

# STATE OF COLORADO

Bill Ritter, Jr., Governor  
James B. Martin, Executive Director

Dedicated to protecting and improving the health and environment of the people of Colorado

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Colorado Department  
of Public Health  
and Environment

## NOTICE OF PUBLIC RULEMAKING HEARING BEFORE THE COLORADO WATER QUALITY CONTROL COMMISSION

### SUBJECT:

For consideration of the adoption of site specific revisions to segment 6b of the Upper South Platte River in the Classifications and Numeric Standards for South Platte River Basin, Laramie River Basin, Republican River Basin, Smoky Hill River Basin, Regulation #38 (5 CCR 1002-38) and to the Chatfield Reservoir Control Regulation, Regulation #73 (5 CCR 1002-73).

The revisions to Regulation #38 proposed by the Water Quality Control Division (Division) as staff to the Commission, along with a proposed Statement of Basis, Specific Statutory Authority, and Purpose, are attached to this Notice as Exhibit 1. Revisions to Regulation #73 proposed by the Division as staff to the Commission, along with a proposed Statement of Basis, Specific Statutory Authority, and Purpose, are attached to this Notice as Exhibit 2.

Revisions to Regulation #38 proposed by the Chatfield Watershed Authority, along with a proposed Statement of Basis, Specific Statutory Authority, and Purpose, are attached to this Notice as Exhibit 3. Revisions to Regulation #38 proposed by the Chatfield Watershed Authority, along with a proposed Statement of Basis, Specific Statutory Authority, and Purpose, are attached to this Notice as Exhibit 4. Proposed new language is shown with double-underlining and proposed deletions are shown with ~~strikeouts~~. Any alternative proposals related to the revisions proposed in Exhibits 1 through 4, and developed in response to those proposed revisions, will also be considered.

### HEARING SCHEDULE:

DATE: Monday, November 10, 2008  
TIME: 10:30 a.m.  
PLACE: Florence Sabin Conference Room  
Department of Public Health and Environment  
4300 Cherry Creek Drive South  
Denver, Colorado

## PUBLIC PARTICIPATION ENCOURAGED:

The Commission encourages all interested persons to provide their opinions or recommendations regarding the matters to be addressed in this rulemaking hearing, either orally at the hearing or in writing prior to or at the hearing. Although oral testimony from those with party status (see below) and other interested persons will be received at the hearing, the time available for such oral testimony may be limited. Written submissions prior to the hearing are encouraged, so that they can be distributed to the Commission for review prior to the hearing. Oral testimony at the hearing should primarily summarize written material previously submitted. The hearing will emphasize Commission questioning of parties and other interested persons about their written prehearing submittals. Introduction of written material at the hearing by those with party status or mailing list status (see below) generally will not be permitted. The Commission requests that all interested persons submit to the Commission any available information that may be relevant in considering the noticed proposals.

## PARTY STATUS/MAILING LIST STATUS:

Participation as a "party" to this hearing or acquisition of "mailing list status," will require compliance with section 21.3(D) of the Procedural Rules, Regulation #21 (5 CCR 1002-21). Mailing list status will allow receipt of all party documents (except individual exhibits more than five pages in length).

It is not necessary to acquire party status or mailing list status in order to testify or comment.

**For each request for party status or mailing list status, please provide the organization's name, a contact person, mailing address, phone number, fax number and email address if available.** Written party status or mailing list status requests are due in the Commission Office on or before:

DATE: Tuesday, August 26, 2008

TIME: 5:00 p.m.

A single copy of the party status or mailing list status request may be transmitted as an email attachment to [cdphe.wqcc@state.co.us](mailto:cdphe.wqcc@state.co.us), submitted by fax to 303-691-7702, mailed or otherwise conveyed so as to be received in the Commission Office no later than this deadline. PLEASE NOTE that, as indicated below, parties will have the option of distributing materials to other parties electronically, except in instances where a party has requested receiving hard copies of documents. Therefore, **anyone requesting party or mailing list status that wishes to receive hard copies of documents instead of emailed copies should so indicate in the party status/ mailing list status request so that this information can be included on the list distributed by the Commission Office.**

## PREHEARING STATEMENTS:

**PLEASE NOTE** that for this hearing two separate deadlines for prehearing statements are established: (1) An original and 13 copies of **Proponent's Prehearing Statements** from **the Division and from the Chatfield Watershed Authority, as proponents of the revisions proposed in Exhibit 1 through 4 attached to this notice**, including written testimony and exhibits providing the basis for the proposals, must be received in the Commission Office no later than **September 3, 2008**; and (2) an original and 13 copies of a **Responsive Prehearing Statement**, including any exhibits, written testimony, and

alternative proposals of the Water Quality Control Division or **anyone seeking party status and intending to respond to the proponents' proposals** must be received in the Commission Office no later than **September 24, 2008**.

For each deadline, the required number of hard copies of documents must be received in the Commission office by the specified deadline. These requirements are not satisfied by electronic transmission of a facsimile copy or copies. However, **parties are also strongly encouraged to email a copy of their written documents to the Commission Office**, so that materials received can be posted on the Commission's web site. (Please email to [cdphe.wqcc@state.co.us](mailto:cdphe.wqcc@state.co.us).) In addition, copies of these documents must be mailed or hand-delivered by the specified dates to all persons requesting party status or mailing list status, and to the Attorney General's Office representatives for the Commission and the Division, in accordance with a list provided by the Commission Office following the party status/ mailing list status deadline. **Alternatively, parties may email documents to those with party status or mailing list status by the specified dates**, except to those that the list distributed by the Commission Office identifies as requesting hard copies.

Also **note** that the Commission has prepared a document entitled **Information for Parties to Water Quality Control Commission Rulemaking Hearings**. A copy of this document will be mailed or emailed to all persons requesting party status or mailing list status. It is also posted on the Commission's web site at <http://www.cdphe.state.co.us/op/wqcc/PublicParticipation/HBappC.pdf>. Following the suggestions set forth in this document will enhance the effectiveness of parties' input for this proceeding. **Please note the request that all parties submit two-sided copies of all hearing documents on three-hole punch paper.**

#### MAILING LIST STATUS COMMENTS:

Those requesting mailing list status shall provide written testimony, if any testimony is to be offered for the hearing, by the above deadline for responsive prehearing statements – i.e., **September 24, 2008**. Copies shall be submitted and distributed in the same manner as noted above for prehearing statements.

#### PREHEARING CONFERENCE:

DATE: Tuesday, October 7, 2008  
TIME: 2:00 p.m.  
PLACE: Carson Room, Department of Public Health and Environment  
4300 Cherry Creek Drive South  
Denver, Colorado

**Attendance at the prehearing conference is mandatory for all persons requesting party status.** An opportunity may be available to participate in this prehearing conference by telephone. Persons wishing to participate by telephone should notify the Commission Office as early as possible.

#### REBUTTAL STATEMENTS:

**Written rebuttal statements responding to the prehearing statements due on September 24, 2008 may be submitted by anyone seeking party status or mailing list status.** Any such rebuttal statements must be received in the Commission Office by

**October 29, 2008.** An original and 13 copies of written rebuttal statements must be received in the Commission Office by this deadline, and submission of an emailed copy as noted above is strongly encouraged. In addition, copies of these documents must be mailed or hand-delivered by that date to all those requesting party status or mailing list status, and to the Attorney General's Office representatives for the Commission and Division.

**Alternatively, parties may email documents to those with party status or mailing list status by this deadline**, except to those that the list distributed by the Commission Office identifies as requesting hard copies. No other written materials will be accepted following this deadline except for good cause shown.

**SPECIFIC STATUTORY AUTHORITY:**

The provisions of sections 25-8-202(1)(b) and (2); 25-8-204; 25-8-205; and 25-8-402 C.R.S. provide the specific statutory authority for consideration of the regulatory amendments proposed by this notice. Should the Commission adopt the regulatory language as proposed in this notice or alternative amendments, it will also adopt, in compliance with section 24-4-103(4) C.R.S., an appropriate Statement of Basis, Specific Statutory Authority, and Purpose.

**NOTIFICATION OF POTENTIAL MATERIAL INJURY TO WATER RIGHTS:**

In accordance with section 25-8-104(2)(d), C.R.S., any person who believes that the actions proposed in this notice have the potential to cause material injury to his or her water rights is requested to so indicate in the party status request submitted. In order for this potential to be considered fully by the Commission and the other agencies listed in the statute, persons must fully explain the basis for their claim in their prehearing statement which is due in the Commission Office on the date specified above. This explanation should identify and describe the water right(s), and explain how and to what degree the material injury will be incurred.

Dated this 18<sup>th</sup> day of July 2008 at Denver, Colorado.

WATER QUALITY CONTROL COMMISSION

A handwritten signature in black ink, reading "Paul D. Frohardt". The signature is written in a cursive, flowing style.

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Paul D. Frohardt, Administrator

**EXHIBIT 1**  
**WATER QUALITY CONTROL DIVISION**

**COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT**

**WATER QUALITY CONTROL COMMISSION**

**5 CCR 1002-38**

**REGULATION NO. 38**  
**CLASSIFICATIONS AND NUMERIC STANDARDS**  
**FOR**  
**SOUTH PLATTE RIVER BASIN, LARAMIE RIVER BASIN**  
**REPUBLICAN RIVER BASIN, SMOKY HILL RIVER BASIN**

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**38.6 TABLES**

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**STREAM CLASSIFICATIONS AND WATER QUALITY STANDARDS**

**Option 1**

REGION: 3 AND 4 BASIN: UPPER SOUTH PLATTE RIVER				Temporary Modifications and Qualifiers
Stream Segment Description	Desig	Classifications	Numeric Standards	
6b. Chatfield Reservoir		Aq Life Cold 1 Recreation 1a Water Supply Agriculture	...	Mean total phosphorus <del>P=0.027</del> <u>P=0.027</u> mg/L and mean <u>chlorophyll=11 ug/L</u> measured <u>through the collection of samples that are representative of the mixed layer during summer months (July, August, September) and with an exceedance frequency of once in five years, throughout the water column in Chatfield Reservoir only for months of July, August and September</u>

**Option 2**

REGION: 3 AND 4 BASIN: UPPER SOUTH PLATTE RIVER				Temporary Modifications and Qualifiers
Stream Segment Description	Desig	Classifications	Numeric Standards	
6b. Chatfield Reservoir		Aq Life Cold 1 Recreation 1a Water Supply Agriculture	...	Mean total phosphorus <del>P=0.027</del> <u>P=0.042</u> mg/L and mean <u>chlorophyll=17 ug/L</u> measured <u>through the collection of samples that are representative of the mixed layer during summer months (July, August, September) and with an exceedance frequency of once in five years, throughout the water column in Chatfield Reservoir only for months of July, August and September</u>

## **WQCD PROPOSED**

### **38.69 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE: NOVEMBER 10, 2008 RULEMAKING FOR UPPER SOUTH PLATTE SEGMENT 6b; EFFECTIVE MARCH 2, 2008**

The provisions of C.R.S. 25-8-202(1)(a), (b) and (2); 25-8-203; 25-8-204; and 25-8-402; provide the specific statutory authority for adoption of these regulatory amendments. The Commission also adopted in compliance with 24-4-103(4) C.R.S. the following statement of basis and purpose.

#### **BASIS AND PURPOSE**

In this hearing the Commission revised the site-specific phosphorus standard and changed the chlorophyll goal to a standard for Chatfield Reservoir (Upper South Platte segment 6b) in this regulation (Regulation No 38) and revised the Chatfield Reservoir Control Regulation (Regulation No 73) to be consistent with these revised standards.

Background: In 1984, the Commission established a phosphorus standard of 0.027 m/L with an accompanying chlorophyll goal of 17 ug/L. These were site-specific nutrient criteria intended to address concerns about the potential for eutrophication in a basin expected to experience substantial development. Five years later the Commission promulgated the Chatfield Reservoir Control Regulation (Regulation No 73), which provides a basin-wide plan for the point and non-point phosphorus controls needed to assure attainment of the standard. The Control Regulation includes the allocation of allowable phosphorus load between point and non-point sources and between individual point sources. The allocations to point sources are implemented through their Colorado Discharge Permit System permits as effluent limits.

The framework for establishing the allocation of allowable phosphorus load is the TMAL (Total Maximum Annual Load), which partitions load according to sources (point, non-point, and margin of safety). The existing TMAL was approved by EPA as a TMDL (Total Maximum Daily Load) in 1997. The TMAL serves as an implementation tool for the Control Regulation by defining and partitioning phosphorus loads expected under a specified flow scenario. Any alteration to the standard or the flow scenario compels a review of the TMAL.

Current Review: In 2007 and 2008, the Division undertook a technical review of the scientific basis for the Chatfield Reservoir phosphorus standard. The reasons for the technical review include:

- A. The phosphorus standard has been exceeded several times in the last decade, while the associated chlorophyll goal has not. The incongruity suggests that the original concentration translator, which links chlorophyll to phosphorus concentrations in the lake, should be revisited. A reliable concentration translator is essential to the Control Regulation because it is one of two linkages that were used to define the total allowable phosphorus load to the reservoir.
- B. Review of the chlorophyll goal is especially timely insofar as the Division intends to emphasize chlorophyll in the development of nutrient criteria for lakes in the 2010 Basic Standards revisions;
- C. The protocol for computing the average phosphorus concentration, which determines attainment of the phosphorus standard, needs to be clarified. The evolution of sampling protocols for Chatfield Reservoir may have inadvertently created a bias in the average phosphorus concentration, with the potential to make it inconsistent with the original intent of the standard;
- D. A review commissioned by the Basin Authority in 2005 identified concerns about the TMAL and the underlying assumptions. Based in part on this review, the Commission directed the Division and the Authority "to examine the TMAL and its underlying assumptions."

The technical review showed:

- A. The existing phosphorus standard is not consistent with the existing chlorophyll goal. Phosphorus concentrations at or below the level of the standard have yielded chlorophyll much lower than the goal, meaning that the resident algal community is less responsive than predicted with the original modeling basis. Consistency can be restored by accepting the precedent of the existing phosphorus standard and reducing the chlorophyll goal, or by accepting the precedent of the existing chlorophyll goal and increasing the phosphorus standard. A continued commitment to control of phosphorus sources is necessary for maintaining the intent of the control regulation.
- B. The linear relationship used originally to link seasonal means for chlorophyll and phosphorus in Chatfield Reservoir performs poorly. The poor performance reflects inappropriate expectations for the model rather than irrelevance of phosphorus to algal abundance. The original line was derived to show that lakes with more phosphorus tend to have more chlorophyll; it was never intended to explain why chlorophyll varies from year-to-year in a single lake. A response ratio (ug chlorophyll per ug phosphorus) can characterize the relationship more appropriately than the original regression equation.
- C. A revised relationship between chlorophyll and phosphorus was developed based on 19 years of data. This necessitated recalculation of allowable phosphorus loads. The process involved development of a methodology appropriate for estimating the annual loads and export to the reservoir, as well as the amount of phosphorus retained.
- D. The allowable load calculation also depends on selecting a hydrologic scenario. The hydrologic scenario used to develop the existing TMAL is flawed. It is supposed to represent an annual inflow that is exceeded only once in ten years (Q10), but examination of the data record shows that the selected flow is exceeded more often than once in ten years. The median annual inflow was selected as a more appropriate scenario for TMAL development.
- E. Given the 19-years of high-quality data for Chatfield Reservoir, the historical record is a reasonable basis for forecasting future conditions. Rather than assume the existence of a series of linear relationships, it is preferable to assume that the elements of a site-specific data set (e.g., for the retention coefficient) are all equally likely to apply in a future year.
- F. A probabilistic modeling approach was developed to make optimal use of the high-quality data base compiled over the last 19 years. A probabilistic approach was chosen in preference to the previous reliance on linear regression equations because it acknowledges variability in a more realistic manner. Furthermore, the probabilistic approach makes it possible to associate exceedance probabilities with proposed standards.
- G. A more complete definition of sampling requirements will clarify the basis for assessing attainment with the site-specific standards for future years.

### **Option 1**

Revised Water Quality Standards for Chatfield Reservoir: The Commission reaffirmed the 1984 decision that established a phosphorus standard of 0.027 mg/L intended to prevent excessive algal abundance. After considering information presented in the recent technical review by the Division, the Commission revised the accompanying chlorophyll goal to 11 ug/L in order to be consistent with the phosphorus standard. In addition, the Commission adopted the chlorophyll goal as a standard.

When site-specific nutrient criteria were adopted for Chatfield Reservoir in 1984, there was considerable public discussion about the appropriate levels to set for algal abundance and for phosphorus, which was identified as the management tool for regulating the abundance of algae

in the reservoir. The guiding principle that emerged was the intent to maintain as much as possible the water quality conditions prevailing at the time of the Clean Lakes study. The phosphorus concentration originally adopted as the standard remains valid as a statement of intent for the desired water quality conditions. Furthermore, it is a standard that has been attained in most years. The chlorophyll concentration expected with attainment of the existing phosphorus standard is 11 ug/L. Chlorophyll is adopted as a standard in anticipation of statewide nutrient criteria under development for lakes in Colorado.

## **Option 2**

Revised Water Quality Standards for Chatfield Reservoir: The Commission reaffirmed the 1984 decision that established a chlorophyll goal of 17 ug/L intended to prevent excessive algal abundance. In addition, the Commission adopts the chlorophyll goal as a standard. After considering information presented in the recent technical review by the Division, the Commission revised the accompanying phosphorus standard to 0.042 mg/L in order to be consistent with the chlorophyll standard

When site-specific nutrient criteria were adopted for Chatfield Reservoir in 1984, there was considerable public discussion about the appropriate levels to set for algal abundance and for phosphorus, which was identified as the management tool for regulating the abundance of algae in the reservoir. The guiding principle that emerged was the intent to maintain as much as possible the water quality conditions prevailing at the time of the Clean Lakes study. The chlorophyll concentration originally adopted as the goal (17 ug/L) remains valid as a statement of intent for the desired water quality conditions. Furthermore, it is a goal that has been attained in every year. Chlorophyll is adopted now as a standard in anticipation of statewide nutrient criteria under development for lakes in Colorado. The phosphorus concentration required for attainment of the chlorophyll standard is 0.042 mg/L.

Because the phosphorus and chlorophyll standards are defined as seasonal averages, some additional guidance is required concerning timing and location of samples to be used in calculating the average. Samples are to be collected at a site near the dam and should be representative of conditions in the mixed layer. Past monitoring has resulted in 6 samples during the summer months (July, August, and September); it is anticipated that the same level of effort will be applied in the future. For assessment, the average (arithmetic mean) is calculated for the summer samples in each year. The standard is not to be exceeded more than once in five years.

At the same time that this change was adopted in Regulation No. 38, the Commission adopted changes in the Control Regulation for Chatfield Reservoir (Regulation No. 73) that are consistent with the revised standard. The revisions to Regulation No. 73 include the load translator (converting the allowable phosphorus concentration to an allowable phosphorus load) and a schedule for further work. The schedule records the Commission's intent as to how the Division and stakeholders should proceed toward reallocation of the total allowable phosphorus load to the reservoir.



**EXHIBIT 2**  
**WATER QUALITY CONTROL DIVISION**

**COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT**  
**WATER QUALITY CONTROL COMMISSION**

**5 CCR 1002-73**

**REGULATION NO. 73**

**CHATFIELD RESERVOIR CONTROL REGULATION**

**73.0 CHATFIELD RESERVOIR CONTROL REGULATION**

**73.1 AUTHORITY**

The Water Quality Control Commission is authorized by section 25-8-205, C.R.S. to promulgate control regulations to describe limitations for the extent of specifically identified pollutants that any person may discharge into any specified class of state waters.

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**73.3 TOTAL MAXIMUM ANNUAL LOAD ALLOCATION FOR TOTAL PHOSPHORUS LOADING AND EFFLUENT LIMITATIONS**

**1. TOTAL MAXIMUM ANNUAL LOAD ALLOCATION FOR TOTAL PHOSPHORUS LOADING**

**Option 1**

- a. A revised total maximum annual load (TMAL) of phosphorus shall be developed for Chatfield Reservoir. An allowable load of phosphorus of 13,655 lbs/y under a median inflow of 100,860 AF/y has been identified to attain the water quality standards for 11 ug/L chlorophyll a and 0.027 mg/L total phosphorus, as described in Regulation No.38.
- i. Revised allocations of that load will be developed to complete revisions to the TMAL.
- ii. Activities necessary to reduce the actual phosphorus loads to an amount no greater than the TMAL shall be implemented.
- iii. Attainment of the TMAL may require progressive development of point source and nonpoint controls.
- iv. Existing waste load and load allocations remain in effect until revisions have been adopted.

Or

**Option 2**

a. A revised total maximum annual load (TMAL) of phosphorus shall be developed for Chatfield Reservoir. An allowable load of phosphorus of 21,438 lbs/y pounds under a median inflow of 100,860 AF/y has been identified to attain the water quality standards for 17 ug/L chlorophyll a and 0.042 mg/L total phosphorus, as described in Regulation No.38.

i. Revised allocations of that load will be developed to complete revisions to the TMAL.

ii. Activities necessary to reduce the actual phosphorus loads to an amount no greater than the TMAL shall be implemented.

iii. Attainment of the TMAL may require progressive development of point source and nonpoint controls.

iv. Existing waste load and load allocations remain in effect until revisions have been adopted.

a. ~~Water quality modeling predicted the total phosphorus loading to Chatfield Reservoir that can be assimilated under a Q10 flow condition of 261,000 ac-ft/year so as not to exceed the water quality standard of 0.027 mg/l. Total phosphorus is load and flow dependent and based on 59,000 pounds per year (lbs/yr) at 261,000 ac-ft/year. The point sources of phosphorus to the reservoir are limited to 7,533 lbs/yr for point sources with 51,291 lbs/yr allocated to nonpoint and background sources, as provided under section 73.3(1)(b).~~

b. ~~The total maximum annual load distributions of total phosphorus by sources are based on the formula of Total Maximum Annual Load (TMAL) = Chatfield Watershed (reservoir base-load + background + wasteload allocation) + Upper South Platte River Watershed (reservoir base-load + background + wasteload allocation) + Margin of Safety (MOS). The reservoir base-load represents the average measured total phosphorus load reaching Chatfield Reservoir. A MOS is incorporated into the TMAL allocation of 59,000 pounds/year of phosphorus at 261,000 acre-feet/year. The total phosphorus allocations by watersheds are distributed among sources as follows:~~

Allocation Type	Total Phosphorus Pounds/Year
Total Maximum Annual Load (TMAL) =	59,000 @ 261,000 ac-ft/year
Chatfield Watershed	40,894
Reservoir Base-Load	13,400
Background	19,961
Wasteload Allocation (point sources)	7,533 <sup>1</sup>
Upper South Platte River Watershed	17,930 <sup>2</sup>
Reservoir Base-Load	6,000
Background	11,842
Summit County Wasteload Allocation	88
Total	58,824 <sup>3</sup>

<sup>1</sup> Point source discharge permit holders and regulated stormwater permittees who are in compliance with their permit limits and terms for a constituent will not have those limits or terms modified prior to any future adjustment of classifications or standards by the Commission to the extent any observed water quality standards exceedances are attributable to other factors, such as wildfires that are beyond the control of the permit holders.

<sup>2</sup> Loadings from the Upper South Platte River watershed include all point sources upstream of the Strontia Springs Reservoir outfall, including 88 pounds of phosphorus per year from wastewater

originating in Summit County and discharged directly into the Roberts Tunnel, and all nonpoint sources above the Strontia Springs Reservoir outfall.

3. While the TMAL total phosphorus poundage allocation formula remains unchanged, the amount of total phosphorus assigned to the Chatfield Watershed is reduced because of approved nonpoint source to point source trades.

c. The activities to support revisions to allocations of the allowable load are identified below. The Authority shall implement these activities, as allowed by applicable funding levels, for review by the Division and Commission at the next triennial review. Results from the Authority's implementation of this control regulation and the load allocation development tasks listed below may suggest redefining and reprioritizing activities. The Authority shall submit any such proposed revisions with proposed priorities for review and approval by the Division, annually, in their annual report to the Commission due May 15 of each year. The activities shall include, but are not limited to the following items:

1. Partition allowable load between the two main basins (South Platte and Plum Creek):
2. Determine allocation of loads within each basin;
3. Revise wasteload allocations, as appropriate; and
4. Update definitions and regulation language to support TMAL revisions

## 2. EFFLUENT LIMITATIONS AND POINT SOURCE WASTELOAD ALLOCATIONS

- a. The Division shall not issue discharge permits (pursuant to Regulation #61) or notices of authorizations for use of reclaimed water (pursuant to Regulation #84) to any wastewater facilities and industrial process wastewater sources that allow effluent limitations exceeding their total phosphorus allocation, unless such exceedances consist solely of phosphorus pounds awarded from the Reserve Pool, or that are authorized through the Trading Program or by Temporary Transfers. However, in no event shall these allocations be construed to allow discharges in violation of the requirements of section 73.3.1, subject to approved trades pursuant to section 73.3.2.
- b. No municipal, domestic, or industrial wastewater discharge in the Chatfield Watershed shall exceed 1.0 mg/l total phosphorus as a 30-day average concentration, except as provided under section 73.3(2)(f)
- c. The allowed annual wasteload of point source phosphorus in the Chatfield Watershed is limited to 7,533 lbs/yr, allocated among the dischargers as follows, except as provided in sections 73.3(2)(e),(g),(h), and (i):

Facility	Pounds Per Year
Plum Creek Wastewater Authority	4,256
Lockheed Martin Astronautics	1,005
Roxborough Park Metro District	1,218

Facility	Pounds Per Year
Perry Park Water & San. District-Waucondah	365
Perry Park Water & San. District-Sageport	73
Town of Larkspur	231
Louviers Mutual Service Company	122
Sacred Heart Retreat	15 <sup>1</sup>
Jackson Creek Ranch	50 <sup>2</sup>
Ponderosa Retreat Center	75 <sup>2</sup>
Centennial Water and Sanitation District	50 <sup>2</sup>
Reserve/Emergency Pool	73
Total Point Source Phosphorus Wasteload =	7,533

<sup>1</sup> A five-year Total Phosphorus Allocation (2010) of 15 pounds for inclusion in the Sacred Heart discharge permit; Obtained from the Reserve/Emergency Pool.

<sup>2</sup> These entities received point source allocations through trades pursuant to the Authority Trading Guidelines.

- d. Phosphorus effluent limits for site approvals and discharge permits in the Chatfield Watershed shall be based on total phosphorus effluent quality of 1.0 mg/l for a 30-day average at the design capacity of the wastewater facility, except as provided in section 73.3(2)(f), and the annual wasteload allocation specified in this section, except as provided in 73.3(2)(e)(g)(h) and (i). A wastewater treatment facility may need to adjust operations for periods of time sufficient to meet the annual phosphorus poundage allocation by producing effluent total phosphorus concentrations below 1.0 mg/l.
- e. Point source dischargers may apply to the Chatfield Watershed Authority and the Division for phosphorus trade credits, which allow corresponding increases to a discharger's total phosphorus wasteload allocation. Phosphorus trade credits for point sources shall be based upon reductions of phosphorus from nonpoint sources. The amount of point source trade credit shall be based upon one pound of credit for two pounds of nonpoint source reduction, unless water quality data substantiates greater phosphorus removals, in which case one pound of trade credit may be established by fewer than two pounds of nonpoint source reduction, on a site-specific basis. The Chatfield Watershed Authority shall review the application for trade credits in coordination with the Division. The Chatfield Watershed Authority shall take action by approving, conditionally approving, or denying the trade credits, and forward its decision to the Division. Thereafter, the Division shall consider the Authority's decision and render the Division's final decision on the trade credits. Trade credits shall be incorporated into discharge permits by the Division, as appropriate, and incorporated as proposed amendments to the phosphorus allocation at the next triennial review or rulemaking hearing for this regulation.
- f. Point sources may discharge a total phosphorus concentration of greater than 1.0 mg/l if an agreement has been made with an alternative point source discharger for equal phosphorus reduction. The agreement for alternative treatment must be executed by the

owners of both facilities, and the agreement must describe estimated changes in average wastewater flows and performance in treatment of phosphorus. The wastewater facility that agrees to provide the equivalent phosphorus poundage reduction must demonstrate that it is achieving a total phosphorus effluent concentration of less than 1.0 mg/l for a period of time sufficient to remove the equivalent phosphorus load by which the wastewater treatment facility is exceeding its wasteload allocation. The Chatfield Watershed Authority shall review applications for alternative treatment arrangements in coordination with the Division. The Chatfield Watershed Authority shall take action by approving, conditionally approving, or denying the alternative treatment arrangements, and forward its decision to the Division. Thereafter, the Division shall consider the Authority's decision and render the Division's final decision on the alternative treatment arrangements. Alternative treatment arrangements, including provisions for equivalent phosphorus reductions shall be incorporated as permit conditions into both discharge permits, as appropriate.

- g. Point source wastewater dischargers shall apply to the Chatfield Watershed Authority and the Division for transfers of all or part of one point source discharger's total phosphorus allocation to another point source wastewater discharger. Both dischargers must jointly apply for such transfers. Applications for transfer must include an agreement executed by the owners of the facilities specifying changes in average wastewater flows and performance in treatment of total phosphorus. The Chatfield Watershed Authority shall review phosphorus transfer proposals in coordination with the Division. The Chatfield Watershed Authority shall take action by approving, conditionally approving, or denying the phosphorus transfer, and forward its decision to the Division. Thereafter, the Division shall consider the Authority's decision and render the Division's final decision on the phosphorus transfer. The Division shall incorporate approvals in both discharge permits, if these transfers are not otherwise accounted for by the Division.
- h. Point source wastewater dischargers may apply to the Chatfield Watershed Authority and the Division for allocations of total phosphorus pounds from the reserve/emergency pool, to be applied to the dischargers total phosphorus wasteload allocation. Applications for total phosphorus pounds from the reserve/emergency pool must specify the number of pounds desired from the pool. The Chatfield Watershed Authority shall review the application for allocations of phosphorus from the reserve/emergency pool in coordination with the Division. The Chatfield Watershed Authority shall take action by approving, conditionally approving, or denying allocations from the reserve/emergency pool, and forward its decision to the Division. Thereafter, the Division shall consider the Authority's decision and render the Division's final decision on an allocation from the reserve/emergency pool. Approved allocations of phosphorus pounds from the reserve/emergency pool shall be incorporated as proposed amendments to the phosphorus wasteload allocation in section 73.3 at the next triennial review or rulemaking hearing of this regulation.
- i. If new point source wastewater facilities are proposed for the Chatfield Watershed, the appropriate entities shall apply to the Chatfield Watershed Authority and the Division for a phosphorus allocation. Phosphorus allocation pounds for such new point source wastewater dischargers may be derived from: (1) withdrawals from the reserve/emergency pool pursuant to 73.3(2)(h); (2) nonpoint source to point source trades pursuant to 73.3(2)(e); (3) point source to point source transfers pursuant to 73.3(2)(g); or (4) phosphorus concentration reductions through alternative treatment pursuant to 73.3(2)(f). Applications shall specify the number of desired total phosphorus pounds and how the pounds will be derived as specified in 73.3(2)(i). The Chatfield Watershed Authority shall review the applications for phosphorus allocations in coordination with the Division. The Chatfield Watershed Authority shall take action by approving, conditionally approving, or denying the new phosphorus allocations, and forward its decision to the Division. Thereafter, the Division shall consider the Authority's

decision and render the Division's final decision on the new phosphorus allocation. Allocations for new dischargers shall be incorporated into the new discharge permit by the Division and incorporated as proposed amendments to the phosphorus wasteload allocation in section 73.3 at the next triennial review or rulemaking hearing of this regulation.

- j. The Division shall provide notice of any application for a proposed trade in the Chatfield watershed in the monthly Water Quality Bulletin. Such notice shall be provided as early in the process as possible but only after the Division has completed its initial review.
- k. Any person adversely affected or aggrieved by a final decision of the Division on trade credits, transfers, or awards of phosphorus pounds from the Reserve Pool pursuant to section 73.3.2 may request an adjudicatory hearing before the Commission pursuant to the requirements and procedures of section 21.4. 5 CCR 1002-21.

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## **WQCD PROPOSED**

### **73.17 PROPOSED STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE (NOVEMBER 2008 RULEMAKING HEARING EFFECTIVE FEBRUARY 30, 2009)**

Sections 25-8-202 and 25-8-205, C.R.S., provide the specific statutory authority for adoption of the revisions to this regulation. The Commission also adopted, in compliance with Section 24-4-103(4), C.R.S., the following statement of basis and purpose.

#### **BASIS AND PURPOSE**

The Commission adopted a new total phosphorus allowable load in Section 73.3(1)(a) of this regulation. Although the allowable load was revised, the total phosphorus allocations were not revised. Therefore, the Commission included a list of tasks to be completed to support development of revised allocations of the new allowable load in the Control Regulation. It was the Commission's intent that until the allocations are revised, the existing nonpoint and point source allocations remain applicable.

Based on information presented by the Division during the July 2007 triennial review hearing, the Commission scheduled a rule-making hearing to consider revisions to the control regulation and to related water quality standards in Regulation #38. Specifically, the Commission heard evidence that the phosphorus standard in Chatfield Reservoir had been exceeded in 5 of the last 6 years, while the chlorophyll goal was not exceeded. The Commission agreed that the linkages between in-lake chlorophyll and total phosphorus concentrations and between total phosphorus concentrations and total phosphorus load to the reservoir are critical to the basis of the Control Regulation and TMAL and that these linkages should be reviewed.

The Commission directed the Division to conduct a limited scope Technical Review of the Control Regulation TMAL and the underlying standard. The scope of the technical review was limited to the in-lake total phosphorus standard, chlorophyll goal, and the allowable load to attain these. The scope of the technical review did not include an examination of the allocation of the total phosphorus load. As part of this Technical Review, the Division provided reports and made monthly presentations to the Chatfield Watershed Authority Technical Review Committee from September 2007 through May 2008. The reports and presentations provided the basis for the proposal the Commission heard in this rule-making hearing.

(Option 1) Based on the results of the Technical Review, the Commission adopted revised site-specific standards for total phosphorus and chlorophyll for Chatfield Reservoir in relevant sections of Regulation #38. These standards are total phosphorus of 0.027 mg/L and chlorophyll a of 11 ug/L measured through the collection of samples that are representative of the mixed layer during summer months (July, August, September) and with an exceedance frequency of once in five years. As a result of these changes to the site-specific standards, the Commission adopted a new allowable load of total phosphorus of 13,655 lbs/y under a median inflow of 100,860 AF/y in this Control Regulation. The new allowable load better reflects the linkage between watershed total phosphorus load and the in-lake total phosphorus concentration.

(Option 2) Based on the results of the Technical Review, the Commission adopted revised site-specific standards for total phosphorus and chlorophyll for Chatfield Reservoir in relevant sections of Regulation #38. These standards are total phosphorus of 0.042 mg/L and chlorophyll a of 17 ug/L measured through the collection of samples that are representative of the mixed layer during summer months (July, August, September) and with an exceedance frequency of once in five years. As a result of these changes to the site-specific standards, the Commission adopted a new allowable load of total phosphorus of 21,438 lbs/y pounds under a median inflow of 100,860 AF/y in this Control Regulation. The new allowable load better reflects the linkage between watershed total phosphorus load and the in-lake total phosphorus concentration.

The Commission directed the Division and the Authority to develop new nonpoint source and point source allocations related to the new allowable load for submittal during the next control regulation triennial review. The Commission acknowledged that progress toward development of the allocations will be contingent on the availability of suitable funding to support completion of the tasks identified in Section 73.3c. The Commission also recognized that control regulation definitions and language may need to be revised to support future updates to the TMAL.



# **EXHIBIT 3** **CHATFIELD WATERSHED AUTHORITY**

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## **REGULATION NO. 38** **CLASSIFICATIONS AND NUMERIC STANDARDS** **FOR** **SOUTH PLATTE RIVER BASIN, LARAMIE RIVER BASIN** **REPUBLICAN RIVER BASIN, SMOKY HILL RIVER BASIN**

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### **38.6 TABLES**

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#### **STREAM CLASSIFICATIONS AND WATER QUALITY STANDARDS**

REGION: 3 AND 4	DESIG	CLASSIFICATIONS	NUMERIC STANDARDS							TEMPORARY MODIFICATIONS AND QUALIFIERS
BASIN: UPPER SOUTH PLATTE RIVER			PHYSICAL and BIOLOGICAL	INORGANIC		METALS				
Stream Segment Description				mg/l		ug/l				
6b. Chatfield Reservoir.		Aq Life Cold 1 Recreation 1a Water Supply Agriculture	D.O. = 6.0 mg/l D.O. (sp)=7.0 mg/l pH = 6.5-9.0 F.Coli=200/100ml E. Coli=126/100ml	NH <sub>3</sub> (ac/ch)=TVS Cl <sub>2</sub> (ac)=0.019 Cl <sub>2</sub> (ch)=0.011 CN=0.005	S=0.02 B=0.75 NO <sub>2</sub> =0.05 NO <sub>3</sub> =10 Cl=250 SO <sub>4</sub> =WS	As(ac)=50(Trec) Cd(ac)=TVS(tr) Cd(ch)=TVS CrIII(ac)=50(Trec) CrVI(ac/ch)=TVS Cu(ac/ch)=TVS	Fe(ch)=WS(dis) Fe(ch)=1000(Trec) Pb(ac/ch)=TVS Mn(ac/ch)=TVS Mn(ch)=WS(dis) Hg(ch)=0.01(Tot)	Ni(ac/ch)=TVS Se(ac/ch)=TVS Ag(ac)=TVS Ag(ch)=TVS(tr) Zn(ac/ch)=TVS	Mean <u>chlorophyll a</u> = <u>17 ug/L total</u> <u>phosphorus</u> <u>P=0.027 mg/L</u> measured <u>in the upper 3 meters of</u> <u>throughout the</u> <u>water column in</u> <u>Chatfield Reservoir</u> <u>only for the months</u> <u>of July, August and</u> <u>September.</u>	

# **CHATFIELD WATERSHED AUTHORITY PROPOSED**

## **38.69 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE: NOVEMBER 10, 2008 RULEMAKING; EFFECTIVE JANUARY 30, 2009**

The provisions of C.R.S. 25-8-202(1)(a), (b) and (2); 25-8-203; 25-8-204; and 25-8-402; provide the specific statutory authority for adoption of these regulatory amendments. The Commission also adopted in compliance with 24-4-103(4) C.R.S. the following statement of basis and purpose.

### **BASIS AND PURPOSE**

As a result of the November 2008 hearing, the Commission adopted revisions to the water quality standards for nutrients in Chatfield Reservoir. Specifically, the Commission changed from a chlorophyll a goal to a chlorophyll a standard for the Reservoir of 17 µg/L, based on a mean concentration for the period of July, August, and September. The total phosphorus standard has become a goal and the concentration has been modified from 27 µg/L to 60 µg/L.

The Commission has adopted a chlorophyll a standard because it more directly relates to the uses to be protected than does total phosphorus. Chlorophyll a is a direct measure of algal biomass, control of which is important for a number of reasons. High abundances of algae, as indicated by high concentrations of chlorophyll a, are undesirable aesthetically and may be accompanied by other types of water quality impairment. Monitoring over the past 24 years has shown that Chatfield Reservoir has been consistently in compliance with the chlorophyll a standard of 17 µg/L. As shown by the Division's recent analysis of relationships between phosphorus and chlorophyll in Chatfield Reservoir, the ratio of phosphorus to chlorophyll is very high in Chatfield Reservoir and there is no statistical relationship between phosphorus and chlorophyll a. Thus, the Division's analysis indicates that chlorophyll is not controlled by phosphorus in Chatfield Reservoir under present conditions. Phosphorus should be controlled as a precautionary measure only. For this purpose, the goal for phosphorus concentration should correspond to high percentile values (e.g., 95<sup>th</sup> to 99<sup>th</sup>) from the historical record or frequency distributions that are drawn from the historical record. A concentration that meets these requirements is 60 µg/L, with a 1-in-5-year exceedance frequency. However, lower phosphorus levels are not necessary to preserve and protect the existing uses and water quality of Chatfield Reservoir.

Because chlorophyll a concentrations can be maintained with historical phosphorus loads that are documented by monitoring, the main purpose of a phosphorus goal and associated TMAL is to maintain the status quo for phosphorus loading as a precautionary measure and not for suppression of chlorophyll. The phosphorus goal of 60 µg/L with a 1-in-5-years exceedance frequency is consistent with this objective. Chatfield Reservoir might be in compliance with a slightly lower concentration, but 60 µg/L is consistent with current loading and does not exceed any threshold or formal numeric index of harm associated with phosphorus in this lake.

A chlorophyll standard of 17 µg/L will be measured in the upper 3 meters of the water column for the summer period of July, August and September. The Commission has determined that the chlorophyll a standard should apply annually and intends that the rate of compliance should be 4 out of 5 years. Twenty years of monitoring indicate that beneficial uses have been and will continue to be protected by this standard. Chatfield Reservoir has not shown any signs of water quality degradation including public complaint, nuisance abundances of algae, or any adverse impacts on fish. The Commission's objective is to preserve existing uses and water quality, which is maintained by current conditions.

At the same time that this change was adopted in Regulation #38, the Commission adopted consistent changes in the Control Regulation for Chatfield Reservoir (Regulation #73). Further studies, information-gathering, and funding are necessary to determine the appropriate TMAL that is consistent with the

phosphorus goal for the Reservoir. Regulation # 73, including the TMAL and allocations previously set forth therein, will remain in place until further amendments occur following those studies. At that time, it will be possible to develop a more effective TMAL. Permits will continue to be written based upon individual allocations in Regulation #73 until such further amendments. This records the Commission's intent as to how the Division and stakeholders should proceed.



**EXHIBIT 4**  
**CHATFIELD WATERSHED AUTHORITY**

**COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT**  
**WATER QUALITY CONTROL COMMISSION**

**5 CCR 1002-73**

**REGULATION NO. 73**

**CHATFIELD RESERVOIR CONTROL REGULATION**

**73.0    CHATFIELD RESERVOIR CONTROL REGULATION**

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**73.3    TOTAL MAXIMUM ANNUAL LOAD ALLOCATION FOR TOTAL PHOSPHORUS LOADING AND EFFLUENT LIMITATIONS**

**1.    PROPOSED NEW TOTAL MAXIMUM LOAD ALLOCATIONS**

a.    A new total maximum annual load (TMAL) and allocations related thereto will be developed and will apply to all flows less than or equal to the median annual flow of 100,000 acre-feet, but will not apply at flows greater than the median. Prior to developing the new TMAL, additional studies and evaluations might be necessary so that the TMAL will be scientifically sound. The Chatfield Watershed Authority, in consultation with the Division, shall determine whether new studies are necessary or appropriate to develop a new TMAL. Such studies could include, but are not limited to:

i.    Reservoir modeling; and

ii.   Watershed modeling.

iii. The completion of these studies and other studies which may be deemed appropriate or necessary is entirely contingent upon the Chatfield Watershed Authority receiving federal and state grants to fund such studies and evaluations.

b.    Until a new TMAL is developed and approved, the following provision of the existing TMAL and Regulation #73 shall remain in full force and effect. Permits shall be issued based upon the wasteload allocations set forth in Paragraph 3(c) below and the other terms of Regulation #73.

**24.    TOTAL MAXIMUM ANNUAL LOAD ALLOCATION FOR TOTAL PHOSPHORUS LOADING**

a.    Water quality modeling predicted the total phosphorus loading to Chatfield Reservoir that can be assimilated under a Q10 flow condition of 261,000 ac-ft/year so as not to exceed the water quality standard of 0.027 mg/l. Total phosphorus is load and flow-dependent and based on 59,000 pounds per year (lbs/yr) at 261,000 ac-ft/year. The point sources of phosphorus to the reservoir are limited to 7,533 lbs/yr for point sources with 51,291 lbs/yr allocated to nonpoint and background sources, as provided under section 73.3(1)(b).

- b. The total maximum annual load distributions of total phosphorus by sources are based on the formula of Total Maximum Annual Load (TMAL) = Chatfield Watershed (reservoir base-load + background + wasteload allocation) + Upper South Platte River Watershed (reservoir base-load + background + wasteload allocation) + Margin of Safety (MOS). The reservoir base-load represents the average measured total phosphorus load reaching Chatfield Reservoir. A MOS is incorporated into the TMAL allocation of 59,000 pounds/year of phosphorus at 261,000 acre-feet/year. The total phosphorus allocations by watersheds are distributed among sources as follows:

Allocation Type	Total Phosphorus Pounds/Year
Total Maximum Annual Load (TMAL) =	59,000 @ 261,000 ac-ft/year
Chatfield Watershed	40,894
Reservoir Base-Load	13,400
Background	19,961
Wasteload Allocation (point sources)	7,533 <sup>1</sup>
Upper South Platte River Watershed	17,930 <sup>2</sup>
Reservoir Base-Load	6,000
Background	11,842
Summit County Wasteload Allocation	88
Total	58,824 <sup>3</sup>

<sup>1</sup> Point source discharge permit holders and regulated stormwater permittees who are in compliance with their permit limits and terms for a constituent will not have those limits or terms modified prior to any future adjustment of classifications or standards by the Commission to the extent any observed water quality standards exceedances are attributable to other factors, such as wildfires that are beyond the control of the permit holders.

<sup>2</sup> Loadings from the Upper South Platte River watershed include all point sources upstream of the Strontia Springs Reservoir outfall, including 88 pounds of phosphorus per year from wastewater originating in Summit County and discharged directly into the Roberts Tunnel, and all nonpoint sources above the Strontia Springs Reservoir outfall.

<sup>3</sup> While the TMAL total phosphorus poundage allocation formula remains unchanged, the amount of total phosphorus assigned to the Chatfield Watershed is reduced because of approved nonpoint source to point source trades.

### 32. EFFLUENT LIMITATIONS AND POINT SOURCE WASTELOAD ALLOCATIONS

- a. The Division shall not issue discharge permits (pursuant to Regulation #61) or notices of authorizations for use of reclaimed water (pursuant to Regulation #84) to any wastewater facilities and industrial process wastewater sources that allow effluent limitations exceeding their total phosphorus allocation, unless such exceedances consist solely of phosphorus pounds awarded from the Reserve Pool, or that are authorized through the Trading Program or by Temporary Transfers. However, in no event shall these allocations be construed to allow discharges in violation of the requirements of section 73.3.1, subject to approved trades pursuant to section 73.3.2.
- b. No municipal, domestic, or industrial wastewater discharge in the Chatfield Watershed shall exceed 1.0 mg/l total phosphorus as a 30-day average concentration, except as provided under section 73.3(2)(f)
- c. The allowed annual wasteload of point source phosphorus in the Chatfield Watershed is limited to 7,533 lbs/yr, allocated among the dischargers as follows, except as provided in sections 73.3(2)(e),(g),(h), and (i):

Facility	Pounds Per Year
Plum Creek Wastewater Authority	4,256
Lockheed Martin Astronautics	1,005
Roxborough Park Metro Water and Sanitation District / <u>Dominion Water and Sanitation District</u>	1,218
Perry Park Water & San. District-Waucondah	365
Perry Park Water & San. District-Sageport	73
Town of Larkspur	231
Louviers Mutual Service Company	122
Sacred Heart Retreat	15 <sup>1</sup>
Jackson Creek Ranch	50 <sup>2</sup>
Ponderosa Retreat Center	75 <sup>2</sup>
Centennial Water and Sanitation District	50 <sup>2</sup>
<u>South Santa Fe Metropolitan District</u>	<u>21<sup>2</sup></u>
Reserve/Emergency Pool	73
Total Point Source Phosphorus Wasteload =	7,533

<sup>1</sup> A five-year Total Phosphorus Allocation (2010) of 15 pounds for inclusion in the Sacred Heart discharge permit; Obtained from the Reserve/Emergency Pool.

<sup>2</sup> These entities received point source allocations through trades pursuant to the Authority Trading Guidelines.

- d. Phosphorus effluent limits for site approvals and discharge permits in the Chatfield Watershed shall be based on total phosphorus effluent quality of 1.0 mg/l for a 30-day average at the design capacity of the wastewater facility, except as provided in section 73.3(2)(f), and the annual wasteload allocation specified in this section, except as provided in 73.3(2)(e)(g)(h) and (i). A wastewater treatment facility may need to adjust operations for periods of time sufficient to meet the annual phosphorus poundage allocation by producing effluent total phosphorus concentrations below 1.0 mg/l.
- e. Point source dischargers may apply to the Chatfield Watershed Authority and the Division for phosphorus trade credits, which allow corresponding increases to a discharger's total phosphorus wasteload allocation. Phosphorus trade credits for point sources shall be based upon reductions of phosphorus from nonpoint sources. The amount of point source trade credit shall be based upon one pound of credit for two pounds of nonpoint source reduction, unless water quality data substantiates greater phosphorus removals, in which case one pound of trade credit may be established by fewer than two pounds of nonpoint source reduction, on a site-specific basis. The Chatfield Watershed Authority

shall review the application for trade credits in coordination with the Division. The Chatfield Watershed Authority shall take action by approving, conditionally approving, or denying the trade credits, and forward its decision to the Division. Thereafter, the Division shall consider the Authority's decision and render the Division's final decision on the trade credits. Trade credits shall be incorporated into discharge permits by the Division, as appropriate, and incorporated as proposed amendments to the phosphorus allocation at the next triennial review or rulemaking hearing for this regulation.

- f. Point sources may discharge a total phosphorus concentration of greater than 1.0 mg/l if an agreement has been made with an alternative point source discharger for equal phosphorus reduction. The agreement for alternative treatment must be executed by the owners of both facilities, and the agreement must describe estimated changes in average wastewater flows and performance in treatment of phosphorus. The wastewater facility that agrees to provide the equivalent phosphorus poundage reduction must demonstrate that it is achieving a total phosphorus effluent concentration of less than 1.0 mg/l for a period of time sufficient to remove the equivalent phosphorus load by which the wastewater treatment facility is exceeding its wasteload allocation. The Chatfield Watershed Authority shall review applications for alternative treatment arrangements in coordination with the Division. The Chatfield Watershed Authority shall take action by approving, conditionally approving, or denying the alternative treatment arrangements, and forward its decision to the Division. Thereafter, the Division shall consider the Authority's decision and render the Division's final decision on the alternative treatment arrangements. Alternative treatment arrangements, including provisions for equivalent phosphorus reductions shall be incorporated as permit conditions into both discharge permits, as appropriate.
- g. Point source wastewater dischargers shall apply to the Chatfield Watershed Authority and the Division for transfers of all or part of one point source discharger's total phosphorus allocation to another point source wastewater discharger. Both dischargers must jointly apply for such transfers. Applications for transfer must include an agreement executed by the owners of the facilities specifying changes in average wastewater flows and performance in treatment of total phosphorus. The Chatfield Watershed Authority shall review phosphorus transfer proposals in coordination with the Division. The Chatfield Watershed Authority shall take action by approving, conditionally approving, or denying the phosphorus transfer, and forward its decision to the Division. Thereafter, the Division shall consider the Authority's decision and render the Division's final decision on the phosphorus transfer. The Division shall incorporate approvals in both discharge permits, if these transfers are not otherwise accounted for by the Division.
- h. Point source wastewater dischargers may apply to the Chatfield Watershed Authority and the Division for allocations of total phosphorus pounds from the reserve/emergency pool, to be applied to the dischargers total phosphorus wasteload allocation. Applications for total phosphorus pounds from the reserve/emergency pool must specify the number of pounds desired from the pool. The Chatfield Watershed Authority shall review the application for allocations of phosphorus from the reserve/emergency pool in coordination with the Division. The Chatfield Watershed Authority shall take action by approving, conditionally approving, or denying allocations from the reserve/emergency pool, and forward its decision to the Division. Thereafter, the Division shall consider the Authority's decision and render the Division's final decision on an allocation from the reserve/emergency pool. Approved allocations of phosphorus pounds from the reserve/emergency pool shall be incorporated as proposed amendments to the phosphorus wasteload allocation in section 73.3 at the next triennial review or rulemaking hearing of this regulation.
- i. If new point source wastewater facilities are proposed for the Chatfield Watershed, the appropriate entities shall apply to the Chatfield Watershed Authority and the Division for a



phosphorus allocation. Phosphorus allocation pounds for such new point source wastewater dischargers may be derived from: (1) withdrawals from the reserve/emergency pool pursuant to 73.3(2)(h); (2) nonpoint source to point source trades pursuant to 73.3(2)(e); (3) point source to point source transfers pursuant to 73.3(2)(g); or (4) phosphorus concentration reductions through alternative treatment pursuant to 73.3(2)(f). Applications shall specify the number of desired total phosphorus pounds and how the pounds will be derived as specified in 73.3(2)(i). The Chatfield Watershed Authority shall review the applications for phosphorus allocations in coordination with the Division. The Chatfield Watershed Authority shall take action by approving, conditionally approving, or denying the new phosphorus allocations, and forward its decision to the Division. Thereafter, the Division shall consider the Authority's decision and render the Division's final decision on the new phosphorus allocation. Allocations for new dischargers shall be incorporated into the new discharge permit by the Division and incorporated as proposed amendments to the phosphorus wasteload allocation in section 73.3 at the next triennial review or rulemaking hearing of this regulation.

- j. The Division shall provide notice of any application for a proposed trade in the Chatfield watershed in the monthly Water Quality Bulletin. Such notice shall be provided as early in the process as possible but only after the Division has completed its initial review.
- k. Any person adversely affected or aggrieved by a final decision of the Division on trade credits, transfers, or awards of phosphorus pounds from the Reserve Pool pursuant to section 73.3.2 may request an adjudicatory hearing before the Commission pursuant to the requirements and procedures of section 21.4. 5 CCR 1002-21.

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**73.7 - 73.10     Reserved**

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# **CHATFIELD WATERSHED AUTHORITY PROPOSED**

## **73.17 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE (NOVEMBER 2008 RULEMAKING HEARING; EFFECTIVE JANUARY 30, 2009)**

Sections 25-8-202 and 25-8-205, C.R.S., provide the specific statutory authority for adoption of the revisions to this regulation. The Commission also adopted, in compliance with Section 24-4-103(4), C.R.S., the following statement of basis and purpose.

### **BASIS AND PURPOSE**

In 2007 and 2008, the Division undertook a technical review of the scientific basis for the Chatfield Reservoir phosphorus standard. As relates to Regulation # 73, the reason for the technical review pertained to the need for phosphorus load estimation procedures to be re-evaluated. Analysis of these issues will require additional time, studies (including, but not limited to, those set forth in Section 73.3(1)(a)), and possibly grant funding.

At the same time that Regulation # 73 was addressed, the Commission adopted changes in the Classifications and Numeric Standards for South Platte River Basin, Laramie River Basin, Republican River Basin, Smoky Hill River Basin (Regulation # 38) that impact Chatfield Reservoir. Specifically, as a result of the technical review for Regulation # 38, the Commission changed from a chlorophyll a goal to a chlorophyll a standard for the Reservoir at 17 µg/L. The total phosphorous standard has become a goal and the concentration has been modified from 27 µg/L to 60 µg/L, reflecting the Division's analysis which indicates that chlorophyll is not controlled by phosphorus in Chatfield Reservoir and stricter limits on phosphorus are not necessary to preserve the existing water quality of Chatfield Reservoir.

Although the standard set forth in Regulation # 38 has been modified, it was determined that until further evaluations are completed and a new TMAL is developed and approved that the TMAL allocation set forth in Regulation # 73 will remain in place. This establishes a phased approach to the TMAL. Similarly, in another watershed (Cherry Creek), the Commission adopted changes to the standard and implemented a phased approach for the TMAL that left TMAL loads and allocations in place until additional studies could be completed.

The Commission understands that additional grant funding may need to be secured from Section 319 and other state and federal sources to complete studies, or evaluations, in order to develop a more effective TMAL.

The Commission believes the new TMAL development should take into consideration the focus of the regulation, namely a chlorophyll a standard of 17 µg/L. The inlake phosphorus goal of 60 µg/L will also be considered in a balanced manner. The TMAL will take into account results from future studies, costs of implementing controls from point and nonpoint sources, evaluation of related economic feasibility and energy impacts, and environmental benefit associated with potential implementation of control measures. Wastewater treatment facilities in the Chatfield watershed have been upgraded to provide nutrient removal. Additional treatment process upgrades to reduce phosphorus from wastewater effluent is estimated at \$330 to \$935 per pound of phosphorus removed. The practicality and economic feasibility of additional treatment needs to be considered in connection with the economic reasonableness of modifications to the regulations.

Until Regulation # 73 is amended to reflect the new TMAL and allocation, the Commission finds it is appropriate that permits shall be issued based upon the wasteload allocations set forth in Section 73.3(3)(c) and the other terms of Regulation # 73.