Carmen Andonaegui, WDFW	Paul Hoffarth, WDFW
Marcie Mangold, WDOE	Stephen Brown/Tom Dresser, GCPUD
Russell Langshaw/Dave Duvall, GCPUD	

#### **Attendees:**

Carmen Andonaegui, WDFW	Paul Hoffarth, WDFW
Bob Clubb/Tom Kahler, DPUD	Russ Langshaw, GCPUD
Paul Wagner, NMFS (by phone)	Steve Hemstrom, CPUD (by phone)
Scott Bettin, BPA (by phone)	Marci Mangold, WDOE (by phone)

#### **Distributed Items:**

- **2007 Hanford Reach Fall Chinook Escapement Estimate**
- **Hanford Reach Fall Chinook Age Composition and Estimated Return by Year and Broodyear based on Stream Survey**

#### **Action Items:**

- **Andonaegui requested Langshaw contact agency representatives one on one to develop a proposal for alternative operations in 2008 to be presented to the HRWG the first week of March 2008.**
- **Langshaw will compare language from the 401 Water Quality Certification, Priest Rapids Salmon and Steelhead Settlement Agreement and Hanford Reach Fall Chinook Protection Program Agreement to make sure protocols are consistent with all requirements.**

- Langshaw will e-mail comments to committee after looking at maintaining the rights of participants.
- Hoffarth will send regression data to Langshaw.
- Hoffarth will provide PIT-tag detection data for Bonneville, McNary and Priest Rapids to Langshaw.

## Meeting Minutes

- I. **Welcome and Introductions** – Attendees introduced themselves around the table and on the conference line.
- II. **Agenda Review** –Langshaw reviewed action items. Langshaw indicated workload prevented USFWS from modeling alternative spawning period operations to help evaluate impacts of variable flows in the Hanford Reach. USFWS was uncertain whether they will be able conduct the modeling in the future.
- III. **Approval of Meeting Minutes**
  - October 19, 2007 – Approved.
- IV. **Action Items Review** – Members reviewed and updated action items.
- V. **Hanford Reach Annual Report** - Hoffarth and Langshaw jointly prepared the final Hanford Reach Annual Report, distribution will be on Feb. 4, 2008. Langshaw expressed concern about difficulties completing a joint report in a timely manner, but Grant PUD is committed to attempt it again for the 2007-2008 report. Andonaegui questioned the timeline of the annual report. Langshaw stated the 2008 draft report would be distributed to committee members for review in August 2008, with the final report due Sept.15, 2008.
- VI. **Spawning experiment** – Langshaw stated the Spawning Experiment report was originally sent out for internal review and comments in July 2007. After changes, it was distributed to committee members on Jan. 31, 2008. Grant PUD proposes peaking spawning period operations in 2008 noted Langshaw, but would like the committee to be involved in determining the criteria and how success will be determined. Andonaegui questioned what the spawning experiment implementation timeline will be. Langshaw stated Grant PUD would like to have a hydrograph implementation plan developed by July or August 2008. Wagner stated NMFS would prefer to not have escapement and spawning issues affect the peaking proposal. Langshaw agreed, stating Grant PUD would hate to have decisions and operations lead to diminished escapement and recognized that low escapement numbers may preclude conducting a spawning experiment in 2008. Langshaw stated Grant PUDs initial proposal is to evaluate peaking again, the question is what will determine success or failure of the operation. Duvall stated two things that could prevent a successful evaluation are

a low number of spawners returning, and low-water conditions. Langshaw stated Grant PUDs license application with FERC became an issue, noting Grant is anticipating having a new license by summer 2008. Langshaw stated his frustration regarding letters sent to FERC by parties that are not involved in the process, noting, they were given a chance to participate and chose not to. He would like them to participate in the future, and feels the committee can do a better job of reaching out to bring them to the table. The 401 Water Quality Certification requires creation of a separate forum to involve interested parties in discussions about the Hanford Reach. Issuance of a new license with adoption of the Hanford Reach Fall Chinook Protection Program, removes one of the major reasons alternative operations were not conducted in 2007 stated Langshaw. The next step stated Duvall, is to determine what is the minimum number of returning adults needed and determine the flow criteria needed to conduct the experiment. Hoffarth stated he could look at past redd counts to get a sense of the level of escapement at which a spawning experiment should be called off due to low returning spawners. Langshaw proposed the committee clearly identify bounds and issues, and prepare a document that addresses each topic. He would like to have a meeting in March to continue moving forward. Hoffarth suggested aerial redd counts for spawner distribution around Vernita Bar be looked at, noting his amazement at the number of redds and the good viewing conditions for aerial surveys last fall. Wagner stated a paper written by David Geist (Redd Site Selection and Spawning Habitat Use by Fall Chinook Salmon: The Importance of Geomorphic Features in Large Rivers) suggests spawning behavior is influenced by up welling of ground water. **Geist paper will be sent to HRWG members by Williams.** With current reverse load factoring, Wagner questioned if predictable ground welling is expected, and if two peak operations are adapted, how will ground welling be effected at Vernita Bar. Langshaw agreed that ground welling should be part of the discussion when considering future operations. He noted historic redd distribution data will help Grant PUD determine reverse load factoring and peaking effects on high elevation redds. Langshaw noted the majority of redds are upstream of Vernita Bar, with some located along the side and downstream at upwelling areas. Clubb questioned the time it takes water to travel underground and upwell as compared to when the peak actually occurs. He questioned if studies regarding flows have been conducted? Bettin noted that upwellings are actually flow passing thru the gravel. Wagner stated that high flows create higher pressure due to water elevation which in turn causes differential flows thru the gravel. Bettin noted it is not known how fish interact with upwelling. Hoffarth stated a key component for ideal spawning conditions is water velocity. He explained the use of a Vernita Bar model that shows ideal water velocity and how it works with the middle and lower reach sections of the bar. A report written by James Hatten, USGS and

David Geist, Ecology Group, Pacific Northwest National Laboratory stated the velocity model fell apart in the Vernita Bar area. Langshaw noted that down and up welling, even distribution of redds on both ends of the bar, and flow velocity are all factors that will be taken into consideration when Grant PUD determines their alternative operations. Hoffarth stated that when the spawning experiment is done this fall, the work being done downstream by Battelle and Grant PUD should help determine any effect on spawning. Hoffarth recommended having a look at the effects on up-welling downstream of Vernita Bar as a result of alternative operations. Russell stated this may be "OK" and that Grant is looking at historic aerial photos to try and evaluate how Reverse Load Factoring and peaking affect redd location. Hoffarth stated transects should be extended above 70 kcfs so redds at risk will be counted at Vernita Bar, noting that in 2005 a large portion of redds located above the 70 kcfs line outside the transect area were not counted. Hoffarth noted transect lines only cover half of Vernita Bar, and don't go above mid point. Langshaw requested confirmation that the transects are perpendicular to the bar and if so, the transects should capture redds above 70 kcfs. Hoffarth stated the transects are perpendicular to the bar, but some of the redds above 70 kcfs may have been missed. Hoffarth stated, based on data, the same metrics should be used pre and post treatment, noting operational changes made where redds have been counted in the past, although no problems were reported in 2006. Langshaw stated results from 2005 operations shouldn't be the foundation for changing monitoring because we all agree the operations were not successful. Andonaegui stated operating procedures agreed upon by the HRWG outlined in SOA-HR04, Protocol for the Initiation of Spawning and Emergence dated August 17, 2007 should be followed in 2008. Clubb questioned why the protocol was changed if all historical data collected was collected with transects perpendicular to the flow. Andonaegui noted modifications were made in the SOA to make them reflect what has actually been performed on the ground. Hoffarth stated another point to consider for a 2008 spawning proposal is the measure of success, he also recommends expanding the survey on Vernita Bar, and perhaps reach-wide. Hoffarth questioned if the survey area should be expanded to include areas that might get redd formations caused by peaking. He stated that previously, it was not a concern to have redds outside the transects counted, but because so many were found outside of the area in 2005, accounting for higher elevation redds in Vernita Bar is now very important. Langshaw questioned if the affects of alternate operations on Vernita Bar reflect reach-wide effects. Langshaw stated Grant PUD will look at ways to consider impacts to other portions of the bar. **Andonaegui suggested HRWG members review the Oct. 19, 2007 HRWG meeting minutes because it had several goods ideas regarding data correlation.** Hoffarth explained that daylight tables can also be used for timing because it takes into

account daylight savings time. Langshaw questioned if it matches existing sunrise tables. Hoffarth thought sunrise tables might buy a little more time. Duvall noted that change of flow has always occurred at the top of hour. If another peaking regime is used, Hoffarth would like daylight to be considered, especially in the fall when daylight changes with the season. Andonaegui questioned if the 70 kcfs line at Vernita bar is accurate. Elevation lines need to be confirmed and possibly marked better stated Hoffarth. Wagner suggested existing models of Vernita Bar could tell what the effects will be on the entire reach. Ken Tiffan has developed a juvenile habitat model that could be used to evaluate effects of alternative operations on habitat use, noted Wagner. The Adult Spawning Analysis referenced in the Anglin et al. (2006) report looked at redd formation under different flow regimes, noted Hoffarth. The study report written by James Hatten included spawning habitat analysis noted Wagner. **HRWG requests Langshaw prepare an alternative operations proposal outline to be presented at the next HRWG meeting.** Andonaegui suggests that Grant PUD engage USFWS in the early stages of the proposal development. Andonaegui questioned if Langshaw could have a proposal outlining what Grant PUD would like to do during the 2008 spawning period. Hoffarth questioned, if the transects are expanded, would high elevation spawning be addressed in the transect area. Langshaw stated Grant PUD becomes more concerned with the number used to determine failure if redds at risk are used for comparisons because, potentially it would include redds that are at the critical elevation of 55.. Bettin, Hoffarth, Duvall, and Langshaw all agreed that less high elevation redds are created downstream of Vernita Bar. Langshaw questioned Steve Lewis' suggestion of defining high elevation redds in the settlement agreement. The criteria for success needs to be determined by the HRWG stated Andonaegui, noting the need to make sure protections are as good as they are under reverse load factoring. Langshaw stated you never know what critical elevation will be when using reverse load factoring, but it's likely related to the water year and spawning escapement. Langshaw stated Grant PUD knows that when using traditional load following, there can be a large amount of high elevation spawning. Is the goal of the HRWG to limit formation of high elevation redds or is the group comfortable with loosing a certain numbers of redds per year, asked Hoffarth. Langshaw noted Grant PUDs concern with using a specific elevation is based on the length of the twenty year data set in which half of those years there were no redds above 70. It's not an absolute stated Langshaw, noting the need of a longer time frame to complete the study. Andonaegui noted it would benefit the resource agencies to take a look at effects outside of the Vernita Bar index area.

**Andonaegui requested Langshaw contact agency representatives one on one to develop a proposal for alternative operations in 2008 to be presented to the HRWG the first week of March 2008.**

- VII. Meeting protocols - Langshaw stated meeting protocols are currently under review by Tom Dresser. Due to initial concerns regarding requirements of the 401 Water Quality Certification, the HRWG committee wants to wait for clarification. Clubb expressed concern about maintaining rights of signatories to the Hanford Reach Fall Chinook Protection Program. He stated all signatories should be able to maintain the rights negotiated under that agreement. The Hanford Reach Fall Chinook Protection Program is a defined settlement; Clubb doesn't want to confuse language from other agreements or requirements. Andonaegui stated the Priest Rapids Salmon and Steelhead Settlement Agreement has language relating to how decisions are made, noting only PRCC members that are Hanford Reach signatories would have voting rights. Ecology makes the final decision in the 401 Water Quality Certification process. **Langshaw will compare language from the 401 Water Quality Certification, Priest Rapids Salmon and Steelhead Settlement Agreement and Hanford Reach Fall Chinook Protection Program Agreement to make sure protocols are consistent with all requirements.** Andonaegui noted dispute resolution is outlined in the Hanford Reach Chinook Protection Program Agreement. Langshaw will e-mail comments to committee after looking at maintaining the rights of participants.
- VIII. 2007 Stranding Evaluations Report (WDFW) - Hoffarth stated USFWS is currently completing the 2007 Stranding Evaluations Report. Hoffarth distributed the 2007 Hanford Reach Fall Chinook Escapement Estimate and the Hanford Reach Fall Chinook Age Composition and Estimated Return by Year and Broodyear based on Stream Survey. Hoffarth stated 13,977 adult fall Chinook and 8,394 jacks returned in 2007, noting it was the worst return in the last 30-40 years and returns do not look good for the next couple of years. Committee discussed escapement estimates for the Hanford Reach. Hoffarth will send regression data to Langshaw. Langshaw questioned if Hoffarth is aware of any PIT-tag data that could be processed regarding ocean harvest issues, noting PIT-tag data from 07 would show if fish are passing above Bonneville. Hoffarth stated he doesn't know of anyone that scans harvested fish for PIT-tags. Langshaw questioned how many PIT-tagged fish are detected at Bonneville, McNary and Priest. Hoffarth will provide PIT-tag detection data for Bonneville, McNary and Priest Rapids to Langshaw. Marine harvest accounts for 80% of the total fall Chinook harvest noted Langshaw. Andonaegui stated a lot of Hanford Reach fall Chinook are being harvested off of Vancouver Island, Canada. Hoffarth noted that Snake River escapement estimates were normal this year. Bettin questioned what some of the theories are behind this beginning of the downward escapement spiral. Hoffarth stated, harvest of natural spawners, what occurred during incubation or out migration could all be issues, but doesn't think stranding or entrapment are major reasons for the decline. He noted

that all brood years are performing poorly with 2001 being the last normal year. Hoffarth would like to see a predator study done at John Day Dam and McNary Dam.

- IX. Next Meeting: March 14, 2008, 1:00 p.m. at Douglas PUD, Wenatchee, WA.