

**Technical Memorandum**

**BASIN ADVISORY GROUPS SURVEY, TIER II**

**SUMMARY OF INTERVIEWS**

**AGENCY PERSONNEL AND POTENTIAL USERS**

**Framework Water Plan, Level I**

October, 2006

Submitted to:

Wyoming Water Development Commission  
Cheyenne, WY 82002

**COLLINS PLANNING**  

---

**• A S S O C I A T E S •**

740 EAST PEARL AVENUE, POST OFFICE BOX 7441, JACKSON, WY 83002

PHONE: (307) 690-4436 FAX: (307) 734-1029

COLLINSPLANNING@ONEWEST.NET

# **SUMMARY OF INTERVIEWS WITH AGENCY PERSONNEL AND POTENTIAL USERS OF STATE WATER PLANS**

**OCTOBER 2006**

## **Methodology**

After completing the seven water basin plans, the Wyoming Water Development Commission (WWDC) is updating the state Framework Water Plan. The last Framework Plan was completed in 1973 and the new Plan will organize the current basin plans into a statewide presentation of information on the water resource. Included in developing the new Framework Plan is a targeted outreach effort designed to learn how the Framework Plan can be most useful to agencies and stakeholders around the state.

The purpose of the outreach effort is to obtain objective and informed comments that may guide the preparation of the Framework Plan as well as the next round of basin plans. A telephone interview was the selected method of surveying approximately twenty individuals. A planning team led by representatives of the Wyoming Water Development Commission, State Engineer's Office (SEO) and the consulting team headed by WWC Engineering collaborated in developing the interview questions that were administered over the telephone. The questions were intended to stimulate ideas and suggestions rather than specific point-by-point responses. The survey questions is attached as appendix one.

The planning team also provided a list of individuals from around the state for contact and interviews. The list contained individuals with a diversity of roles and perspectives and the list of names is attached as appendix two.

The summaries of the interviews focused on highlighting general comments, observations and suggestions and should be viewed as qualitative insights and suggestions to the WWDC and the team preparing the Framework Plan. A more detailed compilation of the survey responses is attached as appendix three. The interview responses are grouped around general topics and the italicized comments convey observations of the interviewer.

## **Response Highlights**

### Important Audience

Identifying the audience for the Framework Water Plan may be the first step in determining its purpose, content and other characteristics. The interviewees offered a few varied descriptions of the audience. The broadest viewpoint was "everyone" with the further comment that the Plan should focus of a comprehensive set of reliable data and not tailor the information to a particular group. The requests for information are too varied to anticipate and answer in a single document. The Plan as an educational tool

was mentioned, particularly in providing general information about the resource and an explanation of federal restrictions and compacts and their influence on proposed development projects. Information on the permitting process that would help project proponents at the formative stage of project planning would avoid complexities later in the development process.

Another perspective suggested the audience was the public agencies and various managers of the resource, including irrigation districts, municipalities, industry and other various users, who regularly make management decisions. The managers need current data on stream flows, permits issued and pending, projected demand and proposed projects. The Framework Plan can serve this audience with an on-line resource document providing the most current data and links to related sources.

Several other interviewees identified very quickly the Legislature as the audience for the Plan. Legislators have a need for high level numbers on supply, demand and characteristics of the state's water resource to evaluate the feasibility of programs and initiatives and to determine policy.

*In contemplating the varied responses, the more precise question may ask the priority among the various audiences, recognizing that the Plan can serve multiple purposes. Given the intended nature of the Framework Plan as a compilation of seven basin plans, and the possibility that it is the best source for a statewide perspective on water data, the Legislature may be the first priority audience. The various water users and managers may be the second priority and the general public the third priority audience. These audiences overlap in significant ways of course, but identifying them in priority fashion helps focus the Plan.*

#### Overall Purpose of the Framework Plan

The Framework Plan should have a clear purpose and focus to guide its preparation. The potential audiences create a wide variety of information needs, but the interviewees suggested that the Plan take on the dual roles of presenting the big picture of water resources in Wyoming and present organized directions to additional data and related information sources.

In presenting the "big picture," interviewees suggested the Plan could answer questions like the following:

- (1) What are the current conditions of the water resources in the state and where are we headed in the foreseeable future?
- (2) Where are the problem areas in terms of supply and demand given the projected changes in demand?
- (3) How well prepared is the state for a severe drought and how will a severe drought affect us?
- (4) How do the various interstate compacts affect us and how might the population growth in downstream states change things?

- (5) Are we looking in the right place for water and do we know where we should develop water projects?

In addition to providing this overall description, the Framework Plan can help coordinate the many existing data sources. The seven basin plans generate information that adds to an existing inventory of information in the state, but several interviewees stressed the need to avoid creating duplication among the sources. Instead, the web based Framework Plan should provide links to other sources. Similar to providing an overall description of the state of our water resource, the Framework Plan can provide an organizing description of the many sources of information and links and directions to access them.

There may be a desire to provide answers to all water related questions, but the questions will be too diverse and will seek information that is too detailed for a single document to answer. There are several agencies fulfilling different roles and responsibilities related to water resources, and the Framework Plan can provide an overall description of the state's water resources and serve as an organizing document for the significant amount of existing data and information.

*The Framework Plan could serve dual purposes. It could provide the "State of the Water Resource in Wyoming" that compiles reliable data from the seven basin plans, perhaps supplemented with information from other sources, into a comprehensive description of the state's water resource. Further, it could then provide links, references, bibliographies and contact information to the other information sources and experts in the state. In this second purpose, a goal would be to clarify and organize the available sources and avoid further complicating the subject for the reader.*

#### Ground Water Data

The most frequently identified shortcoming in all of the data, information and plans pertained to the information on ground water. Several of the most knowledgeable interviewees commented that the ground water data in the basin plans were weak and should be bolstered in future efforts. One suggestion was to convene several hydrologists or hydrogeologists from across the state to advance this effort.

Valuable data on occurrence and characteristics of ground water was prepared in 1981-82 by the Wyoming Water Resources Research Institute under an Environmental Protection Agency grant and this information could be brought into the Framework Plan. Similarly, the U. S. Geological Survey (USGS) prepared the Regional Aquifer System Analysis (RASA) several years ago that provides information on several aquifers. This analysis does not cover the entire state but provides a significant amount of ground water data.

The data in these earlier reports could be indexed, summarized or listed in a bibliography in the Framework Plan to send the reader to these additional data sources. This would increase the access to the existing ground water information until such time as this data is updated in future efforts.

In addition to referencing other data sources, suggestions were to identify high use aquifers, include a map of wells and increase the information on storage capacity. One interviewee commented that the basin plans have a small amount of information on storage, but more needs to be known.

Another interviewee suggested that developing an understanding of the amount of water being drawn from the ground water is a useful first step. Toward this objective, include data from all wells producing more than 25 gpm rather than only wells producing more than 50 gpm and assume all other wells are withdrawing 25 gpm in estimating the amount of water being extracted from the ground water resource. It was reported that there are about 190,000 wells in the state but the majority of them are stock and domestic wells producing 25 gpm or less.

Several interviewees discussed the increasing importance of ground water as demand for water grows. Comments stressed that ground water generally is cleaner and less expensive to treat and that treatment of surface water may become cost prohibitive. A further comment suggests that global warming will increase the rate of evaporation of surface waters, increasing the reliance on ground water.

*Updating the information on groundwater goes beyond the current project of developing the Framework Water Plan. The next round of basin plans could place greater emphasis on developing ground water data; however, studying ground water may call for a broader approach than basin by basin assessments. The survey of water planning approaches in western states is a parallel effort to this survey, but combining information from both surveys raises the prospect of studying the water resource on a statewide basis rather than a basin basis. Several states pursue both statewide issue planning and basin planning. Perhaps the state should be strategic in selecting the basin plans for updating in the next round of planning, and devote some resources to statewide issue planning. The basins undergoing the most change may be selected for an updated basin plan. The remaining resources could be redirected to broader scale issues, which may include developing ground water information.*

#### Other Critical Issues

The most controversial and passionately discussed topic in the interviews addressed the conflicts between in-stream and out-of-stream users. While addressing this issue falls outside of the current Framework Plan efforts, several interviewees commented that a more full description of this issue is needed in future basin plans. Several interviewees said the current plans do not adequately identify the value of in-stream uses and the competition between the in-stream and out-of-stream uses. One interviewee believes the economic benefit to the state of in-stream uses can be quantified and it would be significant. Another suggested that a stream with flowing water adds \$1 million dollars per stream mile to land value. Multiple comments mentioned the composition of the BAG's as leading to an unbalanced discussion of in-stream and out-of-stream uses in the basin plans.

Water discharged from coal bed methane operations also was frequently defined as an issue needing more attention. Comments suggested that this issue received an uneven level of attention across the relevant basin plans and other interviewees said that insufficient information exists on this topic. One interviewee said this is a quantity issue only while a few others said it was a quality as well as a quantity issue. Either way it is an overwhelming issue that consumes 50% of the time of the Wyoming DEQ Water Quality Division.

Several interviews included comments about the inevitable conflict between growing municipal use and agricultural users. One comment projected that ten percent of the agricultural water rights will convert to municipal use. Another suggested that economic decisions will be made that will reflect the ability of municipal users to pay more than agricultural users, accelerating the conversion. It was suggested that the Framework Plan describe what happens as urban growth occurs on land that was previously used for agriculture.

Several specific conflicts arising out of municipal uses were enumerated. They include the following:

- (1) Pinedale holds storage rights in Fremont Lake and wanted to release some of the water in late summer to maintain flows in a creek through town for aesthetic purposes. Agricultural users diverted the water before it reached town and the SEO had no authority to protect the town's water;
- (2) An aquifer east of Laramie is a major part of that City's water source and residential subdivisions are occurring there with domestic wells. The City's drawn down on the municipal wells affects the individual residential wells;
- (3) In Glendo, an agricultural user draws hard on his wells to run his sprinklers and affects the municipal well;
- (4) Dense rural subdivisions with septic systems and domestic wells on spacing as small as one-half acre occurs in many places;
- (5) DEQ manages the discharge from wastewater treatment plants into surface waters, but these discharges could create a potential problems;
- (6) Cheyenne has started a large-scale program to reuse treated effluent to irrigate City parks, and a potential conflict may arise from diverting the water from the normal return to the natural drainage; and,
- (7) The emphasis on regional water systems may inadvertently promote development in undesirable locations as new development follows water lines.

Several interviewees talked about a broader mission to deal with the water resource. Only one interview directly commented on the need for the Framework Plan to be an action plan rather than a compilation of the basin plans. However, several people talked about the need to change laws and policies to allow and promote management and conservation of the resource, in addition to development. Outlining goals and objectives against which future projects can be evaluated was suggested for inclusion in the Framework Plan as well.

*The missions of the WWDC and other state agencies involved with water resources establish the basic approaches and duties for addressing the state's water. The combination of these missions; however, do not directly charge any agency with comprehensively planning and managing the water resource. Identifying management techniques that may allow us to get more from the existing water supply could be included in future efforts.*

#### Other Data Needs; Real Time Data; Linked Resources

Real time data that is regularly updated and available on-line clearly is in demand rather than data in static documents. One observation about the 1973 Framework Plan was that "it was outdated the day it was published." Stream flow data gathered and maintained by the USGS and SEO, permits issued or under review by DEQ, and information on the status of water rights in the SEO all were mentioned as examples of data that are regularly needed and could be accessed through a web based Framework Plan. Two interviews identified the need for current information to evaluate the potential impacts of projects in the National Environmental Protection Act (NEPA) review process and the Framework Plan could provide links to real time data that assist them.

The Framework Plan also could identify gaps in existing stream flow data, particularly in areas where development projects are anticipated, that can inform the USGS and/or SEO on locations to establish new monitoring gauges. The new locations for monitoring data would allow the planning for development projects to use real rather than estimated data.

Other specific suggestions for data to include in the Framework Plan were:

- (1) sizes of the major water bodies;
- (2) a map showing boundaries of the conservation districts and contact information for experts and managers within each district;
- (3) production data on wells with less than 50 gpm production, perhaps down to 25 gpm;
- (4) maps showing streams that are fully or over appropriated compared to prime fishery resources;
- (5) all issued and pending in-stream applications;
- (6) data presented for geographic areas smaller than the total basin; and,
- (7) more detailed information on land use.

A suggestion that falls outside of the Framework Plan points to the need to standardize data across the various agencies and groups that collect and maintain information. For example, it was stated that the SEO lists information by quarter-quarter section while the Oil and Gas Conservation Commission lists well sites by surveyed descriptions.

#### Additional Suggestions

Several specific suggestions were made by the interviewees and the most significant ones are listed below.

- ❑ The Framework Plan could identify a broader range of variability in the state's water supply. Current projections of supply are based on 25-30 years of

monitoring flows. There were suggestions that the state's drought conditions could be far more severe than anything recently experienced and data could be developed from tree cores, ice cores and other sources that demonstrate a much wider range of variability in supply than is suggested by the recent decades of monitoring data.

- ❑ The projected demand could take into account the social and demographic changes occurring in the state in addition to the population growth. The increasing number of retirees and “ranchettes” were examples of changes to the composition of the state's population and development trends that affect future demand for water.
- ❑ The Framework Plan can evaluate the approaches employed in the various basin plans and assemble the best ideas into a template to guide the next round of updates.
- ❑ The basin plans need to be more objective and comprehensive in assessing water uses and needs. They should take into account a broader cross section of water needs than agriculture.
- ❑ A discussion on the limits of growth within the various basins based on the water resource could be helpful. It was suggested that the current approach assumes that water will be found to meet future needs and this perspective could be widened to consider managing the growth in water demand.
- ❑ All uses of water should be economically sustainable. If a use does not generate enough economic proceeds to afford the true value of the water, then it is not a sustainable use.
- ❑ Future efforts should attempt to shift away from exclusively looking at water development and look more comprehensively at methods to better manage our resource.

### Public Involvement

Different opinions exist on the level of public involvement needed in the Framework Plan, but the more prominent sentiment is that a significant public participation program is not needed if the Plan is a compilation of the seven basin plans. If new policy directions are established or priorities formed across the various basins, then a significant public involvement program would be needed. Even the most straight forward Framework Plan that simply compiles information from the basin plans requires some public involvement. The public needs to see and understand the purpose and content of the Plan to avoid misunderstanding and suspicion from occurring. Suggestions for public involvement were:

- (1) form a statewide group consisting of a couple members from each BAG and a representative of each major stakeholder group to review and comment on a draft Framework Plan;

- (2) send a draft to all BAG members for review and comment;
- (3) conduct a series of public meetings to solicit comments; and,
- (4) advertise the Plan and have a comment period.

While there were a few questions and some uncertainty about the BAG's, most interviewees believe the public has been well involved in the preparation of the basin plans through the BAG's and the Framework Plan is a simple compilation of these earlier reports. The most detailed perspective on this point said that combining the various basin plans into a single statewide plan will be difficult enough and inserting a new body of information from an extensive public involvement effort will make it much more difficult, and potentially create input that conflicts with the basin plans.

The opposing viewpoints suggested that public involvement is essential and people with vested interests should be involved at every step in the process. Another response was that the public involvement program for the Framework Plan should be the same as for the basin plans.

Most comments on public involvement are more applicable to the overall long term water planning program. For example, there is uncertainty about how representative the BAG's are of the various basins and there was an acknowledgement that the interest level has dropped off over the recent years.

The interviews include the following suggestions.

- ❑ Review the composition of the BAG's for the purpose of comparing them to the compositions of the respective basins. It is suggested that private industry may be under represented. The interviews suggest that the initial formation of the BAG's included an outreach effort to all stakeholder groups but the attendance in recent years has become more informal and self selected.
- ❑ Distill the suggestions/recommendations from the public survey that was completed several years ago for the purpose of determining how many of them were addressed in the current set of basin plans.
- ❑ Present a program overview to the County Commissioners.
- ❑ Make the BAG meetings more useful for the agency staff who attends by ensuring the discussions sufficiently cover topics that are central to the mission of the participating agencies
- ❑ The best way to engage the public is to drive to where they are and meet with them face to face.
- ❑ Form a statewide advisory group that represents the various water users and groups who are regulated.

- ❑ True proportional representation in the BAG's may not be workable. For example, the magnitude of the agricultural interests may call for several representatives on a BAG while the magnitude of the other interests results in a single individual for each interest group. The minority interests will feel out numbered and stop participating.
- ❑ BAG members must believe that they are working on important matters and see tangible results from their participation.
- ❑ Individuals began participating in the BAG's with the expectation that the meetings and basin plans were preliminary steps to getting development projects accomplished that they wanted to see.
- ❑ The composition of the BAG's resulted in an imbalance in the consideration of out-of-stream uses versus in-stream uses.

*The BAG's generally are viewed favorably and are recognized as an important component of the planning process. There seems a need; however, to re-invigorate the BAG's, take assessment of their composition and re-establish their purpose now that the basin plans are complete. In considering the composition of the BAG's, a fundamental question addresses the approach toward representation. Are all interests included in equal number or does the committee composition reflect a proportional representation of the various interests? One thought is that a proportional representation promotes the status quo and inhibits changes and new directions that may be necessary to manage the resource into the future. To allow the fullest opportunity to assess the need for changes and new directions, perhaps the composition of the BAG's should reflect all potential users in equal number.*

*Furthermore, the committees must see results from their efforts if the BAG's are to be sustained. The long-term existence of the committees will be linked to the commitment to implement their recommendations. In order to avoid unreasonable expectations, managing the BAG's process is important to ensure their recommendations are feasible.*

#### Federal Mandates, Regulatory Process

Several interviewees suggested the Framework Plan serve as an educational tool in describing restrictions, interstate compacts and permitting procedures that apply to water projects. The common perspective is that we cannot change these restrictions but the Plan can inform the reader of them.

The existing basin plans were complimented in their analyses of the various compacts and carrying this information forward to the Framework Plan is seen as helpful. One commenter said citizens are uninformed or intimidated by water law and the Framework Plan can help inform the reader.

A federal agency representative said the biggest problem his office encounters in water development projects pertains to the "purpose and need statement." Much of the federal

permitting procedures rely on the purpose and need statement to define the scope of alternatives to be evaluated and the ultimate determination to approve or deny a project. He said that more than funding is needed for a project to occur and that many project proponents do not fully understand the permitting process and the criteria that determine approval or denial. The Framework Plan can be an important tool to educate project proponents on the complicated procedures and laws that apply to their projects.

#### New Uses of Unused Water

The general consensus among the interviews is that the Framework Plan should focus on identifying where and in what quantity water is available for new uses. It was suggested that any list of specific uses or specific development projects likely will change over time and be driven largely by future economic forces. Several comments suggested that water development projects should be only for immediate or foreseeable uses and not simply to capture unused water before it leaves the state.

Only one interview suggested that the Framework Plan be a plan of action steps; however, others mentioned that goals and objectives should be established that can be relied upon to evaluate future project proposals.

As one interviewee explained, if specific projects are identified and ranked in the Framework Plan then specific on-the-ground data should be included that will be required during the permitting process. It may be more reasonable to describe a process by which specific development projects will be proposed and evaluated, including the permitting procedures.

#### Presentation

The day of the static document is past and the need for real-time data is here. While some number of hard copy reports are needed for certain audiences, on-line data clearly should be the focus of future plans and the necessary staffing resources needed to maintain the data in a current state should be established.

While no specific suggestions for a web site were proposed, there is a strong consensus that the site should provide general information that requires little technical proficiency to navigate and also provide the opportunity for the more skilled user to drill down to more detailed data. The Abandoned Mine Lands office, for example, uses an authentication process to make more detailed information available to the technically proficient users.

There are several systems and formats already in use and it was suggested that any new web based presentation tool should avoid creating a new system that adds to the mix. Rather the Framework Plan should adapt to an existing system. The Water Resources Data System (WRDS) site was complimented as a good web site and provides an excellent opportunity for the web based Framework Plan to be adapted to the WRDS site or the opportunity to adapt the WRDS site to the new Framework Plan.

Another suggestion relates to the targeted audience. If the web based Framework Plan is to help water users manage the resource, these users should be identified (i.e., irrigation

districts, agricultural users, municipalities) and interviewed for their specific information needs and the types of decisions they regularly make. The web site then can be designed to meet their specific needs. An additional specific suggestion is to prepare the tables, charts and exhibits in the Framework Plan to be easily imported into power point presentations.

## **APPENDIX ONE SURVEY QUESTIONS**

1. Are you familiar with the WWDC Water Basin Planning Program, i.e. the basin-by-basin reports they have been developed on water resources? Do you make any use of the plans developed so far? If so, what use?
2. Are you familiar with the 1973 Wyoming Framework Water Plan? Do you ever use it? How?
3. Are you familiar with the on-going effort to prepare a new state-wide version of these Basin Plans? How could this statewide Framework Plan be made most useful to you?
4. Who currently is the audience of the Framework Plan and how are they using it?
5. Who should be, or could become, an audience of the Framework Plan?
6. How would the new audience use the Plan and how should the Plan be changed to be most useful to them?
7. Is there specific information on water resources that you need but have difficulty finding? Are there “holes” in the current Framework Plan or Basin Plans that should be filled in terms of statewide water-resource data? Maps?
8. What is the appropriate level of public involvement in preparing the Framework Plan?
9. How could we most effectively involve the various segments of the public?
10. What topics and issues should be covered in the Framework Plan?
11. What are the issues for water use in the state among: municipal; agricultural; recreational; mining/petroleum; manufacturing; and wildlife/fisheries? Are there other uses that should be considered?
12. In the analysis and conclusions, should the Framework Plan address basin-to-basin issues?
13. How should we ensure that the demand for water in Wyoming is met by the state’s water resources?
14. Should the Plan be presented differently? Be presented in different formats or media?

**APPENDIX TWO**  
**LIST OF INDIVIDUALS INCLUDED IN INTERVIEWS**

John Barnes	Surface Water Administrator, State Engineer's Office
Tony Bergantino	UW Water Resources Data System
Matt Bilodeau	US Army Corps of Engineers
Tom Johnson	US Army Corps of Engineers
Myron Brooks	District Chief, US Geological Survey
Jim Case	Plans Division Chief, Office of Homeland Security
Keith Clarey	Geohydrologist, WY State Geological Survey
John Wagner	Administrator, WY Division of Water Quality
Evan Green	Administrator, WY Division of Abandoned Mines
Dave Gloss	Hydrologist, Medicine Bow National Forest
Scott Yates	Trout Unlimited, WY Water Project
Lyle Myler	Deputy Area Manager, US Bureau of Reclamation
Mark Opitz	State Conservation Engineer, Natural Resources Conservation
George Parks	Wyoming Association of Municipalities
Joe Evans	County Commissioners Association
Rick Schuler	Bureau of Land Management
John Harju	Ground Water Manager, State Engineer's Office
Kirk Miller	US Geological Survey
Tom McNear	WY Game and Fish
Ben Brandes	Governor's Office

## **APPENDIX THREE NOTES FROM SURVEYS**

### Interview 1

The 1973 Framework Plan is not used very much.

The basin analyses prepared in 1981-82 contained better and more detailed ground water data than the basin plans. It was much more useful than the basin plans. They describe the groundwater producing capacity and water quality, by formation, and well data, for example. These documents are more useful than the basin plans or the Framework Plan.

The basin plans cover surface water pretty well.

The new Framework Plan should extract more groundwater data from these old reports and update it as much as possible. Assembling several hydrologists or geo-hydrologists to help bolster the groundwater data is suggested as several technical experts are hoping and waiting for updated groundwater data.

The public is pretty well involved through the BAG's and perhaps the BAG's can review and comment on a first draft of the Framework Plan. There has been a lot of public involvement in the basin plan preparation. Perhaps private industry is under represented and may call for some outreach in that area.

The Framework Plan needs to identify projects. The basin to basin issues and projects are covered well.

A web based presentation tool needs to be simple to be useful to the general public. Involving several folks from around the state to review and debug is suggested. This interviewee would participate in such an effort and he is working with Tony Bergantino at the Water Resource Data System, who is using the internet map server.

### Interview 2

He is only generally aware of the basin planning program and does not use the plans. Counties are not involved in providing or planning for water, except to generally promote economic development.

Involvement of the stakeholders is the key to a successful plan. Evan Green talked to the County Commissioners a few years ago about the basin planning program. He receives invitations to the BAG meetings but can't attend them. He certainly hopes the County Commissioners receive the invitations so they can attend if they want. He sees the Framework Plan, and the various basin plans, as being very far reaching and involving the stakeholders is critical to preparing plans that are accepted. He questioned the representation on the BAG's. Allowing BAG's to basically consist of individuals who

choose to attend rather than prescribing the categories of participants seems a bit haphazard.

He knows of no topics or issues that need attention that are going unaddressed.

He doesn't see immediate uses for the unused water and we should not develop storage capacity unless we have foreseeable uses in the near term. Projects to develop storage can be costly financially and environmentally.

No suggestions for the web based presentation or any other presentation method.

### Interview 3

He uses the 1973 Framework Plan and especially likes the way data is laid out and the tables are organized. Information and data are where one intuitively expects to find them.

He believes the groundwater data is weak in the basin plans and therefore in the Framework Plan. A specific example is to re-examine the cut off for including well data. Currently 50 gpm wells are included and he would like to see all wells included. The reports in the early 1980's, a 7 volume set of Occurrence Characteristics of Groundwater, are a tremendous resource. These reports break out each aquifer nicely but they also represent an effort that goes beyond the current scope of updating the Framework Plan. Perhaps an index of the data in these reports, a bibliography of data or a summary could be included in the Framework Plan.

The audience is everyone. The Plan should not be tailored to try to reach a particular audience as we don't know who will be using it. The emphasis should be on developing a broad based set of data. The obvious challenge is determining the balance between comprehensiveness and depth of data. He had someone come in today asking how deeply he would have to drill to reach water at a new house location. Stream flows may be good to have for recreational users.

A couple of suggestions for data that he would like to see are 1) water body sizes. This is not done for the entire state. The Census or someone may have it; and, 2) boundaries of all of the Conservation Districts and contact information for people with expertise within each district.

The BAG's have been helpful and are a good conduit for public involvement. He doesn't know how well the survey results from a few years ago were accommodated in the basin plans. Comparing the results of this survey to the plans may be a good exercise to see how many issues/suggestions were addressed. Other than this idea, getting the word out about BAG meetings is suggested. He is not sure how representative the BAG's are of the local basins or of a consistent way to achieve turnout of a good representative cross section is important.

CBM issues are not fully addressed in the basin plans and may need a more consistent treatment in the Framework Plan.

There is not much we can do about federal mandates and regulations. Perhaps the Framework Plan can be more of an educational tool by explaining the consequences/ramifications of them and how they affect specific projects.

Not much encouragement to try to find or develop uses for the unused water. Don't want to identify uses for the sake of having uses, but perhaps identify a leading one, two or three potential uses, if there are any.

Determining the appropriate level for the web based presentation tool is difficult. How simple or complex should the site be is difficult to answer. No specific suggestions here.

#### Interview 4

Two things mentioned as being very good in the existing basin plans are 1) analysis of the interstate compacts and the resulting amount of water available for Wyoming use, and 2) identification and projection of future uses of the water.

The Framework Plan should provide an overall look at where we are and where we are going.

He is not sure how well distributed the 1973 Framework Plan was but two audiences are 1) legislators and 2) educators at UW. Legislators want and need high level numbers when they are considering bills and funding projects. For example, if a certain project is proposed for a particular area of the state is there sufficient water available to support to project. Secondly, UW faculty also need high level numbers when analyzing various projects and trends.

The Wyoming Water Atlas was prepared in the 1980's and provides very useful information. He expects the Framework Plan to be a similar compilation of data as in the Atlas except updated. A particular benefit of the Atlas is that the tables and exhibits are set up for easy importing into power point presentations. He hopes the Framework Plan also sets up tables and exhibits for easy power point use.

He is not sure how the web based presentation tool should be set up, but emphasizes educational use by teachers. He suggested something that is useable for grades 1-12 and then something useable for technical/professional users.

The individual basin plans already involved the public and the Framework Plan simply pulls together information from these plans. It is not necessary for an extensive public involvement program to accompany the Framework Plan.

The Framework Plan need not identify specific uses for water as the economy will drive this and specific projects change over time. Perhaps the Framework Plan should only identify the available supply and allocate it to broad categories of users.

The Framework Plan should provide an overall general cut at the amount of water that will be available in the future and its characteristics.

#### Interview 5

The DEQ water quality division just doesn't know much about the basin plans and the Framework Plan. They don't use them in their day-to-day routines. Water quality is a reactionary agency. Their basic premise is that people undertake activities that pollute the water and water quality enforces regulations and issues permits to oversee these activities. They don't do much in a pro-active mode.

He doesn't know who the audience is for basin plans and the Framework Plan but expects it is the folks wishing to undertake water development projects. Perhaps municipalities, private industries, agricultural interests, Fish and Wildlife Service and other water users may be developed as audiences if there is a desire to broaden the audience.

The USGS is the source of data on water quality and DEQ water quality division puts a lot of money into this monitoring program annually. While this is an area where the basin plans and Framework Plan could provide information to the water quality division, it would be redundant and expensive. It doesn't make much sense for WWDC to gear up to monitor water quality when USGS has been doing it for 40 years.

He had no suggestions on the appropriate level of public participation should be in the Framework Plan preparation. He did say that WWDC always invites water quality personnel to attend BAG meetings and he sends a staff person out on the state tours where they attend BAG meetings in different parts of the state for a week. His staff says it is a waste of time. Discussions on water quality are minimal and they don't get enough from the meetings to make it a good use of their staff resources.

The overwhelming issue for the water quality division is CBM. This is not a water quality issue but rather a water quantity issue. The amount of water being pumped into the ground creates a big discharge issue. The quantity of discharged water floods fields, washes out small stream channels and creates other discharge problems. This issue consumes 50% of the water quality division time. Without this issue, the division's work would be very routine.

Other issues are a distant second to CBM. Dealing with municipal wastewater treatment plant discharge issues or arranging funding for treatment plant construction are smaller issues on which they have a good handle.

The water quality division tries to keep their web site simple in the opening pages but also provide opportunities for technical users to drill down into more detailed information. He has no specific suggestions or ideas on how to best accomplish this.

#### Interview 6

He doesn't use the basin plans or Framework Plan much. The data is on too large of a scale to be very useful for his office. He is familiar with the basin planning process through the Water Forum.

In addition to presenting information on smaller geographic areas than the basin, information on land use would be helpful. Land use information would provide a better basis for modeling runoff from storm events and the need for flood control.

Public involvement in preparing the Framework Plan should include a long list of people from local and state agencies, planners, consultants, emergency management agencies. The Water Forum is a good conduit for reaching out to these people. It has historically worked well.

There are no issues going unaddressed. He discussed efforts that are underway to change the state statute to allow a water right holder to add another use to his adjudicated use of water.

He discussed the insufficient amount of water to accomplish projects. While more storage projects are needed to capture a greater portion of the State's water that flows out of state, there must be a reasonable purpose for the water. Some areas are not practical for storage facilities. We need to be more diligent in our use of water also.

Any web presentation tool needs to be friendly to the user. He generally has good luck finding the information he needs and mentioned the SEO site as a good example.

#### Interview 7

He knows of the basin by basin planning process and participated in the BAG for his basin. He was unaware of the 1973 Framework Plan. He said the basin plan is useful but could not really identify specifically the information he used. He found the process of the BAG and preparing the basin plan to be a valuable networking opportunity. He learned of local users and officials.

He is unclear if the basin plan is actually complete and where he can find the various plans. He is aware of the WWDC web site and finds it easy to navigate but also finds that the information is not regularly updated. A better outreach effort may help to inform people of the status and location of the various basin plans and the Framework Plan.

The audience of the Framework Plan consists of the various users. As a land manager, he uses the stream flow data.

An issue that may need better attention is the data to help fisheries, wildlife and recreation groups. Out-of-stream users versus in-stream users need to be better addressed. A discussion of potential conflicts between out-of-stream and in-stream users and a general statewide perspective on this issue would be helpful. Generally, the information and data useful to the in-stream users is less well developed than the information that is needed for the out-of-stream users.

A topic that would be useful if it were in the Framework Plan is a summary and statewide perspective on in-stream flow permits. What permits have been issued, where can they be found for more detailed review and what applications are pending.

The Framework Plan could inform the reader of the various federal mandates and programs and educate how they affect in state projects.

The Framework Plan probably should not identify specific uses of unused water that is flowing out of the state, but rather identify where the excess water exists and in what quantities.

The UW WYGISC (Wyoming Geographic Information Science Center) is a friendly web site that he finds useful.

#### Interview 8

The biggest problem with the 1973 Framework Plan is that it was outdated the day it was presented. The new Plan needs to be electronic that is kept current. There will be the need for hard copies for certain readers but the focus is clearly on an electronic version.

The AML site provides inventory data on a GIS platform with many layers that is accessible to all users with all abilities to navigate the site. Authentication processes provide access to more technical users to a more “robust” level of information. Linking the Framework Plan to the SEO site and water rights information would be good. He is not current on the status of the SEO site but there has been good information there in the past that should be linked to the Framework Plan.

In developing the site, it is important to identify the various categories of users and the types of questions and information needs they will have. Each category of user will have a special set of needs and the web site should provide the answers and information in a way that is accessible to them. He described a specific project to help a small irrigation district in Cokeville that had members with no computer experience. A data base was designed to allow the members to manage their district and answer the routine questions they had, and then trained a couple of members to use the computer. This may not be achievable on a statewide basis but is an example of the approach that identifies a user group and designs the system to meet their special needs.

The public involvement process for the Framework Plan is not much different than for the individual basin plans. All users and people with a vested interest in water need to be involved at every step in the process. The most effective technique to engage the public is to drive to where they are and meet with them face to face.

The initial creation of the BAG's had a more prescriptive approach to ensure representatives from each category of user were included. If the BAG's have become more of a self selected group of participants, some of the representation may be lost. He does not know the current composition of the BAG's and how well this composition adequately reflects the basins. Members of the BAG's need to be involved in very meaningful ways and deal with substantive questions and the members need to believe they are working on important matters.

A statewide advisory group also may be needed that represents the various water users and groups who are regulated.

The Framework Plan needs to provide a box of tools and information that allows the state's most important resource, water, to be well managed. The biggest single issue is the CBM discharge problems.

The Plan must not be a static document but rather a dynamic set of information that allows various users to manage the resources. The Plan also should provide an educational purpose by the information it provides.

#### Interview 9

He is aware generally of the basin planning program and has attended a few BAG meetings. He was unaware of the existence of the 1973 Framework Plan. The basin plans don't provide any information that is helpful to USGS.

An area where increased coordination could be achieved between the state's water planning program and USGS pertains to monitoring data. The basin plans do not develop new data but rely on historical stream flow data which frequently are inadequate. While it may make no sense for WWDC to begin developing new monitoring data, the basin plans and the Framework Plan could identify areas where future development projects are anticipated, and identify the data needs that are necessary to design those projects. New baseline data could be developed starting now that help plan for development projects rather than estimating stream flow based on the historical data.

USGS has access to some discretionary funding, national monitoring funds and a fund for cooperative monitoring projects that could fund new monitoring. The fund for cooperative monitoring can be used only when there are matching funds from a partner, who could be WWDC. The state and USGS have entered into one such agreement for monitoring on the Reservation, and others around the state.

Interest in the BAG's seems to have dropped off. He is unable to identify why only to recognize the difficulty in sustaining a high level of participation. He thinks that the composition of the BAG's may not accurately represent the individual basins; he also says that true proportional representation is not possible. For example, many people from agricultural interests and one person each from other interests may be the true proportional representation, but this scenario would not work.

The Framework Plan should address more fully the wide variability in water supply and the need for drought planning. He acknowledged the state has made good strides in recent years in drought planning but believes the planning should go beyond the review of 25 – 30 years of monitoring data. Tree cores, ice cores, and other data sources could provide a better understanding of the range of variability in supply. Our drought conditions could get much worse than suggested by the currently consulted data.

Similarly, the statewide planning document could anticipate a sharp increase in water demand and better address conservation strategies.

USGS has a lot of experience trying to disseminate information over the web. He suggested a tiered format where the initial pages are basic and aimed for the general public with the ability for more expert users to drill down deeper into the data.

This interviewee is interested in participating in the state's planning efforts and seems eager to involve other divisions within the USGS.

#### Interview 10

He is very familiar with the basin plans and with the 1973 Framework Plan. He considers the Framework Plan to be a good document. He has participated in two BAG's and sent staff to other BAG's. He recognizes that the 1973 Framework Plan is referenced a lot in the various basin plans.

The USGS mission does not have them relying on state planning documents. They more typically provide data to the state planning process. However, the plans provide information to USGS on where/how the state's resources are allocated.

Most of the data used in the basin plan models are USGS data and holes in the data have been identified. The basin plans typically are tied to about 30 years of data rather than a broader set of data that may be developed. There is an emphasis to ensure the scope of data used include wet, dry and normal periods of time.

The Framework Plan could identify where the data holes exist and where the state and USGS can partner to develop data to fill the holes. The state is very active in this cooperative process already. The SEO manages 30-40 stream gauges. The WWDC participates with USGS a little and Wyoming DEQ does a lot of work with USGS that is aimed at water quality. USGS has cooperator driven programs where monitoring is accomplished with cost sharing with local and state governments.

Water conservation is an area that state planning could better address. This topic may not be well addressed in the state laws and programs.

Also, better data on ground water resources is needed. The basin plans dealt with ground water on a cursory basis, but ground water resources will continue to be significant in areas of over appropriation. The USGS implemented the Regional Aquifer System Analysis (RASA) program about 20 years ago that provides information on several aquifers. This data is not statewide but a significant resource nonetheless. It may be beyond the scope of the current Framework Plan to develop new ground water data, but the Framework Plan can include references and/or summaries of existing ground water data. The next round of basin plans could provide funding to more fully develop an updated body of ground water data.

Federal mandates and programs should be covered in the Framework Plan. The Plan should serve as an educational tool to inform the reader of these limitations and how they affect in-state projects.

Development projects to capture the unused water currently flowing out of the state are a good idea. Identifying them and perhaps setting them out in priority is a good idea.

In-stream water users versus out-of-stream water users also should be better addressed. The composition of the BAG's probably resulted in the basin plans more fully addressing the out-of-stream users. The in-stream user was a small or non-existent voice in most of the BAG meetings. There can be a significant and quantifiable economic benefit to the state of in-stream use.

BAG participants began thinking that the basin planning process was a preliminary step to getting a development project accomplished that the participants wanted to see. In order for participation to be maintained, there must be a tangible result at the end, not just a document that goes on the shelf.

The Framework Plan does not need a significant public participation process. It will be difficult synthesizing the 7 basin plans and introducing a new public voice. The BAG's process was a significant public involvement effort. The meetings were well advertised and open to the public.

USGS has significant experience with web based presentation of information. The most positive feedback has come from a small but vocal segment of the community who very much appreciate being able to download data for their own use. Maps, data tables, links to other sites and documents are very much enjoyed. The USGS made a huge effort to scan numerous past hard copy documents and put them into a searchable data base.

### Interview 11

They were familiar with the basin plans but not the 1973 Framework Plan. They use the basin plans occasionally to pull data for EIS. However, the plans are quickly out of date and they need more current data. They frequently refer to the Oil and Gas Commission web site which is a portal to much real time data.

The data in the basin plans is very comprehensive and appears to overlap with data maintained from numerous other agencies and offices. They referred to numerous data sources, including the Ruckleshaus Institute web site, Governor's Strengthening and Streamlining Committee, SEO in making a point that the plans should not duplicate other data gathering efforts. There is a question as to whether the Framework Plan should be its own data portal or simply list other sites.

BLM data needs vary from application to application but generally they are looking for existing baseline conditions for the purpose of evaluating impacts of proposed projects. They need real time data and frequently data on geographic areas that are smaller than a basin.

They questioned whether the Plan is an assemblage of data or a plan of action, and encouraged a plan of action. A specific set of actions may not be appropriate but a clear set of goals and objectives against which to compare future proposals was suggested. There should be a vision of where the state wants to be in 20 years in terms of water resources.

The plans describe problems, like CBM, and identify future opportunities but do not go any further. They should go further.

More attention is needed on in-stream flows than is currently provided. In-stream flows will become increasingly important as water availability becomes more limited. Also, the state's priorities need sorting out. Many times the BLM is in the middle between two different state agencies when review comments are received on a proposed project. How to handle produced water is important for the state to determine. The BLM wrestles between surface disposal and injection, and if surface disposal, how.

A BLM representative was made to feel unwelcome as a BAG member and limited to participating as a member of the general public. BLM felt they should be viewed as a land owner and a more substantial level of participation from BLM would have been forthcoming if they had been made to feel more welcome.

If the Framework Plan is proposing new recommendations or making new decisions beyond the basin plans, or providing the big picture, a substantial public involvement process is needed. Perhaps a statewide committee consisting of a couple of members of each BAG should review and comment on a draft.

## Interview 12

He has very general information on the basin plans and knew the 1973 Framework Plan existed but has never seen a copy.

His office typically is looking for baseline data to evaluate the impacts of projects that are being reviewed in the NEPA process.

The types of information his office seeks would answer basic questions like:

- (1) What is the current situation with water resources in the state and where are we headed?
- (2) Where are the problem areas in terms of supply and demand, given the changes in demand?
- (3) How are we prepared for a drought and how will a severe drought affect us?
- (4) How are the various interstate compacts affecting us?
- (5) How will the increased downstream demand affect Wyoming?
- (6) Are we looking in the right place for water and do we know where we should develop water projects?

In addition to tracking projects through the NEPA process, his office wrestles with policy questions about the affects of CBM, traditional oil and gas extraction, the effects of discharge and how these issues affect individual basins.

These questions and issues call for real-time data, which is sometimes lacking, and projections based on worst case scenarios.

The audience for the Framework Plan is the Legislature followed by state agencies and the various water users.

He is unsure of the appropriate level of public involvement in the Framework Plan. A well thought out public involvement process will be clear to the public about the timeline and the opportunities for public comment. Such a process also should involve the Counties and the Conservation Districts at the local level.

The Framework Plan should identify water development projects in the small, medium and large categories. The Plan also should include timeframes for the projects and a description of their impacts and the identification of the goals addressed by each project.

Federal programs and restrictions need to be described in the Framework Plan.

A lot of emphasis should be given to the unused water. Particularly, how will we deal with a more severe drought and how will downstream population growth affect Wyoming.

The geologists in the state have amazing GIS tools and could be a good contact for a web based presentation tool.

### Interview 13

He has a working knowledge of the basin plans and has never seen the 1973 Framework Plan.

The basin plans don't do anything for him. They simply bring forward existing groundwater data from earlier reports and don't tell him anything new.

There are no sources for good numbers on ground water anywhere in the state. His need for data is a moving target in that the SEO is not a forward looking office. They do not engage in planning, but rather are a reactionary agency involved administering and regulating water resources.

Better projections on water use are needed, especially given the changing demographics of the state. Growth in rural ranchettes is an example of the changes in the state. Retirees moving from other parts of the country wanting to make their land look like the place they came from is another example of the demographic changes affecting water use. Perhaps better land use data can help in better understanding future water demand.

The SEO struggles with understanding recharge rates and the amount of water in storage. Basin plans have a small component about storage, but more is needed to be known to understand if we are headed for restrictions on certain types of growth, or growth in certain industries.

Conservation techniques are not discussed much, mainly due to the state constitution that charges the state engineer with the task of maximizing the beneficial use of water resources. In fact, if someone conserves their adjudicated water right, someone can bring an action to have that right reduced.

An audience of the basin and Framework Plans may be downstream states who will look for opportunities to use them against us. Probably county planner types would be an audience.

Looking for signs of overuse of the resource is a topic that should be included in the Framework Plan. Eventually, municipal use versus agricultural use will become a conflict. Not 50% of agricultural water will be converted to municipal use, but 10% might be.

Outside of the consulting types and county planner types, the general public is looking for pie charts and general information. A web based plan should not necessarily be loaded up with a lot of data.

If the Framework Plan is a synthesis of the basin plans, an extensive public involvement program is not necessary. Perhaps put a draft out for public comment for 30 or 90 days.

Future water supply will be groundwater related, not surface water related. Ground water is cleaner and less expensive to use. Surface water treatment will one day be come very expensive.

#### Interview 14

He is very familiar with both the Framework and the basin plans. He uses all of them for general information on ground water resources and surface water uses. Typically, he is seeking answers to the question of how much water is available. The North Platte is fully apportioned and is basically shut down for further development, for example.

Most of the state's population is settled in the North and South Platte basins and this region will likely continue to grow.

He says that the groundwater resource has not been studied as much and that surface water resources are easier to deal with. However, ground water is becoming increasingly important as new development requires more water and global warming increases surface water evaporation.

Improving the ground water data is beyond the Framework Plan scope. Perhaps referencing other data sources, gleaning what we can from the basin plans and looking at existing well data is all we can reasonable accomplish. There are about 190,000 wells in the state and many of them are 25 gpm or less. Excluding these from any detailed analysis is reasonable. They include stock wells and domestic wells.

In terms of ground water data, perhaps identifying aquifers, referencing other data sources, identifying high use aquifers, including a map of wells is all that can be done. Even the next round of basin plans may not be able to fully study ground water as the basin plans look at a small geographic area and ground water likely requires a more overall study approach. Estimating the amount of water coming out of the groundwater resource may be a good initial step in the Framework Plan.

The audience for the Framework Plan is mostly public sector agencies, the regulators and agencies looking at development of water resources and development generally.

A uniform system of collecting and reporting data is needed. For example, the SEO records much of their data on ¼ ¼ sections. The Oil and Gas Conservation Commission uses surveyed well locations reported in latitude and longitude footages. Much of the water quality data is difficult to use and is buried in reports and not on line.

In developing the web based presentation tool, not creating a new system and format is important. Looking at the existing systems and developing something similar to the most frequently used site or the most extensive site may be a good approach.

Not much is needed in way of public involvement; however, the public needs to be involved enough to verify that the Framework Plan is simply a compilation of existing

data. Review by representatives from the existing BAG's and a public comment period would be a good approach.

The Framework Plan can evaluate the various approaches used in the seven basin plans and recommend an approach that should be used in the next round of basin plans.

While Wyoming has plenty of water it is not evenly distributed and the recent drought conditions have revealed the competition among water users and the importance of water. The Framework Plan needs to look 25 years down the road and from a statewide perspective. It is important to identify where water shortages exist and where water is available for further development. Where are we now and where are we going in the future? How much water is available in the dry years is important to know. Knowing how much water is available in the wet years also allows us to know if and where we can accommodate high water users.

#### Interview 15

He is familiar with the basin plans and knows the 1973 Framework Plan exists but has never seen it. He does not use the basin plans because they are not objective.

The planning process needs to be more objective. It does not talk about the limits of growth in each basin based upon the water resource rather it always assumes that we will find more water when we need it. The process should define the limits of our existing resource.

The planning process should take into account a broader cross-section of the population than agriculture. There is no objective gauge of the values of the population outside of agriculture, such as municipalities, recreational users and other users. The planning process basically is to determine where we need to build a dam to get more irrigation water.

The focus has been totally on out-of-stream users. There are water management opportunities that don't take water rights away from others.

Water development has been defined as putting water to beneficial use and in-stream uses have been recognized as beneficial uses. The most direct economic benefit to in-stream flow is increased property values. Second hand information suggests that property value of land with a flowing stream is \$1M per mile.

The uneven representation in the BAG's resulted in the basin plans focusing on out-of-stream uses at the expense of in-stream uses. It was made clear that the BAG's were going to operate on a majority rule basis. People who were not interested in constructing dams for irrigation water eventually lost interest or felt out numbered and stopped participating.

Any use of water should be economically sustainable. In other words, if the use is unable to financially afford the water at its true cost, then it is not a sustainable use.

Public involvement is always good and never bad. The Framework Plan needs to have some public involvement.

Because water is owned by the state, it is reasonable for the state government to drive the bus in planning for and identifying uses of the water. Citizens need to feel that their participation matters, and that if they don't participate, they may lose something or fail to gain a benefit.

In theory all of the people and groups who have interests in water constitute the audience of the Framework Plan. Most of the population is confused and intimidated by the water laws in Wyoming.

Obviously beyond the scope of the immediate project is the desire to change the water law and policies in Wyoming. The future focus of the planning process should shift from developing new water resources to looking at ways to manage the existing resource. We have opportunities to do much more with our existing resource.

We don't do conservation in Wyoming. There are no laws calling for protection and conservation of water.

Water users need to pay their own way and be economically sustainable.

#### Interview 16

Basin plans frequently lack sufficient environmental background and non-consumptive use values. There is significant economic value to in-stream flows. John Lummis at Colorado State University has done much work in this area. It is not suggested that this economic value number be pitted against the economic value of other uses but rather be viewed as a stand-alone renewable value.

The Framework Plan would be helpful if it included maps of streams that are fully appropriated (or over appropriated) and the prime fishery resources. This may identify where opportunities exist to improve fisheries.

The definition of water development should be broadened to include potential in-stream development projects.

Revisions to the water statutes to allow temporary change in rights can help a water right holder to contribute to in-stream flows, at least temporarily, that can benefit him financially.

The Framework Plan should have a public involvement process that allows people to participate who did not attend BAG meetings. This could be done with a series of public

meetings. The process also should be educational.

The biggest conflict among users will be between municipal growth and agricultural water users. Additional statutory flexibility can help manage the water resource and allow smarter management. It is important that the needs of agricultural users are taken into account and they are made to feel comfortable with any changes. Also there is a growing recreational and fishery use.

The Framework Plan can describe the points where different uses and issues intersect. For example, the Plan could describe what happens when an agricultural field is converted to a subdivision.

Wyoming is as much a head water state as there is. Any development project to store water should take into account the environmental concerns and be properly scaled to the available water.

There is not enough information on CBM water production. The Plan is a unique opportunity to gather information.

#### Interview 17

He is aware of the BAG's and the basin plans but not aware of the 1973 Framework Plan. Municipal interests probably are well represented even if city representatives do not attend the BAG meetings.

The Framework Plan should identify bold steps to enhance future water resources, including new reservoirs that may not be needed now. The Plan should look 50 to 100 years into the future.

The conflict between municipal growth and existing agricultural water rights seems inevitable. At some point, an economic decision will be made. For example, an agricultural water right may provide economic benefit to a few hundred people but a municipal use of the water may benefit 1,500. The municipal user will be able to afford to pay more for the water than the agricultural user.

The Framework Plan can describe and assess the process of converting agricultural water rights to municipal use, identifying how the process should work to take into account all interests and identifying any additional statutory flexibility that is needed.

Other conflicts between municipal and agricultural users are:

- (1) Pinedale holds some storage rights in Fremont Lake and wanted to release some of the water in late summer to maintain flows in a creek through town for aesthetic purposes. Agricultural users diverted the water before it reached town and the State Engineer's Office had no authority to protect the town's water;

- (2) An aquifer east of Laramie is a major part of that City's water source and residential subdivisions are occurring there with domestic wells. The City's drawn down on the municipal wells affects the individual residential wells;
- (3) In Glendo, an agricultural user draws hard on his wells to run his sprinklers and affects the municipal well;
- (4) DEQ maintains a data base on domestic wells in close proximity to landfills that run the risk of contamination;
- (5) Dense rural subdivisions with septic systems and domestic wells on spacing as small as ½ acre occurs in many places;
- (6) DEQ manages the discharge from municipal wastewater treatment plants into surface waters, but this could create a potential conflict;
- (7) Cheyenne has started a large-scale program to reuse treated effluent to irrigate City parks, and a potential conflict may arise from diverting the water from the normal return to the natural drainage; and,
- (8) The emphasis on regional water systems may inadvertently promote development in undesirable areas as new development follows water lines.

The public involvement program for the Framework Plan should re-engage the BAG members. Any transfers between basins should ensure sufficient public participation in the donor basin.

#### Interview 18

The Army Corps of Engineers (ACOE) is aware of the basin plans and the 1973 Framework Plan, but does not use them. They are unable to attend BAG meetings because there are too many, but they could attend one or two meetings per BAG per year if it would be helpful.

The ACOE likely will get involved at the Phase I Feasibility stage of any water development project. They do not want to drive any local or state decisions on development projects but frequently encounter projects for which much support and momentum have formed, yet the project lacks a clear purpose and need. He doesn't know the best time for the ACOE to get involved.

Water development projects need to have a clear purpose and need, which in turn determines the alternatives to be analyzed. The ACOE analysis of a project is totally based on the purpose and need for the project.

From the ACOE perspective, the BAG attendees basically were people wanting to see a particular development project constructed.

The Framework Plan should inform the reader of the various steps and restrictions that a development project encounters in the regulatory procedure. This information should address the ACOE alternative analysis, Endangered Species Act considerations, restrictions from the compacts, and other restrictions. If the Framework Plan, and the basin plans, are specific in identifying and ranking development projects, the plans

should contain much on-the-ground data on the projects. Detailed information that would be needed in analyzing the project during the permitting process should be collected and included. If, on the other hand, the Framework Plan, or basin plans, simply outlines the procedure for identifying and developing projects, the plans only need to outline the regulatory steps and the types of information needed.

The biggest hurdle encountered by water development projects is a clear purpose and need. Having the necessary funding alone is not sufficient. This is consistent with the compacts in that they only allocate water to Wyoming provided there is a beneficial use for the water. Wyoming receives the rights to allocated water only after a use is identified that passes regulatory scrutiny.

Trans-basin transfers should be considered from a statewide perspective.