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# Rule R317-2. Standards of Quality for Waters of the State.

As in effect on February 1, 2007

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#### R317-2-1A. Statement of Intent.

Whereas the pollution of the waters of this state constitute a menace to public health and welfare, creates public nuisances, is harmful to wildlife, fish and aquatic life, and impairs domestic, agricultural, industrial, recreational and other legitimate beneficial uses of water, and whereas such pollution is contrary to the best interests of the state and its policy for the conservation of the water resources of the state, it is hereby declared to be the public policy of

this state to conserve the waters of the state and to protect, maintain and improve the quality thereof for public water supplies, for the propagation of wildlife, fish and aquatic life, and for domestic, agricultural, industrial, recreational and other legitimate beneficial uses; to provide that no waste be discharged into any waters of the state without first being given the degree of treatment necessary to protect the legitimate beneficial uses of such waters; to provide for the prevention, abatement and control of new or existing water pollution; to place first in priority those control measures directed toward elimination of pollution which creates hazards to the public health; to insure due consideration of financial problems imposed on water polluters through pursuit of these objectives; and to cooperate with other agencies of the state, agencies of other states and the federal government in carrying out these objectives.

#### R317-2-1B. Authority.

These standards are promulgated pursuant to Sections 19-5-104 and 19-5-110.

#### R317-2-2. Scope.

These standards shall apply to all waters of the state and shall be assigned to specific waters through the classification procedures prescribed by Sections 19-5-104(5) and 19-5-110 and R317-2-6.

#### R317-2-3. Antidegradation Policy.

#### 3.1 Maintenance of Water Quality

Waters whose existing quality is better than the established standards for the designated uses will be maintained at high quality unless it is determined by the Board, after appropriate intergovernmental coordination and public participation in concert with the Utah continuing planning process, allowing lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located. However, existing instream water uses shall be maintained and protected. No water quality degradation is allowable which would interfere with or become injurious to existing instream water uses.

In those cases where potential water quality impairment associated with a thermal discharge is involved, the antidegradation policy and implementing method shall be consistent with Section 316 of the Federal Clean Water Act.

#### 3.2 High Quality Waters - Category 1

Waters of high quality which have been determined by the Board to be of exceptional recreational or ecological significance or have been determined to be a State or National resource requiring protection, shall be maintained at existing high quality through designation, by the Board after public hearing, as High Quality Waters - Category 1. New point source discharges of wastewater, treated or otherwise, are prohibited in such segments after the effective date of designation. Protection of such segments from pathogens in diffuse, underground sources is covered in R317-5 and R317-7 and the Regulations for Individual Wastewater Disposal Systems (R317-501 through R317-515). Other diffuse sources (nonpoint sources) of wastes shall be controlled to the extent feasible through implementation of best management practices or regulatory programs.

Projects such as, but not limited to, construction of dams or roads will be considered where pollution will result only during the actual construction activity, and where best management practices will be employed to minimize pollution effects.

Waters of the state designated as High Quality Waters - Category 1 are listed in R317-2-12.1.

3.3 High Quality Waters - Category 2

High Quality Waters - Category 2 are designated surface water segments which are treated as High Quality Waters - Category 1 except that a point source discharge may be permitted provided that the discharge does not degrade existing water quality. Waters of the state designated as High Quality Waters - Category 2 are listed in R317-2-12.2.

- 3.4 For all other waters of the state, point source discharges are allowed and degradation may occur, pursuant to the conditions and review procedures outlined below:
  - a. Activities Subject to Antidegradation Review (ADR)
- 1. For all State waters, antidegradation reviews will be conducted for proposed federally regulated activities, such as those under Clean Water Act Sections 401 (FERC and other Federal actions), 402 (UPDES permits), and 404 (Army Corps of Engineers permits). The Executive Secretary may conduct an ADR on other projects with the potential for major impact on the quality of waters of the state. The review will determine whether the proposed activity complies with the applicable antidegradation requirements for the particular receiving waters that may be affected.
- 2. For High Quality Category 1 and High Quality Category 2 waters, reviews shall be consistent with the requirement established in Sections 3.2 and 3.3, respectively.

For State waters that do not have a High Quality Category 1 or High Quality Category 2 designation, reviews shall be consistent with the procedures identified in Section 3.4 a.-3.4 b.

The antidegradation review consists of two parts. An antidegradation Level I review will be to determine if the proposed activity requires an antidegradation Level II review as described in Section 3.4 b. below. If so, further review will be required.

- b. An Anti-degradation Level II review is not required where any of the following conditions apply:
- 1. Water quality will not be lowered by the proposed activity (e.g., a UPDES permit is being renewed and the proposed effluent concentration value and pollutant loading is equal to or less than the existing effluent concentrations value and pollutant loading).
- 2. Discharge limits are established in an approved TMDL that is consistent with the current water quality standards for the receiving water (e.g., where TMDLs are established, changes in effluent limits that are consistent with the existing load allocation would not trigger an anti-degradation review), or
- 3. Water quality impacts will be temporary and related only to sediment or turbidity and fish spawning will not be impaired, or
- 4. The discharge is to a water quality limited water, and assimilative capacity is essentially allocated to existing discharges.
- 5. The water quality effects of the proposed activity are expected to be temporary and limited. As general guidance, CWA Section 402 general permits, CWA Section 404 nationwide and general permits, or activities of short duration, will be deemed to have a temporary and limited effect on water quality where there is a reasonable factual basis to support such a conclusion. The 404 nationwide permits decision will be made at the time of permit issuance, as part of the Division's water quality certification under DWA Section 401. Where it is determined that the category of activities will result in temporary and limited effects, subsequent individual activities authorized under such permits will not be subject to further antidegradation review. Factors to be considered in determining whether water quality effects will be temporary and limited may include the following:
  - (a) Length of time during which water quality will be lowered.
  - (b) Percent change in ambient concentrations of pollutants of concern

- (c) Pollutants affected
- (d) Likelihood for long-term water quality benefits to the segment (e.g., dredging of contaminated sediments)
  - (e) Potential for any residual long-term influences on existing uses.
- 6. The affected waters are classified as 3C, 3D (and not 3A or 3B), or 3E waters, or are classified only as Class 4.
- 7. The affected waters are considered to be poor quality fisheries as indicated by Utah Division of Wildlife Resource (UDWR) Classes IV, V, and VI with the exception of those waters which add a letter (P, R, N, B, X, or C) to the numerical rating and those which have a "unique rating".
  - 8. The water body is listed on the current 303(d) list for the parameters of concern.
- 9. Existing water quality for the parameters of concern does not satisfy applicable numeric and narrative water quality criteria.
- 10. Water quality impacts are expected to be minor. For example: (a) for discharge permit renewals, if the increase in project loading over the prior permit is less than 20%; or (b) if the increase in pollutant loading to the stream is less than 20% over existing background.
- 11. The volume of the discharge is small as compared to the flow of the receiving stream. In general, this would be considered where the ratio of the average stream flow to the discharged flow is expected to be greater than 100:1, the ratio of the 7Q10 (7 day-10 year) low flow to the discharge flow is expected to be greater than 25:1, and where the increase in concentration of the pollutants in the stream at 7Q10 at low flow is expected to be less than 10%, or based upon other site specific criteria.

Both Level I and Level II reviews will be conducted on a parameter-by-parameter basis. A decision to move to a Level II review for one parameter may not require a Level II review for other parameters that will be affected by the proposed activity. An antidegradation review may be required by the Executive Secretary if the receiving water is a drinking water source, if the receiving water has a special value for recreation or fisheries, if an existing use may be impaired, or based on other site-specific factors as appropriate.

#### c. Anti-degradation Review Process

For all activities requiring a Level II review, the Division will notify affected agencies and the public with regards to the requested proposed activity and discussions with stakeholders may be held. In the case of Section 402 discharge permits, if it is determined that a discharge will be allowed, the Division of Water Quality will develop any needed UPDES permits for public notice following the normal permit issuance process.

The ADR will cover the following requirements or determinations:

1. Will all Statutory and regulatory requirements be met?

The Executive Secretary will review to determine that there will be achieved all statutory and regulatory requirements for all new and existing point sources and all required cost-effective and reasonable best management practices for nonpoint source control in the area of the discharge. If point sources exist in the area that have not achieved all statutory and regulatory requirements, the Executive Secretary will consider whether schedules of compliance or other plans have been established when evaluating whether compliance has been assured. Generally, the "area of the discharge" will be determined based on the parameters of concern associated with the proposed activity and the portion of the receiving water that would be affected.

2. Are there any reasonable less-degrading alternatives?

There will be an evaluation of whether there are any reasonable non-degrading or less degrading alternatives for the proposed activity. This question will be addressed by the Division based on information provided by the project proponent. Control alternatives for a proposed activity will be evaluated in an effort to avoid or minimize degradation of the receiving water. Alternatives to be considered, evaluated, and implemented to the extent feasible, could include pollutant trading, water conservation, water recycling and reuse, land application, total containment, etc.

For proposed UPDES permitted discharges, the following list of alternatives should be considered, evaluated and implemented to the extent feasible:

- (a) innovative or alternative treatment options
- (b) more effective treatment options or higher treatment levels
- (c) connection to other wastewater treatment facilities
- (d) process changes or product or raw material substitution
- (e) seasonal or controlled discharge options to minimize discharging during critical water quality periods
- (f) seasonal or controlled discharge options to minimize discharging during critical water quality periods
  - (g) pollutant trading
  - (h) water conservation
  - (i) water recycle and reuse
  - (j) alternative discharge locations or alternative receiving waters
  - (k) land application
  - (l) total containment
  - (m) improved operation and maintenance of existing treatment systems
  - (n) other appropriate alternatives

An option more costly than the cheapest alternative may have to be implemented if a substantial benefit to the stream can be realized. Alternatives would generally be considered feasible where costs are no more than 20% higher than the cost of the discharging alternative, and (for POTWs) where the projected per connection service fees are not greater than 1.4% of MAGHI (median adjusted gross household income), the current affordability criterion now being used by the Water Quality Board in the wastewater revolving loan program. Alternatives within these cost ranges should be carefully considered by the discharger. Where State financing is appropriate, a financial assistance package may be influenced by this evaluation, i.e., a less polluting alternative may receive a more favorable funding arrangement in order to make it a more financially attractive alternative.

It must also be recognized in relationship to evaluating options that would avoid or reduce discharges to the stream, that in some situations it may be more beneficial to leave the water in the stream for instream flow purposes than to remove the discharge to the stream.

3. Special Procedures for 404 Permits.

For 404 permitted activities, all appropriate alternatives to avoid and minimize degradation should be evaluated. Activities involving a discharge of dredged or fill materials that are considered to have more than minor adverse affects on the aquatic environment are regulated by individual CWA Section 404 permits. The decision-making process relative to the

404 permitting program is contained in the 404(b)(1) guidelines (40 CFR Part 230). Prior to issuing a permit under the 404(b)(1) guidelines, the Corps of Engineers:

- (a) makes a determination that the proposed activity discharges are unavoidable (i.e., necessary):
- (b) examines alternatives to the proposed activity and authorize only the least damaging practicable alternative; and
- (c) requires mitigation for all impacts associated with the activity. A 404(b)(1) finding document is produced as a result of this procedure and is the basis for the permit decision. Public participation is provided for in the process. Because the 404(b)(1) guidelines contains an alternatives analysis, the executive secretary will not require development of a separate alternatives analysis for the anti-degradation review. The division will use the analysis in the 404(b)(1) finding document in completing its anti-degradation review and 401 certification.
  - 4. Does the proposed activity have economic and social importance?

Although it is recognized that any activity resulting in a discharge to surface waters will have positive and negative aspects, information must be submitted by the applicant that any discharge or increased discharge will be of economic or social importance in the area.

The factors addressed in such a demonstration may include, but are not limited to, the following:

- (a) employment (i.e., increasing, maintaining, or avoiding a reduction in employment);
- (b) increased production;
- (c) improved community tax base;
- (d) housing;
- (e) correction of an environmental or public health problem; and
- (f) other information that may be necessary to determine the social and economic importance of the proposed surface water discharge.
- 5. The applicant may submit a proposal to mitigate any adverse environmental effects of the proposed activity (e.g., instream habitat improvement, bank stabilization). Such mitigation plans should describe the proposed mitigation measures and the costs of such mitigation. Mitigation plans will not have any effect on effluent limits or conditions included in a permit (except possibly where a previously completed mitigation project has resulted in an improvement in background water quality that affects a water quality-based limit). Such mitigation plans will be developed and implemented by the applicant as a means to further minimize the environmental effects of the proposed activity and to increase its socio-economic importance. An effective mitigation plan may, in some cases, allow the Executive Secretary to authorize proposed activities that would otherwise not be authorized.
  - 6. Will water quality standards be violated by the discharge?

Proposed activities that will affect the quality of waters of the state will be allowed only where the proposed activity will not violate water quality standards.

7. Will existing uses be maintained and protected?

Proposed activities can only be allowed if "existing uses" will be maintained and protected. No UPDES permit will be allowed which will permit numeric water quality standards to be exceeded in a receiving water outside the mixing zone. In the case of nonpoint pollution sources, the non-regulatory Section 319 program now in place will address these sources

through application of best management practices to ensure that numeric water quality standards are not exceeded.

8. If a situation is found where there is an existing use which is a higher use (i.e., more stringent protection requirements) than that current designated use, the Division will apply the water quality standards and anti- degradation policy to protect the existing use. Narrative criteria may be used as a basis to protect existing uses for parameters where numeric criteria have not been adopted. Procedures to change the stream use designation to recognize the existing use as the designated use would be initiated.

#### d. Special Procedures for Drinking Water Sources

An Antidegradation Review may be required by the Executive Secretary for discharges to waters with a Class 1C drinking water use assigned, irrespective of whether any of the conditions in Section 3.4 b. applies. Factors to be considered may include the volume of the discharge compared to the flow of the receiving stream, or where the pollutants discharged may have potentially adverse impact on the drinking water supply.

Depending upon the locations of the discharge and its proximity to downstream drinking water diversions, additional treatment or more stringent effluent limits or additional monitoring, beyond that which may otherwise be required to meet minimum technology standards or in stream water quality standards, may be required by the Executive Secretary in order to adequately protect public health and the environment. Such additional treatment may include additional disinfection, suspended solids removal to make the disinfection process more effective, removal of any specific contaminants for which drinking water maximum contaminant levels (MCLs) exists, and/or nutrient removal to reduce the organic content of raw water used as a source for domestic water systems.

Additional monitoring may include analyses for viruses, giardia, cryptosporidium, other pathogenic organisms, and/or any contaminant for which drinking water MCLs exist. Depending on the results of such monitoring, more stringent treatment may then be required.

The additional treatment/effluent limits/monitoring which may be required will be determined by the Executive Secretary after consultation with the Division of Drinking Water and the downstream drinking water users.

### e. Public Notice

The public will be provided notice and an opportunity to comment on the conclusions of all completed antidegradation reviews. Where possible, public notice on the antidegradation review conclusions will be combined with the public notice on the proposed permitting action. In the case of UPDES permits, public notice will be provided through the normal permitting process, as all draft permits are public noticed for 30 days, and public comment solicited, before being issued as a final permit. The Statement of Basis for the draft UPDES permit will contain information on how the ADR was addressed including results of the Level I and Level II reviews. In the case of Section 404 permits from the Corps of Engineers, the Division of Water Quality will develop any needed 401 Certifications and the public notice will be published in conjunction with the US Corps of Engineers public notice procedures. Other permits requiring a Level II review will receive a separate public notice according to the normal State public notice procedures.

#### R317-2-4. Colorado River Salinity Standards.

In addition to quality protection afforded by these regulations to waters of the Colorado River and its tributaries, such waters shall be protected also by requirements of "Proposed Water Quality Standards for Salinity including Numeric Criteria and Plan of Implementation for Salinity Control, Colorado River System, June 1975" and a supplement dated August 26, 1975, entitled "Supplement, including Modifications to Proposed Water Quality Standards for Salinity including Numeric Criteria and Plan of Implementation for Salinity Control, Colorado River System, June 1975", as approved by the seven Colorado River Basin States and the U.S.

Environmental Protection Agency, as updated by the 1978 Revision and the 1981, 1984, 1987, 1990, 1993, 1996, 1999 and 2002 Reviews of the above documents.

#### R317-2-5. Mixing Zones.

A mixing zone is a limited portion of a body of water, contiguous to a discharge, where dilution is in progress but has not yet resulted in concentrations which will meet certain standards for all pollutants. At no time, however, shall concentrations within the mixing zone be allowed which are acutely lethal as determined by bioassay or other approved procedure. Mixing zones may be delineated for the purpose of guiding sample collection procedures and to determine permitted effluent limits. The size of the chronic mixing zone in rivers and streams shall not to exceed 2500 feet and the size of an acute mixing zone shall not exceed 50% of stream width nor have a residency time of greater than 15 minutes. Streams with a flow equal to or less than twice the flow of a point source discharge may be considered to be totally mixed. The size of the chronic mixing zone in lakes and reservoirs shall not exceed 200 feet and the size of an acute mixing zone shall not exceed 35 feet. Domestic wastewater effluents discharged to mixing zones shall meet effluent requirements specified in R317-1-3.

- 5.1 Individual Mixing Zones. Individual mixing zones may be further limited or disallowed in consideration of the following factors in the area affected by the discharge:
  - a. Bioaccumulation in fish tissues or wildlife,
- b. Biologically important areas such as fish spawning/nursery areas or segments with occurrences of federally listed threatened or endangered species,
- c. Potential human exposure to pollutants resulting from drinking water or recreational activities,
- d. Attraction of aquatic life to the effluent plume, where toxicity to the aquatic life is occurring.
  - e. Toxicity of the substance discharged,
  - f. Zone of passage for migrating fish or other species (including access to tributaries), or
  - g. Accumulative effects of multiple discharges and mixing zones.

#### R317-2-6. Use Designations.

The Board as required by Section 19-5-110, shall group the waters of the state into classes so as to protect against controllable pollution the beneficial uses designated within each class as set forth below. Surface waters of the state are hereby classified as shown in R317-2-13.

- 6.1 Class 1 -- Protected for use as a raw water source for domestic water systems.
- a. Class 1A -- Reserved.
- b. Class 1B -- Reserved.
- c. Class 1C -- Protected for domestic purposes with prior treatment by treatment processes as required by the Utah Division of Drinking Water
  - 6.2 Class 2 -- Protected for recreational use and aesthetics.
  - a. Class 2A -- Protected for primary contact recreation such as swimming.
- b. Class 2B -- Protected for secondary contact recreation such as boating, wading, or similar uses.

- 6.3 Class 3 -- Protected for use by aquatic wildlife.
- a. Class 3A -- Protected for cold water species of game fish and other cold water aquatic life, including the necessary aquatic organisms in their food chain.
- b. Class 3B -- Protected for warm water species of game fish and other warm water aquatic life, including the necessary aquatic organisms in their food chain.
- c. Class 3C -- Protected for nongame fish and other aquatic life, including the necessary aquatic organisms in their food chain.
- d. Class 3D -- Protected for waterfowl, shore birds and other water-oriented wildlife not included in Classes 3A, 3B, or 3C, including the necessary aquatic organisms in their food chain.
- e. Class 3E -- Severely habitat-limited waters. Narrative standards will be applied to protect these waters for aquatic wildlife.
- 6.4 Class 4 -- Protected for agricultural uses including irrigation of crops and stock watering.
- 6.5 Class 5 -- The Great Salt Lake. Protected for primary and secondary contact recreation, waterfowl, shore birds and other water-oriented wildlife including their necessary aquatic organisms in their food chain, and mineral extraction.

#### R317-2-7. Water Quality Standards.

#### 7.1 Application of Standards

The numeric criteria listed in R317-2-14 shall apply to each of the classes assigned to waters of the State as specified in R317-2-6. It shall be unlawful and a violation of these regulations for any person to discharge or place any wastes or other substances in such manner as may interfere with designated uses protected by assigned classes or to cause any of the applicable standards to be violated, except as provided in R317-1-3.1. The Board may allow site specific modifications based upon bioassay or other tests performed in accordance with standard procedures determined by the Board.

#### 7.2 Narrative Standards

It shall be unlawful, and a violation of these regulations, for any person to discharge or place any waste or other substance in such a way as will be or may become offensive such as unnatural deposits, floating debris, oil, scum or other nuisances such as color, odor or taste; or cause conditions which produce undesirable aquatic life or which produce objectionable tastes in edible aquatic organisms; or result in concentrations or combinations of substances which produce undesirable physiological responses in desirable resident fish, or other desirable aquatic life, or undesirable human health effects, as determined by bioassay or other tests performed in accordance with standard procedures.

#### R317-2-8. Protection of Downstream Uses.

All actions to control waste discharges under these regulations shall be modified as necessary to protect downstream designated uses.

#### R317-2-9. Intermittent Waters.

Failure of a stream to meet water quality standards when stream flow is either unusually high or less than the 7-day, 10-year minimum flow shall not be cause for action against persons discharging wastes which meet both the requirements of R317-1 and the requirements of applicable permits.

#### R317-2-10. Laboratory and Field Analyses.

#### 10.1 Laboratory Analyses

All laboratory examinations of samples collected to determine compliance with these regulations shall be performed in accordance with standard procedures as approved by the Utah Division of Water Quality by the Utah Office of State Health Laboratory or by a laboratory certified by the Utah Department of Health.

#### 10.2 Field Analyses

All field analyses to determine compliance with these regulations shall be conducted in accordance with standard procedures specified by the Utah Division of Water Quality.

#### R317-2-11. Public Participation.

Public hearings will be held to review all proposed revisions of water quality standards, designations and classifications, and public meetings may be held for consideration of discharge requirements set to protect water uses under assigned classifications.

#### R317-2-12. High Quality Waters.

12.1 High Quality Waters - Category 1.

In addition to assigned use classes, the following surface waters of the State are hereby designated as High Quality Waters - Category 1:

a. All surface waters geographically located within the outer boundaries of U.S. National Forests whether on public or private lands with the following exceptions:

All High Quality Waters - Category 2 as listed in R317-2-12.2.

Weber River, a tributary to the Great Salt Lake, in the Weber River Drainage from Uintah to Mountain Green.

b. Other surface waters, which may include segments within U.S. National Forests as follows:

#### 1. Colorado River Drainage

Calf Creek and tributaries, from confluence with Escalante River to headwaters.

Sand Creek and tributaries, from confluence with Escalante River to headwaters.

Mamie Creek and tributaries, from confluence with Escalante River to headwaters.

Deer Creek and tributaries, from confluence with Boulder Creek to headwaters (Garfield County).

Indian Creek and tributaries, through Newspaper Rock State Park to headwaters.

#### 2. Green River Drainage

Price River (Lower Fish Creek from confluence with White River to Scofield Dam.

Range Creek and tributaries, from confluence with Green River to headwaters.

Strawberry River and tributaries, from confluence with Red Creek to headwaters.

Ashley Creek and tributaries, from Steinaker diversion to headwaters.

Jones Hole Creek and tributaries, from confluence with Green River to headwaters.

Green River, from state line to Flaming Gorge Dam.

Tollivers Creek, from confluence with Green River to headwaters.

Allen Creek, from confluence with Green River to headwaters.

#### 3. Virgin River Drainage

North Fork Virgin River and tributaries, from confluence with East Fork Virgin River to headwaters.

East Fork Virgin River and tributaries from confluence with North Fork Virgin River to headwaters.

#### 4. Kanab Creek Drainage

Kanab Creek and tributaries, from irrigation diversion at confluence with Reservoir Canyon to headwaters.

#### 5. Bear River Drainage

Swan Creek and tributaries, from Bear Lake to headwaters.

North Eden Creek, from Upper North Eden Reservoir to headwaters.

Big Creek and tributaries, from Big Ditch diversion to headwaters.

Woodruff Creek and tributaries, from Woodruff diversion to headwaters.

#### 6. Weber River Drainage

Burch Creek and tributaries, from Harrison Boulevard in Ogden to headwaters.

Hardscrabble Creek and tributaries, from confluence with East Canyon Creek to headwaters.

Chalk Creek and tributaries, from U.S. Highway 189 to headwaters.

Weber River and tributaries, from U.S. Highway 189 near Oakley to headwaters.

#### 7. Jordan River Drainage

 $\hbox{\it City Creek and tributaries, from City Creek Water Treatment Plant to headwaters (Salt Lake County).}$ 

Emigration Creek and tributaries, from Hogle Zoo to headwaters (Salt Lake County).

Red Butte Creek and tributaries, from Foothill Boulevard in Salt Lake City to headwaters.

Parley's Creek and tributaries, from 13th East in Salt Lake City to headwaters.

Mill Creek and tributaries, from Wasatch Boulevard in Salt Lake City to headwaters.

Big Cottonwood Creek and tributaries, from Wasatch Boulevard in Salt Lake City to headwaters.

Little Willow Creek and tributaries, from diversion to headwaters (Salt Lake County.)

Bell Canyon Creek and tributaries, from Lower Bells Canyon Reservoir to headwaters (Salt Lake County).

South Fork of Dry Creek and tributaries, from Draper Irrigation Company diversion to headwaters (Salt Lake County).

#### 8. Provo River Drainage

Upper Falls drainage above Provo City diversion (Utah County).

Bridal Veil Falls drainage above Provo City diversion (Utah County).

Lost Creek and tributaries, above Provo City diversion (Utah County).

#### 9. Sevier River Drainage

Chicken Creek and tributaries, from diversion at canyon mouth to headwaters.

Pigeon Creek and tributaries, from diversion to headwaters.

East Fork of Sevier River and tributaries, from Kingston diversion to headwaters.

Parowan Creek and tributaries, from Parowan City to headwaters.

Summit Creek and tributaries, from Summit City to headwaters.

Braffits Creek and tributaries, from canyon mouth to headwaters.

Right Hand Creek and tributaries, from confluence with Coal Creek to headwaters.

#### 10. Raft River Drainage

Clear Creek and tributaries, from state line to headwaters (Box Elder County).

Birch Creek (Box Elder County), from state line to headwaters.

Cotton Thomas Creek from confluence with South Junction Creek to headwaters.

#### 11. Western Great Salt Lake Drainage

All streams on the south slope of the Raft River Mountains above 7000' mean sea level.

Donner Creek (Box Elder County), from irrigation diversion to Utah-Nevada state line.

Bettridge Creek (Box Elder County), from irrigation diversion to Utah-Nevada state line.

Clover Creek, from diversion to headwaters.

All surface waters on public land on the Deep Creek Mountains.

#### 12. Farmington Bay Drainage

Holmes Creek and tributaries, from Highway US-89 to headwaters (Davis County).

Shepard Creek and tributaries, from Height Bench diversion to headwaters (Davis County).

Farmington Creek and tributaries, from Height Bench Canal diversion to headwaters (Davis County).

Steed Creek and tributaries, from Highway US-89 to headwaters (Davis County).

12.2 High Quality Waters - Category 2.

In addition to assigned use classes, the following surface waters of the State are hereby designated as High Quality Waters - Category 2:

## a. Green River Drainage

Deer Creek, a tributary of Huntington Creek, from the forest boundary to 4800 feet upstream.

Electric Lake.

## R317-2-13. Classification of Waters of the State (see R317-2-6).

## 13.1 Upper Colorado River Basin

## a. Colorado River Drainage

			TABLE
Paria River and tributaries, from state line to headwaters		2В	3C
All tributaries to Lake Powell, except as listed below 4		2B	3B
Escalante River and tributaries, from Lake Powell to confluence with Boulder Creek		2B	3C
Escalante River and tributaries, from confluence with Boulder Creek, including Boulder Creek, to headwaters 4		2B 3A	
Dirty Devil River and tributaries, from Lake Powell to Fremont River 4		2B	3C
Deer Creek and tributaries, from confluence with Boulder Creek to headwaters		2B 3A	
Fremont River and tributaries, from confluence with Muddy Creek to Capitol Reef National Park, except as listed below 4 Pleasant Creek and	1C	2B	3C

4	tributaries, from confluence with Fremont Rive to East boundary of Capitol Reef National Park		2B		3C
4	Pleasant Creek and tributaries, from East boundary of Capitol Reef National Park to headwaters	1C	2B 3A		
tr Re	remont River and ributaries, through Capitol eef National Park to eadwaters	1C	2B 3A		
fr Ri cr	addy Creek and tributaries, com confluence with Fremont ever to Highway U-10 cossing, except as listed		2B		3C
4	Quitchupah Creek and Tributaries, from Highway U-10 crossing to headwaters		2B 3A		
4	Ivie Creek and tributaries, from Highway U-10 to headwaters		2B 3A		
fr tc 4	addy Creek and tributaries, com Highway U-10 crossing headwaters an Juan River and	1C	2B 3A		
Tr	ributaries, from Lake owell to state line except As sted below:	1C	2B	3B	
	Johnson Creek and				

Johnson Creek and tributaries, from confluence with Recapture Creek to

4	headwaters	1C	2B 3A
4	Verdure Creek and tributaries, from Highway US-191 crossing to headwaters		2B 3A
4	North Creek and tributaries, from confluence with Montezuma Creek to headwaters	1C	2B 3A
1C	South Creek and tributaries, from confluence with Montezuma C 2B 3A 4	reek	to headwaters
4	Spring Creek and tributaries, from confluence with Vega Creek to headwaters		2B 3A
4	Montezuma Creek and tributaries, from U.S. Highway 191 to headwaters	1C	2B 3A
fro	orado River and tributaries, m Lake Powell to state line ept as listed below	1C	2B 3B
4	Indian Creek and tributaries, through Newspaper Rock State Park to headwaters	1C	2B 3A
3C	Kane Canyon Creek and tributaries, from confluence with Colorado River to headwaters 4		2В
4	Mill Creek and tributaries, from confluence with Colorado River to headwaters	1C	2B 3A

3C	Dolores River and tributaries, from confluence with Colorado River to state line		2B	
4	Roc Creek and tributaries, from confluence with Dolores River to headwaters		2B 3 <i>I</i>	A
4	LaSal Creek and tributaries, from state line to headwaters		2B 3 <i>I</i>	A
4	Lion Canyon Creek and tributaries, from state line to headwaters		2B 3 <i>I</i>	A
4	Little Dolores River and tributaries, from confluence with Colorado River to state line		2B	3C
4	Bitter Creek and tributaries, from confluence with Colorado River to headwaters		2B	3C
	b. Green River Drainage			
				TABLE
con	en River and tributaries, from fluence with Colorado River to te line except as listed below:	1C	2В	3B
4	Thompson Creek and tributaries from Interstate Highway 70 to headwaters		2B	3C
4	San Rafael River and tributaries, from confluence with Green River to confluence with Ferron Creek		2B	3C
	Ferron Creek and tributaries,			

4	from confluence with San Rafael River to Millsite Reservoir		2В	3C
4	Ferron Creek and tributaries, from Millsite Reservoir to headwaters	1C	2B 3A	
	Huntington Creek and tributaries, from confluence with Cottonwood Creek to Highway U-10 crossing		2B	3C
4	Huntington Creek and tributaries, from Highway U-10 crossing to headwaters	1C	2B 3A	
4	Cottonwood Creek and tributaries, from confluence with Huntington Creek to			
4	Highway U-57 crossing  Cottonwood Creek and tributaries, from Highway		2B	3C
4	U-57 crossing to headwaters  Cottonwood Canal, Emery	1C	2B 3A	
3E	Price River and tributaries,	1C	2B	
4	from confluence with Green River to Carbon Canal Diversion at Price City Golf Course		2B	3C
	Except as listed below Grassy Trail Creek and tributaries, from Grassy Trail Creek Reservoir to			
4	headwaters  Price River and tributaries,	1C	2B 3A	
4	from Carbon Canal Diversion at Price City Golf Course to Price City Water Water Treatment Plant intake.		2B 3A	
	Price River and tributaries, from Price			

4	City Water Treatment Plant intake to headwaters	1C	2B	3A	
4	Range Creek and tributaries, from confluence with Green River to Range Creek Ranch		2B	3A	
-	Range Creek and tributaries, from Range Creek Ranch to headwaters	1C	2B	3A	
4	Rock Creek and tributaries, from confluence with Green River to headwaters		2B	3A	
4	Nine Mile Creek and tributaries, from confluence with Green River to headwaters		2B	3A	
4 3D	Pariette Draw and tributaries, from confluence with Green River to headwaters		2B		3B
4	Willow Creek and tributaries (Uintah County), from confluence with Green River to headwaters		2B	3A	
_	White River and tributaries, from confluence with Green River to state line, except as listed below		2B		3B
4	Bitter Creek and Tributaries from White River to Headwaters		2B	3A	
	Duchesne River and tributaries, from confluence with Green River to Myton Water Treatment Plant intake, except as listed below	t	2B		3B
4	Uinta River and tributaries, From confluence with Duchesne River to Highway US-40 crossing		2B		3B
4	Uinta River and tributaries,				

4	From Highway US-4- crossing to headwaters		2B 3	ЗА
4	Power House Canal from Confluence with Uinta River to headwaters		2B 3	ЗА
ı	Whiterocks River and Canal, From Tridell Water Treatment Plant to Headwaters	1C	2B 3	ЗА
4	Duchesne River and tributaries, from Myton Water Treatment Plant intake			
4	to headwaters	1C	2B 3	3A
1	Lake Fork River and tributaries, from confluence with Duchesne River to	10	2B .	2.71
4	headwaters	1C	ZB 、	3A
3E	Lake Fork Canal from Dry Gulch Canal Diversion to Moon Lake	1C	2B	
3E	Dry Gulch Canal, from Myton Water Treatment Plant to Lake Fork Canal	1C	2B	
	Ashley Creek and tributaries, from confluence with Green River to Steinaker diversion		2B	3B
4	Ashley Creek and tributaries, from Steinaker diversion to headwaters	1C	2B 3	ЗА
4	Big Brush Creek and tributaries, from confluence with Green River to Tyzack		0.5	
4	(Red Fleet) Dam  Big Brush Crook and		2B	3B
	Big Brush Creek and tributaries, from Tyzack (Red Fleet) Dam to			

	headwaters	1C	2В	3A	
4	Jones Hole Creek and tributaries, from confluence with Green River to				
	headwaters Diamond Gulch Creek and tributaries, from confluence with Green River to		2B	3A	
4	headwaters		2В	ЗА	
4	Pot Creek and tributaries, from Crouse Reservoir to headwaters		2B	3A	
4	on Divor and tributarios from				
Utal	en River and tributaries, from h-Colorado state line to Flaming Gor ept as listed below:	ge Dam	2В	3A	
	Sears Creek and tributaries, Daggett County Tolivers Creek and		2В	3A	
	tributaries, Daggett County Red Creek and tributaries, from confluence with Green		2B	3A	
	River to state line		2B		3C
4	Jackson Creek and				
	tributaries, Daggett County Davenport Creek and		2В	3A	
	tributaries, Daggett County Goslin Creek and tributaries,		2В	3A	
	Daggett County Gorge Creek and tributaries,		2В	3A	
	Daggett County		2В	3A	
	Beaver Creek and tributaries, Daggett County		2В	ЗА	
	O-Wi-Yu-Kuts Creek and tributaries, County		2В	ЗА	
Res	butaries to Flaming Gorge ervoir, except as listed below		2В	3A	
tril Gora 4	ch Spring Draw and butaries, from Flaming ge Reservoir to headwaters		2B		3C
Spr	ing Creek and tributaries,				

to	m Flaming Gorge Reservoir headwaters Tributaries of Flaming Gorge		2B 3A	
	ervoir from Utah-Wyoming state line headwaters		2B 3A	
	13.2 Lower Colorado River Basin			
	a. Virgin River Drainage			
				TABLE
	ver Dam Wash and tributaries, m Motoqua to headwaters		2B	3B
Vir fro	gin River and tributaries			
sta	m te line to Quail Creek ersion		2B	3B
4	Santa Clara River from confluence with Virgin River to Gunlock Reservoir	1C	2B	3B
4	Santa Clara River and tributaries, from Gunlock Reservoir to headwaters		2B 3A	
4	Leed's Creek, from confluence with Quail Creek to headwaters		2B 3A	
4	Quail Creek from Quail Creek Reservoir to headwaters	1C	2B 3A	
4	Ash Creek and tributaries, from confluence with Virgin River to Ash Creek Reservoir		2B 3A	

Ash Creek and tributaries,

4	From Ash Creek Reservoir to headwaters		2B	3A	
fro the	gin River and tributaries,  Quail Creek diversion to  dwaters, except as listed				
bel 4	<del>-</del>	10	2B		3C
4	North Fork Virgin River and tributaries	10	2В	3A	
4	East Fork Virgin River, from town of Glendale to headwaters		2В	3A	
4	Kolob Creek, from confluence with Virgin River to headwaters		2B	ЗА	
	b. Kanab Creek Drainage				
IV					TABLE
fro div	b. Kanab Creek Drainage  ab Creek and tributaries, om state line to irrigation ersion at confluence with ervoir Canyon		2В		TABLE 3C
fro div Res 4 Kan fro	ab Creek and tributaries, om state line to irrigation ersion at confluence with			3A	
fro div Res 4 Kan fro con to 4 Joh fro wit Joh	ab Creek and tributaries, om state line to irrigation ersion at confluence with ervoir Canyon  ab Creek and tributaries, om irrigation diversion at effluence with Reservoir Canyon	2B		3A	

# 13.3 Bear River Basin

## a. Bear River Drainage

		TABLE
Bear River and tributaries, from Great Salt Lake to Utah-Idaho border, except as listed below: 3D 4	2B 3	3B
Perry Canyon Creek from U.S. Forest boundary to headwaters 4	2B 3A	
Box Elder Creek from confluence with Black Slough to Brigham City Reservoir (the Mayor's Pond) 4	2В	3C
Box Elder Creek, from Brigham City Reservoir (the Mayor's Pond) to headwaters	2B 3A	
Malad River and tributaries, from confluence with Bear River to state line Little Bear River and tributaries, from Cutler Reservoir to headwaters 3D 4	2B 2B 3A	3C
Logan River and tributaries, from Cutler Reservoir to headwaters 3D 4	2B 3A	
Blacksmith Fork and tributaries, from confluence with Logan River to headwaters	2B 3A	
Newton Creek and tributaries, from Cutler Reservoir to Newton		

Reservoir 4		2В	3A	
Clarkston Creek and tributaries, from Newton Reservoir to headwaters		2B	3A	
Birch Creek and tributaries, from confluence with Clarkston Creek to headwaters		2В	3A	
Summit Creek and tributaries, from confluence with Bear River to headwaters		2В	3A	
Cub River and tributaries, from confluence with Bear River to state line, except as listed below:		2В		3B
High Creek and tributaries, from confluence with Cub River to headwaters		2B	3A	
All tributaries to Bear Lake from Bear Lake to headwaters, except as listed below		2В	3A	
Swan Springs tributary to Swan Creek	1C	2В	3A	
Bear River and tributaries in Rich County 4		2B	3A	
Bear River and tributaries, from Utah-Wyoming state line to headwaters (Summit County)		2B	3A	

Mill Creek and tributaries, from

state line to headwaters (Summit County) 4		2B 3A	
13.4 Weber River Basin			
a. Weber River Drainage			
			TABLE
Willard Creek, from Willard Bay Reservoir to headwaters 4		2B 3A	
Weber River, from Great Salt Lake to Slaterville diversion, except as listed below: 3D 4		2В	3C
Four Mile Creek from I-15 To headwaters		2B 3A	
Weber River and tributaries, from Slaterville diversion to Stoddard diversion, except as listed below 4		2B 3A	
Ogden River and tributaries, From confluence with Weber River To Pineview Dam, except as listed Below 4		2B 3A	
Wheeler Creek from Confluence with Ogden River to headwaters 4	1C	2B 3A	
All tributaries to Pineview Reservoir	1C	2B 3A	
Strongs Canyon Creek and Tributaries, from U.S. National Forest boundary to headwaters	1C	2B 3A	

Burch Creek and tributaries, from Harrison Boulevard in Ogden to Headwaters	1C	2B	3A
Spring Creek and tributaries, From U.S. National Forest Boundary to headwaters	1C	2В	3A
Weber River and tributaries, from Stoddard diversion to headwaters	1C	2B	3A

# 13.5 Utah Lake-Jordan River Basin

a. Jordan River Drainage			
		TP	ABLE
Jordan River, from Farmington Bay to North Temple Street, Salt Lake City 3D 4	2B	3B	*
Jordan River, from North Temple Street in Salt Lake City to confluence with Little Cottonwood Creek 4	2B	3В	*
Surplus Canal from Great Salt Lake to the diversion from the Jordan River 3D 4	2B	3B	*
Jordan River from confluence with Little Cottonwood Creek toNarrows Diversion 4	2B 3A		
Jordan River, from Narrows Diversion to Utah Lake 1C 4	2В	3В	
City Creek, from Memory Park in Salt Lake City to City Creek			

Water Treatment Plant		2B 3A	
City Creek, from City Creek Water Treatment Plant to headwaters	1C	2B 3A	
Red Butte Creek and tributaries, from Red Butte Reservoir to headwaters	1C	2B 3A	
Emigration Creek and tributaries, from Foothill Boulevard in Salt Lake City to headwaters		2B 3A	
Parley's Creek and tributaries, from 1300 East in Salt Lake City to Mountain Dell Reservoir to headwaters	1C	2B 3A	
Parley's Creek and tributaries,	10	2.5 311	
from Mountain Dell Reservoir to headwaters	1C	2B 3A	
Mill Creek (Salt Lake County) from confluence with Jordan River to Interstate Highway 15 4		2В	3C
from confluence with Jordan River to Interstate Highway 15		2B 2B 3A	3C
from confluence with Jordan River to Interstate Highway 15 4  Mill Creek (Salt Lake County) and tributaries from Interstate Highway 15 to headwaters		_	3C
from confluence with Jordan River to Interstate Highway 15  4  Mill Creek (Salt Lake County) and tributaries from Interstate Highway 15 to headwaters  4  Big Cottonwood Creek and tributaries, from confluence with Jordan River to Big Cottonwood Water Treatment Plant  4  Big Cottonwood Creek and tributaries, from Big Cottonwood Water Treatment Plant to		2B 3A 2B 3A	3C
from confluence with Jordan River to Interstate Highway 15  4  Mill Creek (Salt Lake County) and tributaries from Interstate Highway 15 to headwaters 4  Big Cottonwood Creek and tributaries, from confluence with Jordan River to Big Cottonwood Water Treatment Plant 4  Big Cottonwood Creek and tributaries, from Big Cottonwood	1C 1C	2B 3A	3C

Little Cottonwood Creek and

tributaries, from confluence with Jordan River to Metropolitan Water Treatment Plant 4		2B 3A	
Little Cottonwood Creek and tributaries, from Metropolitan Water Treatment Plant to headwaters	1C	2B 3A	
Bell Canyon Creek and tributaries, from lower Bell's Canyon reservoir to headwaters	1C	2B 3A	
Little Willow Creek and tributaries, from Draper Irrigation Company diversion to headwaters	1C	2B 3A	
Big Willow Creek and tributaries, from Draper Irrigation Company diversion to headwaters	1C	2B 3A	
South Fork of Dry Creek and tributaries, from Draper			
Irrigation Company diversion to headwaters All permanent streams on east slope of Oquirrh Mountains (Coon,	1C	2B 3A	
Barney's, Bingham, Butterfield, and Rose Creeks) 3D 4		2В	
Kersey Creek from confluence of C-7 Ditch to headwaters 3D		2B	
* Site specific criteria for disso Table 2.14.5.	olved o	oxygen.	See

# b. Provo River Drainage

TABLE

Provo River and tributaries, from Utah Lake to Murdock

diversion 4		2B 3A	
Provo River and tributaries, from Murdock Diversion to headwaters, except as listed below	1C	2B 3A	
4	IC	ZD JA	
Upper Falls drainage above Provo City diversion Bridal Veil Falls drainage above	1C	2B 3A	
Provo City diversion	1C	2B 3A	
Lost Creek and tributaries above Provo City diversion	1C	2B 3A	
c. Utah Lake Drainage			
			TABLE
Dry Creek and tributaries (above Alpine), from U.S. National Forest boundary to headwaters 4		2B 3A	
American Fork Creek and tributaries, from diversion at mouth of American Fork Canyon to headwaters 4		2B 3A	
Spring Creek and tributaries, from Utah Lake near Lehi to headwaters		2B 3A	
Lindon Hollow Creek and tributaries, from Utah Lake to headwaters 4		2B	3В
Rock Canyon Creek and tributaries (East of Provo) from U.S. National Forest boundary to headwaters 4	1C	2B 3A	
Mill Race (except from Interstate Highway 15 to the Provo City WWTP			

discharge) and tributaries from Utah Lake to headwaters 4	2B		3B	
Mill Race from Interstate Highway 15 to the Provo City wastewater treatment plant discharge 4	2В		3В	
Spring Creek and tributaries from Utah Lake (Provo Bay) to 50 feet upstream from the east boundary of the Industrial Parkway Road Right-of-way	2В		3B	
Tributary to Spring Creek (Utah County) which receives the Springville City WWTP effluent from confluence with Spring Creek to headwaters	2B		3D	
Spring Creek and tributaries from 50 feet upstream from the east boundary of the Industrial Parkway Road right-of-way to the headwaters 4	2В	3A		
Ironton Canal from Utah Lake (Provo Bay) to the east boundary of the Denver and Rio Grande Western Railroad right-of-way	2B			3C
Ironton Canal from the east boundary of the Denver and Rio Grande Western Railroad right-of-way to the point of diversion from Spring Creek 4	2B	3A		
Hobble Creek and tributaries, from Utah Lake to headwaters 4 Dry Creek and tributaries from Utah Lake (Provo Bay) to	2В	3A		

Highway-US 89 3E 4	2B	
Dry Creek and tributaries from Highway-US 89 to headwaters 4	2B 3A	
Spanish Fork River and tributaries, from Utah Lake to diversion at Moark Junction 3D 4	2B	3B
Spanish Fork River and tributaries, from diversion at Moark Junction to headwaters	2B 3A	
Benjamin Slough and tributaries from Utah Lake to headwaters, except as listed below 4	2В	3В
Beer Creek (Utah County) from 4850 West (in NE1/4NE1/4 sec. 36, T.8 S., R.1 E.) to headwaters	2B	3C
Salt Creek, from Nephi diversion to headwaters 4	2B 3A	
Currant Creek, from mouth of Goshen Canyon to Mona Reservoir 4 Burriston Creek, from Mona Reservoir to headwaters	2B 3A 2B 3A	
Peteetneet Creek and tributaries, from irrigation diversion above Maple Dell to headwaters	2B 3A	
ਕ		

Summit Creek and tributaries (above Santaquin), from U.S. National Forest boundary to headwaters 2B 3A All other permanent streams entering Utah Lake 2B 3B 13.6 Sevier River Basin a. Sevier River Drainage TABLE Sevier River and tributaries from Sevier Lake to Gunnison Bend Reservoir to U.S. National Forest boundary except as listed below 2B 3C Beaver River and tributaries from Minersville City to headwaters 2B 3A Little Creek and tributaries, From irrigation diversion to Headwaters 2B 3A Pinto Creek and tributaries, From Newcastle Reservoir to Headwaters 2B 3A 4 Coal Creek and tributaries 2B 3A 4 Summit Creek and tributaries 2B 3A Parowan Creek and tributaries 2B 3A Tributaries to Sevier River

	om Sevier Lake to Gunnison  nd Reservoir from U.S.			
	cional Forest boundary to adwaters, including:	2B	3A	
4	Pioneer Creek and tributaries, Millard County	2B	3A	
4	Chalk Creek and tributaries, Millard County	2B	3A	
4	Meadow Creek and tributaries, Millard County	2B	3A	
4	Corn Creek and tributaries, Millard County	2B	3A	
U.S Gun Ann	vier River and tributaries below S. National Forest boundary from anison Bend Reservoir to habella Diversion except cept as listed below	2B		3B
4	Oak Creek and tributaries, Millard County	2B	3A	
4	Round Valley Creek and tributaries, Millard County	2B	3A	
4	Judd Creek and tributaries, Juab County	2B	3A	
4	Meadow Creek and tributaries, Juab County	2B	3A	
	Cherry Creek and tributaries			

4	Juab County	2B	3A	
3E	Tanner Creek and tributaries, Juab County 4	2B		
3D	Baker Hot Springs, Juab County 4	2В		
4	Chicken Creek and tributaries, Juab County	2B	3A	
3D	San Pitch River and tributaries, from confluence with Sevier River to Highway U-132 crossing except As listed below:	2B		3C
4	Twelve Mile Creek (South Creek) and tributaries, from U.S. Forest Service boundary to headwaters	2B	3A	
4	Six Mile Creek and tributaries, Sanpete County	2B	3A	
4	Manti Creek (South Creek) and tributaries, from U.S. Forest Service boundary to headwaters		3A	
4	Ephraim Creek (Cottonwood Creek) and tributaries, from U.S. Forest Service to headwaters	2B	3A	
4	Oak Creek and tributaries, from U.S. Forest Service boundary near Spring City to headwaters	2B	3A	

Fountain Green Creek and tributaries, from U.S. Forest Service boundary to headwaters	2B	ЗА
San Pitch River and tributaries, from Highway U-132 crossing to headwaters	2B	3A
Tributaries to Sevier River from Gunnison Bend Reservoir to Annabelle Diversion from U.S. National Forest boundary to headwaters 4	2B	ЗА
Sevier River and tributaries, from Annabella diversion to headwaters	2B	ЗА
Monroe Creek and tributaries, from diversion to headwaters	2B	3A
Little Creek and tributaries, from irrigation diversion to headwaters	2B	ЗА
Pinto Creek and tributaries, from Newcastle Reservoir to headwaters	2B	ЗА
Coal Creek and tributaries	2B	3A
Summit Creek and tributaries	2B	ЗА
Parowan Creek and tributaries	2B	3A

Duck	Creek	and	tributaries	1C	2B	ЗА
4						

## 13.7 Great Salt Lake Basin

## a. Western Great Salt Lake Drainage

		TABLE
Grouse Creek and tributaries, Box Elder County 4	2B 3A	
Muddy Creek and tributaries, Box Elder County 4	2B 3A	
Dove Creek and tributaries, Box Elder County 4	2B 3A	
Pine Creek and tributaries, Box Elder County 4	2B 3A	
Rock Creek and tributaries, Box Elder County 4	2B 3A	
Fisher Creek and tributaries, Box Elder County 4	2B 3A	
Dunn Creek and tributaries, Box Elder County 4	2B 3A	
Indian Creek and tributaries, Box Elder County 4	2B 3A	
Tenmile Creek and tributaries, Box Elder County 4	2B 3A	
Curlew (Deep) Creek, Box Elder		

County 4	2B	3A
Blue Creek and tributaries, from Great Salt Lake to Blue Creek Reservoir 3D 4	2B	
Blue Creek and tributaries, from Blue Creek Reservoir to headwaters 4	2В	3B
All perennial streams on the east slope of the Pilot Mountain Range 1C	2B	3A
Donner Creek and tributaries, from irrigation diversion to Utah-Nevada state line	2B	3A
Bettridge Creek and tributaries, from irrigation diversion to Utah-Nevada state line	2B	3A
North Willow Creek and tributaries, Tooele County 4	2B	3A
South Willow Creek and tributaries, Tooele County 4	2В	3A
Hickman Creek and tributaries, Tooele County 4	2В	3A
Barlow Creek and tributaries, Tooele County 4	2B	3A
Clover Creek and tributaries, Tooele County	2В	3A

Faust Creek and tributaries, Tooele County 4		2B	3A
Vernon Creek and tributaries, Tooele County 4		2B	3A
Ophir Creek and tributaries, Tooele County 4		2B	3A
Soldier Creek and Tributaries from the Drinking Water Treatment Facility Headwaters, Tooele County	1C	2B	3A
Settlement Canyon Creek and tributaries, Tooele County 4		2В	3A
Middle Canyon Creek and tributaries, Tooele County 4		2В	3A
Tank Wash and tributaries, Tooele County 4		2В	3A
Basin Creek and tributaries, Juab and Tooele Counties 4		2B	3A
Thomas Creek and tributaries, Juab County 4		2B	3A
<pre>Indian Farm Creek and tributaries, Juab County 4</pre>		2B	3A
Cottonwood Creek and tributaries, Juab County 4		2В	3A

Red Cedar Creek and tributaries,

Juab County 4	2B	3A		
Granite Creek and tributaries, Juab County 4	2В	3A		
Trout Creek and tributaries, Juab County 4	2B	3A		
Birch Creek and tributaries, Juab County 4	2B	3A		
Deep Creek and tributaries, from Rock Spring Creek to headwaters, Juab and Tooele Counties	2В	3A		
Cold Spring, Juab County 3D	2В			3C
Cane Spring, Juab County 3D	2B			3C
Lake Creek, from Garrison (Pruess) Reservoir to Nevada state line 4	2B	3A		
Snake Creek and tributaries, Millard County 4	2B		3B	
Salt Marsh Spring Complex, Millard County	2B	3A		
Twin Springs, Millard County	2B		3В	
Tule Spring, Millard County 3D	2В			3C
Coyote Spring Complex, Millard County 3C 3D	2B			

Hamblin Valley Wash and
tributaries, from Nevada state
line to headwaters (Beaver and
Iron Counties)

3D 4

Indian Creek and tributaries,
Beaver County, from Indian Creek
Reservoir to headwaters

4

Shoal Creek and tributaries,
Iron County

2B 3A

#### b. Farmington Bay Drainage

from U.S. National Forest

TABLE Corbett Creek and tributaries, from Highway to headwaters 2B 3A Kays Creek and tributaries, from Farmington Bay to U.S. 2B 3B National Forest boundary North Fork Kays Creek and tributaries, from U.S. National Forest boundary to headwaters 2B 3A Middle Fork Kays Creek and tributaries, from U.S. National Forest boundary to headwaters 1C 2B 3A South Fork Kays Creek and tributaries, from U.S. National Forest boundary to headwaters 1C 2B 3A Snow Creek and tributaries 2B 3C Holmes Creek and tributaries, from Farmington Bay to U.S. National Forest boundary 2B 3B Holmes Creek and tributaries,

boundary to headwaters	1C	2B 3A	
Baer Creek and tributaries, from Farmington Bay to			
Interstate Highway 15		2B	3C
Baer Creek and tributaries, from Interstate Highway 15 to			
Highway US-89		2B	3B
Baer Creek and tributaries, from Highway US-89 to headwaters	1C	2B 3A	
Shepard Creek and tributaries, from U.S. National Forest boundary to headwaters	1C	2B 3A	
4 Farmington Creek and tributaries, from Farmington Bay Waterfowl			
Management Area to U.S. National Forest boundary 4		2В	3B
Farmington Creek and tributaries, from U.S. National Forest boundary to headwaters	1C	2B 3A	
A Rudd Creek and tributaries,	IC	ZD JA	
from Davis aqueduct to headwaters		2B 3A	
Steed Creek and tributaries, from U.S. National Forest boundary to headwaters	1C	2B 3A	
Davis Creek and tributaries, from Highway US-89 to headwaters		2B 3A	
Lone Pine Creek and tributaries, from Highway US-89 to headwaters		2B 3A	
Ricks Creek and tributaries, from Highway I-15 to headwaters	1C	2B 3A	
Barnard Creek and tributaries, from Highway US-89 to headwaters		2B 3A	
Parrish Creek and tributaries,			

from Davis Aqueduct to headwaters		2B 3 <i>I</i>	A
Deuel Creek and tributaries, (Centervil Canyon) from Davis Aqueduct to headwaters	le	2B 3 <i>I</i>	A
Stone Creek and tributaries, from Farmington Bay Waterfowl Management Area to U.S. National			
Forest boundary 4 Stone Creek and tributaries,		2B 3 <i>I</i>	A
from U.S. National Forest boundary to headwaters 4	1C	2B 3 <i>I</i>	A
Barton Creek and tributaries, from U.S. National Forest boundary to headwaters 4		2B 3 <i>I</i>	A
Mill Creek (Davis County) and tributaries, from confluence with State Canal to U.S. National Forest boundary		2B	3B
Mill Creek (Davis County) and tributaries, from U.S. National Forest boundary to headwaters	1C	2B 3 <i>I</i>	A
North Canyon Creek and tributaries, from U.S. National Forest boundary to headwaters		2B 3A	A
Howard Slough		2B	3C
4 Hooper Slough 4		2B	3C
Willard Slough		2B	3C
Willard Creek to Headwaters	1C	2B 3A	A
Chicken Creek to Headwaters	1C	2B 3 <i>I</i>	A
Cold Water Creek to Headwaters	1C	2B 3A	A
One House Creek to Headwaters	1C	2B 3 <i>I</i>	A

4	10	20 311	
13.8 Snake River Basin			
a. Raft River Drainage (Box Elder County)			
			TABLE
Raft River and tributaries 4		2B 3A	
Clear Creek and tributaries, from Utah-Idaho state line to headwaters		2B 3A	
Onemile Creek and tributaries, from Utah-Idaho state line to headwaters		2B 3A	
George Creek and tributaries, from Utah-Idaho state line to headwaters		2B 3A	
Johnson Creek and tributaries, from Utah-Idaho state line to headwaters 4		2B 3A	
Birch Creek and tributaries, from state line to headwaters		2B 3A	
Pole Creek and tributaries, from state line to headwaters		2B 3A	
Goose Creek and tributaries		2B 3A	
Hardesty Creek and tributaries, from state line to headwaters 4		2B 3A	

Garner Creek to Headwaters 1C 2B 3A

Meadow Creek and tributaries, from state line to headwaters	2B 3A	
13.9 All irrigation canals and ditches statewide, except as otherwise designated 3E 4	2B	
13.10 All drainage canals and ditches statewide, except as otherwise designated 3E	2В	
13.11 National Wildlife Refuges and State		
Waterfowl Management Areas		
		TABLE
Bear River National Wildlife Refuge, Box Elder County 3D	2B	3B
Brown's Park Waterfowl Management Area, Daggett County 3D	2B 3A	
Clear Lake Waterfowl Management Area, Millard County 3D	2В	3C
Desert Lake Waterfowl Management Area, Emery County 3D	2B	3C
Farmington Bay Waterfowl Management Area, Davis and Salt Lake Counties 3D	2B	3C
Fish Springs National Wildlife Refuge, Juab County 3D	2B	3C
Harold Crane Waterfowl Management Area, Box Elder County 3D	2B	3C

Howard Slough Waterfowl Management Area, Weber County 3D	2B	3C
Locomotive Springs Waterfowl Management Area, Box Elder County 3D	2B	3B
Ogden Bay Waterfowl Management Area, Weber County 3D	2B	3C
Ouray National Wildlife Refuge, Uintah County 3D	2B	3B
Powell Slough Waterfowl Management Area, Utah County 3D	2B	3C
Public Shooting Grounds Waterfowl Management Area, Box Elder County 3D	2B	3C
Salt Creek Waterfowl Management Area, Box Elder County 3D	2B	3C
Stewart Lake Waterfowl Management Area, Uintah County 3D	2B	3B
Timpie Springs Waterfowl Management Area, Tooele County 3D	2B	3B

13.12 Lakes and Reservoirs (20 Acres or Larger). All lakes not listed in 13.12 are assigned by default to the classification of the stream with which they are associated.

## a. Beaver County

TABLE

Anderson Meadow Reservoir 2B 3A

Manderfield Reservoir 4				2B	3A	
LaBaron Reservoir 4				2В	3A	
Kent's Lake	2B	3A				4
Minersville Reservoir 3D 4				2B	3A	
Puffer Lake				2В	3A	
Three Creeks Reservoir				2В	3A	
b. Box Elder County						
						TABLE
Cutler Reservoir (including portion in Cache County) 3D 4				2B		3B
Etna Reservoir 4				2B	3A	
Lynn Reservoir 4				2B	3A	
Mantua Reservoir 4				2B	3A	
Willard Bay Reservoir 3D 4		1C	2A	2B		3B
c. Cache County						
						TABLE
Hyrum Reservoir 4			2A	2В	3A	**
Newton Reservoir 4				2B	3A	

Porcupine Reservoir		2В	3A	
Pelican Pond 4		2В		3B
Tony Grove Lake		2В	3A	
d. Carbon County				TABLE
Grassy Trail Creek Reservoir	1C	2В	3A	
Olsen Pond 4		2В		3B
Scofield Reservoir	1C	2B	3A	
e. Daggett County				
Browne Reservoir		2В	3A	TABLE
Daggett Lake		2В	3A	
Flaming Gorge Reservoir (Utah portion)	1C 2 <i>I</i>	2B	3A	
Long Park Reservoir	1C	2В	3A	
Sheep Creek Reservoir		2В	3A	
Spirit Lake			3A	
Upper Potter Lake 4		2В	3A	

# f. Davis County

				TABLE
Farmington Ponds 4		2B	3A	
Kaysville Highway Ponds 4		2B	3A	
Holmes Creek Reservoir		2В		3B
g. Duchesne County				
				TABLE
Allred Lake		2B	3A	
Atwine Lake		2B	3A	
Atwood Lake		2B	3A	
Betsy Lake 4		2B	3A	
Big Sandwash Reservoir	1C	2B	3A	
Bluebell Lake 4		2B	3A	
Brown Duck Reservoir		2B	3A	
Butterfly Lake 4		2B	3A	
Cedarview Reservoir		2B	3A	
Chain Lake #1		2B	3A	

Chepeta Lake 4	2B	3A
Clements Reservoir 4	2B	3A
Cleveland Lake	2B	3A
Cliff Lake 4	2B	3A
Continent Lake	2B	3A
Crater Lake	2B	3A
Crescent Lake 4	2B	3A
Daynes Lake	2B	3A
Dean Lake 4	2B	3A
Doll Lake 4	2B	3A
Drift Lake	2B	3A
Elbow Lake 4	2B	3A
Farmer's Lake	2B	3A
Fern Lake	2B	3A
Fish Hatchery Lake	2B	3A
Five Point Reservoir	2B	3A

Fox Lake Reservoir 4	2B	3A
Governor's Lake 4	2В	3A
Granddaddy Lake 4	2B	3A
Hoover Lake	2В	3A
Island Lake	2B 3A	
Jean Lake	2B	3A
Jordan Lake	2B	3A
Kidney Lake	2B	3A
Kidney Lake West	2B	3A
Lily Lake	2B	3A
Midview Reservoir (Lake Boreham) 4	2B	3B
Milk Reservoir 4	2В	3A
Mirror Lake	2В	3A
Mohawk Lake	2B	3A
Moon Lake	1C	2A 2B 3A

North Star Lake			2B	3A
Palisade Lake 4			2B	3A
Pine Island Lake			2B	3A
Pinto Lake			2B	3A
Pole Creek Lake			2B	3A
Potter's Lake			2B	3A
Powell Lake			2B	3A
Pyramid Lake		2A	2B	3A
Queant Lake			2B	3A
Rainbow Lake			2B	3A
Red Creek Reservoir			2B	3A
Rudolph Lake			2B	3A
Scout Lake		2A	2B	3A
Spider Lake			2B	3A
Spirit Lake			2B	3A
Starvation Reservoir	1C	2A	2B	3A

Superior Lake 4			2B	3A	
Swasey Hole Reservoir 4			2B	3A	
Taylor Lake 4			2B	3A	
Thompson Lake 4			2B	3A	
Timothy Reservoir #1			2B	3A	
Timothy Reservoir #6			2B	3A	
Timothy Reservoir #7			2B	3A	
Twin Pots Reservoir 4	1C		2B	3A	
Upper Stillwater Reservoir 4	1C		2В	3A	
X - 24 Lake 4			2B	3A	
h. Emery County					
					TABLE
Cleveland Reservoir 4			2B	3A	
Electric Lake 4			2В	3A	
Huntington Reservoir 4			2B	3A	
Huntington North Reservoir		2A	2B		3B

Joe's Valley Reservoir 4		2A	2B	3A	
Millsite Reservoir 4	1C	2A	2В	3A	
i. Garfield County					
					TABLE
Barney Lake 4			2B	3A	
Cyclone Lake 4			2В	3A	
Deer Lake 4			2В	3A	
Jacob's Valley Reservoir 3D 4			2В		3C
Lower Bowns Reservoir			2B	3A	
North Creek Reservoir			2B	3A	
Panguitch Lake 4			2B	3A	
Pine Lake 4			2B	3A	
Oak Creek Reservoir (Upper Bowns) 4			2В	3A	
Pleasant Lake 4			2В	3A	
Posey Lake 4			2B	3A	
Purple Lake			2B	3A	

Raft Lake 4	2E	3A	
Row Lake #3	2E	3A	
Row Lake #7	2E	3A	
Spectacle Reservoir 4	2E	3A	
Tropic Reservoir 4	2E	3A	
West Deer Lake	2E	3A	
Wide Hollow Reservoir	2E	3A	
j. Iron County			
			TABLE
Newcastle Reservoir 4	2E	3A	
Red Creek Reservoir	2E	3A	
Yankee Meadow Reservoir 4	2E	3A	
k. Juab County			
			TABLE
Chicken Creek Reservoir 3D 4	2E		3C
Mona Reservoir	2E	1	3B
Sevier Bridge (Yuba) Reservoir	2A 2E	i	3B

# l. Kane County

					TABLE
Navajo Lake 4			2B	3A	
m. Millard County					
					TABLE
DMAD Reservoir 4			2B		3B
Fools Creek Reservoir 3D 4			2B		3C
Garrison Reservoir (Pruess Lake) 4			2B		3B
Gunnison Bend Reservoir 4			2B		3B
n. Morgan County					
					TABLE
East Canyon Reservoir 4	1C	2A	2B	3A	
Lost Creek Reservoir	1C		2B	3A	
o. Piute County					
					TABLE
Barney Reservoir 4			2B	3A	
Lower Boxcreek Reservoir			2B	3A	
Manning Meadow Reservoir 4				2B	3A

Otter Creek Reservoir 4			2B	3A	
Piute Reservoir 4			2В	3A	
Upper Boxcreek Reservoir			2B	3A	
p. Rich County					
					TABLE
Bear Lake (Utah portion) 4		2A	2В	3A	
Birch Creek Reservoir			2B	3A	
Little Creek Reservoir			2В	3A	
Woodruff Creek Reservoir			2B	ЗА	
•					
q. Salt Lake County					
					TABLE
			2B		TABLE 3B
q. Salt Lake County  Decker Lake	1C			3A	
q. Salt Lake County  Decker Lake 3D 4	1C 1C		2B	3A	
q. Salt Lake County  Decker Lake 3D 4  Lake Mary			2B 2B		
q. Salt Lake County  Decker Lake 3D 4  Lake Mary  Little Dell Reservoir	1C		2B 2B	3A	
q. Salt Lake County  Decker Lake 3D 4  Lake Mary  Little Dell Reservoir  Mountain Dell Reservoir	1C		2B 2B	3A	
q. Salt Lake County  Decker Lake 3D 4  Lake Mary  Little Dell Reservoir  Mountain Dell Reservoir	1C		2B 2B 2B	3A	3B

Ken's Lake			2В	3A*	**
Lake Powell (Utah portion) 4	1C	2A	2В		3B
Lloyd's Lake 4	1C		2В	3A	
Monticello Lake 4			2В	3A	
Recapture Reservoir			2B	3A	
s. Sanpete County					
					TABLE
Duck Fork Reservoir			2В	3A	
Fairview Lakes 4	1C		2B	3A	
Ferron Reservoir			2В	3A	
Lower Gooseberry Reservoir	1C		2B	3A	
Gunnison Reservoir			2В		3C
Island Lake			2В	3A	
Miller Flat Reservoir 4			2В	3A	
Ninemile Reservoir			2В	3A	
Palisade Reservoir		2A	2B	3A	

Rolfson Reservoir	2В	3C
Twin Lakes	2B 3A	
Willow Lake 4	2B 3A	
t. Sevier County		
Annabella Reservoir	2B 3A	TABLE
4	ZB JA	
Big Lake 4	2B 3A	
Farnsworth Lake	2B 3A	
Fish Lake	2B 3A	
Forsythe Reservoir	2B 3A	
Johnson Valley Reservoir	2B 3A	
Koosharem Reservoir	2B 3A	
Lost Creek Reservoir	2B 3A	
Redmond Lake 4	2B	3B
Rex Reservoir 4	2B 3A	
Salina Reservoir	2B 3A	

# Sheep Valley Reservoir 2B 3A u. Summit County TABLE Abes Lake 2B 3A Alexander Lake 2B 3A Amethyst Lake 2B 3A Beaver Lake 2B 3A Beaver Meadow Reservoir 2B 3A Big Elk Reservoir 2B 3A Blanchard Lake 2B 3A Bridger Lake 2B 3A China Lake 2B 3A Cliff Lake 2B 3A Clyde Lake 2B 3A Coffin Lake 2B 3A Cuberant Lake 2B 3A

East Red Castle Lake			2B	3A
Echo Reservoir	1C	2A	2B	ЗА
Fish Lake			2В	ЗА
Fish Reservoir			2B	ЗА
Haystack Reservoir #1			2B	ЗА
Henry's Fork Reservoir			2B	3A
Hoop Lake			2В	3A
Island Lake			2В	3A
Island Reservoir			2В	3A
Jesson Lake			2В	3A
Kamas Lake			2В	3A
Lily Lake			2В	3A
Lost Reservoir			2В	3A
Lower Red Castle Lake			2В	3A
Lyman Lake		2A	2B	3A
Marsh Lake			2B	3A

Marshall Lake 4			2В	3A
McPheters Lake 4			2В	3A
Meadow Reservoir			2В	3A
Meeks Cabin Reservoir			2В	3A
Notch Mountain Reservoir			2В	3A
Red Castle Lake			2B	3A
Rockport Reservoir	1C	2A	2B	3A
Ryder Lake			2B	3A
Sand Reservoir 4			2B	3A
Scow Lake			2B	3A
Smith Moorehouse Reservoir	1C		2B	3A
Star Lake			2B	3A
Stateline Reservoir			2B	3A
Tamarack Lake 4			2B	3A
Trial Lake	1C		2B	3A

Upper Lyman Lake 4	2B	3A	
Upper Red Castle 4	2B	3A	
Wall Lake Reservoir 4	2B	3A	
Washington Reservoir	2B	3A	
Whitney Reservoir	2B	3A	
v. Tooele County			
			TABLE
Blue Lake 4	2В		3B
Clear Lake 4	2B		3B
Grantsville Reservoir 4	2B	3A	
Horseshoe Lake	2В		3B
Kanaka Lake 4	2B		3B
Rush Lake	2B		3B
Settlement Canyon Reservoir	2В	3A	
Stansbury Lake 4	2B		3B
Vernon Reservoir	2B	3A	

Ashley Twin Lakes (Ashley Creek)	1C	2В	3A	
Bottle Hollow Reservoir		2В	3A	
Brough Reservoir		2В	3A	
Calder Reservoir		2В	3A	
Crouse Reservoir		2В	3A	
East Park Reservoir		2В	3A	
Fish Lake		2В	3A	
Goose Lake #2		2В	3A	
Matt Warner Reservoir		2В	3A	
Oaks Park Reservoir 4		2В	3A	
Paradise Park Reservoir		2В	3A	
Pelican Lake		2В		3В
Red Fleet Reservoir 4	1C 2	A 2B	3A	
Steinaker Reservoir 4	1C 2	A 2B	3A	
Towave Reservoir		2В	ЗА	

Weaver Reservoir			2B	3A	
Whiterocks Lake 4			2B	3A	
Workman Lake 4			2B	3A	
x. Utah County					TABLE
Salem Pond		2A		3A	IABLE
4					
Silver Flat Lake Reservoir			2B	3A	
Tibble Fork Resevoir			2В	3A	
Utah Lake 3D 4			2B		3B
y. Wasatch County					
					TABLE
Currant Creek Reservoir	1C		2В	3A	
Deer Creek Reservoir	1C	2A	2B	3A	
			2B		
4 Jordanelle Reservoir					

Baker Dam Reservoir			2B	3A	
Gunlock Reservoir	1C	2A	2B		3B
Ivins Reservoir			2B		3B
Kolob Reservoir 4			2В	3A	
Lower Enterprise Reservoir 4			2В	3A	
Quail Creek Reservoir 4	1C	2A	2В		3B
Upper Enterprise Reservoir 4			2B	3A	
aa. Wayne County					
aa. Wayne County					TABLE
aa. Wayne County  Blind Lake 4			2B	ЗА	TABLE
Blind Lake				3A 3A	TABLE
Blind Lake 4 Cook Lake			2В		TABLE
Blind Lake 4 Cook Lake 4 Donkey Reservoir			2B 2B	3A	TABLE
Blind Lake 4  Cook Lake 4  Donkey Reservoir 4  Fish Creek Reservoir			2B 2B 2B	3A 3A	TABLE

Causey Reservoir 2B 3A
4
Pineview Reservoir 1C 2A 2B 3A\*\*

13.13 Great Salt Lake

\*\* For site specific temperature criteria See Table 2.14.2 Footnote 3.

TABLE

Box Elder, Davis, Salt Lake, Tooele, and Weber County 5

13.14 Unclassified Waters

All waters not specifically classified are presumptively classified as 2B, 3D.

R317-2-14. Numeric Criteria.

TABLE

2.14.1 NUMERIC

CRITERIA FOR DOMESTIC,

RECREATION,

AND AGRICULTURAL USES

Par	cameter	Domestic Source		tion and netics	Agri-
cul	ture				
		1C	2A	2B	4
	BACTERIOLOGICA	L			
	(30-DAY GEOMET	RIC			
	MEAN) (NO.)/10	0 ML) (7)			
Ε.	coli	206	126	206	
MAX	XIMUM (NO.)/100 ML)	(7)			
Ε.	coli	940	576	940	

PHYSICAL

6.5-	pH (RANGE) 9.0	6.5-9.0	6.5-9.0	6.5-9.0	
	Turbidity Increase (NTU)		10	10	
	METALS (DISSOLVED, MG/L) (2)				0 1
	Arsenic Barium Beryllium	0.01 1.0 <0.004			0.1
0.01	Cadmium Chromium	0.01			
0.10	Copper Lead Mercury Selenium	0.015 0.002 0.05			0.2
	Silver  INORGANICS (MAXIMUM MG/L) Bromate Boron	0.05			
1200	Chlorite Fluoride (3) Nitrates as N Total Dissolved Solids (4)	<1.0 1.4-2.4 10 Irrigatio Stock Wat			
	RADIOLOGICAL (MAXIMUM pCi/L) Gross Alpha Gross Beta Radium 226, 228 (Combined) Strontium 90 Tritium Uranium  ORGANICS (MAXIMUM UG/L)	15 4 mrem/y 5 8 20000 30	r		15

Chlorophenoxy Herbicides

2,4-D 70 2,4,5-TP 10 Methoxychlor 40

POLLUTION

INDICATORS (5)

BOD (MG/L) 5 5 5
Nitrate as N (MG/L) 4 4
Total Phosphorus as P 0.05 0.05

#### FOOTNOTES:

- (1) Reserved
- (2) The dissolved metals method involves filtration of the

sample in the field, acidification of the sample in the field, no

digestion process in the laboratory, and analysis by atomic

absorption or inductively coupled plasma (ICP) spectrophotometry.

(3) Maximum concentration varies according to the daily maximum mean air temperature.

TEMP (C)	MG/L
12.0	2.4
12.1-14.6	2.2
14.7-17.6	2.0
17.7-21.4	1.8
21.5-26.2	1.6
26.3-32.5	1.4

(4) Total dissolved solids (TDS) limits may be adjusted if

such adjustment does not impair the designated beneficial use of

the receiving water. The total dissolved solids (TDS) standards

shall be at background where it can be shown that natural or

un-alterable conditions prevent its attainment. In such cases

rulemaking will be undertaken to modify the standard accordingly.

Site Specific Standards for Total Dissolved Solids (TDS)

Castle Creek from confluence with the Colorado River to Seventh Day  $\,$ 

Adventist Diversion: 1,800 mg/l;

Cottonwood Creek from the confluence with Huntington Creek to I-57:
3,500 mg/l;

Ferron Creek from the confluence with San Rafael River to Highway

10: 3,500 mg/l;

Gordon Creek from the confluence with Price River to headwaters: 3,800 mg/l;

 $\label{thm:confluence} \mbox{ Huntington Creek and tributaries from the confluence with } \mbox{ Cottonwood}$ 

Creek to U-10: 4,800 mg/l;

Ivie Creek and its tributaries from the confluence with
Muddy Creek
to U-10: 2,600 mg/l;

Lost Creek from the confluence with Sevier River to U.S. Forest  $\,$ 

Service Boundary: 4,600 mg/l;

Muddy Creek and tributaries from the confluence with Quitchupah

Creek to U-10: 2,600 mg/l;

Muddy Creek from confluence with Fremont River to confluence with Quitchupah Creek: 5,800 mg/l;

North Creek from the confluence with Virgin River to headwaters: 2,035 mg/l;

Onion Creek from the confluence with Colorado River to road crossing

```
above Stinking Springs: 3000 mg/l;
Brine Creek-Petersen Creek, from the confluence with the
River to U-119 Crossing: 9,700 \text{ mg/l};
Pinnacle Creek from the confluence with Price River to
headwaters:
3,800 \text{ mg/l};
Price River and tributaries from the confluence with Coal
Creek to
Carbon Canal Diversion: 1,700 mg/l;
Price River and tributaries from the confluence with Green
River to
confluence with Soldier Creek: 3,000 mg/l;
Quitchupah Creek from the confluence with Ivie Creek to U-
10:
2,600 \text{ mg/l};
Rock Canyon Creek from the confluence with Cottonwood
Creek to
headwaters: 3,500 mg/l;
San Pitch River from below Gunnison Reservoir to the
Sevier River:
2,400 mg/l;
San Rafael River from the confluence with the Green River
to
Buckhorn Crossing: 4,100 mg/l;
San Rafael River from the Buckhorn Crossing to the
confluence with
Huntington Creek and Cottonwood Creek: 3,500 mg/l;
Sevier River between Gunnison Bend Reservoir and DMAD
Reservoir:
1,725 mg/l;
Sevier River from Gunnison Bend Reservoir to Clear Lake:
3,370 \text{ mg/l};
Virgin River from the Utah/Arizona border to Pah Tempe
Springs:
2,360 mg/l
```

- (5) Investigations should be conducted to develop more information where these pollution indicator levels are exceeded.
- (6) Total Phosphorus as P (mg/l) indicator for lakes and reservoirs shall be 0.025.
- (7) Where the criteria are exceeded and there is a reasonable basis for concluding that the indicator bacteria are primarily from natural sources (wildlife), e.g., in National Wildlife Refuges and State Waterfowl Management Areas, the criteria may be considered attained. Exceedences of bacteriological numeric criteria from nonhuman nonpoint sources will generally be addressed through appropriate Federal, State, and local nonpoint source programs.

TABLE 2.14.2 NUMERIC CRITERIA

### FOR AQUATIC WILDLIFE

	Parameter	Aquatic N 3A	Wildlife 3B	3C	3D
	PHYSICAL				
	Total Dissolved				
	Gases	(1)	(1)		
	Minimum Dissolved Oxyge (MG/L) (2)	en			
	30 Day Average 7 Day Average	6.5 9.5/5.0		5.0	5.0
	<u> </u>		5.0/3.0	3.0	3.0
	Max. Temperature (C) (3)		27	27	
	Max. Temperature				
	Change (C)(3)	2	4	4	
	pH (Range)	6.5-9.0	6.5-9.0	6.5-9.0	
6.5-9	9.0				
	Turbidity Increase				
	(NTU)	10	10	15	15
	METALS (4)				
	(DISSOLVED,				
	UG/L) (5)				
	Aluminum	0.7	0.7	0.7	0.7
	4 Day Average (6)	87	87	87	87
	1 Hour Average	750	750	750	750
	Arsenic (Trivalent)	150	150	150	150
	4 Day Average	340	340	340	340
	1 Hour Average	340	340	340	340

	Cadmium (7)				
0.25	4 Day Average	0.25	0.25	0.25	
0.23	1 Hour Average Chromium	2.0	2.0	2.0	2.0
	(Hexavalent) 4 Day Average 1 Hour Average	11 16	11 16	11 16	11 16
	Chromium (Trivalent) (7)				
	4 Day Average 1 Hour Average Copper (7)	74 570	74 570	74 570	74 570
	4 Day Average 1 Hour Average Cyanide (Free)	9 13	9 13	9 13	9 13
	4 Day Average 1 Hour Average Iron (Maximum)	5.2 22 1000	5.2 22 1000	5.2 22 1000	22
1000	IION (Maximum)	1000	1000	1000	
	Lead (7) 4 Day Average 1 Hour Average	2.5 65	2.5 65	2.5 65	2.5 65
	Mercury 4 Day Average	0.012	0.012	0.012	
0.01	2	0 4	0 4	0 4	0 4
	1 Hour Average Nickel (7)	2.4	2.4	2.4	2.4
	4 Day Average 1 Hour Average Selenium	52 468	52 468	52 468	52 468
10.4	4 Day Average 1 Hour Average	4.6 18.4	4.6 18.4	4.6 18.4	4.6
18.4	Silver				
	1 Hour Average (7) Zinc (7)	1.6	1.6	1.6	1.6
	4 Day Average 1 Hour Average INORGANICS	120 120	120 120	120 120	120 120
(01)	(MG/L) (4) Total Ammonia as N (9) 30 Day Average 1 Hour Average	(9a) (9b)	(9a) (9b)	(9b)	
(9b)	Chlorine (Total				

Residual)

0.011	0.011	0.011	
0.019	0.019	0.019	
			2.0
15	15	15	15
1.5	1.5	1.5	1.5
0.0043	0.0043	0.0043	
1.2	1.2	1.2	1.2
0.0010	0.0010	0.0010	
0.55	0.55	0.55	
0.056	0.056	0.056	
0.24	0.24	0.24	
0.056	0.056	0.056	
0.11	0.11	0.11	
0.056	0.056	0.056	
0.11	0.11	0.11	
0.036	0.036	0.036	
0.086	0.086	0.086	
0.0038	0.0038	0.0038	
	0.019  2.0 0.01  15  1.5 0.0043  1.2 0.0010 0.55  0.056 0.24  0.056 0.11  0.056 0.11  0.036 0.086	0.019       0.019         2.0       2.0         0.01       1.5         1.5       1.5         0.0043       0.0043         1.2       1.2         0.0010       0.0010         0.55       0.55         0.056       0.056         0.11       0.11         0.056       0.056         0.11       0.11         0.036       0.036         0.036       0.036         0.036       0.036         0.086       0.086	1.5       1.5       1.5         0.0043       0.0043       0.0043         1.2       1.2       1.2         0.0010       0.0010       0.0010         0.55       0.55       0.55         0.056       0.056       0.056         0.11       0.11       0.11         0.056       0.056       0.056         0.11       0.11       0.11         0.036       0.036       0.056         0.11       0.11       0.11         0.036       0.036       0.036

0.26	1 Hour Average	0.26	0.26	0.26	
0.003	Heptachlor epoxide 4 Day Average	0.0038	0.0038	0.0038	
	1 Hour Average 0.26 Hexachlorocyclohexane (Lindane)	0.26	0.26	0.26	
0.08	4 Day Average	0.08	0.08	0.08	
0.00	1 Hour Average Methoxychlor	1.0	1.0	1.0	1.0
0.03	(Maximum)	0.03	0.03	0.03	
0.00	Mirex (Maximum)	0.001	0.001	0.001	
	Parathion 4 Day Average	0.013	0.013	0.013	
0.013	1 Hour Average	0.066	0.066	0.066	
0.014	PCB's 4 Day Average	0.014	0.014	0.014	
	Pentachlorophenol (11) 4 Day Average 1 Hour Average Toxaphene 4 Day Average	15 19 0.0002	15 19 0.0002	15 19 0.0002	15 19
0.000	02		0.73		
0.73	1 Hour Average POLLUTION INDICATORS (11)	0.73	0.73	0.73	
	Gross Beta (pCi/L) BOD (MG/L) Nitrate as N (MG/L) Total Phosphorus as P	50 5 4	50 5 4	5 0 5 4	50 5
FOOTI	(MG/L) (12)	0.05	0.05		
1 0011	(4)				

- (1) Not to exceed 110% of saturation.
- (2) These limits are not applicable to lower water levels in deep impoundments. First number in column is for when early life stages are present, second number is for when all

other life stages present.

С.

(3) The temperature standard shall be at background where

it can be shown that natural or un-alterable conditions prevent its attainment. In such cases rulemaking will be undertaken to modify the standard accordingly.

Site Specific Standards for Temperature Ken's Lake: From June 1<sup>st</sup> - September 20<sup>th</sup>, 27 degrees

(4) Where criteria are listed as 4-day average and 1-hour average concentrations, these concentrations should not

be exceeded more often than once every three years on the average.

(5) The dissolved metals method involves filtration of

the sample in the field, acidification of the sample in the

field, no digestion process in the laboratory, and analysis by

atomic absorption spectrophotometry or inductively coupled plasma (ICP).

(6) The criterion for aluminum will be implemented as follows:

Where the pH is equal to or greater than 7.0 and the hardness is equal to or greater than 50 ppm as CaC03 in the

receiving water after mixing, the  $87~\mathrm{ug}/1~\mathrm{chronic}$  criterion

(expressed as total recoverable) will not apply, and aluminum

will be regulated based on compliance with the 750~ug/1~acute

aluminum criterion (expressed as total recoverable).

(7) Hardness dependent criteria. 100 mg/l used. Conversion factors for ratio of total recoverable metals to

dissolved metals must also be applied. In waters with a hardness greater than 400 mg/l as CaC03, calculations will assume a hardness of 400 mg/l as CaC03. See Table 2.14.3 for

complete equations for hardness and conversion factors.

- (8) Reserved
- (9) The following equations are used to calculate  $\mbox{\sc Ammonia}$

criteria concentrations:

```
(9a) The thirty-day average concentration of total
ammonia
nitrogen (in mg/l as N) does not exceed, more than once
three years on the average, the chronic criterion
calculated
using the following equations.
Fish Early Life Stages are Present:
  mg/l as N (Chronic) = ((0.0577/1+10^{7.688-pH})+(2.487/1+10^{pH-})
7.688))
  * MIN (2.85, 1.45*10^{0.028*(25-T)})
Fish Early Life Stages are Absent:
  mg/1 \text{ as N (Chronic)} = ((0.0577/1+10^{7.688-pH}) +
(2.487/1+10^{pH-7.688}))
  * 1.45*10<sup>0.028*</sup> (25-MAX(T,7))
    (9b) The one-hour average concentration of total
ammonia
nitrogen (in mg/l as N) does not exceed, more than once
every
three years on the average the acute criterion calculated
using the following equations.
Class 3A:
    mg/l as N (Acute) = (0.275/(1+10^{7.204-pH})) +
(39.0/1+10^{pH-7.204}))
Class 3B, 3C, 3D:
    mg/l \text{ as N (Acute)} = 0.411/(1+10^{7.204-pH})) +
(58.4/(1+10^{pH-7.204}))
In addition, the highest four-day average within the 30-
period should not exceed 2.5 times the chronic criterion.
The "Fish Early Life Stages are Present" 30-day average
ammonia criterion will be applied by default unless it is
determined by the Division, on a site-specific basis, that
is appropriate to apply the "Fish Early Life Stages are
Absent" 30-day average criterion for all or some portion
the year. At a minimum, the "Fish Early Life Stages are
Present" criterion will apply from the beginning of
spawning
through the end of the early life stages. Early life
stages
include the pre-hatch embryonic stage, the post-hatch free
embryo or yolk-sac fry stage, and the larval stage for the
species of fish expected to occur at the site. The
division
```

will consult with the Division of Wildlife Resources in making

such determinations. The Division will maintain information

regarding the waterbodies and time periods where application  $% \left( 1\right) =\left( 1\right) +\left( 1\right$ 

of the "Early Life Stages are Absent" criterion is determined

to be appropriate.

- $\hspace{1.5cm} \hbox{(10) Investigation should be conducted to develop} \\$   $\hspace{1.5cm} \hbox{more} \\$
- information where these levels are exceeded.
- (11) pH dependent criteria. pH 7.8 used in table. See

Table 2.14.4 for equation.

- (12) Total Phosphorus as P (mg/l) indicator for lakes and
- reservoirs shall be 0.025.
- (13) Formula to convert dissolved sulfide to undisassociated

hydrogen sulfide is:  $H_2S$  = Dissolved Sulfide \*  $e^{((-1.92 + pH))}$  + 12.05)

## TABLE

(ACUTE) CONCENTRATION OF

1-HOUR AVERAGE

(11CO1D) CONCENTIATION O

TOTAL

## AMMONIA AS N (MG/L)

рН	Class 3A	Class	3B, 3C,	3 D
6.5	32.6		48.8	
6.6	31.3		46.8	
6.7	29.8		44.6	
6.8	28.1		42.0	
6.9	26.2		39.1	
7.0	24.1		36.1	
7.1	22.0		32.8	
7.2	19.7		29.5	
7.3	17.5		26.2	
7.4	15.4		23.0	
7.5	13.3		19.9	
7.6	11.4		17.0	
7.7	9.65		14.4	
7.8	8.11		12.1	
7.9	6.77		10.1	

8.0	5.62	8.40
8.1	4.64	6.95
8.2	3.83	5.72
8.3	3.15	4.71
8.4	2.59	3.88
8.5	2.14	3.20
8.6	1.77	2.65
8.7	1.47	2.20
8.8	1.23	1.84
8.9	1.04	1.56
9.0	0.89	1.32

TABLE

30-DAY AVERAGE

(CHRONIC) CONCENTRATION OF

TOTAL

AMMONIA AS N (MG/l)

		F	ish Ea	rly Li	fe Sta	ges Pr	esent		
				Temper	ature,	С			
рН	0	14	16	18	20	22	24	26	28
30									
	6.67	6.67	6.06	5.33	4.68	4.12	3.62	3.18	
2.80	2.46								
6.6	6.57	6.57	5.97	5.25	4.61	4.05	3.56	3.13	
	2.42								
		6.44	5.86	5.15	4.52	3.98	3.50	3.07	
2.70	2.37	6 00	F 70	F 00	4 40	2 00	2 40	2 00	
		6.29	5.72	5.03	4.42	3.89	3.42	3.00	
2.64 6.9	2.32	C 10	E E C	4 00	1 20	2 70	2 20	2 02	
2.57	6.12	0.12	5.56	4.09	4.30	3.70	3.32	2.92	
	5.91	5 01	5 37	172	4.15	3 65	3 21	2 82	
2.48	2.18	J. 91	J.J1	4.72	4.10	3.03	J • Z I	2.02	
		5 67	5 15	4 53	3.98	3 50	3 08	2.70	
2.38	2.09	J. 07	0.10	1.00	3.30	3.30	3.00	2.70	
7.2	5.39	5.39	4.90	4.31	3.78	3.33	2.92	2.57	
2.26	1.99								
7.3	5.08	5.08	4.61	4.06	3.57	3.13	2.76	2.42	
2.13	1.87								
7.4	4.73	4.73	4.30	3.78	3.32	2.92	2.57	2.26	
1.98	1.74								
7.5	4.36	4.36	3.97	3.49	3.06	2.69	2.37	2.08	
1.83	1.61								
7.6	3.98	3.98	3.61	3.18	2.79	2.45	2.16	1.90	
1.67	1.47								

	3.58	3.58	3.25	2.86	2.51	2.21	1.94	1.71
1.50 7.8	1.32 3.18	3.18	2.89	2.54	2.23	1.96	1.73	1.52
1.33 7.9	1.17 2.80	2.80	2.54	2.24	1.96	1.73	1.52	1.33
1.17	1.03 2.43	2.43	2 21	1.94	1 71	1 50	1.32	1.16
	0.90	2.43	Z • Z I	1.94	⊥./⊥	1.30	1.32	1.10
8.1	2.10 0.77	2.10	1.91	1.68	1.47	1.29	1.14	1.00
8.2	1.79	1.79	1.63	1.43	1.26	1.11	0.97	0.86
0.75 8.3	0.66 1.52	1.52	1.39	1.22	1.07	0.94	0.83	0.73
	0.56 1.29	1.29	1.17	1.03	0.91	0.80	0.70	0.62
0.54	0.48							
8.5 0.46	1.09	1.09	0.99	0.87	0.76	0.67	0.59	0.52
8.6 0.39	0.92	0.92	0.84	0.73	0.65	0.57	0.50	0.44
8.7	0.78	0.78	0.71	0.62	0.55	0.48	0.42	0.37
0.33	0.29	0.66	0.60	0.53	0.46	0.41	0.36	0.32
0.28	0.24	0.56	0.5	1 0.4	5 0.4	0 0.3	5 0.3	1 0.27
	0.21 0.49 0.18	0.49	0.44	0.39	0.34	0.30	0.26	0.23

TABLE

30-DAY AVERAGE

(CHRONIC) CONCENTRATION OF

TOTAL

AMMONIA AS N (MG/l)

		Fich	Farlu	Tifo C	+ > 0 0 0	7 haant		
		r I SII	_	Life S eratur	_	ADSEIIC		
рН	0-7	8	9	10	11	12	13	14
16								
6.5	10.8	10.1	9.51	8.92	8.36	7.84	7.36	6.89
6.06								
6.6	10.7	10.1	9.37	9.37	8.79	8.24	7.72	7.24
6.36								
6.7	10.5	9.99	9.20	8.62	8.08	7.58	7.11	6.66
5.86								
6.8	10.2	9.81	8.98	8.42	7.90	7.40	6.94	6.51
5.72								

6.9	9.93	9.31	8.73	8.19	7.68	7.20	6.75	6.33
5.56 7.0	9.60	9.00	8.43	7.91	7.41	6.95	6.52	6.11
5.37 7.1	9.20	8.63	8.09	7.58	7.11	6.67	6.25	5.86
	8.75	8.20	7.69	7.21	6.76	6.34	5.94	5.57
4.90 7.3	8.24	7.73	7.25	6.79	6.37	5.97	5.60	5.25
4.61 7.4	7.69	7.21	6.76	6.33	5.94	5.57	5.22	4.89
4.30 7.5	7.09	6.64	6.23	5.84	5.48	5.13	4.81	4.51
3.97 7.6	6.46	6.05	5.67	5.32	4.99	4.68	4.38	4.11
3.61 7.7	5.81	5.45	5.11	4.79	4.49	4.21	3.95	3.70
3.25 7.8	5.17	4.84	4.54	4.26	3.99	3.74	3.51	3.29
2.89 7.9	4.54	4.26	3.99	3.74	3.51	3.29	3.09	2.89
2.54	3.95	3.70	3.47	3.26	3.05	2.86	2.68	2.52
2.21 8.1	3.41	3.19	2.99	2.81	2.63	2.47	2.31	2.17
1.91	2.91	2.73	2.56	2.40	2.25	2.11	1.98	1.85
1.63	2.47	2.32	2.18	2.04	1.91	1.79	1.68	1.58
1.39	2.09	1.96	1.84	1.73	1.62	1.52	1.42	1.33
1.17	1.77	1.66	1.55	1.46	1.37	1.28	1.20	1.13
0.990	1.49	1.40	1.31	1.23	1.15	1.08	1.01	0.951
0.836 8.7	1.26	1.18	1.11	1.04	0.976	0.915	0.858	0.805
0.707	1.07	1.01	0.944	0.885	0.829	0.778	0.729	0.684
0.601	0.917	0.860	0.806	0.758	0.709	0.664	0.623	0.584
0.513	0.790	0.740	.694	0.651	0.610	0.572	0.536	0.503
0.442 pH	18	20			26		30	
6.5 6.6	5.33	4.68 4.61	4.12	3.62	3.18		2.46	

```
6.7
          5.15 4.52 3.98 3.50 3.07 2.70 2.37
6.8
          5.03 4.42 3.89 3.42 3.00 2.64 2.32
6.9
          4.89
               4.30
                     3.78 3.32
                                2.92
                                            2.25
                                       2.57
7.0
          4.72
               4.15 3.65 3.21 2.82
                                       2.48
                                           2.18
7.1
          4.53
               3.98
                     3.50 3.08 2.70 2.38
                                            2.09
7.2
          4.41
               3.78
                     3.33 2.92
                                2.57 2.26 1.99
7.3
                     3.13 2.76
          4.06
               3.57
                                2.42 2.13 1.87
7.4
          3.78
               3.32 2.92 2.57 2.26 1.98 1.74
7.5
          3.49
               3.06 2.69 2.37 2.08 1.83 1.61
7.6
          3.18
               2.79 2.45 2.16
                                1.90
                                      1.67
                                            1.47
7.7
          2.86 2.51 2.21 1.94 1.71 1.50 1.32
7.8
          2.54 2.23 1.96 1.73 1.52 1.33 1.17
7.9
          2.24 1.96 1.73 1.52 1.33 1.17 1.03
8.0
          0.94 1.71 1.50 1.32 1.16 1.02 0.897
8.1
          0.68 1.47 1.29 1.14 1.00 0.879 0.733
          0.43 1.26 1.11 0.073 0.855 0.752 0.661
8.2
8.3
          0.22
               1.07 0.941 0.827 0.727 0.639 0.562
8.4
          0.03 0.906 0.796 0.700 0.615 0.541 0.475
8.5
         0.870 0.765 0.672 0.591 0.520 0.457 0.401
8.6
          0.735 0.646 0.568 0.499 0.439 0.396 0.339
8.7
          0.622 0.547 0.480 0.422 0.371 0.326 0.287
8.8
          0.528 0.464 0.408 0.359 0.315 0.277 0.244
         0.451 0.397 0.349 0.306 0.269 0.237 0.208
8.9
9.0
          0.389 0.342 0.300 0.264 0.232 0.204 0.179
                                               TABLE
2.14.3a
                               EQUATIONS TO CONVERT
TOTAL RECOVERABLE METALS STANDARD
                              WITH HARDNESS (1)
DEPENDENCE TO DISSOLVED METALS STANDARD
                                     BY APPLICATION OF A
CONVERSION FACTOR (CF).
Parameter
            4-Day Average (Chronic)
            Concentration (UG/L)
            CF * e (0.7409 (In(hardness)) -4.719
CADMIUM
            CF = 1.101672 - (In hardness) (0.041838)
```

 $CF * e^{(0.8190(In(hardness)) + 0.6848}$  CF = 0.860

 $CF * e^{(0.8545(ln(hardness))} -1.702)$ 

CF = 0.960

CHROMIUM III

COPPER

```
CF * e<sup>(1.273(ln(hardness))-4.705)</sup>
LEAD
                CF = 1.46203 - (ln hardness) (0.145712)
                CF * e^{(0.8460(ln(hardness))+0.0584)}
NICKEL
                CF = 0.997
               N/A
SILVER
               Cf * e^{(0.8473(\ln(\text{hardness}))+0.884)} CF = 0.986
ZINC
                                                             TABLE
2.14.3b
                                        EOUATIONS TO CONVERT
TOTAL RECOVERABLE METALS STANDARD
                                       WITH HARDNESS (1)
DEPENDENCE TO DISSOLVED METALS STANDARD
                                                BY APPLICATION OF A
CONVERSION FACTOR (CF).
                1-Hour Average (Acute)
                Concentration (UG/L)
                CF * e (1.0166(In(hardness))-3.924)
CADMIUM
                 CF = 1.136672 - (ln hardness) (0.041838)
CHROMIUM (III) CF * e<sup>(0.8190(ln(hardness))</sup> +3.7256)
                          CF = 0.316
                 CF * e^{(0.9422(ln(hardness)) - 1.700)}
COPPER
                       CF = 0.960
                 CF * e^{(1.273 (ln(hardness))-1.460)}
LEAD
                       CF = 1.46203 - (ln hardness) (0.145712)
                 CF \star e^{(0.8460(ln(hardness)) +2.255}
NICKEL
                       CF = 0.998
                 CF \star e<sup>(1.72(ln(hardness))-6.59</sup>
SILVER
                       CF = 0.85
                 CF * e^{(0.8473(ln(hardness)))} + 0.884
ZINC
                       CF = 0.978
      FOOTNOTE:
```

(1) Hardness as mg/l CaCO<sub>3</sub>.

0 14 4	TABLE
2.14.4	EQUATIONS FOR
PENTACHLOROPHENOL	Hq)
DEPENDENT)	1
4-Day Average (Chror (Acute)	nic) 1-Hour Average
Concentration (UG/L)	Concentration (UG/L)
e <sup>(1.005(pH))-5.134</sup>	e <sup>(1.005(pH))-4.869</sup>
	TABLE
2.14.5	SITE
SPECIFIC CRITERIA FOR	DISSOLVED OXYGEN FOR JORDAN
RIVER AND SURPLUS CANAL S	
SECTION 2.13)	(SEE
DISSOLVED OXYGEN: May-July 7-day average 30-day average Instantaneous minimu	5.5 mg/l 5.5 mg/l m 4.5 mg/l
August-April 30-day average Instantaneous minimu	5.5 mg/l am 4.0 mg/l
2.14.6	TABLE
	LIST OF HUMAN
HEALTH CRITERIA (CONSUMPT	'ION)
Chemi Organism	cal Parameter Water and
	Organism Only (ug/L) (ug/L) Class 1C Class
3A, 3B, 3C, 3D	5 6 640

5.6

Α

C C 640

Α

C C

Antimony

Beryllium Cadmium

Arsenic

Chromium III	С	С
Chromium VI	С	С
Copper	1,300	
	C	С
Lead		
Mercury	A	A
Nickel	100 MCL	4,600
Selenium	A	4,200
Silver		-,
	0 04	0.47
Thallium	0.24	0.47
Zinc	7,400	26,000
Cyanide	140	140
Asbestos	7 million	
	Fibers/L	
2 2 7 0 EGDD Dii-		Г 1 П О
2,3,7,8-TCDD Dioxin	5.0 E -9 B	5.1 E-9
В		
Acrolein	190	290
Acrylonitrile	0.051 B	0.25 B
Alachlor	2.0	
Atrazine	3.0	
		F1 D
Benzene	2.2 B	51 B
Bromoform	4.3 B	140 B
Carbofuran	40	
Carbon Tetrachloride	0.23 B	1.6 B
Chlorobenzene	100 MCL	1,600
Chlorodibromomethane	0.40 B	13 B
	0.40 B	13 D
Chloroethane		
2-Chloroethylvinyl Ether		
Chloroform	5.7 B	470 B
Dalapon	200	
Di(2ethylhexl)adipate	400	
Dibromochloropropane	0.2	
Dichlorobromomethane		17 D
	0.55 B	17 B
1,1-Dichloroethane		
1,2-Dichloroethane	0.38 B	37 B
1,1-Dichloroethylene	7 MCL	7,100
Dichloroethylene (cis-1,2)	70	
Dinoseb	7.0	
	20	
Diquat		1 5 5
1,2-Dichloropropane	0.50 B	15 B
1,3-Dichloropropene	0.34	21
Endothall	100	
Ethylbenzene	530	2,100
Ethylene Dibromide	0.05	,
<del>-</del>	700	
Glyphosate		
Haloacetic acids	60 E	
Methyl Bromide	47	1,500
Methyl Chloride	F	F

1,1,2,2-Tetrachloroethane	Methylene Chloride Ocamyl (vidate) Picloram Simazine	4.6 B 200 500 4		590 В
2-Methyl-4,6-Dinitrophenol 13.0 280 2,4-Dinitrophenol 69 5,300 2-Nitrophenol 4-Nitrophenol 3-Methyl-4-Chlorophenol Penetachlorophenol 0.27 B 3.0 B Phenol 21,000 1,700,000 2,4,6-Trichlorophenol 1.4 B 2.4 B Acenaphthene 670 990 Acenaphtylene Anthracene 8,300 40,000 Benzidine 0.000086 B 0.00020 B BenzoaAnthracene 0.0038 B 0.018 B BenzoaPyrene 0.0038 B 0.018 B BenzosFluoranthene 0.0038 B 0.018 B BenzosFluoranthene 0.0038 B 0.018 B Bis2-ChloroethoxyMethane Bis2-ChloroethoxyMethane Bis2-ChloroethoxyMethane Bis2-Chloroisopropy1Ether 1,400 65,000 Bis2-EthylhexylPhthalate 1.2 B 2.2 B 4-Bromophenyl Phenyl Ether Butylbenzyl Phthalate 1,500 1,900 2-Chloronaphthalene 1,000 1,600 4-Chlorophenyl Phenyl Ether Chrysene 0.0038 B 0.018 B Dibenzoa, hAnthracene 0.0038 B 0.018 B	1,1,2,2-Tetrachloroethane Tetrachloroethylene Toluene 1,2 -Trans-Dichloroethylene 1,1,1-Trichloroethane 1,1,2-Trichloroethane Trichloroethylene Vinyl Chloride Xylenes 2-Chlorophenol 2,4-Dichlorophenol	0.69 B 1,000 100 MCL 200 MCL 0.59 B 2.5 B 0.025 10,000 81	0.5.0	3.3 B 15,000 10,000 F 16 B 30 B 2.4
Penetachlorophenol         0.27 B         3.0 B           Phenol         21,000           1,700,000         2.4,6-Trichlorophenol         1.4 B         2.4 B           Acenaphthene         670         990           Acenaphthylene         40,000         990           Acenaphthylene         8,300         40,000           Benzidine         0.000086 B         0.00020           B         BenzoaAnthracene         0.0038 B         0.018 B           BenzoaPyrene         0.0038 B         0.018 B           BenzobFluoranthene         0.0038 B         0.018 B           BenzokFluoranthene         0.0038 B         0.018 B           Bis2-ChloroethoxyMethane         0.030 B         0.53 B           Bis2-ChloroethylEther         1,400         65,000           Bis2-EthylhexylPhthalate         1.2 B         2.2 B           4-Bromophenyl Phenyl Ether         1,500         1,900           2-Chloronaphthalene         1,000         1,600           4-Chlorophenyl Phenyl Ether         0.0038 B         0.018 B           Dibenzoa, hAnthracene         0.0038 B         0.018 B	2-Methyl-4,6-Dinitrophenol 2,4-Dinitrophenol 2-Nitrophenol 4-Nitrophenol	13.0	850	
2,4,6-Trichlorophenol 1.4 B 2.4 B Acenaphthene 670 990 Acenaphthylene Anthracene 8,300 40,000 Benzidine 0.000086 B 0.00020 B BenzoaAnthracene 0.0038 B 0.018 B BenzoaPyrene 0.0038 B 0.018 B BenzobFluoranthene 0.0038 B 0.018 B BenzoghiPerylene BenzokFluoranthene 0.0038 B 0.018 B Bis2-ChloroethoxyMethane Bis2-ChloroethylEther 0.030 B 0.53 B Bis2-ChloroisopropylEther 1,400 65,000 Bis2-EthylhexylPhthalate 1.2 B 2.2 B 4-Bromophenyl Phenyl Ether Butylbenzyl Phthalate 1,500 1,900 2-Chloronaphthalene 1,000 1,600 4-Chlorophenyl Phenyl Ether Chrysene 0.0038 B 0.018 B Dibenzoa, hAnthracene 0.0038 B 0.018 B	Penetachlorophenol Phenol			3.0 B
Anthracene 8,300 40,000 Benzidine 0.000086 B 0.00020 B BenzoaAnthracene 0.0038 B 0.018 B BenzoaPyrene 0.0038 B 0.018 B BenzobFluoranthene 0.0038 B 0.018 B BenzoghiPerylene BenzokFluoranthene 0.0038 B 0.018 B Bis2-ChloroethoxyMethane Bis2-ChloroethylEther 0.030 B 0.53 B Bis2-ChloroisopropylEther 1,400 65,000 Bis2-EthylhexylPhthalate 1.2 B 2.2 B 4-Bromophenyl Phenyl Ether Butylbenzyl Phthalate 1,500 1,900 2-Chloronaphthalene 1,000 1,600 4-Chlorophenyl Phenyl Ether Chrysene 0.0038 B 0.018 B Dibenzoa, hAnthracene 0.0038 B 0.018 B	2,4,6-Trichlorophenol Acenaphthene			
BenzoaAnthracene 0.0038 B 0.018 B BenzoaPyrene 0.0038 B 0.018 B BenzobFluoranthene 0.0038 B 0.018 B BenzoghiPerylene BenzokFluoranthene 0.0038 B 0.018 B Bis2-ChloroethoxyMethane Bis2-ChloroethylEther 0.030 B 0.53 B Bis2-ChloroisopropylEther 1,400 65,000 Bis2-EthylhexylPhthalate 1.2 B 2.2 B 4-Bromophenyl Phenyl Ether Butylbenzyl Phthalate 1,500 1,900 2-Chloronaphthalene 1,000 1,600 4-Chlorophenyl Phenyl Ether Chrysene 0.0038 B 0.018 B Dibenzoa, hAnthracene 0.0038 B 0.018 B	Anthracene Benzidine			
BenzokFluoranthene 0.0038 B 0.018 B Bis2-ChloroethoxyMethane Bis2-ChloroethylEther 0.030 B 0.53 B Bis2-Chloroisopropy1Ether 1,400 65,000 Bis2-EthylhexylPhthalate 1.2 B 2.2 B 4-Bromophenyl Phenyl Ether Butylbenzyl Phthalate 1,500 1,900 2-Chloronaphthalene 1,000 1,600 4-Chlorophenyl Phenyl Ether Chrysene 0.0038 B 0.018 B Dibenzoa, hAnthracene 0.0038 B 0.018 B	BenzoaAnthracene BenzoaPyrene BenzobFluoranthene	0.0038 B		0.018 B 0.018 B 0.018 B
Bis2-ChloroethylEther 0.030 B 0.53 B Bis2-ChloroisopropylEther 1,400 65,000 Bis2-EthylhexylPhthalate 1.2 B 2.2 B 4-Bromophenyl Phenyl Ether Butylbenzyl Phthalate 1,500 1,900 2-Chloronaphthalene 1,000 1,600 4-Chlorophenyl Phenyl Ether Chrysene 0.0038 B 0.018 B Dibenzoa, hAnthracene 0.0038 B 0.018 B	BenzokFluoranthene	0.0038 B		0.018 B
Butylbenzyl Phthalate 1,500 1,900 2-Chloronaphthalene 1,000 1,600 4-Chlorophenyl Phenyl Ether Chrysene 0.0038 B 0.018 B Dibenzoa, hAnthracene 0.0038 B 0.018 B	Bis2-ChloroethylEther Bis2-Chloroisopropy1Ether Bis2-EthylhexylPhthalate	1,400		65,000
Chrysene         0.0038 B         0.018 B           Dibenzoa, hAnthracene         0.0038 B         0.018 B	Butylbenzyl Phthalate 2-Chloronaphthalene			•
	Chrysene Dibenzoa, hAnthracene	0.0038 B		

1,3-Dichlorobenzene 1,4-Dichlorobenzene 3,3-Dichlorobenzidine Diethyl Phthalate Dimethyl Phthalate 1,100,000	320 63 0.021 B 17,000 270,000		960 190 0.028 B 44,000
Di-n-Butyl Phthalate 2,4-Dinitrotoluene 2,6-Dinitrotoluene	2,000 0.11 B		4,500 3.4 B
Di-n-Octyl Phthalate 1,2-Diphenylhydrazine Fluoranthene	0.036 B 130	140	0.20 в
Fluorene Hexachlorobenzene B	1,100 0.00028 B		5,300 0.00029
Hexachlorobutedine Hexachloroethane Hexachlorocyclopentadiene Ideno 1,2,3-cdPyrene Isophorone	0.44 B 1.4 B 40 0.0038 B 35 B		18 B 3.3 B 1,100 0.018 B 960 B
Naphthalene Nitrobenzene N-Nitrosodimethylamine N-Nitrosodi-n-Propylamine N-Nitrosodiphenylamine	17 0.00069 B 0.005 B 3.3 B		690 3.0 B 0.51 B 6.0 B
Phenanthrene Pyrene 1,2,4-Trichlorobenzene Aldrin B	830 35 0.000049 B		4,000 70 0.000050
alpha-BHC beta-BHC gamma-BHC (Lindane) delta-BHC	0.0026 B 0.0091 B 0.2 MCL		0.0049 B 0.017 B 1.8
Chlordane	0.00080 B		0.00081
B 4,4-DDT B	0.00022 B		0.00022
4,4-DDE B	0.00022 B		0.00022
4,4-DDD B	0.00031 B		0.00031
Dieldrin	0.000052 B		0.000054
B alpha-Endosulfan beta-Endosulfan Endosulfan Sulfate	62 62 62		89 89 89

Endrin Endrin Aldehyde	0.059 0.29	0.060 0.30
Heptachlor	0.000079 B	0.000079
В		
Heptachlor Epoxide	0.000039 B	0.000039
В		
Polychlorinated Biphenyls	0.000064 B,D	0.000064
B, D		
PCB's		
Toxaphene	0.00028 B	0.00028
В		
Footnotes.		

Footnotes:

- A. See Table 2.14.2
- Based on carcinogenicity of 10-6 risk. С. EPA has not calculated a human criterion for this contaminant. However, permit authorities should address this contaminant in NPDES permit actions using the State's existing

narrative criteria for toxics

D. This standard applies to total PCBs.

## KEY

water pollution, water quality standards

Date of Enactment or Last Substantive Amendment

June 1, 2005

**Notice of Continuation** 

October 7, 2002

Authorizing, Implemented, or Interpreted Law

19-5

Rule converted into HTML by the Division of Administrative Rules.

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