

# COLUMBIA RIVER REGIONAL FORUM

## TECHNICAL MANAGEMENT TEAM MEETING NOTES

June 9, 2004

CORPS OF ENGINEERS NORTHWESTERN DIVISION OFFICES – CUSTOM  
HOUSE  
PORTLAND, OREGON

TMT Internet Homepage: <http://www.nwd-wc.usace.army.mil/TMT/index.html>

# DRAFT

## FACILITATOR'S SUMMARY NOTES ON FUTURE ACTIONS

Facilitator: Donna Silverberg

The following notes are a summary of issues that are intended to 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.

### **Sturgeon SOR and Libby Operations:**

Greg Hoffman, COE, reported on Libby operations. The COE is working to optimize temperatures from Libby to help sturgeon spawning behavior. There have been fluctuating temperatures this spring, which has affected spawning. To help minimize these fluctuations, the COE has been experimenting with withdrawals to within 30' of the reservoir surface. Temperatures downstream of Libby were at 48.6°, and 48.9° at Bonners Ferry. The top 30' of water is mixed; the COE will be looking at temperatures of this water this summer because 3° fluctuating temperatures have an effect on hatchery fish: They stop spawning/reproduction. There is a desire to be prepared with warmer water in the event that temperatures begin to change. The focus of the sturgeon pulse at this point is incubation, since spawning may be over.

The COE provided a number of model runs of flow options for Libby operations relating to sturgeon, bull trout and salmon. The model runs are attached to today's TMT agenda. Runs A and B are based on the sturgeon SOR, with a 4-week pulse operation. Models C-E show a two-week pulse operation, followed by a ramp down to bull trout minimums. NOAA noted that there does not appear to be a large difference in water elevations with a two-week vs. four-week sturgeon pulse operation. Overall, the biological concern is to avoid a high reservoir peak, which affects food sources that exist in warmer areas (by pushing the sources up, followed by de-watering, the food is lost). Montana's preferred alternative is to be ~10' below full, avoid a peak and have water to use in September.

**ACTION:** The COE will continue to implement the SOR, so they will ramp Libby up to 15 kcfs on Sunday, 6/13 through 6/19, then ramp up to 16 kcfs on Sunday, 6/20. TMT will revisit Libby operations, with emphasis on operations after the sturgeon pulse, at the 6/23 TMT meeting. The issue to consider over the next two weeks is how to shape water in July and August, and how to manage the water in September. A question was asked about a Libby/Arrow swap with the Canadians, or passing water through the Kootenai. BPA responded that, at this point, there does not seem to be an interest from the Canadians in either operation. Negotiations are underway.

**Hanford Reach:**

Chris Carlson, Grant County PUD, reported on Priest Rapids operations for May 24-29, and May 31-June 6. Operations looked good except for on June 5, when the project went outside of the flow bands due to flows going up on Friday and then dropping off to very low on Saturday. As of today's meeting, 327 temperature units had accumulated; 400 are expected around 6/12. Chris will give a final report/season wrap-up at the June 23 TMT meeting.

Using information from last Friday's TMT conference call, the COE will continue to operate at 125 kcfs minimum at Priest Rapids, 135 kcfs maximum, and an objective of meeting Grand Coulee refill, for the two-week period 6/14-27. It was noted that smooth flows at the end of the operation are preferred.

**Tribal Treaty Fishery:**

Kyle Martin, CRITFC, reported on the spring treaty fishery. Approximately 17,050 fish were harvested. He noted that there was good implementation of the tribes' request at Bonneville and The Dalles pools, and not quite as good at John Day. CRITFC would like to work with the COE to minimize fluctuations in the future, and suggested that the following language be added to future teletypes: "The desired goal is for a stable pool and minimal fluctuations."

CRITFC is contemplating a summer fishery during the first or second week of July. The COE and BPA noted that the net placement information from CRITFC was helpful in making operational decisions, in that appropriate changes could be made at projects depending on where the nets were. It would also be helpful to know if there is a day/night change in net placement. Overall, there was an improvement this year from everyone's perspective.

**ACTION:** The COE will provide a draft of the new teletype re: treaty fishery operational goals at the June 23 TMT meeting.

**McNary 1% Test Operation:**

Greg Hoffman, COE, reported that the McNary test is still underway – there was a conference call scheduled for later today at 2:00 pm with FFDRWG and SRWG members to discuss the next steps for summer fish (spring runs at this point have passed).

**McNary Transport Start:**

TMT has an interest in planning ahead for the start of transportation at McNary, per criteria listed in RPA 43. Typically, transportation begins between June 20-27; June 20 is the action agencies' planned end of spill to the gas cap in the Snake River and at McNary. Oregon stressed the importance of looking at conditions in the river and emerging biological information on the benefits of transporting fish at McNary. The action agencies' two-week operation will be: BiOp spill will end on June 20 while involuntary spill will continue for in-river bypass. TMT will discuss when to begin transportation at McNary during the June 23 TMT meeting.

**The Dalles and John Day Spill Management Subgroup:**

The subgroup met last Wednesday to look at operations at The Dalles and John Day, and agreed to revise the management strategy so that the percentages (40%, 60%) are targets rather than maximums. The COE and BPA have been operating with this strategy since Friday, June 4, following a TMT conference call and agreement. At The Dalles, this has resulted in a 39.8% (targeting 40%) spill percentage so far, with the goal to be within 1%. Everyone agreed that this was a very useful exercise which has added confidence and comfort, especially with operations at The Dalles.

**System Status Review:**

*Reservoirs:* McNary released 225-280 kcfs over the past week. Lower Granite released 100.6 kcfs yesterday, and is spilling (including the RSW). Dworshak is at elevation 1593.5'. Discharge out of Dworshak decreased to 17 kcfs as of yesterday. The project filled 35' in May. Libby is at 2435.5', releasing 14 kcfs and filling. Albeni Falls is at elevation 2061.1'. Hungry Horse is at elevation 3554.5', with inflows of 15 kcfs. Grand Coulee is at 1284', with inflows of 140 kcfs. The BOR is expecting about 300 kcfs of Snake River flow augmentation this year, starting around July 1.

The June final water supply forecast was issued on Monday, June 7: The Dalles is at 85.1 MAF (79% of normal); Grand Coulee is at 53 MAF (84% of normal); and Lower Granite is at 15.4 MAF (71% of normal, up 10% from the last forecast.)

*Fish status:* The final spring adult count for Upper Columbia chinook was 193,600. Juvenile yearling chinook numbers continue to decline, with about 3,000/day at Lower Granite. It appears that this is the end of the spring migration. Subyearling numbers are up at Lower Granite, to 47,000. Steelhead numbers peaked a few weeks ago – about 7,000/day are being observed at Lower Granite, with the same trend at downstream projects. Rock Island and McNary counts are down for yearlings compared to previous years. Steelhead and yearling chinook at Bonneville are also down in numbers, possibly due to the corner collector.

*Power system:* Lines have tripped due to lightning. Line overloading occurred in the Snake River basin, causing a slight increase in spill at Little Goose and Lower Monumental. Lightning is expected in the Libby/Hungry Horse region.

*Water quality:* TDG exceedances occurred at Ice Harbor and McNary, due to temperature swings and wide fluctuations in gas levels coming down the system. John Day has been spilling to the gas cap. Dworshak, when at 11.4 kcfs had 118-119% TDG;

and when at 7.4 kcfs, TDG was 115-116%. Jim Adams noted that the COE provided a demonstration of SYSTDG, the system the COE uses to make forecasts for spill caps and temperatures, to the WQT yesterday.

**Other:** The Dalles will undergo spill curtailment sometime next week (Monday or Tuesday) to install a pipe at the project. (**Note:** A teletype on this was issued by the COE on Thursday, 6/10.)

**Next Meeting, June 23<sup>rd</sup>, 9am-noon:**

Agenda Items:

- Libby Operations
- Hanford Reach Update
- Mid-Columbia Flow Objectives
- Revised Treaty Fishery Teletype
- McNary 1% Test
- McNary Transport (possible TMT check-in on June 16)
- Dworshak Summer Operations

## **Meeting Minutes**

### ***1. Greeting and Introductions***

The June 9 Technical Management Team meeting was chaired by Rudd Turner of the Corps and facilitated by Donna Silverberg. The following is a distillation, not a verbatim transcript, of items discussed at the meeting and actions taken. Anyone with questions or comments about these minutes should call Turner at 503/808-3935.

### ***2. Sturgeon and SOR Operations.***

Turner said that this agenda item would include a report on selective withdrawal at Libby, followed by a biological update, then a discussion of the Libby operational scenarios the Corps has modeled. Greg Hoffman said that, with respect to selective withdrawal, the weekly sturgeon call took place last week, and it was determined that it was time to optimize temperatures from Libby Dam. So far this year, we've seen fluctuating temperatures that often preclude spawning activities; as a result of yesterday's talk, we decided to experiment with a shallower withdrawal depth in order to increase water temperatures somewhat. The project has now installed withdrawal gates 37 feet from the surface, rather than the 50-foot depth that were being used. We're putting in another row of gates that will allow us to withdraw water from 26 feet from the surface, Hoffman said. At 37 feet, the water temperature is 51 degrees; the downstream temperature at Bonners Ferry is 48.9 degrees F. As the project fills, we anticipate being able to withdraw water from a 30-foot depth, he added -- using the reservoir to provide warmer water is just something we're looking at this spring.

Bob Hallock said water temperatures dropped by three degrees over the weekend,

impacting hatchery operations; one of the female sturgeon that was injected over the weekend failed to ovulate, likely do to cold water temperatures. The reduced temperature also slows down egg incubation, he said, so cold temperatures are a concern. The other problem is that sturgeon flows are much lower this year than in past years, which increases retention time to Bonners Ferry. The bottom line is that we've got a situation that is slowing down sturgeon activities. The female spawners are believed to have left the Bonners Ferry/Shorty's Reach area by now; however, other sturgeon released upstream are believed to have successfully spawned, and the current sturgeon operation is geared toward maximizing the successful incubation of those eggs, added Hallock.

The group discussed the purpose of the current Libby sturgeon operation; Hallock emphasized that its intent is to provide good incubation conditions, rather than to trigger the spawning event itself. If you look at the model runs, on two of them, you have flat flows after the sturgeon pulse, said Brian Marotz – GB2 has a longer sturgeon pulse, GB-6 has higher flows after the sturgeon pulse ends. Well, for 13 years we've been unable to prove we have a swim-up larvae, replied Hallock – we have a bottleneck following incubation. That's why we were tempted to extend the pulse for another week, to ensure that we provide the best possible incubation conditions, Hallock explained. He noted that there is a broader issue – this is a poor water year; there is little hope of meeting all of the salmon measures people would like to see this year; if we fail to refill Libby under VARQ, that will be a political strike against VARQ. From a federal tradeoff standpoint, some might call this an irresponsible operation, from the standpoint of all of the listed species in the basin. We may need to step back and look at the broader regional perspective, said Hallock, in order to avoid detrimentally impacting the augmentation flows for anadromous salmon later in the summer.

The discussion then turned to the Corps' most recent Libby model runs. Turner noted that the first run – A – models the sturgeon pulse as requested, then drafts Libby to elevation 2439 feet by August 31 at a flat 12.2 Kcfs. Alternative B also provides the sturgeon flows requested in the SOR, then releases a flat 9.7 Kcfs through the end of September, at which point elevation 2439 will be achieved. Alternatives C, D, E and F would stop the sturgeon pulse after two weeks at 13 Kcfs the first week and 14 Kcfs the second week. Under Alternative C, Libby would go to a bull trout flow of 6 Kcfs from July 1 through August 2, then to 20 Kcfs through August 31, then to 6 Kcfs through September 30. Under Alternative D, the project would go to 6 Kcfs through July 27, then to a flat 13.3 Kcfs through September 30. Under Alternative E, Libby would release a flat 12.7 Kcfs through August 31, followed by a rampdown to 6 Kcfs through September 30. Under Alternative F, following the two-week sturgeon pulse, the project would release a flat 10.6 Kcfs through the end of September.

Turner noted that, under Alternatives C and D, Libby would refill to elevation 2459 by late July. Under the other scenarios, the project would not refill in 2004. Under Alternative A, the project would fill only to elevation 2445.7 feet; under the other alternatives, it would reach a slightly higher elevation, up to 2451 feet under Alternative F. Turner noted, however, that both Alternatives C and D include a double peak in Libby outflow.

Marotz observed that, in his view, Alternative A would produce a low peak reservoir elevation, which would not reach the littoral zone. What happens in the reservoir elevations is that, when you flood the substrate, it takes about 5 weeks for the substrate to become productive,

he explained. When you have a sudden strike toward full, the area that has been wetted the longest suddenly becomes dark and cold; you move the sunlit zone above the areas of maximum larval production, and that zone goes into winter hibernation mode, reducing the food available to insectivorous fish. An operation where the reservoir doesn't quite fill, while not optimal, is better, from a food production standpoint, he said.

Marotz added that he would be concerned about a sudden drop in Libby outflow following the sturgeon pulse from the standpoint of the incubating sturgeon downstream; he noted that, at 9 Kcfs, all of the riffle areas downstream are wetted – 9 Kcfs appears to be the magic number, from a productivity standpoint. If we can maintain river production by providing salmon flows at a flat rate, that would be preferred over a double-peak operation, he said.

The group devoted a few minutes of discussion to the topic of the preferred Libby operation following the sturgeon pulse. Ultimately, Silverberg noted that the TMT does not need to make a decision on this issue today; rather, it will be made at the group's June 23 meeting. We do need to decide about the sturgeon pulse itself at today's meeting, said Turner – the next flow increase is scheduled to take place this Sunday. Do we want to continue to ratchet upward, or should we stay at 14 Kcfs? After looking at information from the Leonia gauge in the Kootenai River, it was agreed that the increase to 15 Kcfs outflow should take place as scheduled this Sunday, June 13 at 6 p.m. Libby outflow will then be increased to 16 Kcfs at 6 p.m. Sunday, June 20.

Marotz said that, from Montana's perspective, Alternative B (the sturgeon pulse followed by a flat 9.7 Kcfs through the end of September) would be preferable. In response to a question, Scott Bettin said BPA has been exploring the possibility of both a Libby/Arrow swap and a Kootenai lake pass-through agreement with the Canadians; however, they have shown little interest in such an agreement in 2004.

### ***3. Status of Hanford Reach.***

Chris Carlson reported that, for the week ending May 30, average Priest Rapids discharge was 127 Kcfs; the flow band ranged between 40 and 60 Kcfs, and the flow bands were slightly exceeded on May 24, 25 and 27. The fish had accumulated 224 temperature units as of May 30. For the week ending June 6, average Priest Rapids flow was 131 Kcfs; the flow band ranged between 30 and 60 Kcfs, and the bands were significantly exceeded only on June 5. As of June 6, the fish had accumulated 327 temperature units since emergence. Again, the target at which the Hanford Reach fish protection operation will end is 400 temperature units, Carlson said.

### ***4. Mid-Columbia Flow Objectives.***

Turner said the Corps has not updated its ESP analysis since last Friday's TMT conference call; the plan at this point is to continue the current operation – 125 Kcfs minimum flow at Priest Rapids with a 135 Kcfs maximum, with the goal of refilling Grand Coulee by June 30. We would like to propose this as a two-week operation, ending on June 27, he said. And again, the objective is to refill Grand Coulee as smoothly as possible, and to avoid a sudden drop-off in Mid-Columbia flows in late June, said Paul Wagner. Understood, Turner replied. No

TMT objections were raised to this proposed operation.

### ***5. Review Spring Treaty Fishery.***

Kyle Martin provided a memo titled “Impact of Pool Fluctuations on the 2004 Spring Treaty Fishery.” Martin noted that tribal fishers harvested just over 17,000 fish this spring. He went briefly through the contents of the memo, which related actual pool elevations at Bonneville, The Dalles and John Day to the elevations requested in the various CRITFC SORs.

The bottom line is that, at Bonneville pool, actual pool elevations were within the requested criteria 77% of the time in 2004, up from 53% in 2003, Martin said. At The Dalles pool, actual pool elevations were within the requested criteria 70% of the time in 2004, up from 59% in 2003. At John Day pool, actual pool elevations were within CRITFC’s requested range 27% of the time, down from 35% of the time in 2003. Martin noted, however, that there were a number of sharp changes in reservoir elevations over the course of the fishing season; he asked why those occurred. It was an operational issue that occurred in one night, Scott Bettin replied; we straightened it out the following morning. Bettin added that the problem was due to operator miscommunication. Martin said he had spoken with tribal enforcement personnel, who reported that 2004 was a safe fishing season, with no accidents or injuries reported; he added, however, that there was some grumbling on the river about the pool fluctuations that occurred. Martin suggested that language to the effect of “Desired goal is for a stable pool and minimal fluctuations” be added to the Corps’ teletype instructions to the project operators during future tribal fisheries.

Martin added that a one- or two-week summer tribal fishery is being contemplated for late July. Overall, he complimented the Corps and BPA on their efforts to keep pools stable during the spring treaty fishery, noting that kudos are due all around.

### ***6. McNary 1% Test Operation.***

Turner said this test is ongoing; Units 2, 3, 4 and 6 are being operated at the upper end of 1% starting this morning 6 a.m. through 2 p.m. tomorrow. The purpose is to obtain another descaling sample for baseline FGE data, added Mark Smith. A conference call is scheduled for this afternoon to discuss the future of the McNary 1% test operation, in particular, what we want to do as far as a test using summer migrants, he said. In other words, he said, there isn’t much new to report. Smith added that he will provide a further update at the June 23 TMT meeting.

### ***7. McNary Transportation Start.***

Turner said June is the traditional time, under BiOp Action 43, to consider the initiation of collection at McNary as “springlike” conditions transition to summer conditions, with declining flows and higher water temperatures – once McNary flows drop below 220 Kcfs at McNary and temperatures reach 62 degrees F. Turner said flows at McNary are currently about 229 Kcfs. Jim Adams said water temperatures are still well below the 62-degree threshold; generally, that threshold is exceeded some time in the last two weeks in June. So we’ll need to make a decision on the maximum transport issue at our next meeting? David Wills asked.

Correct, Bettin replied – we would ask the TMT to consider this issue and come to the next meeting prepared to make a decision.

Turner noted that spill ended on June 20 in 2003. In 2004, there will likely continue to be involuntary spill after June 20. Ron Boyce said he will provide some new biological information to go with the river condition data to be discussed at the June 23 meeting.

Does the BiOp say that both the flow and temperature thresholds must be met before “springlike” conditions are deemed to be at an end? Cindy LeFleur asked. That has been a topic of extensive TMT conversation in recent years, Wagner replied; the BiOp says that both thresholds must be crossed, but in practice, the decision is up to the TMT’s discretion. It was agreed that maximum transportation will not be initiated prior to TMT discussion June 23. And can we also agree that the requirement for BiOp spill up to the gas cap will end on June 20, as per the BiOp planning date? Bettin asked. After a few minutes of discussion, it was so agreed, with the understanding that involuntary spill up to about 70 Kcfs will be continuing around the clock at McNary after June 20. And we will discuss this question at FPAC as well, added Wills. Ron Boyce observed that, in his view, it is likely that TMT will need to discuss this issue on June 23.

#### ***8. The Dalles and John Day Spill Management Subgroup Report.***

Turner said this subgroup met last Wednesday to discuss spill management at The Dalles and John Day; we looked at BPA’s analysis of the actual spill performance at those two projects, he said. The group agreed that the action agencies were very close to providing the BiOp spill volumes at John Day for the season – within about 4 kaf. At The Dalles, what we found was that the project was operating at 40% spill as a not-to-exceed maximum, said Turner; as a result, we agreed, at that meeting, to revise the way we’re managing spill at the two projects to consider 60% and 40% spill as targets rather than not-to-exceed maxima, at John Day and The Dalles, with true-up to follow within 24 hours or at least weekly. We discussed that recommendation with TMT at a conference call on Friday; TMT agreed to implement that recommendation, and since then, spill at The Dalles has been extremely close to the target. The corps and BPA are now using +/- 1% as an operational goal at both projects, Turner added, and that’s working out very well so far.

#### ***9. Status of Operation.***

Yesterday’s flow at McNary was 229 Kcfs, said Turner; at Lower Granite, it was 100.6 Kcfs, declining from 110 Kcfs the day before. We have been spilling at Lower Granite using the RSW, he added. At Dworshak, the elevation was 1593.5 Kcfs as of last night; Dworshak is currently releasing 17 Kcfs. The project filled 35 feet in the month of May; the project is operating to meet flood control requirements and to refill by June 30. Libby was at elevation 2435.5 feet as of midnight last night and releasing 14 Kcfs; inflow Monday was 37 Kcfs and increasing. Libby is now filling about one foot per day. Albeni Falls was at elevation 2061.1 feet as of midnight last night; the project is releasing 39 Kcfs. Albeni Falls is filling slowly toward 2062.5 feet by the end of June; it has filled a foot over the last week.

Tony Norris reported that the current Hungry Horse elevation is 3554.5 feet, with inflows of 15 Kcfs; Reclamation intends to fill the project by June 30. Grand Coulee is at 1284 feet, with 140 Kcfs inflow. With respect to Upper Snake flow augmentation, we're expecting about 300 kaf to be available in 2004, Norris said. Flow augmentation above Milner is expected to start around July 1.

Turner said the June final water supply forecast is now available; it shows an increase in most basins. The current January-July forecast at The Dalles is 85.1 MAF, up 5% over the May final. The June final forecast shows 53 MAF at Grand Coulee, 84% of normal, up 1% over the May final forecast. At Lower Granite, for the April-July period, the June final forecast is 15.4 MAF, 71% of normal, up 10% over the May final. In general, said Turner, the forecast is improving, but still below normal. At Dworshak, the Corps' forecast is now 2.3 MAF, up 9% over the May final; at Libby, the Corps' forecast is 4.4 MAF, down 8% from the May final of 4.95 MAF.

Moving on to the status of the migration, LeFleur said the final Bonneville Dam adult spring chinook count is about 193,000 fish; the summer chinook and sockeye counts are looking pretty good at this point. Wagner said that, on the juvenile front, yearling chinook indices have declined sharply at the Lower Snake projects in recent weeks; at McNary, John Day and Bonneville, numbers are decreasing as well. Essentially, we're getting to the end of the yearling chinook outmigration, he said. Subyearling chinook numbers are increasing sharply at the Lower Snake projects. At McNary, the indices have been pretty steady in the 40,000 range, Wagner said; those numbers will increase as we head into July. Juvenile steelhead numbers have shown a decreasing trend throughout the system. The cumulative yearling chinook numbers have been right in the range expected at Lower Granite; cumulative steelhead numbers show the same pattern. Cumulative subyearling numbers are running ahead of the curve at Lower Granite, to date; Billy Connor has reported that he has never seen so many subyearling chinook in his traps at this point in the season, Wagner said. He added that the cumulative yearling chinook and steelhead counts at Rock Island, McNary and Bonneville Dams have been significantly below the pre-season estimates, although some of these numbers have not been corrected to reflect transportation or the impact of the B2 corner collector.

With respect to the power system, Bettin noted that there have been many lightning strikes in the Libby area recently, which have not yet affected the transmission system; there was also a line overload problem that caused some additional spill for a few hours at Lower Granite recently.

Moving on to water quality, Jim Adams noted that there have been several TDG exceedences recently at Ice Harbor and McNary Dams, as well as a few temperature-related TDG exceedences at Camas/Washougal. In general, however, things are going well from a water quality standpoint. He noted that TDG below Dworshak reached 118%-119% during the peak spill of 11.4 Kcfs. Adams added that the Water Quality Team had a seminar yesterday on the SYSTDG modeling program, which went well.

## ***10. Other.***

There is the potential for a three-hour [actually 6-hour] curtailment of spill at The Dalles to allow for research equipment installation on Monday or Tuesday of next week, said Bettin.

***11. Next TMT Meeting Date.***

The next face-to-face Technical Management Team meeting was set for Wednesday, June 23, although a conference call is likely on June 16. Meeting summary prepared by Jeff Kuechle.

TMT Participant List

June 9, 2004

Name	Affiliation
Rudd Turner	COE
Scott Bettin	BPA
Tony Norris	USBR
David Wills	USFWS
Nic Lane	BPA
Cindy LeFleur	WDFW
Kyle Martin	CRITFC
Russ George	WMCI
Bruce MacKay	Consultant
Tim Heizenrater	PPM
Dave Ryan	PPM
Donna Silverberg	Facilitation Team
Robin Harkless	Facilitation Team
Tina Lundell	COE
Paul Wagner	NOAAF
Jim Adams	COE
Laura Hamilton	COE
Lee Corum	PNUCC
Brian Marotz	Montana
Greg Hoffman	COE
Amy Reece	COE

Bob Hallock	USFWS
Ron Boyce	ODFW
Ruth Burris	PGE
Mike O'Bryant	CBB
Chris Carlson	GCPUD
Russ Kiefer	IDFG