

# Yampa River Programmatic Biological Opinion Depletion Accounting in Colorado Report Period 2016 – 2020

September 2022



**COLORADO**

**Colorado Water  
Conservation Board**

Department of Natural Resources

## Contents

<b>Executive Summary .....</b>	<b>1</b>
<b>Background .....</b>	<b>1</b>
<b>Scope of the Yampa River Programmatic Biological Opinion.....</b>	<b>2</b>
<b>Depletions and Depletion Accounting .....</b>	<b>2</b>
<b>Methods .....</b>	<b>3</b>
<b>Results .....</b>	<b>4</b>
Total Depletions .....	4
Depletions by Sector .....	5
<b>Conclusions .....</b>	<b>7</b>
<b>Attachment A: Comparison of Appendix D Crop Depletion Numbers and Estimates and Revised Depletion Estimates.....</b>	<b>A1</b>
<b>Attachment B: CDSS Water Rights Planning Model (StateMod) and CDSS Consumptive Use Model (StateCU).....</b>	<b>B1</b>
CDSS Water Rights Planning Model (StateMod).....	B1
Changes in StateMod since the Original PBO Application.....	B1
Changes in Natural Flow Data.....	B1
CDSS Consumptive Use Model (StateCU) .....	B2
<b>Attachment C: Water Acquisition Committee Meeting Summary September 4, 2008.....</b>	<b>C1</b>

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Yampa River Programmatic Biological Opinion  
Depletion Accounting in Colorado  
Report Period: 2016 - 2020

June 2022

## Executive Summary

The 2005 Yampa River Programmatic Biological Opinion (PBO) addresses impacts to federally listed endangered fish associated with water depletions that occur in the Yampa River Basin and the recovery actions designed to offset those impacts. Depletions are estimated periodically to identify new depletions relative to the 1998 level of demand evaluated in the PBO. Colorado has completed depletion estimates for 2016 - 2020 pursuant to the PBO. The 2016 - 2020 estimates show no net increase in depletions associated with water uses in the Yampa River Basin in Colorado. Total depletions have decreased since the 1998 baseline condition evaluated under the PBO.

## Background

The Upper Colorado River Endangered Fish Recovery Program was established in 1988 with the signing of a cooperative agreement by the Governors of Colorado, Utah, and Wyoming; the Secretary of the Interior; and the Administrator of Western Area Power Administration. The Recovery Program provides Endangered Species Act (ESA) compliance for continued operation of federal water and power projects and other new and existing water development projects in compliance with Federal and State law and interstate Compacts.

The Recovery Program's Section 7 Agreement and Recovery Implementation Program Recovery Action Plan (RIPRAP; USFWS 1993) establishes a framework for conducting Section 7 consultations on depletion impacts related to new projects and impacts associated with existing projects in the Upper Basin. In 2004 the Management Plan for Endangered Fish in the Yampa River Basin (hereinafter "Management Plan" or "Yampa Plan") was released to promote recovery of four federally listed endangered fish species by identifying the management actions necessary to recover the listed fishes for continued water depletion in the Yampa River Basin. ESA Section 7 consultation on a Cooperative Agreement to implement the Yampa Plan resulted in the *Final Programmatic Biological Opinion* issued on the Yampa Plan by the U.S. Fish and Wildlife Service in January 2005.

While the current list of consultations (<https://coloradoriverrecovery.org/uc/section-7-consultations/consultation-list/>) identifies more than 14,000 AF/yr in depletions that have been consulted on since 2005 (more than 5,000 AF/yr in Colorado, and more than 9,000 AF/yr in Wyoming), the depletions identified in the consultations do not represent actual new depletions

occurring as referenced in the Yampa PBO. Consistent with the requirements of the PBO, this report identifies the level of actual new depletions that have occurred in the Colorado portion of the Yampa basin.

## Scope of the Yampa River Programmatic Biological Opinion

The PBO addresses impacts related to water depletions that occur in the Yampa River Basin and the recovery actions designed to offset those impacts. Issuance of the PBO does not create an administrative priority concerning Upper Colorado River Basin depletions. The PBO neither prejudices nor determines the amount of depletions allowable under the 1922 Colorado River Compact or the 1948 Upper Colorado River Basin Compact or in other subbasins of the Upper Colorado River Basin. Additionally, the Biological Opinion does not address impacts of future authorized, funded, or carried out activities by Federal agencies other than those associated with water depletions or the implementation of recovery actions described in the *Management Plan for Endangered Fishes in the Yampa River Basin*.

The depletion accounting contained herein pertains only to the Yampa PBO, and addresses only those depletions occurring within the State of Colorado. Yampa River Basin depletions occurring within Wyoming are reported separately by the State of Wyoming.

## Depletions and Depletion Accounting

The PBO estimated existing (1975 – 1998) depletions from the Yampa River and its tributaries at approximately 125,000 acre feet annually (AF/yr) in Colorado and approximately 43,000 AF/yr in Wyoming. As described in Attachment A of this report, the original PBO relied on the Modified Blaney-Criddle crop consumptive use methodology without the use of high altitude crop coefficients. Since the depletions analysis was performed in 2000 (see Appendix B of the PBO), Colorado has adopted use of a high altitude adjustment when using the Modified Blaney-Criddle method in its analysis of crop consumptive use. This adjustment provides for a more accurate representation of crop consumptive use at the elevations found in the Yampa Basin, is recommended in American Society of Civil Engineers (ASCE) Manual 70, and has been approved by Program participants. The accepted 2001 - 2005 and 2006 - 2015 15-Mile Reach PBO depletion accounting used a high altitude adjustment as well as the 2006-2015 Yampa PBO depletion accounting. As a result, this report re-quantified the estimate of existing 1975 – 1998 depletions under the PBO as closer to 135,000 AF/yr. Use of a high altitude adjustment when using the Modified Blaney-Criddle Method will be used to quantify new depletions and continue into the future.

The PBO projected additional depletions through the year 2045 of approximately 30,000 AF/yr in Colorado and approximately 23,000 AF/yr in Wyoming, for a total of 155,000 AF/yr in Colorado (re-quantified as 165,000 AF/yr as described in Attachment A) and 66,000 AF/yr in Wyoming, or 231,000 AF/yr of total current and future depletions expected basin-wide.

The PBO specifies that if average annual depletions reach or exceed the estimated depletions considered by the Service in rendering its Biological Opinion, the Service would likely reinitiate consultation. Therefore, periodically the Recovery Program will quantify annual water use from the Yampa River Basin in Colorado and Wyoming, and estimate average annual depletions following a process similar to that used to estimate current (1998) and projected future (2045) depletions. Specifically, Appendix D of the PBO states that “every 5 years, beginning in Water Year 2010, the States of Colorado and Wyoming will report to the Program estimated average annual volumes of depletions from the Yampa and Little Snake Rivers and their tributaries”. This report fulfills that reporting requirement for the 2016 - 2020 period for the basin in Colorado.

Appendix D of the PBO describes the accounting system for determining changes in consumptive water use in the Yampa River Basin. This accounting process requires periodic estimation of consumptive uses of water from the Yampa River and its tributaries in Colorado and Wyoming and identification when new depletions approach an average of about 30,000 AF/yr in Colorado and 23,000 AF/yr in Wyoming. For the purpose of Appendix D, new depletions are any consumptive uses that did not exist as of 1998, the baseline from which current depletions were estimated.

## Methods

Appendix D of the PBO outlined two different modeling methods using Colorado’s Decision Support Systems (CDSS) modeling tools that can be used to evaluate whether there has been an increase in depletions over the intervening period since the last accounting update. The first method uses the CDSS water rights planning model, StateMod. The second uses the CDSS consumptive use model, StateCU. The methods share common elements, including the use of irrigated acreage, crop types, and actual diversions associated with those irrigated lands as well as municipal, industrial, and other types of demands.

Appendix D of the PBO indicates the use of the StateCU model to “verify the present level of consumptive uses” (Protocol 2), but use of StateMod to determine increases in consumptive use relative to the baseline period (Protocol 3). This is similar to Appendix B of the PBO for the Colorado River 15-Mile Reach, which defines the depletion accounting methodology for that river basin, and which incorporates language nearly identical to the Yampa PBO Appendix D. The modeling methodology was the focus of extensive discussions of a Recovery Program technical workgroup in 2008 (see Attachment C, the summary notes from that workgroup dated September 4, 2008), and it resulted in that workgroup endorsing the use of the StateCU model for that 15-Mile Reach depletions analysis, for several practical reasons documented in those meeting notes.

For similar reasons, StateCU was selected for use in developing the consumptive use estimates reported here. For the Yampa River PBO depletion accounting, StateCU is more appropriate model for this application, as described in Attachment B of this report, which provides a summary of the advantages and disadvantages of both StateMod and StateCU.

Colorado has adopted use of an elevation adjustment for crop coefficients for the Modified Blaney-Criddle method of estimating crop evapotranspiration. This approach is recommended in ASCE Manual 70 “Evaporation, Evapotranspiration, and Irrigation Water Requirements” when using modified Blaney-Criddle at higher elevations, and was adopted and approved for the 2006-2015 Yampa PBO Depletion Report. Elevation adjustments to crop coefficients in the Yampa River Basin StateCU model were applied to all crops. Elevation adjustment increases evapotranspiration (ET) estimates and better reflects ET data collected locally in high-altitude agricultural areas. To be able to compare the updated irrigation consumptive use numbers and the 1998 numbers cited in Appendix D of the PBO, StateCU was run with the elevation-adjusted crop coefficients for the period of 1975 - 2020, resulting in a new average baseline depletion for the PBO study period of 1975 - 1998. This analysis and the results are described in Attachment A. The numbers in the Results section are calculated using the updated StateCU model with the elevation-adjusted crop coefficients. Future depletion reports will continue to use the elevation-adjusted crop coefficients.

The PBO baseline depletions use a “backcasted” method as described in Appendix D of the PBO. The baseline depletion for the municipal, industrial, and reservoir evaporation sectors uses the 1998 value of demand and the baseline depletion for the Thermo-Electric generation sector uses the 1985 - 1998 average demand backcasted to 1975 - 1998 hydrology. The values reported in the text comparing the 2016 - 2020 depletions to the PBO baseline depletions use the backcasted methodology to determine if depletions have increased or decreased since 1998.

## Results

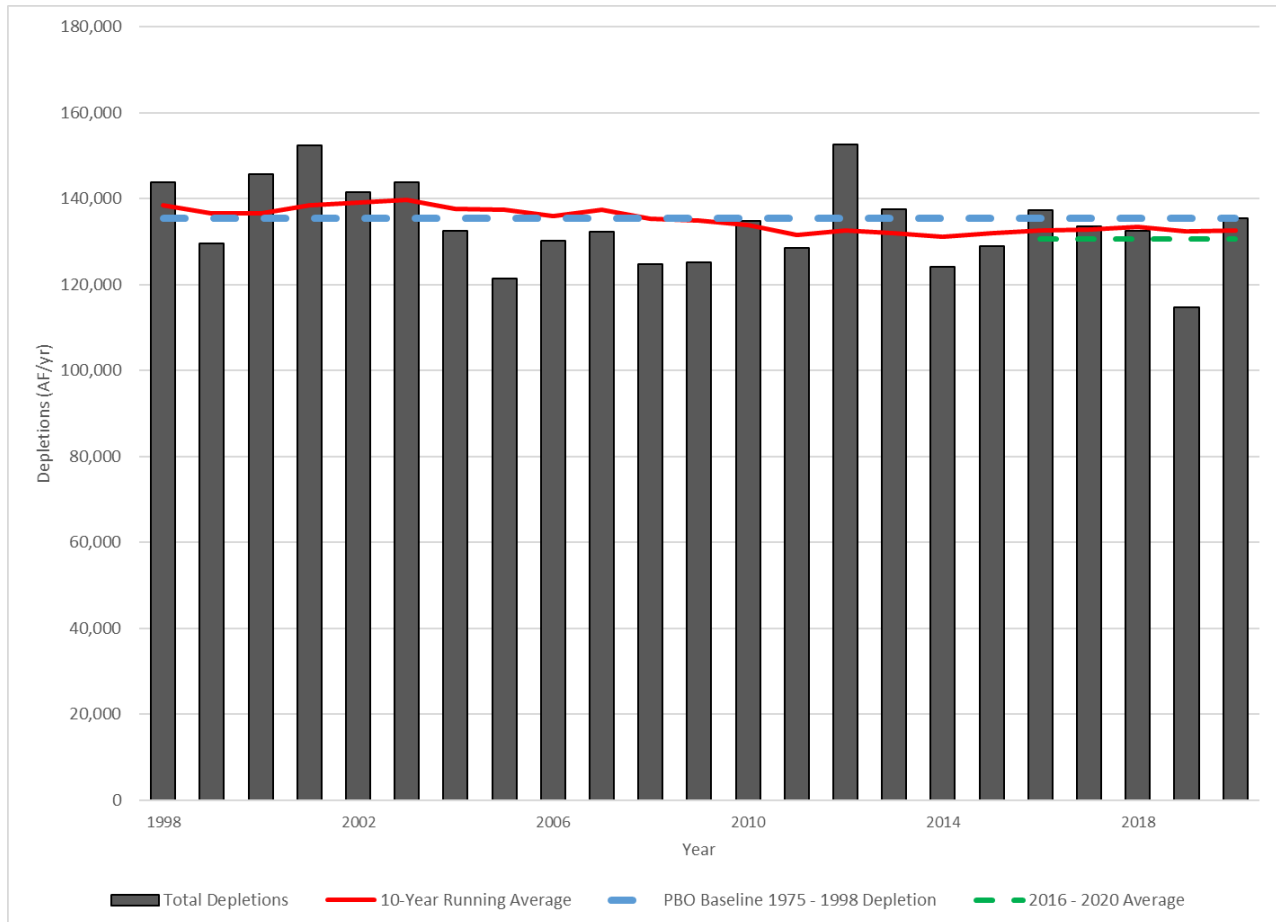
This update reports consumptive uses and consumptive use trends indicated by the StateCU approach as set forth above. This analysis surveys the reporting period 2016 - 2020. The results show that the level of depletions in the Yampa River Basin in Colorado during the accounting period of 2016 - 2020 decreased by an average of 4,648 AF/yr compared to the PBO accounting period of 1975 - 1998. Colorado therefore identifies no increase in depletions through 2020 for purposes of the PBO.

### Total Depletions

Figure 1 shows depletions for water years 1998 - 2020. The average PBO 1975-1998 baseline and the ten-year running average are indicated on the graph. Since the baseline period, maximum depletions were 152,331 AF/yr and occurred in 2001, and minimum depletions were 114,600 AF/yr, occurring in 2019. In comparison, the average depletion from the PBO accounting period 1975 - 1998, using the backcasting method where 1998 demands were backcasted to 1975 - 1998 hydrology, was 135,318 AF/yr. The average depletion from 2016 - 2020 was 130,670 AF/yr, a decrease of 4,648 AF/yr from the PBO accounting period of 1975 - 1998.

The ten-year running average shows a slight decline from 2016 - 2020. To compare, the ten-year running average in 1998 was 138,558 AF/yr and in 2020 it was 132,506 AF/yr.

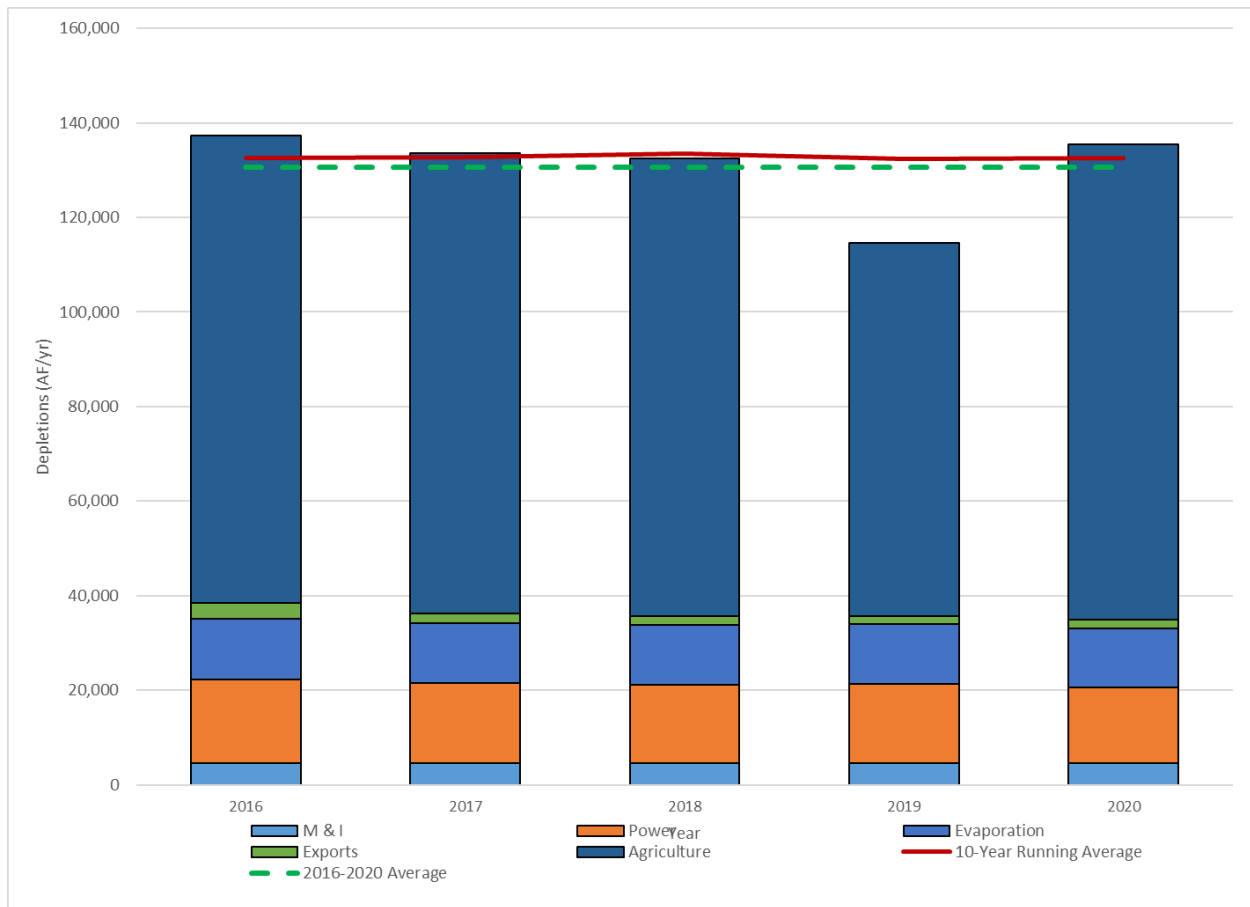
There has been no noticeable trend in year-to-year depletions from 2016 - 2020, with values both above and below the average. The ten-year running average indicates a slight decreasing trend since the mid-1990s.



**Figure 1. Yampa River Basin in Colorado Total Depletions 1998 - 2020**

### Depletions by Sector

Figure 2 shows the annual depletions for 2016 - 2020 for the Yampa River Basin in Colorado broken out by use type. As seen by the stacked bars, agricultural consumptive use is the largest depletion in the Yampa River Basin. It is also the use that shows the greatest variation from year-to-year in terms of total magnitude of depletion. Nevertheless, the data show no discernable trend over time toward increased depletions attributable to agriculture use. Use for thermo-electric power generation is the second largest depletion in the basin, but it amounts to about 17 percent of the depletion associated with agriculture.



**Figure 2. Yampa River Basin in Colorado Depletions by Category for 2016 - 2020**

Table 1 shows the depletions in the Yampa River Basin in Colorado broken out by category for the accounting period of 2016 - 2020 compared to the 1975 - 1998 baseline values. Consumptive use for crop irrigation makes up roughly 72 percent of total depletions in all accounting periods and decreased compared to the baseline by 3.4 percent in the 2016 - 2020 accounting period. Other smaller categories also saw decreases in depletions.



**Table 1. Yampa River Basin in Colorado Depletions by Category and Accounting Period (AF/yr)**

<b>Use Sector</b>	<b>1975-1998 Baseline</b>	<b>2016-2020 Average</b>
Agriculture	97,812	94,449
Municipal & Industrial (M&I)	5,201	4,629
Power	16,947	16,733
Exports	2,815	2,170
Evaporation	12,543	12,690
<b>Total</b>	<b>135,318</b>	<b>130,671</b>

*Note: Evaporation includes stock ponds. M&I includes mineral extraction and other smaller industries.*

## Conclusions

This report documents that there has been a 3.4 percent decrease in the average total depletions in the Colorado Yampa River Basin from 2016 - 2020 as compared to the PBO study period of 1975 - 1998. The average depletion for 2016 - 2020 was 130,671 AF/yr. This was 4,647 AF/yr lower than the 1975 - 1998 baseline average. The ten-year running average in 1998 was 138,558 AF/yr and in 2020 was 132,506 AF/yr. Total depletions have decreased since the 1998 baseline condition evaluated under the PBO.

Due to the use of an elevation adjustment to crop coefficients, the 1975-1998 baseline and 2016 - 2020 reported numbers should not be compared to the reported depletions in Appendix D of the PBO.

## Attachment A: Comparison of Appendix D Crop Depletion Numbers and Estimates and Revised Depletion Estimates

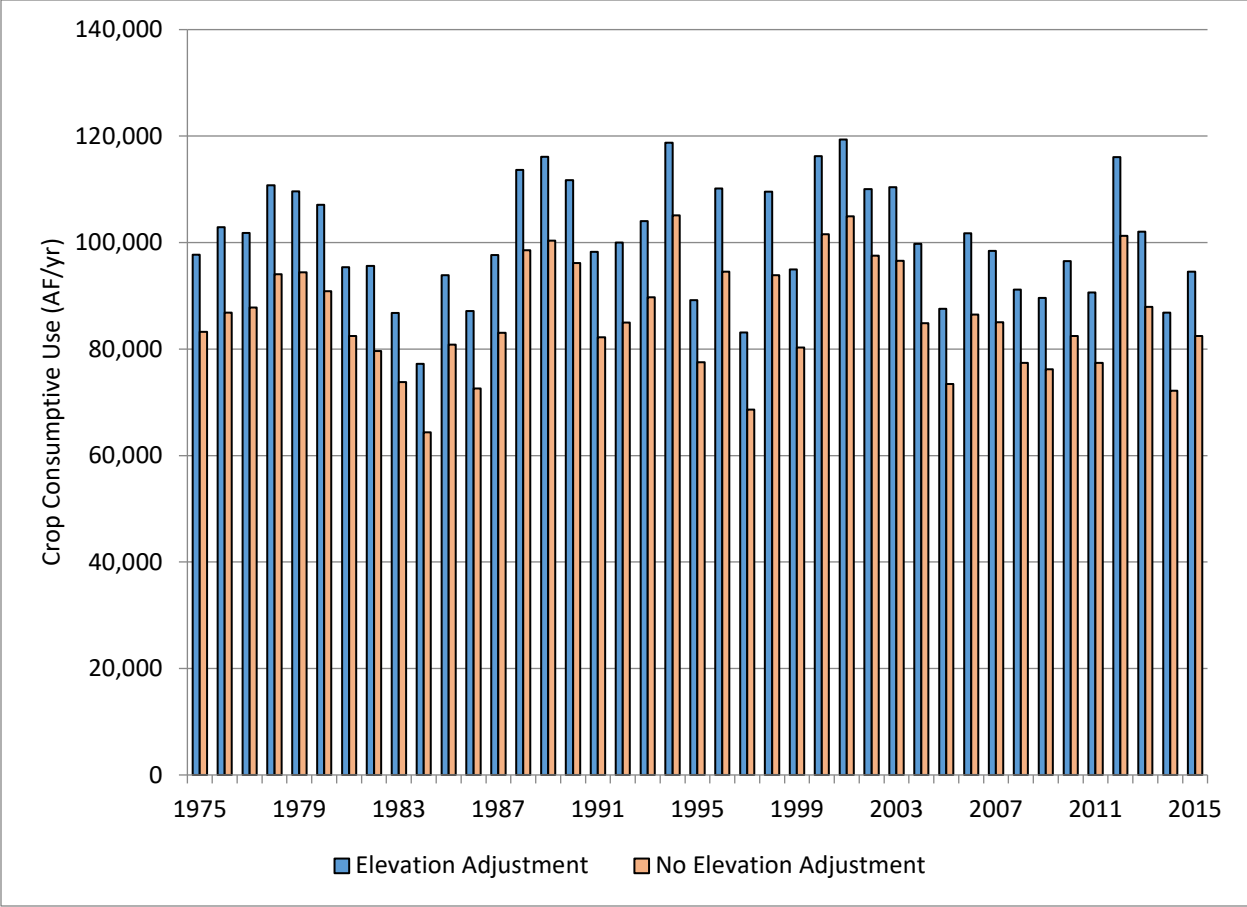
Appendix D of the PBO reports Colorado’s Yampa River Basin depletion numbers for 1998 at the onset of the PBO. These numbers were determined using Colorado’s Decision Support Systems (CDSS). Many updates to the CDSS have been made since 1998, the most significant change being the addition of an elevation adjustment to crop coefficients. The other depletion sectors are estimated using the same procedure as in 1998, and are similar to the values reported in Appendix D of the PBO.

The StateCU model was run with and without the elevation-adjusted crop coefficients to allow a comparison to Appendix D of the PBO. The increase in crop consumptive use estimates due to the use of an elevation adjustment is 11 percent over the 1975 - 2015 period. According to the 2009 Historical Crop Consumptive Use Analysis for the Yampa River Basin, Appendix A “Modified Blaney-Criddle method and standard TR-21 coefficients significantly understates (by over 30 percent) the estimated potential consumptive use of grass pasture when compared to Lysimeter data.”

Table A.1 shows the agricultural depletion estimates presented in Appendix D of the Yampa PBO for the 1975 - 1998 period compared to backcasted estimates using elevation-adjusted crop coefficients for the same period. Figure A.1 graphically shows the crop consumptive use from the StateCU model with and without applying an elevation adjustment to crop coefficients.

**Table A.1. Crop Consumptive Use from Appendix D of the Yampa PBO compared to Backcasted Consumptive Use from the 2015 Depletion Accounting Update (AF/yr)**

<b>Use Sector</b>	<b>Yampa PBO Appendix D Table D-1 Values</b>	<b>2015 Depletion Accounting Update Values</b>	<b>Hydrologic Basis</b>
Agriculture	87,765	97,812	1975-1998 Average



**Figure A.1. Crop Consumptive Use Calculated with and without Elevation-Adjusted Crop Coefficients**

## Attachment B: CDSS Water Rights Planning Model (StateMod) and CDSS Consumptive Use Model (StateCU)

### CDSS Water Rights Planning Model (StateMod)

*This accounting method using StateMod was considered but was not used in developing the 2020 depletion estimates reported herein.*

StateMod is discussed here because it is part of the accounting procedures described in Appendix D of the Programmatic Biological Opinion. The purpose of this section is to describe certain changes made to StateMod and some of the data limitations encountered during the consideration of whether or not to use StateMod. StateMod, the State of Colorado's Stream Simulation Model, is a water allocation and accounting model capable of making comparative analyses for the assessment of various historical and future water management policies in a river basin. It can be run on either monthly or daily time steps and is designed for application to any river basin with appropriate input data. StateMod's operation, like the stream itself, is governed by its hydrology, water rights, and the associated structures and operating rules. It recognizes five types of water rights: direct flow rights, instream flow rights, reservoir storage rights, well rights, and operational rights. Each of the water rights is given an administration number (rank) and location in the stream system. The model then sorts the water rights by rank and simulates their operation by priority using the Prior Appropriation Doctrine (first in time, first in right). The water right categories are self-explanatory with the possible exception of the operational rights, which generally pertain to reservoir operating policies, exchanges, and carrier ditch systems. Please see the CDSS website for more information: <http://cdss.state.co.us>.

### Changes in StateMod since the Original PBO Application

StateMod has been revised since it was implemented in the PBO in 1998. Key changes include the following:

- Model platform has gone through eight version enhancements; the most significant being the revising from the direct solution algorithm to the "variable efficiency" algorithm that reads crop irrigation requirements and allows irrigation efficiency to change with water supply, more accurately reflecting actual irrigation practices.
- The end of the period of record has been extended to 2015.
- Irrigated acreage to diversion structure association has been updated three times.

### Changes in Natural Flow Data

In addition to adding the variable efficiency algorithm, which more accurately determines depletions return flows in the generation of natural flows, the Yampa River basin StateMod model was enhanced and updated to incorporate additional stream gages, diversion records and basin operations. The modifications resulted in changes to the natural flow data set, which is

calculated from the gage records by removing the depletive effects caused by man. For example, diversions and reservoir evaporation are added back to the gage records, return flows and basin imports are subtracted, and changes in storage are added or subtracted depending on whether they are a positive or negative change. StateCU, on the other hand, does not include natural flows as a component of the modeling process. However for purposes of depletion accounting, natural flow generation is not necessary as flows are not modeled and consumptive use is accurately captured. For the Yampa River PBO depletion accounting, StateCU is a more appropriate model for this application. The modeling methodology was the focus of extensive discussions of a Recovery Program technical workgroup in 2008 (see Attachment C, the summary notes from that workgroup dated September 4, 2008), and it resulted in that workgroup endorsing the use of the StateCU model for that 15-Mile Reach depletions analysis, for several practical reasons documented in those meeting notes. For the same reasons, StateCU was adopted and approved for use for the 2006-2015 Yampa PBO depletion accounting, and will continue to be used in this 2016-2020 accounting.

#### CDSS Consumptive Use Model (StateCU)

*The StateCU model was selected for use in developing the consumptive use estimates reported herein.*

StateCU, the State of Colorado's consumptive use model, was developed to estimate crop consumptive uses within the state. It consists of a FORTRAN-based computer program and an associated graphical user interface. The crop consumptive use methods employed in the program and the interface are the modified Blaney-Criddle, the original Blaney-Criddle, and the Pochop (for bluegrass only) consumptive use methods with calculations on a monthly basis and the ASCE Standardized Penman-Monteith, Penman-Monteith, and Modified Hargreaves methods with calculations on a daily basis. Please see the CDSS website for more information: <http://cdss.state.co.us>.

StateCU performs an historical agricultural consumptive use analysis for the basin using irrigated acreage, crop types, available water supply via diversion records, and temperature and precipitation data from neighboring climate stations. For PBO accounting purposes, the modified Blaney-Criddle method is used on a monthly basis with the incorporation of an elevation adjustment to TR-21 crop coefficients, as recommended in ASCE Manual 70. Irrigated acreage is determined from satellite imagery; updates are made approximately every five years. Potential consumptive use is calculated for the crop type, effective precipitation is taken into account, and the irrigation water requirement is calculated. Ditch conveyance loss, irrigation application method (flood or sprinkler), and soil moisture balance are taken into account in order to determine how much of the irrigation water requirement is met.

The other non-crop consumptive use components are obtained from other information: exports and mineral use are obtained from relevant diversion records; municipal and livestock use are calculated from population estimates and daily water usage estimates; and stockpond and reservoir evaporation are determined from estimated surface area and monthly evaporation rates.

## Attachment C: Water Acquisition Committee Meeting Summary September 4, 2008

### Water Acquisition Committee Meeting Summary September 4, 2008 (Summary revised and made final on October 27, 2008)

Participants: Dan Luecke, Jana Mohrman, Robert Muth, Angela Kantola, Andy Moore, Tom Pitts, Randy Seaholm, and Ray Tenney.

Assignments indicated by a > and at the end of the document.

Convene: 9:00 a.m.

1. 15-Mile Reach PBO Depletion Accounting Report, 2001-2005 (including discussion of future depletion accounting) – CWCB has revised the draft report based on comments provided by Tom Pitts and Dan Luecke. Tom said he would like an opportunity for water users to review a draft revised after this meeting. Any remaining comments on this draft are due to Randy Seaholm by September 17; Randy will provide a revised, final draft by September 30. Committee members will send that final draft out to their colleagues for review, with final comments due back to Randy and the Committee by October 15. Randy will finalize the report and provide a pdf version to the Recovery Program to post on the web.  
>Angela will send the revised consultation list (through June '08) to Andy Moore for inclusion in the report.

Tom noted that in several places in the report, it's not made clear that we're talking about new, net depletions (which account both for reductions in depletions and additional depletions [whether they are consulted on or not]). Dan agreed, but suggested that the report use the exact language in the PBO to reflect that. The group agreed. >Tom will find the appropriate language in the PBO and provide that to Randy.

With regard to recommendation b, Tom noted that this report answers the question about what's been consulted on versus what's actually being depleted. Dan asked how to address the situation that may be developing where the 60,000/yr depletion ceiling is not reached in terms of actual depletions until considerably more depletions have been consulted on (and projects permitted). For example, what if 150,000 – 200,000 af/yr of new depletions are permitted (but not actually depleted) before we reach 60,000 af/yr of actual depletions? Tom pointed out that one safeguard is that the review of the status of the fish will begin when actual depletions reach 50,000 or the year 2015, whichever comes first (see pages 75-77 of the PBO). This addresses the concern raised in the initial discussions of the PBO re: depletions occurring which are not consulted on. These are the depletions accounted for in the 5 year PBO depletion report. >Angela will split out the consultation table by opinions occurring on or before September 30 1995 (all of which are Category 1 depletions) and those after (which are Category 2 and whose actual depletions will be included in the 60,000 and 120,000 AF ceilings). > Randy will reference the reinitiation clause and Appendix B where the report talks about the depletion accounting.

Ray Tenney asked how the population assessment contemplated in the PBO differs from the Service's population assessment as part of the annual sufficient progress assessment. Bob

Muth said it may not differ much at all, and would be based on the Program's ongoing population monitoring efforts.

Ray revisited the issue of depletions vs. demands discussed at the last meeting: demands are what is expected or otherwise allowed or permitted to occur. When ample water is available on the East slope, depletions (diversions from the West slope) should be less than the actual needs or the uses allowed or permitted. When the demands are modeled, they may vary considerably, resulting in more or less depletion. Therefore, as we get better information, we need to look at both the demands or actual needs and the actual amount of transmountain diversion required to meet those needs or demands, rather than assuming that transmountain diversion depletions equal their demands. Andy said that demand (e.g., in the case of Denver Water) is demand at the tunnel. Ray said all we have at this point are tunnel diversion records; as more information is available on actual use, that information needs to be reflected in back casting to historic hydrology (as our modeling tools improve)

Dan expressed concern about the language "two methods may be used," which is not what the PBO says. Tom suggested revising the report to say something like "In this case, only the CU model was used since it showed there was no significant or identifiable increase in depletions. In fact it showed there was a small decline. As actual new depletions approach the 50,000 AFY target in the PBO, the need to run both models will be required..." >Dan will provide recommended language to the group by the end of the week. (Note: Dan provided suggested report language, which Randy did not fully incorporate into the report. The report as revised by Randy left open the question of when it would be necessary to run StateMod for depletion accounting.

>Randy also will revise the recommendations at the end of the report, since they've been addressed in these discussions.

## 2. Future depletion accounting

a. *Review Appendix B; update as appropriate:* The group agreed that it was not appropriate to revise or update Appendix B. This meeting summary will serve to answer the questions raised about the procedures described in Appendix B of the PBO.

b. *PBO, Appendix B, Paragraph 1, 2<sup>nd</sup> to last sentence:* Should this sentence be modified to also reflect that the Technical Group (TG) will review the accounting report for consistency with the procedures spelled out in Appendix B and for accuracy? As discussed in item 2a above, this was deemed inappropriate and unnecessary. The report should describe exactly what the TG did in its review and this certainly should be part of that review.

c. *Clarify in Appendix B which model will be used, the consumptive use model (StateCU) or the CRDSS Colorado River Mainstem Water Right Planning Model (StateMod). It is unclear whether or not both must be run for each reporting period or if only one or the other can be used. Are there circumstances under which only one needs to be run? What if sufficient data cannot be obtained from the entities or otherwise to run a model?* Dan is still concerned about the need for data from all transmountain diverters, thus he wants to be sure the report does not imply that they are not required to provide the data and as noted above will provide recommended language. Tom suggested appending this meeting summary to the report. The Committee



agreed. >When Jana posts the summary to the Water Acquisition Committee, she will ask for comments on the meeting summary by a date certain, after which the summary will be finalized so that it can be appended to the report. >By the September 17 report comment deadline, Dan Luecke will propose language for this report regarding the models, and also propose how we deal with this in the future. (Note: Proposed language was received and incorporated in the report.)

d. *Should the USFWS require an annual report from a permitted project describing progress in development and use to assist in assessing actual depletions by new projects? Is the water to be used a new depletion or a change of existing use?* The group agreed that NO such report should be required. The group again made reference to discussions in item #1 above regarding “net depletions” and the “reinitiation process”.

e. *Consider a contingency provision in each Section 7 consultation, such as; This permit is being issued after 60 KAF of new depletions have already been previously consulted on, pursuant to the PBO and \_\_\_\_\_, you may be asked to curtail uses if depletions consulted on previously exceed 60,000 AF and \_\_\_\_\_.* The group agreed that NO such contingency was necessary and again referenced the “Net Depletion” and reinitiation language and process discussed in item #1.

f. *If the model accounting costs become too high would the Recovery Program’s participants make changes? Perhaps increase monitoring of transmountain diversions and other M&I projects and uses as opposed to obtaining increased back casted demands for the StateMod approach. Can the Service, in consultation with the Management Committee, make changes to Appendix B through that process?* As for increased accounting costs, the group agreed to wait and see how the modeling process goes in future years. As for modifying Appendix B, again the group agreed the answer should be NO.

g. *How do we factor the New Depletions into the accounting process in the future? The significance of the number of new depletions that have been consulted on is recognized. What happens if more than 60,000 AF is consulted on but that 60,000 AF of depletion doesn’t materialize for a number of years and as a result consultations continue and become significantly more than 60,000 AF and then all are subsequently developed resulting in depletions to the 15-Mile Reach significantly in excess of 60,000 AF? While the accounting procedures have been followed, the opportunity for problems in the future may be significant.* The group again agreed that this is addressed in the PBO and more specifically in the re-initiation provisions.

h. *Consider double checking the New Depletion accounting system for duplications.* The Group again agreed this was NOT necessary. Project proponents identify whether a depletion should be considered new or historic. The Service will review the information provided, but usually the consultation is based on the information provided to them. Randy said that if a project proponent has identified the depletions as new depletions but the project is in fact relying on an augmentation plan that is utilizing historic (pre-1988) water rights, then the depletions should not be considered new but rather should be identified as historic. The group agreed that there is no reference to augmentation plans in the PBO. The group agreed it’s the responsibility of the project proponent to describe historic and/or new depletions in their project description in accordance with the definitions in the 15MRPBO. The Group recognizes that the Service’s Section 7 Consultation List (which explicitly states it is “NOT a depletion accounting” in the

heading over the average annual depletion columns) is not an accounting of actual or current project depletions. It is a listing of depletions consulted on that may be depleted by the project at full development, whenever that occurs.

3. The Yampa PBO states we are required to "quantify annual water demand from the Yampa River Basin in Colorado and Wyoming, and estimate average annual depletions." Specifically, Appendix D of the PBO (which may be found at <http://www.fws.gov/mountainprairie/crrp/doc/yampa/YPBOAppendixD.PDF>) says: "Every 5 years, beginning in water year (WY) 2010, the States of Colorado and Wyoming will report to the Program estimated average annual volumes of depletions from the Yampa and Little Snake rivers and their tributaries. The reports are to be completed by July 1 every 5 years beginning in 2010. Currently there is no mention of this in a scope of work. >By September 30, Randy will amend CWCB's FY 09 CRDSS scope of work to address the work that will begin on this task in FY 09. (Note: Wyoming's quantification and reporting may still need to be addressed. Need to bring this up with John Shields and define how this will be done. If a scope of work is needed for Wyoming portion, need to state here, like Colorado.)

4. Next meeting: The Committee will need to meet or hold a conference call or web conference in mid-February to provide comments on draft FY 2010-2011 Program guidance, RIPRAP revisions, and RIPRAP assessment. >Jana will work with Committee members to schedule this meeting after the beginning of the year.

Adjourn: 12:00 p.m.

#### ASSIGNMENTS

1. Angela Kantola will split out the consultation table by opinions occurring on or before September 30 1995 (all of which are Category 1 depletions) and those after (which are category 2 and whose actual depletions will be included in the 60,000 and 120,000 AF ceilings). Angela will send the revised consultation list (through June '08) to Andy Moore for inclusion in the report.

2. Tom Pitts will find the appropriate language in the PBO to refer to "additional depletions" and provide that to Randy.

3. Where the report talks about the depletion accounting, Randy Seaholm will reference the reinitiation clause and Appendix B.

4. Dan Luecke will provide recommended language to the group regarding use of the two modeling approaches by the end of the week. By the September 17 report comment deadline, Dan Luecke will propose language for this report regarding the models, and also propose how we deal with this in the future.

5. Randy Seaholm will revise the recommendations at the end of the report, since they've been addressed in these discussions.

6. When Jana Mohrman posts the meeting summary to the Water Acquisition Committee, she will ask for comments on the meeting summary by a date certain, after which the summary will be finalized so that it can be appended to the report.

7. By September 30, Randy Seaholm will amend CWCB's FY 09 CRDSS scope of work to address the work that will begin on this task in FY 09.

8. Jana Mohrman will work with Water Acquisition Committee members to schedule the next meeting (or conference call or web conference) for mid-February.