COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT

WATER QUALITY CONTROL COMMISSION

5 CCR 1002-32

REGULATION NO. 32
CLASSIFICATIONS AND NUMERIC STANDARDS
FOR
ARKANSAS RIVER BASIN

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32.1 AUTHORITY

These regulations are promulgated pursuant to section 25-8-101 et seq. C.R.S., as amended, and in particular, 25-8-203 and 25-8-204.

32.2 PURPOSE

These regulations establish classifications and numeric standards for the Arkansas River, including all tributaries and standing bodies of water as indicated in section 32.6. The classifications identify the actual beneficial uses of the water. The numeric standards are assigned to determine the allowable concentrations of various parameters. Discharge permits will be issued by the Water Quality Control Division to comply with basic, narrative, and numeric standards and control regulations so that all discharges to waters of the state protect the classified uses. (See Regulation No. 31, section 31.14). It is intended that these and all other stream classifications and numeric standards be used in conjunction with and be an integral part of Regulation No. 31 Basic Standards and Methodologies for Surface Water.

32.3 INTRODUCTION

These regulations and tables present the classifications and numeric standards assigned to stream segments listed in the attached tables (See section 32.7). As additional stream segments are classified and numeric standards for designated parameters are assigned for this drainage system, they will be added to or replace the numeric standards in the tables in section 32.7. Any additions or revisions of classifications or numeric standards can be accomplished only after public hearing by the Commission and proper consideration of evidence and testimony as specified by the statute and the “Basic Standards and Methodologies for Surface Water”.

32.4 DEFINITIONS

See the Colorado Water Quality Control Act and the codified water quality regulations for definitions.

32.5 BASIC STANDARDS

(1) TEMPERATURE

All waters of the Arkansas River Basin are subject to the following standard for temperature. (Discharges regulated by permits, which are within the permit limitations, shall not be subject to enforcement proceedings under this standard). Temperature shall maintain a normal pattern of diurnal and seasonal fluctuations with no abrupt changes and shall have no increase in temperature of a magnitude, rate, and duration deemed deleterious to the resident aquatic life. This standard shall not be interpreted or applied in a manner inconsistent with section 25-8-104, C.R.S. Effective until December 31, 2012: Segments or portions of segments that are first,

second or third order streams above 7000 feet elevation and classified Aquatic Life cold 1 or 2 shall have a chronic temperature standard of 17 °C (MWAT) with no acute standard.

Other cold class 1 or 2 segments or portions of segments shall have a chronic temperature standard of 20 °C (MWAT) with no acute standard. Segments that are classified Aquatic Life warm 1 or 2 shall have a chronic temperature standard of 30 °C (MWAT) with no acute standard.

(2) QUALIFIERS

See Basic Standards and Methodologies for Surface Water for a listing of organic standards at 31.11 and metal standards found at 31.16 Table III. The column in the tables headed "Water + Fish" are presumptively applied to all aquatic life class 1 streams which also have a water supply classification, and are applied to aquatic life class 2 streams which also have a water supply classification, on a case-by-case basis as shown in the Tables 32.6. The column in the tables at 31.11 and 31.16 Table III headed "Fish Ingestion" is presumptively applied to all aquatic life class 1 streams which do not have a water supply classification, and are applied to aquatic life class 2 streams which do not have a water supply classification, on a case-by-case basis as shown in Tables 32.6.

(3) URANIUM

(a) All waters of the Arkansas River Basin, are subject to the following basic standard for uranium, unless otherwise specified by a water quality standard applicable to a particular segment. However, discharges of uranium regulated by permits which are within these permit limitations shall not be a basis for enforcement proceedings under this basic standard.

(b) Uranium level in surface waters shall be maintained at the lowest practicable level.

(c) In no case shall uranium levels in waters assigned a water supply classification be increased by any cause attributable to municipal, industrial, or agricultural discharges so as to exceed 30 µg/l or naturally-occurring concentrations (as determined by the State of Colorado), whichever is greater.

(d) In no case shall uranium levels in waters assigned a water supply classification be increased by a cause attributable to municipal, industrial, or agricultural discharges so as to exceed 30 µg/l where naturally-occurring concentrations are less than 30 µg/l.

32.6 <u>TABLES</u>

(1) **Introduction**

The numeric standards for various parameters in the attached tables were assigned by the Commission after a careful analysis of the data presented on actual stream conditions and on actual and potential water uses.

Numeric standards are not assigned for all parameters listed in the tables attached to Regulation No. 31. If additional numeric standards are found to be needed during future periodic reviews, they can be assigned by following the proper hearing procedures.

(2) Abbreviations:

(a) The following abbreviations are used in the attached tables:

ac = acute (1-day)

Ag	=	silver
Al	=	aluminum
As	=	arsenic
B	=	boron
Ba	=	barium
Be	=	beryllium
Cd	=	cadmium
ch	=	chronic (30-day)
Cl	=	chloride
Cl_2	=	residual chlorine
CN	=	free cyanide
CrIII	=	trivalent chromium
CrVI	=	hexavalent chromium
Cu	=	copper
dis	=	dissolved
D.O.	=	dissolved oxygen
E. coli	=	escherichia coli
F	=	fluoride
Fe	=	iron
Hg	=	mercury
mg/l	=	milligrams per liter
ml	=	milliliters
Mn	=	manganese
NH_3	=	ammonia as N(nitrogen)
Ni	=	nickel
NO_2	=	nitrite as N (nitrogen)
NO_3	=	nitrate as N (nitrogen)
OW	=	outstanding waters
P	=	phosphorus
Pb	=	lead
S	=	sulfide as undissociated H_2S (hydrogen sulfide)
Sb	=	antimony
Se	=	selenium
SO_4	=	sulfate
sp	=	spawning
Tl	=	thallium
tr	=	trout
Trec	=	total recoverable
TVS	=	table value standard
U	=	uranium
μg/l	=	micrograms per liter
UP	=	use-protected
Zn	=	zinc

(b) In addition, the following abbreviations are used:

Fe(ch)	=	WS(dis)
Mn(ch)	=	WS(dis)
SO_4	=	WS

These abbreviations mean: For all surface waters with an actual water supply use, the less restrictive of the following two options shall apply as numerical standards, as specified in the Basic Standards and Methodologies at 31.16 Table II and III:

(i) existing quality as of January 1, 2000; or

(ii) Iron = 300 µg/l (dissolved)
Manganese = 50µg/l (dissolved)
SO_4 = 250 mg/l

For all surface waters with a "water supply" classification that are not in actual use as a water supply, no water supply standards are applied for iron, manganese or sulfate, unless the Commission determines as the result of a site-specific rulemaking hearing that such standards are appropriate.

(c) As used in the "Temporary Modifications and Qualifiers" column of the tables, the term "type i" refers to a temporary modification adopted pursuant to subsection 31.7(3)(a)(i) of the Basic Standards and Methodologies for Surface Water (i.e., "where the standard is not being met because of human-induced conditions deemed correctable within a twenty (20) year period"). The term "type iii" refers to a temporary modification adopted pursuant to subsection 31.7(3)(a)(iii) of the Basic Standards and Methodologies for Surface Water (i.e., "where there is significant uncertainty regarding the appropriate long-term underlying standard").

(3) Table Value Standards

In certain instances in the attached tables, the designation "TVS" is used to indicate that for a particular parameter a "table value standard" has been adopted. This designation refers to numerical criteria set forth in the Basic Standards and Methodologies for Surface Water. The criteria for which the TVS are applicable are on the following table.

TABLE VALUE STANDARDS
(Concentrations in ug/l unless noted)

PARAMETER[1]	TABLE VALUE STANDARDS[2][3]
Ammonia[4]	Cold Water $acute = \frac{0.275}{1+10^{7.204-pH}} + \frac{39.0}{1+10^{pH-7.204}}$ $chronic = \left(\frac{0.0577}{1+10^{7.688-pH}} + \frac{2.487}{1+10^{pH-7.688}}\right) * MIN\left(2.85,\ 1.45*10^{0.028(25-T)}\right)$ Warm Water $acute = \frac{0.411}{1+10^{7.204-pH}} + \frac{58.4}{1+10^{pH-7.204}}$ $chronic\ (Apr1-Aug31) = \left(\frac{0.0577}{1+10^{7.688-pH}} + \frac{2.487}{1+10^{pH-7.688}}\right) * MIN\left(2.85,\ 1.45*10^{0.028(25-T)}\right)$ $chronic\ (Sep1-Mar31) = \left(\frac{0.0577}{1+10^{7.688-pH}} + \frac{2.487}{1+10^{pH-7.688}}\right) * 1.45*10^{0.028*(25-MAX(T,\ 7))}$
NH_3 = old TVS	Cold Water Acute = 0.43/FT/FPH/2[5] in mg/l (N)

TABLE VALUE STANDARDS
(Concentrations in ug/l unless noted)

PARAMETER[1]	TABLE VALUE STANDARDS[2][3]
	Warm Water Acute = 0.62/FT/FPH/2[5] in mg/ (N)
Cadmium	Acute = $(1.136672-[\ln(hardness) \times (0.041838)]) \times e^{0.9151[\ln(hardness)]-3.1485}$
	Acute(Trout) = $(1.136672-[\ln(hardness) \times (0.041838)]) \times e^{0.9151[\ln(hardness)]-3.6236}$
	Chronic = $(1.101672-[\ln(hardness) \times (0.041838)] \times e^{0.7998[\ln(hardness)]-4.4451}$
Chromium III[6]	Acute = $e^{(0.819[\ln(hardness)]+2.5736)}$
	Chronic= $e^{(0.819[\ln(hardness)]+0.5340)}$
Chromium VI[6]	Acute = 16
	Chronic = 11
Copper	Acute = $e^{(0.9422[\ln(hardness)]-1.7408)}$
	Chronic = $e^{(0.8545[\ln(hardness)]-1.7428)}$
Lead	Acute = $(1.46203-[\ln(hardness)*(0.145712)])* e^{(1.273[\ln(hardness)]-1.46)}$
	Chronic = $(1.46203-[\ln(hardness)*(0.145712)])* e^{(1.273[\ln(hardness)]-4.705)}$
Manganese	Acute = $e^{(0.3331[\ln(hardness)]+6.4676)}$
	Chronic = $e^{(0.3331 [\ln(hardness)]+5.8743)}$
Nickel	Acute = $e^{(0.846[\ln(hardness)]+2.253)}$
	Chronic = $e^{(0.846[\ln(hardness)]+0.0554)}$
Selenium[7]	Acute = 18.4
	Chronic = 4.6
Silver	Acute = $\frac{1}{2}e^{(1.72[\ln(hardness)]-6.52)}$

TABLE VALUE STANDARDS
(Concentrations in ug/l unless noted)

PARAMETER(1)	TABLE VALUE STANDARDS(2)(3)
	Chronic = $e^{(1.72[\ln(hardness)]-9.06)}$ Chronic(Trout) = $e^{(1.72[\ln(hardness)]-10.51)}$
Uranium	Acute = $e^{(1.1021[\ln(hardness)]+2.7088)}$ Chronic = $e^{(1.1021[\ln(hardness)]+2.2382)}$
Zinc	Acute = $0.978\ e^{(0.8525[\ln(hardness)]+1.0617)}$ Chronic = $0.986\ e^{(0.8525[\ln(hardness)]+0.9109)}$

TABLE VALUE STANDARDS - FOOTNOTES

(1) Metals are stated as dissolved unless otherwise specified.

(2) Hardness values to be used in equations are in mg/l as calcium carbonate and shall be no greater than 400 mg/L. The hardness values used in calculating the appropriate metal standard should be based on the lower 95 per cent confidence limit of the mean hardness value at the periodic low flow criteria as determined from a regression analysis of site-specific data. Where insufficient site-specific data exists to define the mean hardness value at the periodic low flow criteria, representative regional data shall be used to perform the regression analysis. Where a regression analysis is not appropriate, a site-specific method should be used. In calculating a hardness value, regression analyses should not be extrapolated past the point that data exist.

(3) Both acute and chronic numbers adopted as stream standards are levels not to be exceeded more than once every three years on the average.

(4 old) $FT = 10^{0.03(20-TCAP)}$;

Where TCAP is $\leq T \leq 30$

$FT = 10^{0.03(20-T)}$;

Where 0 is $\leq T \leq TCAP$

TCAP = 20° C cold water aquatic life species present

TCAP = 25° C cold water aquatic life species absent

FPH = 1; Where $8 < pH \leq 9$

$FPH = 1 + 10^{(7.4-pH)}$;

1.25 Where $6.5 \leq pH \leq 8$

FPH means the acute pH adjustment factor, defined by the above formulas.

FT means the acute temperature adjustment factor, defined by the above formulas.

T means temperature measured in degrees celsius.

TCAP means temperature CAP; the maximum temperature which affects the toxicity of ammonia to salmonid and non-salmonid fish groups.

NOTE: If the calculated acute value is less than the calculated chronic value, then the calculated chronic value shall be used as the acute standard.

(5) For acute conditions the default assumption is that salmonids could be present in cold water segments and should be protected, and that salmonids do not need to be protected in warm water segments. For chronic conditions, the default assumptions are that early life stages could be present all year in cold water segments and should be protected. In warm water segments the default assumption is that early life stages are present and should be protected only from April 1 through August 31. These assumptions can be modified by the commission on a site-specific basis where appropriate evidence is submitted.

(6) Unless the stability of the chromium valence state in receiving waters can be clearly demonstrated, the standard for chromium should be in terms of chromium VI. In no case can the sum of the instream levels of Hexavalent and Trivalent Chromium exceed the water supply standard of 50 ug/l total chromium in those waters classified for domestic water use.

(7) Selenium is a bioaccumulative metal and subject to a range of toxicity values depending upon numerous site-specific variables.

INSERT TABLES

32.7 – 32.9 RESERVED

32.10 STATEMENT OF BASIS AND PURPOSE

I. Introduction

These stream classifications and water quality standards for State Waters of the Arkansas River Basin including all tributaries and standing bodies of water in all or parts of Lake, Chaffee, Custer, Fremont, El Paso, Pueblo, Huerfano, Las Animas, Otero, Bent, Prowers, Baca, Kiowa, Cheyenne, Lincoln, Teller, and Elbert Counties implement requirements of the Colorado Water Quality Control Act of 1981, C.R.S. 1973, 25-8-101 et seq. (Cum. Supp. 1980). They also represent the implementation of the Commission's Regulations Establishing Basic Standards and an Antidegradation Standard and Establishing a System for Classifying State Waters, for Assigning Standards, and for Granting Temporary Modifications (the "Basic Regulations")

The Basic Regulations establish a system for the classification of State Waters according to the beneficial uses for which they are suitable or are to become suitable, and for assigning specific numerical water quality standards according to such classifications. Because these stream classifications and standards implement the Basic Regulations, the statement of basis and purpose (Section 3.1.16) of those regulations must be referred to for a complete understanding of the basis and purpose of the regulations adopted herein. Therefore, that statement in the Basic Regulations is incorporated by reference. The focus of this statement of basis and purpose is on the scientific and technological rationale for the specific classifications and standards in the Arkansas River Basin.

Public participation was a significant factor in the development of these regulations. A lengthy record was built through public hearings, which began on December 15, 1980. A total of 22 persons requested and were granted party status by the Commission in accordance with C.R.S. 1973, 24-4-101 et seq. (Cum. Supp. 1980). A supplementary public rulemaking hearing was held September 15, 1981, restricted to those issues raised by the changes in the Act contained in Senate Bill 10 (1981). Such issues included but were not limited to: "The economic reasonableness" evaluation required by 25-8-102(5), the effect on water rights as required by 25-8-104; and the new considerations for the adoption of water quality standards required by 25-8-204 C.R.S. 1973, as amended. The record established in these hearings forms the basis for the classifications and standards adopted.

II. General Considerations

1. These regulations are not adopted as control regulations. Stream classifications and water quality standards are specifically distinguished from control regulations in the Water Quality Control Act, and they need not be adopted as control regulations pursuant to the statutory scheme.

2. The Commission has been requested in public hearings to rule on the applicability of these and other regulations to the operation of water diversion facilities, dams, transport systems, and the consequent withdrawal, impoundment, non-release and release of water for the exercise of water rights. The Commission has determined that any such broad ruling is inappropriate in the context of the present regulations. The request does not raise specific questions as to proposed classifications and standards. However, the Commission has taken into account the fact that some issues are unresolved in adopting classifications and standards. On January 5, 1981, the Commission adopted a policy statement on quality/quantity issues that addresses a number of these concerns. Finally, the Commission has adopted these regulations in compliance with the requirements of the Water Quality Control Act as amended by S.B.10 in 1981 that have bearing on these issues (See e.g.) sections 102, 104, and 503(5).

III. Definition of Stream Segments

1. For purposes of adopting classifications and water quality standards, the streams and water bodies are identified according to river basin and specific water segments.

2. Within each river basin, specific water segments are defined, for which use classifications and numeric water quality standards are adopted. These segments may constitute a specified stretch of a river mainstem, a specific tributary, a specific lake or reservoir, or a generally defined grouping of waters within the basin (e.g., a specific mainstem segment and all tributaries flowing into that mainstem segment).

3. Segments are generally defined according to the points at which the use, water quality, or other stream characteristics change significantly enough to require a change in use classification and/or water quality standards. In many cases, such transition points can be specifically identified from available data. In other cases the delineation of segments is based upon best judgments of the points where instream changes in uses, water quality, or other stream characteristics occur.

IV. Use Classifications — Generally

1. The use classifications have been established in accordance with the provisions of Section 203 of the Water Quality Control Act and Section 3.1.6 and 3.1.13 of the Basic Regulations. Each classification is based upon actual current uses or existing water quality. In the latter case, even though the use may not be in place, the classification is attached if existing water quality would allow that use, and if the use may be reasonably expected in the future.

2. In all cases the basic regulation has been followed, in that an upstream use cannot threaten or degrade a downstream use. Accordingly, upstream segments of a stream are generally the same as, or higher in classification than, downstream segments. In a few cases, tributaries are classified at lower classifications than mainstems, where flow from tributaries does not threaten the quality of mainstem waters and where the evidence indicates that lower classifications for the tributaries is appropriate.

3. There have been no “High Quality Class 1” designations assigned in this basin.

4. The Commission has determined that it has the authority to assign the classification “High Quality Waters - Class 1” and High Quality Waters - Class 2” where the evidence indicates that the requirements of Sections 3.1.13(1)(e) of the basic regulations are met. The validity of this classification has been determined on a case-by-case basis. The classification “High Quality Waters - Class 2” has been assigned where these waters met the provisions of Section 3.1.13(e)(ii) of the basic regulation. Streams providing unique habitats for threatened species of fish have in some cases been classified “High Quality - Class 2” for one or more of the following reasons:

   (a) waters are of a quality higher than necessary to protect specified uses;

   (b) evidence in the record indicates the presence of water divisions within these areas;

   (c) a question exists as to whether existing diversion structures can be maintained consistent with a “High Quality - Class 1” designation. Because of the questions regarding authority to regulate diversion, the Class 1 designation was deemed potentially too rigid. The Commission recognizes its authority to upgrade these segments if and when it is appropriate to do so.

5. Qualifiers — “Goal”

The “goal” qualifier (Section 3.1.13(2)(a), Basic Regulations) has been used in specific cases where waters are presently not fully suitable for the classified use, but are intended to become so within a 20 year period. In all such cases, water quality standards have been established to protect the classified uses and temporary modifications have been granted for specified parameters, to take into account existing conditions.

6. Recreation — Class 1 and Class 2

In addition to the significant distinction between Recreation - Class 1 and Recreation -Class 2 as defined in Section 3.1.13(1) of the Basic Regulations, the difference between the two classifications in terms of water quality standards is the fecal coliform parameter. Recreation - Class 1 generally has a standard of 200 fecal coliform per 100 ml; Recreation - Class 2 generally has a standard of 2000 fecal coliform per 100 ml.

In accordance with S.B. 10 the Commission has decided to classify as “Recreation - Class 2” those stream segments where primary contact recreation does not exist and cannot be reasonably expected to exist in the future, regardless of water quality. The Commission has decided to classify as “Recreation - Class 1” only those stream segments where primary contact recreation actually exists. The reasons for the application of Recreation Class 2 are as follows;

(a) The mountain streams in this region are generally unsuitable for primary contact recreation because of water temperature and stream flows.

(b) Fecal coliform is an indicator organism. Its presence does not always indicate the presence of pathogens. This depends on the source of the fecal coliform. If the source is agricultural runoff as opposed to human sewage, there may be no health hazard and therefore no significant need to reduce the presence of fecal coliform to the 200 per 100 ml. level. Also, control of nonpoint sources is very difficult.

(c) Treating sewage to meet the 200 per 100 ml. level generally means the treatment plant must heavily chlorinate its effluent to meet the limitation. The presence of chlorine in the effluent can be significantly detrimental to aquatic life. Post-treatment of effluent to meet the residual chlorine standard is expensive and often results in the addition of more chemicals which have a negative effect on water quality and can be detrimental to aquatic life. Therefore, reducing the need for chlorine is beneficial to aquatic life.

(d) Even where a treatment plant in this region might treat its effluent to attain the standard of 200 per 100 ml., agricultural runoff and irrigation return flows below the plant may result in the rapid increase of fecal coliform levels. Therefore, the benefits of further treatment are questionable.

(e) The fecal coliform standard of 2000 per 100 ml. has been established to provide general public health protection. There is no significant impact on domestic drinking water treatment plants because they provide complete disinfection. The standard of 200 per 100 ml. is not intended to protect the water supply classification.

7. Water Supply Classification

The Commission finds that Colorado is a water short state and that it is experiencing considerable growth which places additional burdens on already scarce water supplies. These considerations mitigate in favor of a conservative approach to protecting future water supplies. Where existing water quality is adequate to protect this use, and in the absence of dischargers to these segments, or testimony in opposition to such classification, the water supply use has been assigned because it is reasonable to expect that it may exist in the future in such cases. For stream segments that flow through, or in the vicinity of, municipalities, this conclusion is further

justified, since there is a reasonable probability that the use exists or will exist. Where the water supply classification has been opposed, the Commission has evaluated the evidence on a site specific basis, and in many cases the classification has been removed.

V. Water Quality Standards — Generally

1. The water quality standards for classified stream segments are defined as numeric values for specific water quality parameters. These numeric standards are adopted as the limits for chemical constituents and other parameters necessary to protect adequately the classified uses in all stream segments.

2. Not all of the parameters listed in the "Tables" appended to the Basic Regulations are assigned as water quality standards. This complies with Section 3.1.7(c) of the Basic Regulations.

   Numeric standards have been assigned for the full range of parameters to a number of segments where little or no data existed specific to the segment. In these cases, there was reason to believe that the classified uses were in place or could be reasonably expected, and that the ambient water quality was as good as or better than the numeric standards assigned.

3. A numeric standard for the temperature parameter has been adopted as a basic standard applicable to all waters of the region in the same manner as the basic standards in Section 3.1.11 of the Basic Regulations.

   The standard of a 3 °C temperature increase above ambient water temperature as defined is generally valid based on the data regarding that temperature necessary to support an "Aquatic Life - Class 1" fishery. The standard takes into account daily and seasonal fluctuations; however, it is also recognized that the 3 °C limitation as defined is only appropriate as a guideline and cannot be rigidly applied if the intention is to protect aquatic life. In winter, for example, warm water discharges may be beneficial to aquatic life. It is the intention of the Commission in adopting the standard to prevent radical temperature changes in short periods of time which are detrimental to aquatic life.

4. Numeric standards for nineteen organic parameters have been adopted as basic standards applicable to all waters of the region in the same manner as the basic standards in Section 3.1.11 of the Basic Regulations. These standards are essential to a program designed to protect the waters of the State regardless of specific use classifications because they describe the fundamental conditions that all waters must meet to be suitable for any use.

   It is the decision of the Commission to adopt these standards as basic standards because the presence of the organic parameters is not generally suspected. Also, the values assigned for these standards are not detectable using routine methodology and there is some concern regarding the potential for monitoring requirements if the standards are placed on specific streams. This concern should be alleviated by Section 3.1.14(5) of the Basic Regulations but there is uncertainty regarding the interpretation of those numbers by other entities. Regardless of these concerns, because these constituents are highly toxic, there is a need for regulating their presence in State waters. Because the Commission has determined that they have uniform applicability here, their inclusion as basic standards for the region accomplishes this purpose.

5. In many cases, the numeric water quality standards are taken from the "Tables" appended to the Basic Regulations. These table values are used where actual ambient water quality data in a segment indicates that the existing quality is substantially equivalent to, or better than, the corresponding table values. This has been done because the table values are adequate to protect the classified uses.

Consistent with the Basic Regulations, the Commission has not assumed that the table values have presumptive validity or applicability. This accounts for the extensive data in the record on ambient water quality. However, the Commission has found that the table values are generally sufficient to protect the use classifications. Therefore, they have been applied in the situations outlined in the preceding paragraph as well as in those cases where there is insufficient data in the record to justify the establishment of different standards. The documentary evidence forming the basis for the table values is included in the record.

6. In many cases, instream ambient water quality provides the basis for the water quality standards (See 7 below). In those cases where the classified uses presently exist or have a reasonable potential to exist despite the fact that instream data reflects ambient conditions of lower water quality than the table values, instream values have been used. In these cases, the evidence indicates that instream values are adequate to protect the uses. In those cases where temporary modifications are appropriate, instream values are generally reflected in the temporary modification and table values are reflected in the corresponding water quality standard. (Goals are established for the appropriate classification affected by the parameter).

   Cases in which water quality standards reflect these instream values usually involve the metal parameters. On many stream segments elevated levels of metals are present due to natural or unknown causes, as well as mine seepage from inactive or abandoned mines. These sources are difficult to identify and impractical or impossible to control. The classified aquatic life uses may be impacted and/or may have adjusted to the condition. In either case, the water quality standards are deemed sufficient to protect the uses that are present.

7. In most cases in establishing standards based on instream ambient water quality, a calculation is made based upon the mean (average) plus one standard deviation ($\bar{x}$ + s) for all sampling points on a particular stream segment. Since a standard deviation is not added to the water quality standard for purposes of determining the compliance with the standard, this is a fair method as applied to discharge.

   Levels that were determined to be below the detectable limits of the sampling methodology employed were averaged in as zero rather than at the detectable limit. This moves the mean down but since zero is also used when calculating wasteload allocations, this method is not unfair to dischargers.

   Metals present in water samples may be tied up in suspended solids when the water is present in the stream. In this form they are not “available” to fish and may not be detrimental to aquatic life. Because the data of record does not distinguish as to availability, some deviation from table values, as well as the use of $\bar{x}$ + s, is further justified because it is unlikely that the total value in all samples analyzed is in available form.

   A number of different statistical methodologies could have been used where ambient water quality data dictates the standards. All of them have both advantages and disadvantages. It is recognized that the $\bar{x}$ + s methodology also has weaknesses, in that the standard may not reflect natural conditions in a stream 100 per cent of the time, even though the use of $\bar{x}$ + s already allows for some seasonal variability. However the use of this methodology is nevertheless justified since it provides the most meaningful index of stream quality of all methodologies proposed for setting stream standards. Just as the Commission has not established standards that reflect the best water quality that may ever occur in a stream, so too it has rejected methodologies that would establish standards that reflect the worst water quality that may ever occur. The establishment of standards on any basis is more lenient than $\bar{x}$ + s would not provide adequate protection for the classified uses.

   Finally, the fairness and consistency of the use of any methodology in setting standards must turn on the manner in which the standards are implemented and enforced. It is essential that there be consistency between standard setting and the manner in which attainment or non-attainment of

the standards is established based on future stream monitoring data. In addition the Division must take this methodology into account in writing and enforcing discharge permits.

8. No water quality standards are set below detectable limits for any parameter, although certain parameters may not be detectable at the limit of the standards using routine methodology. However, it must be noted that stream monitoring as opposed to effluent monitoring, is generally not the responsibility of the dischargers but of the State. Furthermore, the purpose of the standards is to protect the classified uses and some inconvenience and expense as to monitoring is therefore justifiable.

   Section 3.1.15(5) of the Basic Regulations states that “dischargers will not be required to regularly monitor for any parameters that are not identified by the Division as being of concern”. Generally, there is no requirement for monitoring unless a parameter is in the effluent guidelines for the relevant industry, or is deemed to be a problem as to a specific discharge.

9. The dissolved oxygen standard is intended to apply to the epilimnion and metalimnion strata of lakes and reservoirs. Respiration by aerobic micro-organisms as organic matter is consumed is the primary cause of a natural decrease in dissolved oxygen and anaerobic conditions in the hypolimnion. Therefore, this stratum is exempt from the dissolved oxygen standard.

10. When numeric standards are established based on historic instream water quality data at the level of $\bar{x}$ + s, it is recognized by the Commission that measured instream parameter levels might exceed the standard approximately 15 percent of the time.

11. It is the Commission's intention that the Division implement and enforce these water quality standards consistent with the manner in which they have been established.

12. Hardness/Alkalinity

    Where hardness and alkalinity numbers differed, the Commission elected to use alkalinity as the controlling parameter, in order to be consistent with other river basins and because testimony from the Division staff indicated that in most cases alkalinity has a greater effect on toxic form of metals than does hardness.

VI. Water Quality Standards for Unionized Ammonia

For warm water class 2 segments having an ammonia standard greater than 0.06 mg/l the basis for higher than criteria value is that these streams generally contain both lesser numbers and types of species than those inhabiting class 1 streams due to physical habitat characteristics, flow or irreversible water quality characteristics. The Commission felt that the incremental expense to meet a 0.06 mg/l unionized ammonia standard for present or potential discharges along these streams cannot be justified. Flow in these segments is often intermittent or highly impacted by diversions.

Specifically, the Commission has relaxed unionized ammonia standards to .1 mg/l or greater on such streams for the following reasons:

1. limited nature of the aquatic life present;

2. limited recreational value of species present;

3. habitat limitations, primarily flow and streambed characteristics, that impose significant limitations on the nature of aquatic life, even if ammonia reductions were attained;

4. rapid dissipation of ammonia in streams, reducing the impact of such discharges downstream; and

5. economic costs of ammonia removal, especially where such costs would fall primarily on publicly-owned treatment works, and while the availability of construction grant funds is questionable.

6. Biosurveys with support from a bioassay conducted on fathead minnows performed in the Cache la Poudre River show that a .1 mg/l standard is appropriate to protect existing biota in that stream. The results of these studies may be reasonably extrapolated to similar plains streams; i.e., those streams that demonstrate similar chemical, physical, and biological characteristics.

Not all warmwater streams are comparable in terms of flow habitat, and types and numbers of species of aquatic life. Therefore, some variations in an appropriate ammonia standard must be tolerated, with the objective of protecting existing aquatic life. The Commission found this approach preferable to totally removing the aquatic life classification from impacted or marginal aquatic life streams.

VII. Water Quality Standards for Uranium

Given the threat that radioactivity from uranium may pose to human health, it is advisable to limit uranium concentrations in streams to the maximum extend practicable. The Commission finds that based on the record of these hearings a uranium standard is particularly necessary to protect the water supply classification. In the face of significant controversy and conflicting testimony, the Commission has adopted a standard of 40 pCi/l or natural background where higher, for the following reasons:

1. 40 pCi/l generally reflects background concentrations of uranium that may be found in streams in Colorado and therefore this amount approximates routine human exposure.

2. The statistical risk of human health hazards is small at 40 pCi/l.

3. 40 pCi/l is an interim level, established now pending the outcome of further studies currently underway.

VIII. Water Quality Standards for Cyanide

The Commission acknowledges that total cyanide is to be used in State Discharge permits until a method is authorized by EPA for measuring free cyanide, even though free cyanide is the parameter of concern. While cyanide has received special treatment in cases discussed in the segment - by - segment section which follows, a free cyanide standard based on Table Values has been established for most segments.

IX. Linkage of classifications and Standards

The Commission holds that the classifications which it adopts and the standards it assigns to them are linked. Disapproval by EPA of the standards may require reexamination by the Commission of the appropriateness of its original classification. The reason for the linkage is that the Commission recognizes that there is a wide variability in the types of aquatic life in Colorado streams which require different levels of protection. Therefore, the numbers were chosen in some cases on a site specific basis to protect the species existing in that segment. If such a reclassification is deemed a downgrading, then it will be based upon the grounds that the original classification was in error.

X. Economic Reasonableness

The Commission finds that these use classifications and water quality standards are economically reasonable. The Commission solicited and considered evidence of the economic impacts of these regulations. This evaluation necessarily involved a case-by-case consideration of such impacts, and reference is made to the fiscal impact statement for this analysis. Generally, a judgment was made as to whether the benefits in terms of improving water quality justified the costs of increased treatment. In the absence of evidence on economic impacts for a specific segment, the Commission concluded that the regulations would impose no additional economic burdens and would therefore be reasonable.

XI. Classifications and Standards - Special Cases

1. Page 1, Segment 1(a) and 1(b), Upper Arkansas River (proposed as page 1, segment 1)

This segment has been re-segmented based on water quality data and other information submitted by Trout Unlimited and Amax, Inc., indicating that water quality and habitat characteristics are different in each of these sub-segments and that there is some variability in the aquatic life present. Also, water supply and agriculture classifications have been dropped on segment 1(a).

Despite differences in the segments, such as the presence of some channelization in segment 1(b), the record discloses the presence of sensitive species such as trout in both segments. Therefore the Aquatic Life Class 1 classification has been adopted for both.

The record discloses the presence of no point source discharges in either segment, although an inactive gravel operation exists. Since the Commission has adopted no non-point source control regulations, no person is economically impacted by these classifications and standards. It is also impossible to evaluate the economic feasibility of treatment techniques in the absence of treatment requirements.

2. Page 1, Segments 2(a), 2(b) and 2(c) (proposed as page 1, segment 2)

This reach of the Arkansas River has been re-segmented into three sub-segments based upon the request of Trout Unlimited and the evidence supporting such a change. The primary basis for this resegmentation is the severe water quality differences in the three segments due to the impacts of the Leadville Drain and California Gulch, in the upper reaches as well as the diluting effects of Lake Fork on the Arkansas River in segment 2c. However all three segments have been classified Aquatic Life Class 1, since they are water quality limited rather than habitat limited. Standards have been calculated for each segment based upon the existing quality in each segment.

The Agriculture classification is appropriate since the Table Values for Agriculture are met, and since the use is in place.

The water supply classification has not been adopted since there is no water supply intake in these segments. Also, high dissolved manganese levels prevent attainment of water quality suitable for such use.

Conflicting evidence was offered on the issue of future improvement of water quality in these segments, from both economic and technology standpoints. Although improvement may result if the quality of water from California Gulch improves, the prospects are too speculative, and it is impossible to predict the degree of improvement that might result. Therefore no “Goals” have been established for these segments.

3. Page 1, Segment 3 (proposed as page 1, segment 3)

In assigning a Class 2 Recreation classification in this segment, the Commission finds that rafting and fishing are the primary recreational uses. Although some swimming does occur here, there are no swimming areas. The Commission is also concerned that the imposition of a class 1 classification might have significant economic impacts on the municipalities discharging here, and that aquatic life would be negatively affected by possible additional chlorine use.

4. Page 2, Segment 4 (proposed as page 1, segment 4)

The Recreation Class 1 classification has been adopted because of the evidence that this reach is extensively used for swimming. A temporary modification for fecal coliform has been adopted because existing levels exceed the table value. The modification reflects existing levels for this parameter. Achievement of the underlying standard is expected and is economically reasonable because of the current expansion of the Canon City wastewater treatment plant that is underway.

Goals were not established for metals parameters for the reasons stated above with respect to segment 2.

5. Page 2, Segment 6 (proposed as page 1 segment 6)

California Gulch was fund to be one of the most degraded streams in Colorado due to past mining activities and therefore the Commission adopted only a limited set of classifications and numeric standards. However, the Mined Land Reclamation Board testified that these waters were given clean-up priority for which monies generated by coal mining fees could be available.

A goal for the agriculture classification has been adopted based on the reasonable potential for improvement due to the Mined Land Program, but more importantly, because ASARCO is to eliminate its discharge to California Gulch. This use would be in place in this segment and downstream if the quality suitable to support it were in place. Treatment to meet the standards is economically reasonable and technologically feasible. Temporary modifications to reflect instream quality have been adopted to account for existing uncontrolled non-point source pollution and to recognize the possibility of improvement with respect to these parameters.

6. Page 2, Segment 8(a) and 8(b) (Proposed as page 2, segment 8)

Testimony indicating considerable water quality degradation immediately below ASARCO's water supply intake necessitated the resegmentation of Iowa Gulch.

For Segment 8(b) it is currently unknown as to what levels of cyanide can be achieved by the application of treatment generally recognized as best available technology economically achievable (BATEA), In view of this, a free cyanide standard was not established for this segment. The Commission finds it would be an unreasonable economic burden to ASARCO to meet a cyanide standard in this segment. The Division felt that due to the time required for passage of cyanide through beaver ponds and other features of the segment the cyanide would dissipate to a level where aquatic life would not be disturbed on the lower segment.

The testimony provided three basic reasons for the Commission's decision. They are: The economic burden of additional treatment; the requirement that ASARCO meet Best Practical Technology (BPT) or Best Available Technology (BAT) or Best Engineering Judgment (BEJ) regardless of the Commission's actions at this time; and that the dissipation effect would protect the downstream uses.

The numeric standards were set at proposed permit values which are expected to be attained through application of BPT or BEJ. This was justified by testimony indicating the ambient quality

attributable to old mining practices may preclude the establishment of a fishery and that there is no existing fishery in the segment. The stream is intermittent in the upper portion of this segment and at times the discharge provides the entire stream. Class 2 aquatic life was based on potential improvement with treatment of discharge and return of fishery.

7. Page 3, Segment 9 (proposed as page 2 segment 9)

Although there are no point source discharges in this segment, it is affected by upstream water quality. Improvement of water quality in this segment will result if there is improvement upstream due to ASARCO. Accordingly, temporary modifications to reflect existing levels of Copper and Zinc have been adopted. However, a goal for aquatic life is inappropriate because sensitive species are already present.

8. Page 3, Segment 11 (proposed as page 2 segment 11)

The standard for Ph is based on ambient conditions which are due to uncontrollable non-point sources. There is no active mining in this segment. Despite evidence of low Ph there is a sufficient aquatic life community and habitat in this segment to support a class 1 aquatic life classification. This is most likely due to acclimatization to in-stream conditions.

9. Page 4, Segment 16(a), 16(b), and 16(c) (proposed as page 3, segment 16)

Special studies conducted in January and August, 1980 by the WQCD showed diverse populations of aquatic macroinvertebrates at all sampling stations located on Middle Tallahassee and Tallahassee Creek. Several types of aquatic insects inhabiting the stream are typically found in cold streams with moderate to fast current.

Segment 16 (proposed) was re-segmented into segment 16(a). 16(b), and 16(c) based upon evidence presented by Cyprus Mines that the upper segment (16(a) had beaver ponds containing trout, but the stream became intermittent in the middle segment 16(b) with no evidence of a fishery. The lower segment, 16(c), was found by the Commission to be a perennial stream which contained a viable trout fishery.

Water Quality standards for boron in segments 16 through 18 are higher than table values. This parameter is established in order to protect the agriculture use classification. The table value protects sensitive crops, and the record shows that sensitive crops are not grown in this area.

10. Page 4, Segment 17(a), 17(b) Page 5 Segment 17(c) (proposed as Page 3, segment 17)

Segment 17 has been resegmented to take account of natural impediments to the attainment of the Aquatic Life Class 1 classification in segment 17(b). However, segments 17(a) and 17(c) presently supports a wide variety of sensitive species.

Water supply was not assigned as a classification for segment 17(b) due to the use not being in place and because of exceedance of the table value for sulfate.

There is no anticipated impact on Cottonwood Creek from the proposed Hansen Project.

11. Page 5, Segment 18(a) and 18(b) (proposed as page 3 segment 18)

Resegmentation is based on a difference in alkalinity in the two segments.

12. Page 5, Segment 21 (proposed as page 4 segment 18)

There is conflicting evidence in the record regarding an appropriate mercury standard for this segment. Although most values recorded were below detection limits, the Commission has determined that the use of $\bar{x}$ + s to establish a standard is appropriate, rather than table values. As more data and better analytical techniques become available in the future, this standard may need to re-evaluated.

The Commission has determined that it would be inappropriate, in establishing an iron standard to include in the calculation one value of 22 mg/l because it is three times higher than any other recorded value and probably in error or an aberration of some kind.

13. Page 6, Segment 23 (proposed as page 4, segment 23)

An ammonia footnote was agreed to for this segment to eliminate an immediate need for ammonia removal. If needed, it would cost the City of Victor $19.50 per tap.

It was argued in testimony that the proposed water supply classification be dropped. However, since ambient quality of the water supports a water supply classification even though the segment's intermittent flow may make it an unreliable water supply, the classification is appropriate.

14. Page 7, Segment 3. (proposed as page 6, segment 3)

Although there is evidence that this segment is a transitional temperature zone, generally, the water temperature is appropriate to support the warm water classification. Both cold and warm water species are present. A warm water classification was adopted to protect downstream quality as the segment flows to warmer water. Evidence of channelization of the streambed and the results of fish surveys indicate that a warm water aquatic life classification is appropriate. A goal for cold water has been rejected because of the predominance of warm water species and due to a lack of evidence that the existence of cold water in this segment is predictable. The Commission also finds that the .06 unionized ammonia standard will not be harmful to the aquatic life in this segment should this level be reached because of the small numbers of cold water species in this segment.

15. Page 8, Segment 8 (proposed as page 7, segment 8)

Public Service Company (PSC) testified that the segment is frequently dry; that the (PSC) power station is often the sole source of flow in the segment; that the Division issued a permit in August which the Company can meet; that if the presently proposed standards for copper, aluminum, and zinc were to be promulgated, PSC would have to go to zero discharge at a cost of $23,500,000 in 1983, and that the river would be dried up downstream. The City of Pueblo urged that aluminum standards not be adopted which would cause the stream to be dried up. Also levels of dissolved aluminum in the PSC discharge are not at a toxic level in the segment, but are close to table values for aquatic life. The Commission finds that BPT and BAT will adequately protect the stream as to aluminum, as evidenced by the presence of aquatic life.

The Commission set its standards for Copper (cu) and Zinc (zn) based on testimony that there was aquatic life in the segment and that to protect what aquatic life there is in the segment the assigned standards were deemed appropriate. These standards are the levels of these metals found in the Public Service Company discharge. The assigned standards are further justified by the fact that the discharge provides the entire flow of the segment during many times of the year when the upstream portions of the segment are dry. The Commission concluded from the testimony that any aquatic life in the segment was strictly the result of the discharge from the PSC facility and that were it not for such discharge there would be no water in the segment for aquatic life.

16. Page 10, Segments 22 and 23 (proposed as page 9, segments 22 and 23)

A High Quality Class 2 designation for segments 22 and 23 was based upon testimony that the segments contained the habitat for the two known remaining populations of greenback cutthroat trout which is a federally listed endangered species. Trout Unlimited requested classifications as High Quality Class 1 due to the federal status and the definition for High Quality 1 in the "Basic Standards." However the High Quality Class 2 was adopted to be consistent with Commission actions in other basins.

17. Page 11, Segment 2 (proposed as page 10, segment 2)

The Commission determined that it would not be appropriate to assign an aquatic life classification on this segment. The record indicates that the stream is largely barren of aquatic life except for some migration of the Arkansas Darter from selected tributaries. Because of the widespread social and economic impact which would result from the aquatic life classification and because this stretch of water shows past human induced conditions which appear uncorrectable in a 20 year time period, the aquatic life classification has been eliminated.

This segment was classified as a water supply because it is hydraulically connected to the Widefield aquifer, a major source of domestic water for several communities. The metals standards represent table numbers for a domestic water supply use.

17. Page 11, Segment 3(a) and 3(b). (proposed as page 10 segment 3)

Segment 3 has been resegmented into 2 sub segments in order to recognize the presence of the Arkansas Darter in 3 tributaries to Fountain Creek as specified in segment 3(b). The standards adopted for segment 3(b) are intended to protect the Arkansas Darter.

18. Page 13, Segment 1 (proposed as page 12, segment 1)

The Commission adopted the aquatic life class 2 warm water classification because aquatic life are present in this segment despite some degraded conditions. Also, the evidence indicates perennial flows in this stream segment.

Because of the unique situation that exists in this stream from both environmental and economic stand-points, the Commission has adopted special dissolved oxygen and cyanide standards for that portion of this segment generally located downstream of the urbanized area of the City of Pueblo.

The record indicated that natural decreases in DO levels occur in this reach of the segment during the late summer and fall low flow periods. Excursions below the 5 mg/l dissolved oxygen standard are predictable in the future for this limited reach of segment 1. There is no evidence that the aquatic life that currently exists in this segment have been adversely affected by DO sags that have occurred in the past. Therefore, this dissolved oxygen standard will adequately protect the aquatic life that exists here. The Commission is aware that in this already economically impacted area, pending industrial siting decisions may turn on water quality considerations. The Commission finds that severe socio-economic impacts may occur if the more stringent standards were adopted for this entire segment. Also, this standard will accommodate the downstream users of the Arkansas River waters and will maximize such uses.

The record contains conflicting testimony on the level of free cyanide in this segment. This conflict centers around the proper laboratory techniques to measure free cyanide. The only free cyanide data available is from CF&I which indicates that ambient levels for free cyanide sometimes exceed table values. Despite these excursions, aquatic life still exists in this segment. The record supports the conclusion that CF&I may be severely impacted by the imposition of the

free cyanide standard in the entire reach of this segment. For these reasons, a special standard has been adopted for total cyanide in that portion of segment 1 generally located downstream of the urbanized area of the City of Pueblo.

19. Page 13, Segments 5(a) and 5(b); Page 14, Segments 6(a) and 6(b) (proposed as page 12, segments 5 and 6)

These segments of the Purgatoire River were resegmented based on evidence presented by CF&I which used a geological basis to explain the difference between upstream and downstream quality. The lower boundary of the cold water portion of the Purgatoire was moved down to Interstate 25 due to evidence of cold water species below Trinidad Reservoir.

CF&I presented testimony on the appropriateness of setting mercury and silver standards higher than table values because of data showing elevated in-stream levels. Conflicting testimony on the analytical technique employed for certain data resulted in the decision to leave silver at the table value. Mercury was set at $\bar{x}$ + s levels rather than the table value, however, because the instream data showed elevated background levels.

The Recreation classification was changed from Class 1 to Class 2 on the segment of the Purgatoire near the Allen and Maxwell Mines because of a domestic wastewater discharge and an absence of the swimming use.

20. Page 14, Segment 8(a) and 8(b) (proposed as page 13 and segment 8)

This segment was proposed as a high quality class 2 stream because it provides habitat for a threatened species i.e., the Colorado Cutthroat Trout. However, because this segment is located entirely within the boundaries of private property the Commission assigned specific use classifications, including cold water aquatic life class 1. The standards applicable to protect the aquatic life class 1 classification or sufficient to protect the Cutthroat Trout in this segment and no degradation of water quality for aquatic life habitat will result from the assignment of this classification.

FISCAL STATEMENT

Stream Classifications and Water Quality Standards for the Arkansas River Basin including all tributaries and standing bodies of water in all or parts of Lake, Chaffee, Custer, Fremont, El Paso, Pueblo, Huerfano, Las Animas, Otero, Bent, Prowers, Baca, Kiowa, Cheyenne, Lincoln, Teller, and Elbert Counties.

1. INTRODUCTION

The Water Quality Control Commission is charged with the responsibility to conserve, protect, and improve the quality of state waters pursuant to C.R.S. 1973, 25-8-101 et seq.

The Commission is further empowered and directed to classify waters of the State and to promulgate water quality standards for any measurable characteristic of the water in order to protect both the uses in place and those that can be reasonably expected in the future. (25-8-203 and 25-8-204) The above-titled document assigns use classifications and standards for the state waters in the listed areas in accordance with the “basic regulations” adopted May 22, 1979.

The measurable fiscal impacts which may be caused by these regulations are as follows;

- Cost of construction due to requirements for increased levels of treatment by municipal waste treatment facilities;

- Cost of construction due to requirements for increased levels of treatment by industrial/commercial waste treatment facilities;

- Cost of Operation and Maintenance associated with increased levels of treatment required of municipalities;

- Cost of Operation and Maintenance associated with increased levels of treatment required of industrial and commercial dischargers;

- Cost of instream monitoring and laboratory analysis for new parameters added by the standards.

Dischargers will not be required by the adoption of these regulations to do stream monitoring. The state, federal and local agencies now doing instream monitoring will have some increased cost; however, any additional frequency should be done to improve state surveillance and would be needed regardless of standard changes.

The stream classifications and standards adopted by the Commission will protect the water uses primarily through control of point source pollution. Nonpoint source pollution will be controlled primarily through management practices which are in existence or which will be implemented in the future. Future management practices need careful consideration and may be the result of 208 area-wide wastewater management plans developed by regional planning agencies and being updated annually. These plans involve local governments with general assistance from state government. Some of the possible nonpoint source pollution may be controlled through "Control Regulations" yet to be promulgated by the Commission. These types of controls could involve runoff from construction, mining activities, and urban areas. It is not certain what controls are needed at this time and there is no way that possible costs can be identified at this time.

Persons who benefit from standards which will protect existing and future anticipated uses can be identified as all persons benefiting from recreation, municipal water supply, and agriculture. These benefits are directly economic for agriculture, industry, and municipalities whose health benefit costs are reduced by having clean water, and are both economic and nonquantifiable for some uses such as fishing, recreation, and the aesthetic value of clean waters. Furthermore, benefits will result from human health protection and lack of debilitating disease. Figures have been developed for a recreation/fishing day which can be applied to that aspect of a water use; however, figures which have been developed for total recreation/fishing day uses have been developed statewide and could not be applied region-by-region or stream-by-stream.

The uses of water in this region are adequately protected by these standards. Most municipal treatment facilities and industrial facilities are currently adequate, or are already being upgraded, in order to meet previous requirements. Any additional facilities or expansions in this region will generally be caused by increased capacity required because of population growths or industrial enlargement. Industries are required by federal statute to meet effluent limitations described as "Best Available Technology Economically Achievable" (BAT) by 1983 or 1984. For most major industries in this region, the water quality standards should not require treatment beyond these limitations.

The fiscal impact of any regulatory decision must take into account only the incremental costs explicitly associated with the regulations as finally promulgated. Costs and expenditures associated with the status quo, regulations of other regulatory agencies, or regulations already in effect should not be included in an assessment of the fiscal impact of the Arkansas Basin classifications.

In addition, a distinction must be made between actual expenditures or dislocations that will be immediately or unavoidably necessary upon promulgation of these classifications and standards,

and those costs which are speculative in nature. In keeping with concepts of 'Expected Value', it is proper for the Commission to place more emphasis on definite impacts.

With the passage in 1981 of Senate Bill 10, amending the Colorado Water Quality Control Act, it became incumbent upon the Water Quality Control Commission to consider the economic impact of their decisions with more emphasis placed upon the concept of the "Economic Reasonableness". Supplementary hearings were held by the Commission on the Arkansas Basin to consider the new provisions of the Act. Charged with such a mandate, the Commission was quite sensitive to the objective of minimizing the socio-economic "price" of clean water while adhering to the antidegradation policy that water quality be preserved and protected in all cases, and improved wherever feasible.

The analysis and data which follows is derived primarily from testimony and exhibits offered by interested parties during the course of the rulemaking hearings. This was supplemented by staff estimates of potential impacts upon other major entities who were not formally represented. The impacts are separately presented for the public and private sections. Except for instances where explicit testimony was given by interested parties at the rulemaking hearing, no attempt has been made to identify future development costs as this type of data is not readily available and estimation techniques are dependent upon many highly subjective assumptions. Finally, to fully illustrate the degree to which costs were minimized where possible, two tables for each sector are presented.

The first table itemizes the impacts of the classifications as proposed while the second table depicts the impacts of the classifications as finalized.

II. FISCAL IMPACT: PUBLIC SECTOR

The primary fiscal impact to the public sector in this basin involves the domestic wastewater treatment costs associated with the stream classifications and water quality standards. Other costs, such as tax and employment base impacts due to foregone industrial development opportunities or mitigated growth potentials, can be theoretically postulated but are difficult to quantify. Generally it is recognized that higher tap fees, service charges or property taxes associated with increased treatment costs can potentially affect industrial siting decisions. However, this is not as significant as increased levels of treatment that may be required of industries if they are dischargers. While the Commission acknowledges the existence of such potentials, the lack of firm evidence and actual tax base impact estimates make deliberative assessment impractical.

The two tables in this section illustrate the degree to which the Commission has considered, evaluated and accommodated the needs and concerns of municipalities. As proposed, the classifications and standards regulations had a potential impact of over 94 million dollars in capital outlays and 4.3 million dollars in annual operation and maintenance. As finalized, the municipal impacts will most likely be less than two million dollars in capital outlay and less than 350,000 dollars in annual operation and maintenance costs. In many cases evidence was given the proposed classifications and standards were to protect a marginal value of stream quality at exorbitant costs. In the case of the Pikes Peak area municipalities, aquatic life classifications were dropped from Fountain Creek segments in view of serious and irreversible degradation that the river had experienced. The benefits of aquatic life classifications were difficult to substantiate and the costs were quite high. A mixing zone for ammonia and special standards for dissolved oxygen for Pueblo should save over 14 million dollars without placing water quality in jeopardy. This is also true for LaJunta, where a mixing zone will alleviate the need for increased levels of treatment. Ammonia standards are "footnoted" for communities such as Cripple Creek and Victor to allow flexible planning for financially strapped municipalities while not impairing water quality. A slight movement of segment boundaries should save Trinidad a million dollars in capital requirements. It is felt that Salida's planned expansion will provide for compliance with the standards and, since an incremental cost was not provided, their costs drop out.

In summary, public participation and careful deliberation has resulted in regulations that will protect the quality of the waters of the Arkansas River Basin through classifications and standards that are economically reasonable in terms of the costs to the municipals lying within the region.

TABLE ONE FISCAL IMPACT ON MUNICIPALITIES OF PROPOSED CLASSIFICATIONS

MUNICIPALITIES	NEEDED FACILITY	ESTIMATED CAPITAL EXPENDITURE	YEAR OF ESTIMATE	ESTIMATED ANNUAL OPERATING COSTS
Colorado Springs**	Ammonia Conv. Denitrification	$ 70 Million	(1982)	$ 2.387 Million
Widefield	Ammonia Conv.	$ 1.2 Million	(1980)	$ 112,000
Security	Ammonia Conv.	$ 1.53 Million	(1980)	$ 190,000
Monument	Ammonia Conv.	$ 465,000	(1980)	$ 65,000
Pueblo	Ammonia Conv.	$ 14.1 Million Total Present Worth @ 14% Discount		
Cripple Creek	Ammonia Conv.	$ 97,000	(1980)	$ 21,300
Victor	Ammonia Conv.	$164,000	(1980)	$ 18,400
La Junta	Ammonia Conv	$ 2.3 M (Bio-Plant) $ 700 K (B-P Chlor)	(1980) (1980)	$ 60,000 $ 500,00
Trinidad*	Ammonia Conv.	$ 1.0 Million	(1980)	$ 150,000 – $ 200,000
Palmer Lake*	Ammonia Conv.	$ 250,000–$500,000	(1980)	$ 40,000–$80,000
Woodmore*	Ammonia Conv.	$ 750,000	(1980)	$ 150,000
Colo. City*	Ammonia Conv.	$ 0–500,000	(1980)	$ 0–100,000
Woodland Park*	Ammonia Conv.	$ 750K–1M	(1980)	$ 100K–200K
Salida	Ammonia Conv.	$ 1 Million	(1980)	$ 150–250K
Rye	Slight operational changes of unknown costs should bring the plant into compliance.			
Canon City	Incremental costs can be assumed for ammonia conversion but actual figures are not available nor can be reliably estimated in that			

	Canon City will be participating in the Eastern Fremont County Wastewater Management Project due to be on line in early 1983. AWT not anticipated but still under study.			
Florence	Participation in Fremont County Project. See Canon City.			

*Estimated potential expenditure - actual requirements and fiscal impact is undermined.

**In addition to this Colorado Springs estimate of expenditures, representatives of the Pikes Peak Area Council of Governments estimated that the counties of Teller and El Paso will have to expend approximately $29 million dollars to meet the standards of inorganic waste.

Table Two FISCAL IMPACT ON MUNICIPALITIES OF FINAL CLASSIFICATIONS

MUNICIPALITIES	NEEDED FACILITY	ESTIMATED CAPITAL EXPENDITURE	YEAR OF ESTIMATE	ESTIMATED ANNUAL OPERATING COSTS
Monument	Ammonia Conv.	$ 465,000	(1980)	$ 65,000
Palmer Lake*	Ammonia Conv.	$ 250,000–500,000	(1980)	$ 40,000–80,000
Woodland Park*	Ammonia Conv.	$ 750K–1M	(1980)	$ 100K–200K
Rye	Slight operational changes of unknown costs should bring the plant into compliance.			
Canon City	Incremental costs can be assumed for ammonia conversion but actual figures are not available nor			

	can be reliably estimated in that Canon City will be participating in the Eastern Fremont County Wastewater Management Project due to be on line in early 1983. AWT not anticipated but still under study.			
Florence	Participation in Fremont County Project. See Canon City.			

*Estimated potential expenditure - actual requirements and fiscal impact is undetermined.

III. FISCAL IMPACT: PRIVATE SECTOR

It can be assumed that nearly every commercial entity with the Arkansas Basin would or could be affected in some way by the classifications regardless of whether they are dischargers or simply customers of water suppliers. Many firms apparently regarded utility increases as an additional cost of doing business in this locale and chose not to present evidence at the rulemaking hearings for this basin. It might be concluded that some felt there would be no impact or that it was unidentifiable at this time. However, some of the larger private interests that have discharge permits or would be seeking them in the future presented testimony indicating costs associated with metals removal and other treatment costs. Table Three summarizes the impact of the proposed classifications as testified to by interested parties.

Not all of the costs presented in Table Three are additional increments due to the proposed classifications and standards. Some reflect baseline treatment already required by permit, treatment capability already in place, costs incurred by other regulations, or potential costs for operations not currently active. A comparison between the two tables reveals a striking difference between “what could be” and “what will most likely be”. The proposed classifications and standards had a potential impact of nearly 35 million dollars in capital expenditures and over one million dollars in annual expenses. The fiscal impacts of the classifications as finalized dramatically demonstrate the degree to which proper analysis and consideration of economic issues were taken into account in the deliberative process.

In the case of Public Service Company, the proposed aluminum and copper standards to protect aquatic life were stringent enough that they would have forced PSC into a zero discharge at a cost of over 20 million dollars. As the flow of the affected segment is largely PSC effluent, the very effort to protect aquatic life would do it great harm as the stream could be dry much of the

time. Since this was a proposed upgrading, the final classifications and relaxed standards are consistent with the anti-degradation policy while eliminating a substantial cost.

The cost figures for ASARCO fall out because they reflect baseline treatment already required by permit and are thus not attributable to the finalized regulations. Cyprus Mines, the only potential uranium discharger in the basin, is not currently in operation so these costs become additional costs of doing business rather than actually realized burdens. It was not established whether or not Cyprus Mines would have to go beyond chemical treatment so the other costs for more exotic processes drop out. In addition, the phase of operation requiring water treatment would last only three years, so the annual operation and maintenance costs will not be incurred throughout the life of the project. Finally, changes in segment 16B may decrease costs associated with uranium and sulfide removal.

Hewlett-Packard offered estimates of potential costs if they expanded but these drop out because the proposed aquatic life designation for the segment of interest was not retained in the finalized classifications.

When evaluating the costs to CF&I Steel as reported in the tables, several mitigating factors must be considered. Although the capital costs reported between Tables Three and Four remain the same and reflect the maximum estimates provided by CF&I, the economic impact to CF&I Steel is most likely overstated. First, the evidence that was presented in the hearings had included costs associated with their air pollution discharge treatment which uses water as part of the process. To assign all of this cost to both air and water quality regulations constitutes a form of economic "Double Counting". At least some of this cost is more properly considered an air quality impact and not specifically due to water quality standards. Perhaps as much as fifty percent or more of the costs could be eliminated through more in-depth analysis. Secondly, CF&I did not segregate the zinc and cyanide treatments costs and since cyanide standards were relaxed, the actual costs would be less than indicated. In lieu of more detailed evidence, these cost reductions can be assumed but are not quantifiable. Third, it is also felt that some of these costs may reflect BAT requirements that would be necessary in any event. Fourth, the O&M costs do differ between the two tables as CF&I reported $331,440 for operations already in place. These are not incrementally associated with the finalized classifications and standards and thus drop out. Finally, the concept of ability-to-pay mitigates whatever costs remain when compared to the annual net profit in excess of ten million dollars attributed to CF&I. At the very most, the one-time capital expenditures would barely exceed ten percent of one year's profit. In consideration of the benefits to be preserved and the over-statement of costs, it is felt that the Commission acted in an economically reasonable and responsible way by maintaining the zinc standard for the affected segment.

TABLE THREE FISCAL IMPACT ON PRIVATE SECTOR OF PROPOSED CLASSIFICATIONS

COMPANY NAME	PARAMETER	ESTIMATED CAPITAL EXPENDITURE	YEAR OF ESTIMATE	ESTIMATED ANNUAL OPERATING COSTS
Cyprus Mines[1] (Hansen Project)	Heavy Metals Uranium	$ 1.9 Million (chemical treat.) $2.2 Million (Reverse Osmosis)[1] $ 435,0001 (Ion Exchange)	(1980) (1980) (1980)	$ 300,000 $ 900,000 Total $ 230,000 $ 36,000
ASARCO	Heavy Metals	$ 2.25 Million	(1980)	no estimate
CF&I Steel	Heavy Metals Cyanide	$ 1.38 Million	(1980)	$ 701,440

Hewlett-Packard[2]	Metals, Chem.	$ 250K–$2 Million	(1980)	no estimate
Cripple Creek and Victor Gold Mine	Metals	Some treatment costs can be assumed for mine drainage. Not currently in operation-still under study.		
Public Service	Metals	$ 23 Million Net Present Worth		

1 It is not determined if Cyprus Mines will be required to go beyond chemical treatment to comply with the standards and whatever permit may be written controlling their discharge. Not currently in operation. The only potential uranium discharger in the Arkansas Basin.

2 Hewlett-Packard is referring to a future plant expansion in the Colorado Springs area and these are the estimates of the costs that would be incurred to meet heavy metals standards due to the manufacturing nature of the new plant.

TABLE FOUR FISCAL IMPACT ON PRIVATE SECTOR OF FINALIZED CLASSIFICATIONS

COMPANY NAME	PARAMETER	ESTIMATED CAPITAL EXPENDITURE	YEAR OF ESTIMATE	ESTIMATED ANNUAL OPERATING COSTS
Cyprus Mines[1] (Hansen Project)	Heavy Metals Uranium	$ 1.9 Million (chemical treat)	(1980)	$ 300,000 $ 900,000 Total
CF&I Steel	Heavy Metals Cyanide	$ 1.38 Million	(1980)	$ 320,000
Cripple Creek and Victor Gold Mine	Metals	Some treatment costs can be assumed for mine drainage. Not currently in operation-still under study.		

1 It is not determined if Cyprus Mines will be required to go beyond chemical treatment to comply with the standards and whatever permit may be written controlling their discharge. Nor currently in Operation. The only potential uranium discharger in the Arkansas Basin.

FISCAL STATEMENT

Regarding the Adoption of Non-Substantive Corrections To The Classifications And Numeric Standards For The Arkansas, San Juan and Dolores, Rio Grande and South Platte Basins.

The Water Quality Control Commission found that clerical and editorial corrections to the Commission's current regulations numbered respectively 3.2.0, 3.4.0, 3.6.0, and 3.8.0 have no fiscal impact.

Dated this 8th day of November, 1982 at Denver, Colorado.

STATEMENT OF BASIS AND PURPOSE REGARDING THE ADOPTION OF NON-SUBSTANTIVE CORRECTIONS TO THE CLASSIFICATIONS AND NUMERIC STANDARDS FOR THE ARKANSAS, SAN JUAN AND DOLORES, RIO GRANDE AND SOUTH PLATTE RIVER BASINS.

In accordance with the requirements of 24-4-103(4), C.R.S. 1973, the Commission makes these findings and adopts this Statement of Basis and Purpose.

The Commission at a public rulemaking hearing November 8, 1982, adopted clerical and editorial corrections to the Commission's current regulations numbered respectively 3.2.0, 3.4.0, 3.6.0 and 3.8.0. These regulations are contained in Article 3, Water Quality Standards, of the Policies, Regulations, and Guidelines of the Water Quality Control Commission. (5CCR 1002-8)

In adopting these corrections the Commission considered the economic reasonableness of its action, except as specified the corrections in no way change the classifications and numeric standards originally adopted by the Commission. Other than written comment from the City of Westminster no testimony was offered at the public hearing.

The consolidated changes adopted by the Commission are included in this Basis and Purpose for information. The Secretary of State was provided corrected pages for each of the regulations as replacements for the regulations previously published.

Dated this 8th day of November, 1982 at Denver, Colorado.

32.11 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE - SEGMENT 8a, IOWA GULCH UPPER ARKANSAS RIVER, ARKANSAS RIVER BASIN

The provisions of 25-8-202(1)(a)(b) and (2); 25-8-203; and 25-8-204 C.R.S. provide the specific statutory authority for adding the numeric standards adopted by the Commission in this matter.

The two year temporary modifications for the copper and lead standards on this segment which were adopted by the Commission are consistent with the Commission's established procedures for adopting water quality standards or temporary modifications based on ambient quality. The standards set represent a determination of ambient water quality where a shortage of reliable data, and discrepancies regarding analytical techniques, precluded the adoption with sufficient confidence of any more stringent standards.

Physical conditions in various portions of Segment 8a such as substrate, low flow, depth, lack of pools, freeze-out, and physical barriers preclude a viable fish population, and more stringent water quality standards than adopted cannot be justified for the protection of macroinvertebrate only, based on the aquatic life classification. The macroinvertebrate population which does exist in the segment does not appear stressed at ambient levels of pollutant concentration. Ambient levels of pollutant concentration do not now jeopardize downstream aquatic life. Testimony does not support the conclusion that the imposition of more stringent metals limits would lead to an improved aquatic habitat.

At such time as water quality improvements downstream in Segments 8b or 9 indicate either a potential for a viable fish community in Segment 8a or an approved fishery in Segment 8b or 9 and where the macroinvertebrate population in the upper segment is necessary for that fish community's survival, or during the triennial review of the basin, the standards for this segment may need to be reexamined to assure that downstream uses continue to be protected.

From evidence received at the public hearing, it appeared that the existing stream standards for copper and lead were periodically exceeded in several reaches of the segment. However, there was considerable disagreement among the parties and staff over the appropriateness and accuracy of the data presented at the hearing. Differences in analytical techniques resulted in non-comparable data, making the calculation of ambient quality, based on a determination of the mean value, difficult. The temporary modifications adopted for copper and lead reflect a continuation of ambient quality, which protect designated uses and recognize the need to protect the drinking water supply diversion at the lower end of the segment.

The agriculture use classification is retained because there is conflicting evidence regarding the existence and extent of the use necessitating further study. The standards in effect to protect this use do not impact the Sherman Tunnel discharge.

No change was made to the other pollutants for which change had originally been proposed because the data available did not conclusively support a change, and because the current stream standards adequately protect the classified uses. Evidence presented at the hearing indicated that the original classified uses remained appropriate.

BAT limits are being met by the sole discharger to the segment, the Hecla Mining Company. There has been no demonstration that more stringent water quality standards will provide any benefits to the aquatic life in the stream. The adopted temporary modifications will not require the discharger to provide additional treatment where there is in the record insufficient information to justify the adoption of standards that could result in additional treatment requirements. The adopted temporary modifications are thus determined to be economically reasonable.

It is further declared to be the Commission's intention that the temporary modifications are being established at this time to allow all interested persons to collect additional data to be analyzed in a uniform fashion and in conformance with existing Commission policies as well as upcoming modifications thereto, so that at such time as the temporary modifications expire or at any other appropriate time, the Commission will be able to determine appropriate final standards for all parameters on this segment.

FISCAL IMPACT STATEMENT - SEGMENT 8a, IOWA GULCH, UPPER ARKANSAS RIVER, ARKANSAS RIVER BASIN

The establishment of temporary modifications to the water quality numeric standards for lead and copper dramatically reduce the probability of further treatment requirements for mined located in this segment. Estimates indicate a potential savings of up to $300,000 capital costs and $16,000 operations and maintenance to accrue to the owner of the Sherman Mine. The Commission finds that these cost savings will not be had at the expense of current beneficial use degradation, based upon the evidence available.

There will be no fiscal impact on any other government or private entities.

32.12 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY, AND PURPOSE:

The provisions of 25-8-202(1)(a)(b) and (2); and 25-8-204 C.R.S. provide the specific statutory authority for adding the numeric standards that were proposed.

The Commission also adopted in compliance with 24-4-103(4) C.R.S. the following statements of basis and purpose and fiscal impact.

BASIS AND PURPOSE - ARKANSAS:

The basis and purpose for the changes by segment is given below:

Segment 1, Upper Arkansas River - Two wilderness areas, Mt. Massive and Collegiate Peaks, were designated after the 1980 hearings. Creation of a new segment with High Quality - Class 2 designation will protect these areas and is consistent with Commission actions in other basins.

Segment 2b, Upper Arkansas River - Present description does not define the segment because of a typographical error. New description will define the segment.

Segment 3, Upper Arkansas River - Typographical error in cadmium standard. Change to 0.001 mg/l reflects the adopted standard.

Segment 25, Upper Arkansas River - Cottonwood Creek has been identified by the Colorado Division of Wildlife as habitat of the greenback cutthroat trout which is a State threatened and Federally endangered species. Creation of a new segment with High Quality - Class 2 designation will provide protection to the creek and is consistent with Commission actions in other basins.

Segment 4, Middle Arkansas River - Present description does not except Segment 24, should the Commission decide to create a new Segment 24. The change will be needed if Segment 24 is adopted.

Segment 15, Middle Arkansas River - Typographical error for zinc standard. Original testimony showed the ambient level of zinc to be 0.2 mg/l in this segment. Change will reflect the standard as adopted by the Commission in 1981.

Segment 24, Middle Arkansas River - The waters are the only known habitat in Colorado for the Southern Red Belly Dace, according to the Colorado Division of Wildlife. Creation of this new segment with a High Quality - Class 2 designation should protect this species.

Segment 2, Fountain Creek - Drinking water standard is for total cyanide. The change in cyanide description from free to total will reflect what is required to protect the domestic water supply use.

Segment 9, Lower Arkansas River - The standards reflect a classification of Cold Water Aquatic Life - Class 1 for waters that are Warm water Aquatic Life - Class 1 habitat. The change will reflect the Commission's intent in adopting the classifications and standards for this segment.

Segment 10, Lower Arkansas River - The standard for dissolved oxygen (D.O.), unionized ammonia (NH_3) and nitrite (NO_2) are table numbers for a Cold Water Aquatic Life - Class 1 designation. The change in the standards will reflect the Commission's intent in adapting the standards in 1981 and will provide protection to the Warm Water Aquatic Life residents to the waters.

FISCAL IMPACT STATEMENT - ARKANSAS RIVER BASIN

These regulations more accurately reflect the protections necessary for wilderness areas and rare and endangered species. In some cases, the only known habitat for certain species is identified. It is not anticipated that these changes will impact dischargers, except as a future development potential, yet will afford the benefit of protection of beneficial uses. In view of these facts, the Commission expects these regulations to be economically reasonable.

ADOPTED: December 6, 1985

32.13 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY, AND PURPOSE SEGMENT 8a, IOWA GULCH, UPPER ARKANSAS RIVER ARKANSAS RIVER BASIN

The provisions of 25-8-202(1)(a),(b) and (2); 25-8-203; 25-8-204; and 25-8-207 C.R.S., provide the specific statutory authority for adoption of the attached regulatory amendments. The Commission also adopted, in compliance with 24-4-103(4) C.R.S., the following statements of basis and purpose and fiscal impact.

BASIS AND PURPOSE:

Leadville Corporation owns and operates the Sherman Mine at the upper end of Iowa Gulch on the side of Mount Sherman, a 14,000 foot peak. Under the provisions of C.R.S. 25-8-207, Leadville Corporation petitioned for a rulemaking hearing regarding Segment 8a, Iowa Gulch, to review whether new material facts demonstrate that the aquatic life classification is in error for Segment 8a, due to severe physical, natural, climatic, and structural constraints existing in Segment 8a which preclude a viable habitat for fish

or shellfish life. Leadville Corporation also sought review of the agriculture classification for Segment 8a, stating that Segment 8a has no existing use or reasonably anticipated future use for agricultural purposes.

Leadville Corporation also sought a change in the applicable water quality standards for Segment 8a to reflect protection only of the domestic drinking water supply and recreation class 2 classifications of Segment 8a. The water quality standards for protection of the two uses proposed to be retained were proposed to be the table values from the Commission's Basic Standards and Methodologies Regulation.

In 1985, a hearing was held in which similar requests were made to delete classifications and modify water quality standards. Those 1985 requests were denied, but the Commission granted a temporary modification to the water quality standards for lead and copper in Segment 8a, Iowa Gulch. This temporary modification altered the standard for copper from 0.007 mg/l to 0.05 mg/l and the standard for lead from 0.022 mg/l to 0.05 mg/l. The temporary modification expires March 5, 1987.

In connection with granting the temporary modification the Commission directed Hecla Mining Co., the predecessor of Leadville Corporation, to conduct a water quality sampling program on Iowa Gulch, Segment 8a, and to analyze the results according to a laboratory method recommended by the Water Quality Control Division. The purpose of the sampling and analysis program, in part, was to ascertain whether the ambient water quality of Segment 8a, Iowa Gulch, justifies the standards which had been previously set by the Commission for this Segment.

Leadville Corporation asserted that the sampling and analysis program showed that the ambient water quality of Iowa Gulch, Segment 8a, exceeds the values the Commission set for at least three metals: copper, lead and cadmium, and that the existing and reasonably anticipated water uses in Segment 8a would not be adversely affected by a change in water quality standards to the table values, and, further, that the existing uses of Segment 8a would be protected if the requested rulemaking proposal were adopted by the Commission. Prior to the hearing, Leadville Corporation and Parkville Water District requested resegmentation of Segment 8a into two separate stream segments.

Summary of Action:

Segment 8a of Iowa Gulch is resegmented into Segments 8a1 and 8a2, with the division between the new segments being at a point immediately below the confluence of the Hilltop Saddle drainage with Iowa Gulch. The existing classifications for Segment 8a are retained for new Segments 8a1 and 8a2. The existing numerical standards for Segment 8a are retained for new Segments 8a1 and 8a2, except for the following revisions:

	Cu	Cd	Zn	Pb
Segment 8a1	.017	.004	.10	.016
Segment 8a2	.009	.0011	.094	.012

For the reasons elaborated below, the Commission has determined that these changes are economically reasonable, even if they result in higher treatment costs for the Sherman Mine Portal discharge.

Resegmentation:

The Commission finds that resegmentation of Segment 8a of Iowa Gulch into Segments 8a1 and 8a2 is appropriate. The evidence presented demonstrates that the stream has different physical characteristic above and below the Hilltop Saddle drainage confluence. For example, there is increased stream flow below this confluence. In addition, ambient water quality differs significantly above and below this point.

Finally, this resegmentation will allow the adoption of more stringent water quality standards for Segment 8a2 to fully protect the domestic water supply and other uses of that segment, while avoiding more stringent standards for the upstream Segment 8a1. This results from handling the water quality data for these two segments separately, rather than averaging all Segment 8a data. Leadville Corporation, Parkville Water District, and the Water Quality Control Division agreed that this resegmentation is appropriate.

Classifications:

The Commission finds that there has been no demonstration that the existing aquatic life and agriculture use classifications for Segment 8a were based upon material assumptions that were in error or no longer apply, and accordingly the Commission reconfirms the decision made in 1985 to retain the existing classifications. Moreover, the Commission finds that there has been no demonstration that the aquatic life classification for Segment 8a is more stringent than is necessary to protect fish life, shellfish life, and wildlife in a water body segment which is reasonably capable of sustaining such fish life, shellfish life, and wildlife from the standpoint of physical, streambed, flow, habitat, climatic, and other pertinent characteristics.

Notwithstanding the presence of certain physical barriers to fish in the new Segments 8a1 and 8a2, both are typical high mountain streams. For example, the macroinvertibrate populations are representative of typical streams of this type. No substantial evidence was presented to demonstrate that the previously established agriculture classification is erroneous. There was evidence presented of possible agricultural use of Segments 8a1 and 8a2. Therefore, the Commission has decided to retain the existing use classifications for both Segment 8a1 and 8a2. Leadville Corporation, Parkville Water District and the Water Quality Control Division stipulated to the retention of all existing classifications for Segment 8a2.

Standards:

Based upon the new ambient water quality data submitted at the hearing, the Commission has revised the water quality standards for Segment 8a of Iowa Gulch for four parameters: copper, lead, cadmium, and zinc. Separate standards have been established for new Segments 8a1 and 8a2. For Segment 8a2, Leadville Corporation and Parkville Water District stipulated their agreement with the standards recommended by the Division. At the hearing, Leadville corporation objected only to the Division's proposed lead standard for Segment 8a1.

In establishing revised standards for Segment 8a1, the Commission rejected as a matter of policy the position of Leadville Corporation that ambient water quality data from samples taken at the Sherman Mine Portal should be included in the calculation of standards. The Sherman Mine Portal drainage is a permitted point source discharge. Even if the source of this discharge is essentially ground water, this discharge to the stream would not exist except for the presence of mining operations.

The final revised standards take into account additional data submitted by Leadville Corporation and admitted into the record by the Commission on February 3, 1987. The revised standards are merely a recalculation of ambient quality for the relevant segments based on new data. Recalculation of ambient water quality for Segments 8a1 and 8a2 was done consistently with the policy of excluding certain “outliers” based on the screening process known as Chauvenet's criteria and two “outliers” for lead were excluded from the Division's data base as a result. The revisions do not constitute a downgrading of classified uses for these segments and do not authorize any change in the existing water quality of these segments. For lead and zinc in both segments, and for cadmium in Segment 8a2, the revised standards are in fact more stringent than existing standards.

FISCAL IMPACT STATEMENT:

The retention of the existing classifications for the resegmented Segments 8a1 and 8a2 of Iowa Gulch creates no new fiscal costs of benefits. The revised numerical standards for these segments may have

fiscal impacts. The establishment of more stringent numerical standards for Segment 8a2 will provide better protection for the uses in that segment, including the domestic water supply diversion by the Parkville Water District. The water users and ratepayers of the Parkville Water District may benefit economically in terms of water treatment costs and reduced health impacts.

Leadville Corporation submitted evidence that adoption of the revised numerical standards for Segment 8a1 will require an expenditure of $400,000 for treatment of the Sherman Mine Portal discharge. Currently, this is the only permitted mine water discharge in the State that is not treated. Although a determination whether such treatment will be required was not a subject of this hearing, the Commission finds that even if such costs are incurred, this economic impact is justified since the standards established are reasonably necessary to protect the uses of this segment of Iowa Gulch.

The actions taken are not expected to have a significant fiscal impact on the State's administration of water quality control programs.

Dated this 2nd day of March, 1987, at Denver, Colorado.

FINDINGS REGARDING BASIS FOR EMERGENCY RULE SEPTEMBER 11, 1990:

The Commission finds that the immediate adoption of this regulation is imperatively necessary for the preservation of public health, safety, or welfare and that compliance with normal notice requirements would be contrary to the public interest. The reasons for this finding are that action needs to be taken during this winter season to minimize the risk of uncontrolled releases of highly saline water from Cheraw Lake. Specifically, there is a possibility of significant damage to agricultural and domestic water supply uses downstream of Cheraw Lake if undiluted releases occur. There was evidence that the water level in Cheraw Lake currently is near the top of the outlet structure and that therefore releases could occur in the near future, depending on precipitation and return flows into the Lake.

The two release prohibitions which are scheduled to go into effect in 1990 would, of course, not become effective during the life of this emergency rule. However, the Commission finds that the two-year period established in the regulation is necessary for affected entities to take the actions necessary to come into compliance by that time. Necessary actions would include assessment of the problem, analysis of the feasibility of compliance options, arrangements for financing, and completion of design and implementation of any structures or facilities to achieve compliance. Therefore, the Commission finds there is an emergency basis for adopting these provisions, in order to provide adequate notice to affected entities, should these or similar provisions be adopted as permanent regulations. At the same time, the Commission intends to consider at the permanent adoption hearing any other options that may be developed by the Division or outside parties prior to that time.

Paragraph 4.4.2(3) prohibits any release of water from water collection systems into Cheraw Lake after March 15, 1990, irrespective of the quality of such releases. From the evidence provided, it appears that even if distilled water were released into Cheraw Lake, after mixing there is a substantial risk that the water released from Cheraw Lake would be of an unacceptable quality. Moreover, long-term downstream protection can not be accomplished solely by regulating controlled releases, since uncontrolled releases are likely to occur, depending on precipitation and return flows. Therefore water releases into Cheraw must be controlled in order to control outflows.

From the information currently available to the Commission, the limitation on releases into Cheraw Lake should have no adverse impact on water rights. The testimony indicated that there are no current water rights to the water in Cheraw Lake, and did not indicate that any water users upgradient of the Lake currently use the return flows that run into the Lake. In fact, diverting water around Cheraw Lake to comply with section 4.4.2(3) may have a beneficial impact on water rights by increasing the water supply downstream. Of course, should different information regarding a potential impact on water rights become available prior to the permanent adoption hearing, that may affect any action that the Commission would take as a result of that hearing.

Because of the Commission's extremely full agenda and the time necessary to develop a proposed regulation on this complex issue, the Commission finds that it may be necessary for the emergency regulation to be in effect for up to one year. Therefore, the regulation is to be effective immediately and continue in effect until the effective date of permanent regulations or for one year, whichever comes first. The Commission has agreed to schedule a permanent adoption hearing for November 7, 1988, which is the earliest available time on the Commission's agenda.

The purpose of this regulation is to protect the agricultural uses of water in Horse Creek (Otero and Bent counties) from the highly saline discharges from tributary Cheraw Lake, while also avoiding an unacceptable adverse impact on other downstream water uses, particularly domestic water supplies.

The saline condition of water in Cheraw Lake appears to be caused by highly alkaline native soils in the area together with routing of irrigation return flows to the lake. Traditionally, the shortage of water in the Arkansas River Basin has prevented the lake from overflowing into Horse Creek. Evaporation losses then contributed to the increase in salinity which has exceeded 17000 mg/l (TDS) in the upper layer and 60,000 mg/l at the bottom of the lake based on samples collected by the Division and the USGS. The excess of water caused by the past “wet” years has caused levels in the lake to rise significantly which, in turn, threatened to cause property damage to State Highway 109 and the Town of Cheraw. This led several parties to effect releases from the lake which have damaged and endangered the agricultural use downstream on Horse Creek. This statement is supported by the EPA “Red Book: criteria for irrigation water and Division water quality investigations of the Lake and Horse Creek.

The ambient quality of Horse Creek has exceeded 5000 ppm TDS without influence from Cheraw Lake based on the existing water quality database. Since the agricultural use of the Horse Creek water under those conditions did not appear to be impaired, the salinity levels of Horse Creek will be controlled based on the mean plus one standard deviation of the measured TDS levels in Horse Creek, which is 5270 mg/l. The TDS standard adopted for Horse Creek should help assure that this level is met in the future.

FISCAL IMPACT STATEMENT REGARDING CHERAW LAKE EMERGENCY CONTROL REGULATION AND HORSE CREEK SALINITY STANDARD; AS ADOPTED JANUARY 22, 1988

One group of persons who may incur additional costs as a result of these emergency regulations is anyone who may effect a controlled release of water from Cheraw Lake. Costs, which have not been quantified, would be incurred principally by acquiring a source of dilution water so that releases comply with the salinity limitation. In addition, if the provisions of the emergency regulations are permanently adopted, the prohibition of the release of water from water collection systems into Cheraw Lake after March 15, 1990 may impose substantial costs on the owners of water collection systems who would have to reroute such water away from Cheraw Lake.

The primary persons potentially benefiting from the regulations are agricultural and domestic water users downstream. These persons may benefit by the requirement for water released from Cheraw Lake to be diluted, and from the prohibition of releases of water into Cheraw Lake if that becomes permanent (since that prohibition would minimize the likelihood of further releases from Cheraw Lake). There was evidence submitted that even diluted water released from Cheraw Lake adversely impact downstream users. However, whether any such impacts would be greater or less than would occur without the emergency regulations depends on speculation regarding future precipitation and resulting water use patterns.

The emergency regulations should not have a significant fiscal impact on the State's administration of the water quality control program.

32.14 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE (NOVEMBER, 1988, HEARING ON HORSE CREEK)

The provisions of 25-8-202(1)(b) and (2); and 25-8-204; C.R.S. provide the specific statutory authority for adoption of the attached 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:

The purpose of the water quality standard for TDS adopted for Horse Creek is to help protect downstream agricultural and domestic water supply uses, to the degree feasible, taking ambient water quality conditions into account. This standard is intended to operate in conjunction with the Cheraw Lake control regulation, which is being adopted concurrently. The purpose of the control regulation is to protect the agricultural uses of water in Horse Creek (Otero and Bent Counties) from the highly saline discharges from tributary Cheraw Lake, while also avoiding an unacceptable adverse impact on other downstream water uses, particularly domestic water supplies.

The regulation takes into account the intermittent nature of any discharges from Cheraw Lake, and the possibility that any discharge could be diluted before the water reaches Horse Creek. The regulation does not impose any specific treatment or best management practice requirements. Rather, it provides flexibility regarding the means of compliance, so long as the specific level of salinity can be achieved in Horse Creek.

The saline condition of water in Cheraw Lake appears to be caused by highly alkaline native soils in the area together with routing of irrigation return flows to the lake. Traditionally, topography and the shortage of water in the Arkansas River Basin has prevented the lake from overflowing into Horse Creek. Evaporation losses then contributed to the increase in salinity which has exceeded 17000 mg/l (TDS) in the upper layer and 60000 mg/l at the bottom of the lake based on samples collected by the Division and the USGS. The excess of water caused by the past “wet” years has caused levels in the lake to rise significantly which, in turn, threatened to cause property damage to State Highway 109 and the Town of Cheraw. This led several parties to effect releases from the lake which have damaged and endangered the agricultural use downstream on Horse Creek. This statement is supported by the EPA “Red Book” criteria for irrigation water and Division and USGS water quality investigations of the Lake and Horse Creek.

The ambient quality of Horse Creek has exceeded 5000 ppm TDS without influence from Cheraw Lake based on the existing water quality database. Since the agricultural use of Horse Creek water was not impaired under those conditions, salinity levels of Horse Creek will be controlled based on the 85th percentile of 65 USGS measurements of specific conductance prior to the 1985 releases from Cheraw Lake. This value was then converted to TDS using a linear regression developed by USGS and Division staff. The calculated TDS standards is 4300 mg/l.

PARTIES TO NOVEMBER, 1988 HEARING

1. Town of Cheraw
2. Holbrook Drainage District
3. Holbrook Mutual Irrigating Company
4. Arkansas Valley Ditch Association
5. Catlin Canal Company
6. High Line Canal Company
7. Board of County Commissioners, County of Otero
8. David & Dolores Direzza
9. George L. Bender and Sam Turner

32.15 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY, AND PURPOSE; NOVEMBER, 1989 HEARING ON SEVERAL SEGMENTS:

The provisions of 25-8-202(1)(a), (b) and (2); 25-8-203; 25-8-204; and 25-8-402 C.R.S. 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:

First, the Commission has adopted new introductory language for the tables in section 6. The purpose of this language is to explain the new references to "table value standards" (TVS) that are contained in the Tables. The other changes considered and adopted are addressed below by segment.

A. Aquatic Life Class 1 with Table Values; New High Quality 2 Designations

Upper Arkansas segments 12, 13, 15, 16a, 16c, 17a, 17c, 18a, 19, 20, 23, 24
Middle Arkansas segments 5, 6, 9, 10, 11, 14, 16, 19, 20, 21
Fountain Creek segments 4 and 5
Lower Arkansas segments 3, 5b, 6a, 8, 11

Numerical standards for metals for these segments have in most instances previously been based on table values contained in Table III of the Basic Standards and Methodologies for Surface Water. Table III has been substantially revised, effective September 30, 1988. From the information available, it appears that the existing quality of these segments meets or exceeds the quality specified by the revised criteria in Table III, and new acute and chronic table value standards based thereon have therefore been adopted. There are also some of these segments whose previous standards were values based on alkalinity ranges. However, these segments generally have much higher hardness than alkalinity, and the new table values (based on hardness-dependent equations) are now appropriate as standards.

Second, in addition to these standards changes, the use classifications have been revised where necessary so that each of these segments has the following classifications:

Recreation - Class 1
Cold Water Aquatic Life - Class 1
Water Supply
Agriculture

These classifications are appropriate because the existing quality is adequate to protect these uses.

Third, a High Quality 2 designation has been established for each of these segments. The best available information in each case indicates that the existing quality for dissolved oxygen, pH, fecal coliform, cadmium, copper, iron, lead, manganese, mercury, selenium, silver and zinc is better than that specified in Tables I, II and III of the Basic Standards and Methodologies for Surface Water, for the protection of aquatic life class 1 and recreation class 1 uses.

Wilson Creek, Upper Arkansas segment 23, has been reclassified from aquatic life cold, class 2 to aquatic life class 1, with a High Quality 2 designation. A field review by the Division indicates the presence of aquatic life in the segment including reproducing brook trout. Table value standards were adopted because ambient water quality is better than specified by the standards at ambient hardness.

B. Existing High Quality 2 Segments; New Classifications and Standards

Upper Arkansas segments 1a, 25
Middle Arkansas segments 22, 23, 24

These segments were already described as High Quality Class 2, and available information indicates that the parallel new High Quality 2 designation continues to be appropriate for each. Upper Arkansas segment 1a is within the Collegiate Peaks wilderness area. Upper Arkansas segment 25 and Middle Arkansas segments 22, 23, and 24 contain an endangered species of cutthroat trout. In addition, the following use classifications and associated table value standards were adopted for these segments:

Recreation - Class 1
Cold Water Aquatic Life - Class 1
Water Supply
Agriculture

These classifications and standards are appropriate based on the best available information regarding existing quality. These provisions would apply in the event that degradation is determined to be necessary following an activity-specific antidegradation review.

C. New Use-Protected Designations; No Change in Numeric Standards

Upper Arkansas segments 8a1, 8a2, 14, 22, 26
Middle Arkansas segments 4, 13, 18
Fountain Creek segments 3a, 8
Lower Arkansas segments 2, 6b, 13
Cimarron River segment 1

These segments all qualify for a use-protected designation based on their present classifications. Lower Arkansas segment 6b and Upper Arkansas segments 8a1, 8a2, and 14 have cold water class 2 classifications. The remaining segments have warm water class 2 classifications. Existing standards are recommended because these segments either have no metal standards or because no dissolved metals data is available for them at this time (Upper Arkansas segments 8a1 and 8a2).

D. New Use-Protected Designations; Revised Numeric Standards

Middle Arkansas segments 3, 7, 8, 15, 17
Fountain Creek segments 6 and 7
Lower Arkansas segments 1, 4, 7, 9, 14
Cimarron River segment 2

Middle Arkansas segments 7, 8, 15 and 17; Fountain Creek segments 6, 7; Lower Arkansas segments 1, 4, 7, 9 and 14, and Cimarron River segment 2 are qualified for a use-protected designation because they are classified recreation class 2 and aquatic life warm class 1 or 2.

Table value standards are adopted for all constituents, except as noted below.

Segment	Constituent(s)
Fountain Creek, 7	Fe
Lower Arkansas, 1	SO4, Fe

E. No Change in Designation; Revised Numeric Standards

Upper Arkansas segments 1b, 1c, 2a, 2b, 2c, 3, 4, 5, 6, 10, 16b, 17b, 21, 27
Middle Arkansas segments 1, 2, 12
Fountain Creek segments 3b, 9
Lower Arkansas segments 5a, 10, 10a, 12, 12a

The principal issues considered for segment 1b of the Upper Arkansas were the addition of an agriculture classification and the assignment of ambient based standards for zinc, lead, and copper. Consideration of a use-protected designation was also discussed but rejected because the data was in total recoverable form and not dissolved. The Commission declined to adopt the agriculture classification because although the quality of the water would support the use, the water was not currently being used for this purpose and was not likely to be in the future. Table value standards were adopted for zinc, lead and copper with a temporary modification of 250 ug/l for zinc, 12 ug/L for lead and 10 ug/L for copper, each as total recoverable, to expire December 31, 1992. In setting these standards, the Commission rejected deletion of the runoff data and considered adopting seasonal standards. Seasonal standards were not adopted because this would result in spring runoff standards several times higher than the acute criterion.

The Commission's action in adopting the temporary modifications and underlying standards for zinc, lead, and copper on segment 1b assumes that dissolved data will be available for the next triennial review (1991), and that revisions to both the temporary modifications and the underlying standards, if appropriate, can be made at that time.

On segments 2c and 3 the Commission has adopted temporary modifications and underlying standards due to the metals loading from the Leadville area, i.e. California Gulch and the Leadville Tunnel. On segment 2c an underlying TVS standard for cadmium was adopted with a 3-year temporary modification of 2.3 ug/l. The zinc standard was set at 118 ug/l with a 3-year temporary modification of 565 ug/l. On segment 3, an underlying zinc standard of 130 ug/l was adopted with a 250 ug/l temporary modification, the temporary modification only in effect on that portion of the segment from Lake Creek to US Highway 25. On both segments the underlying zinc standard is based on the EPA chronic zinc criterion for the average hardnesses in each segment. This modification from Colorado's criterion of 45 ug/l was justified by site-specific Division of Wildlife bioassays in these reaches of the Arkansas River. The temporary modification to the cadmium and zinc standards are based on the 85 percentile values of the dissolved cadmium and zinc data available on each segment. It is felt that the underlying standards will easily be obtained in the next 3 years with the clean-up of the Leadville Tunnel and the Yak Tunnel on California Gulch.

Segment 4 is classified cold water aquatic life class 1, recreation class 1. Table value standards are met for all constituents in this segment except total recoverable iron. An ambient standard of 1,200 ug/l is adopted for iron and table values are adopted for the rest.

The water supply use classification was removed from Upper Arkansas segment 9 because the ambient concentration of sulfate and manganese in the segment are inconsistent with the criteria for water supply and there is no existing or historic water supply uses of segment 9 waters.

New segments, Lower Arkansas 10a and 12a were created for Lakes Meredith and Henry, respectively. Lower Arkansas segments 10 and 12, which include several plains reservoirs, were designated high quality class 2 because they have the necessary use classifications. With respect to Lakes Meredith and Henry, the City of Colorado Springs testified that these two reservoirs are frequently dried up during the exercise of water rights, and thus should not be designated high quality.

Existing use classifications (Recreation 1, warm water aquatic life 1, water supply, and agriculture) and TVS were adopted for segments 10a and 12a. Segments 10a and 12a were not designated high quality 2.

Consideration of standards for Upper Arkansas segments 2a, 2b and 6 was continued until April, 1990 because of concerns that proposed standards were not protective of aquatic life and may be inconsistent with clean-up goals of the Leadville Drain and California Gulch Superfund projects. Existing classifications remain in place for all three segments. For segment 6, all numerical standards except fecal coliform have been deleted. No party objected to this change. For

segments 2a and 2b, the Commission has adopted table value standards as the underlying numerical standards, with eight- year temporary modifications based on existing ambient quality.

At the time that the original classifications and standards were adopted for segments 2a and 2b, in 1982, the Commission concluded that the prospects for future improvement of water quality were “too speculative” to adopt more-stringent-than-ambient water quality standards for these segments. Since then, the prospects for improvement have changed substantially. In view of the pending treatment of Leadville Tunnel water and the Superfund actions addressing California Gulch clean-up, the Commission now believes that it is appropriate to adopt table value standards for these segments, to serve as a goal for future clean-up, and protection from any new discharges.

There is some uncertainty at this time as to the precise metals levels that will be achieved instream following pending cleanup actions. The eight-year temporary modifications will not only allow time for substantial cleanup to occur, but will allow two triennial reviews to further assess the appropriateness of the underlying standards before they go into effect. If better information available in the future indicates that different underlying standards are appropriate, the standards can be modified at that time. As a matter of policy, the Commission does not believe that leaving ambient-quality-based standards in place as the sole standards for these segments at this time is appropriate, since that would suggest that the existing quality is acceptable for the future. That result would ignore the clean-up actions already planned and would be inconsistent with the Water Quality Control Act policy of improving water quality where necessary and reasonable.

F. Fountain Creek, Segment 2

1. At the November 6, 1989, rulemaking hearing, the Water Quality Control Division recommended the adoption of an Aquatic Life Class 2 classification for Fountain Creek, Segment 2, because of the presence of propagating fish in the 50-mile-long stream segment.

2. The City of Colorado Springs, the major discharger to the segment, contended that the Aquatic Life Class 2 classification was not an attainable use. The Division and Colorado Division of Wildlife, however contended that the use is in place. A Use Attainability Analysis (UAA) performed by the City showed there were 13 species of fish, in the minnow, sucker, perch, killifish, sunfish, and strickleback families, but found only from time to time and scattered over the 50-mile-long reach. At least 30 species of aquatic macroinvertebrates were also found. The UAA demonstrated that the fish population density, or abundance, was very low. But the Division noted in its testimony, the density was as expected for a plains stream. The UAA included evidence that both the high sediment loading and the high flooding flows due to both natural and anthropogenic causes substantially impaired habitat for fish, consistent with the Class 2 warmwater aquatic life classification. (The impairment was due to highly erosive soils, a shale and grain sand stream bottom, significant change in topographical elevation and a history of flash flooding; the anthropogenic causes included agricultural diversion dams, agricultural activities, stream channelization, and storm water runoff.) The UAA demonstrated that the fish above and below the wastewater discharge point were the same in quantity and kind despite the unionized ammonia discharged. Levels of unionized ammonia monitored at downstream sites have reached levels known to be acutely and chronically toxic to warmwater fish, according to the literature. However, testimony was uncertain whether any increased toxic effects occurred at any point further downstream. The City testified that there would be no increase in the number of fish due to the water quality improvements because of the habitat impairment. The City urged that the absence of any value from the additional treatment justified the conclusion that the Aquatic Life Class 2 was not attainable. The Division expected improved numbers and kinds of fish in the reach below the discharge.

3. According to a USGS report, 93 percent of the total nitrogen load to Widefield aquifer was from the Colorado Springs Sewage Treatment Plant effluent in 1982.

4. Because of the conflicting and strongly disputed testimony regarding the attainability of the aquatic life use, the Commission conducted extensive deliberations regarding this issue. The importance of this determination was also reflected by substantial testimony from the City of Colorado Springs regarding the costs of additional treatment facilities and the resulting economic impact. At the suggestion of the parties, the Commission suspended its deliberations for several months, to allow discussions among the City, the Division, and EPA, in an effort to achieve a mutually acceptable resolution of the issues presented. These discussions have resulted in a proposal that is acceptable to these three entities, as described below. EPA did not participate as a party and has yet to review or approve a Commission decision, but EPA has participated and offered recommendations in discussions on the package of decisions. After review, the Commission has determined that this proposed resolution is appropriate, and is supportable by the facts presented in the hearing.

5. The City agreed not to contest the Aquatic Life Class 2 classification if a six-year Temporary Modification is provided to enable approximately a six-year period for construction of required advanced waste treatment facilities. These facilities are designed primarily to remove total inorganic nitrogen (TIN) to protect the Widefield Aquifer drinking water quality. This goal will also have the added benefit of protecting aquatic life.

6. An underlying standard of 0.1 mg/L unionized ammonia will be attained at the end of the Temporary Modification. During the Temporary Modification, existing (1989) conditions, as reflected by a 20 mg/L (30-d average) effluent concentration shall be maintained. The duration of the Temporary Modifications is based upon the construction schedule shown in “Advanced Wastewater Treatment Evaluation and Facility Plan Update,” dated April 16, 1990 by Brown & Caldwell, Consulting engineers for the City of Colorado Springs. That schedule requires design work during 1990 into early 1991; first phase construction from 1991 into 1993; and second phase construction from 1993 to the end of 1995. Compliance with the unionized ammonia standard is expected when the temporary modification expires on July 30, 1996. This schedule assumes optimum design, scheduling, construction, and start up conditions. This Facility Plan will meet the total ammonia limit for the purpose of protecting aquatic life, and will reduce TIN for the purpose of protecting the drinking water in the Widefield Aquifer. A three-year study on the Widefield aquifer may require the construction of additional facilities beyond those presently anticipated. The Division has indicated that based upon this study, the permit may be modified to include a compliance schedule and an interim limit for TIN to allow the City more time to construct additional nitrogen removal facilities. The justification for the Temporary Modification, as provided in Commission Regulation 3.1.7, is the time required to construct extensive advanced waste treatment facilities to implement measures to achieve compliance with standards. The temporary modification will be reviewed at the triennial review in 1994.

7. The Commission concludes that table value standards for all metals except iron are appropriate since the 85th percentile of ambient dissolved metals data is below a calculated TVS standard at a conservative hardness of 140 mg/l. The 85th percentile of total recoverable iron is 3,200 ug/l and was the basis for that standard.

8. The Water Quality Control Division has indicated that the Colorado Springs discharge permit would be written in the following manner. In lieu of a nitrate effluent limit to protect the drinking water use in the Widefield Aquifer, a total inorganic nitrogen (TIN) limit shall be used for permitting purposes. The exact effluent concentration limit will be derived after a City conducted three-year study is completed concerning the relationship between

stream and groundwater concentrations of ammonia, nitrate, and total nitrogen. Unless additional treatment facilities are required as a result of the TIN study, the permit shall require compliance with the TIN effluent limit at the time that the .1 mg/L unionized ammonia standard becomes effective. Recent Colorado Ammonia Model analysis-the assumptions used therein having consensus of support-identified a seasonal ammonia limit of 6 mg/L necessary to protect the .1 mg/L unionized ammonia stream standard. Both a total ammonia effluent limit necessary to protect the aquatic life standard and a TIN limit to protect the drinking water use in the Widefield Aquifer will be included in the permit. Compliance with effluent limits will be based upon a flow weighted average of the two effluent discharge points for all parameters for which such computation is appropriate. The treatment facilities to achieve the presently anticipated standards and effluent limits are expected to cost approximately $20 million. This estimate is down from the original estimate of $42 million for nitrification and denitrification facilities at both the trickling filter and the activated sludge portions of the City of Colorado Springs wastewater plant. The Commission concludes that the permitting approach described above is consistent with the stream classifications and water quality standards adopted.

Parties to the Hearing

1. AMAX, Inc.
2. ASARCO, Incorporated & Res ASARCO Joint Venture
3. CF&I Steel Corporation
4. Colorado Division of Wildlife
5. City of Colorado Springs, Water & Wastewater Divisions
6. Board of Water Works of Pueblo
7. City of Pueblo
8. City of Salida

FINDINGS REGARDING BASIS FOR EMERGENCY RULE SEPTEMBER 11, 1990:

The Commission held this emergency rulemaking hearing to readopt the classifications and numeric standards for one segment of the Arkansas River Basin to correct typographical errors in the original filing. The affected regulation was amended on June 5, 1990 and was filed within the required timeframes with the Secretary of State's Office and the Office of Legislative Legal Services. The Commission learned shortly after the filings that there was an error on page 12, segment 2, Fountain Creek of the tables.

The Commission finds that the immediate adoption of this regulation is imperatively necessary for the preservation of public health, safety, or welfare and that compliance with normal notice requirements would be contrary to the public interest. Emergency adoption is necessary to assure that the published regulation is consistent with the regulation that the commission adopted, to avoid confusion for the public and to assure that the revised discharge permit for the City of Colorado Springs is consistent with the Water Quality Control Commission's action.

32.16 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY, AND PURPOSE; FEBRUARY, 1991, HEARING:

The provisions of 25-8-202(1)(a), (b) and (2); 25-8-203; 25-8-204; and 25-8-402 C.R.S. 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:

(1) On June 5, 1990, following rulemaking hearings on November 6 and 7, 1989 and April 3, 1990, the Commission took final action to adopt numerous revisions to water quality classifications and

standards throughout the Arkansas River Basin. On September 10, 1990 the Commission held an emergency rulemaking hearing to correct certain typographical errors in the revisions as filed following the June 5 action, specifically relating to segment 2 of Fountain Creek. To reflect the proper classifications and standards for this segment, the correction of these typographical errors has now been made permanent.

(2) Section 3.2.5(4) of this regulation contained provisions regarding a “footnote for un-ionized ammonia and nitrate.” The purpose of this section of the regulation was to implement a statutory provision that has subsequently been repealed. In addition, the footnotes provided for in this section had previously been deleted from the Arkansas Basin tables. Therefore, to conform with current law and avoid confusion, this section has been deleted.

(3) Section 3.2.6(3) has been revised to apply new zinc criteria as table value standards in the basin, in place of the table values set forth in Table III of the Basic Standards and Methodologies for Surface Water. The revised zinc criteria are based on new equations that have been determined to be more appropriate, and which have been developed since the Basic Standards and Methodologies for Surface Water were revised.

(4) A dissolved manganese standard of 50 ug/l was adopted for segment 2 of Fountain Creek even though the 85th percentile of representative data collected from Fountain Creek upstream of the Colorado Springs Wastewater Treatment Plant showed ambient levels of approximately 70 ug/l. This ambient level exceeds the 50 ug/l criterion contained in Table III of the Basic Standards which is meant to protect against objectional aesthetic qualities such as staining of laundry and taste problems in the finished water. Segment 2 was classified for water supply in 1980 based on its hydraulic connection to the Widefield Aquifer which is a major water supply for several municipalities and private residences. There were no surface withdrawals of water from segment 2 for domestic use in 1980 nor are there any at present or anticipated in the future. For these reasons and testimony from Colorado Springs that it is not feasible for their wastewater treatment plant to comply with either a 50 or 70 ug/l stream standard now or in the future, the Commission accepted the proposal that compliance with the standards would be based on maintaining a level below 50 ug/l at a point in the aquifer which should be most sensitive to changes in concentration caused by loadings to segment 2 of Fountain Creek.

PARTIES TO THE FEBRUARY 3, 1991 RULEMAKING HEARING FOR THE ARKANSAS RIVER BASIN'

1. City of Colorado Springs
2. Division of Wildlife
3. ASARCO Incorporated & RES-ASARCO Joint Venture

FINDINGS REGARDING BASIS FOR EMERGENCY RULE FEBRUARY 5, 1991:

The Commission held this emergency rulemaking hearing to revise the numerical standards for one segment of the Arkansas River Basin. Specifically, the dissolved manganese standard has been removed and other metals standards for Upper Arkansas segment 9 corrected, to reflect the fact that the water supply classification was previously removed from this segment.

The Commission finds that the immediate adoption of this regulation is imperatively necessary for the preservation of public health, safety, or welfare and that compliance with normal notice requirements would be contrary to the public interest. Emergency adoption is necessary because the Commission previously removed the water supply classification from this segment and inadvertently did not correspondingly change the numerical standards, and because the ASARCO discharge permit for a discharge to this segment, which will be affected by these standards, expires in March of this year.

32.17 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY, AND PURPOSE; AUGUST, 1991, HEARING:

The provisions of 25-8-202(1), (b) and (2); 25-8-204; and 25-8-402 C.R.S. 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:

On February 5, 1991, the Commission held an emergency rulemaking hearing to revise the numerical standards for one segment of the Arkansas River Basin. Specifically, the dissolved manganese standard was removed and other metals standards for Upper Arkansas segment 9 corrected, to reflect the fact that the water supply classification was previously removed from this segment. Emergency adoption was deemed appropriate because the Commission previously removed the water supply classification from this segment and inadvertently did not correspondingly change the numerical standards. The factual basis for these revisions is unchanged and the Commission has therefore made them permanent. In addition, the Commission has added an expiration date for the temporary modifications for this segment. The intent of the Commission in adopting the date selected is that expiration correspond with the next triennial review of this segment, at which time it is anticipated that dissolved metals data will be available to set new standards consistent with the criteria of the basic standards.

PARTIES TO THE AUGUST 5, 1991 RULEMAKING HEARING FOR THE UPPER ARKANSAS SEGMENT 9 ARKANSAS RIVER BASIN

1. Res-ASARCO Joint Venture

32.18 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY, AND PURPOSE; NOVEMBER 2, 1992:

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

BASIS AND PURPOSE:

The Commission adopted temporary modifications for Segment 1b as a result of its November 1989 hearing on the Arkansas River Basin. These temporary modifications are scheduled to expire December 31, 1992. A hearing for the Arkansas River Basin has been scheduled by the Commission for June 6, 1994. The Commission extended the expiration date of the temporary modification to December 31, 1994, so that the Commission will have an opportunity to hear evidence as to whether these temporary modifications continue to be necessary.

PARTIES TO THE NOVEMBER 2, 1992 RULEMAKING HEARING

1. Climax Molybdenum Company
2. City of Arvada
3. Division of Wildlife
4. Hazardous Materials & Waste Management Division, Colorado Department of Health
5. City of Westminster

32.19 SPECIFIC STATUTORY AUTHORITY AND PURPOSE; MARCH 1, 1993 HEARING:

The provisions of 25-8-202(1)(a), (b) and (2); 25-8-203; 25-8-204; and 25-8-402 C.R.S. 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:

The changes to the designation column eliminating the old High Quality 1 and 2 (HQ1, HQ2) designations, and replacing HQ1 with Outstanding Waters (OW) designation were made to reflect the new mandates of section 25-8-209 of the Colorado Water Quality Act which was amended by HB 92-1200. The Commission believes that the immediate adoption of these changes and the proposals contained in the hearing notice is preferable to the alternative of waiting to adopt them in the individual basin hearings over the next three years. Adoption now should remove any potential for misinterpretation of the classifications and standards in the interim.

In addition, the Commission made the following minor revisions to all basin segments to conform them to the most recent regulatory changes:

1. The glossary of abbreviations and symbols were out of date and have been replaced by an updated version in section 3.2.6(2).

2. The organic standards in the Basic Standards were amended in October, 1991, which was subsequent to the basin hearings. The existing table was based on pre-1991 organic standards and are out of date and no longer relevant. Deleting the existing table and referencing the Basic Standards will eliminate any confusion as to which standards are applicable.

3. The table value for ammonia and zinc in the Basic Standards was revised in October, 1991. The change to the latest table value will bring a consistency between the tables in the basin standards and Basic Standards.

4. The addition of acute un-ionized ammonia is meant to bring a consistency with all other standards that have both the acute and chronic values listed. The change in the chlorine standard is based on the adoption of new acute and chronic chlorine criteria in the Basic Standards in October, 1991.

Finally, the Commission confirms that in no case will any of the minor update changes described above change or override any segment-specific water quality standards.

32.20 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE: AUGUST 2, 1993 RULEMAKING HEARING:

The provisions of 25-8-202(1)(a), (b) and (2); 25-8-203; 25-8-204: and 25-8-402, C.R.S. provide the specific statutory authority for adoption of these regulation 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:

The Arkansas River mainstem segment temporary modifications (Segments 2a and 2b) were originally established to accommodate a Superfund cleanup schedule. The Iowa Gulch temporary modification (Segment 9) was to facilitate Asarco treatment process scheduling. Changes in the expiration dates for temporary modifications on these three segments were necessary to facilitate the scheduled rulemaking hearings for the Arkansas Basin without overextending the expiration date beyond the required three-year maximum. The basin hearing is scheduled for November, 1994. New data will likely be presented at that hearing which will result in either altered, new, or eliminated temporary modifications. Extending the current temporary modifications will accommodate that schedule without disrupting the regulatory decisions that are based on the current modifications.

32.21 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE: SEPTEMBER 7, 1993 RULEMAKING HEARING:

The provisions of 25-8-202(1)(a), (b) and (2); 25-8-203; 25-8-204: and 25-8-402, C.R.S. provide the specific statutory authority for adoption of these regulation 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:

On November 30, 1991, revisions to "The Basic Standards and Methodologies for Surface Water", 3.1.0 (5 CCR 1002-8), became effective. As part of the revisions, the averaging period for the selenium criterion to be applied as a standard to a drinking water supply classification was changed from a 1-day to a 30-day duration. The site-specific standards for selenium on drinking water supply segments were to be changed at the time of rulemaking for the particular basin. Only one river basin, the South Platte, has gone through basin-wide rulemaking since these revisions to the "Basic Standards". Through an oversight, the selenium standards was not addressed in the rulemaking for this basin and has since become an issue in a wasteload allocation being developed for segments 15 and 16 of the South Platte. Agreement on the wasteloads for selenium is dependent upon a 30-day averaging period for selenium limits in the effected parties permits. Therefore, the parties requested that a rulemaking hearing be held for the South Platte Basin to addressing changing the designation of the 10 ug/l selenium standard on all water supply segments from a 1-day to a 30-day standard. The Water Quality Control Division, foreseeing the possibility of a selenium issue arising elsewhere in the state, made a counter proposal to have one hearing to change the designation for the selenium standard on all water supply segments statewide. The Commission and the parties concerned with South Platte segments 15 and 16 agreed that this would be the most judicious way to address the issue.

The change in the averaging period may cause a slight increase in selenium loads to those segments which have CPDS permits regulating selenium on the basis of a water supply standard. However, these segments are only five in number and the use will still be fully protected on the basis that the selenium criterion is based on 1975 national interim primary drinking water regulations which assumed selenium to be a potential carcinogen. It has since been categorized as a non-carcinogen and new national primary drinking water regulations were promulgated in 1991 that raised the standard to 50 ug/l.

The Commission also corrected a type error in the TVS for Silver by changing the sign on the exponent fro the chronic standards for Trout from + 10.51 to - 10.51.

32.22 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY, AND PURPOSE: JUNE, 1994 RULEMAKING

The provisions of 25-8-202(1)(b) and (2); 25-8-204; and 25-8-402 C.R.S. provide the specific statutory authority for adoption of these regulatory amendments. The Commission adopted, in compliance with 25-4-103(4) C.R.S. the following Statement of Basis and Purpose.

BASIS AND PURPOSE:

The Commission has scheduled a rulemaking hearing to reconsider water quality classifications and standards throughout the Arkansas River Basin in April, 1995. For efficient utilization of resources, the Commission has extended the temporary modifications for four specific stream segments from December, 1994 to December, 1995, so that these temporary modifications can be considered along with other issues in the overall Arkansas Basin rulemaking hearing.

32.23 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE (1995 Silver hearing)

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

BASIS AND PURPOSE:

The changes described below are being adopted simultaneously for surface water in all Colorado river basins.

This action implements revisions to the Basic Standards and Methodologies for Surface Water adopted by the Commission in January, 1995. As part of a July, 1994 rulemaking hearing, the Commission considered the proposal of various parties to delete the chronic and chronic (trout) table values for silver in Table III of the Basic Standards. As a result of that hearing, the Commission found that the evidence demonstrated that ionic silver causes chronic toxicity to fish at levels below that established by the acute table values. It was undisputed that silver is present in Colorado streams and in the effluent of municipal and industrial dischargers in Colorado. The evidence also demonstrated that the removal of silver from wastewater can be costly. However, there was strongly conflicting scientific evidence regarding the degree to which silver does, or could in the absence of chronic standards, result in actual toxicity to aquatic life in Colorado surface waters. In particular, there was conflicting evidence regarding the degree to which the toxic effects of free silver are mitigated by reaction with soluble ligands to form less toxic compounds and by adsorption to particulates and sediments.

The Commission concluded that there is a need for additional analysis of the potential chronic toxicity of silver in streams in Colorado. The Commission encouraged the participants in that hearing, and any other interested parties, to work together to develop additional information that will help resolve the differences in scientific opinions that were presented in the hearing. The Commission believes that it should be possible to develop such information within the next three years.

In the meantime, the Commission decided as a matter of policy to take two actions. First, the chronic and chronic (trout) table values for silver have been repealed for the next three years. The Commission is now implementing this action by also repealing for the next three years, in this separate rulemaking hearing, all current chronic table value standards for silver previously established on surface waters in Colorado. Any acute silver standards and any site-specific silver standards not based on the chronic table values will remain in effect. The Commission intends that any discharge permits issued or renewed during this period will not include effluent limitations based on chronic table value standards, since such standards will not currently be in effect. In addition, at the request of any discharger, any such effluent limitations currently in permits should be deleted.

The second action taken by the Commission was the readoption of the chronic and chronic (trout) table values for silver, with a delayed effective date of three years from the effective date of final action. The Commission also is implementing this action by readopting chronic silver standards with a corresponding delayed effective date at the same time that such standards are deleted from the individual basins. The Commission has determined that this is an appropriate policy choice to encourage efforts to reduce or eliminate the current scientific uncertainty regarding in-stream silver toxicity, and to assure that Colorado aquatic life are protected from chronic silver toxicity if additional scientific information is not developed. If the current scientific uncertainty persists after three years, the Commission believes that it should be resolved by assuring protection of aquatic life.

In summary, in balancing the policy considerations resulting from the facts presented in the July 1994 rulemaking hearing and in this hearing, the Commission has chosen to provide relief for dischargers from the potential cost of treatment to meet chronic silver standards during the next three years, while also providing that such standards will again become effective after three years if additional scientific information does not shed further light on the need, or lack of need, for such standards.

Finally, the Division notes that arsenic is listed as a TVS standard in all cases where the Water Supply classification is not present. This is misleading since Table III in the Basic Standards lists an acute aquatic life criterion of 360 ug/l and a chronic criterion of 150 ug/l for arsenic, but a more restrictive agriculture criterion of 100 ug/l. It would be clearer to the reader of the basin standards if, for each instance where the standard “As(ac/ch)=TVS” appears, the standard “As=100(Trec)” is being inserted as a replacement. This change should make it clear that the agriculture protection standard would prevail in

those instances where the more restrictive water supply use protective standard (50 ug/l) was not appropriate because that classification was absent.

The chemical symbol for antimony (Sb) was inadvertently left out of the “Tables” section which precedes the list of segments in each set of basin standards. The correction of this oversight will aid the reader in understanding the content of the segment standards. Also preceding the list of segment standards in each basin is a table showing the Table Value Standards for aquatic life protection which are then referred to as “TVS” in the segment listings. For cadmium, two equations for an acute table value standard should be shown, one for all aquatic life, and one where trout are present. A third equation for chronic table value should also be listed. The order of these three equations should be revised to first list the acute equation, next the acute (trout) equation, followed by the chronic equation. This change will also aid the reader in understanding the intent of the Table Value Standards.

PARTIES TO THE PUBLIC RULEMAKING HEARING JUNE 12, 1995

1. Coors Brewing Company
2. The Silver Coalition
3. Cyprus Climax Metals Company
4. The City of Fort Collins
5. The City of Colorado Springs

32.24 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE: AUGUST 14, 1995 HEARING

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

BASIS AND PURPOSE

INTRODUCTION:

The amendment to the Classifications and Numeric Standards for Arkansas River Basin, 3.2.0 (5 CCR 1002-8) are the result of the second in a series of comprehensive basin reviews of Colorado's stream classifications and standards. The Commission has established a schedule to continue these comprehensive reviews until all seven basins have undergone a thorough review using current data supplied through the Division's concentrated basin monitoring program, supplemented by USGS and other current data.

In the process of revising the classifications, designations, and standards for the Arkansas basin, the Commission relied heavily on the data and analysis supplied by the Division in its Exhibit 1. Where reference is made to the Division's recommendations in this statement, that reference is to Division Exhibit 1 unless specifically noted otherwise. Several parties to the hearing also supplied data and recommendations which the Commission used in arriving at a final set of classifications and standards and those sources are referenced as appropriate. The organization of this statement first addresses those general issues applicable to most or all segments, followed by a discussion of decisions applicable to individual segments.

GENERAL ISSUES:

1. Resegmentation: Extensive renumbering of segments was made throughout the basin due to information which showed that:

    a. The original reasons for segmentation no longer applied.

b. New water quality data showed that streams should be resegmented based on changes in their water quality.

c. Certain segments could be grouped together in one segment because they had similar quality and uses.

Rather than list here all the resegmentation that was made, the reader is advised to contact the Division if there are questions as to which streams are found in which segment descriptions.

2. Wetlands: In March, 1993, the Commission amended the Basic Standards and Methodologies for Surface Water 3.1.0 (5 CCR 1002-8) to include wetlands in the stream classification and standards system for the state. Due to that action, it became necessary to revise the segment description for all segments of the "all tributary" type to clarify that wetlands were also part of the tributary system for a given mainstem segment. All tributary wetlands now clearly carry the same classifications and standards as the stream to which they are tributary as provided for in 3.1.13(1)(e)(iv).

3. Conversion to Dissolved Metals: Several segments in the previous version of the classifications and standards contained standards for metals as "total recoverable". The Commission previously determined that standards for most metals should be expressed as dissolved necessitating conversion of those metals for the following segments:

Upper Arkansas, segments 1b (temporary modifications for total recoverable metals deleted), 7, 8a1, 8b, 9 and 11.

Fountain Creek, segment 1.

4. Changes Necessary to Comply with "Swimmable" Requirements: The Commission has reached an understanding with EPA regarding the classification and standards necessary to comply with the requirements contained in the federal Clean Water Act that all waters of the nation be suitable for recreation in and on the water. I n Colorado, that requirement translates into a Recreation, Class 1, with the 200 fecal coliform/100 ml standard wherever swimming, rafting, etc. are in place or have the potential to occur; Recreation, Class 2, with 200 FC/100 ml standard wherever secondary contact recreation only is practiced, and the existing quality supports a class 1 recreation use and little or no impact to dischargers will result; and Recreation, Class 2, with the 2000 FC/100 ml standard in most other situations. This policy has resulted in recreation classification and/or coliform standard modifications to the following segments:

Upper Arkansas, segments 1b, 2a, 2b, 2c, 3, 5, 7, 8a, 8b, 9, 10, 11, 16b, 17b, 21, and 27.
Middle Arkansas, segment 3.
Fountain Creek, segments 1 and 6.
Lower Arkansas segments 1, 5a, 7, 9a, 9b, 9c, 13.
Cimarron River, segment 2.

The detailed rationale for these changes is found in WQCD Exhibit 1. A more complete basis and purpose for those segments where these changes were controversial is found in the segment-by-segment discussion which follows these general issues.

5. Upgrading of Class 2 Aquatic Life Segments: The Commission decided to adopted upgraded classifications and/or a more complete set of standards for several segments where the Division recommended same based on recent sampling of the biota by the Division of Wildlife (DOW) and the Water Quality Control Division. In general, these segments were previously thought to contain very little aquatic life, and were appropriate for the Class 2, minimal standards application found on most intermittent plains streams. However, the biological data referred to above indicated that a more diverse and rich aquatic life community existed, including threatened

species. The Commission has chosen to recognize these facts by the adoption of a higher aquatic life classification and/or a complete set of protective standards. The streams so affected are:

Middle Arkansas.	segment 10; Sixmile Creek segment 18; Rush and Boggs Creeks
Lower Arkansas,	segment 9a; Rush Creek and forks, Antelope Creek, Horse Creek, West May Valley Drain segment 9b; Apache Creek, Breckenridge Creek, Little Horse Creek, Bob Creek, Cheyenne Creek, Wildhorse Creek, Buffalo Creek, Wolf Creek, Big Sandy Creek segment 9c; Rule Creek, Muddy Creek, Caddoa Creek, Clay Creek, Cat Creek, Two Butte Creek, Trinchera Creek, Mustang Creek, Chicosa Creek, Smith Canyon
Cimarron River,	segment 2; North Carrizo Creek, East and West Carrizo Creeks, Cottonwood Creek, Tecolote Creek

6. Arsenic Standard: On all segments where arsenic was shown as “As(ac/ch)=TVS”, the Commission changed the standard to read “AS(ch)-100(Trec)”. This change was made because the Basic Standards (3.1.0) lists a lower Table Value Standard for agricultural use classification than the chronic aquatic life standard. Where water supply is a classified use, the Table Value Standard of 50 ug/l was retained since it was more restrictive.

7. Manganese Standard: On all segments classified for water supply and aquatic life uses, the total recoverable manganese standard of 1,000 ug/l was stricken. The aquatic life manganese criterion was changed in 1991 revisions to the Basic Standards from total recoverable to dissolved and on these segments a more stringent dissolved manganese water supply standard of 50 ug/l is in place.

8. Mercury Standard: The Basic Standards include the note that the standard for mercury is based on the Final Residual Value (FRV), and that mercury in the total form is the proper way to express that value. Therefore, the Commission decided to change the (TREC) notation for mercury to (tot) in all cases where it appeared.

9. Selenium Standard: The Commission revised the selenium water supply use criterion in the Basic Standards from 10 ug/l (Trec) to 50 ug/l (dis) in 1994. As a result, the chronic aquatic life criterion is now more stringent than the water supply value. In this action, the Commission decided to replace the old 10 ug/l standard with the TVS for aquatic life, namely “Se(ac/ch)=TVS” on all segments assigned a full set of standards for the protection of aquatic life.

10. Use Protected Designation: In a previous rulemaking, the Commission changed the basis for assigning the Use Protected designation by eliminating the automatic assignment where Recreation Class 2 was a classified use. In this comprehensive review of the Arkansas basin classifications, designations, and standards, the Commission revised several segment designations in order to be consistent with that Basic Standards revision. Those segments are:

Middle Arkansas	Segment 3; Arkansas River mainstem through Pueblo. Segment 14; Cucharas River from la Veta to Cuchara Reservoir.
Lower Arkansas	Segment 9a; Various small tributaries to the lower Arkansas River. Segment 13; Various reservoirs and ponds in the lower Arkansas basin.

11. Ambient-Based Standards: The Division presented extensive information in its Exhibit 1 regarding ambient chemical quality of many segments in the basin. In most cases ambient quality was well within the limits prescribed by the Basic Standards for the protection of the various classified uses, prompting the Commission to assign those Table value standards as segment standards. In a few cases, however, ambient quality exceeded the Table Values, yet there was information to suggest that the use was in place nonetheless. The available information lead to the conclusion that there was little hope of reversing the cause for degradation within twenty years. In those instances, the Commission followed the recommendation of the Division to adopt the 85th percentile of the ambient data as the standard (ambient-based standard). Division Exhibit 1 explains the basis for these ambient-based standards in detail, but the following is a list of those segments where such standards have been adopted:

Upper Arkansas, Segments 8b, 10, 11, and 19.
Middle Arkansas, Segments 5, 7, and 12.
Fountain Creek, Segments 2, 6.
Lower Arkansas, Segments 1 and 4.

12. Temporary Modifications: In several instances, the Commission decided to establish temporary modifications to Table Value Standards as an alternative to establishing an ambient-based standard. This practice was followed where these was information to suggest the underlying standard could be met within three years, or where there were questions surrounding the data which could be clarified with additional sampling. The segments where temporary modifications were established of modified are:

Upper Arkansas, Segments 1b, 2b, 2c, 9, 20, and 22.

A more complete rationale for the establishment of these temporary modifications for several of the segments listed above is found in the segment specific discussion which follows this general issues discussion.

13. Full Standards Not Applied to Aquatic Life Segments: EPA raised the issue of why were the full set of inorganic aquatic life protection standards not applied to various segments recommended for aquatic life class 2 classification. These segments typically were assigned only dissolved oxygen, pH, and fecal coliform standards. It was EPA's position that if there were dischargers located on the segments with the potential to produce toxic levels of one or more of the pollutants not contained in the abbreviated list of standards, the aquatic life in the segment could be jeopardized. Rather than adopt the full set of inorganic standards, the Commission was persuaded by the Division's arguments in Exhibit 1 that the abbreviated list of standards was sufficient to protect the rudimentary aquatic life found in these intermittent streams, and that there was a very low probability that any of the few dischargers located on these segments would discharge toxic effluents. The segments where this policy was followed are:

Upper Arkansas, Segments 14 and 26.
Middle Arkansas, Segments 4 and 15
Fountain Creek, Segment 4
Lower Arkansas, Segments 2 and 6b
Cimarron, Segment 1

14. Water + Fish Organics Not Applied to Aquatic Life Segments: It is the policy of the Commission to establish the Water+Fish organics standards found in the Basic Standards for those Class 2 aquatic life segments where there is evidence that angling for edible species is at least occasionally practiced. No party, including the Division and Dow, produced such evidence at this hearing. Therefore, the Commission has chosen not to assign the Water+Fish organics to any of the Class 2 Aquatic life segments.

15. Ambient-Based Selenium Standards: The Commission decided to establish an ambient-based standard for selenium for Segment 2 of Fountain Creek and Segment 4 of the Lower Arkansas based on testimony of the Division in Exhibit 1. This action was taken with the understanding that the overall issue of the proper selenium standards for the state will be considered in an upcoming hearing, and that the proper methodology for establishing ambient-based selenium standards will also be a subject of that hearing. This action on two Arkansas basin segments is not intended to be definitive on the issue of selenium standards for the state, but rather, is merely a recognition of existing ambient conditions with respect to the current selenium Table Values.

16. Manganese Table Value for Agriculture Not Applied: EPA pointed out that the Commission has not proposed to include the Table Value for manganese of 200 ug/l for all segments in the Arkansas basin. The Commission was persuaded by the Division's arguments in its rebuttal statement that this table value was properly applied only to segments where site-specific information showed that acidic soils were under irrigation which might produce damaging levels of manganese.

SEGMENT-SPECIFIC ISSUES and DECISIONS:

UA, Segment 1a, Waters in the Mount Massive and Collegiate Peaks Wilderness Areas: The Commission followed the recommendations of the Division in assigning the Outstanding Waters (OW) designation to all waters in these wilderness areas. Division data showed all antidegradation parameters to be well within Table Values and the wilderness waters provided habitat to ecologically significant specifies i.e. greenback cutthroat trout and the boreal toad. There was no opposition voiced by the parties or the public.

UA, Segment 1b, East Fork of the Arkansas River: Cyprus Climax Metals Company, a party to this hearing, and the Division resolved differences on this segment through the preparation of a stipulated agreement regarding Water Supply Classification, various standards, and the deletion and addition of various temporary modifications. The Commission concurred with the stipulation and adopted the contents as a result. The Division's rebuttal statement contains a full explanation of the basis for the stipulation.

UA, Segments 2b, 2c, 6, Upper mainstem of the Arkansas River; California, St. Kevin's Gulch: Although not objecting to the specific proposal of the Division, Resurrection Mining asked that certain language in the Division's Exhibit 1 be resided. The Commission declined to make such changes reasoning that the Division had the right to draw up its testimony (Exhibit 1) as it so chose, and that if there was misinformation or errors in that testimony, the Commission would prepare a separate rationale for the action it took on the particular segments in question. For the segments in question by Resurrection, the Commission has not found any reason to prepare a rationale different from that prepared by the Division.

UA, Segment 3, Mainstem of the Arkansas River to Pueblo Reservoir: The Division of Wildlife asked that a pond (slough or oxbow lake) in Florence be separated out for classification to protect several important species which resided there. The Division testified that it considered that body of water part of Segment 3, the mainstem of the Arkansas, and would advise any regulatory program using the stream standards to base decisions affecting the pond on Segment 3 standards. With that understanding, the Commission decided not to separate out the pond, and rely on Division interpretation of Segment 3 description to protect the waterbody.

UA, Segments 19, 20, 21, and 22, Fourmile Creek, Cripple Creek, and Arequa Gulch: The Division, Cripple Creek and Victor Gold Mining (CC&V), agreed on segmentation, classification, temporary modifications, and standards for streams in the Cripple Creek area. “Citizens for Victor!” took a position that the standards should not be changed. Using the water quality data supplied by CC&V and commitments by CC&V to continue to monitor ambient quality, the Division and CC&V presented to the Commission a stipulated agreement on the segmentation, classifications, temporary modifications, and standards. Citizens for Victor! did not sign the stipulation. The Commission carefully considered the two

positions and decided that because the TVS underlay the water quality parameters for which temporary modifications would expire and be reviewed in two years, the Division and CC&V proposal was the most appropriate in view of the uncertainties as to exactly how the water chemistry would change upon relocation of the tailings materials and the plans and commitments for operations and reclamation (through the mining and reclamation permit) of CC&V.

MA, Segment 3, Mainstem Arkansas River through Pueblo: The Division, City of Pueblo, Pueblo Waterworks, Pueblo West, and St. Charles Mesa all took various positions regarding the proper designation, recreation classification, aquatic life classification, and fecal coliform standard on the segment. Partial consensus was reached on the recreation classification, but the other issued remained for Commission decision. The Commission concluded that the proper designation was “reviewable” since the segment exhibited class 1 warm water characteristics and the quality was better than table values for all parameters. In addition, the Commission decided that 200 fecal coliforms/100 ml was appropriate since ambient quality met that level and no impact to dischargers would be felt with that standard in place. An additional factor in the coliform decision was the support that St. Charles Mesa had for the standard as additional protection for its water supply. The concerns from Pueblo and Pueblo West regarding possible financial impacts if the coliform standard and reviewable designation were adopted appeared speculative to the Commission.

MA, Segment 18, Warm Water Tributaries to the Arkansas River: Pueblo West took a position opposite that of the Division and DOW regarding the appropriateness of the aquatic life classification for the tributaries included in this segment. Pueblo West argued that not enough information was available to set the full set of standards recommended by the Division and Dow. The Commission felt there was sufficient rationale for the Division's recommendations, and adopted the classifications and standards accordingly. Dow asked that Rush Creek and Boggs Creek be included in Segment 18, and the Commission concurred.

FC, Segment 3, Tributaries to Fountain Creek on NF or USAF Lands: Colorado Springs asserted that the segment description as proposed by the Division was confusing and asked for clarification. After debating several alternatives for describing the segment, the Commission agreed upon a clarifying change.

FC, Segment 6, Monument Creek: The Division, Woodmoor, Donala, and USAF Academy had various positions regarding the appropriate recreation classification, coliform standard, and manganese standard for the mainstem of Monument below the National Forest boundary. As a result of meetings and conversations with the Division prior to the hearing, the parties decided not to oppose the Division's proposals for this segment. These parties intend to undertake additional monitoring to further assess the appropriateness of the standards for this segment. As a result, the Commission adopted the Division's recommendations as explained in Division Exhibit 1 for the segment.

LA, Segment 1, Mainstem Arkansas River to Kansas Line: The City of Pueblo recommended that the fecal coliform standard remain at 2000 FC/100ml for segment 1 because it was protective of the actual recreation uses of the segment and because there was a potential for economic impact to the city through increased wastewater treatment costs. The Division recommended the standard be lowered to 200 FC/100ml because of the agreed upon approach to meeting the “swimmable” goals of the Clean Water Act, because the segment met the 200 coliform limit, and because Pueblo's treatment plant appeared to easily meet low coliform levels in its effluent. After considering the two positions, the Commission agreed with the Division's recommendations and adopted the 200 FC/100ml standard.

The DOW asked that segment 1 (Fountain Creek to Kansas border) be resegmented at Nepesta, with a lowered ammonia standard of 0.06 mg/l (un-ionized) applied to the lower portion of the segment below Nepesta. Dow reasoned that several fish species in decline in the state were found in this reach, and that there was a correlation between high nutrient levels and the disappearance of these species elsewhere in the state. DOW also noted that the ambient levels of ammonia was consistently less than 0.06 mg/l unionized throughout the segment. The Division, City of pueblo, and CF&I Corporation disagreed with the DOW on the need for an ammonia standard lowered from the existing and proposed standard of 0.1

mg/l. They argued that DOW had not offered proof that ammonia was the cause for decline in these species anywhere, let alone in the lower Arkansas River and that a reduced ammonia standard could cause an economic impact on dischargers to that segment. The Commission shared the DOW's concern over the decline in certain native fish species in the state, but wanted further information regarding the cause for that decline before setting an ammonia standard which might cause financial hardship without clear benefit. Therefore, the Commission decided to continue with the 0.1 mg/l un-ionized ammonia standard with the understanding that in about one year, the Division and DOW would update the Commission on the status of the declining species and their sensitivity to ammonia, and on the true impacts to the dischargers on the segment. Based on the update, the Commission may at that time decide to reconsider the matter or continue with the 0.1 mg/l standard.

PARTY STATUS LIST/MAILING LIST STATUS AUGUST 14, 1995

1. The Cripple Creek & Victor Gold Mining Co.
2. Cyprus Climax Metals Co.
3. St. Charles Mesa Water District
4. The City of Pueblo
5. Resurrection Mining Co.
6. Colorado Division of Wildlife
7. City of Colorado Springs Water Resources Dept.
8. The Board of Water Works of Pueblo, Colorado
9. Pueblo West Metropolitan District
10. Citizens for Victor!
11. Woodmoor Water and Sanitation District
12. U.S. Environmental Protection Agency's Region VIII Office
13. CF&I Steel, L.P.
14. Donala Water and Sanitation District, Forest Lakes Metropolitan District and Triview Metropolitan District
15. Westplains Energy
16. Philip Voegtle

32.25 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE; JULY, 1997 RULEMAKING

The provisions of sections 25-8-202 and 25-8-401, C.R.S., provide the specific statutory authority for adoption of the attached regulatory amendments. 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 has adopted a revised numbering system for this regulation, as a part of an overall renumbering of all Water Quality Control Commission rules and regulations. The goals of the renumbering are: (1) to achieve a more logical organization and numbering of the regulations, with a system that provides flexibility for future modifications, and (2) to make the Commission's internal numbering system and that of the Colorado Code of Regulations (CCR) consistent. The CCR references for the regulations will also be revised as a result of this hearing.

32.26 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE: SEPTEMBER, 1997 RULEMAKING

The provisions of sections 25-8-202(1)(a) and (b); 25-8-203; 25-8-204; and 25-8-402, C.R.S., provide the specific statutory authority for adoption of the attached regulatory amendments. 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

This hearing was originally scheduled by CC&V for the principal purpose of eliminating the temporary modifications currently applicable in Cripple Creek and Arequa Gulch, and the adoption of revised surface and ground water standards in this area. Prior to the hearing, CC&V and the Water Quality Control Division stipulated to postpone the hearing to early 1998, because some of the issues involved in the hearing before the Water Quality Control Commission were similar to those to be heard in an adjudicatory hearing on the CC&V discharge permit. In order to conserve hearing resources, the Commission has agreed to schedule a new hearing in September, 1998 to consider the CC&V proposal. In order to preserve the status quo until a new hearing has been completed, the existing temporary modifications in Arequa Gulch and Cripple Creek are extended to December 31, 1998.

32.27 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE: FEBRUARY, 1998 RULEMAKING

The provisions of sections 25-8-202(1)(a) and (b); 25-8-203; 25-8-204; and 25-8-402, C.R.S., provide the specific statutory authority for adoption of the attached regulatory amendments. 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 Colorado Water Quality Control Commission has:

1. added a new segment 7 to Fountain Creek which includes only Willow Springs Pond #1 and Willow Springs Pond #2 and is classified as Aquatic Life Class 2 Warm, Recreation Class 2 and Agriculture with accompanying table value standards;

2. applied the Human Health Based Water + Fish standards for organic chemicals, including 0.8 micrograms per liter (µg/L) of tetrachloroethylene, also known as perchloroethylene (PCE), to this new segment 7 of Fountain Creek; and

3. applied a temporary modification of 2.0 µg/L PCE to Willow Springs Pond #1 with an expiration date of June 30, 1999.

The El Paso County Parks Department closed the Willow Springs Ponds to fishing on September 10, 1997 when it became aware that PCE was present in the tissue of two fish species from the ponds and in the water of the ponds. Large numbers of people fished in these ponds and for several years, the Colorado Division of Wildlife has stocked the ponds with fish as part of the “Fishing is Fun” program. Because segment 7 of Fountain Creek has been classified as Aquatic Life Class 2, and these ponds contain fish of a catchable size which are normally consumed by humans and where fishing takes place on a recurring basis, the Human Health Based Water + Fish Standards for organic chemicals, including the 0.8 µg/L standard for PCE, have been applied to segment 7 of Fountain Creek in this rulemaking.

All parties to the rulemaking hearing before the Colorado Water Quality Control Commission, including El Paso County, Schlage Lock Company, the City of Colorado Springs and the Colorado Department of Public Health and Environment's Water Quality Control Division, stipulated to the classifications and standards described above.

In addition, these entities agreed that monitoring to assess compliance with the PCE standard will occur at the following points:

1. in Willow Springs Pond #1, at the approximate center of the pond, the average calculated for the water column consisting of, at a minimum, values from samples collected at the surface, 5 foot and 10 foot depths; and

2. in Willow Springs Pond #2, at the approximate center of the pond, one sample collected at the surface.

PARTIES TO THE RULEMAKING HEARING

1. El Paso County Parks Department
2. City of Colorado Springs
3. Schlage Lock Company
4. Hazardous Materials and Waste Management Division

32.28 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE (September 1998 Rulemaking)

The provisions of 25-8-202(1)(a) and (b), (2); 25-8-203; 25-8-204; and 25-8-402 C.R.S. provides 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

1. Upper Arkansas Segment 1b - Temporary Modifications

This segment previously had temporary modifications for manganese, lead and zinc which expired at the end of 1997. In this hearing, Climax Molybdenum Company proposed that ambient quality-based standards be adopted for these parameters on this segment. Based on the evidence presented to the Commission, the expired temporary modifications were reviewed and were readopted to March 31, 2002. This was done to accommodate TMDL studies that are underway on the segment, which the Commission understands will include an opportunity for participation by Climax Molybdenum Company.

2. Upper Arkansas Segments 2b and 2c - Temporary Modifications

Upper Arkansas segments 2b and 2c had temporary modifications (Cd(ch) and Zn(ch) for 2b and Zn(ch) for 2c) that were due to expire at the end of 1998. The quality of water in these segments will be affected by the Superfund remediation efforts on California Gulch, which are not yet complete. Based on evidence presented to the Commission, the existing temporary modifications were extended until March 31, 2002. In addition, the Commission's action clarifies that underlying Zn(ac) standards = TVS will be in place for these segments, with a temporary modification of “no Zn(ac)” until March 31, 2002.

3. Upper Arkansas Segment 9 - Temporary Modifications

This segment, which is the lower portion of Iowa Gulch, had a temporary modification for zinc that was due to expire at the end of 1998. Based on the evidence submitted, the Commission has adopted a revised temporary modification for “Zn(ac/ch) = existing quality, if determined less stringent than TVS”, with a March 31, 2002 expiration date. The adoption of the narrative temporary modification to the underlying zinc standards is in recognition that the only available dissolved zinc data for segment 9 at the time of the hearing was exclusively in the most downstream reach of the segment and may not be representative of the quality found throughout the segment. Dissolved zinc data collected in the late 80's and early 90's in segment 8b which is immediately upstream of segment 9 would tend to indicate that the zinc levels in the upstream portion of segment 9 could be significantly higher than the 85th percentile of the present available data and may exceed TVS values. It is understood that ASARCO, the operator of the Black Cloud Mine which discharges to segment 8b, will collect additional data from several points in segment 9 over the duration of the temporary modification. This should establish the existing quality in segment 9. The Commission hopes that this information will be useful in determining the appropriate standards for the segment.

4. Upper Arkansas Segments 21, 22a and 22b - Site-specific Standards

Segment 22 has been divided into two segments, Arequa Gulch and Squaw Gulch. Arequa Gulch, Segment 22a, was previously classified by the Commission in 1995. At that time, the Commission adopted table value water quality standards and temporary modifications. This hearing was contemplated to review and revise the standards, as necessary.

Arequa Gulch

For this hearing, Cripple Creek and Victor Gold Mining Company (CC&V) proposed site-specific standards for Arequa Gulch based on application of 5 CCR 1002-31.7(1)(b)ii) Ambient Quality-Based Standards, and on 5 CCR 1002-31.7(1)(b)(iii) Site-Specific-Criteria-Based Standards. At the outset of the hearing, CC&V withdrew its proposed standards based on 5 CCR 1002-31.7(1)(b)(ii) in view of the Division's and EPA's general support for the proposed site-specific-criteria-based standards (with the exception of pH). CC&V emphasized that its election to withdraw the ambient quality-based standards proposal was not intended as an admission by CC&V that the water quality in Arequa Gulch is not natural or irreversible human-induced. The Commission is making no determination as to the “natural or irreversible human-induced quality” issue in this hearing.

The site-specific standards for metals in Arequa Gulch adopted by the Commission in this hearing are based on 5 CCR 1002-31.7(1)(b)(iii). However, the use attainability analysis showed that the recalculation procedure resulted in water quality standards that are less restrictive for some parameters than existing water quality. In light of this, CC&V proposed that the standards for Arequa Gulch for aluminum, manganese and zinc be the more restrictive of either the recalculated value or the existing water quality value based on the 85th percentile of the data. More specifically, the aluminum acute and chronic standard of 11,000 µg/L is recalculation-based; the chronic manganese standard of 6,300 µg/L and chronic zinc standard of 800 µg/L are existing quality-based; and the acute manganese standard of 18,500 µg/L and acute zinc standard of 3,500 µg/L are recalculation-based. The Division supported this more conservative proposal and the Commission adopted it.

The Division and EPA opposed establishment of the site-specific-criteria-based standard for pH of 5.5 – 9.0 proposed by CC&V. The Division and EPA stated, however, that they would support a temporary modification of 5.5 – 9.0 with underlying standards of 6.5 – 9.0 in order to provide time for additional and appropriate studies to be performed by CC&V to evaluate CC&V's claim that the 5.5 pH level is protective of the aquatic life use in Arequa Gulch. CC&V agreed with this approach for pH so long as the temporary modification is not construed as a determination that the water quality in Arequa Gulch is not natural or irreversible human-induced. Citizens for Victor! questioned whether temporary modifications could be assigned without deciding that the existing water quality is caused by human-induced conditions.

The Commission believes that adoption of a pH temporary modification with a limited duration is consistent with applicable regulations and appropriate in view of the facts presented. The temporary modification adopted for pH reflects current in-stream water quality. The Commission believes that in these circumstances the adoption of a short-duration temporary modification reflecting that existing quality is an appropriate, conservatively protective course of action. The Water Quality Control Commission recognizes that this action suggests that the existing quality may be human-induced, but the Commission is making no determination on that issue at this time. Rather, the Water Quality Control Commission is reserving any determination as to whether pH levels reflect natural or irreversible human-induced conditions. That issue may need to be resolved in a future hearing addressing this segment, depending on the results of pending studies.

The pH temporary modification recognizes existing water quality while holding out the possibility that these conditions may be correctable in the future if additional studies should demonstrate that a narrower pH range is necessary to protect aquatic life in Arequa Gulch. In the present circumstances, it appears that the appropriate first step toward “eliminating the need for the

temporary modification" is completion of the additional studies. In view of the above, the Commission adopted the temporary modification for pH of 5.5 – 9.0 until November 30, 2000, which the Commission believes should provide adequate time to complete the anticipated studies, so that the issue of appropriate pH standards can be resolved.

Citizens for Victor! also argued in this hearing that Arequa Gulch should be bifurcated into two segments, with more restrictive standards applying to the downstream reach. The Commission believes that the evidence submitted in this hearing is not adequate to warrant resegmentation of Arequa Gulch at this time. However, the Commission requests that additional information be developed regarding water quality in different reaches of Arequa Gulch, so that this issue regarding segmentation can be reviewed with better information in the future.

Squaw Gulch

Segment 22b is a new segment for Squaw Gulch from its source to the confluence with Cripple Creek. This segment is classified aquatic life cold 2, agriculture and recreation 2, and is designated use-protected. Because flow seldom exists in Squaw Gulch, only physical and biological standards have been adopted. This is consistent with the Commission's action in similar segments elsewhere in Colorado.

Cripple Creek (Segment 21)

The temporary modifications adopted in 1995 for iron and manganese for Cripple Creek, Segment 21, have been deleted.

5. Fountain Creek Segments 2a and 2b - Resegmentation and Adoption of Ambient Standards

The mainstem of Fountain Creek from immediately above the confluence with Monument Creek to the confluence with the Arkansas River (formerly Segment 2) was bifurcated into the two segments described below upon analysis of water quality data that showed that differing ambient standards are appropriate for the two segments. The elevation of the water quality above table value standards for the parameters is due to natural and/or uncontrollable sources of pollutants.

Fountain Creek Segment 2a - Mainstem of Fountain Creek from immediately above the confluence with Monument Creek to immediately above the confluence of Steele Hollow Creek. Ambient standards adopted: SO4 = 330 mg/l; Se(ch) = 6 ug/l; Fe(ch) = 8000 ug/l (which is the same as the previous iron standard for segment 2).

Fountain Creek Segment 2b - Mainstem of Fountain Creek from immediately above the confluence of Steele Hollow Creek to the confluence with the Arkansas River. Ambient standards adopted: S04 = 490 mg/l; Fe(ch) = 5100 ug/l (Trec); Se(ac) = 20 ug/l (no chronic standard).

6. Lower Arkansas Segment 1a, 1b, and 1c - Resegmentation, Adoption of Ambient Standards and Deletion of Special Standards

The mainstem of the Lower Arkansas River from immediately above the confluence with Fountain Creek to the Colorado/Kansas border (formerly Segment 1) was bifurcated into the three segments described below upon analysis of water quality data that showed that differing ambient standards are appropriate for the three segments. The elevation of the water quality above table value standards for the parameters is due to natural and/or uncontrollable sources of pollutants.

Lower Arkansas Segment 1a - Mainstem of the Arkansas River from immediately above the confluence with Fountain Creek to immediately above the Colorado Canal headgate near Avondale, Colorado. Ambient standards adopted: S04 = 310 mg/l; Fe(ch) = 1900 ug/l (Trec);

Se(ch) = 17 ug/l; Temporary Modifications for Se(ac), Se(ch) and S04= existing quality until 7/1/2008.

Shallow groundwater in the University Park and Fairmount areas of Pueblo has very high concentrations of selenium and sulfate. These two constituents are naturally occurring in the Pierre Shale formation that underlies this portion of Pueblo. While urbanization of the City is an irretrievable human-caused condition that may result in increased water infiltration into and dissolution of selenium and sulfate in the shale, high natural ground water levels may also contribute to the problem. Much of this ground water flow is intercepted by basements in the University Park and Fairmount subdivisions and then in turn it is discharged to the sanitary sewer. The contribution of selenium and sulfates from industrial or other sources to the sewer system is virtually nil compared to the basement source. The Commission has determined that prohibiting this discharge to the sewer system would probably increase the amounts of selenium reaching Fountain Creek and subsequently Arkansas River segment 1a through naturally occurring groundwater flow and would have a substantial and widespread economic and social impact. Approximately 50 percent of the selenium load to the Arkansas River is removed through the serendipitous interception and removal of selenium by the Pueblo Wastewater Treatment Plant. No adverse impacts on beneficial uses from the discharges of selenium or sulfates have been documented. The Commission agrees with the Division and the parties that a long-term temporary modification for selenium (existing quality until 7/1/2008) for this segment is warranted, with underlying standards set at the 85th percentile of ambient conditions. The temporary modification will be reviewed every three years, but will expire in 10 years. This is in recognition that science, technology or nonpoint management may sufficiently advance in the future so that economically reasonable means of reducing selenium become available.

Lower Arkansas Segment 1b - Mainstem of the Arkansas River from immediately above the Colorado Canal headgate to the inlet of John Martin Reservoir. Ambient standards adopted: S04 =1090 mg/l; Fe(ch) = 1900 ug/l (Trec); Se(ch) = 16 ug/l. Comments received from the City of La Junta expressed concerned that the original proposal for this hearing would have relaxed the previous sulfate standard in effect for these waters. The Commission notes that the final standard adopted is somewhat more stringent than the previous standard.

Lower Arkansas Segment 1c - Mainstem of the Arkansas River from the outlet of John Martin Reservoir to the Colorado/Kansas border. Ambient standards adopted: S04 =2400 mg/l; Mn(ch) = 290 ug/l; Se(ch) = 19 ug/l.

In reviewing the above segments, the Commission elected to delete section 32.5(6) which had established a “variance” to the table value standard for free cyanide for a portion (identical to now segment 1a) of segment 1. It was determined that the basis and purpose for the special standard which was established in 1980 to protect a discharger (no longer in existence) from potential economic harm was no longer valid.

The Commission deleted section 32.5(5) which established site-specific dissolved oxygen (D.O.) standards for segment 1a. This action was taken because certain assumptions made for the justification of the standards in 1981 never materialized and a use attainability analysis (UAA) was not done which meets present day criteria. Because of concerns on the effects of the removal of the D.O. standards for segment 1a on the City of Pueblo whose wastewater treatment plant discharges to segment 1a, the Commission adopted a 3-year temporary modification to the 5 mg/l D.O. standards for segment 1a. It is anticipated that during the 3-year period, the City in consultation with the Division will develop a UAA that will provide information to the Commission at the next rulemaking hearing on the need for site-specific D.O. standards for segment 1a and, if needed, proposed standards.

7. Selenium Standards

The Commission in 32.6(3) revised the table value standards (TVS) for selenium applicable to aquatic life segments in the Arkansas Basin to 20 ug/l acute and 5 ug/l chronic. This change reflects the TVS values in 31.16 of the "Basic Standards" which were adopted in October of 1995.

The Commission applied the new TVS values to most aquatic life segments of the Arkansas Basin that had the previous TVS standards in place. Exceptions were made for segments that showed existing concentrations of selenium exceeding the chronic TVS of 5 ug/l due to natural and/or uncontrollable sources of selenium and there was no evidence of interference with classified uses. These segments are:

Fountain Creek Segment 2a	Se(ch) = 6
Fountain Creek Segment 2b	Se(ac) = 20
Lower Arkansas Segment 1a	Se(ch) = 17 ug/l, temp. mod. of Se(ch)= "existing quality"
Lower Arkansas Segment 1b	Se(ch) = 16
Lower Arkansas Segment 1c	Se(ch) = 19
Lower Arkansas Segment 4	Se(ac) = 20
Lower Arkansas Segment 7	Se(ch) = 9

8. Manganese

The Commission adopted an addition to section 32.6(3) to reflect the new table value aquatic life criteria for manganese. The aquatic life manganese criterion was changed in 1998 revisions to the Basic Standards from the 1,000 ug/l chronic to acute and chronic hardness based equations. On all segments with aquatic life uses with no water supply classification, the dissolved manganese standard of 1,000 ug/l was stricken and replaced with the acute and chronic aquatic life TVS.

9. Changes Necessary to Comply with "Swimmable" Requirements

In continuation of the Commission's efforts comply with the federal Clean Water Act requirements that all waters of the nation be suitable for recreation in and on the water, two existing recreation class 2 waters for which recreational use was documented were upgraded to recreation class 1 and fecal coliform standards of 200 /ml were adopted. The waters upgraded are: Upper Arkansas segment 20 (Fourmile Creek) and Two Buttes Pond below Two Buttes Reservoir (moved from Lower Arkansas segment 9a to segment 10).

10. Water + Fish Organics Applied to Aquatic Life Segments

It is the policy of the Commission to establish the water + fish organics standards found in the Basic Standards for those class 2 aquatic life segments where fish of a catchable size and which are normally consumed are present and there is evidence that angling takes place on a recurring basis. Based on these criteria and the testimony submitted, the Commission has chosen to assign the water + fish organics standards to the following class 2 aquatic life segments:

Cimarron River segment 2

In addition, the Commission has added several lakes and reservoirs to existing class 1 segments which would afford them the protection of the water + fish standards. These waters were

identified by the Colorado Division of Wildlife as public waters which are stocked with gamefish which are regularly caught and consumed. Most of these waters had previously been included under the all tributaries, lakes and reservoirs characterization of class 2 aquatic life segments that had the minimal set of standards. That classification and standards are intended to be applied to intermittent streams or reservoirs with only rudimentary aquatic life. The segments to which waters were added, and the waters are:

Middle Arkansas segment 3	Valco Ponds, Fountain Lake
Fountain Creek segment 7	Monument Lake, Pikeview Reservoir, Prospect Lake, Quail Lake
Lower Arkansas segment 5b	Long Canyon Reservoir
Lower Arkansas segment 10	Two Buttes Pond
Lower Arkansas segment 13	American Crystal Reservoir, Chancellor Ponds, Hugo Ponds, Jim Davis Pond, John Robertson Ponds, Kinney Pond, Mayhem Pond, Olney Springs Pond, Otero Pond, Pursley Ponds, Ranch Reservoir, Reynolds Gravel Pit, Ryan Ponds, and Turks Pond
Cimarron River segment 2	Fitzler Pond

The Water Quality Control Division originally proposed also moving Runyon Lake from Middle Arkansas segment 4 (which has an aquatic life warm 2 classification) to Middle Arkansas segment 3. The Commission has decided to leave Runyon Lake in segment 4 at this time, until additional information is available regarding what species are present in this segment and whether they are reproducing.

The City of Colorado Springs opposed the inclusion of Prospect Lake into Fountain Creek Segment 7. In 1988, the Division believed that the Lake, which is an entirely man-made recreational facility, did not constitute “waters of the state” since it was filled entirely with potable water and apparently qualified for the exemption found in C.R.S. 25-8-103(19), i.e. “waters withdrawn for use until use and treatment have been completed.” In 1997, the City began to pump a limited amount of ground water into the Lake. It has not been demonstrated to the Commission that there is no connection between the Lake and the underlying aquifer. Currently, the Division does believe that Prospect Lake constitutes “waters of the state.”

Based on the evidence presented, the Commission believes that the Lake is waters of the state and should be included within Segment 7. The Commission is aware of the fact that both fishing and swimming activities have occurred in the Lake over the past 20 years without any observed adverse impacts on either use. The Lake has been filled with chlorinated potable water and receives additional chlorination for protection of the swimming use. The Commission acknowledges that it will take time to determine the current ambient water quality of the Lake, re-examine the appropriate classifications for the Lake, and determine what measures, if any are required to achieve attainment of the standards. In addition, the City may need time to properly budget for the implementation of these measures. Given these facts and the indication of no current concerns associated with the uses of the Lake, the Commission granted the City's request for a temporary modification of “existing quality” which will expire on March 31, 2002. During that time, the City and Division will undertake such steps as are necessary to re-examine the appropriate use classifications for the Lake, and determine what measures must be taken to ensure that the standards are attained.

11. Full Standards Not Applied to Aquatic Life Segments

The Commission reviewed information regarding aquatic life class 2 segments where the full set of inorganic aquatic life protection standards have not been applied. These are generally often dry segments with only rudimentary aquatic life. The Commission's policy has been that rather than adopt the full set of inorganic standards for these segments, standards for dissolved oxygen, pH and fecal coliform are protective. The Commission has upheld the previous decisions that there is a very low probability that any of the few dischargers located on these segments would discharge toxic effluents. The segments where this policy was followed are:

Upper Arkansas Segment 14
Upper Arkansas Segment 26
Middle Arkansas Segment 4
Middle Arkansas Segment 15
Fountain Creek Segment 4
Lower Arkansas Segment 2
Lower Arkansas Segment 6b
Cimarron River Segment 1

12. Ambient Quality-Based Standards

The Commission reviewed information regarding use attainment on segments in the Arkansas River basin with standards less restrictive than the table value standards. The following segments were reviewed and the existing ambient standards were deemed appropriate all due to natural and/or man-induced irreversible causes:

Upper Arkansas Segment 11	pH = 5, Al(ac)=750, Fe(ch) = 2000(Trec)
Upper Arkansas Segment 19	Mn (ch) = 99
Middle Arkansas Segment 5	Cd(ch) = 0.65
Middle Arkansas Segment 7	Cd(ch) = 0.85
Middle Arkansas Segment 12	Fe(ch) = 1100(Trec)
Lower Arkansas Segment 4	Fe(ch) = 1200(Trec)
Lower Arkansas Segment 5a	Cd(ch) = 2
Lower Arkansas Segment 11	Mn(ch) = 90

The Commission also instituted ambient standards on the following segments based on the determination that elevation of the water quality above table value standards for the parameters was due to natural and/or uncontrollable sources of pollutants.

Fountain Creek Segment 2a	Se =6
Fountain Creek Segment 2b	S04 = 490, Fe(ch) = 5100(Trec), Se(ac) =20
Lower Arkansas segment 1a	S04= 310, Fe(ch) = 1900(Trec), Se(ch) =17
Lower Arkansas segment 1b	S04 = 1090, Fe(ch) = 1900(Trec), Se(ch) =16
Lower Arkansas segment 1c	S04 = 2400, Mn(ch) = 290(dis), Se(ch) =19
Lower Arkansas Segment 4	Se(ac) = 20
Lower Arkansas Segment 7	Se(ch) = 9

PARTY STATUSLIST STATUS FOR THE SEPTEMBER, 1998 RULEMAKING HEARING

1. Hazardous Materials and Waste Management Division
2. Resurrection Mining Company
3. Climax Molybdenum
4. Cripple Creek & Victor Gold Mining Company (CC&V)
5. Citizens for Victor!
6. ASARCO Incorporated

7. City of Colorado Springs
8. City of Pueblo
9. Board of Water Works of Pueblo, Colorado
10. U.S. Fish and Wildlife Service
11. Colorado Division of Wildlife
12. US EPA Region VIII

32.29 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY, AND PURPOSE; SEPTEMBER, 2000 RULEMAKING

The provisions of sections 25-8-202(1)(b) and (2); 25-8-204; and 25-8-402, C.R.S., provide the specific statutory authority for adoption of the attached regulatory amendments. 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 this rulemaking the Commission extended the expiration date for the existing temporary modification for pH for Arequa Gulch, segment 22a of the Upper Arkansas River, to July 31, 2001, so that this temporary modification does not expire prior to a separate rulemaking hearing scheduled for February, 2001. The February, 2001 rulemaking will consider a proposal by the Cripple Creek & Victor Gold Mining Company to revise the pH standards for Arequa Gulch.

32.30 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY, AND PURPOSE; FEBRUARY, 2001 RULEMAKING

The provisions of sections 25-8-202(1)(b) and (2); 25-8-204; and 25-8-402, C.R.S., provide the specific statutory authority for adoption of the attached regulatory amendments. 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 established site-specific metals standards for Arequa Gulch in 1998. At that time Cripple Creek and Victor Gold Mining Company also requested that the Commission adopt a site-specific standard for pH of 5.5 – 9.0. The Commission instead adopted a temporary modification of 5.5 – 9.0 and asked that “additional and appropriate studies be performed by CC&V to evaluate CC&V's claim that the 5.5 pH level is protective of aquatic life in Arequa Gulch.” Since the 1998 hearing, CC&V performed additional biological studies and a Whole Effluent Toxicity study. CC&V submitted the study results to the Division and to the parties to this hearing. The parties and the Division agreed to postpone the Commission hearing on this matter to the Arkansas River Basin triennial rulemaking hearing scheduled for November 12, 2001. In order to accommodate these objectives, the Commission extended the temporary modification to June 30, 2002 in order to give the Division, the parties, and CC&V additional time to evaluate the study results; give EPA additional time to consult with its Office of Research and Development; identify additional studies, if necessary; and implement such studies.

PARTIES TO THE RULEMAKING HEARING

1. Cripple Creek and Victor Gold Mining Company
2. Sierra Club and Mineral Policy Center
3. U.S. EPA Region VIII

32.31 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE: MAY, 2001 RULEMAKING

The provisions of sections 25-8-202(1)(a), (b) and (2); 25-8-203; 25-8-204; and 25-8-402, C.R.S., provide the specific statutory authority for adoption of the attached regulatory amendments. 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

As a result of a July, 2000 rulemaking hearing the Commission adopted numerous revisions to the Basic Standards and Methodologies for Surface Water, Regulation #31 (5 CCR 1002-31). These revisions included revisions to the table values in Tables II and III, which are intended to apply to site-specific waters in the various river basins wherever the Commission has adopted "table value standards". In this current rulemaking, the Commission adopted revisions to section 32.6(3) of this regulation to conform with the revisions to the Basic Standards.

32.32 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY, AND PURPOSE: NOVEMBER, 2001 RULEMAKING

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

Basis and Purpose

The Colorado Water Quality Control Commission established site-specific metals standards for Arequa Gulch, Segment 22a of the Upper Arkansas River Basin in 1998. In the September, 1998 Classification and Standards Rulemaking Hearing for the Arkansas River Basin, the Commission decided to continue the temporary modification of pH for Arequa Gulch of 5.5 to 9.0. The temporary modification was effective until November 30, 2000. This expiration date was later extended by the Commission to June 30, 2002. In the Statement of Basis, Specific Statutory Authority and Purpose, the Commission adopted this temporary modification "in order to provide time for additional and appropriate studies to be performed by CC&V to evaluate CC&V's claim that the 5.5 pH level in protective of the aquatic life use in Arequa Gulch".

Since the 1998 rulemaking, CC&V performed additional studies on Arequa Gulch including biological studies, a supplemental Use Attainability Analysis, and reviewed appropriate scientific literature. Based on the results of these studies and consideration of appropriate scientific literature, CC&V proposed to replace the existing temporary modification of 5.5 to 9.0 and underlying standard of 6.5 to 9.0 for pH in Arequa Gulch, and to add a site-specific standard of 5.5 to 9.0. Based on its review of the CC&V studies and scientific literature, the Division recommended an alternative proposal of removing the existing temporary modification and underlying standard, and adding a permanent site-specific standard of 6.0 to 9.0 with a new temporary modification of 5.6 to 9.0 that will be effective until December 31, 2007. This alternate proposal was accepted by CC&V. The Division's proposal for a new underlying standard of 6.0 to 9.0 was based upon the last 3 years of pH data because they have remained relatively constant over this period of time. The lower15th percentile of these data showed a value of 6.06 . Further, the Division's review of the scientific literature show that a pH of 6.0 to 9.0 would be protective of pH-sensitive species that would be expected to be found in Arequa Gulch. [Basic Standards, §31.7(1)(b)(iii)]. The Division's proposal for a temporary modification of 5.6 to 9.0 was based upon the lowest observed value in the last 3 years of data (5.6) and was intended to allow time to determine if the trend of improving pH will continue and thus resolve any uncertainty about the appropriateness of the underlying standard. [Basic Standards, §31.7(3)].

The Commission adopted the Division's alternative proposal and requested that CC&V continue its monitoring efforts during the term of the temporary modification. If, during this time the pH conditions in Arequa Gulch do not improve or show a declining trend, a rulemaking hearing to re-evaluate the temporary modification may be requested. CC&V committed to continue its efforts with regard to its

operation of an experimental passive treatment system in Arequa Gulch at the upcoming Arkansas River basin-wide hearing in July of 2002.

PARTIES TO THE RULEMAKING HEARING

1. Cripple Creek & Victor Gold Mining Company
2. Sierra Club and Mineral Policy Center
3. U.S. Environmental Protection Agency's Region VIII

32.33 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE, DECEMBER, 2001 RULEMAKING

The provisions of sections 25-8-202(1)(a), (b) and (2); 25-8-203; 25-8-204; and 25-8-402, C.R.S., provide the specific statutory authority for adoption of the attached regulatory amendments. 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 the spring of 2001, the Commission established a new schedule for major rulemaking hearings for each of its water quality classifications and standards regulations, as part of the triennial review process. As part of the transition to this new schedule, in order to facilitate an efficient and coordinated review of all water quality standards issues in this basin, in this hearing the Commission decided to extend the existing temporary modifications of water quality standards previously adopted for segments in this basin, so that such temporary modifications will not expire prior to the next scheduled major rulemaking hearing for this basin. the Commission decided to extend the existing temporary modifications of water quality standards previously adopted for segments in this basin, so that such temporary modifications will not expire prior to the next scheduled major rulemaking hearing for this basin.

32.34 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE; JULY, 2002 RULEMAKING

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

A. Resegmentation

Some renumbering and/or creation of new segments was made in the basin due to information which showed that: a) the original reasons for segmentation no longer applied; b) new water quality data showed that streams should be resegmented based on changes in their water quality; and/or c) certain segments could be grouped together in one segment because they had similar quality and uses. The following changes were made:

Upper Arkansas segment 12a:	Chalk Creek
Upper Arkansas segment 14a:	Big Red, Little Red, Rush and Hardscrabble Creeks
Upper Arkansas segment 15:	Newlin Creek from Upper Arkansas segment 14
Middle Arkansas segment 4a:	Wildhorse Creek

Middle Arkansas segment 4b:	Rock, Salt and Peck Creeks from Middle Arkansas segment 4d
Middle Arkansas segment 4c:	Chico Creek and tributaries from Middle Arkansas segment 4d
Middle Arkansas segment 7:	Graneros and North Muddy Creeks from Middle Arkansas 4d
Middle Arkansas segment 11:	Turkey Creek from Lower Arkansas 2
Middle Arkansas segment 17:	North Apache Creek from Lower Arkansas 2
Middle Arkansas segment 18a:	Boggs Creek
Fountain Creek segments 2a, 2b:	Segment boundary moved from Steele Hollow Creek to "a point immediately above the Highway 47 Bridge"
Fountain Creek segments 7a, 7b:	Divide former segment 7 into 7a and 7b
Lower Arkansas 3b:	Dry tributaries from Lower Arkansas 3a
Lower Arkansas 4:	Lorencito Canyon from Lower Arkansas segment 6
Lower Arkansas segment 5b:	Lake Dorothey from Lower Arkansas 2
Lower Arkansas 9a:	Cheyenne Creek, Buffalo Creek from Lower Arkansas 9b
Lower Arkansas 13:	Ramah Reservoir from Lower Arkansas 2

B. Selenium

The Commission adopted table value standards for selenium and temporary modification of existing ambient quality for selenium for

Middle Arkansas segments 2, 3, 4a, 5, 10, 12, and 18a
Fountain Creek segments 2b and 6
Lower Arkansas segment 1a, 1b, 1c, 3a, 4, 7, 9a, 9c, and 11

The temporary modifications were adopted pursuant to section 31.7(3)(a)(iii) of the Basic Standards regulation, based on the fact that there is significant uncertainty as to the appropriate underlying selenium standard for these segments.

C. Recreation Classifications/Fecal Coliform and E. Coli Standards

The biological standards were updated to include the dual standards for E. coli and fecal coliform, which were adopted by the Commission in the 2000 revisions to the Basic Standards. As stated in the statement of basis and purpose for the Basic Standards revisions, the Commission intends that dischargers will have the option of either parameter being used in establishing effluent limitations in discharge permits. In making section 303(d) listing decisions, in the event of a conflict between fecal coliform and E. coli data, the E. coli data will govern. The Commission believes that these provisions will help ease the transition from fecal coliform to E. coli standards.

In a continuation of the Commission's efforts to comply with the requirements contained in the federal Clean Water Act that all waters of the nation should be suitable for recreation in and on the water (known as the “swimmable” goal), the Commission reviewed all Recreation Class 2 segments. In Colorado, the “swimmable” goal translates into Recreation Class 1a, with the 200/100 ml fecal coliform and 126/100 ml E. Coli standard, and Class 1b with the 325/100 ml fecal coliform and 205/100 ml E. coli standard. Class 1a indicates waters where primary contact uses have been documented or are presumed to be present. Class 1b indicates waters where no use attainability analysis has been performed demonstrating that a recreation class 2 classification is appropriate. To maintain the existing Recreation Class 2 with the 2000/100 ml standard on a segment, it must be shown that there is minimal chance that a Recreation Class 1 activity could exist (e.g. ephemeral or small streams that have insufficient depth to support any type of Recreation Class 1 use or very restricted access).

A recreation class 1a classification of a segment is not intended to imply that the owner or operator of property surrounding and waterbody in a segment would allow access for primary contact recreation. The application of recreation classifications to state waters pursuant to these provisions does not create any rights of access on or across private property for the purposes of recreation in or on such waters. A recreation class 1a classification is intended to only affect the use classification and water quality standards of a segment, and does not imply public or recreational access to waters with restricted access within a segment.

For segments changing to recreation Class 1a because no information was available about actual recreational uses, the last paragraph of section 31.6(2)(b) will apply to future changes to the recreation classification where a proper showing is made through a use attainability analysis that a recreation Class 2 classification is appropriate, without application of the other downgrading criteria in this section. Moreover, the Commission is relying in part on the testimony from EPA that completion of a use attainability analysis showing that a lower recreation classification is appropriate satisfies applicable downgrading criteria. Based on these factor, the Commission intends that in a future rulemaking hearing, the test for adopting a recreation Class 2 classification would be the same as if it had been considered in this hearing

The following segments with existing Recreation Class 1 classifications were changed to Class 1a:

Upper Arkansas segments 1a, 3, 9, 10, 12a, 12b, 13, 15, 16a, 16c, 17a, 17c, 18, 19, 20, 23, 24, 25 and 27.
Middle Arkansas segments 1, 2, 5, 7, 8, 11, 13, 16, 17, 18a, and 18b
Lower Arkansas segments 3a, 5a, 5b, 8, 10, 11, and 12

Based on the information received that showed Recreation Class 1a uses are in place or are presumed to be present in at least a portion of the segment, the Commission changed the following segments from Class 2 to Class 1a with a 200/100 ml fecal coliform and 126/100 ml E. coli standard:

Upper Arkansas segments 1b, 2a, 2b, 2c, 5, 7, 8a, 8b, 11, 14a, 14b, 16b, 17b, 21, and 26
Middle Arkansas segments 3, 4a, 4b, 4c, 4d, 6, 9, 10, 12, 14, and 15
Fountain Creek segments 1, 2a, 2b, 3, 4, 6, and 7b
Lower Arkansas segment 1a, 1b, 1c, 4, 6, 7, 9a, 9b, 9c, and 13
Cimarron segment 2

Based on evidence presented, the Commission has changed the following from Recreation Class 2 to Recreation Class 1b:

Fountain Creek segment 7a

The following segments retained their Recreation Class 2 classification with 2,000/100mL fecal coliform and 630/100 ml E. coli standard after sufficient evidence was received that a Recreation Class 1a or 1b use was unattainable.

Upper Arkansas segments 6, 22a and 22b
Fountain Creek segment 5
Lower Arkansas segment 2 and 3b
Cimarron segment 1

D. Aquatic Life Segments without Full Standards

The Commission reviewed information regarding Aquatic Life Class 2 segments where the full set of inorganic aquatic life protection standards have not been applied. Generally, these are dry segments with only rudimentary aquatic life. The Commission's policy has been that rather than adopt the full set of inorganic standards for these segments, standards for dissolved oxygen, pH and fecal coliform provide sufficient protection.

Segments where investigation showed that fish populations were present were upgraded with the addition of the full suite of inorganic standards. These segments are:

Upper Arkansas segment 14a
Upper Arkansas segment 26
Middle Arkansas segment 4a
Middle Arkansas segment 4b
Middle Arkansas segment 4c

E. Revised Aquatic Life Use Classifications

The Commission reviewed information regarding existing aquatic communities. The following segment's aquatic life classifications were upgraded from aquatic life class 2 to aquatic life class 1 based on information presented that showed diverse aquatic communities in these segments.

Middle Arkansas segment 4c
Lower Arkansas segment 7

F. Ambient Quality-Based Standards

There are several segments in the Arkansas River Basin that contain ambient standards. Ambient standards are adopted where natural or irreversible man-induced conditions result in water quality levels higher than table value standards. EPA had requested that the Commission review the information that is the basis for these standards as well as any new information that would indicate whether they are still appropriate, need to be modified, or should be dropped.

The Division reviewed the information about ambient water quality levels and provided testimony that justified revising the ambient standards on the following segments:

Upper Arkansas segment 8b: Zn(ch)
Upper Arkansas segment 10: Cu(ch)
Upper Arkansas segment 19: Mn(ch)
Upper Arkansas segment 22a: Zn(ch)
Fountain Creek segment 2a: SO4, Fe(ch), Se(ch)
Fountain Creek segment 2b: Fe(ch), SO4
Fountain Creek segment 6: Fe(ch)
Lower Arkansas segment 1a: Fe(ch), SO4
Lower Arkansas segment 1b: Fe(ch), SO4

Lower Arkansas segment 1c: Mn(ch), SO4
Lower Arkansas segment 4: Fe(ch)
Lower Arkansas segment 11: Mn(ch)

Ambient standards were removed from the following segments due to new data and/or changes to the basic standards which indicated ambient standards were no longer appropriate:

Middle Arkansas segment 5: Cd(ch) and Zn(ch)
Middle Arkansas segment 7: Cd(ch)
Middle Arkansas segment 12: Fe(ch)
Fountain Creek segment 6: Mn(ch)
Lower Arkansas segment 5a: Cd(ch)

G. Temporary Modifications

There were several segments where temporary modifications that reflect current ambient conditions were adopted or retained. Temporary modifications were set to expire on 12/31/07 to coincide with the next triennial review. The segments and the constituents are:

Upper Arkansas segment 1b: Pb(ch), Zn(ch)
Upper Arkansas segment 2b: Cd(ch), Zn(ch)
Upper Arkansas segment 2c: Zn(ch)
Upper Arkansas segment 3: Pb((ch), Zn(ch)
Upper Arkansas segment 5: Zn(ch)
Upper Arkansas segment 7: Zn(ch)
Upper Arkansas segment 22a: pH
Middle Arkansas segment 10: Zn(ch)
Middle Arkansas segment 13: F. Coli
Middle Arkansas segment 18a: Zn(ch)
Fountain Creek segment 1: F. Coli
Lower Arkansas segment 1a: SO4
Lower Arkansas segment 3: Fe(ch)
Lower Arkansas segment 9c: Fe(ch)

The Commission rejected an argument by Colorado Springs that the fecal coliform temporary modification for Fountain Creek segment 1 should be specified as based on uncertainty. An additional list of segments with temporary modifications for selenium can be found at section B, above.

H. Organic Standards

The organic standards were updated to include changes adopted by the Commission in the 2000 revisions to the Basic Standards (see 31.11 in Regulation No. 31). “Water + Fish” organic standards are presumptively applied to all Aquatic Life Class 1 streams which also have a Water Supply classification, and are applied to Aquatic Life Class 2 streams which also have a Water Supply classification, on a case-by-case basis. The “Fish Ingestion” organic standards are presumptively applied to all Aquatic Life Class 1 streams which do not have a Water Supply classification, and are applied to aquatic life class 2 streams which do not have a Water Supply classification, on a case-by-case basis.

The following segments have been updated with the organic standards:

Fountain Creek segment 7a: Water + Fish Organics
Fountain Creek segment 7b: Fish Ingestion Organics

Lower Arkansas segment 1b: Water + Fish Organics
Cimarron River segment 2: Fish Ingestion Organics

I. Water Supply Classification

These segments had the Water Supply classification added to them. The associated water supply standards will now apply to segments:

Upper Arkansas segment 20
Fountain Creek segment 7a

J. Modification of Water Supply Standards

Water supply standards were modified to conform to the changes made by the Commission in the 2000 revisions to the Basic Standards (see Regulation No. 31 at 31.11(6)). The Commission modified the water supply standards for iron, manganese, and sulfate that are based on secondary drinking water standards (based on esthetics as opposed to human-health risks). The numeric values in the tables were changed to Fe(ch) = WS (dis), Mn(ch) = WS (dis), and SO4= WS. These abbreviations mean that for all surface waters with an actual water supply use, the less restrictive of the following two options shall apply as numerical standards, as discussed in the Basic Standards and Methodologies at 31.11(6): either (i) existing quality as of January 1 2000; or (ii) Iron = 300 µg/L (dissolved); Manganese = 50 µg/L (dissolved); Sulfate = 250 mg/L (dissolved). For all surface waters with a "Water Supply" classification that are not in actual use as a water supply, no water supply standards are applied for iron, manganese or sulfate, unless the Commission determined as the result of a site-specific rulemaking hearing that such standards are appropriate.

K. Agriculture Standards

Numeric Standards to protect Agricultural Uses were adopted for the following segments:

Upper Arkansas segments 14b
Middle Arkansas segments 4d, and 15
Fountain Creek segment 4
Lower Arkansas segments 2, 3a and 6
Cimarron segment 1

Numeric standards to protect livestock watering were adopted for the following segment:

Upper Arkansas segment 22b

L. Other Site-Specific Revisions

The Commission corrected several typographical and spelling errors, and clarified segment descriptions.

In addition, the following site-specific issues were addressed:

Upper Arkansas segment 2b, 2c and 6: The quality of the water in these segments will be affected by the ongoing Superfund remediation efforts in the California Gulch drainage basin. Current conditions of these segments were evaluated but the Commission chose to make no changes to the aquatic life classifications and numeric metals standards at this time, except for extending the expiration date of the temporary modifications. The State, EPA and private parties are currently engaged in the Superfund effort to address site-wide water quality issues, including

setting cleanup goals. After such goals are established, it may be appropriate to hold a site-specific hearing to address standards and classifications for these segments.

Upper Arkansas segment 22a: For Upper Arkansas segment 22a (Arequa Gulch) in addition to adopting an E. coli standard, the Commission revised acute and chronic manganese standards and the chronic zinc standard.

The revised manganese standards (Mn(ac) = 5,903 ug/l and Mn(ch) = 3,674 ug/l) are based on a recalculation procedure performed by Cripple Creek & Victor Gold Mining Company, taking into account modifications recommended by EPA Region 8 staff. The recalculation methodology provides new values for manganese toxicity, which are intended to protect the aquatic macroinvertebrate community in Arequa Gulch. The Commission declined to adopt the Division's recommendation that a chronic manganese standard be set at the 85th percentile of the most recent three years of data, which the Division considered to be representative of current quality. The Commission notes that most commonly a five-year period of record has been used when assessing the current ambient quality of a water body. In addition, the Commission believes that there is uncertainty as to the factors influencing ambient metals concentrations in Arequa Gulch over the last few years. In view of these considerations, and because EPA has stated that the recalculation procedure used in this instance is acceptable, the Commission has chosen to adopt both acute and chronic standards for manganese based on that recalculation, rather than on an ambient quality level. The equations resulting from the recalculations are:

$$Mn(ac) = e^{(0.3331[\ln(hardness)]+6.6874)}$$

$$Mn(ch) = e^{(0.3331[\ln(hardness)]+6.2134)}$$

For zinc, the Commission has adopted a new chronic standard of 600 ug/l, based on the 85th percentile of the last five years of available data, to replace the previous ambient-quality based standard. The Commission chose to base the zinc standard on the last five years of data, rather than on the three-year period recommended by the Division, due to uncertainty as to the factors influencing ambient metals concentrations in Arequa Gulch over the last few years, and because a five-year period of record has most commonly been used when assessing the current ambient quality of a water body. Because there was no new zinc toxicity data available, no proposal was submitted in this hearing by Cripple Creek & Victor Gold Mining Company regarding use of a recalculation procedure to derive a zinc standard. Therefore, the Commission has made no changes to the previous recalculation based acute zinc standard adopted in 1998.

Fountain Creek segments 2a and 2b: On both segments, the Division proposed to adopt underlying table value standards with temporary modifications based on existing ambient quality. In response, Colorado Springs proposed to adopt standards based on existing ambient quality. In its rebuttal, the Division of Wildlife proposed moving the boundary between segments 2a and 2b further south to Highway 47 because selenium concentrations increase below this point. The Commission concurs in this resegmentation as more representative of the water quality in this portion of Fountain Creek.

The Commission set an ambient standard for selenium of 8 µg/l for segment 2a. The EPA has previously approved an ambient standard for the former segment 2a. In regards to segment 2b, the Commission established a temporary modification based on uncertainty of 23 µg/l, with an underlying table value standard. Other standards for these segments remain unchanged.

Fountain Creek segment 3: The selenium standard was corrected.

Fountain Creek segment 7: This segment consisted of six lakes. The Division proposed that all lakes in the segment receive a classification of water supply and that the recreational use classification be upgraded from class 2 to 1a.

Colorado Springs opposed the recreation class 1a classification for Pikeview Reservoir and submitted a use attainability analysis to support retaining the class 2 classification. Similarly, El Paso County opposed the recreation class 1a classification for the Willow Springs Ponds. The Division and EPA agreed that there is no existing primary contact recreation for these lakes, but believed that there is a potential for primary contact. They recommended a recreation class 1b classification, which was adopted by the Commission. Pikeview Reservoir and the Willow Springs Ponds are now resegmented as segment 7a.

Colorado Springs provided testimony that Prospect and Quail Lakes are not currently used, or anticipated to be used in the future, as a source of domestic water supply. Similar evidence was submitted by the Division for Monument Lake. Therefore, the "fish ingestion" organics standards, rather than "water + fish" standards, appropriately apply to these lakes, which are now resegmented as segment 7b.

Lower Arkansas segment 1a: The site specific dissolved oxygen standard was removed. This standard became unnecessary because of the recently adopted mixing zone policy.

Lower Arkansas segment 3a: The Commission determined that the tributaries identified in the Cedar Ridge proposal are significantly different from the physical characteristics of the mainstem of the Apishapa River. As a result, the Commission created a new segment to more accurately reflect the significant changes in use, physical characteristics and water quality characteristics between the dry tributaries and the mainstem of the Apishapa River in the vicinity of Aguilar, Colorado. The new segment is entitled Segment 3a of the Lower Arkansas Basin. The Commission assigned the classifications of aquatic life class 2, water supply, recreation and agriculture and applied appropriate standards to this new segment.

PARTIES/MAILING LIST STATUS FOR JULY, 2002 RULEMAKING HEARING

1. El Paso County
2. City of Colorado Springs
3. Colorado Division of Wildlife
4. Cedar Ridge, L.L.C.
5. Climax Molybdenum Company
6. The Cripple Creek & Victor Gold Mining Company
7. City of La Junta
8. ASARCO Incorporated
9. The City of Pueblo
10. Resurrection Mining Company
11. Pikes Peak Area Council of Governments
12. The City of Aurora, Colorado acting by and through its Utility Enterprise
13. Sierra Club and Mineral Policy Center
14. U.S. EPA Region VIII

32.35 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE; FEBRUARY, 2003 RULEMAKING

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

Water Supply Standards: The Commission modified water supply standards to conform with the classification changes made in the July 2002 Rulemaking Hearing for Upper Arkansas segment 20 and

Fountain Creek segment 7a. The Commission also modified other water supply criteria, in Upper Arkansas segment 2a, that were inadvertently missed in the July 2002 Hearing.

General cleanup: The Commission adopted Cl2(ch)=0.011 to Lower Arkansas segment 3a and Lower Arkansas segment 4. These criteria were missing.

Site Specific Issues:

Lower Arkansas segment 1a: Lower Arkansas Segment 1a currently has temporary modifications for selenium and sulfate that are based on existing water quality. In the 2002 RMH, only selenium was adopted based on uncertainty despite the fact that the source of both of these parameters were shown to be of the same source and to be occurring for natural reasons as proposed by the City of Pueblo in the 1998 rulemaking hearing. The Commission adopted the sulfate temporary modification based on uncertainty to be consistent with the selenium temporary modification.

Lower Arkansas segment 2b: The Commission subdivided Segment 2 of the Lower Arkansas River into 2 segments placing King Arroyo into Segment 2b.

The City of La Junta expressed concerns about the application of numeric agricultural standards during the triennial review in July, 2002; but could not object, having certain knowledge that livestock drink from the Arroyo. However, the City did not realize that a separate set of standards could be established for livestock watering when crop irrigation did not take place. The urgency for a site-specific review related to the timing of the City's NPDES permit expiration and renewal process in 2003. The City's permit (effective January, 1999) had limits protective of the Lower Arkansas River based on the stream standards for Segment 1b. The City's permit was also based on King Arroyo standards if those standards were more stringent. The City believed that application of crop-irrigation standards on King Arroyo had high potential for requiring significant additional wastewater treatment for a non-existent use. Nothing in this proposal was intended to change the application of Lower Arkansas River, Segment 1b in the City's discharge permit nor to provide relief to the City for meeting any other standards based on established uses. The application of livestock-watering-only standards on King Arroyo provided sufficient protection for its established uses without unnecessarily causing more stringent limitations in the City's permit.

Since there are water bodies within segment 2 used for crop irrigation, King Arroyo is not one of them. The Commission has left those waterbodies in segment 2a and created a new segment 2b for King Arroyo to classify this segment as Agricultural Use - Livestock Water only. District 17 Water Commissioner, Don Taylor, provided a statement to this effect.

Lower Arkansas Segments 3b and 3c: The Commission determined that certain tributaries in Segment 3a—Frio Canyon Creek, Borrego Canyon Creek, Munoz Canyon Creek, Williams Canyon Creek, and Castro Canyon Creek, including all tributaries, from their sources to their confluences with the Apishapa River - were not in the appropriate segment. Specifically, the Commission determined that the use, physical characteristics and water quality characteristics of these tributaries are significantly different from those of the mainstem of the Apishapa River. As a result, the Commission moved these tributaries to Segment 3b to more accurately reflect the significant changes in use, physical characteristics and water quality characteristics between the dry tributaries and the mainstem of the Apishapa River in the vicinity of Aguilar and Gulnare, Colorado. Additionally, the Commission determined that Jarosa Canyon Creek and Rito Seco (a tributary to Jarosa Canyon Creek) did not have the same use, physical characteristics and water quality characteristics as the mainstem of the Apishapa in Segment 3a or the dry tributaries in Segment 3b. Therefore, the Commission created a new segment, Segment 3c, to contain Jarosa Canyon Creek, including all tributaries, from the source to the confluence with the Apishapa River. The Commission assigned to Segment 3c the classifications of aquatic life cold class 2, water supply, recreation 1a and agriculture and applied appropriate standards.

PARTIES TO THE RULEMAKING HEARING

1. Evergreen Operating Corporation
2. City of La Junta
3. Cedar Ridge, L.L.C
4. Colorado Division of Wildlife
5. El Paso County

32.36 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE; NOVEMBER, 2004 RULEMAKING

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 rulemaking hearing, the Commission adopted temporary modifications to the copper acute and chronic standards based upon uncertainty for the portion of Monument Creek from the Tri-Lakes WWFT to the confluence with Fountain Creek (segment 6 of the Fountain Creek sub-basin). The numeric value of the temporary modification Cu(ac)= 36.4 mg/L and Cu(ch)= 24.8 mg/L) is based upon a conservative estimate of a water effect ratio ("WER") of 2.

The temporary modification is applied only to the portion of the segment below the WWTF, since all analytical work has focused on the effects of mixing effluent with the receiving water, a condition that exists only below the WWTF. The expiration date is set to coincide with the next basin wide review and rulemaking hearing.

This temporary modification is based upon uncertainty regarding the appropriateness of the underlying standard, specifically the level of water quality necessary to protect aquatic life. Increased copper discharges from the WWTF have necessitated investigation into both the sources of copper in the Tri-Lakes system and the appropriateness of the standard. Tri-Lakes will continue its investigation including source control, water effect ratios and biotic ligand modeling to determine an appropriate WER. Consistent with the sampling plan for quarterly and monthly data collection, the seasonal aspects of potential copper toxicity and the downstream extent of the WER will also be explored. The study will be completed in time for the basin-wide Issues Formulation Hearing in November 2006. If the study is completed before that time, a hearing may be requested before the basin-wide hearing.

PARTIES/MAILING LIST STATUS FOR NOVEMBER, 2004 RULEMAKING HEARING

1. Tri-Lakes Joint Use Wastewater Treatment Facility
2. Colorado Division of Wildlife

32.37 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE; DECEMBER 12, 2005 RULEMAKING, EFFECTIVE MARCH 2, 2006

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 the process of digitally mapping the segments in the Arkansas Basin, the Division discovered errors and inconsistencies between segment descriptions. To resolve these issues the Commission adopted changes in the following segment descriptions:

Upper Arkansas segments 12a, 12b and 14a
Middle Arkansas segments 13 and 18b
Fountain Creek segment 5
Lower Arkansas segment 9b

32.38 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE: January 2007 Rulemaking Hearing; Final Action February 12, 2007; Revisions effective July 1, 2007

The provisions of section 25-8-202(1)(b), 25-8-204; 25-8-402, C.R.S., provide the specific statutory authority for adoption. 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 revised the basin-wide temperature standards as part of the 2007 rulemaking hearing. These changes clarify the numeric temperature standards that will be in effect until the basin-wide rulemaking hearing in June of 2012. At that time, the Commission intends to consider segment specific temperature standards for all segments with aquatic life uses.

The Commission applied 17 ºC as an interim chronic standard for small, high elevation streams that are likely to be habitat for brook trout and cutthroat trout. First, second and third order streams are defined at section 31.5 in the Basic Standards.

For the remainder of the cold water segments, the Commission left the current 20 ºC in place as an interim standard with the clarification that it is a chronic standard. The existing 30 ºC criterion for warm water segments was left in place as an interim standard with the clarification that is also to be applied as a chronic standard.

PARTIES TO THE RULEMAKING HEARING

1. The Temperature Group (City of Aurora, City of Boulder, Colorado Springs Utilities, Littleton/Englewood Wastewater Treatment, The Metro Wastewater Reclamation District, Colorado Mining Association, Colorado Rock Products Association, Tri-State Generation & Transmission Assn., Xcel Energy, Denver Water, Northern Colorado Water Conservancy District, Southeastern Colorado Water Conservancy District)
2. City of Grand Junction
3. City of Loveland
4. City of Pueblo
5. Metro Wastewater Reclamation District
6. City of Aurora
7. City of Boulder
8. Colorado River Water Conservation District
9. Colorado Wastewater Utility Council
10. Bear Creek Watershed Association
11. Chatfield Watershed Authority
12. Mountain Coal Company, L.L.C.
13. Northern Colorado Water Conservancy District
14. Colorado Rock Products Association
15. Littleton/Englewood Wastewater Treatment Plant
16. Northwest Colorado Council of Governments
17. Southeastern Colorado Water Conservancy District
18. Colorado Mining Association
19. Colorado Division of Wildlife
20. South Platte Coalition for Urban River Evaluation

21. City and County of Denver
22. City of Colorado Springs and Colorado Springs Utilities
23. City of Westminster
24. Board of Water Works of Pueblo
25. Coors Brewing Company
26. City and County of Broomfield
27. Centennial Water and Sanitation District
28. Plum Creek Wastewater Authority
29. Climax Molybdenum Company
30. Cripple Creek & Victor Gold Mining Company
31. Tri-State Generation and Transmission Association
32. Xcel Energy
33. Sky Ranch Metropolitan District No. 2
34. Parker Water and Sanitation District
35. CAM-Colorado and CAM Mining LLC
36. Aggregate Industries – WCR, Inc.
37. Grand County Water and Sanitation District #1, Winter Park Water and Sanitation District, Winter Park West Water and Sanitation District and Fraser Sanitation District
38. Trout Unlimited and Colorado Trout Unlimited
39. Colorado Contractors Association
40. United States Environmental Protection Agency, Region 8
41. Hot Springs Lodge and Pool
42. Denver Regional Council of Governments

32.39 STATEMENT OF BASIN SPECIFIC STATUTORY AUTHORITY AND PURPOSE MARCH 2007 RULEMAKING REGARDING AMMONIA STANDARDS; EFFECTIVE SEPTEMBER 1, 2007

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:

At the June 2005 Basic Standards rulemaking, the Commission adopted the 1999 Update of Ambient Water Quality Criteria for Ammonia (US EPA, Office of Water, EPA-822-R-99-014, December 1999) as the numeric ammonia criteria for Colorado. These new criteria are in the form of total ammonia rather than un-ionized ammonia. The Commission modified the ammonia equations in 35.6(3) and footnotes to conform to Regulation # 31.

Consistent with the approach outlined in the Basic Standards statement of basis and purpose, the Commission provided flexibility for dischargers faced with the possibility of new, more stringent effluent limits.

Temporary modifications were generally set to expire on 12/31/11. This date is set far enough in the future to allow facilities to consider their specific circumstances and to develop a plan regarding how to proceed, yet soon enough to assure that facilities are making progress in developing facility plans. For those that feel the underlying standards are inappropriate, time is allowed to study the receiving water and develop a proposal for an alternate standard. For those that need time to plan, finance or construct new facilities, time is allowed to develop that facility improvement plan.

The intent of the Commission is that in general, the permits for dischargers to warm water segments, that need time to achieve compliance, will contain schedules of compliance in the next renewal. The Commission understands that such a compliance schedule may include time to complete necessary sub-

tasks or milestones. For example, this might include time to do facility planning, make financing arrangements, pre-design, design, construction, startup and commissioning.

There are several opportunities to revisit the duration of the temporary modifications before they expire on 12/31/2011. For those segments in the Upper and Lower Colorado Basins (Regulations # 33 and 37), persons can come forward at the Issues Formulation hearing in November 2007 with their intent to seek a site-specific adjustment in the June 2008 hearing. For those segments in the South Platte Basin (Regulation # 38), persons can come forward at the Issues Formulation hearing in November 2008 with their intent to seek a site-specific adjustment in the June 2009 hearing. In addition, all of these temporary modifications will be subject to the Annual Temporary Review process which will have hearings in December 2009 and 2010.

The Commission intends that the temporary modifications adopted in this rulemaking are "type i" temporary modifications, with specific exceptions where a demonstration was made that there is uncertainty regarding the appropriateness of the underlying standard.

The Commission has adopted "type iii" temporary modifications for Middle Arkansas, segment 4c with an expiration date of 12/31/11.

The issues raised in this rulemaking hearing have highlighted the need to clarify the relationship between the temporary modification tool and the compliance schedule tool in Colorado's water quality management program. The Commission requests that the Division consider this issue further, with input from interested stakeholders, and bring forth any suggested revisions/clarifications for the 2010 Basic Standards rulemaking.

In the meantime, because of the Commission's previously expressed concerns regarding the unique and widespread challenges associated with compliance with the new ammonia standards, the Commission's intent with respect to temporary modifications and compliance schedules regarding these new ammonia standards is as follows:

- Where a demonstration has been made that a period of time longer than the end of 2011 will be required for compliance with the new ammonia standards, the Commission has approved an appropriate site-specific temporary modification expiration date.

- For segments where the 12/31/11 expiration date applies, and for which discharge permit renewals may be issued prior to that date, it is the Commission's intent, consistent with section 31.14(15)(a), that the Division have the authority to issue compliance schedules that may not result in full attainment of the ammonia standard prior to expiration of the renewal permit. Such compliance schedules should be issued only where the Division determines that a specific demonstration has been made that additional time is needed to attain the standard. In such cases, the Commission anticipates that permits would include milestones that assure reasonable progress toward attainment of the standard.

PARTIES TO THE RULEMAKING

1. Boxelder Sanitation District
2. Estes Park Sanitation District
3. City of Pueblo
4. The City of Boulder
5. The Metro Wastewater Reclamation District
6. The Colorado Wastewater Utility Council
7. The Paint Brush Hills Metropolitan District
8. The Grand County Water & Sanitation District #1, the Winter Park West Water & Sanitation District, the Fraser Sanitation District and the Winter Park Water & Sanitation District
9. Mountain Water & Sanitation District

10. The Town of Gypsum
11. The City of Grand Junction
12. City and County of Broomfield
13. Centennial Water & Sanitation District
14. Town of Erie
15. The City of Fort Collins
16. Plum Creek Wastewater Authority
17. The City of Sterling
18. Eastern Adams County Metropolitan District
19. The City of Littleton
20. Two River Metro District
21. H Lazy F Mobile Home Park
22. Rock Gardens Mobile Home
23. Blue Creek Ranch
24. The City of Greeley
25. US EPA

32.40 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE; JUNE 2007 RULEMAKING; ADOPTED AUGUST 13, 2007; EFFECTIVE DECEMBER 31, 2007

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

A. Waterbody Segmentation

Fountain Creek Segment 1b was created for Severy Creek and all tributaries from the source to a point just upstream of where US Forest Service Road 330 crosses the stream.

Fountain Creek Segment 3b was created for Bear Creek and all tributaries from the source to a point upstream of GPS coordinates N3847682, W 10454917 (this location is at elevation 8,200 feet above sea level at a 250° angle and 3,000 feet from the trailhead of the Mount Buckhorn Trail off High Drive).

Some renumbering and/or creation of new segments in the basin was made due to information which showed that: a) the original reasons for segmentation no longer applied; b) new water quality data showed that streams should be resegmented based on changes in their water quality; and/or c) certain segments could be grouped together in one segment because they had similar quality and uses. The following changes were made:

- Middle Arkansas basin segment 4e to include Golf Course Wash.
- Lower Arkansas basin segment 8 to include the Canadian River.

B. Revised Aquatic Life Use Classifications

The March 11, 2003 Rulemaking noted concerns relative to re-segmentation of several waters from Lower Arkansas segment 3a to segment 3b. These include Frio Canyon Creek, Borrego Canyon Creek, Munoz Canyon Creek, Williams Canyon Creek, and Castro Canyon Creek. The effect of this action was to move these drainages from a segment that was assigned a full suite of Aquatic Life Use-based numeric standards into segment 3b, which, although still assigned an Aquatic Life Use classification, is assigned Agricultural Use and Water Supply Use-based numeric criteria for inorganic and metal parameters. Noting that these tributaries to the Apishapa River exhibited ephemeral flow regimes at that time, EPA questioned whether the cumulative discharges of production water from Coal Bed Methane

production wells might alter instream flows such that an aquatic community might be supported. The Division, at the permittee's request, has inactivated the CDPS permit that had been issued for production water discharge to segment 3b. In the absence of discharge, the Commission has determined that there is not adequate potential for aquatic life use to justify the adoption of Aquatic Life Use-based numeric standards for Lower Arkansas segment 3b.

A "Water + Fish" qualifier was added for Lower Arkansas segment 1c. The qualifier was added based upon the presence of the tail-water fishery below John Martin Reservoir at the upper terminus of the segment.

C. Recreation Classifications and Standards

As part of the Basic Standards hearing of 2005, recreation classifications were revised into four new classifications. The Commission reviewed the previous segment classifications (1a, 1b and 2) and determined the appropriate new classification based on classification criteria presented as part of the Basic Standards Hearing, use attainability analyses or other basis. In addition, during the 2005 Basic Standards Hearing, the transition from the use of the fecal coliform standard to *E. coli* standard was completed. Fecal coliform criteria were deleted from the numeric standards.

Based on the information that showed existing primary contact recreation use is in place in at least a portion of the segment, the Commission converted those segments previously classified as Recreation Class1a to Recreation Class E with a 126/100 ml E. coli standard. Those segments currently classified as Recreation Class 1b were converted to Recreation Class P with a 205/100 ml E. coli standard. Based on review of existing Use Attainability Analyses showing that primary contact recreation is not attainable, the following segments were converted to Recreation Class N classification with 630/100 ml E. coli standard:

Upper Arkansas segments 6, 22a and 22b
Lower Arkansas segments 2a and 3b
Cimarron segment 1

D. Addition of Water Supply Use Classification and Standards

Based on review of information regarding the location of public water supplies, WS classification and standards were not added to any segments in this rulemaking hearing.

E. Agriculture Standards

Numeric standards to protect the Agricultural Uses in Upper Arkansas, segment 6 were considered by parties at this rulemaking hearing. The Commission chose not to adopt these standards at this time because they are not attainable and there are no current agriculture uses present on this segment. The Commission anticipates that this issue will be revisited in 2012 if the current uses change.

F. Changes to Antidegradation Designation

Outstanding Waters: The Outstanding Water (OW) designation was added to the newly defined Severy Creek (Fountain Creek segment 1b) and the new Bear Creek (Fountain Creek segment 3b) segments based upon information developed by Trout Unlimited documenting the presence of genetically isolated populations of cutthroat trout in both streams.

Decoupling Cold 2 and UP: As part of the Basic Standards hearing of 2005, the Commission eliminated the direct linkage between cold-water aquatic life class 2 and the use-protected designation. Therefore, all cold-water aquatic life class 2 segments that are use-protected were reviewed to determine if that designation is still warranted. The following segments are now reviewable:

Upper Arkansas River segments 8a, 17b, 21a and 21b

Decoupling Aquatic Life Warm 2 and UP Also as part of the Basic Standards hearing of 2005, the Commission decided that the presence of a warm water class 2 classification would still be a presumptive basis for applying a use-protected designation; however, that presumption can be overcome if there is data showing that the water is of high quality. Therefore, the Commission reviewed all warm water class 2 segments to determine if the use protected designation is still warranted. The following segments are now reviewable:

Upper Arkansas River segment 26
Fountain Creek segments 2a, 2b, 4, and 6

G. Ambient Quality-Based Standards

There are several segments in the Basins that are assigned ambient standards. Ambient standards are adopted where natural or irreversible man-induced conditions result in exceedances of table value standards. The Commission reviewed the information that is the basis for these standards as well as any new information that would indicate whether they are still appropriate, need to be modified, or should be dropped.

The Commission adopted ambient-based standards for selenium for the following segments:

Middle Arkansas segment 3,
Middle Arkansas, segment 4a

The Commission deleted ambient-based standards for the following segments:

Upper Arkansas segment 8b, Iowa Gulch: This standard, Zn(ch)=430, was previously disapproved by EPA and the Commission did not feel that the ambient standard was appropriate. An investigation of the causes and sources should be conducted through the TMDL Program.

Fountain Creek segment 2a: The Commission deleted the ambient-based total recoverable iron standard for this segment because the current ambient concentrations of iron are meeting table value standards even though they are close to exceeding the table value standard. This segment had an ambient standard for iron previously, and the Commission acknowledges that an ambient standard may be appropriate in the future, based on updated monitoring information.

H. Aquatic Life Metals Standards

New Table Value Standards: As part of the Basic Standards hearing of 2005, new zinc and cadmium table values were adopted. The acute and chronic zinc and cadmium equations in 32.6(3) were modified to conform to Regulation No. 31.

I. Arsenic Standards

For arsenic, each use (except recreation) has different arsenic ("As") value, including Fish Ingestion (FI) and Water Plus Fish (W+F). In different combinations of uses, different values become the most limiting. In order to eliminate the confusion, the Commission added the operative value to the individual segments. The following matrix displays the most limiting arsenic criteria.

Most Limiting Arsenic Criteria
Depending on the Possible Combinations of Uses and Qualifiers

If the Use Classifications were:	These Arsenic Standards were Applied (dissolved unless otherwise noted)
Class 1 aquatic life, water supply	As(ac) = 340, As(ch) = 0.02 (trec)

If the Use Classifications were:	These Arsenic Standards were Applied (dissolved unless otherwise noted)
Class 2 aquatic life (water + fish standards), water supply	As(ac) = 340, As(ch) = 0.02 (trec)
Class 2 aquatic life (no fish ingestion standards), water supply	As(ac) = 340, As(ch) = 0.02 – 10 (trec)
Class 1 aquatic life	As(ac) = 340, As(ch) = 7.6 (trec)
Class 2 aquatic life (fish ingestion standards)	As(ac) = 340, As(ch) = 7.6 (trec)
Class 2 aquatic life (no fish ingestion standards), agriculture	As(ac) = 340, As(ch) = 100 (trec)
Agriculture only	As(ch) = 100 (trec)
Water supply only	As(ch) = 0.02 – 10 (trec)

J Uranium Standards

The previous basin-wide Uranium standard of 30 pCi/l was changed to 30 ug/l in order to conform with June 2005 changes to Regulation No. 31. Available water quality data indicates that several segments in the Middle and Lower Arkansas basin exceed the newly assigned standard. Although no temporary modifications for Uranium were assigned in these basins, due to the absence of dischargers who might be expected to discharge significant concentrations of Uranium, the Commission expects the Division to include any such waters in its proposed 2008 List of Impaired Waters and Monitoring and Evaluation Lists, as appropriate.

K. Temporary Modifications

Language was added to subsection 32.6(2) [or 36.6(2)] to explain the terms “type i” and “type iii” temporary modifications.

All temporary modifications were re-examined to determine whether to delete the temporary modification or to extend them, either as existing, or with modifications of the numeric standards. Because of the June 2005 changes to Regulation No. 31, temporary modifications were not automatically extended if non-attainment persisted.

The following segments had temporary modifications that are being removed because current ambient conditions are meeting the applicable underlying standards:

Upper Arkansas Segment 1b: Pb(ch)=6.5 and Zn(ch)=137, Expiration date of 12/31/07.
Upper Arkansas Segment 3: Pb(ch)=1.8 and Zn(ch)=101, Expiration date of 12/31/07.
Upper Arkansas Segment 5: Zn(ch)=78, Expiration date of 12/31/07.
Upper Arkansas Segment 7: Zn(ch)=115, Expiration date of 12/31/07.
Upper Arkansas Segment 22a: pH=5.6-9.0, Expiration date of 12/31/07.
Fountain Creek Segment 1a: F.Coli=229/100 mL, Expiration date of 12/31/07.
Fountain Creek Segment 2b: Se(ch)=23, Expiration date of 12/31/07.
Fountain Creek Segment 6: Se(ch)=10, Expiration date of 12/31/07.
Middle Arkansas Segment 2: E. coli=349/100 mL, Expiration date of 12/31/07.
Middle Arkansas Segment 3: Se(ch)=11.7, Expiration date of 12/31/07.
Middle Arkansas Segment 4a: Se(ch)=710, Expiration date of 12/31/07.
Middle Arkansas Segment 14: Se(ch)=6, Expiration date of 12/31/07.
Middle Arkansas Segment 18a: Zn(ch)=542, Expiration date of 12/31/07.
Middle Arkansas Segment 13: F. coliform=336, Expiration date of 12/31/07.
Lower Arkansas Segment 2a: Fe(ch)=2179, Expiration date of 12/31/07
Lower Arkansas Segment 3a: Fe(ch)=2500 and Se(ch)=52, Expiration date of 12/31/07
Lower Arkansas Segment 9c: Fe(ch)=4875, Expiration date of 12/31/07.

The following segments have new or extended temporary modifications. As specified in 61.8(2)(c)(iii) (the Permit Rules, Regulation No. 61), where a temporary modification has been adopted, limits in permits are to be set based on the temporary modification and the provision strictly limiting the loading from the facility does not apply. These temporary modifications will be subject to review and rulemaking for the two years before their scheduled expiration in order to track progress towards the full attainment of water body standards and uses.

Upper Arkansas segment 2b: Seasonal type (i) temporary modifications were adopted: Cd(ch)=1.34 and Zn(ch)=649, expiration date = 12/31/2012. These type (i) temporary modifications are intended to allow time to see if the remediation at the California Gulch Superfund Site improves water quality. The need for these temporary modifications will be reviewed in 2010 and 2011.

Upper Arkansas segment 2c: Seasonal type (i) temporary modifications were adopted: Cd(ch)=0.79 and Zn(ch)=225, expiration date = 12/31/2012. These type (i) temporary modifications are intended to allow time to see if the remediation at the California Gulch Superfund Site improves water quality. The need for these temporary modifications will be reviewed in 2010 and 2011.

Upper Arkansas segment 3: Cd(ch)=0.48, expiration date = 12/31/2012. This type (iii) temporary modification is intended to allow remediation. The need for these temporary modifications will be reviewed in 2010 and 2011.

Upper Arkansas segment 8b: Cd(ch)=1.2, Pb(ch)=6, and Zn(ch)=295, expiration date = 12/31/2012. This temporary modification is intended to allow Res-ASARCO JV, Black Cloud Mine, adequate time to assess any potential changes to its discharge permit. The need for these temporary modifications will be reviewed in 2010 and 2011.

Upper Arkansas segment 12a: Zn(ch)=120, expiration date = 12/31/2012. This temporary modification is intended to allow Young Life Frontier Ranch, DOW-Chalk Cliffs Fish Hatchery, Christian Mission and Mt. Princeton Hot Springs adequate time to assess any potential changes to discharge permits. The need for these temporary modifications will be reviewed in 2010 and 2011.

Fountain Creek segment 1a: Se(ch)=8.7, expiration date = 12/31/2012. This temporary modification is intended to allow City of Colorado Springs, Castle Concrete Co., Colorado Springs Utility and Manitou Springs adequate time to assess any potential changes to discharge permits. The need for this temporary modification will be reviewed in 2010 and 2011.

Fountain Creek segment 2a: Cu(ac/ch)=current condition, expiration date = 12/31/2009. This temporary modification is intended to allow the Security Sanitation District adequate time to assess any potential changes to its discharge permit. The need for this temporary modification will be reviewed in 2007 and 2008.

Fountain Creek segment 3a: Pb(ch)=2.1, expiration date = 12/31/2012. This temporary modification is intended to allow Cherokee WSD adequate time to assess any potential changes to its discharge permit. The need for this temporary modification will be reviewed in 2010 and 2011.

Fountain Creek segment 6: Cu(ac/ch)=current condition, expiration date = 12/31/2009. This temporary modification is intended to allow CSU, Coperstone, City of Colorado Springs, Sun Construction and Tri-Lakes WWTF adequate time to assess any potential changes to discharge permits. The need for this temporary modification will be reviewed in 2007 and 2008.

Middle Arkansas segment 4b: Se(ch)=5.6, expiration date of 12/31/2012.
Middle Arkansas segment 5: Se(ch) =18.7, expiration date of 12/31/2012.
Middle Arkansas segment 6: Se(ch)=39.0, expiration date of 12/31/2012.
Middle Arkansas segment 9: Se(ch)=8.6 expiration date of 12/31/2012.
Middle Arkansas segment 10: Se(ch)=15.0, expiration date of 12/31/2012.
Middle Arkansas segment 12: Se(ch)=29.5, expiration date of 12/31/2012.
Middle Arkansas segment 18a: Se(ch)=179.0, expiration date of 12/31/2012.
Lower Arkansas segment 1a: Se(ch) =existing quality (type i),SO_4=existing quality (type i) expiration date of 12/31/2012.
Lower Arkansas segment 1b: Se(ch) =17, expiration date of 12/31/2012.
Lower Arkansas segment 1c: Se(ch) =22.5, expiration date of 12/31/2012.
Lower Arkansas segment 2a: Fe(Trec)=2179, expiration date of 12/31/2012.
Lower Arkansas segment 4: Se(ch) =27, expiration date of 12/31/2012.
Lower Arkansas segment 5a: Se(ch) =11.2, expiration date of 12/31/2012.
Lower Arkansas segment 6: Se(ch) =21.3, expiration date of 12/31/2012.
Lower Arkansas segment 7: Se(ch) =6.4, expiration date of 12/31/2012.
Lower Arkansas segment 9a: Se(ch) =17.8, expiration date of 12/31/2012.
Lower Arkansas segment 9b: Se(ch) =52.4, expiration date of 12/31/2012.
Lower Arkansas segment 9c: Se(ch) =15, expiration date of 12/31/2012.
Lower Arkansas segment 11: Se(ch) =17, expiration date of 12/31/2012.

L. Site-Specific Revisions

Upper Arkansas Segment 20 - In the 2002 Basin hearing, the Division proposed to add the water supply classification and associated water quality standards to segment 20. CC&V presented testimony at that hearing which showed that naturally elevated levels of manganese and sulfate were of concern and suggested a resegmentation. In response, the Division suggested that a footnote be adopted stating that the manganese standard should apply at the point of intake. This was done for manganese but sulfate was inadvertently omitted. The Commission revised the existing footnote to include sulfate.

Wildhorse Creek, Middle Arkansas River segment 4a – The Commission adopted a site-specific ambient-based selenium standard for this segment based upon information documenting both the natural sources of selenium in the basin and the lack of anthropogenic activity that might potentially exacerbate instream selenium loads.

M. Other changes

The Commission corrected several typographical and spelling errors, and clarified segment descriptions.

The reference to “Water+Fish *Organics*” was corrected to “Water+Fish *Standards*” to incorporate the appropriate standards from both the organics table and the metal parameter table in Regulation No. 31.

The reference to “Fish *Organics*” was corrected to “Fish *Ingestion Standards*” to incorporate the appropriate standards from both the organics table and the metal parameter table in Regulation No. 31.

The segment description for Upper Arkansas, segment 5 was changed from “except for specific listings in Segments 6 through 12” to “except for specific listings in Segments 6 through 12b”

The segment description for Upper Arkansas, segment 12b was changed from “from the sources” to “from the source”.

The segment description was changed for Upper Arkansas, segment 16a to exclude the reference to Section 9 to T17S, R73W.

The segment description was changed for Upper Arkansas, segment 17b to exclude the reference to Section 1 to T17S, R72W.

The Footnote to Table one in connection to Upper Arkansas, segment 20 was corrected to include sulfate in addition to dissolved manganese.

The segment description was changed for Lower Arkansas, segment 3a to exclude Lower Arkansas segment 3c.

The segment description was changed for Lower Arkansas, segment 5a to clarify the segment description.

N. Arkansas River above Birdseye Gulch, Upper Arkansas River segment 1b (Proposal by Climax Molybdenum ("Climax"))

The previously applicable temporary modifications of Pb(ch) = 6.5 µg/L and Zn(ch) = 137 µg/L are deleted and an ambient based standard of Zn(ac) = 150 µg/L is adopted. A TMDL was cooperatively developed for Segment 1b by the Division and Climax in 2003 and subsequently approved by EPA. Climax took voluntary action in 2005 to remove and reclaim tailings identified in the TMDL that contributed to lead and zinc loadings in Segment 1b. The Commission found that this remedial action, together with the previous reclamation of the Climax property, resulted in an irreversible man-induced ambient water quality level for acute zinc that is higher than TVS but is adequate to protect the classified uses. Therefore, pursuant to Regulation 31.7(1)(b)(ii), the Commission adopted a site-specific acute standard for zinc based on the 95th percentile of the available data for the last three-year period of record.

O. California Gulch Superfund Site, Upper Arkansas River segments 2b, 2c, 5 and 6 (Proposal by Hazardous Materials Waste Management Division)

Historic mining activities in and around the California Gulch basin have significantly impacted water quality in segments 2b, 2c, and 6 of the Upper Arkansas River. Environmental remediation of mine wastes within the California Gulch Superfund Site has resulted in significant improvement of the water quality within these segments. Additional water quality improvements are expected as Site remediation is completed. Accordingly, the Commission is adopting revised numeric standards for cadmium and zinc for segments 2b and 2c. The revised numeric standards will serve as future remediation goals for the Site. Furthermore, the Commission has reclassified the tributaries of California Gulch from segment 5 to segment 6 to more accurately reflect the use and characteristics of those tributaries.

Upper Arkansas segments 2b and 2c of the Arkansas River Basin Revised Numeric Standards for Cadmium and Zinc - The revised cadmium and zinc numeric standards for segments 2b and 2c are based on the application of the EPA approved recalculation methodology. GEI Consultants Inc./Chadwick Ecological Division completed the recalculation on behalf of Resurrection Mining Company, one of the PRPs implementing portions of the Superfund remediation. The recalculation methodology provides new numeric standards for cadmium and zinc that are protective of the aquatic communities found in segments 2b and 2c of the Arkansas River Basin. The cadmium and zinc numeric standards derived from the recalculation methodology are intended to guide additional remediation work within the Site. Because remediation work at the site is ongoing, the Commission is aware actual water quality within segments 2b and 2c will occasionally exceed the revised cadmium and zinc numeric standards over the next three to five years, especially during spring run-off conditions. For this reason, the Commission also adopted a seasonal temporary modification for the months of April and May for both segments 2b and 2c. The Commission rejected a proposal by Trout Unlimited that the temporary modification period be extended to June, since the data shows that the standards are attained during the month of June.

Seasonal Type (i) Temporary Modifications –For Segment 2b, the Commission adopted 649 µg/l as the temporary zinc numeric standard and adopted 1.34 µg/l as the temporary cadmium numeric standard. For segment 2c, the Commission adopted 225 µg/l as the temporary zinc numeric standard and adopted 0.79

µg/l as the temporary cadmium numeric standard. These were calculated as seasonal temporary modifications by using 85th percentile of all available water quality data and average hardness data collected during the months of April and May from 2001-2006. In adopting the seasonal temporary modifications, the Commission acknowledged the uncertainty regarding long-term water quality conditions following completion of remediation activities at the Site. This uncertainty arises because water quality improvements resulting from source remediation projects will not be known for a period of time following the completion of the activities because the source control will not always immediately impact water quality within segments 2b and 2c.

Upper Arkansas segments 2b and 2c of the Arkansas River Basin Revised Antidegradation Baseline - Based on continued remediation activities at the Site, the Commission determined that the default baseline for antidegradation established in the September 30, 2000 Basic Standards no longer applies to segments 2b and 2c. Accordingly, the Commission adopted a revised anti-degradation baseline for segments 2b and 2c, including a note in the designation column in the Stream Classifications and Water Quality Standards tables to indicate that the September 30, 2000 default baseline date does not apply to these specific segments. In accordance with the Basic Standards (5 CCR 31.8(3)(c)(ii)(B)), the Commission found that the appropriate baseline date and baseline water quality should be determined at the time that any new activity triggers an anti-degradation review. Thus, the Commission adopted a revised anti-degradation baseline for segments 2b and 2c whereby the anti-degradation review and collection of water quality data shall commence upon the same date any new activity occurs in either segment 2b or 2c.

Upper Arkansas segments 5 and 6 of the Arkansas River Basin - The Commission determined that California Gulch tributaries, previously classified within segment 5 as Aquatic Life Cold 1, Recreation 1a, Water Supply, and Agriculture, were inappropriately classified. This determination is based on the use, physical characteristics, and water quality characteristics of the California Gulch tributaries, which include Malta, Airport, Pawnee, Georgia, Oregon, Nugget, White, Stray Horse and Little Stray Horse Gulch. Specifically, the Commission's review of evidence presented during the 2007 rulemaking hearing, and re-evaluation of the 1990 Use Attainability Analysis ("UAA") of California Gulch performed by the Colorado Division of Wildlife ("CDOW"), indicated that the California Gulch tributaries lacked qualities to appropriately identify them as Aquatic Life Cold 1, Recreation 1a, and Water Supply. In an earlier rulemaking, the Commission relied on CDOW's 1990 UAA to establish that segment 6 should not contain numeric water quality standards. While current evidence indicates that California Gulch water quality has improved since the 1990 UAA, the conditions outlined in the 1990 UAA continue to limit potential aquatic communities in California Gulch and its tributaries. Therefore, the Commission determined it is inappropriate to maintain numeric water quality standards for those tributaries, and concluded that those California Gulch tributaries located in segment 5 should be reclassified as part of segment 6 as Recreation 2, Agriculture.

P. Mainstem of Cripple Creek (Proposal by Cripple Creek and Victor Gold Mining Corporation)

CC&V originally proposed that a qualifier be added to Segment 21 noting that fish were present only in the lower 1.5 miles of Cripple Creek, based on study results from long-term monitoring of the aquatic community in Cripple Creek showing that fish existed only in the lower 1.5 miles of Cripple Creek because of physical barriers, flow constraints, and habitat conditions. The Division's alternate proposal was to resegment Cripple Creek into Segments 21a and 21b. Regulation 31.6(4)(c) provides that segments will generally be delineated according to points where the use, physical characteristics or water quality characteristics change significantly enough to require a change in use classifications or water quality standards. The Commission accordingly resegmented Segment 21. The water quality standards of Segment 21a are based on protection of aquatic life without fish and the water quality standards of Segment 21b are based on full protection of aquatic life, including trout.

In this rulemaking the Commission considered two separate proposals to add a water supply classification to segments immediately upstream of segments with existing water supplies. (Upper Arkansas segment 21 and Middle Arkansas segment 4e). The Commission has determined that it is not

appropriate to add a water supply classification to either of these segments at this time. The evidence submitted does not demonstrate an immediate threat to either water supply that is not adequately addressed by existing water supply classifications for the segments from which the water supplies are withdrawn.

However, with the evolution of source water planning and protection efforts under the State's drinking water program, the Commission believes that the relationship between surface water use classifications and source water protection efforts should be explored further. In general, the Commission believes that the water quality classification and standards system should be consistent with and supportive of source water protection efforts. The Commission requests that the Division work with interested stakeholders to develop a proposed approach to this issue for consideration in future rulemaking actions.

Depending upon the results of such discussions, it may be appropriate to revisit either or both of the water supply classification proposals advanced in this rulemaking during a future review of this basin.

The Division proposed that the use-protected designation be removed from Segment 21, since the presumption that such a designation is appropriate for aquatic life class 2 cold water streams has been eliminated. CC&V argued that the use-protected designation should be retained, based on an argument that Segment 21 is an effluent dominated stream. The Commission has determined that the data and analysis submitted by CC&V is not adequate to demonstrate that Segments 21a and 21b meet the effluent dominated definition, because using average conditions in a comparison does not appropriately characterize what occurs in a year that is wetter or drier than average. It is inappropriate to extrapolate from a comparison of the average condition to that which occurs eight out of ten years.

Q. Golf Course Wash (Proposal by Pueblo West Metropolitan District)

Pueblo West Metropolitan District proposed resegmentation of Golf Course Wash, a tributary to Pueblo Reservoir, from Middle Arkansas Segment 4d to a new Segment 4e. They proposed this new segment be classified as aquatic life warm class 2, recreation class E and agriculture with a use-protected designation. Numeric standards would be applied only for recreation and agriculture uses with the addition of ammonia. A temporary modification of the ammonia standards of NH_3(ac/ch)=TVS old was also proposed. The Commission declined to adopt this temporary modification because the evidence submitted did not demonstrate a need for the temporary modification. Rather, the evidence demonstrated that Pueblo West may be able to comply with the new ammonia standard. Should further investigation demonstrate that additional time will be required to comply with the ammonia standard, the Commission assumes that a discharge permit compliance schedule may be available. If it should be determined that a compliance schedule is not available or not adequate for Pueblo West to comply with the ammonia standard, a temporary modification can be reconsidered at a later date.

Pueblo Board of Water Works provided an alternative proposal to add a water supply classification or at least a full suite of numeric standards to protect aquatic life, because the downstream segment (Pueblo Reservoir) serves as the City's water supply. The Commission has determined that the adoption of a water supply classification or additional standards to protect this use is not appropriate at this time, as explained above in section P of this statement of basis and purpose,

R. Monument Creek (Copper) (Proposal by Tri-Lakes Wastewater Treatment Facility)

Tri-Lakes Wastewater Treatment Facility proposed a site-specific copper water effects ratio for segment 6 of Monument Creek using a combination of the streamlined water effects ratio (WER) and the Biotic Ligand Model (BLM). In response to EPA's February 2007 Copper Criteria, Tri-Lakes revised their proposal to a temporary modification based on uncertainty. The Commission adopted Tri-Lakes revised proposal.

This temporary modification recognizes the uncertainty created by the evolving guidance regarding use of the WER, BLM, or other appropriate copper standard to protect the aquatic life use, as well as uncertainty

about whether protective levels can feasibly be attained in the effluent of the Tri-Lakes WWTF. An additional source of uncertainty is whether or not a translator study will provide adequate relief for the WWTF.

The temporary modification has been set to expire on December 31, 2009. During the term of the temporary modification Tri-Lakes will investigate the efficacy of a translator from dissolved criterion to a potentially dissolved (or total recoverable) permit limit. In addition, the Commission anticipates that there will be an expanded dialogue between EPA, the Division and interested parties regarding the appropriate methods for setting site-specific copper stream standards.

With a 2009 expiration date, Tri-Lakes' progress will be reported to the Commission at the December 2007 and December 2008 annual Temporary Modification Review hearing, and the need for the temporary modification will be reviewed at that time. If a translator is inadequate, the Commission recognizes that more time may be needed to develop a site-specific standards proposal.

The temporary modification is set at "current condition." It is the intention of the Commission that when implementing this temporary modification in a CDPS permit, and interpreting the term current condition, the Division will assess the current effluent quality, recognizing that it changes over time due to variability in treatment plant removal efficiency and influent loading from industrial, commercial, and residential sources. One necessary element of an approach to maintain the current condition would be a requirement that the total loading from commercial and industrial contributors be maintained at that level as of the date of adoption of the temporary modification and that neither the concentration nor the frequency of high concentration shall increase over historic levels and frequency.

S. Proposal by Colorado Trout Unlimited - Outstanding Waters Designation for Severy and Bear Creeks

Based on evidence that shows that water quality meets the requirements of 31.8(2)a, the Outstanding Water (OW) designation was added to the new Fountain Creek Segment 1b: Severy Creek, and all tributaries, from the source to a point immediately upstream to where US Forest Service Road 330 crosses the stream and the new Fountain Creek Segment 3b: Bear Creek, and all tributaries, from the source to a point upstream of GPS coordinates N3847682, W10454917 (this location is at elevation 8,200 feet above sea level at a 250° angle and 3,000 feet from the trailhead of the Mount Buckhorn Trail off High Drive). Two new segments were created for these two waters. The Commission understands that there are existing land uses in place in these watersheds. The evidence demonstrates that these existing land uses are compatible with the OW designation since the current high level of water quality has been attained with these uses in place. It is the Commission's intent that this OW designation should not be used to establish additional permit requirements for existing uses within this area.

T. Fountain Creek (Copper) (Proposal by Security Sanitation District)

Security Sanitation District proposed a site-specific copper water effects ratio for segments 2a of Fountain Creek using a combination of the streamlined water effects ratio (WER) and the Biotic Ligand Model (BLM). In response to EPA's February 2007 Copper Criteria, Security revised their proposal to a temporary modification based on uncertainty. The Commission adopted Security's revised proposal.

Similar to the situation on Monument Creek segment 6 (discussed above) this temporary modification recognizes the uncertainty created by the evolving guidance regarding use of the WER, BLM, or other appropriate copper standard to protect the aquatic life use, as well as uncertainty about whether protective levels can feasibly be attained in the effluent of the Security WWTF. An additional source of uncertainty is whether or not a translator study will provide adequate relief for the WWTF.

The temporary modification has been set to expire on December 31, 2009. During the term of the temporary modification Security will investigate the efficacy of a translator from dissolved criterion to a potentially dissolved (or total recoverable) permit limit. In addition, the Commission anticipates that there

will be an expanded dialogue between EPA, the Division and interested parties regarding the appropriate methods for setting site-specific copper stream standards.

With a 2009 expiration date, Security's progress will be reported to the Commission at the December 2007 and December 2008 annual Temporary Modification Review hearings, and the need for the temporary modification will be reviewed at that time. If a translator is inadequate, the Commission recognizes that more time may be needed to develop a site-specific standards proposal.

The temporary modification is set at "current condition." It is the intention of the Commission that this term be interpreted as discussed in section R above.

U. Selenium and Sulfate near Pueblo (Proposal by the City of Pueblo)

The Commission adopted site-specific ambient- and attainability-based underlying standards for selenium on several segments in the Middle and Lower Arkansas, and Fountain Creek sub-basins. These included Fountain Creek segment 2b, Middle Arkansas segments 3 and 4a, and Lower Arkansas segment 1a. Ambient-based standards were adopted for Middle Arkansas segments 3 and 4a based upon showings by the City of Pueblo and the Division, respectively, that selenium loading to both segments results from natural sources and is not exacerbated by land use or other reversible, anthropogenic factor.

Evidence developed by the City of Pueblo indicates that some degree of selenium and sulfate load reduction is attainable for Fountain Creek segment 2b and Lower Arkansas segment 1a. Reductions of one and six percent respectively are feasible given the current extent of irrigated agriculture within these two sub-basins. The Commission has therefore adopted attainability-based underlying selenium and sulfate standards for these segments, while retaining temporary modifications set at existing levels.

The temporary modifications for selenium and sulfate in Lower Arkansas segment 1a are identified as type i temporary modifications. The expectation is that the Division and stakeholders will identify appropriate Best Management Practices as necessary to achieve the necessary load reductions within a twenty-year period.

V. Lower Arkansas Segment 1a Selenium (Proposal by the City of LaJunta)

The City of La Junta proposed a type iii temporary modification for selenium for Lower Arkansas segment 1b of 27.1 ug/L chronic and 36 ug/L acute, with an expiration date of December 31, 2020. Based on discussion with the Division, La Junta revised its proposal to be "Se=current condition, expiration date 12/31/2009". The Commission has adopted La Junta's revised proposal.

This temporary modification recognizes the uncertainty regarding the relative magnitude of natural sources, irreversible man-induced sources and reversible sources of selenium. There is also uncertainty regarding what levels are appropriate to protect the aquatic life use. In addition, there is uncertainty about whether protective levels can feasibly be attained in the effluent of La Junta's WWTF.

The temporary modification has been set to expire on December 31, 2009. During the term of the temporary modification La Junta will investigate the efficacy of modifying the way RO brine is blended with their traditional wastewater.

With a 2009 expiration date, La Junta's progress will be reported to the Commission at the December 2007 and December 2008 annual Temporary Modification Review hearings, and the need for the temporary modification will be reviewed at that time. During this same time, the Division will continue to support efforts to quantify selenium loading, particularly selenium loads from un-irrigated upland areas, and to begin to implement selenium reductions, which will take longer than two years.

The temporary modification is set at "current condition." It is the intention of the Commission that when implementing this temporary modification in a CDPS permit, and interpreting the term current condition,

the Division will assess the current effluent quality, recognizing that it changes over time due to variability in treatment plant removal efficiency and influent loading from industrial, commercial, and residential sources. One necessary element of an approach to maintain the current condition would be a requirement that the total loading from commercial and industrial contributors be maintained at that level as of the date of adoption of the temporary modification and that neither the concentration nor the frequency of high concentration shall increase over historic levels and frequency.

W. Proposal by the State of Kansas

The State of Kansas presented information that salinity and selenium concentrations increase between John Martin Reservoir and the state line (Lower Arkansas segment 1c), and that the concentrations of these constituents has increased over the last decade. Kansas participated in this rulemaking in order to expedite the identification of appropriate water quality endpoints for Lower Arkansas segment 1c, thereby facilitating development of TMDLs addressing these parameters. The Commission decided that, while adequate information is available to characterize irreversible selenium loading on several segments within the Arkansas basin, such is not yet the case in the lowermost portion of the basin. The Commission does, however, acknowledge the efforts undertaken by Kansas to address these pollutants in TMDLs promulgated earlier (sulfate), and planned for later this year (selenium) for the Arkansas River as it enters Kansas. The Commission expects the Division to work closely with the State of Kansas and stakeholders in addressing these issues upstream of the state line. The Division will work on UAAs to support attainable underlying standards, TMDLs where appropriate underlying standards have been adopted and implementation of remedial actions (BMPs) throughout the basin to reduce the loading of selenium.

Kansas asked the Commission to establish a Salinity Task Force that would lay the ground work for evaluating research results, selecting appropriate BMP's and formulating a long-term strategy of salt load reduction to the river. At this time, the Commission cannot commit to such an expenditure of resources. However, the state is supporting a watershed restoration planning effort sponsored by Southeast Colorado Resource Conservation and Development with Clean Water Act Section 319 funding.

Later this fall Colorado will be in a better position to determine whether resources are available that could be allocated towards this issue. The Division will be completing a statewide prioritization of watershed restoration of impaired waters (as required by EPA) and will report the information to the Commission. This information may be used by the Commission to recommend revisions to the proposed priority watersheds.

PARTIES TO THE RULEMAKING

1. Hazardous Materials and Waste Management Division
2. Hazardous Materials and Waste Management Division
3. State of Kansas
4. City of Pueblo
5. Tri-Lakes Wastewater Treatment Facility
6. Cripple Creek and Victor Gold Mining Company
7. Climax Molybdenum Company
8. Security Sanitation District
9. Pueblo West Metro District
10. The Paint Brush Hill Metropolitan District
11. Colorado Trout Unlimited
12. Homestake Mining Company of California
13. City of Cripple Creek Water/Wastewater Department
14. Colorado Wild
15. The National Park Service at Great Sand Dunes National Park and Preserve
16. Park Center Water District
17. Xcel Energy
18. Alamosa Riverkeeper
19. The City of La Junta

20. Corrections Corporation of America
21. Rocky Mountain Steel Mills.
22. Colorado Division of Wildlife
23. The City of Colorado Springs
24. The Board of Water Works of Pueblo, Colorado
25. U.S. Environmental Protection Agency
26. Pikes Peak Area Council of Governments

32.41 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE; JULY 15, 2008 RULEMAKING; ADOPTED JULY 15, 2008; EFFECTIVE AUGUST 30, 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

The Commission adopted changes to the segment description of Lower Arkansas segment 5a that re-instated the wording deleted in the June 2007 rulemaking hearing. The intent of the 2007 changes was merely to simplify the segment description. However, subsequent to the hearing it was found that unintended significant changes had resulted from the revised segment description. This change in 2008 corrects that error.

32.42 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE; JULY 2008 RULEMAKING; ADOPTED AUGUST 2008; EFFECTIVE JANUARY 1, 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

A Colorado Springs Utilities proposal to adopt a selenium temporary modification for Fountain Creek segment 6 was initially noticed as part of this rulemaking, but was withdrawn prior to the hearing.

Corrections to standards for Upper Arkansas Segments 2b and 2c: The Commission corrected errors in segments 2b and 2c of the Upper Arkansas River. In both segments, the chronic numeric standard for cadmium was revised to correct an error that resulted from Commission action during the June 2007 rulemaking hearing for the Arkansas River.

Antidegradation Designation on Upper Arkansas River Segment 26 and Fountain Creek Segments 2a, 2b, 4, and 6: After final action by the Commission in the July 2007 rulemaking (adopted August 2007) the Use-Protected designations of Fountain Creek segments 2a, 2b, 4 and 6 and Upper Arkansas segment 26 were removed. These changes were made without a full discussion and consideration of the changes during the rulemaking process. The Commission held this rulemaking hearing to reconsider the antidegradation designation of these segments.

After considering the evidence and testimony the Commission took the following action:

> Upper Arkansas segment 26: The segment remains undesignated because available representative data shows that all 12 of the 12 indicator parameters meet the Table Value test and this segment is not included on the current 303(d) list (Regulation # 93). The Commission

also determined that this segment does not qualify for the other two bases in section 31.8(2)(b) for use-protected designation.

Fountain Creek segment 2a: The segment remains undesignated because available representative data shows that 10 of the 12 indicator parameters meet the Table Value test and the segment is included on the current 303(d) list (Regulation No 93) for only one parameter (E coli). As addressed further below, the Commission also determined that this segment does not qualify for the other two bases in section 31.8(2)(b) for use-protected designation. The segment is not effluent-dominated. In addition, the evidence does not demonstrate substantial natural or irreversible human–induced pollution for parameters other than those included on the list of indicator parameters. Therefore, the Commission determined that these waters should have the extra protection provided by an antidegradation review.

Fountain Creek segment 2b: The segment remains undesignated because available representative data shows that 10 of the 12 parameters meet the Table Value test and the segment is included on the current 303(d) list (Regulation No 93) for only one parameter (selenium). As addressed further below, the Commission also determined that this segment does not qualify for the other two bases in section 31.8(2)(b) for use-protected designation. The segment is not effluent-dominated. In addition, the evidence does not demonstrate substantial natural or irreversible human–induced pollution for parameters other than those included on the list of indicator parameters. Therefore, the Commission determined that these waters should have the extra protection provided by an antidegradation review.

Fountain Creek segment 4: The Use Protected designation was reinstated. Available representative data shows that only 9 of the 12 indicator parameters meet the Table Value test.

Fountain Creek segment 6: The segment remains undesignated because available representative data shows that 10 of the 12 parameters meet the Table Value test and the segment is included on the current 303(d) list (Regulation No 93) for only one parameter (selenium). As addressed further below, the Commission also determined that this segment does not qualify for the other two bases in section 31.8(2)(b) for use-protected designation. The segment is not effluent-dominated. In addition, the evidence does not demonstrate substantial natural or irreversible human–induced pollution for parameters other than those included on the list of indicator parameters. Therefore, the Commission determined that these waters should have the extra protection provided by an antidegradation review.

Several parties asserted that segments 2a, 2b and 6 should be designated use-protected because they are effluent-dominated. The Commission disagrees. The evidence presented in the hearing shows that these segments do not meet the numerical test for effluent-dominance set forth in Regulation #31, the Basic Standards and Methodologies for Surface Water. Except at one station in segment 2a (one of five locations investigated in a 40-mile long segment), for these segments it is not true that “greater than 50 percent of the flow consists of treated wastewater for at least 183 days annually, for eight out of the last ten years”. The alternative approach to determining effluent dominance advocated by the parties to this hearing is inconsistent with the regulatory definition. The narrative portion of the definition provides a general statement of the concept, but the numerical formulation in the parenthetical of the definition was developed to establish a clear test to use in applying this concept.

Several parties also argued that segments 2a, 2b and 6 have elevated concentrations of E. coli, selenium, iron and sulfate, as well as impacts from sedimentation, and that therefore they should be designated use-protected based on section 31.8(2)(b)(ii), which provides that the Commission may apply a use-protected designation where it “determines that due to the presence of substantial natural or irreversible human-induced pollution” the quality of the waters in question should not be considered better than necessary to support aquatic life class 1 and/or recreation class P uses.

Unlike the “12 indicator parameter” test and the “effluent dominated” test, this “substantial pollution” provision does not set forth a specific quantified test for determining whether a use-protected designation

is appropriate. Rather, this test has been formulated in a manner to allow the Commission to assess the overall circumstances related to the water quality of a segment as a whole in making the policy determination whether the extra layer of protection provided by antidegradation review is appropriate.

The Commission believes that in applying this test it is appropriate to consider multiple lines of information regarding the chemical, physical and biological condition of the segments in determining whether existing pollution should be considered substantial, and whether it should be considered natural or irreversible. Although there was evidence presented that some portion of the existing pollution is likely natural or irreversible, at this time it would be premature to conclude that substantial improvement is not possible.

In addition, even if it were accepted that existing pollution is not reversible, the evidence presented regarding aquatic life diversity shows that the aquatic life present is not unlike that expected for sandy bottom plains streams. The elevated levels present for a few parameters do not appear to have had a major adverse impact on the aquatic life present.

Considering all of the above site-specific circumstances, the Commission has decided as a matter of policy that it would be inappropriate to apply a use-protected designation to these segments at this time.

The Commission notes that concern was also expressed regarding the potential economic consequences to dischargers to these segments if they are "reviewable", rather than use-protected. However, requiring that an antidegradation review occur prior to allowing future new or expanded discharges that would use up some or all of the current assimilative capacity of these segments does not mean that costly advanced treatment will be required for these discharges. Indeed, the purpose of an antidegradation review is to determine whether there are available alternatives that are economically, environmentally and technologically reasonable, in accordance with the provision of subsection 31.8(3)(d). If it is determined that such alternatives are not available, degradation to the level of water quality standards is allowed.

Several parties in this rulemaking presented legal arguments regarding the burden of proof for the antidegradation designations for Fountain Creek segments 2a, 2b, and 6. The Commission based its decision regarding the appropriate antidegradation designations for these segments on all of the evidence in the record and the policy considerations within its discretion. The Commission's decision regarding antidegradation designations was not based upon who has the burden of proof.

PARTIES TO THE RULEMAKING

1. City of Colorado Springs and Colorado Springs Utilities
2. Hazardous Materials and Waste Management Division
3. City of Pueblo
4. Upper Monument Creek Regional Wastewater Treatment Facility
5. Tri-Lakes Wastewater Treatment Facility, Security Sanitation District and Fountain Sanitation District
6. The Board of Water Works of Pueblo, Colorado
7. Pikes Peak Area Council of Governments
8. U.S. Environmental Protection Agency, Region 8

32.43 STATEMENT OF BASIS SPECIFIC STATUTORY AUTHORITY AND PURPOSE: DECEMBER 2008 RULEMAKING REGARDING TEMPORARY MODIFICATIONS; FINAL ACTION FEBRURY 9, 2009; EFFECTIVE MARCH 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

Pursuant to the requirements in the Basic Standards (at section 31.7(3)), the Commission reviewed the status of temporary modifications to determine whether the temporary modification should be modified, eliminated or extended.

Since there are no known permitted dischargers that have problems meeting lead limits, the Commission deleted the temporary modification, thereby allowing the underlying standards to go into effect for the following segment:

Fountain Creek segment 3a: temporary modification for lead.

Tri-Lakes Wastewater Treatment Facility and Security Sanitation District are making progress on developing copper translators and evaluating use of the biotic ligand model for site-specific standards, but need more time, especially to assure incorporation into individual discharge permits. The Commission extended the temporary modifications for the following segments, with new expiration dates of 12/31/2010:

Fountain Creek segment 2a: type iii temporary modifications for copper (Cu(ac/ch) = current condition)
Fountain Creek segment 6: type iii temporary modifications for copper (Cu(ac/ch) = current condition).

The City of La Junta reported on its progress in determining whether protective levels can feasibly be attained in the effluent of La Junta's wastewater treatment plant. There is continued uncertainty regarding feasible treatment options in addition to expecting the new EPA criteria in the late spring of 2010. The Commission extended the following temporary modification to 12/31/2012, to coincide with the next Arkansas Basin review.

Lower Arkansas segment 1b: type iii temporary modification for selenium (Se(ac/ch) = current condition).

PARTIES TO THE RULEMAKING

1. Upper Clear Creek Watershed Association
2. City of Aurora
3. Suncor Energy (USA)
4. Tri-Lakes Wastewater Treatment Facility; Upper Monument Creek Regional Wastewater Treatment Facility; Security Sanitation District; and Fountain Sanitation District
5. Hazardous Materials and Waste Management Division and the U.S. Environmental Protection Agency's Superfund Remediation Programs
6. Colorado Division of Wildlife
7. City of Boulder
8. U.S. Department of Energy, Office of Legacy Management
9. City of Black Hawk and Black Hawk/Central City Sanitation District
10. City of La Junta
11. City of Fort Collins
12. Colorado Trout Unlimited
13. U.S. EPA
14. City of Colorado Springs and Colorado Springs Utilities

32.44 STATEMENT OF BASIS SPECIFIC STATUTORY AUTHORITY AND PURPOSE DECEMBER 2009 RULEMAKING REGARDING TEMPORARY MODIFICATIONS; FINAL ACTION FEBRUARY 8, 2010; EFFECTIVE DATE JUNE 30, 2010

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

Pursuant to the requirements in the Basic Standards (at 31.7(3)), the Commission reviewed the status of temporary modifications to determine whether the temporary modification should be modified, eliminated or extended.

Ammonia: Temporary modifications of ammonia standards on nine segments were reviewed.

Deleted: Ammonia temporary modifications were deleted on the following segments because in most cases permits had recently been reissued for dischargers on the segments. Compliance schedules in the permits are adequate to address any necessary treatment plant upgrade issues. In other cases, no permits now discharge to this segment.

Middle Arkansas Segments 2 and 14

No action: The Commission took no action on the ammonia temporary modifications on the following segments. These will expire 12/31/2011 and will be reviewed again in the December 2010 Temporary Modification hearing.

Middle Arkansas Segments 3, 4c, and 9
Fountain Creek Segment 6
Lower Arkansas Segments 1a, 1b, and 7

Other Parameters: The type iii temporary modifications of the copper standards for Fountain Creek segments 2a and 6 were also reviewed and extended. The Tri-Lakes Wastewater Treatment Facility; Upper Monument Creek Regional Wastewater Treatment Facility; Security Sanitation District; and Fountain Sanitation District are still in the process of evaluating the Biotic Ligand Model (for possible development of site-specific copper standards. Additional time is needed to wait for EPA's guidance on use of the BLM to develop site-specific criteria. An expiration date of 12/31/2012 was selected to assure that these temporary modifications can be resolved as early as December 2010.

PARTIES TO THE RULEMAKING

1. City of Grand Junction
2. City of Colorado Springs and Colorado Springs Utilities
3. Tri-Lakes, Upper Monument, Security and Fountain Wastewater Treatment Facilities
4. Paint Brush Hills Metropolitan District
5. Pueblo West Metropolitan District
6. City of La Junta
7. Seneca Coal Company
8. Tri-State Generation and Transmission Association
9. Plum Creek Wastewater Authority
10. Centennial Water and Sanitation District
11. City and County of Broomfield
12. City of Fort Collins
13. Metro Wastewater Reclamation District
14. City of Black Hawk and the Black Hawk/Central City Sanitation District
15. Colorado Division of Wildlife
16. U.S. Environmental Protection Agency

32.45 STATEMENT OF BASIS SPECIFIC STATUTORY AUTHORITY AND PURPOSE JULY 2010 RULEMAKING REGARDING TEMPORARY MODIFICATIONS; EFFECTIVE DATE NOVEMBER 30, 2010

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

The Commission has decided to delay the basin-wide review of water quality classifications and standards for this basin until June 2013, to accommodate an issue-specific rulemaking for nutrient criteria in June 2011. Consistent with that decision, the expiration dates of the temporary modifications on the following segments that are currently scheduled to expire on 12/31/2012 are extended to 12/31/2013. These will be reviewed again in a Temporary Modification hearing prior to the June 2013 basin-wide hearing.

Upper Arkansas	2b, 2c, 3, 8a, 8b, 12a
Middle Arkansas	4b, 5, 6, 9(selenium only), 10, 12, 14, 18a
Fountain Creek	1a
Lower Arkansas	1a (selenium and sulfate only), 1b(selenium only), 1c, 4, 5a, 6, 7(selenium only), 9a, 9b, 9c, 11.

The Commission would like to emphasize that its intent and expectation is that the issues that necessitated adoption of these temporary modification should be resolved as soon as possible and in a manner that takes full advantage of the opportunities provided by the December 2011 review of temporary modifications. The Commission recognizes that it is important to resolve uncertainty regarding the underlying standards so that temporary modifications can be eliminated and any needed pollution controls can be put in place in a timely manner.

PARTIES TO THE RULEMAKING HEARING

1. Town of Avon
2. City of Black Hawk and Black Hawk/Central City Sanitation District
3. Northern Colorado Water Conservancy District and the Municipal Subdistrict, Northern Colorado Water Conservancy District
4. City of La Junta
5. XTO Energy, Inc.
6. City of Pueblo
7. City of Colorado Springs and Colorado Springs Utilities
8. U.S. Environmental Protection Agency

32.46 STATEMENT OF BASIS SPECIFIC STATUTORY AUTHORITY AND PURPOSE DECEMBER 2010 RULEMAKING REGARDING TEMPORARY MODIFICATIONS; FINAL ACTION JANUARY 10, 2011; EFFECTIVE DATE JUNE 30, 2011

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

Pursuant to the requirements in the Basic Standards (at 31.7(3)), the Commission reviewed the status of temporary modifications to determine whether the temporary modification should be modified, eliminated or extended.

A. Ammonia: Temporary modifications of ammonia standards on nine segments were reviewed.

Deleted: Ammonia temporary modifications were deleted on the following segments because permits had recently been reissued for dischargers on the segments. In these cases, compliance schedules in the permits are adequate to address any necessary treatment plant upgrade issues

Middle Arkansas segment 9
Lower Arkansas segment 1a

No action: The Commission took no action on the ammonia temporary modifications on the following segments.

Middle Arkansas segment 3
Fountain Creek segments 2a, 4, and 6
Lower Arkansas segments 1b, and 7

Except for Fountain Creek segments 2a and 4 (which expire 12/31/2012) these temporary modifications will be allowed to expire on 12/31/2011.

B. Other Parameters: The type iii temporary modifications of the copper standards for Fountain Creek segments 2a and 6 were also reviewed and no action was taken. EPA's guidance on the Biotic Ligand Model (for possible development of site-specific copper standards) has not yet been released. These will be reviewed again in the December 2011 Temporary Modification hearing.

C. Middle Arkansas segment 4c: Paint Brush Hills Metropolitan District provided to the Commission the preliminary results of the Use Attainability Analysis on portions of Middle Arkansas segment 4c, which supports possible resegmentation to separate some or all of Black Squirrel Creek and its tributaries from segment 4c. Evaluation of an appropriate ammonia standard is also in development for the segment. To allow Paint Brush Hills Metropolitan District time to complete the UAA and propose resegmentation and site-specific standards for the new segment, the Commission has decided the expiration date of the ammonia acute and chronic standards temporary modification on Middle Arkansas segment 4c that is currently scheduled to expire on 12/31/2011 is extended to 12/31/2013.

The Commission emphasized that its intent and expectation is that the issues that necessitated adoption of this temporary modification should be resolved as soon as possible and in a manner that takes full advantage of the opportunities provided by the annual December reviews of temporary modifications. The Commission recognizes that it is important to resolve uncertainty regarding the underlying standards so that temporary modifications can be eliminated and any needed pollution controls can be put in place in a timely manner.

PARTIES TO THE RULEMAKING HEARING

1. Paint Brush Hills Metropolitan District
2. Tri-State Generation and Transmission Association
3. Seneca Coal Company
4. Mountain Water and Sanitation District
5. City of Grand Junction
6. Colorado Division of Wildlife
7. City of Boulder

8. U. S. Environmental Protection Agency
9. City of Colorado Springs and Colorado Springs Utilities

32.47 FINDINGS IN SUPPORT OF ADOPTION OF EMERGENCY REVISIONS TO REGULATION NO. 32, CLASSIFICATIONS AND NUMERIC STANDARDS FOR ARKANSAS RIVER BASIN (5 CCR 1002-32), JUNE 13, 2011 HEARING, EFFECTIVE DATE JUNE 30, 2011

Pursuant to sections 25-8-208 and 24-4-103(6), C.R.S., the Commission adopted revisions to Regulation No. 32, Classifications and Numeric Standards for Arkansas River Basin, on June 13, 2011.

The Town of Kit Carson proposed resegmentation of a portion of Wildhorse Creek in Lower Arkansas segment 2a and emergency adoption of revised standards for selenium and cadmium in order to be able to construct and operate new water and wastewater facilities, which are being financed through State Revolving Loan funds. The purpose of constructing the new facilities is to resolve chronic noncompliance issues.

Wildhorse Creek is an ephemeral stream with no diversions in the lower portion to which Kit Carson discharges. No crops, hay meadows, or other forage is irrigated within this portion of lower Wildhorse Creek. Therefore, the current chronic selenium standard of 20ug/L (based on protecting forage crops) is more protective than necessary to support attainment of the designated uses for this stream reach. Likewise, no beans, beets, turnips or lettuce (the crops sensitive to cadmium) are irrigated with water from this reach, so the cadmium standard is also more protective than necessary. Therefore, the Commission has determined that resegmentation and emergency adoption of these selenium and cadmium standards is appropriate under these specific circumstances.

The Commission is aware that if it does not take emergency action to adopt these immediate revisions to Regulation No. 32 Kit Carson's funding commitments and approvals that were previously secured for planning, construction, and permitting of the new water and wastewater facilities may be rescinded, resulting in an unnecessary adverse impact on the public. The Commission finds that these amount to exigent circumstances which warrant emergency adoption of these revisions to the relevant water quality standards pursuant to section 25-8-208. The Commission further finds that these emergency revisions are imperatively necessary to preserve public health and welfare and that compliance with the procedural requirements of section 24-4-103, C.R.S., resulting in further delay, would be contrary to the public interest.

The regulation is to be effective June 30, 2011, and continue in effect until the effective date of permanent regulations, or for one year, whichever comes first.

32.48 STATEMENT OF BASIS SPECIFIC STATUTORY AUTHORITY AND PURPOSE JUNE 13, 2011 RULEMAKING REGARDING TEMPORARY MODIFICATIONS; EFFECTIVE DATE JANUARY 1, 2012

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

The Commission's decision to delay consideration of nutrient criteria until March 2012 resulted in cancelation of the December 2011 review of temporary modifications. Accordingly, the Commission considered the expiration dates of temporary modifications expiring on or before December 31, 2012 in a written comment rulemaking. The Commission extended the expiration dates of the following temporary

modifications to December 31, 2013. These will be reviewed again in a Temporary Modification hearing in December 2012.

Fountain Creek segment 2a (NH_3, Cu)
Fountain Creek segment 4 (NH_3)
Fountain Creek segment 6 (Cu)

The following temporary modifications were deleted from the table because they will have expired as of the effective date of this revision:

Middle Arkansas segment 3 (NH_3)
Fountain Creek segment 6 (NH_3)
Lower Arkansas segment 1b (NH_3)
Lower Arkansas segment 7 (NH_3)

The Commission corrected a typo in the expiration date of the selenium temporary modification in following segment:

Lower Arkansas segment 11.

32.49 STATEMENT OF BASIS SPECIFIC STATUTORY AUTHORITY AND PURPOSE NOVEMBER 14, 2011 RULEMAKING; EFFECTIVE DATE JANUARY 1, 2012

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

The Town of Kit Carson proposed adoption of standards for selenium and cadmium and resegmentation of Lower Arkansas segment 2a in order to be able to construct and operate new water and wastewater facilities, which are being financed through State Revolving Loan funds. The purpose of constructing the new facilities is to resolve chronic noncompliance issues.

Wildhorse Creek is an ephemeral stream with no diversions in the lower portion to which Kit Carson discharges. No crops, hay meadows, or other forage is irrigated within this portion of lower Wildhorse Creek. Therefore, the current chronic selenium standard of 20ug/L (based on protecting forage crops) is more protective than necessary to support attainment of the designated uses for this stream reach. Likewise, no beans, beets, turnips or lettuce (the crops sensitive to cadmium) are irrigated with water from this reach, so the cadmium standard is also more protective than necessary. Therefore, the Commission has determined that resegmentation and adoption of these selenium and cadmium standards is appropriate under these specific circumstances.

The Commission expects that, consistent with the Division's practice for reviewing site-specific standards during basinwide reviews, the Division will re-evaluate the conditions of Wildhorse Creek once the Kit Carson wastewater facility is operational. If the discharge does change the nature of the aquatic habitat and change the expectation for the aquatic life expected to occur in Wildhorse Creek, it may be necessary to revisit the classifications and standards for this segment.