

Platte River Basin Plan
Responses to BAG comments
Revised June 10, 2005

This document lists review comments Trihydro received on the draft Platte River Basin Plan documents provided to the BAG at the April 12, Basin Advisory Group meeting in Saratoga, Wyoming. The sources of the comments are provided for reference and the comment is reproduced in *italic text* along with Trihydro's response describing the current status of work on the document. Further comments or inquiries from the BAG are welcome.

Commenter:

Alice Shaffer
P.O. Box 212
Rock River, WY 82083-0212
307-378-2566

Date:

May 10, 2005

Comment format:

e-mail

Comment S-1:

Table 42, outlined is misspelled in the text

Response S-1:

This error has been corrected.

Comment S-2:

Table 157 is incorrect, as it refers to livestock as irrigated acres

Response S-2:

This error has been corrected.

Comment S-3:

Figure 99 is unclear; are the livestock mentioned counted by the head or the AUM? The number of animals will be different if the animals are in the basin the full 12 months (head) or only part of the year (AUM)? The stocking rate will vary according to species and age of animal.

Response S-3:

Cattle numbers on Figure 99 are in "head", not AUM.

Commenters:

Carl A. and Alice Shaffer
P.O. Box 212
Rock River, WY 82083-0212

Date:

May 6, 2005

Comment format:

Regular mail

Comment S-4:

Calculations for Consumptive Use of Irrigation, Tables 47 – 54 – Compared to other Basin Plans

Calculations for consumptive use of irrigation water used in the Platte River Basin draft plan are different than the calculations used to compute consumptive use of irrigation water for the other six basin plans in the state of Wyoming.

The other river basins used calculations provided by the University of Wyoming.

This makes comparisons among the other river basins and the Platte River Basin impractical (really impossible).

Response S-4:

Consumptive use of irrigation water calculations and results for the Platte River Basin Plan have been revised as follows:

- total calculated annual consumptive use values for the Above Pathfinder and Pathfinder to Guernsey subbasins that are shown in the Basin Plan have been revised to reflect the values tabulated in the *Final Settlement Stipulation* of the 2001 Modified Platte River Decree (the “Brown Book”). The derivation of unit consumptive use values, following the “Brown Book” methodology, is included in the Basin Plan, and
- total calculated annual consumptive use values in the Guernsey to State Line, Upper Laramie, Lower Laramie, Horse Creek, and South Platte subbasins, which are not available in the “Brown Book,” were completed on the basis of the “Brown Book” methodology. The derivation of these values is included in the Basin Plan.

The derivation of consumptive use values will be discussed at the June 14th BAG meeting.

Comment S-5:

Comparison of Calculated Consumptive Use with State Engineer’s Office Numbers

If you compare total consumptive use for the Above Pathfinder sub-basin prepared by Trihydro with the total consumptive use prepared by (the) Wyoming State Engineer’s Office, prepared by Phil Stump, for the nine year period 1993 through 2001, you will see the Trihydro results are higher for all years, and substantially higher for seven of the nine years.

Presumably the consumptive use calculation methodology as described in Appendix G, Exhibit 6, Exhibit A of the Final Settlement Stipulation of the 2001 Modified Platte River Decree was used in this study for consistency with the Platte Rive Basin below the Wyoming state line, BUT, calculations should also be made for consistency with the State Engineer’s Office and the other Wyoming basin plans. Somehow these inconsistencies should be addressed. (See table next page)

Above Pathfinder Total Consumptive Use in Acre Feet of Water

<i>Year</i>	<i>Stream flow</i>	<i>Consumptive Use SEO Calculations</i>	<i>Consumptive Use Trihydro Calculations</i>	<i>Difference</i>	<i>Flow Volume Trihydro</i>
<i>1993</i>	<i>445,475</i>	<i>105,242</i>	<i>141,544</i>	<i>36,302</i>	<i>A</i>
<i>1994</i>	<i>206,382</i>	<i>129,948</i>	<i>174,798</i>	<i>44,850</i>	<i>A</i>

1995	543,222	63,552	85,431	21,879	A
1996	464,854	121,716	155,265	33,549	A
1997	574,093	95,829	104,345	8,516	H
1998	353,074	122,056	124,352	2,296	A
1999	448,406	102,590	135,046	32,456	A
2000	228,763	128,211	170,640	42,429	A
2001	178,710	96,914	128,748	31,834	L
<i>Totals:</i>	<i>3,442,979</i>	<i>966,058</i>	<i>1,220,169</i>	<i>254,111</i>	
<i>Average:</i>	<i>382,553</i>	<i>107,340</i>	<i>135,574</i>	<i>28,235</i>	
<i>Flow Volume: A = Average; H = High; L = Low</i>					

Response S-5:

This response contains two parts.

A. Regarding Platte River Basin Plan stream flow data:

Assessment of stream gauge data and compilation of stream flows in the seven Platte River Basin subbasins to determine high, low, and normal or average stream flow years is described in Platte River Basin Plan Technical Memorandum 3.1, Surface Water Data Collection, Study Period Selection, and High/Low/Normal River Flow Year Determination. Technical Memorandum 3.1 information is condensed in Section 4.1 of the draft Basin Plan Final Report, Surface water data collection, study period selection, and high/low/normal flow year determination. The purpose of this work was to identify the years where high, low, and average or normal stream flow conditions existed in each of the seven Platte River Basin subbasins. The data presented does not quantify the total stream flow available.

In other words, the data is only used to establish the hydrologic condition in a subbasin in a given year relative to other years and does not reflect the quantities of flow during any given year at any given point within the North Platte River Basin. For the Above Pathfinder subbasin, tabulated stream flow data in Table 147 of the draft Basin Plan Final Report represents total combined area-weighted stream flow data from three separate subbasins gauges, including USGS gauge #6630000 on the North Platte River above Seminoe Reservoir, USGS gauge #6635000 on the Medicine Bow River above Seminoe, and USGS gauge #6639000 on the Sweetwater River near Alcova. Other subbasin stream flow data were collected and assessed similarly. Please note that:

- USGS gauges from which stream flow data were collected and assessed for all seven North Platte River subbasins were those through which flows have not been influenced by major reservoir operations and for which an adequate period of record existed; as a result, data from main stem gauges located below Seminoe reservoir were not collected or assessed during the Platte River Basin Plan, and
- compiled stream flow data in the Platte River Basin Plan, as noted in the draft Basin Plan Final Report paragraph cited above, is used in the basin plan only to establish high flow, low flow, and normal flow years during the 1972 – 2001 study period. The tabulated stream flow values in Table 147 of the draft Platte River Basin Final Report are not intended to provide a basis for comparing annual stream flow volumes and calculated annual consumptive use volumes.

In order to reduce confusion regarding this issue, all stream flow data have been removed from draft Basin Plan Final Report Tables 42 through 48 on which calculated subbasin consumptive use values are shown.

B. Regarding Basin Plan and SEO consumptive use values

Please also see Response S-4 above.

The SEO 1993 through 1999 consumptive use values shown in the comment table above are the same as or very similar to consumptive use values shown in Table 8a, Total Annual Consumptive Use Above Pathfinder, in the *Final Settlement Stipulation* of the 2001 Modified North Platte Decree (the “Brown Book”). We have not yet verified the source of the 2000 and 2001 SEO consumptive use values.

Neither *Final Settlement Stipulation* nor Basin Plan consumptive use calculations consider the source of irrigation water – groundwater or surface water. In addition, neither set of consumptive use calculations considers return flows or numerical relationships between diverted (or pumped) flows and return flows. Both sets of consumptive use calculations are intended to estimate quantity of irrigation water (plant evapotranspiration minus effective precipitation) that is utilized by various crops, under varying annual hydrologic conditions, and by subbasin.

Basin Plan consumptive use values for the Above Pathfinder and Pathfinder to Guernsey subbasins have been revised to reflect the values reported in the *Final Settlement Stipulation* of the 2001 Modified Platte River Decree.

Basin Plan consumptive use calculations for the Guernsey to State Line, Upper Laramie, Lower Laramie, Horse Creek, and South Platte subbasins were completed on the basis of the methodology that is described in Exhibit A, Procedures for Calculating Consumptive Use of Irrigation Water Above Guernsey Reservoir, Wyoming (with example consumptive use calculations), of Exhibit 6, Procedure for Consumptive Use Accounting, in Appendix G, North Platte Decree Committee Charter, of the *Final Settlement Stipulation* of the 2001 Modified North Platte Decree. To clarify this issue, the following paragraph has been added to Platte River Basin Plan Technical Memorandum 2.1.4., Estimated Crop Consumptive Use of Irrigation Water in the Platte River Basin in Wyoming, and to Section 3.1.5., Estimating basin consumptive use of irrigation water, in the draft Basin Plan Final Report:

Based on the Wyoming Water Development Commission (WWDC) project work scope and discussions with the WWDC and the Wyoming State Engineer’s Office (SEO), it was agreed that the basic methodology outlined in Supreme Court (2001) would serve as the basis for Basin Plan agricultural irrigation water consumptive use calculations for the Guernsey to State Line, Upper Laramie, Lower Laramie, Horse Creek, and South Platte subbasins. This is the methodology agreed to in the 2001 settlement of the Nebraska v. Wyoming Supreme Court lawsuit over the flows of the North Platte River. During application of the settlement consumptive use calculation methodology to the five Platte River Basin subbasins listed above, certain simplifications and generalizations of the settlement procedures have been made. Since existing settlement documents contain calculated consumptive use values for the North Platte River subbasins above Guernsey Dam, corresponding to the Above Pathfinder and Pathfinder to Guernsey subbasins in this study, consumptive use values shown in this study for those two subbasins are the same as those shown in Supreme Court (2001).

Comment S-6:

Consumptive Use Tables (Tables 42 – 48)

It is extremely confusing and misleading that annual consumptive use numbers may exceed annual stream flow numbers by as much as 20X in these tables. The report does not accurately reflect the amount of water generated and consumed in each sub-basin. More specifically, above Pathfinder and the Upper Laramie are the only sub-basins that regularly generate more water than they consume. This excess consumption in the other sub-basins needs to be explained in detail. (See table next page) As the report is written, it does not reflect the amount of water returned to the streams by return flow. The amount of stored water adds to the available water yet the tables only show stream flow, and do not account for stored water and well water used by agriculture. There are tables for municipal, industrial, and rural domestic well water but no information about well water for agricultural use.

Stream flow and Consumptive Use of Irrigation water in Acre Feet of Water

(This table, which is not included here, summarizes stream flow data and consumptive use values for the Above Pathfinder, Pathfinder to Guernsey, and Guernsey to State Line subbasin from Tables 42, 43, and 44 of the April 12, 2005 draft Platte River Basin Plan Final Report)

Response S-6:

Regarding the relationship between tabulated stream flow volumes and tabulated consumptive use estimates, please see Response S-5, A above. Please note that draft Basin Plan Final Report consumptive use summary tables have been revised to show high, low, and normal stream flow years, but high, low, and normal stream flow volumes have been omitted from these tables for the sake of clarity.

Please also note that the April 12, 2005 draft Platte River Basin Plan does not include information regarding agricultural wells. This omission has been corrected with the addition of new draft Basin Plan Final Report Section 3.1.8., Agricultural wells. Agricultural irrigation well information has also been added to Technical Memorandum 2.1.3. Included in both the revised final report and revised Technical Memorandum 2.1.3. are map figures showing the locations of wells that are permitted for agricultural use in each Platte River Basin subbasin which have permitted yields equal to or greater than 50 gallons per minute and tables summarizing Wyoming State Engineer's Office (SEO) database information regarding these agricultural wells.

Comment S-7:

An example of this discrepancy above Pathfinder is:

Table 6 reports 150,186 irrigated acres of land above Pathfinder, Table 42 reports the average consumptive use of 143,850 acre-feet of water. This is not reasonable because irrigation season above Pathfinder is not six months long as stated on pg. 48 of the report. The growing season and irrigation season are not equal, as is assumed on page 53 of the report.

The following table shows (the) amount of water available to irrigators using the Bosler #3 Ditch for the past seven years. Water delivered through the Bosler #3 Ditch is all junior to Pathfinder.

(table not included here)

This water was delivered to 8,292 adjudicated acres, that means 0.825 AF/Ac was delivered. There was return flow into Rock Creek so 100% of the water was not consumptively used. This table coincides with five years cited in Table 42 of the

report, we have one high water year, three average water years, and one low water year.

Response S-7:

Please see Response S-5, B., above regarding the consumptive use calculation methodology that was used during preparation of the Platte River Basin Plan. Please also note that the *Example Calculation – Grass Hay – Encampment Area – One Cutting with Additional Irrigation – 1978* beginning on page 269 of the *Final Settlement Stipulation*. This example calculation was prepared on the basis of a six-month long assumed growing season for grass hay in the Encampment area, which is located within the Above Pathfinder subbasin. This example calculation also shows derivation of a unit annual consumptive use value, CU_w , of 1.26 feet of water per acre over 11,480 acres, or 14,465 acre-feet, total annual consumptive use for one cutting of grass hay with “additional irrigation.”

Comment S-8:

Weather stations (p 53 and Fig 15)

We are concerned whether 14 weather stations in the entire Platte River basin are adequate to gather accurate precipitation information. The weather variation within small segments of the various drainages can be extreme and the drainages cover hundreds or thousands of square miles with highly variable elevations

Response S-8:

Consumptive use calculations in the *Final Settlement Stipulation* for the portion of the North Platte River Basin located above Guernsey Reservoir were based on temperature and precipitation data from seven weather stations, including Encampment, Saratoga, Medicine Bow, Muddy Gap, Casper, Glenrock, and Douglas. The Platte River Basin Plan utilized data from these seven weather stations plus data from Torrington, Centennial, Laramie, Wheatland, LaGrange, Cheyenne, and Pine Bluffs weather stations, for a total of 14 weather stations. Basin plan consumptive use calculations were completed for each of the seven Platte River Basin subbasins. Climatological data, including temperature data used to calculate reference evapotranspiration, ET_0 , and precipitation data used to determine effective precipitation, R_e , were average monthly values from the available weather stations within each subbasin. We believe data from additional basin weather stations to calculate average temperature and precipitation values would not significantly affect the calculation results. Please review the High Plains Regional Climate Center map of Wyoming for weather stations that are available (see http://hprcc.unl.edu/coop/location/WY_ACTIVE.html). Finally, please recognize that the basin plan is intended to be broad in nature, as indicated by inclusion of consumptive use calculations for seven relatively large subbasins.

Comment S-9:

Use of Census to Determine Irrigated Acres - p. 45

Accuracy of information provided to the National Agricultural Statistics Service (NASS) and the U.S. Agricultural Census of the USDA:

- 1. These reports are operator prepared and should not be treated as 100% accurate.*
- 2. Operators report what is best for their operation.*

Perhaps a better way to determine irrigated acres would be to use State Engineer's Office data for irrigation.

Response S-9:

NASS crop data, which are organized on the basis of counties, was not used in the Platte River Basin Plan to quantify Platte River Basin subbasin irrigated, harvested acreages. Rather, NASS data were used to estimate the proportion of total irrigated, harvested crop acreages in each county that were cultivated for each crop under consideration. These NASS-derived, county-based percentages were then applied to the SEO-provided or approved and project Geographic Information System (GIS)-derived total number of irrigated acres in each subbasin to estimate the total number of irrigated acres in each subbasin that were cultivated in each of the crops under consideration. In summary, Basin Plan irrigated, harvested acreage values were derived from the project GIS, not from NASS data. Please reference Section 3.1.4., Estimating basin irrigated acreage, in the April 12, 2005 draft Final Basin Plan Report.

Commenter:

Laramie County Conservation District
11221 U.S. Highway 30
Cheyenne, WY 82009

Date:

Undated

Comment format:

Regular mail

Comment LCCD--1:

The first paragraph of Section 3.1.5 (pg. 47), Estimating basin consumptive use of irrigation water, states:

This section describes estimation of agricultural consumptive use of irrigation water in Wyoming's Platte River Basin during high stream flow, low stream flow, and normal or average stream flow years in each of the seven Platte River Basin subbasins. The consumptive use calculation methodology that is described in Appendix G, Exhibit 6, Exhibit A of the Final Settlement Stipulation of the 2001 Modified Platte River Decree served as the basis for the agricultural irrigation water consumptive use calculation method used during this study.

Due to the interest in the 2001 Modified Platte River Decree and the concerns expressed by Platte River Basin producers at the April 12, 2005 Basin Advisory Group- meeting, I would recommend that this paragraph be reworded. Additional information needs to be added to clarify the appropriate use of the information regarding consumptive use estimates included in this basin water plan. Since the calculation methodology of consumptive use in this basin water plan was patterned after the methodology described in the Final Settlement Stipulation, it needs to be clearly stated that the information in this basin water plan is not intended to be used to fulfill requirements of the 2001 Modified Decree. It is my understanding that the consumptive use calculations included in this basin water plan are not at the precision level necessary to be properly applied to the stipulations of the Modified Decree. This sentiment needs to be clearly stated in this section so there is no confusion of the quality and usefulness of the data.

Response LCCD-1:

Please see Response S-5, B above.

Commenter:

Thomas G. Dunn
No address provided

Date:

May 19, 2005

Comment format:

e-mail

Comment TD--1:

I'm only going to address one aspect (of the draft April 12, 2005 Platte River Basin Plan Final Report): the consumptive use of agricultural water in the Upper Laramie Basin as shown in Table 45. My major concern is that in 8 of the 30 years, the consumptive use exceeds stream flow as shown below (flow, consumptive use, and difference are in acre feet):

<i>Year</i>	<i>Flow</i>	<i>Consump. Use</i>	<i>Difference</i>
1988	96,117	110,800	14,683
1990	72,448	53,692	18,756
2000	72,177	90,791	18,614
1994	58,954	109,088	50,134
2001	50,915	79,887	28,972
1987	47,407	87,053	39,646
1981	46,461	58,879	12,418
1977	44,029	61,272	17,243

Where did the water come from to provide the excess consumptive use over that provided by stream flow? Does the excess consumptive use over stream flow indicate a flaw in methodology?

Response TD-1:

This comment is very similar to Comment S-5 above in that both comments seek to assess and compare high, low, and normal or average stream flow values with calculated consumptive use of irrigation water values. As noted above, tabulated stream flow values were derived to assess high, low, and normal or average stream flow conditions during the 1972 through 2001 study period. Please see Response S-5, A. above.

Comment TD-2:

“Consumptive use of irrigation water by crops therefore equals the difference between yield adjusted evapotranspiration, ET_c , and effective precipitation, R_e .” This is a key sentence concerning the entire process of calculating consumptive use. It should not be buried under the heading Effective precipitation on p. 53.

Response TD-2:

The organization of text regarding consumptive use calculations in the draft Platte River Basin Plan was based on the order in which steps in the calculation process were completed. In response to this comment, the following sentence has been added under draft Final Report heading Consumptive use calculations:

As noted above, consumptive use of irrigation water by crops equals the difference between yield-adjusted crop evapotranspiration, ET_c , and effective precipitation, R_e .

Commenter:

Don Brosz, Retired UW Extension Irrigation Engineer
No address provided

Date:

May 20, 2005

Comment format:

e-mail

Comment DB--1:

Section 3.1.5 – Estimating basin consumptive use of irrigation water

The University of Wyoming Agricultural Engineering Department and Wyoming Water Center have conducted many years of field studies on CONSUMPTIVE USE AND CONSUMPTIVE IRRIGATION REQUIREMENTS IN WYOMING, Report MP-87, October 1992. This report discusses the formulas developed from the field studies and resulting tables on monthly consumptive use and monthly consumptive irrigation requirements for irrigated crops at 67 Wyoming locations. Is there a reason why these field studies were not used and/or cited in this Section?

Response DB-1:

Please see Comment and Response S-4 above regarding the consumptive use methodology that was used for the Platte River Basin Plan.

The draft Platte River Basin Final Report contains typically condensed text and supporting information from individual Platte River Basin Plan technical memoranda. Please note that monthly crop coefficients, K_{co} , that were used in basin plan consumptive use calculations and that are summarized on Table 2.1.4.39. of Technical Memorandum 2.1.4., Estimated Crop Consumptive Use of irrigation water in the Platte River Basin in Wyoming, include values of K_{co} from the 1992 report noted above to supplement K_{co} values from the *Final Settlement Stipulation*. The 1992 source is referenced at the bottom of Table 2.1.4.39.

Comment DB-2:

Section 2.5.10 – Improving agricultural irrigation system and control efficiencies

This is a section that needs to be written very carefully. There is no question that there are many ways to increase irrigation water application efficiencies. However, in general, crops will CONSUME the same amount of water whether the irrigation water is applied efficiently or not. The excess irrigation water applied is still in the system somewhere as either ground water, resulting wetlands, stored water in the soil (that water often returns to the stream system as return flows as late fall and winter stream flows), etc. As irrigation water is more efficiently applied, storage reservoirs will be required to provide late fall and winter stream flows and other impacted water uses. . Such flows, in many cases, are now provided by so called “inefficient” irrigation water application.

(The commenter provides additional information regarding this topic.)

Response DB-2:

Assessments of future water use opportunities in Section 6.2 of the draft Platte River Basin Final Report and in corresponding basin plan Technical Memorandum 5.2 were intended to provide information and viewpoints regarding each identified future water use opportunity but were not intended to support any position regarding any of the opportunities. Some of these future water use opportunities are the subjects of considerable debate. Pertinent sections of both Technical Memorandum 5.2 and the draft final report are being revised and expanded in response this comment.

Comment DB-3:

In my quick review of the weather modification section, I found no reference to the many years of studies done by the UW Atmospheric Science Department on weather modification. I am sure they have a lot of base data that needs to be part of this report. I think it is great that the Wyoming Legislature appropriated monies for Weather Modification Studies by the Commission. I would guess previous work by the UW Atmospheric Sciences Department has much data which is of value to the public and for the Commission to launch their studies.

Response DB-3:

Information regarding UW Atmospheric Sciences Department weather modification research and data was obtained during a June 2, 2005 telephone interview with Dr. Al Rodi, chairman of the department. This information has been incorporated into draft Basin Plan Final Report Section 6.2.6.2., Weather Modification, and the corresponding section in Technical Memorandum 5.2.

Comment DB-4:

Section 6.2.5.3. – Upper Laramie River Storage opportunities

I note that Dodge Reservoir in the Upper Laramie River Basin is mentioned as the only water storage possibility for the area. I know the Robertson/McConnell Reservoir near Woods Landing on the Laramie River has been discussed and studied at times as potential water storage in the area. I would think the Robertson/McConnell Reservoir could serve as a great benefit for the City of Laramie to develop the Monolith Ranch water, could provide instream flows, provide recreation, etc. I believe the Development Commission studied the Robertson/McConnell Reservoir site and issued a report in about 1985.

Response DB-4:

References to the Robertson-McConnell Reservoir and other potential upper Laramie River reservoir sites were located in *Final Report – Management Plans for Water Rights on Monolith Ranch, Volume I of II*, May 2004. Information from this report has been included, with citations, in draft Basin Plan Final Report Section 6.2.5.3., Upper Laramie River storage opportunities, and the corresponding section in Technical Memorandum 5.2.

Commenter:

Brad Holliday, District Manager
Medicine Bow Conservation District
P.O. Box 6, 510 Utah Street
Medicine Bow, WY 82329

Rodona Vore, District Manager
Converse County Conservation District
1954 East Richards #8
Douglas, WY 82633

Date:

May 19 and 20, 2005

Comment format:

e-mail attachment

Note:

Medicine Bow Conservation District (MBCD) comments and Converse County Conservation District (CCCD) comments were combined in a single document; separate comment transmittals by these two conservation districts are identical except for several additional comments and notes that are included in MBCD comments that are not included in CCCD comments. The following responses are applicable to the comments generated and provided by both conservation districts.

Comment MBCD -1:

The most disappointing aspect of the draft Basin Plan is the lack of detail provided regarding the Nebraska v. Wyoming Final Settlement Stipulation and Modified Decree. . . . As far as we are concerned, the Basin Plan has dodged a thorough discussion of the Modified Decree and how it impacts the North Platte River Basin.

Response MBCD-1:

Discussion in the draft Basin Plan Final Report regarding the 2001 Modified Decree and other Platte River Basin court decrees is located in Section 2.0, Legal decrees and agreements pertaining to basin water use. A decree summary is included in Appendix A of the draft Basin Plan Final Report. A Basin Plan Technical Memoranda 2.1.2., Basin decrees, and draft Basin Plan Final Report are being revised to include a cross reference between specific sections and topics that are addressed in the Basin Plan documents and pertinent sections of the 2001 Modified Platte River Decree. The intent of this cross reference is to provide the reader with a summary of 2001 Modified Platte River Decree provisions and corresponding portions of the Platte River Basin Plan that relate to decree provisions. This cross reference will not include interpretation of the Modified Decree.

Comment MBCD-2:

A related concern deals with the treatment of certain concepts that are particular to the Modified Decree. For example, the Modified Decree includes a consumptive use provision. In order to protect the State of Wyoming from downstream water users (which is one of the purposes of the water planning process), it is imperative that the Basin Plan treat this consumptive use component in exactly the same way. It does not. In the alternative, the Basin Plan should describe in detail why the authors chose to take a different approach.

Response MBCD-2:

Please see Response S-5, B. above.

Comment MBCD-3:

Similarly, the geographic and hydrologic boundaries described in the Modified Decree should be adhered to in the Basin Plan.

Response MBCD-3:

Section 1.3, Basin Plan mapping, of the April 12, 2005 draft Basin Plan Final Report describes the approach to preparing maps, including subbasin boundaries, that was used during preparation of the Platte River Basin Plan. Included in this section is discussion of the source of the Basin Plan Guernsey to State Line subbasin boundary.

Comment MBCD-4:

In some places, the irrigation season is defined as May through September, while in other places, it is defined as April through September. "Irrigation season" is a critical term of art in the Modified Decree and is specifically defined as: "May 1 to September 30, inclusive." Modified Decree, Paragraph XI(a).

Response MBCD-4:

We agree and appreciate the significance of this comment. Note that Basin Plan consumptive use calculations, like those in the *Final Settlement Stipulation* of the 2001 Modified Decree, are based on a six-month April through September growing season. The irrigation season, as defined in the Modified Decree, begins on May 1. With this concern in mind, we have searched for references to the month of May in the April 2005 draft Basin Plan Final Report and find the following uses, other than source citations:

The (Casper-Alcova Irrigation) District irrigation season typically begins in early May and ends in late September.

Glenrock utilizes an additional 100,000 gpd of untreated surface water from Deer Creek during the summer months of May through September for irrigation purposes.

From roughly May through October, golf is a popular recreational activity within the Basin.

Based on analysis of the municipal sector in the Snake/Salt River Basin of Wyoming, municipal and rural domestic water use was assumed to be distributed throughout the year with heavy use in the summer months of June through September and relatively lighter use in October through May (BBC, 2005).

It is possible to divide the months into three categories of water use: the baseline or off-peak months of October through March; the peak months of June and July; and the shoulder months of April, May, August and September.

Technical analysis and references in the Basin Plan appear to be consistent with the *Final Settlement Stipulation* and the irrigation season defined in paragraph XI (a) of the Modified Decree. We will be sensitive to this concern during preparation of the final Basin Plan documents.

Comment MBCD-5:

As noted above, the authors of the Basin Plan created their own boundary for the “Guernsey to State Line” reach of the North Platte River (see Section 1.3), a boundary that is inconsistent with the Modified Decree. There is no explanation as to why the boundaries of the Basin Plan (which should be intimately tied to the Modified Decree) are different. Section 1.3 also references Technical Memorandum 1.1. It appears that the majority of that Memorandum has been included verbatim in the draft Plan, with one critical exception: the last two paragraphs of the Memorandum have been excluded. Those two paragraphs, however, are critical to understanding the boundary issues within the North Platte Basin pursuant to the Modified Decree. As such, the Conservation Districts encourage the Commission to include those paragraphs in the final Basin Plan. The Conservation Districts further encourage the Commission to add a figure to the final Basin Plan that is referenced as Master’s Attachment II” in the Memorandum.

Response MBCD-5:

The two paragraphs from Technical Memorandum 1.1 that explain the source of the Platte River Basin Plan Guernsey to State Line subbasin boundary have been added to Section 1.3 of the draft Basin Plan Final Report in response to this comment. A copy of Master’s Attachment II, a map showing the area in question and two alternative boundaries, has been included as Figure 1.1.2. in Technical Memorandum 1.1, Basin Plan mapping, in response to this comment.

Comment MBCD-6:

Section 2.1 is wholly inadequate to provide information to the reader regarding the Modified Decree.

Response MBCD-6:

Please see Response MBCD-1 above.

Comment MBCD-7:

The little information about the Modified Decree that is provided in Section 2.1 requires citation and correction. The draft Basin Plan states that: "A 1987 lawsuit filed by the State of Nebraska resulted in 2001 in replacing the 1945 North Platte Decree with a Modified Decree, under which Platte River irrigation water is currently to be administered." Draft Basin Plan at 32. The lawsuit was filed by Nebraska on October 6, 1986. The Plan should also note that the 1945 decree was subsumed, almost in its entirety, in the Modified Decree. Stated another way, the elements and framework of the 1945 decree are what continue to dictate water use and management of the North Platte River Basin (e.g., the 25/75 natural flow split at Whalen Dam; Wyoming's acreage entitlement above Whalen Dam; Wyoming's storage entitlements above Pathfinder; May 1 – September 30 application, etc.).

Response MBCD-7:

The date on which Nebraska filed the lawsuit which resulted in the 2001 Modified Platte River Decree has been changed from 1987 to 1986 in both the draft Basin Plan Final Report and in corresponding Technical Memorandum 2.1.2. Both the draft Final Report and Technical Memorandum 2.1.2 have been revised to state that the provisions of the 1945 North Platte Decree continue to "dictate water use and management of the North Platte River Basin."

Comment MBCD-8:

Section 2.2 provides a comprehensive description of the background and current status of the Cooperative Agreement. There are, however, a few corrections that should be considered. The third paragraph of the draft Basin Plan begins with the following sentence: "The Cooperative Agreement and the PRRIP were considered necessary as a result of the Congressional approval of the Endangered Species Act (ESA) in the late 1970s." Draft Basin Plan at 33. The Endangered Species Act was approved by Congress in 1973. This section of the draft Plan also states that "[f]ollowing issuance of the Record of Decision, the governors of Wyoming, Nebraska, and Colorado and the U.S. Secretary of the Interior will enter into a PRRIP . . ." Draft Basin Plan at 34. The Conservation Districts are under the impression that whether the parties, including Wyoming, will enter into the PRRIP is dependent upon the Record of Decision, and that a final decision has not yet been made.

Response MBCD-8:

The reference to the date of enactment of the Endangered Species Act has been revised in both the draft Basin Plan Final Report Section 2.2 and corresponding Technical Memorandum 2.5, Environmental Water Use. The following revision has also been made to the draft Final Report and Technical Memorandum 2.5: "Following issuance of the Record of Decision, the governors of Wyoming, Nebraska, and Colorado and the U.S. Secretary of the Interior will may enter into a PRRIP . . ."

Comment MBCD-9:

Section 2.3 makes reference to an environmental water use survey (in which the Conservation Districts participated), that is allegedly described in more detail in Technical Memorandum 2.1.5. Technical Memorandum 2.1.5 is entitled "Photographs of major irrigation diversions." It appears that the correct reference in this section is to Technical Memorandum 2.5.

Response MBCD-9:

Environmental water use is described in detail in Technical Memorandum 2.5., Environmental Water Use, of the Platte River Basin Plan. Diversion photographs appear in Technical Memorandum 2.1.5., Photographs of Major Irrigation Diversions. The reference to Technical Memorandum 2.5 in draft Basin Plan Final Report Section 2.3 has been corrected.

Comment MBCD-10:

Section 3.1 – Agricultural water use

Section 3.0 references certain Technical Memoranda that supposedly provide the background information for this Section, but the numbers of those Memoranda are not listed. The Basin Plan should provide a specific reference to the Technical Memoranda at issue to allow interested readers to refer to those documents for additional information.

The Conservation Districts agree with including a description of the Federal irrigation projects in Wyoming (as set forth in Section 3.1.1). As noted above, we believe additional citations are necessary in this Section to confirm the source of the information.

Response MBCD-10:

Section 3.0 of the draft Basin Plan Final Report has been revised to include a list of corresponding Basin Plan water use profile technical memoranda. References for the sources of information regarding Federal irrigation projects in Wyoming are included in Technical Memorandum 2.1.1., Federal Water Projects on the North Platte River in Wyoming.

Comment MBCD-11:

The description of the “most prominent” irrigation districts in the North Platte basin as listed in Section 3.1.2 is helpful. Additional information should be provided related to several of these districts in order to better inform readers of the important operations that govern the water use and administration within the North Platte Basin.

Response MBCD-11:

We will seek to augment the Basin Plan documents with available information on other irrigation districts that govern administration and use of water within the river basin.

Comment MBCD-12:

Section 3.1.2.1 describes the Casper Alcova Irrigation District (“CAID”). The second to last paragraph of this Section describes the contract between CAID and the City of Casper. It would be useful to include a summary of the current status of that contract in the Basin Plan to provide readers with information as to whether this innovative arrangement has been a positive one. Similarly, while CAID’s selenium problems are described in the last paragraph of this Section, we believe that additional information regarding potential solutions and a “plan of attack” should be provided, along with a summary of the local conservation district efforts on these issues.

Response MBCD-12:

Please note that, following a June 1, 2005 telephone interview with Mr. Philip Stuckert, Director of Public Services, City of Casper, Section 3.1.2.1. information regarding the CAID/City of Casper water contract has been expanded in the draft Basin Plan Final Report as has comparable information in Technical Memorandum 2.1.3.

On May 5, 2005, Trihydro contacted Mr. Rik Gay, consultant to the CAID regarding the selenium issue, and requested expanded and up-to-date information regarding this issue. We understand that the manager of the Natrona County Conservation District had agreed

to release a recently-completed draft report for use in the basin plan. The report is included in the draft Watershed Plan for the Conservation District. Upon receipt of the Watershed Plan, applicable sections in the draft Basin Plan Final Report and corresponding Technical Memorandum 5.3, Water Quality Issues will be augmented.

Comment MBCD-13:

There is a citation to “Table 2.5, Martin” in the second paragraph of Section 3.1.2.3. discussing Goshen Irrigation District (“GID”). Because there is no reference section for Section 3, it is difficult to identify this source. If, however, this source is to Dr. Derrel Martin, a consultant to the State of Nebraska during the North Platte litigation, the Commission should find an alternative source for this acreage number. There are many Wyoming sources for that information, including GID itself. The Basin Plan should also provide additional information related to the last line in this Section regarding GID’s supplement right and the abandonment issues involving Basin Electric Power Cooperative.

Response MBCD-13:

The Martin reference to Goshen Irrigation District irrigated acreage has been replaced in draft Basin Plan Final Report Section 3.1.2.3. and in corresponding Technical Memorandum 2.1.3 with a reference to the 2003 WWDC Irrigation System Survey Report, which shows that the district irrigates 52,484 acres.

Draft Basin Plan Final Report Section 3.1.2.3. and corresponding Technical Memorandum 2.1.3. have been revised to expand discussion of the Goshen Irrigation District supplemental water right and the abandonment issue involving Basin Electric Power.

Comment MBCD-14:

The Lake Hattie Irrigation District operations are described in Section 3.1.2.4. There is a statement in the second to last line of the first paragraph regarding the District being formed in 1988. The Basin Plan should include information as to how the district was operated prior to that time.

Response MBCD-14:

More detailed discussion regarding the Lake Hattie Irrigation District has been copied from Technical Memorandum 2.1.3. into Section 3.1.2.4. of the draft Basin Plan Final Report in response to this comment.

Comment MBCD-15:

Section 3.1.2.5 states that additional information regarding basin irrigation practices, structures and districts is included in Technical Memorandum 2.1.3. It appears from review of that Memorandum that the Plan could be substantially strengthened by incorporating that Memorandum in its entirety. The Conservation Districts have a strong interest in protecting historical irrigation practices. The information provided in Technical Memorandum 2.1.3 is exactly the type of reference data for which the Basin Plan will be used. It is cumbersome and complicated to expect readers to refer to an additional document for this information when it could be included in the Basin Plan. In Section 2.1.3.2 of the Memorandum, there is reference to a 1998 survey. The Basin Plan should include information on the purpose of that survey to place it in context.

Response MBCD-15:

The Basin Plan Final Report is intended to provide an overview of the study and summarize more detailed information provided in the Basin Plan technical memoranda.

Both the Final Report and the technical memoranda will be available at a readily-accessible WWDC web site. We will work during final document preparation to seek a reasonable balance between the contents of the Final Report and the more detailed information included in the supporting technical memoranda.

We are presently working to augment the Basin Plan documents to include an overview, by subbasin, of subbasin land areas, irrigated acreages, and typical cropping patterns during the period 1972 through 2001.

The 1998 survey that is summarized in Section 2.1.3.2. of Technical Memorandum 2.1.3. is referenced in the technical memorandum. The following revision, which is shown in italicized text, has been made to Section 2.1.3.2. text:

A 1998 survey, *which was completed during the Nebraska v. Wyoming litigation process*, identified 199 irrigation water right holders in this subbasin.

Comment MBCD-16:

Section 3.1.3. describes the methodology used to estimate basin cropping patterns and refers to Technical Memorandum 2.1.3 titled "Irrigation Practices and Irrigation Districts in the Platte River Basin in Wyoming." Again, for purposes of protecting Wyoming's water rights, it is critical that this type of data be identical to the data that formed the basis for the Modified Decree. The State of Wyoming expended a substantial amount of money in order to fully, completely and thoroughly analyze these issues. Wyoming retained some of the best technical experts in the United States to analyze the data. Considering that fact, it does not seem to be factually or scientifically defensible to use different data unless the authors of the Basin Plan are able to describe in detail why their data is different. The fact is that proportioning NASS data to estimate cropping patterns may not be accurate for certain counties, such as Fremont.

Response MBCD-16:

Please see Response S-5, B.

Comment MBCD-17:

There are similar data concerns with the process used to estimate basin irrigated acreage as described in Section 3.1.4. It is not clear whether the irrigated acreage mapping is identical to that used in the North Platte litigation, but there does not appear to be any justifiable reason for creating a separate database with conflicting acreage numbers.

Response MBCD-17:

North Platte litigation irrigated acreages were estimated in the *Final Settlement Stipulation* for two of the seven Platte River Basin subbasins. Irrigated acreage estimates were needed for all seven subbasins addressed in Platte River Basin Plan. Section 3.1.4. of the draft Basin Plan Final Report describes the methodology, by subbasin, used to estimate irrigated acreages in the Basin Plan and for use in Basin Plan consumptive use calculations. The irrigated acreage determination followed for the Basin Plan is consistent with what was established during the litigation and was completed in consultation with Wyoming State Engineers Office.

Comment MBCD-18:

A similar problem is found in Section 3.1.5 of the draft Basin Plan, which sets forth the calculations of consumptive use (CU). It appears that the method used to calculate CU in the draft Basin Plan is consistent with, but not identical to, the methodology that was jointly adopted by the parties (Wyoming, Nebraska, United States Bureau of Reclamation and Colorado) to the litigation, after extensive analysis, and approved by

the United States Supreme Court. Because CU is an enforcement issue in the Modified Decree, the State of Wyoming should be very concerned about publication of potentially conflicting information, especially when there is no explanation as to why the authors of the Basin Plan would take a different approach. Again, during the irrigation season, the North Platte River Basin must be managed and administered pursuant to the Modified Decree. There does not seem to be any valid reason for the Basin Plan to rely upon a different methodology, or include information that is contrary to that contained in the Modified Decree. In terms of CU issues, the Basin Plan should present data that is identical to that contained in Exhibit 6 to the Final Settlement Stipulation. It is impossible to determine whether the CU numbers are identical to the Modified Decree because they are allegedly included in Technical Memorandum 3.1, which is not available for review.

Response MBCD-18:

Please see Response S-5, B.

Comment MBCD-19:

Section 3.1.6 describes the attribution process of the GIS database. It is unclear whether the base attribution from the litigation GIS database was used or whether the attribution was redone. Again, such attribution should be identical to that used in the North Platte litigation, and in areas where such attribution was not completed during the litigation, the methodology used should be consistent.

Response MBCD-19:

The Platte River Basin Plan GIS was prepared specifically for preparing the Platte River Basin Plan, as was the case with the other six Wyoming basin plans. The “litigation GIS database” was provided for use during preparation of the Platte River Basin Plan and elements of that database were not modified. A description of the preparation of Basin Plan GIS mapping is included in Technical Memorandum 1.1 and in draft Basin Plan Final Report 1.3.

Comment MBCD-20:

The information provided in Technical Memorandum 2.1.5 entitled “Photographs of major irrigation districts” referred to in Section 3.1.7 of the draft Basin Plan is interesting and should be included in the body to illustrate the subject at hand. For example, the first photograph of the Kortez Powerplant should be included near page 41 of the Basin Plan following the description of the Kortez Unit. Including this information in the body of the Plan will assist readers who refer to the Basin Plan to understand these projects without being required to refer to additional materials.

Response MBCD-20:

The draft Basin Plan Final Report is intended to provide an overview of more detailed Basin Plan technical memoranda information. Both the Final Report and the technical memoranda will be available at a readily-accessible WWDC web site. We will work during final document preparation to seek a reasonable balance between the contents of the Final Report and the more detailed information included in the supporting technical memoranda.

Comment MBCD-21:

This Section references “Wyoming’s Depletion Plan” (“WDP”). The draft Basin Plan states that the WDP is discussed in more detail in Technical Memorandum 2.2 entitled “Municipal and domestic water use in the Platte River Basin of Wyoming.” That

Memorandum, however, includes no mention of the WDP. The WDP should be described in the body of the Basin Plan to avoid confusion and to make the overall Plan more user friendly (by avoiding requiring readers to continuously refer to other documents). We again urge the Commission to publish data that is identical to the data that has been used, relied upon, and published in other documents, such as the Modified Decree and the Cooperative Agreement.

Response MBCD-21:

We are presently work to gain a reasonable balance between the contents of the Final Report and the more detailed information included in the supporting technical memoranda. We agree that the Final Report should fairly describe the Wyoming Depletion Plan (WDP) and the relationship between the WDP and the Platte River Recovery Implementation Program (PRRIP).

Comment MBCD-22:

Sections 3.2.3 through 3.2.9 should provide additional detail regarding municipal and domestic water use. For example, Section 3.2.3 states that “six subbasin public water systems utilize surface water . . .” The six public water systems should be identified. Similarly, in Section 3.2.4, there is some discussion of the Central Wyoming Regional Water System, but the draft Plan does not list the municipalities that are served by the regional system.

Response MBCD-22:

Please see draft Basin Plan Final Report Tables 49, 51, 53, 55, 57, 59, and 61 on which basin community public water supply systems are described by name. Please also see draft Basin Plan Report Figures 24, 26, 28, 30, 32, 34, and 36 on which the locations of basin community public water supply systems are shown. Section 3.2.4. of the draft Basin Plan Final Report and corresponding Technical Memorandum 2.5 have been revised to include a list of CWRWA members.

Comment MBCD-23:

The discussion regarding the City of Wheatland’s municipal system in Section 3.2.7 is confusing. The draft Basin Plan states that “the City is working with the Wyoming Department of Environmental Quality (WDEQ) to eliminate municipal wastewater discharge to the North Platte River during the summer months by applying treated wastewater to irrigated lands.” Draft Basin Plan at 62. The correct reference should be to the Laramie River, not the North Platte River.

Response MBCD-23:

Section 3.2.7 of the draft Basin Plan Final Report and corresponding Technical Memorandum Section 2.2.7.1. have been revised in accordance with this comment.

Comment MBCD-24:

The last sentence on page 69 in Section 3.3.2 states: “oil exploration and refining in the Pathfinder to Guernsey subbasin was at one time a large water-consuming industry.” Draft Basin Plan at 69. While the remainder of this Section then describes some of this water use, a summary statement of current oil exploration and refining water use should supplement this statement.

Response MBCD-24:

Please see the introductory statement before Table 72, Summary – Wyoming State Engineer’s Office data, and table contents for a summary of industrial use of groundwater for oil exploration, refining, and reclamation in the Pathfinder to Guernsey to subbasin.

Comment MBCD-25:

Later in Section 3.3.2, there is a description of Dave Johnston Power Plant's water rights. The Basin Plan should include a reference to the Cannon Ranch transfer, which resulted in PacifiCorp's surface water right that is described in this paragraph.

Response MBCD-25:

Please see Appendix 2.3.B.5., PacifiCorp – Surface water right permit summary, in Technical Memorandum 2.3, Water Use for Industrial Purposes. This appendix contains a summary of PacifiCorp surface water right permit information that was provided for use in this basin plan by Mr. Alan Dugan, Planning Manager, PacifiCorp. Draft Basin Plan Final Report and Technical Memorandum 2.3 text has been revised to reflect this fact and to correct the previous reference to Mr. Brian Pugsley, Wyoming State Engineer's Office, Torrington. Draft Basin Plan Final Report Section 3.3.2. has been revised to reference Appendix 2.3.B.5. of Technical Memorandum 2.3.

Comment MBCD-26:

Section 3.3.5 summarizes industrial water use in the Lower Laramie subbasin, including Basin Electric Power Cooperative. This section mentions the 1978 Agreement of Settlement and Compromise ("1978 Agreement") and the 1998 Water Administration Procedures for the Lower Laramie River ("1998 Procedures"). This sentence should be supplemented to include the Final Settlement Stipulation reached in the Nebraska v. Wyoming litigation. The 1998 Procedures were amended as part of those negotiations. It appears that the revised Administration Procedures are briefly described in the bulleted points on page 75 of the draft Basin Plan. The third bulleted point should be expanded to list the water rights referenced. There is a paragraph in the draft Basin Plan that summarizes Basin Electric's water use for years 1981 through 1999. The Plan does not explain why more current information is not included. There are annual water use reports that Basin Electric is required to submit to the State of Nebraska pursuant to the 1978 Agreement, and updated information is available for inclusion in the Basin Plan. In addition, the draft Basin Plan only reports gallon per minute (gpm) use and does not report the total annual water consumption. Where information regarding actual water use is available, it should be included in the final Basin Plan.

Response MBCD-26:

Text in Section 3.3.5 of the draft Basin Plan Final Report has been revised to cite applicable provisions of the 2001 Modified Decree. Corresponding revision to Technical Memorandum 2.3 text was completed previously in response to comments by others. Please see Table 88 in the draft Basin Plan Final Report for a summary of Basin Electric Power Cooperative groundwater rights and Table 89 for a summary of Basin Electric Power Cooperative surface water rights.

Please see Appendix 2.3.E.3., which is referenced on draft Basin Plan Final Report Table 89, for a summary of Laramie River Station annual water use, 1981 – 2001, in units of acre-feet.

The text of draft Basin Plan Final Report Section 3.3.5 has been revised to direct the reader to detailed Basin Electric water use data in Technical Memorandum 2.3.

Comment MBCD-27:

There is a confusing reference to "this memorandum" at the beginning of Section 3.4. Draft Basin Plan at 79. This Section provides valuable information regarding recreational opportunities in the North Platte River basin. This Section should be

supplemented with appropriate citations for the statements of fact that are not currently supported in the Basin Plan. For example, the following unsubstantiated statement appears in Section 3.4.3: “visitation to this area has grown significantly in the last few years.” Draft Basin Plan at 81. The authors must have had a source for this information, but no citation is provided. This Section is replete with similar statements that require citation.

Response MBCD-27:

The word “memorandum” at the beginning of draft Basin Plan Final Report Section 3.4 referred to above has been changed to “section.” Citations and references have been added to Section 3.4 of the draft Basin Plan Final Report and to corresponding Technical Memorandum 2.4.

Comment MBCD-28:

There is a reference in Section 3.4.4 of the draft Basin Plan (discussing golf courses) to Technical Memoranda 2.1.4 and 3.1. There is no discussion of golf courses in Technical Memorandum 2.1.4. We were not provided with Technical Memorandum 3.1 to review.

Response MBCD-28:

References to Technical Memorandum 2.1.4., Estimated Crop Consumptive Use of Irrigation Water in the Platte River Basin in Wyoming, in draft Basin Plan Final Report Section 3.4.4. are included in statements indicating that golf course consumptive use calculations in recreational water use Technical Memorandum 2.4 were completed for the same six-month irrigation season, April through September, and were organized on the basis of the same seven Platte River Basin subbasins as were Technical Memorandum 2.1.4. agricultural irrigation consumptive use calculations. These statements were intended to demonstrate the extent of consistency between golf course consumptive use calculations and agricultural irrigation consumptive use calculations. The reference in draft Basin Plan Final Report Section 3.4.4. to Technical Memorandum 3.1, Surface Water Data Collection, Selecting the Period of Study, and High, Low, and Normal River Flow Years, is a reference to the fact that the years and categories of years (high stream flow, low stream flow, and normal or average stream flow) for which golf course consumptive use calculations were completed were the same in each subbasin as those that were generated in Technical Memorandum 3.1 and used as the basis of agricultural irrigation consumptive use calculations in Technical Memorandum 2.1.4. Again, the intent of this reference was to describe the level of consistency between golf course consumptive use calculations and agricultural irrigation water use consumptive use calculations.

Comment MBCD-29:

Section 3.4.9 of the draft Basin Plan simply refers to three Technical Memorandum – 2.4, 2.7 and 2.5. The Basin Plan should include this information within the body of the Plan. As previously recommended, as much information as possible should be provided in the body of the Basin Plan instead of requiring readers to access and review additional documents.

Response MBCD-29:

As noted in responses above, the draft Basin Plan Final Report is intended to provide an overview and summary results of work documented in more detailed technical memoranda. Both the Final Report and all final Basin Plan technical memoranda will be available at a readily-accessible WWDC web site. We are working during final

document preparation to seek a reasonable balance between the contents of the Final Report and the technical memoranda.

Comment MBCD-30:

This Section (3.5, Environmental water use) of the draft Basin Plan refers to Technical Memorandum 2.5 for additional information. Section 2.5.2. of that Technical Memorandum should be included in the body of the Basin Plan.

Response MBCD-30:

Section 2.5.2., Water-related Environmental Practices has been added to Section 3.5 of the draft Basin Plan Final Report.

Comment MBCD-31:

This Section (3.5, Environmental water use) should be supplemented to include the specific statutory language referencing the North Platte Basin contained in W.S. 41-3-1002(d)(ii).

Response MBCD-31:

Language summarizing the provisions of W.S. 41-3-1002 (d) (ii) has been added to Section 3.5 of the draft Basin Plan Final Report and to corresponding Section 2.5.2.1. of Technical Memorandum 2.5, Environmental Water Use.

Comment MBCD-32:

The first part of this Section (3.6, Water use from storage) refers to Technical Memorandum 2.6, which was not provided to the Conservation Districts for review. The statement regarding selection criteria for included reservoirs is confusing: “. . . except for reservoirs with multiple uses including stock uses.” Draft Basin Plan at 86. Although the Technical Memorandum referenced was not available for review, the selection criteria should be clarified.

Response MBCD-32:

The text in draft Basin Plan Final Report Section 3.6 and corresponding Technical Memorandum 2.6, Water Use from Storage, will be revised to clarify the basis for the selection criteria of concern.

Comment MBCD-33:

The information provided in Section 3.6.1 is valuable. There are many factual statements, however, that require citation to allow the readers to know what sources were relied upon.

Response MBCD-33:

Direct quotations in this and other sections of the draft Basin Plan Final Report and technical memoranda are referenced. A new Section 3.6.5., References – water use from storage, which contains the reference list from the end of Technical Memorandum 2.6, Water Use from Storage, has been added to the draft Basin Plan Final Report.

Comment MBCD-34:

Section 3.6.2.1 describes the major reservoirs located in the Above-Pathfinder subbasin. It is surprising that there is no discussion in this Section of the limitation regarding irrigation reservoirs pursuant to the North Platte Decree. The Basin Plan must include discussion of the reservoir storage limitations in this Section. It is also appropriate for the final Basin Plan to include a description of permitting activity of irrigation reservoirs within this subbasin.

Response MBCD-34:

Please see Response MBCD-1.

Comment MBCD-35:

The information provided in Sections 3.6.2.1 through 3.6.2.7 should be standardized. For example, some reservoir summaries include the name of the permit holder, while others do not. Similarly, some summaries include the priority date of the facility, while others do not. Some summaries do not include information regarding the reservoir's permitted capacity (see Hawk Springs Reservoir narrative on page 95). While this information is likely provided in tables that will supplement the Basin Plan, this type of standard information should be included in the narrative for each reservoir described in this Section.

Response MBCD-35:

Collection during preparation of this basin plan of information for the water storage component of the draft Basin Plan Final Report and for corresponding Technical Memorandum 2.6 was limited to publicly-available information. Publicly-available SEO reservoir permit drawings and other permit data was compiled and reviewed, along with pertinent information contained in the ten most recent SEO Hydrographer's Annual Reports for Water Division I. The nature and extent of publicly-available information regarding the reservoirs that are described in the water use from storage portion of the draft Basin Plan Final Report and corresponding Technical Memorandum 2.6 was inevitably inconsistent. However, we attempted to organize available reservoir information to provide brief narrative descriptions of individual reservoirs, and tabulations of available information. The intent of tabulating information in this and other components of the draft Basin Plan Final Report and technical memoranda was to provide readers with information in a concise, organized, and accessible format.

Comment MBCD-36:

Section 3.6.3 provides a brief summary of reservoirs with permitted capacities between 50 acre-feet and 999 acre-feet. This summary should be expanded to provide statistics regarding these reservoirs, such as the range of priority dates, total reservoirs, etc.

Response MBCD-36:

Tabulated SEO database information regarding "smaller" basin reservoirs, those having permitted capacities between 50 acre-feet and 999 acre-feet, is provided in Technical Memorandum 2.6, Tables 2.6.106 through 2.6.112. Each table shows information regarding these reservoirs based on descending permitted reservoir capacities, including reservoir SEO permit numbers, reservoir names, reservoir applicant names, reservoir locations (T, R, S, Qtr/Qtr), reservoir sources of supply, and reservoir permitted capacities.

Comment MBCD-37:

The following statement in the narrative of Section 3.6.4 is confusing: "evaporation and beneficial use of water, such as irrigation, are charged against Wyoming's allocation for North Platte River water under current decrees and compacts." It appears that this statement is simply inaccurate. Wyoming is not "allocated" a portion of the North Platte River. Instead, the United States Supreme Court has equitably apportioned the flows of the river, which has resulted in certain entitlements for Wyoming's water use in the various subbasins of the North Platte River. None of those entitlements, however, address consumptive use related to reservoir evaporation. Exhibit 6 to Appendix G of the Final Settlement Stipulation includes no reference to, or calculation of, reservoir

evaporation. The statement at issue also refers to “current decrees and compacts.” As there are no compacts affecting the North Platte River, this sentence should be rewritten.

Response MBCD-37:

The sentence in question has been removed from Section 3.6.4. of the draft Basin Plan Final Report and from corresponding Technical Memorandum 2.6.

Comment MBCD-38:

We would like to see a discussion of the irrigation storage limitation upstream of Pathfinder Reservoir included in the final report, along with a summary of Wyoming’s annual reports regarding this storage.

Response MBCD-38:

Please see Response MBCD-1.

Comment MBCD-39:

The public, including the Conservation Districts, is unable to fully comment on this draft Basin Plan because the “Water Atlas” educational tool described in Section 4.2 was unavailable for review. While the description of the water atlas concept sounds valuable, we remain concerned about what information will be provided on the website. As discussed above, the final Basin Plan should be a reference document for the State of Wyoming for the next twenty or thirty years. As such, the information provided must be comprehensive and accurate. It is not possible to comment on this aspect of the Basin Plan, but (we) would appreciate the opportunity to have input on the water atlas in draft form when it is complete.

Response MBCD-39:

The intent of distributing the draft Basin Plan Final Report during and after the April 12, 2005 Platte River Basin Plan Basin Advisory Group (BAG) meeting was to solicit comments regarding the draft Final Report. The purpose of the “Water Atlas” web site, which is a distinct and separate Basin Plan work product and portions of which have been shown at several BAG meetings, is to provide a condensed version of Basin Plan information. It is important to note that the “Water Atlas” will not contain information that is not also included in the Basin Plan Final Report and/or in Basin Plan technical memoranda. The “Water Atlas” will be a condensed, publicly-accessible introduction to the Basin Plan, components of which will also be publicly-available on the internet in accordance with current WWDC policies and practices.

Comment MBCD-40:

We would also like to see some discussion of the conversion of gravity irrigation systems to center sprinkler irrigation and the effect those systems are having on irrigation efficiencies and historic return flows.

Response MBCD-40:

Please see draft Basin Plan Final Report Section 6.2.5.10., Improving agricultural irrigation system and control efficiencies. This section is the same as Section 5.2.3.10. of Technical Memorandum 5.2, Future Water Use Opportunities, and has been expanded in response to the comments we have received.

Comment MBCD-41:

Section 4.3 discusses the available groundwater in the basin. The fourth paragraph of this Section states: “[t]he North Platte River has been fully appropriated for some time, and several court decisions and interstate agreements have recognized that hydrologically connected groundwater wells were impacting river flows.” Draft Basin

Plan at 103. The concept of “hydrologically connected groundwater” has only recently been introduced in the North Platte River basin with approval of the Cooperative Agreement and the settlement of the Nebraska v. Wyoming litigation. The referenced sentence should be clarified to include those specific references. Contrary to the quoted statement, no court has “recognized that hydrologically connected groundwater wells were impacting river flows.” Instead, the parties to both the Cooperative Agreement and the Final Settlement Stipulation have agreed on a definition of hydrologically connected groundwater wells and on administration of those wells in certain segments of the river. The discussion of the treatment of hydrologically connected groundwater related to the Cooperative Agreement and the Modified Decree should be expanded and clarified. Again, the very purpose of this Basin Plan is to provide a resource of information to Wyoming related to water issues within the basin. It is imperative that the Basin Plan include a clear explanation of the Modified Decree, especially as it relates to the new concept of “hydrologically connected groundwater.”

Response MBCD-41:

The citation following the sentence noted above is included in Technical Memorandum 3.3 and has been inserted into the draft Basin Plan Final Report. Determination of the locations of “hydrologically” connected groundwater in Wyoming’s Platte River Basin is currently ongoing. Aquifers that may potentially be considered “hydrologically” connected are established based on the ongoing deliberations of the North Platte Decree Committee. Please also see Response MBCD-1 regarding revised Basin Plan consideration of the 2001 Modified Decree.

Comment MBCD-42:

This Section refers to Technical Memorandum 3.3, which is more than 100 pages in length. A detailed review of that Memorandum is not provided here.

Response MBCD-42:

As noted in comment responses above, the draft Basin Plan Final Report is intended to provide a condensed summary of more detailed information included in the technical memoranda.

Comment MBCD-43:

It is unclear as to why the definition of hydrologically connected groundwater contained in this Section is supported by a reference to “Trihydro Corporation, 2004.” Draft Basin Plan at 104. The appropriate reference to this definition should be to the Cooperative Agreement and appropriate provisions of the Modified Decree.

Response MBCD-43:

The Trihydro reference in question is to the draft *North Platte River – Groundwater Assessment Study – Southeastern Wyoming*, which was prepared by Trihydro Corporation. A presentation of this study was given at one of the BAG meetings along with a discussion of this definition in relation to the study. The reference to Trihydro Corporation in the draft Basin Plan Final Report and corresponding Technical Memorandum 3.3 will be replaced with a direct reference to the definition in the Modified Decree.

Comment MBCD-44:

For each of the Sections 4.3.1 through 4.3.7, there should be an introductory summary of the provisions of the Modified Decree that affect groundwater development in that subbasin. For example, in the above Pathfinder subbasin section, the final Basin Plan

should make clear that acreage intentionally irrigated by wells that have been determined to be hydrologically connected will be included in Wyoming's annual acreage accounting.

Response MBCD-44:

Please see Response MBCD-1 regarding consideration of the 2001 Modified Platte River Decree in revised Basin Plan documents.

Comment MBCD-45:

The "groundwater quality" summaries in most of these sections state that "groundwater quality in this subbasin is not unique in comparison with other subbasins in the Platte River Basin." That statement is equivalent to providing no information regarding groundwater quality at all. This Section should be amended to provide the reader with some assessment of the groundwater quality in each of these subbasins.

Response MBCD-45:

The complexity of groundwater quality variations and conditions within each subbasin are described in detail in Technical Memorandum 3.3, Available Groundwater Determination. We will augment the information provided in the Final Report accordingly.

Comment MBCD-46:

The "groundwater development" summaries can also be modified to provide more information to the reader. For example, in the above Pathfinder section, there is discussion of the "four subbasin community systems" that rely on groundwater. Those four systems should be identified in the summary.

Response MBCD-46:

Please see Response MBCD-45.

Comment MBCD-47:

The "future groundwater development potential" sections could be clarified to address whether each aquifer system is believed to be hydrologically connected and if so, what limitations may be placed on future development in that subbasin. That information is provided for some of the aquifers that are described in some subbasins, but there is no consistency between the subbasins.

Response MBCD-47:

As noted in Response MBCD-41 above, determination and delineation of "hydrologically" connected groundwater in Wyoming's Platte River Basin is currently ongoing and has not been resolved. Information included in the basin plan documents regarding the delineation of "hydrologically connected" groundwater in the basin will be updated in the future as appropriate.

Comment MBCD-48:

The Laramie County Control Area is discussed in both sections 4.3.6 and 4.3.7, but those discussions are not identical. There is no explanation as to why the discussions would be different, but request that these paragraphs be modified to avoid any confusion.

Response MBCD-48:

Discussion regarding the Laramie County Control Area in draft Basin Plan Final Report Section 4.3.6. is in reference to the Horse Creek subbasin. Discussion regarding the Laramie County Control Area in draft Basin Plan Final Report Section 4.3.7. is in reference to the South Platte subbasin. Differences between these two discussions are not intended to be contradictory.

Comment MBCD-49:

Section 5.0 describes two data collection efforts in November 2003 and March 2005. The Basin Plan should provide additional information regarding these data collection efforts, such as the purpose, what was involved, who conducted them, etc.

Response MBCD-49:

The next sentence following the sentence referencing data collection during November 2003 and March 2005 describes, in general terms, the sources from which information was solicited. Section 5.0 contains individual citations where appropriate. Sections 5.1.6., 5.2.12., and 5.3.7. of the draft Basin Plan Final Report includes complete lists of references that were utilized during preparation of the three portions of Section 5.0. The nature and extent of reference documentation in this and other sections of the draft Basin Plan Final Report is under review.

Comment MBCD-50:

We understand the interest in developing the three projection scenarios described in Section 5.2 of the draft Basin Plan. Given the applicability of the Modified Decree and the Cooperative Agreement, such an exercise does not appear to be necessary for the North Platte River Basin. For example, there seems to be little utility of discussing that irrigated acreage in the “high scenario” might increase by as much as 50 percent, when most of the basin has a prescribed limit on irrigated acreage. Draft Basin Plan at 132. It appears that a lot of time and resources have been dedicated to this section of the Plan for little purpose. The State’s resources would most likely be better used to describe the actual limitations of each subbasin by including a thorough discussion of the Modified Decree and Cooperative Agreement provisions when projecting future water use in the North Platte Basin. Given our view of the value of this section of the Basin Plan, our specific comments are limited.

Response MBCD-50:

Unconstrained future economic and demographic scenario projections were derived for this basin plan. In this way, a range of potential economic growth can be evaluated in the context of the constraints noted. Some potential future water use opportunities may address economic demands, within the constraints evident in this basin.

Comment MBCD-51:

The demographic overview of the basin is described in Section 5.1.2. There is confusion caused by the different dates used for the information provided in the following sections. For example, there are references to the standard census periods of 1970 and 2000, but other parts of this section state population determinations of 2002, 1982, and 1971. The data sources should be described at the beginning of this Section to avoid confusion. Appropriate citations should be included in the body of the Basin Plan.

Response MBCD-51:

We have revised this section of the Final Report in response to this comment.

Comment MBCD-52:

It appears that much of the contents of Section 5.1.4 is derived from Technical Memorandum 4a, but there is no reference to a Technical Memorandum in this Section. This Section should be supplemented with appropriate citations to support so many of the statements offered. The Basin Plan should incorporate additional details in this Section. For example, Section 5.1.4.1 states that the “majority of the state’s livestock are raised in the Basin.” Draft Basin Plan at 120. First, this statement is not supported by a citation.

Second, in order to make that statement, the percentage of the state's livestock that is raised in the Basin must be known, and the livestock numbers themselves should be provided in the body of the Plan, instead of forcing the reader to review other documents to obtain the information.

Response MBCD-52:

This section of the Final Report has been revised in response to this comment.

Comment MBCD-53:

Section 5.1.4.4 does not appear to be appropriately titled. The title should be changed to more accurately reflect the subject discussed. Government and hospitals most likely do not fall within the category of "manufacturing and other industry". A more global title such as "other employers" may be more appropriate for this Section.

Response MBCD-53:

The title of Section 5.1.4.4. in the draft Basin Plan Final Report and the title of the corresponding section of Technical Memorandum 4.1 have been changed to "Manufacturing and other employers."

Comment MBCD-54:

Wyoming's Wetland Bank should be discussed in more detail Section 5.1.4.5., which describes its creation, purpose and status.

Response MBCD-54:

Wyoming's Wetland Bank is not named or described in Section 5.1.4.5. of the draft Basin Plan Final Report. Section 5.1.4.5. of the draft Basin Plan Final Report discusses environmental water use in the context of historic and current economic and demographic conditions within the basin. We anticipate augmenting the Final Report, in the context of the environmental technical memo, to address this comment.

Comment MBCD-55:

Section 5.2.1.1. lists various economic and demographic projections that were available for review. In the private sector section, the draft Basin Plan lists "Woods & Poole." Draft Basin Plan at 128. This projection source should be described in more detail (what is it? for what purpose was it created? etc.).

Response MBCD-55:

The following text has been added immediately following the reference to Woods & Pool in draft Basin Plan Final Report 5.2.1.1. and the corresponding reference in Technical Memorandum 4.2:

an "independent firm that specializes in long-term county economic and demographic projections" and that is located in Washington, D.C. (see www.woodsandpoole.com)

Comment MBCD-56:

This Section of the draft Basin Plan was apparently derived primarily from a Technical Memorandum numbered Task 4, Memo 2. There is no reference, however, to a Technical Memorandum in this Section.

Response MBCD-56:

The following statement has been added at the beginning of Section 5.0 of the draft Basin Plan Final Report:

This section contains information from Platte River Basin Plan Technical Memoranda 4.1, Historic and Current Economic and Demographic Conditions Within the Platte River Basin in Section 5.1; 4.2, Future Economic and Demographic Scenarios in Section 5.2; and 4.3, Future Water Demand Projections in Section 5.3. Because of the brevity of these technical memoranda, they are included herein in their entirety.

Comment MBCD-57:

Section 5.2.2 indicates that “local interviews” were conducted to determine historic agricultural practices in the basin. Draft Basin Plan at 130. In an effort to increase the Basin Plan’s credibility, this Section should provide more detailed information regarding those local interviews, including the identify of the persons interviewed, the methodology used, when the interviews took place, etc.

Response MBCD-57:

Please see individual citations throughout draft Basin Plan Final Report Section 5.2 and draft Basin Plan Final Report Section 5.2.12., References – future economic and demographic scenarios. These and other basin plan references are presented in the basin plan based on the goal of supporting the information provided. References in draft Basin Plan Final Report Section 5.2.12. show the names of those interviewed, the official positions of those interviewed, and the dates on which individuals were interviewed.

Comment MBCD-58:

Similarly, section 5.2.2. states that “interviews with local agricultural representatives” were used to obtain local insights. Draft Basin Plan at 131. Additional information should be provided to the reader to describe these interviews. Another such reference is in Section 5.2.3: “based on extensive interviews with government officials” Draft Basin Plan at 135. Who were the government officials?

Response MBCD-58:

Please see Response MBCD-57 and individual citations throughout draft Basin Plan Final Report Section 5.2 and draft Basin Plan Final Report Section 5.2.12., References – future economic and demographic scenarios.

Comment MBCD-59:

Section 5.3.2.3 begins with a confusing statement: “although only a fraction of agricultural water use, industrial water use in the Basin is substantial.” Draft Basin Plan at 147. It is not possible to determine what this sentence is supposed to mean and it should be rewritten.

Response MBCD-59:

The sentence in question has been revised in the draft Basin Plan Final Report and corresponding Technical Memorandum 4.3.

Comment MBCD-60:

The second sentence of Section 6.1.2 should be supplemented to include United States Supreme Court Decrees and Interstate Agreements.

Response MBCD-60:

The sentence in question has been revised in the draft Basin Plan Final Report and corresponding Technical Memorandum 5.1 in accordance with this comment.

Comment MBCD-61:

We are unsure of the purpose of Section 6.1.4 related to public involvement. We recommend that some examples be provided to make more sense of this Section.

Response MBCD-61:

Draft Basin Plan Final Report Section 6.1.4. and corresponding Technical Memorandum 5.1 have been expanded by adding examples of past and pending public notices and public hearings that are representative of typical public involvement in water-related issues and programs.

Comment MBCD-62:

As discussed in detail in other portions of these comments, Section 6.1.5 is simply an inadequate discussion of the effect that the Modified Decree and the Cooperative Agreement have on the North Platte Basin. If such discussion is placed elsewhere in the final Basin Plan, we do not believe it is necessary to repeat it here, but a reference to this Section should be provided.

Response MBCD-62:

Section 6.1.5 is intended to present court decrees as one of many potential limitations on future basin water development and use, not to address specific court decrees.

Discussion in Section 6.1.5. regarding each of these potential limitations describes the limitation in some detail but does not consider specifically how each limitation might limit future basin water development and use. We are concerned that an expansion of the Section 6.1.5. assessment of potential limitations on future basin water development and use to include consideration of specific ways in which each limitation could impact future basin water development and use would only be speculative.

Comment MBCD-63:

Water quality issues are briefly described in Section 6.1.7. That Section makes reference to Technical Memorandum 5.3, which was not provided for review. The Conservation Districts and the general public should be given the opportunity to provide comments on this Memorandum when it is finalized. We noted that the 305(b) Report was included in Addendum B of the draft report, but we did not find a reference to that document in the draft report. We are curious as to its inclusion in the draft report and believe those intentions should be clarified in the final report.

Response MBCD-63:

Please see draft Basin Plan Final Report Section 6.3.2., Current Wyoming water quality standards: surface water. The TMDL sub-section of Section 6.3.2. contains a reference to Appendix B of the draft Basin Plan Final Report and provides the context for inclusion of Appendix B in the draft Basin Plan Final Report.

Comment MBCD-64:

The conclusion Section of 6.1.9 is not sufficient to summarize the various legal and regulatory limitations on future water use in the North Platte Basin. The summary should be rewritten to include a thorough and accurate summary of these issues.

Response MBCD-64:

Section 6.1.9 is being revised and expanded.

Comment MBCD-65:

It appears that Section 6.2 was taken from a technical memorandum as references remain to “this technical memorandum” throughout the section. Draft Basin Plan at 164. These references need to be edited to refer to the final Basin Plan.

Response MBCD-65:

Section 6.2 has been revised to replace inappropriate references to “technical memorandum” with “section.”

Comment MBCD-66:

There are several issues that should be addressed in Section 6.2.5.1:

- *It contains a sentence that requires modification: “. . . one of the alternatives suggested by the public for consideration was consideration and evaluation of . . .” Draft Basin Plan at 165.*

- *There is reference (PRES-P) at the end of the first paragraph of this sentence that requires further explanation.*
- *In the “water availability” heading of this Section, the quote “but is summarized below” should be added to the end of the first paragraph.*
- *In the summaries of the other basin plans, there should be consistency in the topics addressed. For example, the Green River Basin summary includes a number of total acre-feet per year of available groundwater. That information is not provided in other summaries requiring a reader to refer to those plans to find the same type of information (or the bottom line, if you will). The summaries should be supplemented to ensure that they contain consistent information.*
- *In the “economic factors” heading, there is a sentence that reads: “it may be difficult or impossible to justify the cost of a transbasin diversion in relation to the economic benefits that are derived from the diversion, particularly in lightly-populated Wyoming.” Draft Basin Plan at 167. This is a policy decision that is best left to the Legislature. It also seems unjustifiable to include such a statement when the Basin Plan repeatedly emphasizes the invaluable nature of water in Wyoming, especially in the North Platte Basin. According to the draft Basin Plan, approximately one-half of the irrigated agriculture is contained within the North Platte River Basin. The North Platte River provides extensive resources for irrigation, recreation, industrial and municipal uses. It seems to be unreasonable on its face to state, with no basis or support, that a transbasin diversion would be of little value. This statement should be deleted.*
- *In the “legal and institutional factors” heading of this Section, the treatment of transbasin diversion water under the North Platte Decree and Cooperative Agreement should be addressed. It is our understanding that such water would not be regulated or by either of those two documents. In other words, such imported water could be used solely for Wyoming’s benefit, which makes it an appealing concept in this basin.*

Response MBCD-66:

The sentence on page 165 of the draft Basin Plan Final Report and in corresponding Technical Memorandum 5.2 that contains the word “consideration” twice has been revised.

The PRES P citation noted in Comment MBCD-66 has been revised, as has the list of references in draft Basin Plan Final Report Section 6.4 to clarify the PRES P citation and the corresponding reference.

The phrase “and is summarized below” has been added to Section 6.2.5.1. and the corresponding text in Technical Memorandum 5.2.

The intent of the summaries of available water projections from other basin plans was to provide the reader a brief overview of pertinent sections of other basin plans and the specific locations of pertinent information in the other basin plans. The statement regarding economic justification for transbasin diversions under the Economic factors heading has been deleted from Section 6.2.5.1. of the draft Basin Plan Final Report and from the corresponding section of Technical Memorandum 5.2.

The Legal and institutional factors discussion regarding transbasin diversions has been revised to include the above comment, and the commenter has been cited and included in the list of references for this section.

Comment MBCD-67:

In the “environmental factors” heading of Section 6.2.5.2, the Cooperative Agreement should be discussed to address any issues related to federal consultation that can arise in these situations. In the “legal and institutional factors” heading of this section, the Lower Laramie subbasin needs to be included in the areas where the Modified Decree “regulates development for irrigation use”. Draft Basin Plan at 170. The discussion in this Section related to the “green area maps” needs to reference the definition of “hydrologically connected groundwater” since that is the purpose of the maps. The last sentence of the first paragraph under this heading should be clarified. The following statement is confusing and should be clarified: “Originally intended for use in administering provisions of the 2001 Modified North Platte River Decree, the ‘green area maps’ may in the future be used by the Wyoming State Engineer’s Office staff when assessing a variety of groundwater development programs within the areas covered by the ‘green area maps’.” Draft Basin Plan at 171.

Response MBCD-67:

Please see Response MBCD-1.

A statement referring the reader to Appendix G, Exhibit 11, of the *Final Settlement Stipulation* has been added to the “Legal and institutional” portion of Section 6.2.5.2. of the draft Basin Plan Final Report and to the corresponding location in Technical Memorandum 5.2.

The “Legal and institutional” portion of Section 6.2.5.2. of the draft Basin Plan Final Report and the corresponding text in Technical Memorandum 5.2 have been revised to include the Lower Laramie subbasin in the areas where the 2001 Modified Decree “regulates development for irrigation use.”

The 2001 Modified North Platte Decree definition of “hydrologically connected groundwater” has been added to Section 6.2.5.2. of the draft Basin Plan Final Report and the corresponding text in Technical Memorandum 5.2.

The sentence beginning “Originally intended . . .” has been revised in both Section 6.2.5.2. of the draft Basin Plan Final Report and the corresponding location in Technical Memorandum 5.2 in order to increase its clarity.

Comment MBCD-68:

The “environmental factors” heading of Section 6.2.5.3 should be supplemented to include examples and support for the statement regarding the creation of “inherent environmental concerns and issues.” Draft Basin Plan at 173. The “legal and institutional factors” heading of this Section should make reference to both the Modified North Platte Decree and the Laramie River Decree.

Response MBCD-68:

The sentence noted above addressing environmental issues has been revised in Section 6.2.5.3. of the draft Basin Plan Final Report and in the corresponding location in Technical Memorandum 5.2. Please note that this statement was not intended to imply knowledge of any particular environmental restriction or obstacle that may be imposed on design and construction of any particular dam at any point on the upper Laramie River. A sentence has been added to the “Legal and institutional factors” portion of Section 6.2.5.3. of the draft Basin Plan Final Report and the corresponding location in Technical Memorandum 5.2 noting potential impacts of the 2001 Modified Decree and the Laramie River Decree on construction of additional storage on the upper Laramie River.

Comment MBCD-69:

The “environmental factors” heading of Section 6.2.5.6 should include reference to, and discussion of, the Pathfinder Modification Project’s analysis in the Draft Environmental Impact Statement issued for the Platte River Recovery Program. The “public acceptance” heading of this Section should include a discussion of the required public processes that will be required for the ultimate success of the Pathfinder Modification Project – the change of use petition before the Board of Control and the Legislative export permission that is required by Wyoming statute. The “ability to satisfy multiple demands” heading of this Section should be supplemented to include other water uses, such as replacement water, not just environmental and municipal water needs.

Response MBCD-69:

A paragraph summarizing consideration in the draft Platte River Environmental Impact Statement (DEIS) of the proposed Pathfinder Modification Project has been added to the “Environmental factors” sections of Section 6.2.5.6. of the draft Basin Plan Final Report and to the corresponding section in Technical Memorandum 5.2.

A paragraph summarizing actions required to implement the Pathfinder Modification Project has been added to the “Legal and institutional factors” portion of Section 6.2.5.6. of the draft Basin Plan Final Report and to the corresponding part of Technical Memorandum 5.2.

The “Ability to satisfy multiple demands” portion of Section 6.2.5.6. of the draft Basin Plan Final Report and the corresponding section in Technical Memorandum 5.2 have been revised to summarize utilization of additional stored water that would result from completion of the proposed Pathfinder Modification Project.

Comment MBCD-70:

The second paragraph under the “legal and institutional factors” heading in Section 6.2.6.1 is confusing. The paragraph should be rewritten to avoid confusion, or supplemented with examples to illustrate the meaning of that statement.

Response MBCD-70:

The paragraph in question has been revised in draft Basin Plan Final Report Section 6.2.6.1 and in Technical Memorandum 5.2.

Comment MBCD-71:

Section 6.2.6.4 should be supplemented to include additional information that is useful to the reader. For example, the “pertinent water use sectors” heading makes no reference to the industrial sector when listing the individuals or entities most likely to be affected by water right transfers. The largest transfer in the history of this basin (and Wyoming) was from agricultural use to the industrial sector PacifiCorp and should be discussed in detail in this Section of the Basin Plan. The “technical factors” heading of this Section should be supplemented to include a discussion of the technical analysis of consumptive use, historic irrigation, and return flow factors that the Board of Control requires when considering a transfer. The “economics factors” heading includes a reference to “unacceptable economic loss to the community” as one of the factors to be considered by the Board of Control. Draft Basin Plan at 200. The reference to Holland & Hart’s website should be replaced with reference to the Wyoming Statute (W.S. 41-3-104(a)(i). The “legal and institutional factors” heading of this Section should include at least a reference, but likely direct language from the applicable statute – W.S. 41-3-104.

Response MBCD-71:

The “Pertinent water use sectors” of Section 6.2.6.4. of the draft Basin Plan Final Report and the corresponding section in Technical Memorandum 5.2 have been revised to include references to industrial water right transfers and the PacifiCorp transfer noted above.

Discussion of Wyoming State Board of Control policies and regulations regarding water right transfers is currently included in the “Legal and institutional factors” portion of Section 6.2.6.4. of the draft Basin Plan Final Report and the corresponding section in Technical Memorandum 5.2.

The Holland Hart citation and reference has been replaced with a citation and reference to W.S. 41-3-104(a)(i).

A reference to W.S. 41-3-104 and a brief summary of the contents of this statute have been added to the text of the “Legal and institutional factors” portion of Section 6.2.6.4. of the draft Basin Plan Final Report and the corresponding section in Technical Memorandum 5.2.

Comment MBCD-72:

Typographical Errors

Response MBCD-72:

Typographical errors identified by the commenter have been addressed.

Commenter:

Carl Shaffer, Tony Hoch
Laramie Rivers Conservation District
1050 North 3rd Street, Suite B
Laramie, WY 82072

Date:

May 5, 2005

Comment format:

Letter

Comment LRCD-1:

*Calculations for Consumptive Use for Irrigation – Tables 47-54
Compared to other Basin Plans:*

Calculation of water used in the Platte River Basin draft plan are different than the calculations used to compute consumptive use of irrigation water for the other six river basin plans in the state of Wyoming.

- The other river basin plans used calculations provided by the University of Wyoming.
- This discrepancy makes accurate comparisons among the other Wyoming river basins and the Platte River Basin Plan impossible.

Response LRCD-1:

Please see Response S-5, B.

Comment LRCD-2:

Consumptive Use Tables – Tables 42-48

- a. *It is extremely confusing and misleading that annual consumptive use numbers may exceed annual stream flow numbers by ten to twenty times in some sub-basins. In other sub-basins, above Pathfinder and the Upper Laramie, far more water is regularly generated than consumed.*
- b. *We are concerned that the report does not accurately reflect the amount of water generated and consumed in each sub-basin because the numbers aren't clearly justified. For example, the report doesn't reflect the amount of irrigation water returned to the streams by return flow, or how the amount of stored water also adds to the available water. Stream flow numbers need to include all of these factors as well (as) water produced and used by agriculture.*
- c. *There is a major conceptual disconnect here; one way to address this problem would be to add columns which account for the various sources of consumptive use – in essence, surface water, ground water, storage water, return flow, etc. The excess consumption needs to be explained in detail in all sub-basins where it is observed.*
- d. *There are tables for municipal, industrial, and rural domestic well water but no information about well water for agricultural use.*

Response LRCD-2:

Please see Response S-5.

Comment LRCD-3:

If you compare total consumptive use for the Above Pathfinder sub-basin prepared by Trihydro with the total consumptive use prepared by the Wyoming State Engineer's Office (below) for the nine year period 1993 through 2001, you will see the Trihydro results are higher for all years, and substantially higher for seven of the nine years. Presumably, the consumptive use calculation methodology as described in Appendix G, Exhibit 6, Exhibit A of the Final Settlement Stipulation of the 2001 Modified Platte River Decree was used in this study for consistency with the Platte River Basin below the Wyoming state line, BUT, calculations should also be made for consistency with the State Engineer's Office and the other basin plans in Wyoming. Somehow these inconsistencies must be addressed.

Above Pathfinder Total Consumptive Use in Acre Feet of Water

<i>Year</i>	<i>Stream flow</i>	<i>Consumptive Use SEO Calculations</i>	<i>Consumptive Use Trihydro Calculations</i>	<i>Difference</i>	<i>Flow Volume Trihydro</i>
<i>1993</i>	<i>445,475</i>	<i>105,242</i>	<i>141,544</i>	<i>36,302</i>	<i>A</i>

1994	206,382	129,948	174,798	44,850	A
1995	543,222	63,552	85,431	21,879	A
1996	464,854	121,716	155,265	33,549	A
1997	574,093	95,829	104,345	8,516	H
1998	353,074	122,056	124,352	2,296	A
1999	448,406	102,590	135,046	32,456	A
2000	228,763	128,211	170,640	42,429	A
2001	178,710	96,914	128,748	31,834	L
<i>Totals:</i>	<i>3,442,979</i>	<i>966,058</i>	<i>1,220,169</i>	<i>254,111</i>	
<i>Average:</i>	<i>382,553</i>	<i>107,340</i>	<i>135,574</i>	<i>28,235</i>	

Flow Volume: A = Average; H = High; L = Low

Response LRCD-3:

Please see Response S-5.

Comment LRCD-4

Weather stations – p. 53 and Fig 15

We are concerned whether 14 weather stations in the entire Platte River basin is adequate to gather accurate precipitation information. The weather variation within small segments of the various drainages can be extreme and the drainages cover hundreds or thousands of square miles with highly variable elevations.

Response LRCD-4:

Please see Response S-8.

Comment LRCD-5:

Use of Census to Determine Irrigated Acres – p. 45

Accuracy of information provided to the National Agricultural Statistics Services (NASS) and the U.S. Agricultural Census of the USDA:

- *These reports are operator prepared and should not be treated as 100% accurate.*
- *Operators report what is best for their operation.*

Perhaps a better way to determine irrigated acres would be to use State Engineer's Office data for irrigation.

Response LRCD-5:

Please see Response S-9.

Comment LRCD-6:

Background information

Background information doesn't offer much background with respect to the basin itself – what is the area of the N. Platte Basin in Wyoming? What is the area of the sub-basins? These numbers are critical when considering quantities of water in the sub-basins.

Response LRCD-6:

Draft Basin Plan Final Report Section 1.1, Background, has been expanded in response to this comment.

Comment LRCD-7:

Environmental Use – p. 126

This important use is almost entirely ignored in the text portion of this report. Given that Wyoming tries to sell itself on its scenery and wildlife (see the State of Wyoming web page) we think this use should be explored more thoroughly in order to begin to quantify its importance to the state and to protect water-related natural resources in the future.

Response LRCD-7:

Discussion regarding environmental water use on page 126 of the April 2005 draft Basin Plan Final Report concerns environmental water use in the context of historic and current economic and demographic conditions within the Platte River Basin. Please see Section 3.5 of the draft Basin Plan Final Report for discussion that is focused specifically on environmental water use. This section includes a table describing basin instream flow filings, figures showing basin instream flow filing sites, a tabular summarization of U.S. Forest Service instream bypasses, and a tabulation of basin minimum reservoir releases. Draft Basin Plan Final Report sections are typically condensed versions of longer, more detailed technical memoranda. Like the final report, all technical memoranda will be available for public access on the WWDC web site at the completion of this project. Technical Memorandum 2.5, Environmental Water Use, addresses this issue in considerable detail, including:

- discussion regarding water-related environmental practices such as instream flow regulations, U.S. Forest Service instream bypasses, minimum reservoir releases, and water appropriations for fish and wildlife;
- a description and the results of a basin plan environmental survey during which information and organizational positions regarding basin environmental issues were solicited from a wide variety of basin stake-holders; and
- discussion regarding the Platte River Basin Cooperative Agreement and Draft Environmental Impact Statement.

Comment LRCD-8:

General – Problems with Tables and Figures

Table 157 is incorrect, as it refers to livestock as irrigated acres.

Figure 99 is unclear, are the livestock mentioned counted by the head or the AUM? Are these animals in the basin the full 12 months or only part of the year?

Figure 100 – Colors must be switched for the Upper Laramie irrigated vs. dryland acres.

There is no way that the majority of the agricultural land in this basin is irrigated.

ALL FIGURES – CLEARLY STATE THE UNITS!

Example – there are no units for the numbers presented in Table 174 & 175.

Response LRCD-8:

Table 157 has been corrected.

Figure 99 will be revised to clarify this issue.

Figure 100 has been revised. The graph correctly represents the data used during basin plan preparation.

Draft Basin Plan Final Report tables have been checked and units have been inserted.

The units are in acre-feet.