

# COLUMBIA RIVER TECHNICAL MANAGEMENT TEAM

May 18, 2016

Facilitator's Summary

Facilitator: Emily Plummer; Notes: Tory Hines DS Consulting

*The following Facilitator's Summary is intended to capture basic discussion, decisions and actions, as well as point out future actions or issues that may need further discussion at upcoming meetings. These notes are not intended to be the "record" of the meeting, only a reminder for TMT members.*

## Review Meeting Minutes

The official TMT Minutes and the Facilitator's Summaries for the April 27<sup>th</sup> and May 11<sup>th</sup> meetings were reviewed and approved by TMT members.

## SOR 2016-1A Lower Monumental Operations

Doug Baus, COE-NWD, reported that the Action Agencies implemented SOR 2016-1A at 1700 hours on Friday, May 13<sup>th</sup>. The operation changed the spill pattern at Lower Monumental from bulk to uniform spill. The change to a uniform pattern resulted in an increase in spill by 10kcfs, from 27kcfs to 37kcfs. The SOR is being implemented to increase spillway passage of juvenile Sockeye and reduce the number that will be transported from Lower Monumental Dam. The operation will continue until June 3<sup>rd</sup> at 1700 hours unless a significant decrease in passage of juvenile Sockeye is observed at Snake River projects, indicating that the bulk of the juvenile Sockeye run has passed prior to June 3; at which time the project will revert back to using the bulk spill pattern as specified in the 2016 Fish Operation Plan. Doug noted that the Corps received two SORs (SOR 2016 1A and SOR 2016 1B) with some agencies signing both and others only signing one. Doug asked for clarity for the rationale of the two SORs.

Paul Wagner, NOAA, explained that SOR 2016 1A was created following last Wednesday's TMT meeting. Due to time constraints, Salmon Managers were not able to follow their typical process of meeting to discuss and then having the Fish Passage Center draft and wordsmith to incorporate edits. As a result, there was disagreement over the language describing the rationale of the SOR, and thus two SORs were created. Doug asked that standard TMT protocols and process be followed in an effort to provide clarity to the Action Agencies and to the record.

Russ Kiefer, ID, noted that version of SOR 2016 1A provided to the Corps inadvertently left out a sentence on the transportation benefits of steelhead in late May and early June; part of the rationale for the two SORs was due to varying perspectives of the effects of transportation on Sockeye and other species.

TMT members were polled on SOR 2016-1A, with the following results:

- NOAA (support)                      ID (support)
- OR (do not support)                Nez Perce (no objection)
- WA (support)                        BOR (support)
- USFWS (support)                    BPA (support)
- Umatilla (support)

TMT members made the following comments during polling:

- Paul Wagner, NOAA, noted that between the two SORs presented SOR 1A is clearer on the effects of transport. With less spill, there is more transport and with more spill, there is less transport. Lower Granite Dam and Little Goose Dam provide transport for all species starting May 1<sup>st</sup> and the available data indicates these projects show a transport benefit during this time; Lower Monumental Dam shows greater variation in benefits from transport for the species for which data is available. For 2016, there was an opportunity to change the spill pattern at Lower Monumental which is what both SORs capture. NOAA believed that SOR 1B was too vague in how it characterized the risk of transport.
- Erick Van Dyke, Oregon, noted that they do not support SOR 2016 1A. Oregon supports the operational change that is requested in both SORs, however the rationale used to define transport is not supported. Oregon appreciates the Corps efforts in implementing the spill pattern change at LoMo.
  - Doug asked Erick to comment on the different end dates specified in the SORs: SOR 2016 1A requests a three week duration (June 3<sup>rd</sup>), while SOR 2016 1B requests to end June 20<sup>th</sup>. Erick noted that extending the date to incorporate run time is common and June 20<sup>th</sup> was specific to the spill pattern operation as outlined in the FOP.
- Dave Swank, USFWS, noted that they support either version of the SORs, with slight preference to the explanatory language in SOR 2016 1B.
- Russ Kiefer, ID, noted that after reviewing the transport data, the intent was to describe in the justification of 1A, the general benefit of transportation for steelhead in late May and early June, and these benefits being less certain from LoMo. While for Sockeye, transportation appears to generally be a detriment. The benefits of the uniform spill pattern at LoMo, will be the increase in spillway passage of juvenile Sockeye without creating TDG concerns. Moreover, Salmon Managers struggled to define an end date for the SOR, which is motivation to work together in the coming weeks to devise a plan and further define when a substantial degree of the run has passed. Russ suggested adding this operation into the FOP next year. He expressed appreciation the Action Agencies efforts on implementing the SOR promptly.
- Dave Statler, Nez Perce, stated that from the Nez Perce perspective, switching from bulk to uniform spill is the correct operational change at this time. He urged that TMT not let the verbiage of the SORs get in the way of preventing a good operational change.

Doug noted that the two SORs as described vary by 17 days, SOR 2016 1A ends on June 3<sup>rd</sup> and SOR 2016 1B ends on June 20<sup>th</sup>. Because of the departure in targeted duration, the Corps would like to clarify the process moving forward. At this point, the Corps will plan to terminate the operation at 1700 hours on June 3<sup>rd</sup>. If the Corps receives notification from NOAA that the bulk of the juvenile Sockeye run has passed prior to June 3<sup>rd</sup>, the operation will conclude at that time. Doug was asked if the Corps would consider operating in accordance with uniform pattern later than the end date/times specified above. He indicated as identified in SOR 2016 1A the Corps plans on implementing the uniform pattern and maintain this operation until detections of PIT-tagged sockeye show a significant decrease in numbers estimated to be approximately three weeks, but if sockeye passage was running significantly later than planned the Corps would consider the request from NOAA.

- **ACTION:** The Corps implemented SOR 2016-1A on Friday, May 13<sup>th</sup> at 1700 hours. The operation will conclude on June 3<sup>rd</sup> at 1700 hours, or sooner if NOAA notifies the Corps that the bulk of juvenile Sockeye has passed Lower Monumental Dam.
- **ACTION:** Salmon Managers will convene at FPAC and clarify the criteria for determining when the ‘bulk of juvenile Sockeye’ passage has occurred. If Salmon Managers determine the operation should continue past June 3<sup>rd</sup>, NOAA will notify the Corps.

### **SOR 2016-1B Lower Monumental Operations**

Tom Lorz, Umatilla, reported that the key differences between SOR 2016 1A and SOR 2016 1B are the end dates and whether to include species other than Sockeye. Paul noted that 1B also addresses the certainty of transport.

TMT members were polled on SOR 2016 1B, with the following results:

- NOAA (do not support)      ID (do not support)
- OR (support)                      Nez Perce (support)
- WA (support)                      BOR (do not support)
- USFWS (support)                  BPA (do not support)
- Umatilla (support)

The Corps will not implement SOR 2016 1B.

### **Dworshak Operations**

Steve Hall, COE-NWW, provided an update on Dworshak operations. He noted that following the last TMT meeting, the Corps ramped up Dworshak to full powerhouse and held through Monday, May 16<sup>th</sup>. Unit 3 was turned off on May 18<sup>th</sup> to allow divers to clean up the hatchery intake. Over the weekend, higher flows were forecasted to increase up to 15,000-16,000cfs, yet flows remained at 9,000cfs. As a result of flows remaining at 9,000cfs, the big unit was ramped down to 5.5kcfs and the two smaller units will ramp down to 4.5kcfs on Thursday, May 19<sup>th</sup>. By Saturday, May 21<sup>st</sup> one unit will be running at full load, between 2.3-2.4kcfs until the end of the month. There is a snow flight planned for June 1<sup>st</sup>, which will provide more information for operations. At this point, Steve noted, the project is operating with the objective of positioning the reservoir for refill, aiming to have no more than 5ft to fill in June. Steve also noted that the transmission maintenance scheduled for May 19<sup>th</sup> was rescheduled to next week and will not affect Dworshak operations. Dave Statler asked if the projected runoff is not occurring in real time, does that reflect a reduction in overall water supply within the basin? Steve noted that the forecast changed due to cooler temperatures and less precipitation over the weekend, so total runoff volume likely remains unchanged.

### **Operations Review**

**Reservoirs:** Mary Mellema, BOR, reported on Reclamation projects:

- Hungry Horse midnight elevation was 3,542ft, with 6.3kcfs inflow and 4.0kcfs outflow. The reservoir is currently refilling.
- Grand Coulee elevation was 1,258.1ft and the reservoir is currently refilling.

Mary also noted that flow augmentation from the Upper Snake River started this week and 427 kaf will be released.

Doug Baus reported on Corps projects:

- Libby midnight elevation was 2,415ft, with 26kcfs outflow.
- Albeni Falls midnight elevation was 2,057.9ft, with 30 kcfs outflow.
- Dworshak midnight elevation was 1,579ft, with 6kcfs inflow and 10kcfs outflow.
- Lower Granite average outflow was 93.9kcfs.
- McNary average outflow was 271kcfs.
- Bonneville average outflow was 276.9kcfs

Scott Richardson, Snohomish PUD, noted that this time last year, TMT members discussed propping up May flows at McNary at the expense of June flows. He asked if this is a consideration this year. Tony Norris, BPA, noted that the shape of runoff is different every year and there is a 30MAF difference between last year and this year, so it is not reasonable to compare operations.

**Fish:** Paul Wagner, NOAA, reported on fish. For juveniles, passage at most projects is trending downward. Runs were earlier this year and maintained at high rates well in to May. At Lower Granite, peak numbers were in excess of 200,000, yesterday numbers were down to 8,510. This large drop suggests the run is nearing the end. At Little Goose, 190,000 Chinook passed ten days ago, yesterday 20,000 were observed. Lower Monumental, McNary, John Day and Bonneville are all similar and indicate the peak run has passed and numbers are trending downward. For sub-yearlings, releases are increasing. At Bonneville, 300,000 passed due to the Spring Creek release. Steelhead are similar to yearling Chinook, they are trending downward at all projects. For Sockeye, numbers are increasing, pit-tagged fish are appearing at a higher rate than combined collection. Sockeye in the Upper Columbia are now trending downward and hatchery reared sockeye are en route. Lamprey numbers are surprisingly high at Little Goose and Lower Monumental which may be due to sample expansion. Lamprey counts at John Day and Bonneville are also strong. Dave Statler asked if there is a difference in collection operations which may explain why lamprey counts are higher than usual? Paul was not aware of any changes.

Russ also added that the rush to implement the Lower Monumental spill change was in part due to the number of PIT-tagged Sockeye appearing earlier at the dams than in the past. In 2014, there was a large release of over 2,000 adult Sockeye into Stanley Basin lakes for natural reproduction. It appears their spawning was successful, and a relatively large number of wild/natural sockeye smolts are outmigrating and being PIT-tagged at juvenile traps. With the warm spring and early runoff, they like other wild/natural smolts appear to have outmigrated earlier than normal. PIT-tagged data at Lower Granite to date has detected 631 wild/natural Sockeye smolts and 53 hatchery Sockeye smolts. The change in spill operations at Lower Monumental is good for the wild/natural Sockeye smolts passing at this time. For adults, spring Chinook are doing well, with 114,671 passing at Bonneville (91% of 10-year average.) Jack Chinook numbers are poorer with 46% of the 10-year average passing Bonneville. At Lower Granite, spring Chinook counts are at 31,495 (120% of 10-year average.) Jack returns are tracking on the low side at 65% of the 10-year average. At Rock Island, spring Chinook are at 110% of the 10-year average and the jack total is 6,600 which is less than the 10-year average.

**Water Quality:** Scott English, USACE NWD, noted that all gauges are operational, functional and transmitting properly. TDG is in a period of neutral conditions due to the cooler weekend weather which brought TDG levels down. Additionally, Bonneville forebay temperatures are trending higher than this

time last spring.

*Power System:* Nothing to report.

**The next TMT meeting will be a conference call on May 25th at 9:00am.**

**Columbia River Regional Forum**  
**TECHNICAL MANAGEMENT TEAM MEETING OFFICIAL MINUTES**

**May 18, 2016**  
Minutes: Pat Vivian

**1. Introduction**

Representatives of USFWS, COE, BOR, BPA, NOAA, Oregon, CRITFC/Umatilla, Washington, Nez Perce Tribe, Idaho and others attended today's TMT meeting chaired by Doug Baus, COE, and facilitated by Emily Plummer, DS Consulting. This summary is an official record of the meeting, not a verbatim transcript.

**2. Review Meeting Minutes – April 27 and May 11**

The meeting minutes and facilitator's summaries for both meetings were approved as final.

**3. Dworshak Operations**

Steve Hall reported. By ramping up Dworshak to full powerhouse releases immediately after the May 11 TMT meeting, with a plan to hold full powerhouse through May 16, the COE has implemented TMT's request to move the necessary increase in Dworshak flows earlier to aid juvenile migration. On May 17, the COE learned unit 3 couldn't be operated while divers were cleaning the hatchery intake, so unit 3 was shut down yesterday. Over the weekend, higher flows of 15-16 kcfs that were forecasted did not materialize.

In response to TMT concerns about using reservoir storage to ensure that Dworshak refills this year, the COE is positioning the project for refill by transitioning to the big unit (5.5 kcfs releases) through tomorrow, followed by a ramp down to two small units (4.5 kcfs) with another ramp down on May 21 to one small unit (2.3 kcfs) for the rest of May. After a snow flight June 1, the COE will finalize the Dworshak operation, with a goal of positioning the reservoir so there is less than 5 ft of space to fill in June. As TMT discussed on May 11, the transmission outage scheduled for May 19 was moved out a week and should not affect refill operations.

Last week, Dworshak inflows and natural runoff were projected to increase from 10 kcfs to 15 kcfs over the weekend. However, that didn't occur, and releases remained at 10 kcfs. Inflows are currently around 9 kcfs. The COE is keeping a close eye on this. Dave Statler, Nez Perce Tribe, asked whether the failure of the projected increase to materialize is symptomatic of a reduction in Dworshak's water supply. Hall said cooler temperatures and less precipitation than expected over the weekend resulted in lower inflows than predicted, but that doesn't necessarily mean the total runoff volume has changed. Nevertheless, a cool and protracted runoff can result in water being lost to phenomena such as evaporation and groundwater infiltration.

#### **4. SOR 2016-1A, Lower Monumental Operations**

On Friday, May 13, the Action Agencies began implementation of SOR 2016-1A, the first of two SORs submitted by the Salmon Managers requesting a switch from bulk to uniform spill at Lower Monumental Dam (LMN) in an effort to decrease juvenile sockeye transport rates, Baus reported. The change increased spill at Lower Monumental by 10 kcfs (from 27 kcfs to 37 kcfs). Salmon Managers were in agreement to minimize collection of juvenile sockeye for transport by switching LMN spill pattern from bulk to uniform however the rationale for implementing the request as well as the duration of the request was significantly different. The operation will continue until June 3 at 1700 hours unless a significant decrease in the passage of juvenile sockeye is observed at Sake River projects, indicating that the bulk of the juvenile sockeye run has passed prior to June 3; at which time the project will revert back to using the bulk pattern.

Baus noted the process of submitting the SORs was unusual. The following were the primary differences between the SORs:

- 1) Approximately 17 days in duration (SOR 2016-1A, June 3, or until the number of PIT-Tag sockeye detections indicate the bulk of the outmigration has passed. SOR 2016-1B, June 20, or until the number of PIT-Tag sockeye detections indicate the bulk of the outmigration has passed), and;
- 2) Different species to justify the operational change. The justification of 2016-1A was for the benefit of juvenile sockeye, while the justification for 2016-1B for the benefit of juvenile salmon.

Despite the significant differences in duration and justification some signed both SOR's. Therefore, to clarify the record moving forward on implementation of SOR 2016-1A, Baus would like to discuss both SORs and receive feedback from TMT members. It was noted that in a May 11 poll, all of the Salmon Managers present supported a spill change.

Paul Wagner, NOAA, gave background on development of the two SORs. He and Kiefer wrote SOR 2016-1A on May 12 under time pressure, when most of the Salmon Managers were at McNary Dam and unavailable to help craft the request. While there was general agreement that time was of the essence, by May 13 there was still no consensus on how to present the request, so both SORs were submitted. Several of the Salmon Managers thanked the COE today for implementing the request despite the discord. Russ Kiefer, Idaho, pointed out that language regarding the uncertainty of transport benefits to steelhead passing LMN was inadvertently omitted from SOR 1B, which calls for uniform spill until June 20.

For the record, TMT members stated their views of SOR 2016-1A and their reasons for supporting or not supporting both SORs:

- **NOAA** – Wrote SOR 2016-1A and supports it. Was motivated to take the initiative because a uniform spill pattern transports less fish than bulk. Data on the relative benefits of transport indicate that LGS and LGR are tied for all species beginning May 1 in almost all years, while LMN shows more variation among years. If sockeye return in

warm conditions as adults like they did in 2015, the transported fish have poorer conversion rates which can be lethal.

- **Oregon** – Did not sign SOR 2016-1A but supports the spill pattern change for the reasons stated in SOR 2016-1B. The need to make the change took precedence over the rationale for doing so.
- **Washington** – Supports the rationale to switch to uniform spill at LMN.
- **Umatilla** – Supports the rationale to switch to uniform spill at LMN.
- **USFWS** – Supports both SOR 2016-1A and SOR 2016-1B. Time was of the essence in getting the spill change implemented.
- **Idaho** – Supports the operation in SOR 2016-1B, but not the justification or the end date. Transport evaluation data in both the CSS report and from the Science Center regarding the seasonal effects of transport indicate that transport helps steelhead but is detrimental to sockeye. LMN was the most logical place to switch spill because the benefits of transport are less certain there than at other projects. Over the next few weeks, the Salmon Managers need to collaborate on a recommendation for ending the special operation. Wants to develop a standard description and plan for automatically implementing this operation in future.
- **Nez Perce Tribe** – Has a long-term interest in switching from bulk to uniform spill at LMN; encouraged the initial TMT poll on the issue weeks ago, which led to consensus. Supports both SOR 2016-1B and SOR 2016-1A.
- **BOR** – Supports NOAA's recommendations re: SOR 2016-1A.
- **BPA** – Supports NOAA's recommendations re: SOR 2016-1A.
- **COE** – Supports and implemented SOR 2016-1A. Did not support and did not implement SOR 2016-1B.

Dave Statler, Nez Perce Tribe, asked whether there will be an opportunity to extend uniform spill beyond June 3. Baus said yes, as identified in SOR 2016-1A the Corps plans on implementing the uniform pattern and maintain this operation until detections of PIT-Tagged sockeye show a significant decrease in numbers estimated to be June 3, but if sockeye passage was running significantly later than planned the Corps would consider the request from NOAA.

## 5. SOR 2016-1B, Lower Monumental Operations

TMT members gave their views of this SOR:

- **NOAA** – Does not support SOR 2016-1B because (1) it requests an additional three weeks of uniform spill beyond what was initially discussed, and (2) it uses language describing the relative certainty of transport benefits that NOAA does not endorse.
- **Oregon** – Supports SOR 2016-1B; has a difference of opinion with NOAA regarding the benefits of transport for all species.
- **Washington** – Supports both SORs, with the understanding that TMT will adaptively manage spill in response to passage conditions.
- **Umatilla** – Supports both SORs, with the understanding that TMT will adaptively manage spill in response to passage conditions.
- **USFWS** – Supports both SORs, with the understanding that TMT will adaptively manage spill in response to passage conditions.
- **Idaho** – Does not support SOR 2016-1B.
- **Nez Perce** – Supports SOR 2016-1B and would have been a signatory if time allowed.
- **BPA** – Does not support SOR 2016-1B per NOAA’s recommendation.
- **BOR** – Does not support SOR 2016-1B per NOAA’s recommendation.
- **COE** – Does not support and did not implement SOR 2016-1B.

The Corps did not implement SOR 2016-1B. The Corps implemented SOR 2016-1A and began spilling in accordance with the uniform pattern on May 13 and will continue until June 3, at 1700 hours. The Corps will end the operation and resume spilling in accordance with the bulk pattern sooner than June 3 if notified by NOAA that there has been a significant decrease in PIT-tagged sockeye detections at LMN. Meanwhile, FPAC will discuss the criteria for determining when the bulk of the sockeye run has passed and propose an extension of the June 3 end date if there is consensus it’s appropriate. TMT will revisit the LMN spill operation in its May 25 and June 1 meetings.

## 6. Operations Review

**6a. Reservoirs.** Baus and Mary Mellema, BOR, reported. Hungry Horse is at 3542 ft elevation with inflows of 6.3 kcfs and discharges of 4.0 kcfs, currently refilling. Grand Coulee is at 1258.1 ft, also refilling. Libby is at 2415 ft with releases of 26 kcfs. Dworshak is at 1579 ft elevation with inflows of 10 kcfs and releases of 6 kcfs. Albeni Falls is at

elevation 2057.89 ft with releases of 30 kcfs. Bonneville is releasing 276.91 kcfs, Lower Granite is releasing 93.95 kcfs, and McNary is releasing 271 kcfs.

Scott Richards, Snohomish PUD, compared this year's operation to last year's at Grand Coulee and McNary: When low flow conditions occurred last year, at the May 20, 2015, meeting TMT considered propping up McNary flows at the expense of June flows there. However, this year there seems to be an effort to shift that water into June. He asked why the two operations are different. The shape of the runoff is different every year, Tony Norris, BPA replied. There's a 30 maf difference in runoff volume between 2015 and 2016, so the two operations are not comparable.

**6b. Fish.** Paul Wagner, NOAA, reported.

*Juveniles:* Yearling chinook passage started trending down this week at most of the projects. This year's run was early but continued at a higher rate than expected into May. Lower Granite collection counts peaked at 200,000 a day with a count of 8,510 on May 17. Passage rates at Lower Granite, Lower Monumental, McNary, John Day and Bonneville are all following similar trends. Steelhead passage is on a similar trend as yearling chinook at the Snake and Columbia River projects, but the decline isn't as strong as that of yearling chinook.

Subyearling passage is on the rise, expected to peak in the next week or so. Approximately 300,000 subyearling chinook from the Spring Creek Hatchery May release recently passed Bonneville.

Juvenile sockeye passage is picking up, with PIT tagged fish being detected at a higher rate than combined collection rates. Upper Columbia sockeye passage has peaked and is on a downward trend.

Lamprey passage counts at Little Goose and Lower Monumental are surprisingly high. Statler asked whether this could be due to changes in collection procedures. Wagner said no, the increase appears to be a genuine rebound for reasons that are unknown.

Kiefer noted that early detections of juvenile sockeye were all wild natural fish, possibly the result of large IDFG releases in 2014 as well as a decision to allow large numbers of adult sockeye to spawn naturally in lakes. Abundant early flows this spring apparently encouraged juvenile sockeye to migrate earlier than the 10 year average. Normally, IDFG matches hatchery releases with the peak of natural outmigration, but this year the wild outmigration started early. These fish will be helped by the change in spill pattern at Lower Monumental.

*Adults:* Spring chinook are doing well, with 114,671 adults passing BON to date, which is 91% of the 10 year average. Jack chinook passage, however, is only 46% of the 10 year average, about the same as this time last year. Adult spring chinook passage at LGR is 31,495 to date, 120% of the 10 year average. Jack returns to LGR are 65% of the 10 year average, also similar to last year. Adult passage at Rock Island is 6600 to date, 110% of the 10 year average. The adult sockeye return is expected to begin in a few weeks.

**6c. Water Quality.** Scott English, COE, reported that all monitoring gages are operational, and TDG levels have been neutral thanks to cooler weather over the weekend. Dave Statler asked whether temperatures at BON are warming up, and English confirmed that temperatures at BON are trending even higher than last spring.

**6d. Power.** There was nothing to report today.

**6e. Upper Snake Flow Augmentation.** Mellema reported that augmentation releases of 427 kaf from Upper Snake projects began this week and will be released by July 13. The Boise system is full now, releasing flows at variable rates based on inflow patterns. Erick Van Dyke asked whether today's date usually brings the start of upper Snake flow augmentation; Mellema said it depends on runoff patterns as well as when the systems fill. The Upper Snake basin is not expected to fill this year.

## **6, Next TMT Meeting**

TMT will meet next in a May 25 conference call.

| <b>Name</b>    | <b>Affiliation</b> |
|----------------|--------------------|
| Dave Swank     | USFWS              |
| Doug Baus      | COE                |
| Mary Mellema   | BOR                |
| Tony Norris    | BPA                |
| Paul Wagner    | NOAA               |
| Scott English  | COE                |
| Eric Rothwell  | BOR                |
| Karl Kanbergs  | COE                |
| Tory Hines     | DSC                |
| Laura Hamilton | COE                |
| Alfredo XX     | COE Walla Walla    |
| Erick van Dyke | Oregon             |
| Tom Lorz       | CRITFC/Umatilla    |

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| Makary Hutson   | BPA              |
| Scott Bettin    | BPA              |
| Dave Statler    | Nez Perce Tribe  |
| Dave Benner     | FPC              |
| Russ Kiefer     | Idaho            |