

November 8, 2002

ARID AREAS SURVEY RESULTS

Compiled by the Western States Water Council

In preparation for the *Symposium on Arid Areas* which will be held in Phoenix on December 11, 2002, the WSWC Subcommittee on Western Water Quality Issues circulated a survey investigating "arid areas issues." The Subcommittee identified a number of issue areas that they would like to further explore. In order to ascertain what is currently happening in each of the western states to address or regulate each of the issues identified, the Subcommittee asked all states to submit responses to these issues. Most member states have provided responses, which are included below. To the extent possible, the responses have been left in the language submitted by state personnel in order to acknowledge the opinions therein. Any positions illustrated in the individual responses are not necessarily positions taken by the Western States Water Council. These responses will be used as background information intended to serve as a starting point for discussion during the upcoming symposium.

1. Refining Use designations and standards for unique western waters.

Arizona

Arizona recognizes effluent dependent waters as a special category of surface waters and we have adopted surface water quality standards tailored for them. There is a specific aquatic life designated use for effluent dependent waters (A&Wedw). Criteria were derived based upon representative species found in EDWs. Arizona also has established an aquatic life designated use for ephemeral waters (A&We). Refinement of water quality criteria for these designated uses is an on-going process. For example, Arizona repealed chronic toxicity standards for ephemeral waters in Arizona's most recent triennial review of water quality standards. The state's repeal of chronic aquatic life standards for ephemeral waters currently is under review at EPA Region IX.

California

In general, California's current water quality standards do not specifically address unique western waters. Beneficial uses typically cover broad categories. For example, aquatic life uses fall into one of two categories - cold water habitat or warm water habitat. The state recognizes two recreational use categories, one for body contact and the other for secondary uses, such as picnicking, hiking, etc. In many cases, beneficial uses are not specifically identified for ephemeral or effluent-dependent waters. Rather, uses are assigned indirectly through a "tributary statement," which assigns a downstream water's uses to unidentified upstream tributaries. Some effort is underway in the state to adopt site-specific pollutant criteria for effluent-dependent or effluent-dominated waters.

Colorado

Overview: Colorado's current water quality standards system provides for four possible aquatic life classifications: cold water class 1 or class 2, or warm water class 1 or class 2. Therefore, use designations for each of the situations listed below are fit within one of these categories.

Colorado is currently initiating efforts to examine whether its use designation system should be revised, either to provide for additional use designation categories and/or to shift to a more biologically-based use designation system.

Idaho

Idaho's water quality standards provide for several aquatic life uses: cold water with subcategories for salmonid spawning, bull trout, and Kootenai River sturgeon; seasonal cold water; warm water; and modified. The seasonal cold water aquatic life use designation is used for those waters that naturally warm up between the summer solstice and autumn equinox. Temperature criteria, different from that for cold water, apply during this time. Cold water turbidity criteria (salmonid based) do not apply to seasonal cold waters. All other criteria are the same as for cold water. This category seems to cover those waters that naturally exceed these criteria during seasonally warm weather but still support aquatic life.

Kansas

Appropriate use designation is a very significant issue in Kansas. While we have only one designation for aquatic life, there are several levels of protection which are assigned, i.e., restricted, expected, special. The level of protection determines how dilution and mixing zones are implemented. Kansas has experienced considerable difficulty regarding the appropriateness of assigned recreational uses. Traditionally only two recreational uses have been available, primary (protection for full body contact) and secondary (wading or incidental contact). All classified waters were automatically provided secondary contact use designation while locations where swimming was noted were provided a primary use designation. EPA challenged this approach saying all waters had to meet primary unless a UAA justified the lesser designation of secondary. Kansas is now in year one of a planned 5 year effort to perform recreational UAA's on approximately 1300 waters. We are starting with the smallest flow (some times dry) stream segments in the more arid western part of the state. These UAA's are simple to conduct and generally record if the stream is deep enough to support swimming, or if public access is available. Some of these streams, particularly the upper reaches, are typically dry. If found to be dry, the stream will be proposed to be removed from the state stream register. A long term solution we are exploring is expansion to more than just the present two recreational uses now available to perhaps four or five uses, each with different bacterial criteria. Under existing state standards any water body is either secondary or primary and must meet the corresponding single sample fecal coliform criteria of < 2000 colonies/100 ml or a geometric mean of < 200 colonies/100 ml respectively. Thus a numeric bacteria has been applied to all waters of the state.

Nebraska

Nebraska's water quality standards (WQS) have four categories of aquatic life uses (Cold water Class A, Cold water Class B, Warm water Class A, and Warm water Class B). In general the difference in the cold water classes is that Class A has naturally reproducing salmonid populations while Class B supports stocked or migratory salmonids or other indicators of cold water aquatic life (but no naturally reproducing salmonids). The general difference in Warm

water classes is that Class A are larger streams supporting sport fish while Class B are small streams with only a forage fishery. All classified waters have an aquatic life use designation. We have only one recreational designation (equivalent to primary contact), but have opted to not designate this use on our smaller, remote streams. This is a current source of contention with EPA as they would like all classified streams designated the recreational use. We also have an Aesthetics designation for all waters and three water supply designations (Agricultural, Public Drinking, and Industrial).

Nevada

There are two categories of water quality standards in Nevada, designated and class waters. Designated waters are reach specific and have the traditional uses, recreation, drinking water, irrigation and aquatic life. Class waters are groups of similar water bodies (e.g. mountainous head waters) with similar uses. As with the designated waters, class waters have traditional uses. Numeric criteria vary somewhat between water bodies but all values must reflect protection of the use. One obstacle in redefining or changing a use is the Use Attainability Analysis (UAA). The Code of Federal Regulations prohibits uses existing prior to 1975 from being changed. Therefore UAAs are limited and can only be done on applicable streams. A UAA has never been conducted in Nevada, however with the new TMDL rules on the horizon, this option will most likely be exercised. Our next impaired waters listing, due in October, will not only prioritize TMDLs but will also prioritize a review of uses and their appropriateness for a water body.

New Mexico

New Mexico uses segment specific standards to address unique situations attributable to natural causes. This occurs on a regular basis, both within the context of the federally mandated triennial review and as a function of data collection and interpretation efforts that are a routine part of continuing water quality monitoring activities. These same data can be used for UAAs, although New Mexico has never been successful in achieving such designated use changes.

North Dakota

Water quality standards in North Dakota are delineated into four classes. The Class III streams could be considered appropriate for arid areas because they are defined to have low average flows and, generally, prolonged periods of no flow. The quality shall be suitable for agricultural and industrial uses, such as stock watering, irrigation, washing, and cooling. Lakes are classified as either cold water or warm water fishery.

Oklahoma

In 1989 Oklahoma was required to change its default use designations from the less stringent habitat limited aquatic community and secondary body contact recreation to beneficial uses that fully meet the fishable and swimmable goals of the Clean Water Act. Over 150 UAA were completed from 1990 to 1994 to provide relief to the affected dischargers. Currently OWQS have nearly 900 water bodies or segments specifically listed, of which the majority are designated with the fully fishable and swimmable beneficial uses of warm water aquatic community and primary body contact recreation. 15% of the listed water bodies are designated as habitat limited. These are generally smaller ephemeral and intermittent streams. 12% of Oklahoma's listed water bodies are designated as cool water aquatic community. The cool water streams are generally found in the Ozarkian and Ouachita mountain eco-regions of eastern

Oklahoma. Non-listed streams are defaulted as warm water aquatic community. Oklahoma now only does UAA as needed for new dischargers on smaller streams for which the habitat limited or the secondary body contact beneficial use subcategory might provide benefit. The need for additional UAA's is anticipated as routine monitoring identifies water bodies with inappropriate default beneficial uses and associated criteria requiring TMDL.

Oregon

Oregon's beneficial uses related to aquatic life include: anadromous fish passage, salmonid fish spawning, salmonid fish rearing, resident fish & aquatic life and fishing. Currently we have no classes of waters, so if the use is present the standards fully protective of that use apply. This sometimes creates problems as there is no middle ground, an inability to recognize that there are areas with some use by aquatic species that are marginal habitat. This comes up particularly in our temperature standards for salmonids. We are currently proposing to add use sub-categories and criteria for groups or guilds of fish species having similar temperature requirements for sub-categories. For example, we have arid region resident trout that seem able to tolerate slightly warmer stream temperatures and char in other locations that require very cold temperatures. The issue is how to make the beneficial use designations and water quality standards specific enough to protect the local native species but not over- or under- protect species in other locations. This is a particular concern in the inland/arid portions of our State, where folks are concerned that many streams in that region can not meet the biologically based temperature criteria previously established generally for salmonids. Similarly, we are investigating how we may be able to provide optimal habitat conditions where they are achievable, but recognize that some habitats are not optimal for cold-water species, even though some use is present, perhaps through some type of class system. This issue is being considered foremost in our development of numeric biocriteria.

Utah

Utah's current water quality standards include numeric criteria for drinking water sources, recreation, aquatic life and agriculture. The closest thing we have to a special class that may relate in some way to arid waters is an aquatic life classification for non-game fisheries. This is in addition to our normal cold and warm water fisheries. This use class currently allows slightly lower dissolved oxygen levels (5.0 mg/l) and has an acute ammonia standard but not a chronic standard. Other than that it is the same as our warm water fishery standards. We used to have lower chlorine standards but EPA disapproved them and after about 10 years we have been forced to change them.

Washington

Washington's current water quality standards are organized by class – Class AA, A, B, and Lake Class. None of these classes are specifically designed to address waters in arid areas. Ecology is proposing to switch to a use-based organization of the standards. This would include a warm water fish use and redband trout use that would be more appropriate for arid areas. Since all waters in Washington are currently protected for salmonids, a Use Attainability Analysis would be required to place waters in the warm water fish or redband trout category.

Wyoming

Wyoming just recently completed a substantial revision of its water quality standards during a tri-annual review process. The new classifications include Class 1, Outstanding State Waters; Class 2, Fisheries and Drinking water, with subdivisions of this Class for waters supporting game fish, nongame fish, and drinking water supply only; Class 3 for Aquatic life Other than Fish (*Class 3 serves as a default category for all waters on which there is little or no data*); and Class 4, which is not designated for aquatic life and can include ephemeral streams, man-made canals, ditches and isolated ponds, and effluent dominated streams. A Use attainability analysis is required prior to designating a water as Class 4. Most of our aquatic life and human health criteria mirror the federal criteria. We do have some unique criteria, including protection of agricultural water supplies, turbidity, temperature, narrative biological criteria, and a requirement for the use of credible data to make changes in classification or standards.

EPA maintains that aquatic life uses cannot be removed in effluent dominated circumstances. Their position is that if a discharge of effluent creates a use where it did not previously exist, it becomes an “existing use” that use must be fully protected. Furthermore, such uses can never be removed even if the effluent discharges are discontinued. EPA’s inflexibility in this area has created a number of unreasonable and impractical regulatory scenarios.

A. Manmade water conveyances (use designations for irrigation systems that support fish versus those that flow only for a sufficient period of the year to support irrigation activities).

Arizona

In general, Arizona does not regulate irrigation systems under the state water quality standards program. However, a few canal systems are listed in the surface water quality standards rules. These canal systems include canals in the Phoenix metropolitan area, canals in the Yuma area, the Wellton-Mohawk Irrigation District Canal, and the Arlington Canal. Of the listed canal systems, three systems were regulated because the canal systems deliver surface water to water treatment plants that is used as a source of drinking water. The Arlington Canal was regulated because a determination was made that it was a “water of the United States” because it was directly tributary to the Gila River.

California

In California man-made irrigation conveyances can be both state waters as well as “waters of the United States” depending on the circumstances. In general, water in man-made irrigation canals is not assigned drinking water uses. Specific water quality standards have been adopted for some of these canals. Others are covered under the “tributary statement.”

Colorado

The Colorado Water Quality Control Act precludes the adoption of water quality standards for “waters in ditches and other manmade conveyance structures”. Colorado has adopted water quality standards (use designations and numerical criteria) for waters in reservoirs, including irrigation reservoirs.

Idaho

Idaho protects manmade waters for the use for which they were developed, usually the conveyance of irrigation water. These waters are not designated for any specific uses.

Kansas

The 2001 Kansas Legislature passed legislation which defines “ditches” as not being waters of the state. EPA has not commented on whether this is consistent with the Clean Water Act.

Nebraska

Nebraska’s definition of surface waters includes “All waters within the jurisdiction of this state, including all streams, lakes, . . . canal systems, drainage systems, and all other bodies of water, natural or artificial, public or private . . .” We have classified the larger canals that support fish and have designated aquatic life uses on these canals. Smaller canals or laterals are handled as “Undesignated Waters”.

Nevada

Nevada state law allows for adoption of water quality standards for all “waters of the state”. Waters of the state include irrigation and drainage channels, however we have not adopted uses or numeric criteria for these irrigation systems unless there is a point source discharge into that system. As irrigation is suspended during the winter months, flows in these channels decrease to zero. For this reason, Nevada does not support the adoption of uses or criteria for irrigation systems. Ironically, some natural streams with water quality uses and standards approach zero flow during the irrigation season particularly in average or low water years.

New Mexico

Irrigation supply canals that flow continuously are not regulated by New Mexico. Irrigation return flow canals that are sufficiently deep to access shallow groundwater and are therefore gaining reaches that flow all year are protected by livestock watering and wildlife habitat standards. Effluent limits are calculated to be protective of these uses. The irrigation return flow drain water quality must be protective of the applicable aquatic life standards at the confluence of the drain with the perennial waters that support the aquatic life.

North Dakota

North Dakota considers all waters as “waters of the state.”

Oklahoma

Oklahoma has a very broad definition of “waters of the State,” which includes “irrigation systems, drainage systems, and all other bodies or accumulations of water, surface and underground, natural or artificial, public or private, which are contained within, flow through, or border upon this State or any portion thereof.” Unless listed in the OWQS these water bodies are defaulted to warm water aquatic community and primary body contact recreation. Habitat limited aquatic community and secondary body contact recreation with much less stringent criteria may only be designated following a UAA.

Oregon

Oregon has a very broad definition of “waters of the State,” which includes canals and other artificial bodies of water and excludes only “private waters which do not combine or effect a junction with natural surface or underground waters.” We have not designated beneficial uses specifically for irrigation ditches or canals. Neither have we set water quality standards specifically set to protect agriculture or livestock watering. It is assumed that standards set to protect human health and aquatic life will protect these uses as well. However, this is a direction we may want to consider in the future for systems that do not have fish use.

Utah

The Utah Water Quality Act classifies all waters as waters of the state unless wholly contained on private property. Therefore we have classified canals and ditches for agricultural use for many years. We have numeric criteria which are intended to be protective of irrigation and stock watering. We have just a couple of canals that flow year round and have resident fish populations. On those two waters we have established use classification to include fish protection. EPA is not making us do a use attainability for all the canals that do not have fish protection criteria. Aside from a paperwork headache, it appears we just need to show that they do not flow year round. What we are doing now is working well for us. We are not anxious to see this changed.

Wyoming

We have a special classification (4A) in our water quality rules for irrigation canals where they are protected for their intended use of agriculture, along with industrial, wildlife, recreation and scenic value uses. A limited number of larger canals that are know to contain significant populations of game fish are designated and protected for that higher use. We have taken the position that irrigation canal are “waters of the state” under our state law, and have had unresolved discussions with EPA as to whether these conveyance devises are "Waters of the US".

Washington

Washington has a broad definition of “waters of the State” which includes canals and other human-created waters. One of the proposed changes to the standards is to exempt certain human created waters from numeric standards. Specifically, “Numeric criteria for bacterial pollutants and for aquatic life protection are not intended for application to water bodies created by humans and subsequently managed for the removal or containment of pollution, as well as in private farm ponds created from upland sites that did not incorporate natural water bodies. However, such waters must not possess conditions of quality and access that create unreasonable health risks to either humans or wildlife. Such waters must also be managed so as to ensure compliance with the criteria and standards established for downstream or adjacent waters.” For other human-created waters, such as canals, a Use Attainability Analysis would be required before designated uses are removed.

B. Effluent-dominated streams, where aquatic life existed before or without the effluent, but the effluent alters the existing or potential uses.

Arizona

As noted above, Arizona has a special category of surface water called “effluent-dependent water.” Arizona recently revised the definition of “effluent-dependent water” in its surface water quality standards rules. An “effluent-dependent water” is “a surface water that consists of discharges of treated wastewater that is classified as an effluent-dependent water by the Director....An effluent-dependent water is a surface water that, without the discharge of treated wastewater, would be an ephemeral water.” Previously, “effluent-dependent water” was defined as “a surface water that consists *primarily* of treated wastewater.” One of the reasons Arizona revised the definition was to clarify that a perennial or intermittent surface water with an existing aquatic and wildlife (cold water) or aquatic and wildlife (warm water) designated use could not be re-classified to A&W(edw). A wastewater treatment plant that discharges treated wastewater to an intermittent or perennial surface water with an A&Wc or A&Ww designated use must comply with the applicable water quality standards that apply to the receiving water.

California

Many streams in California are effluent-dominated. In general, the state has not treated these waters differently from other waters, based on their status as effluent-dominated.

Colorado

At present, these streams generally tend to be classified as aquatic life class 2, and are more commonly warm water streams. A full set of numerical criteria generally is adopted for these streams, with the principal distinction being less restrictive ammonia criteria for class 2 streams.

Idaho

Idaho protects these streams for the uses that exist in them. A discharger is not allowed to impair the beneficial uses of a water body.

Kansas

These streams would be protected under state water quality standards to protect the existing use. Generally these streams require point source limits we describe as advanced secondary, which can be generally met by a modern conventional mechanical plant or a waste stabilization pond meeting certain state design requirements (3 cells, and 120 days retention).

Nebraska

Most of these situations are undesignated waters (chronic criteria do not apply) or Warm water Class B streams. Applicable criteria are used to develop the WLA for the NPDES permit using appropriate default low flow. Categorical limits are also applied.

Nevada

If aquatic life uses existed prior to the introduction of an effluent discharge, those uses would be protected. Mixing zones would be approved if appropriate conditions are met and protect the use. If mixing zone conditions cannot be met, additional control measures would be required.

New Mexico

The question as posed seems to posit a violation of federal law. If aquatic life was supported before the discharge occurred, and would continue without the discharge, then such discharge is required to comply with effluent limits that will not alter the uses. If such discharge is in fact altering such uses, the discharge is in violation of the federal act as well as state law.

North Dakota

These streams are protected by numeric and narrative water quality standards. Designated beneficial uses must be protected.

Oklahoma

Effluent dominant and effluent created streams have default beneficial uses of warm water aquatic community and primary body contact unless designated differently as result of an UAA. Where the contributed flow creates depth adequate for primary body contact recreation or creates physical habitat adequate for a warm water community then those uses are considered attainable and the water body is so designated.

Oregon

We have effluent dominated streams, but the beneficial use designations have not been changed in response. This may be due in part to the fact that our beneficial uses are very broadly designated, by sub-basin rather than by stream. The concern typically raised is weighing the environmental impacts/benefits of having the effluent flow in the stream, even though it may exceed one standard, versus not having the flow at all if the source goes to non-discharge.

Utah

These streams are, and have always been protected for the uses that existed in them. A discharger is not allowed to change the beneficial use just because they don't have a lot of dilution water.

Washington

These streams must still protect the existing uses. However, Washington's draft Use Attainability Analysis uses the concept of Net Ecological Benefit. It allows consideration of whether the removal of the effluent from the water body may result in a greater loss of important aquatic or riparian habitat than allowing the effluent to continue to be discharged, even though it may not meet all the established state water quality criteria.

Wyoming

For new discharges, we would protect these water bodies for the use they had before becoming effluent dominated. Permit renewals may be the problem, if new uses have been created over the period of time that the effluent has been discharged. Application of more stringent discharge requirements to protect the higher use may hinder or discourage continued effluent discharges which in turn may adversely affect beneficial use of the discharge water or have environmental consequences. This is where environmental benefit of the discharge should weight into decision making. However, application of this consideration is limited under EPA's current view. We would like either environmental benefit to be considered or we may look at creating site specific criteria where it is appropriate.

C. Effluent Dependent streams, where aquatic life exists only because of effluent.

Arizona

Arizona recognizes “effluent-dependent waters” not “effluent-dominated waters.” The most recent revisions of the definition of “effluent-dependent water” make clear that aquatic life exists only because of the discharge of treated wastewater. In Arizona, an EDW is a surface water that would be an ephemeral water in the absence of the discharge of treated wastewater. Thus, without the effluent, the stream would be a dry wash.

California

California has a significant number of effluent-dependent streams. To the extent that effluent discharged to the streams creates or supports beneficial uses, those uses must be protected.

Colorado

At present, these streams generally tend to be classified as aquatic life class 2, and are more commonly warm water streams. A full set of numerical criteria generally is adopted for these streams, with the principal distinction being less restrictive ammonia criteria for class 2 streams.

Idaho

We are aware of one stream in Idaho that comes under this scenario. The discharger is required to monitor to ensure that the effluent protects aquatic life in the stream.

Kansas

These streams are provided protection under the “free from” general narrative criteria. Normally discharges to these effluent created waters are required to meet standard secondary treatment limits.

Nebraska

WQS do not apply to these waters except for the narrative “free forms” and the numerical general criteria and acute toxicity criteria for aquatic life (unless an assigned beneficial use still exists under these conditions). Categorical limits are applied in combination with any applicable criteria to develop NPDES permits.

Nevada

Uses and numeric criteria would be adopted for the effluent stream provided it could realistically support the newly acquired use. It should be noted that effluent streams must meet water quality standards for receiving waters at the point of entry unless a mixing zone has been approved.

New Mexico

New Mexico protects such aquatic life through the application of standards protective of that aquatic life. The discharge is required to meet appropriate effluent limits that will be protective of the use. Since there is no receiving water, the discharge must meet those effluent limits at the end of the pipe.

North Dakota

Effluent dependent streams are considered Class III. These streams exist on a sporadic basis, dependent on seasonal discharges from waste stabilization ponds or heavy precipitation. They are regulated under narrative criteria and secondary treatment limits.

Oklahoma

Effluent dominant and effluent created streams have default beneficial uses of warm water aquatic community and primary body contact unless designated differently as result of an UAA. Where the contributed flow creates depth adequate for primary body contact recreation or creates physical habitat adequate for a warm water community then those uses are considered attainable and the water body is so designated.

Oregon

We have streams that were intermittent or had low summer flow at one time and now maintain higher summer flows throughout the summer due to effluent. If beneficial uses, such as aquatic life, are now present during the summer because of the effluent flow, the water quality standards that protect those uses apply.

Utah

These streams exist only because of the discharger. Our experience has been that EPA has allowed us to consider them as not being classified streams. We would then determine at what point the effluent would reach a perennial stream and make sure that it met water quality standards at that point. This allows the benefit of decay etc before it gets to a classified stream. This has worked well and is a practical way to handle it.....We do not want this to change as a result of the arid area initiative.

Washington

Same answer as the previous question. These streams must still protect the existing uses. However, Washington's draft Use Attainability Analysis uses the concept of Net Ecological Benefit. It allows consideration of whether the removal of the effluent from the water body may result in a greater loss of important aquatic or riparian habitat than allowing the effluent to continue to be discharged, even though it may not meet all the established state water quality criteria.

Wyoming

We have a special class for these types of discharges and resulting condition. The standards in this classification would not protect for aquatic life because these discharges would be to ephemeral streams that only support aquatic life (as we define it) because of the effluent discharge. EPA has stated that they will not allow this special classification to be used unless we demonstrate that no aquatic life exists. Before the discharge begins, that is easy enough to do. However, upon permit renewal, there is often a new aquatic system that is totally dependant upon the effluent discharge and EPA expects that higher aquatic protection standards will be applied. If the aquatic or public health criteria are applied, these discharges may become uneconomical and the discharger will look to other means of wastewater disposal. This often creates more environmental damage and loss of beneficial use of the water than if the discharges are allow to continue under existing limits.

Under the state regulations we may remove aquatic life protections in these effluent-dominated circumstances. We believe that there is adequate legal basis for this approach in 40 CFR 131.10 (g)(3) which allows for the removal of a use where it would cause more environmental damage to correct the source of pollution than to leave it in place. EPA disagrees with this logic and it is still a major unresolved issue.

D. Ephemeral and/or Intermittent Streams, flexibility in state designation and protective mechanisms for streams that do not meet swimmable/fishable requirements of CWA.

Arizona

As noted previously, Arizona has established a specific designated use for ephemeral waters. We treat intermittent surface waters the same as perennial surface waters...they both have the same designated uses, including aquatic and wildlife (cold water) or aquatic and wildlife (warm water). Arizona has a tributary rule that assigns “default” designated uses to perennial and intermittent surface waters. The designated uses for perennial and intermittent surface waters include full body contact recreation, fish consumption and an aquatic life designated use. Thus, intermittent streams are fully protected under the fishable/swimmable requirements of the Clean Water Act. Ephemeral waters are also covered by the tributary rule. Default water quality standards for ephemeral waters are less stringent and include aquatic and wildlife (ephemeral) and partial body contact recreation standards. Arizona has conducted blanket use attainability analyses to justify the omission of full body contact recreation and fish consumption designated uses (i.e., “fishable/swimmable” uses) for ephemeral waters. We have defined perennial, intermittent, and ephemeral waters in our water quality standards rules.

California

Many ephemeral and/or intermittent streams in California are not specifically assigned uses. Rather, they are indirectly assigned uses under the “tributary statement.” In some regions of the state these waters are assigned uses as a class, e.g. “ephemeral streams.” Ephemeral and/or intermittent streams are typically not assigned different standards than other streams.

Colorado

At present, these streams generally tend to be classified as aquatic life class 2, and are more commonly warm water streams. In the past, an abbreviated set of numerical criteria has applied to these streams, although in recent hearings the full set of numerical criteria has been adopted for streams where there is evidence of significant aquatic life. Some of these streams may be better characterized as “intermittent” rather than “ephemeral”.

Idaho

Idaho applies numeric water quality standards to intermittent streams only during optimum flow periods sufficient to support the uses for which the water body is designated. Idaho defines the optimum flow for aquatic life and recreation uses. Idaho does not identify ephemeral waters.

Kansas

This has been a huge issue for Kansas. See first response. Kansas is reviewing all Kansas waters now considered classified and therefor subject to water quality standards. Some of these streams,

while a blue line on the map, are normally dry. These are being removed from Kansas's stream listings. EPA will accept such action only after completion of a UAA which records the stream is in fact dry. This debate prompted the Kansas legislature to intercede and the state now defines by law that a stream is classified if the median flow through the most recent 10 years of record is greater than or equal to one cfs. This flow data must, by state law, be determined either by actual USGS flow measurement or determined by a hydrological extrapolation by USGS. Streams with less than 1 cfs median flow are classified if pooling contributes significantly to recolonization and the state proves it is cost effective to protect the streams use. In other words, the stream use benefits must outweigh the cost of the management practices to meet or protect the stream use. A small stream is also classified if aquatic T&E species actually inhabits the water and also classified if downstream from a point source discharge, excluding CAFO's. EPA has not commented on this unique state legislation.

Nebraska

We have not classified these streams. They fall into our category of "Undesignated Waters" which have the same protection as those waters discussed under Effluent Dependent streams.

Nevada

While a significant number of our streams are ephemeral or intermittent (126,000 miles), only a small number them have designated or class water standards. Waters without specific standards are covered under the "free from" narrative standards and the tributary rule. The tributary rule allows uses and standards of the nearest control point upstream or downstream to apply. This approach has not been questioned by EPA or challenged by other entities.

New Mexico

New Mexico utilizes wildlife habitat and livestock watering designated uses and corresponding standards to protect ephemeral and intermittent streams. Where intermittent streams support an aquatic life community, the corresponding standards apply.

North Dakota

At present, these streams are Class III, with limited seasonal value for emersion recreation, fish life, and aquatic biota. Dischargers are required to meet secondary treatment criteria.

Oklahoma

Where the attainable beneficial uses of intermittent streams cannot meet the fully fishable beneficial use or are too shallow to allow body contact recreation, the beneficial use sub categories of habitat limited aquatic community and secondary body contact recreation are designated following a UAA. Oklahoma allows a regulatory low flow of 1 cfs or the 7Q2 which ever is greater for determining permit limits. The 1 cfs regulatory flow allows some regulatory flexibility for dischargers to small and intermittent streams. When stream flows are below 1 cfs or the 7Q2 the state protects against nuisance conditions.

Oregon

We do not have a classification or different standards for intermittent streams. Because our uses are designated broadly, these streams have the same designated uses as all tributaries and the standards apply when they are flowing.

Utah

These streams are called intermittent. We have been able to work with EPA to determine at what point there is enough water present for a long enough period to support uses. Discharges that occur above that point are handled in the same manner described in item 4 above.

Washington

We do not have a different classification or a different standard for intermittent streams. These streams have the same designated uses as other tributaries and the standards apply when they are flowing.

Wyoming

We have a separate classification (4B) for ephemeral streams (those that flow only in response to rain) and designate the basic agriculture, wildlife, recreation and scenic value uses on them. Because this classification does not include aquatic life uses, EPA requires an individual Use Attainability Analysis for each stream classified as such. Though EPA will allow the removal of aquatic life uses on ephemeral waters on a case-by-case basis, the required UAA process is often an overly burdensome way of arriving at what should be a more simple and obvious decision.

E. Minimum flows, how should states address protection of designated uses under man made adverse conditions of flow loss by legal diversions or nonpoint source impacts.

Arizona

Arizona does not address minimum flows in its water quality standards programs. There are mechanisms for establishing in-stream flow rights but those mechanisms are administered by the Department of Water Resources.

California

California does not generally address minimum flows in its water quality standards program. Minimum flows are addressed in the state's water rights program.

Colorado

Absence of flow due to the lawful exercise of water rights has been factored into the determination of appropriate use designations for Colorado streams. In many instances, the presence of substantial diversions has been a factor contributing to the conclusion that a class 2 aquatic life classification is appropriate rather than class 1.

Colorado's water quality management agencies (Water Quality Control Commission and Division) are precluded by statute from requiring an in-stream flow for any purpose. The Colorado Water Conservation Board has authority to establish in-stream flow water rights "to protect the natural environment to a reasonable degree".

Idaho

Idaho's water quality standards are not intended to conflict with the apportionment of waters to the state or to interfere with the rights of Idaho appropriators. Idaho's standards do not provide

authority for minimum stream flows. The Board of Idaho's Department of Water Resources, the state agency that deals with water quantity, is the only entity allowed to hold a water right for a minimum stream flow.

Kansas

Our comments would be similar to Colorado's. Habitat loss and changes due to reduced and modified stream flows do impact the health and nature of streams. This is particularly evident in the western or dryer parts of Kansas. In the 1980's Kansas established minimum desirable streamflows on approximately 34 streams. These stream flows were set in order to help assure a certain flow remained in the stream, yet respecting previously established water rights. In effect the stream flow is established as a water right on the date the minimum streamflow is established. If the streamflow goes below the established minimum flow, junior water rights are restricted in order to help preserve flow in the stream. The minimum streamflows are established under state law and were a product of the Kansas water planning process.

Nebraska

Uses (by regulation and statute) under our WQS are not intended in any way to conflict with the quantitative beneficial uses or water rights. We have low flow cutoffs (7Q10, 1Q10, 30Q5, 0.1 cfs, or 1 cfs) where WQS do not apply. In effect, this means that we protect water quality when there is water in the stream. Depending on the direction that the federal government goes, this could be a problem for us in the future, especially in the realm of ESA.

Nevada

This is a significant problem in Nevada. As mentioned in the question above, some streams in Nevada have little or no flow during the irrigation season. Uses cease and riparian areas are nonexistent for most of these streams. The Clean Water Act acknowledges states rights to allocate water while the Code of Federal Regulations requires existing uses be protected and maintained. Environmental regulations in Nevada cannot modify or superseding state water law. Last year, the Nevada Legislature vacated a set of water quality standards deeming them inconsistent with historic irrigation practices. These standards did not contain any type of a flow component. Other approaches to maintain in-stream flows have included purchasing water rights from willing sellers. This has been met with strong opposition and despite millions of dollars available, only a few water rights have been purchased. A change in state water law requiring minimum flows to protect uses could address this issue, however given the political climate a change of this magnitude is highly unlikely.

New Mexico

Water quality standards apply to water. When no water is present, water quality standards do not apply. The question of how this limitation should be resolved is debatable.

North Dakota

The state recently added instream flow language to the water quality standards. The Department of Health shall propose and submit to the State Engineer the minimum stream flows of major rivers in the state necessary to protect the public health and welfare. The Department's determination shall address the present and prospective future uses of the river for public water supplies, propagation of fish, aquatic life, and wildlife, recreational purposes, and agricultural,

industrial, and other legitimate uses. The recommended minimum stream flows are advisory to the State Engineer, who is under no obligation to implement them.

Oklahoma

Oklahoma presently has a general rule in place regarding instream flow protection for the beneficial uses outlined in the water quality standards for scenic rivers and outstanding resource waters. A specific minimum flow restriction will be proposed as a rule this winter based upon an IFIM study for one of Oklahoma's Scenic Rivers. If promulgated, new water rights would be issued with the condition that diversions could only take place when the flow is at or above a certain amount. Under consideration are rules extending similar protection to the other five Oklahoma scenic rivers. Minimum flow protection for other Oklahoma rivers is not being considered at this time.

Oregon

This is an issue that Oregon has not dealt with and it is a problem. Again, we have no classes of waters so we have no ability to say a water body is “modified” or that it’s ability to support a use is affected by water withdrawals. This, again, has come up in our work on temperature. There are many streams in our State that will not be able to meet our temperature criteria as long as water withdrawals continue at their current level. A “modified” waters class is something being considered in the work on biocriteria and is probably a useful concept to investigate further.

Oregon law does allow State agencies to apply for instream water rights for fisheries and water quality maintenance purposes. However, these are relatively recent and, therefore, junior rights, which are often not met. They should be useful in limiting continued large water withdrawals. There are exemptions for small withdrawals for domestic and livestock use.

Utah

This is a huge problem. The Water Quality Act gives us no authority to require minimum flows. The state engineer must consider the impact of diversions on the stream environment. In theory, this should protect uses. In practice it has not worked at all.

Washington

In Washington, water appropriation law and the Clean Water Act are complementary. Under the water appropriation laws, water right holders do not have vested property right to pollute. Further, when granting appropriations, the state looks at the environmental effects the proposed water right may have. This state sets minimum flows for the purpose of “protecting instream resources, such as fish, aesthetics, water quality, recreation, etc.” although traditionally the focus has been on fish. Water rights set after the established instream flows are conditioned to protect those flows. Senior water rights are not affected, but we have programs like trust water rights and water acquisition as mechanisms to get water back into streams where low flow conditions exist. Washington also has a watershed planning process in involving local planning groups which may recommend instream flow levels to the state. Water quality and water rights are within the same agency which enhance coordination and cooperation. Complementary to this the Clean Water Act requires that beneficial uses will be protected. This has been tested in *Elkhorn*, 511 U.S. at 709-10. The court found using the state’s 401 certification process, that if the

proposed quantity of water use constitutes pollution by affecting the water's designated fisheries use, the state may condition quantity as an "other limitation" under section 401.

Wyoming

States should have a mechanism to address new diversions, (what's in the public interest) where new diversions are proposed that threaten minimum flows needed to maintain designated use and have a legal process recognized under state water law for utilizing existing water rights to maintain minimum flows. We don't have this mechanism in place in Wyoming but our state Engineer's office has made some attempts to develop this concept. We do have an in-stream law, but it has had limited effects to date.

F. Has Your state adopted (or is it considering) biological criteria as part of its water quality standards program? Please describe any biological assessment that your state is undertaking for the purpose of determining whether aquatic life uses are being attained or for establishing biocriteria. Are there specific methods that you use for fish, benthos or algae?

California

California currently does not have a biocriteria or plans to adopt this type of criteria in the near future. Biocriteria may be adopted sometime in the future as part of the state's development of sediment quality objectives (criteria).

Colorado

Colorado currently has no biocriteria. We do have an active aquatic life (biological) sampling program. Most biological assessments are performed to refine aquatic life use classifications and to support standards development. Biological assessments have occasionally been used to determine attainment of aquatic life uses or attainment of provisional sediment standards. However, chemical information from surface water samples is primarily used to assess use support determinations as reported in the State of Colorado's biennial Status of Water Quality report. Colorado biologists are actively developing biocriteria to more effectively utilize biological information as part of the State of Colorado's water quality standards program. This is being done through a Stakeholder/ Workgroup process. Initially, narrative biocriteria will probably be developed for benthic macroinvertebrates. Over the last four years, biologists in the Monitoring Unit have collected benthic macroinvertebrate samples from approximately 300 potential reference/least impaired sites in wadeable streams from most of the eco-regions within the State of Colorado. Fish community information is available from the Division Of Wildlife. Combined with information on physical habitat and water chemistry, this benthic macroinvertebrate data will be used to develop provisional region-specific biocriteria. Once developed, these provisional biocriteria will be evaluated using new benthic macroinvertebrate information, and further refined as needed. It is anticipated that benthic macroinvertebrate biocriteria will be used as an assessment tool to support the water quality standards and classification programs within the State of Colorado. Biocriteria based on fishery information may be developed in the future.

Idaho

In 1997, Idaho adopted narrative biological water quality standards to assist in aquatic life beneficial use assessment (IDAPA. 58.0102.053). Idaho has no plans to establish numeric biocriteria as regulatory standards. Our biological assessment program, the Beneficial Use Reconnaissance Program (BURP), includes monitoring and assessing biological and physical habitat conditions of perennial streams statewide. The program evaluates biological assemblages such as fish, benthic macroinvertebrates, and periphyton. Idaho is also participating in the Environmental Monitoring and Assessment Program western pilot for wadeable and nonwadeable streams.

Nevada

Nevada has no short term plans to adopt such standards, however, we are currently working on establishing reference conditions for biological organisms through our monitoring program. Our long term goal (5+ years) is to eventually establish biological standards. We rely on our Division of Wildlife and the U.S. Fish and Wildlife Service for biological assessments. No biological assessments are conducted by our Division for the purposes of aquatic life use attainment.

New Mexico

New Mexico is actively investigating the development of biological criteria. The several biological assessment methods currently used are found in data collection and interpretation protocols developed and used by New Mexico.

North Dakota

North Dakota has a narrative biological goal which states that the biological condition of surface waters shall be similar to that of sites or water bodies determined by the Department to be regional reference sites. The intent of the state in adopting a narrative biological goal is solely to provide an additional assessment method that can be used to identify impaired surface waters. Regulatory or enforcement actions based solely on narrative biological goals are not authorized. However, adequate and representative biological assessment information may be used in combination with other information to assist in determining whether designated uses are attained, and to assist in determining whether new or revised chemical specific limitations may be needed.

Oklahoma

Oklahoma has narrative biological criteria. Oklahoma has also established rules supplementing the narrative biocriteria in the WQS with eco-region based fish community metrics and levels to determine beneficial use support. These supplementary thresholds are being established for each Oklahoma eco-region.

Oregon

Oregon adopted narrative biocriteria into state water quality standards in 1991. We are currently in the process of finalizing numeric biocriteria, and are scheduled to adopt numeric criteria in 2004. Our biological assessment program is based primarily on a combination of probabilistic regional surveys and identifying and assessing regional reference sites. The results are used to assess the status and trends of biological, chemical and physical habitat conditions at an eco-regional or basin scale. Most surveys are restricted to wade-able streams (1st through 4th order).

The assemblages assessed include fish and macroinvertebrates at all sites. Algae are sampled at a subset of sites. Our current bio-monitoring program is not funded adequately for statewide coverage. State funding covers most basins west of the Cascade mountains. In eastern Oregon EPA, through the EMAP program, is currently funding an assessment of the John Day basin.

Washington

Washington currently has no biocriteria and we are not planning to adopt any in our current standards revision process.

Wyoming

We have a narrative biological criteria standard. We also have a very active biological ambient sampling program to develop a database on biological concentrations and conditions for comparison purposes to what one should expect to find in health lakes and streams. We use the combination of physical, chemical and biological information to make our determination on both designated uses of water bodies and whether they are impaired.

II. Good Samaritan Cleanups of Abandoned Mines

Arizona

I am not aware of any “Good Samaritan” laws, or ADEQ rules or policies addressing voluntary clean-ups of abandoned mines.

California

California has a “Good Samaritan” law covering abandoned mine drainage remediation by public agencies or, in some cases, private individuals or entities. The law has limited utility because it only addresses liability under state law. Voluntary mine remediation is still hampered due to a remediating entity’s potential liability under the federal Clean Water Act.

Colorado

Colorado’s Division of Minerals and Geology has a number of mine remediation projects that have been put on indefinite hold due to current Clean Water Act liability concerns. In addition, there are several local or watershed groups seeking to advance remediation projects that are currently being held up due to liability concerns. Colorado strongly supports continued efforts to adopt a Good Samaritan amendment to the federal Clean Water Act.

Idaho

Idaho does not have Good Samaritan laws for the cleanup of abandoned mines, however, the state is in support of incentives for such cleanups.

Kansas

Our experience in this area has demonstrated that clean up of mine sites can not, as a practical matter, result in water quality standards being totally achieved. While individual cleanup projects will improve a small area and be environmentally beneficial, water quality standards violations still will exist. We support allowing individual cleanup projects proceeding with out a guarantee of standards being met.

Nebraska

This problem has not occurred in Nebraska.

Nevada

Nevada has a number of abandoned mines and legacy issues. While companies perceive liability problems with cleanups and restoration, it has not been an issue in Nevada. There are several ongoing and completed mine cleanup projects. To date, no responsible party has been involved with a “Good Samaritan” liability action.

New Mexico

New Mexico's response is similar to Nevada and Oregon

North Dakota

I am not aware of any Good Samaritan laws or policies that address voluntary cleanups of abandoned mines in North Dakota.

Oregon

We do have abandoned mines that discharge into surface waters. It's a problem that we have not resolved.

Utah

We have no experience with this.

Washington

Washington does not have a Good Samaritan program.

Wyoming

Wyoming does not have a Good Samaritan type law for water clean-up. However, the state is supportive of such a law on the federal level to reduce liability under the CWA and CERCLA. Wyoming has been working on a "Good Samaritan Task Force" for several years, and continues to be supportive of a Good Samaritan amendment to the Clean Water Act.