

**Regional and National Overview of Use Attainability Analysis**  
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The following pages present a brief summary of information related to how the states in EPA Region 10 and around the country are utilizing use attainability analysis to address Clean Water Act implementation issues. Ongoing efforts at EPA headquarters to provide guidance on the use attainability analysis process will also be examined. Please note that this information was collected through personal interviews with state and federal contacts specializing in use attainability analysis, rather than through a comprehensive literature review. Information contained herein should not be referenced without consulting written sources.

**Region 10 Efforts**

**Alaska**

Guidance:

- The State of Alaska does not have guidance in place to direct their UAA process

UAAs Completed:

- Nolan Creek. Revised designated uses for Nolan Creek were submitted to EPA in September of 1984. EPA approved the revised uses in December of 1984.
- Tolovana River/Livengood Creek. The Livengood/Tolovana Mining District petitioned the Alaska Department of Environmental Conservation (ADEC) to reclassify certain streams to exclude all water quality uses except industrial. The resulting UAA determined that for three of the water bodies examined, attainability was indeterminate because of a lack of information establishing whether the streams' flows were intermittent. Where the agency found suitable fish habitat but did not observe fish during sampling, fish use was deemed attainable unless there was a specific factor that rendered the stream unsuitable for fish use. Water quality standards revising designated uses for the Tolovana River/Livengood Creek were submitted to EPA in January of 1990. EPA approved the revisions in December of 1990.
- Red Dog and Ikalukrok Creeks. A use attainability analysis for Ikalukrok Creek, Red Dog Creek, and several small tributaries to Red Dog Creek were submitted to EPA for review in 1997. This resulted in the aquatic life use being removed from a small stream segment, minor modifications to recreational uses, and removal of the drinking water use from approximately 40 miles of the waterbody portions in question. The UAA also resulted in the removal of sulfate limits from the final permit. Metals limits and the TDS limit, however, which were based on aquatic life use, were not affected by the UAA and were retained in the final permit. The reclassifications of the designated uses were approved by EPA in February of 1998.

### Driver of the Process:

- Desire of state and regulated community to ensure accuracy of use designations for waterbodies impacted by mining activity.

### UAA Focus:

- The focus of Alaska UAAs has been on aquatic life use.

## **Idaho**

### Guidance:

- Idaho has not adopted a UAA guidance document. They do, however, have protocols for determining beneficial uses<sup>1</sup>. Idaho has also conducted a workshop to explore issues related to UAA development (November 30, 2004).

### UAAs Conducted:

- The State of Idaho has completed 5 UAAs: The Westfork of Blackbird Creek UAA, the Blackbird Creek UAA, the Bucktail Creek UAA, the Soda Creek UAA, and the Brownlee Reservoir UAA. EPA approved the Westfork Blackbird, Blackbird and Bucktail Creek UAA's. The Soda Creek UAA was subsequently withdrawn by IDEQ and the Brownlee Reservoir UAA has not yet been reviewed by EPA.
- The Westfork of Blackbird Creek UAA, the Blackbird Creek UAA, and the Bucktail Creek UAA were all tied to operation of the Blackbird Mine in Lemhi County, Idaho. Due to the mine's status as a Superfund site, a significant amount of data was available to conduct analysis on these three drainages.
- Example: Bucktail Creek<sup>2</sup>. In the Bucktail Creek UAA, the State was able to determine that due to the steep, shallow and intermittent nature of the creek, contact recreation and aquatic life use are not existing beneficial uses. Furthermore, the State was able to use CERCLA documents to analyze copper concentrations in Bucktail Creek. Using this information, the State concluded that it is unlikely that in the foreseeable future (e.g. 10-20 years) copper concentrations will decline to the point of meeting aquatic life criteria. As such, it was concluded that within the foreseeable future, human caused sources of pollution preclude the attainment of use and cannot be remedied.
- Idaho has also conducted one UAA that did not result in a use change. The Paradise Creek UAA was completed in 1994. This report determined that the currently designated uses of cold water and secondary contact recreation were attainable. It also determined that salmonid spawning, although not an existing or designated use, was probably an attainable use.

### UAAs Ongoing

- The State of Idaho in March 2002 submitted for EPA review and approval two UAA documents in support of both recreational and aquatic life use designation

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<sup>1</sup> Maret, T. & Jensen, D. (No date) *Protocols for Conducting Use Attainability Assessments for Determining Beneficial Uses to be Designated on Idaho Stream Segments*. Prepared by: Idaho Department of Health and Welfare Division of Environmental Quality. 33 pp. plus appendix.

<sup>2</sup> [http://www.deq.state.id.us/water/Bucktail\\_Ck\\_UAA.pdf](http://www.deq.state.id.us/water/Bucktail_Ck_UAA.pdf)

changes on 5 tributaries (subdivided into 8 "water body units") to the lower Boise and Snake Rivers. These tributaries were existing creeks, swales, or depressions that had been modified (e.g., straightened, deepened, and otherwise modified in many portions) in the mid 1800s to early 1900s to serve as irrigation conveyances, and continue to be operated and maintained by irrigation districts for this purpose. The State of Idaho sought to change the designated recreational use on six water body units from primary to secondary contact recreation (PCR to SCR) due to safety concerns or because of insufficient water to support PCR. It is important to note that the Idaho bacteria criteria used for compliance purposes for PCR and SCR are the same. The State also sought to change the designated aquatic life uses in eight water body units, citing 40 CFR 131.10(g)(2), (4), and (5) in support of these changes. EPA reviewed and in November 2004 approved the six recreational use designation changes, but disapproved the eight aquatic life use designation changes. Issues that led to EPA's disapprovals included segmentation of the waters that blurred hydrologic boundaries, inconclusive information regarding existing use and current conditions, and lack of attainability analyses. Consultation in this case was not required because EPA's action on aquatic life use designation changes did not result in changes to the State's standards.

#### UAA Focus:

- The focus of Idaho's UAAs has been coldwater aquatic life use, and some primary contact recreation.

#### Drivers of the Process:

- Desire of state and regulated community to ensure accuracy of use designations for waterbodies impacted by mining and irrigation activity.

### **Washington**

#### Guidance:

- The Washington Department of Ecology (DOE) is in the process of developing UAA guidance<sup>3</sup>. DOE hopes to release final guidance and a responsiveness summary in late 2004. They plan to revise the document based on lessons learned in approximately a year and a half.
- The guidance is being designed for use as:
  - A step-by-step guide to the process of conducting a UAA.
  - A source of general information about UAAs, including when and where it might be useful to invest resources in conducting a UAA, and when and where a UAA would be unlikely to result in regulatory action that would change a designated use.
  - An introduction to the economic assessment portion of the UAA.
  - A project planning checklist for specific types of information that should be considered when a UAA is in the design phases.
  - An aid to regulatory and resource agencies when reviewing final UAA studies.

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<sup>3</sup> [http://www.ecy.wa.gov/programs/wq/swqs/uaa\\_docs/uaa\\_guidance-draft3.pdf](http://www.ecy.wa.gov/programs/wq/swqs/uaa_docs/uaa_guidance-draft3.pdf)

- The initial guidance document will not specifically address UAAs as they pertain to dams. However, DOE is working with EPA Region 10 to develop separate economic guidance related to Use Attainability Analysis. The guidance will be specific to the 40 CFR 131.10(g)(4) definition of feasibility, and limited to economic considerations. EPA and WA DOE will begin this effort in mid January, 2005, and hope to complete the guidance by the end of June 2005.

#### UAAs Ongoing:

- In 2002, the town of Quincy, Washington submitted a UAA in support of removing aquatic life use in an agricultural irrigation ditch that was receiving wastewater discharge. Upon review, Washington DOE found the data and analysis insufficient to support removing the full suite of uses recommended in the report. The state responded to Quincy with a letter that summarized the modifications that the report would support. The town of Quincy has not yet resubmitted a revised package.
- One UAA is currently known to be under development in Washington. CH2MHill has been retained on contract by stakeholders in the Spokane River basin to conduct a UAA for the Spokane River from RM 96 to RM 33.9<sup>4</sup>. The objective of the UAA is to determine whether the beneficial uses designated for Lake Spokane and the Spokane River are existing and attainable, and thereby suitable as the basis for TMDL targets for the Spokane River.

#### Driver of the process:

- Desire of state and regulated community to ensure accuracy of use designations and their supporting criteria when implementing watershed restoration plans (TMDLs).

#### UAA Focus:

- The focus of UAAs in Washington is on cold water aquatic life use and primary contact recreation. Guidance for other designated uses will be developed over time.

### **Oregon**

#### Guidance:

- The State of Oregon is in the process of developing a UAA guidance document. A stakeholder working group has been established to provide DEQ with input and feedback on the document as it develops, and a facilitation team and a technical specialist have been retained on contract to assist in the process. The first workgroup meeting occurred on June 30, 2004. Five additional meetings are scheduled for August through November of 2004. A final draft of the guidance document will be available in November 2004.

#### UAA-Related Activity:

- In the 1980s, ODEQ reviewed a portion of the Malheur River as part of a US EPA field test of the draft "Water Body Surveys and Assessments Guidance" for

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<sup>4</sup> <http://www.spokaneriveruses.net/backgroundinfo.htm>

conducting a use attainability analysis<sup>5</sup>. The portion of the river examined was largely influenced by a complicated system of irrigation canals, laterals, and irrigation return flows. Given the level of human influence on the waterbody, an analysis was conducted to determine if the designated use (salmonid fishery) was in fact an existing or attainable use. The case study concluded that uses designated for the segment of the Malheur river in question should be changed to reflect achievable uses based on the existing resident fish populations and aquatic life.

Driver of the process:

- Desire of state and regulated community to ensure accuracy of use designations and their supporting criteria when implementing watershed restoration plans (TMDLs). Targets related to waterbodies impacted by dams, agricultural practices, and forestry-related activities are of key importance.

UAA Focus:

- UAAs in Oregon will likely be focused on coldwater aquatic life use.

**National Efforts**

**Ohio**

Guidance:

- Ohio has not developed a UAA guidance document per se, but in 1990, Ohio EPA did adopt numeric biocriteria for fish and invertebrates<sup>6</sup>. Each year, Ohio uses these biocriteria to conduct biosurveys in 10-15 different study areas with a total of 300-400 different sampling sites. Biological, chemical and physical monitoring assessment techniques are employed in order to determine if (among other things) use designations assigned to a given water body are appropriate and attainable.

UAAs Conducted:

- The State of Ohio has conducted 1,500 UAAs since 1978.

Driver of the Process:

- The profusion of UAAs in Ohio is attributable to the fact that when Ohio initially designated uses in the 1970s, little analysis was done on state waterbodies, and little data existed to support use designations. As such, the state adopted broad, quick, and blunt use designations. With the compilation of the state's 303(d) list and subsequent TMDL development, the Ohio recognized the need to ensure the appropriateness of existing use designations.

Consultation:

- Only in one instance has Ohio been required to consult with US Fish and Wildlife Service on a T&E species during use attainability analysis, and in that case it was

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<sup>5</sup> See Technical Support Manual: Waterbody Surveys and Assessments for Conducting Use Attainability Analysis, Volumes 1-3, 1983-84 (PDF, 37M). Link available at:

<http://www.epa.gov/waterscience/library/wqstandards/>

<sup>6</sup> <http://www.epa.state.oh.us/dsw/bioassess/ohstrat.html>

demonstrated that the T&E species was located only downstream of the segment considered in the UAA.

- The state has not in any case consulted with tribes on a UAA, though they have worked together on development of antidegradation measures.

UAA Focus:

- The focus of the Ohio UAAs has been on determining appropriate aquatic life uses

**Oklahoma**

Guidance:

- In 2001, the Oklahoma Water Resources Board published a guidance document for conducting use attainability analysis on small, wadable streams<sup>7</sup>. The state is still working out issues related to habitat and water quality where non-wadable streams are concerned.

UAAs Conducted:

- Since 1989, it is estimated that Oklahoma has conducted between 200 and 300 UAAs.

Driver of the process:

- Oklahoma's UAAs are driven largely by the fact that when State water quality standards were first adopted, waters which did not receive a use designation were prescribed a default designation of warm water aquatic life use/no primary contact recreation. Because this default designation required less stringent criteria than those prescribed by the CWA 101(a)(2) "fishable/swimmable" standard, US EPA directed Oklahoma to conduct UAAs for any waterbody to which they intended to ascribe this designated use category.
- The vast majority of these streams are small wadable streams. Availability of water is the frequently the determining factor when conducting UAAs on small, wadable streams. This may be as a result of naturally occurring conditions or human caused conditions. However, to date, dams have not been examined as part of a UAA.

UAA Focus:

- The focus of Oklahoma's UAAs has been on aquatic life use and primary contact recreation

Consultation:

- The guidance document referenced above does not explore issues related to threatened or endangered species, though the state does make an effort to work with the US Fish and Wildlife Service early in any process which may require consultation.
- The guidance document does not explore issues related to tribal consultation. Tribes in Oklahoma do not have approved water quality standards, and efforts to

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<sup>7</sup> Oklahoma Water Resources Board. 2001 *Unified Protocols for Beneficial Use Assignment for Oklahoma Wadable Streams (Use Attainability Analysis)*. OWRB Technical Report TRWQ2001-1. Guidance available at: <http://owrb.state.ok.us>

work with the tribes on water quality issues to date have been met with mixed success.

## **Kansas**

### Guidance:

- In 2001, the Kansas Department of Health and Environment issued a guidance document for use attainability analysis.<sup>8</sup> The document focuses on protocols for determining aquatic life use, primary and secondary recreational use, food procurement use and water supply use.

### UAAs Conducted:

- Kansas has completed 523 UAAs since 2000. Most have been approved by EPA.

### Drivers of the process:

- In 1998 US EPA disapproved a portion of Kansas' water quality standards relating to 1,456 waters without UAAs that had been designated as not able to support primary contact recreation. Under court order, EPA promulgated a final rule for these waters in 2003. In its decision, the Court recognized that the order "may result in bodies of water being given a primary contact recreation designation when a UAA might rebut such a designation."
- In addition, Kansas is required under a 2001 state statute to conduct use attainability analyses for all state waters by October 2005. Further, the state is under a directive to complete UAAs for lakes for recreation and food procurement uses.
- Once Kansas has completed the necessary UAAs and any corresponding changes to its water quality standards, and EPA has approved those changes, EPA will initiate a rulemaking to withdraw the federally promulgated designated uses.

### UAA Focus:

- UAAs in Kansas are focused primary on primary and secondary contact recreation uses.

### Consultation:

- Kansas has not consulted with NOAA or USFWS on ESA related issues as part of a UAA
- Tribes in Kansas with approved water quality standards may conduct their own UAAs but have not been engaged in existing state efforts.

## **Illinois**

### Guidance:

- No guidance document in place

### UAAs Conducted:

- Have conducted UAAs on urban waterways where the designated use was historically classified as less than for fishing and swimming, however none have yet been completed for EPA approval

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<sup>8</sup> <http://www.kdhe.state.ks.us/befs/uaas/UAAGuidance.pdf>

- There are some hydrologic modifications on suburban rivers and small streams, however none have been subject to UAAs. The state has relied instead on TMDLs as its primary approach.

Consultation:

- Illinois consulted with USFWS on revisions for water quality criteria for ammonia
- State has not conducted tribal consultation as a part of UAA development.

**Maine**

Guidance:

- Maine does not have state specific guidance for UAAs. They have utilized the EPA “Technical Support Manual: Waterbody Surveys and Assessments for Conducting Use Attainability Analysis” that was distributed in 1983 (see footnote 7).
- State has also used EPA Interim Economic Guidance for Water Quality Standards<sup>9</sup>

UAAs Conducted

- UAA on the Salmon Falls River focused on non-attainment and dam discharges where the water could not meet state B criteria for oxygen. New rule has not yet been pursued.
- Potential for use of UAAs in progress pertaining to: a) storage lake used for hydropower and what the appropriate drawdown is for the associated lake b) Gulf Island Pond D.O criteria and algae blooms impacting use.
- Use of UAAs possible for paper mill and municipal, and dam discharge, but state primarily uses TMDL approach

Consultation:

- NOAA, USFWS and Tribes are on the list of agents consulted

**Utah**

Guidance:

- Utah is currently in consultation with EPA for guidance on UAA development

UAAs Conducted:

- Utah has not yet completed or reviewed a UAA

UAAs Ongoing:

- Utah is in the process of conducting a UAA for a couple of stream segments in the Price area where TDS is high.

**Colorado**

Guidance:

- Guidance documents in place for recreational use UAAs but not for mining sites. Have received EPA approval on all past UAAs.

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<sup>9</sup> <http://www.epa.gov/waterscience/standards/econworkbook/>



UAAs Conducted:

- Has conducted UAAs primarily for recreational use criteria
- UAAs also conducted for legacy mining sites. Example: Summitville Mining Site (Superfund site)
- UAAs not conducted on waters with dams or other hydrologic modifications

Consultation:

- No UAAs done where ESA consultation required.
- No UAAs conducted on waters with Tribal affiliation

**Minnesota**

Guidance:

- Working manual and Stream Assessment Worksheets used as guidance tools

UAAs Conducted:

- Conducts Stream Assessments (abbreviated UAAs) for reclassification and unlisted State waters

UAA Focus:

- Most assessments look at waters with canalization, flow or other hydrologic changes that limit use

Consultation:

- EPA State DNR and USFWS consulted as part of MN triennial review process, and proposed rule changes
- Tribes also consulted on rule changes to common waters

**Missouri**

Guidance:

- The Missouri Department of Natural Resources has developed a draft “Whole Body Contact Recreational Use Attainability Analysis Guidance”. Draft should be finalized early August 2004.

UAAs Ongoing

- EPA recently issued a work assignment for UAA work in Missouri. The work will focus on water bodies that are not currently designated for whole body contact recreation.

UAA Focus:

- Primary contact recreation

**Iowa**

Guidance:

EPA recently issued a work assignment for UAA work in Iowa. Part of this work assignment involves the generation of UAA guidelines for primary contact recreation use.

UAAs Ongoing

In addition to guidance, the EPA work contract requires Iowa to address waters for which US EPA disapproved water quality standards relating to 33 waters without UAAs that had been designated as not able to support primary contact recreation.

UAA Focus:

Primary Contact Recreation

**Efforts at EPA Headquarters:**

As a part of EPA's 2003 *Strategy for Water Quality Standards and Criteria*,<sup>10</sup> EPA's Office of Science and Technology (OST) committed to provide technical support, outreach, training and workshops to assist states and tribes with designated uses, including use attainability analysis and tiered aquatic life uses. At present, OST is developing a "Designated Use Plan" to implement this portion of the 2003 strategy. The draft plan should be released by December of 2004. In conjunction with this effort, TetraTech has been retained on contract by EPA to establish a web-based clearinghouse of information related to designated uses to serve as a resource to the Regions, states, tribes and municipalities as they address designated uses. This work began in June of 2004, and is expected to be completed by June of 2005.

**For further information:**

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<sup>10</sup> <http://www.epa.gov/waterscience/standards/strategy>