September 1, 2005
MINUTES

Recharge Advisory Subcommittee
To the
Natural Resources Interim Committee

Meeting Date - August 23, 2005
Red Lion Canyon Springs, 1357 Blue Lakes Blvd. N., Twin Falls, Idaho

Those in attendance included advisory group members, Senator Don Burtenshaw and Representative Dell Raybould, Co-chairs of the Natural Resources Interim Committee; Gary Lemmon, Thousand Springs Water Users; Dan McFaddan, Lower Snake River Aquifer Recharge District; Lynn Carlquist, North Snake Ground Water District; Dean Stevenson, Magic Valley Ground Water District; Ted Diehl, North Side Canal Company; Lynn Harmon, American Falls Recharge District #2; Terry Huddleston, Idaho Water Alliance; Dan Temple, A & B Irrigation District; Jerry Rigby, Idaho Water Resource Board; and Don Hale, Committee of Nine. Additional attendees included Director Karl Dreher, David Blew and Brian Patton, Idaho Department of Water Resources; Clive Strong, Natural Resources Division, Idaho Attorney General's Office; Dave Hovland and Bill Allred, Idaho Department of Environmental Quality; William Hazen, University of Idaho; Lynn Tominaga, Idaho Ground Water Appropriators; Brian Higgs, Waterwell Consultation; Dick Rush, Idaho Association of Commerce and Industry; Mike Bens, U.S. Bureau of Reclamation; Greg Panter, Idaho Power Company; Charles Barnes, Office of Congressman Simpson; and Katharine Gerrity, Legislative Services Office.

Rep. Raybould called the meeting to order at 9:00 a.m. He noted that the reason the advisory group was called together was to specifically address issues relating to recharge and reminded members that during the interim of 2004, the interim committee determined that recharge would remain an important part of stabilizing the aquifer and providing water necessary for water rights that are depending on the aquifer, both well users and spring users. He went on to state that it is important in addressing recharge that available water be used and that nothing be done that would harm existing water rights or the Bureau of Reclamation rights in storage.

Representative Raybould continued that we have to determine how to use any surplus water we have and how to use it most effectively. He noted that we have been talking about these issues for a number of years and it is now time that we start dong something positive. The group will have to make recommendations to the full interim committee in terms of which projects it wants to recommend. He indicated that funding information will be explained by **Clive Strong, Natural Resources Division of the Attorney General's Office**, and **Director Karl Dreher,**

Idaho Department of Water Resources, although implementation will require additional funding whether that be sought through the Legislature or through assessments to water users. **Rep. Raybould** said that he, along with **Sen. Burtenshaw**, appreciated all those that accepted the responsibility to be on advisory group to come up with some ideas to move forward with recharge. **Rep. Raybould** commented that records indicate we have water going past Milner, in excess of water rights downstream, that is not currently being utilized for recharge into the aquifer. He noted that the group needs to determine where that water is coming from and where it can be put into beneficial use in the recharge program.

Rep. Raybould then introduced **David Blew and Brian Patton, Idaho Department of Water Resources,** to address pilot projects.

David Blew's presentation involved technological challenges associated with potential recharge. He specifically talked about the Magic Valley area and Water District 130. Looking at recharge along the North Side Canal and some of the other canal systems there are some technological issues that he said will have to be solved. **Mr. Blew** went on to state that when one looks at the Upper Snake Basin along the Snake River, the geologic and soil situation is better and that makes recharge quite a bit easier. He said that because of this fact, his comments would be primarily related to potential recharge in the 130 area to effectuate a change within springs in the area from the Devil's Washbowl down to the Malad Canyon.

According to **Mr. Blew**, in developing the technology for recharge on the Eastern Snake Plain, certain questions have to be asked:

- How do we successfully implement managed recharge on the ESPA?
- What are the technical issues related to managed recharge?
- How do we develop recharge sites or systems that have a high degree of reliability?
- How do we develop a program to meet goals and objectives?

He went on to say that there are limitations of soils and sub-surface geology, particularly in regard to Water District 130. He said that if recharge moves forward in that area, the following considerations should be made:

- A surface filtration of recharge water is required to protect ground water quality.
- Soil clogging is the number one problem associated with managed recharge.
- Basins will require periodic cleaning and scarifying.
- In WD 130, course textured, high permeability soils are limited.

Mr. Blew then provided examples to demonstrate challenges. The first example regards the Milepost 31 Recharge Site which is a 333 acre basin that runs along the Milner Gooding Canal. Its recharge capacity was first estimated at 1500 cfs when the feasibility report was completed in 1999. The first thing the Department did when looking at the site was to look at the soils, specifically the permeability. **Mr. Blew** said that the permeability of the soils indicate that the

actual capacity of the site is probably around only 210 cfs and that the actual recharge capacity may be as low as 10% of permeability, or only about 20 cfs. The other problem he noted relating to this site is the subsurface geology.

Mr. Blew summarized the challenges associated with Milepost 31 as follows:

- Feasibility report estimated the recharge capacity of the Milepost 31 site as 1500 cfs.
- Calculations using soil permeability indicate that the recharge capacity is not more than 210 cfs due to the fine-textured soils at the site (25% clay at 2 feet).
- The actual recharge capacity may be as low as 10% of the permeability or just over 20 cfs.
- Geophysical logs indicate massive relatively unfractured basalts to a depth of 300 feet.

The next site **Mr. Blew** discussed was the X1 Recharge Site located north and east of Wendell. There are actually two sites located in this area and the total capacity is estimated to be 5 or 6 cfs. **Mr. Blew** said that the Department also conducted soil tests to look at permeability at this location. The results of the X1 infiltration test indicated soil infiltration rates average 9 ft/day with long-term hydraulic conductivity calculated at 1.1ft/day. **Mr. Blew** said that at most recharge sites around the country you'll find conductivity at 2 to 4 feet per day and they like to see them at 4 ft per day. He said that when intake rates get down low they are much more expensive to operate and the resident time in the basin becomes very long and can clog soils due to the development of algae, bacteria and biopolymers within soil profiles. He added that there are technological fixes for these issues but it will take some engineering.

Mr. Blew said that there was a 1962 study relating to recharge on the Snake Plain that also refers to problems associated with getting water through layers of low-permeability materials down to the main water table. The report, he noted, recommended the use of injection wells to move water past low infiltration soils and below potential perching layers farther below the ground surface.

According to **Mr. Blew**, the protection of water quality is also a concern. He stated that studies conducted this year indicate the presence of coliform bacteria in canal water. In many cases there is a short travel time between recharge sites and downstream users. In their modeling efforts they looked at travel time between recharge sites to downstream users. The area was about a 2 mile stretch and the closest users were between 120 and 180 day travel time from recharge site to downstream users. He added that when you look at recharge, particularly on the North Side system, it is difficult to get away from domestic and municipal wells. He said this is an issue that will have to be addressed and is the reason a filtration system would be needed to insure that the water they put in the ground doesn't cause degradation of water for downstream users.

Mr. Blew stated that one of the other issues that will have to be addressed is that to provide adequate recharge capacity they must be able to deliver water outside of the irrigation season

because canal capacity is limited during the irrigation season.

Mr. Blew suggested that recharge technology needs to be developed by:

- Developing small pilot projects to evaluate effectiveness and cost.
- Intensify efforts at quantifying recharge capacity at potential recharge sites.
- Evaluate recharge capacity of the canal systems.

Lynn Tominaga asked what entity regulates injection wells. **Mr. Blew** responded that IDWR does and that DEQ handles spreading basins.

Dean Stevenson asked how much travel time water has to have to get rid of coliform. **Mr. Blew** said that in most areas of the country, they like to have at least a one year travel time from the time of injection to the time of use. However, he continued, we are fortunate here in that our water is relatively clean and the only thing we really have to be concerned with is bacteria. He said that provided surface filtration is in place, a 120 to 180 day travel time may be enough. **Mr. Stevenson** asked whether there have been any problems with canals and bacteria and **Mr. Blew** responded that they are currently dealing with such a situation in the Mountain Home area.

Sen. Burtenshaw asked whether they have conducted any studies in the Upper Snake where there are several big gravel pits. He commented that he has always been told that water traveling through sand and gravel will purify itself and asked whether there are any down sides to using those types of sites. **Mr. Blew** responded that he knew of no down side to using such sites as long as they know the water from that basin would get into the aquifer. Recharge in the Upper Basin, according to **Mr. Blew**, will be easier than in some of the lower sites. He added that in a number of states they do recharge right along rivers where you can find deep course alluvium soils and they provide excellent treatment of water before it reaches the aquifer.

Jerry Rigby asked about the use of canals during off-season times. **Mr. Blew** responded that they are looking at that now and potential sites are designed around that concept.

Don Hale said that in the last few years they have noticed shallower wells in the Upper Valley. **Mr. Blew** said that can be a concern because some people have complained that wells are fouled by a recharge site. He explained that when you get water moving laterally it potentially can cause trouble with domestic wells or water logging on farm ground. **Mr. Blew** said that clay lenses, associated with the lateral movement of water, are probably not as much of a problem in the Upper Basin as in the lower areas. He stated that they want water going to recharge sites and not moving laterally.

Rep. Raybould said that he also thinks there is a real opportunity for recharge in canals themselves. He gave some examples of canals in his area of the state and agreed that we should look at having water in canals during the off-season.

David Blew said that they did some modeling about a year ago developing a scenario of

recharge in the Upper Basin and used nothing more than irrigation canals and a few recharge sites. The modeling included the St. Anthony Canal, Great Western Canal and Aberdeen Springfield Canal. he noted that modeling showed at least 300,000 af if they could use canals prior to the start of the irrigation season.

Brian Patton was the next speaker to address the group and focused on reviewing specific potential recharge sites. He began with a discussion of the W-Canal Recharge Project located on the North Side system. He said that the site is located on state land east of Wendell. According to **Mr. Patton**, the concept is to deliver water through the North Side Canal Company's W-Canal. The site plan shows two basins that cover 16 acres with the possibility of expanding up to 60 acres in the future if warranted. He stated that canal capacity could effect future expansion.

Mr. Patton said that the predicted steady-state response due to recharge at the site is as follows:

,	Above Milner:	7%
,	Devil's Washbowl to Buhl	30%
,	Buhl to Thousand Springs	30%
,	Thousand Springs	19%
,	Thousand Springs to Malad	2%
,	Malad	12%
,	Malad to Bancroft	0%

Mr. Patton continued by reviewing the things that need to be done to move forward with the project which include the following:

- , Geotechnical investigation.
- , Funding package (includes NEPA compliance due to USBR funds).
- , Easements across private land and permits to use state lands.
- , Conveyance and operation agreement with NSCC.
- , Final design.
- , State contracting - the Water Resource Board must do this through the Division of Public Works and Permanent Building Fund Advisory Council or obtain a legislative exemption similar to that of the Transportation Department.
- , Construction - they prefer to contract with the North Side Canal Company for at least the in-canal work if possible.
- , In-canal work must be done when canal is not in use - other work can proceed during the irrigation season.

Mr. Patton said that the preliminary cost estimate is as follows:

,	Design and construction	$602,000
,	Annual O & M	$ 15,000

Mr. Patton said that this estimate does not include the costs to deliver water through the North

Side Canal and if the geotechnical investigation shows the infiltration basins will not work at this site, the costs will likely increase.

Mr. Patton continued with a review of the Janss Project which has been proposed by spring users in the Hagerman Valley. He said that the basin is located on private land west of Wendell near the canyon rim. The concept, according to **Mr. Patton**, would be to deliver water through the North Side Canal Company's W-Canal. The site is currently used as a spill from a lateral.

Mr. Patton noted that preliminary analysis shows:

- Test pits revealed the basin is filled with 8 feet of silt-clay soil.
- The site is better suited for use as storage reservoir that Janss can draw from to offset ground water use.
- Fill reservoir with early-season run when North Side has excess capacity.
- Recharge could still occur with injection wells although effectiveness will likely be limited by delivery capacity to the site.

Mr. Patton said that the predicted steady-state response due to recharge and/or conversion at the Janss Site is as follows:

Above Milner:	3%
Devil's Washbowl to Buhl	17%
Buhl to Thousand Springs	32%
Thousand Springs	34%
Thousand Springs to Malad	4%
Malad	10%
Malad to Bancroft	0%

To move the Janss project forward the following would have to occur:

- Determine whether the Janss Project should be undertaken by the Water Board as another pilot project or whether it should become a conversion project for a single land owner.
- Have the North Side Canal Company determine the ability to deliver water to the site.
- Determine if injection wells for recharge are to be part of the project along with replacement water delivery.
- Agreements with Janss and North Side Canal Company.
- Would need long-term agreement with ground water districts to supply. replacement water.
- Funding package.
- Final design.
- Construction.

According to **Mr. Patton**, potential Janss Project preliminary cost estimates are:

- Desgin and construction: $135,000 to $300,000
- Annual O & M $ 30,000

Mr. Patton said that this does not include the costs to deliver water through the North Side Canal.

Mr. Patton stated that other potential projects on the ESPA, primarily in the Basin 130 area, include the following (set forth along with specific issues related to each):

- The Sugar Loaf Retrofit:
  - The results at Sugar Loaf are disappointing.
  - New diversion structures constructed in 2002.
  - Initial estimates predicted recharge rate of 40 cfs.
  - The site will take just a few cfs.
  - To increase capacity, planning and design work is necessary.
  - The solution could be infiltration trenches, injection wells, or enhanced infiltration basins.

- The K Canal:
  - The site data and geophysical logs indicate potential for recharge.
  - Complete a geotechnical study to determine potential and design criteria.
  - $75,000 for geotechnical studies.

- Milepost 31:
  - Existing data does not appear to show high potential for development as a recharge site.
  - Review of existing data to determine if further study is warranted.
  - $5,000 to $10,000 for outside review.

- Potential ground water-to-surface water conversion (recharge equivalent) projects:
  - Approximately 6,000 acres of potential farm-level conversions adjacent to Milner-Gooding Canal - estimated at $200/acre for infrastructure.
  - Large-scale potential projects that yield large reductions in ground water use, but also have high construction costs:
    - A & B East: 4,222 acres
    - Pump plant & pipeline from MID Main Canal
    - Estimated cost: $3 million

    - A & B West: 4,286 acres
    - Pump & pipeline from Milner-Gooding Canal
    - Estimated cost: $4 million

- Hazelton Butte: 9,120 acres
- Pump plant & pipeline from Milner Dam
- Estimated cost: $6 million

Sen. Burtenshaw asked **Mr. Patton** which sites he would you say are the most economical and the most beneficial. **Mr. Patton** responded that if they want to start with Basin 130, it would probably be the W-Canal Project.

Clive Strong commented that intuitively you would think you would have more reaction in the Thousand Springs Reach and asked why that was not the case. **Director Dreher** responded that was because transmisivity in that area is problematic.

Rep. Raybould asked that given the low conductivity rate in that area, would it be better to find sites farther from springs that have greater conductivity even though it would take a longer time for results to be felt. He added that this has to be a long term objective and asked whether they would be more efficient taking that approach. **Mr. Patton** responded that would have to be a policy question.

Sen. Burtenshaw asked a question relating to conversions. **David Blew** stated that conversions have been made to about 10,000 acres and the effect is the same as recharge. A large number of additional potential conversions have been identified.

Don Hale asked where they would get surface water from and **Brian Patton** responded that it would come from the exchange water.

Director Dreher added that conversion is only effective if there is canal capacity to carry the water. That is a limitation. He stated that the other thing that recharge does that conversions do not do is that when you have periods of surplus water, recharge gives you a way to capture the water and hold it for future use.

Rep. Raybould commented that the troubling thing about using surface water is that you would need to be prepared to divert the water into the aquifer or the canals.

Lynn Tominaga added that a potential obstacle in storing water for recharge may be the new water bank rules. He said that when water is used for recharge there is a question as to whether that use impacts surface water users because it doesn't benefit them but rather the springs.

Mr. Clive Strong, Natural Resources Division, Idaho Attorney General's Office, reiterated that although recharge has been discussed for a long time, there has been difficulty moving ahead. He added that all three types of recharge need to be considered; specifically - canal recharge, managed recharge and conversion projects.

Mr. Strong continued by stating that canal recharge is the only feasible way to use the high

flows we sometimes experience. However, there is a limited opportunity. He noted that many users experiencing shortages support a long-term perspective but that perspective does not help in the short-term.

In the short-term that is why managed recharge becomes very important because it is more targetable. **Mr. Strong** said that originally we thought the process for managed recharge would be to find someplace out in the desert, dump water on and it we would get recharge. But then we started seeing that we have a lot of problems getting water in a site and that the water may not come out where you intend. According to **Mr. Strong**, because of this fact, we are probably in need of a designed facility to accomplish the objectives we want. This means more cost and probably more environmental compliance issues that have to be dealt with. Nevertheless, he thinks that technologically it can be demonstrated to occur. The question, according to **Mr. Strong**, is whether the technology is cost efficient enough to justify the expenditures you might have to put into such facilities. **Mr. Strong** went on to state that the presentations of **Dave Blew** and **Brian Patton** focused on the notion of putting out some demonstration projects to test both the technological and economical feasibility related to the projects.

Mr. Strong also stated that conversions are really more opportunistic situations, unlike managed recharge where we target it to cover a larger area. Conversions are more opportunistic in terms of water supply and attempting to get the water through the canals at the time we need it.

According to **Mr. Strong**, when you start thinking about the situation in this way, you can develop a matrix and see that our options of managed recharge, canal recharge and conversions all have different challenges. **Mr. Strong** stated that to get off dead center we need to look at managed recharge as one of the tools that we can use and then test it out and see how it works while we work to resolve some longer institutional barriers.

Charlie Barnes, Office of Congressman Simpson, asked whether there is a big enough return on efforts like that between the Burley Irrigation District and the Southwest Irrigation District pumpers between Burley and Oakley. In that effort, the districts use a holding pond and in early and late season they put water in the pond and pipe it to farms as far as Golden Valley Road. In turn, pumpers turn off their wells. **Mr. Barnes** noted that he did not know how much water was involved in that exchange but that approach also seems like a possibility.

Rep. Raybould commented that water exchanges from ground water to surface water, especially on the end of the southwest side of the north side canal is effective and that when you stop taking water out of the aquifer you achieve the same effect as putting water into the aquifer.

Don Hale noted that when he reviewed the materials relating to potential projects he considered where water would come from for exchanges and concluded that it would be mitigation water that would have to come from storage in the Upper Valley and from the North Side and Twin Falls Canal water. In considering where North Side and Twin Falls Canal Companies are going to get the water, he went on to say that a lot of their water comes from recharge in the Upper Valley. If the most economical place to do recharge is the Upper Valley, it would provide

mitigation water to the North Side and Twin Falls Canal natural flow and you could then do these exchanges.

Brian Higgs was the next speaker. **Rep. Raybould** introduced **Mr. Higgs** noting that he was attending at the request of some of the ground water users and that he would be providing some information that he presented to **Rep. Barraclough** and **Rep Raybould** a few weeks ago. **Rep. Raybould** went on to say that the material that Brian has is taken from the Department's records.

While **Mr. Higgs** was preparing for his presentation, **Clive Strong** stated that the point he was trying to make earlier is that you need to look at a mix of things - not just one solution. In terms of water supply, storage water probably won't be a reliable alternative so we will need to be looking more at natural flow.

Brian Higgs stated that his background was in geology and that he currently has a ground water consulting firm. He has a number of contracts with ground water districts to conduct measuring. He is licensed to practice geology in Idaho as well as in a number of other states. **Mr. Higgs** noted that he attended the meeting on his own time and not on behalf of any districts.

According to **Mr. Higgs**, the data he would be presenting was not manipulated in anyway but rather came straight from records of the USGS for Water District 1. He added that he looked at ground water hydrographs and surface water hydrographs and some canal diversions versus production acres and made comparisons between the three.

Mr Higgs then discussed changes that have happened over the course of time relating to the conversion from flood irrigation to pressurized irrigation. **Mr. Higgs** noted that ground water that previously would have been in the ground is flowing down the river. He stated that as we went from flood irrigation to sprinkler irrigation we started to flow more water down the river. The aquifer according to **Mr. Higgs** acts like a sponge. He said you can pick any guaging station you'd like and they all, over time, look the same - stable until 1970 and post-1970 huge peaks and bad droughts. Before the 1970's when we had excess water, **Mr. Higgs** said the aquifer would take the excess water and store it for us and during a drought it would give the water back. During that time, he stated, when we did have droughts you wouldn't see them extend for periods of 4 - 6 years because the ground gave water back.

Mr. Higgs also reviewed canal discharges and said that patterns throughout the systems are the same. He said that before 1975 there were more diversions per acre than today and this is also linked to conversions to pressurized irrigation. **Mr Higgs** went on to state that we need to put extra water flowing out the river past Milner back in the ground again.

Mr. Higgs then presented a phased solution where all components would run contemporaneously, That phased solution would be as follows:

- Divert our entire surface right or much of it and put it back in the ground;
- Locate target springs with the most senior rights or that have the worst decline in

elevation or discharge;

- Draw water table maps that show pathways with flow lines;
- Locate ground nearest that area and for any well or ground that has a supplemental well, the lines on the hydrograph would point to the location, and use the well as a primary source of water and recharge their entire surface water right into the ground; and
- Start with ground closest to target springs and, as springs increase and the aquifer bounds up, move farther back from that location.

Director Dreher was the next speaker to address the group. He informed the members that IDWR filed a request for, and was granted, a grant through the Water 2025 Program with the Bureau of Reclamation seeking funds to do an engineered managed recharge project.

The project that IDWR identified, according to **Director Dreher**, was the W-Canal Project. IDWR is of the opinion that the W-Canal Project would be the closest to implementation. The site has a 10,000 af/year maximum. **Director Dreher** said that, although the site is not big, it would demonstrate that the technology could work, identify costs and serve as a gauge as to how much more to do.

Director Dreher indicated that the W-Canal Project also will benefits the springs and the Thousand Springs Reach as well as about 10% benefit up-gradient to the American Falls area. The area of benefit excludes that area of low transmisivity in the reach from Thousand Springs to Malad. According to **Director Dreher**, none of the recharge projects addressed to date have been able to address the difficulties in that area. **Director Dreher** stated that a natural reaction that people have is to wonder why there used to be water there and where that water came from. He went on to say that the water came from the North Side Canal Company. A number of things changed which affected the water situation there. During the 1970's and 1980's, land sales occurred along the rim. Those lands were irrigated with North Side Canal Company shares. Later North Side Canal Company shares were sold off to lands further east. The Department issued permits to appropriate ground water and so those lands remained in production using ground rather than surface water. Surface water had been delivered through a leaky system right above the springs. That source of recharge was removed and ground water development took place which essentially removed water that otherwise would have discharged into the springs.

Director Dreher reiterated that IDWR received a $250,000 grant from the Water 2025 Program. The total cost projection per the Department's information is $602,000. **Director Dreher** said that the state will have to match at least that much and are planning on matching more than that amount. He said they would probably look to have the state fund engineering and design costs. **Director Dreher** went on to say that the question is where will the money coming from. They are still finalizing the agreement with the Bureau.

Director Dreher then referenced **David Blew's** remarks relating to water savings issues. He noted that it is his impression, based on his reading of the contracts, that entities such as North Side and others that participate in the winter water savings arrangement for Palisades, agree to

forgo diversion under their water rights during a 150-day time period so that the water they would have diverted can accrue to storage in Palisades and in exchange get priority for storage one day earlier than the Bureau. The key, according to **Director Dreher**, is that it is under *their* water rights. The recharge being discussed would involve diverting water under the *Board's* water rights. The Department is not supporting any changes to the winter water savings program and are not suggesting that it be stopped. The Department is suggesting that the quid pro quo involves the entities water rights and not those of the Board. **Director Dreher** then noted that in his opinion diverting water under the Board's rights would not affect any other rights other than potentially Idaho Power. The earliest water right the Board has is 1980 so there would be no affect on the Bureau's storage. **Director Dreher** explained that the only time the Board could exercise its 1980 priority is if the Bureau was not exercising its priority to store water due to a reservoir being full or for some other reason. In summary, as to this issue, he said that the recharge the group is talking about, pursuant to his interpretation, cannot impact winter water savings because it is a junior priority and the winter water benefits that accrue to the canal companies remain intact because their agreement with the Bureau continues.

Director Dreher then returned to the funding issue. They propose that the $81,948 engineering and design costs come from the remaining funds held by the Department of Commerce for water project grants. Director Dreher explained that the reason these funds are remaining is that one of the projects that was identified for funding was a ground water well that was to be constructed jointly between Clear Lakes and Clear Springs. However, the two entities could not agree as to where or how to construct the well so that money was not spent. The Department suggests that the interim committee approve reallocation of the grant funds to this project.

Director Dreher stated that the Lower Snake Aquifer Recharge District will put in $15,000 towards construction of the project which leaves $255,052 to fund. Presently, **Director Dreher** said that they are thinking that the remaining money could come from the appropriation made to the Department last year. **Director Dreher** said that there is enough money remaining unallocated to cover these costs dependent upon the revenue stream that the Water Resource Board derives from the Bureau renting the Bell Rapids water. Those discussions are ongoing but they are proposing the Bureau pay the Water Resource Board $5 million by September 3, $3 million by October, and at least $1.3 million by next June. If the Bureau meets that payment schedule, the Board will have unencumbered funds sufficient to cover the remaining costs. Having said that, the **Director** noted that the Board has not taken action on this issue either. He went on to say that he doesn't know a reason the Board would not approve based on the fact that the Legislature appropriated the money for the purpose of leasing water or for water projects and this fits within that purpose.

According to the **Director**, IDWR believes they have the money in hand but they will need to get all the points finalized. The Department recommends that they go ahead with the W-Canal Project which they would like to see begin late summer and fall with engineering and geological investigations with an eye to complete construction next year.

A slide reflecting the proposed funding package for the W-Canal Recharge Project was presented to the group reflecting the following information:

- Estimated project cost $602,000
- USBR Water 2025 Grant $250,000 (still need agreement)
- ESPA Mitigation grant funds $ 81,948 (need approval of Interim Legislative Comm.)
- LSARD Funds $ 15,000
- Idaho Water Resource Board $255,052

Need from subcommittee:

- Recommendation to Interim Legislative Committee to approve allocation of ESPA Mitigation Grant funds to W-Canal Project
- Recommendation to IWRB to commit remainder of funds necessary for project

Another slide was presented to the group reflecting the 2025 Challenge Cost Share from the USBR for the W-Canal Project

- Will require NEPA compliance
  - Potential impacts to Salmon and the ability of USBR to meet augmentation flows
  - Potential impacts to threatened and endangered snails
  - Cultural clearance for the site

- Two percent of total project cost was set aside for NEPA compliance activity
  - Actual cost may exceed the two percent
  - Additional cost to be borne by grant recipient

Rep. Raybould asked for the members thoughts relating to the project suggestion. He stated that out of those presented, the W-Canal Project looks like it is the most feasible. **Rep. Raybould** said that if we are ever going to do recharge, it is his opinion that we need to get it started.

Dean Stevenson moved that the advisory group recommend to the full Natural Resources Interim Committee that we embark on the W-Canal Recharge Project and get it going.

Rep Raybould asked if there was any further discussion.

Lynn Carlquist inquired whether the canal company is OK with the project and **Ted Diehl** responded that it was.

Dan McFaddan noted that he didn't see that any funds were allocated to canal company expenses in getting water to the project. He also asked who would be responsible for the project, assume the liability and manage it.

Rep. Raybould commented that it was his understanding that it would come under the purview of the Water Resource Board and it would be up to the Board to determine the details. He went

on to say that the Board may have to come to the Legislature for funding in their budget. The first thing, he stated however, is that you have to have a project constructed and someplace to go with the water.

Don Hale said that, in his opinion, there appear to be large expenses in putting the project together in terms of the actual constructions costs and he asked whether there are ways to cut the costs. He noted that if pumpers could get a mitigation benefit, they might be willing to do construction if the state did the engineering and permitting. He said that it was just an idea that should be given some thought.

Sen Burtenshaw asked whether the total project cost is $2 million and whether anything has been done yet. **David Blew** responded that the work would be starting from scratch and that the first phase contains some contingencies. The total development is estimated at $2 million for the entire site. **Sen. Burtenshaw** continued by asking whether they would have enough information after doing the initial phase to know whether it was worth fully developing and **David Blew** responded that they would.

Dan Temple asked whether this phase would put water on the ground and **Director Dreher** responded that it would, up to the 10,000 af capacity. **Director Dreher** continued that he asked his staff to come up with a component that, if shown to be worthwhile, could be expanded. This phase is not like a first step, but rather a complete component.

In response to **Don Hale's** earlier comment regarding construction costs, **Director Dreher** responded that, although we should be interested in saving money where we can, because the grant is structured with a contribution from the state, it is probably not an option to have the ground water users come in to help with construction.

Clive Strong followed up by noting that there are a number of reasons why the state would be the preferred entity to be involved with this project, as opposed to private entities, at this point in time. One such reason is that DEQ has to be comfortable with the project in regard to water quality. This project would provide a demonstration to provide confidence to involved agencies. In addition he said, the state needs to get a good sense of the technology and costs.

Lynn Tominaga added that ground water districts would have difficulty coming up with money until they know it will work and they can evaluate the results. He said that they need proper monitoring, etc., now to make sure that it is done right the first time.

Following this discussion, **Dan Temple** seconded the motion of **Dean Stevenson**. **Rep. Raybould** asked who was in favor of the motion. There was a unanimous voice vote in approval that the recommendation of the W-Canal Recharge Project be taken back to the full Natural Resources Interim Committee.

Rep. Raybould continued, referring to the last agenda item involving the development of an action plan for a recharge program. He asked the group to consider what their goals were.

Dean Stevenson said that it seems over the course of time they start out with great ideas, hit institutional barriers and stop. He went on to say that he thinks they should instead start with the institutional barriers, get around the ones they can and work within the ones they can't get around.

Rep. Raybould asked the group how they could secure use of irrigation facilities to convey water and **Ted Diehl** added that they would have to be able to convey water off-season.

Rep Raybould went on to say that in his opinion the most challenging factor is securing a long time source of water for recharge and having it available in the period of times when the canals are available to transport. **Lynn Harmon** agreed that timing is critical, probably from late February through early May and September through mid-November or early December.

Sen Burtenshaw asked whether they would be restricted during the 150-day winter water savings. **Director Dreher** responded that he does not believe so in that it would not be canal company water that they would be diverting.

Director Dreher went on to say that typically in the October/November time frame, the Bureau is making releases. Once water is released it is divertable under natural flow water rights and would be one source of water. **Director Dreher** added that there are other issues involving hydropower rights that have to be factored into the equation. Over the longer term, he said, there has been water released for flood control.

Rep Raybould mentioned Ririe and the fact that the Bureau is required to reduce it to 50% of capacity every spring. He said that if Ririe is full in November you know that 40,000 af will have to be released and that water is either caught in American Falls or it goes down the river. He went on to say that is an example of what the Bureau may have available as to their requirements on reservoir operations but, he noted, the problem is that wherever you look it is predicated on the weather.

Sen. Burtenshaw asked about hydroelectric rights. **Director Dreher** reiterated that as soon as that water is released, it becomes natural flow and is divertable based on priority, potentially divertable under the Board's 1980 water rights.

Sen. Burtenshaw asked how much water will we need for recharge. Director Dreher said that in the context of the W-Canal site, it has a maximum capacity of 10,000 af. He noted that he doesn't think that they would have any problem finding that amount but it is going beyond that amount that will take some serious consideration. He also reiterated that it depends on the weather.

Clive Strong added that he believes we need to break the process into components with ground rules to start with in terms of recharge. The first, in his opinion, is that the recharge program be designed in a way that it will not interfere with the operation of Bureau projects. He went on to say that we all have a community interest in making sure those projects are able to store to

capacity and provide supply. So the water supply that we should be using, according to **Mr. Strong**, should be junior in time to storage water rights. He stated that the second rule should be to design a recharge program that does not injure other senior water rights and with that basically you won't be absent voluntary accepted mitigation.

Rep. Raybould asked whether the Department would consider it a beneficial use if North Side, for example, were diverting its full decree and it did not have to use all of the water for irrigation purposes but ran the excess water into a pond for recharge. **Director Dreher** responded that, to the extent a water right does not have recharge as a beneficial use, it could not be used that way unless it goes through a transfer proceeding or to the water bank - the water bank becomes a surrogate for a transfer. **Director Dreher** continued that it would not be considered a beneficial use even though, under a flood irrigation system, a percentage of water went into the acquifer or that some percentage is lost through canal seepage today. He said that you have to look at the purpose of diversion.

Clive Strong continued that once people know what the end target is - where you are going to try to end up, then you start breaking the process down into individual components. As an example, he said that if you want to do canal recharge, you need to work with canal companies on agreements and work with the Bureau regarding interpretation of winter water savings. You would then go on to managed recharge to determine whether it is economically or technologically feasible and then get back to issues relating to management, funding, water quality, etc.,

Jerry Rigby said that particular component is important to him in terms of whether the Water Board becomes the managing entity. He said that you need an entity to be in charge and you need to consider liability. A question in his mind is whether it is an unfunded mandate. The Board's budget goes through the Department. The Director has to work his system out and yet keep the Board afloat. **Mr. Rigby** added that the Board has picked up a much bigger role and the Board's role relating to recharge would have to be determined.

Clive Strong responded that we haven't built the bridge yet and we need to see what we find. **Jerry Rigby** agreed but added that we have to be thinking about this, that it won't happen overnight and we need to anticipate. **Rep. Raybould** added that the Board and the Department would have to work this out together as we proceed. **Sen. Burtenshaw** said that he understands the Board's concerns and sat on JFAC for some time. He said that he knows costs keep rising and it is not easy.

Rep. Raybould asked what other ideas the members have in terms of long-term implementation.

Dan McFaddan said that after discussions he feels that the majority of the group are of the opinion that even more important than getting the project on line is getting water in the canals on the off-season. He said that we all know that will work and will have short-term and long-term effects.

Rep. Raybould reiterated that the most important thing to do long-term is to secure water for early spring and late fall use.

Dan McFaddan asked whether they could hold mitigation water over in storage to use. **Rep. Raybould** said that they would have to take that up with the Bureau.

Don Hale, noting that the Board's water right is 1980, asked what the forecast is for water for the next 5 to 10 years.

Director Dreher stated that we can find 10,000 af for this project. The Board's 1980 water right hasn't been in priority since 1997 or 1998. He continued that in more years than not it will be junior except for times when the Bureau is doing flood control. In terms of storage water, at the price it goes for, he doesn't think there will be too many that want to pay the price to run that through recharge. In situations where ground water districts secure water through exchanges with the Bureau, there could be years where they would have some in storage that they don't have any other use for. **Director Dreher** said he doesn't know where water will come from off-season.

Dean Stevenson asked whether there are still stock water rights in off-season and if those became natural flows could some of those irrigation companies divert that winter water for stock water. **Director Dreher** responded that if they have contracts with the Bureau for winter water savings they could not, they have to be off for 150 days so only a few would qualify.

Dan McFaddan asked whether the state could buy water from willing sellers like it did with Bell Rapids. **Rep Raybould** responded that they would you have to do a transfer or change the nature of use if the state bought surface water rights from an irrigator and then designated that for recharge. **Director Dreher** added that it would have to either do a transfer or take it through the water bank -but it is a possibility.

Lynn Tominaga inquired whether the state would do that for water above Milner. **Rep. Raybould** said there is a possibility if energy costs keep going up some ground water rights may become available.

Jerry Rigby added that there are a few problems with surface water rights in that you cannot stop the next junior from diverting that water without putting it through the water bank. He added that Bell Rapids was a different situation than above Milner. In addition, canal companies own water rights. **Rep. Raybould** added that we may need a more stream-lined way to convert for recharge.

Lynn Tominaga asked **Mike Bens, U.S. Bureau of Reclamation** if he could get some information regarding whether there may be a carryover this year for the next meeting so the group could see how it fits with the Board's 1980 water right.

Rep. Raybould asked for additional ideas, particularly whether anyone could think of any other

way, other than the water bank, to get a long-term water supply. **Ted Diehl** commented that you have to go through the water bank for accounting purposes. **Rep. Raybould** asked whether that was affordable for recharge and **Ted Diehl** responded that it is not unless you go and buy a water right somewhere.

David Blew pointed out that the water rights of North Side Canal Company and Twin Falls Canal Company have 1977 priorities that specifically state that they won't be subordinate to recharge. Those are additional rights that we have to be mindful of in addition to the Idaho Power issue.

Dan McFaddan asked whether there have been any studies made of off-stream storage and **Rep. Raybould** responded that there have been conversations to that effect over the years. However, he added, the biggest obstructions we would see would be cost for new facilities and the environmental atmosphere against new storage facilities, both of which are big hurdles to get over. He added that he believes there are some sites available if they could get over the hurdles.

Sen. Burtenshaw added that in looking at costs they need to consider that water is worth a lot more now than when, for example, Teton Dam was built. He also pointed out that they should keep in mind that the CREP program efforts will mean that 200,000 af will not be pumped out.

Terry Huddleston commented that he believes they cannot make decisions early enough so they need to have authority and chain of command in place to make decisions in a timely manner.

Gary Lemmon addressed the water budget. He said that we continue to increase the demand on the aquifer with domestic wells. He said that they may want to consider having them contribute to recharge. **Rep. Raybould** responded that domestic wells were addressed at earlier meetings of the interim committee and that, in fact, a law addressing domestic wells was passed during the last session. He added that the other serious problem with domestic wells is the huge cost of administering any kind of regulation. **Gary Lemmon** continued by suggesting they look at an up-front fee when permits are filed and also consider annual fees on new domestic wells.

Lynn Carlquist said that the problem they always run into is having a water right that is useable for recharge and he still hasn't heard of a way to get around this problem unless you change the use. He said that he fears the Board's 1980 water right isn't going to help them very much.

Lynn Harmon responded to Gary Lemmon's comments by suggesting they consider reducing the amount domestic wells are allowed to pump every day from 13,000 to 10,000.

Dan Temple said that another idea is that they may have to dry up pump ground. **William Hazen** said that he believes that is a pretty solid idea. He added that the only other option for consistent water supply is to buy water from the water bank and deliver the water. He went on to say that for most of the canals, the spring is probably more preferable than the fall so they would have to buy it this year for use next year. These are things he believes they need to look at, to dry up land or find more water and deliver it.

Ted Diehl said that he believes the public has to be educated that water is the problem of everyone in the state. **Rep Raybould** responded that they tried to do that last year with some of the economic studies that were done.

Dick Rush, Idaho Association of Commerce and Industry, told the group that he was there as an observer and wanted them to know that his group wants him to attend the meetings because they understand that water isn't just an irrigation problem but also affects the economy and growth.

Lynn Carlquist directed a question to **David Blew** relating to the 2004 modeling efforts and whether they dealt with the Board's priority right in those calculations. David Blew responded that they did and used an average. **Rep. Raybould** commented that is a problem in that you have to have facilities in place to capture water on the high water years to make the average work out. **David Blew** then showed the group a slide as to what could have been done if a structure was in place using 1997 as an example year.

Rep. Raybould and **Sen. Burtenshaw** made some closing remarks. **Rep. Raybould** asked the Department and **Clive Strong's** office to do some research relating to prior water rights to see if they could find water available for early and late diversions. He added that the next interim committee meeting will be in late September or into the month of October. All advisory group members were invited to attend.

The meeting was adjourned at 1:00 p.m.