
Water Quality Standards Academy Module 3

Designated Uses

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Atsion Lake, New Jersey Pinelands

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Module Outline

- What are designated uses? Why are they important?
- What are some examples of designated uses?
- What is the statutory and regulatory basis for them?
- What are my options for refining uses?
- What are existing uses?
- What is a use attainability analysis?

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- This module provides information on a variety of topics related to uses.
 - What do the CWA and regulations say about designated uses
 - Some examples
 - How can a designated use be revised
 - And what is the difference between designated uses and existing uses.

What are Designated Uses?

Regulatory:

- Those uses specified in state or tribal water quality standards regulations for each water body or segment whether or not they are being attained

Plain language:

- A concise statement of management objectives and expectations for each of the individual surface waters under state/tribal jurisdiction

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•This slide provides the regulatory definition of designated uses, as well as a ‘plain language’ definition of DUs. Let’s focus on the plain language definition.

•DUs are the statements of your **OBJECTIVES** and **EXPECTATIONS** for surface waters in your state or tribe. For example, my objective is to swim in this lake, and I expect the water is of high enough quality that I will not get sick from my swim.

•A designated use tells you, the public, how your state plans to manage its waters and provides a goal your state or tribe intends to strive for. “We want our waters to support a healthy population of fish and shellfish and we want our townspeople to swim in these waters.”

Why are Designated Uses Important? (1)

- Designated uses are an important component of WQS
- Establish water quality goals for a specific water body

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•Designated Uses are an important component of water quality standards – designated use, criteria to protect use, and anti-deg policy.

•Designated Uses are important because they establish WQ goals for a specific water body. In order to adequately protect your waterbody, you first need to know what it is you are protecting.

Why are Designated Uses Important? (2)

- Determine criteria needed to protect use
 - Criteria are the regulatory basis for management actions like attainment decisions, TMDLs, and NPDES permit limits
- If WQS function to achieve CWA goals and restore water quality, we must ensure the designated uses are right!

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•Another reason DUs are important: Uses help us choose the right criteria to protect our goal for a waterbody. If we want to protect a waterbody for the purpose of swimming, we will set criteria for bacteria. If we want to protect aquatic life, we may look at criteria for dissolved oxygen or temperature.

•Criteria are elements of state/tribal WQS, expressed as either a level of an individual pollutant, or a WQ characteristics, that, if met, will generally protect the DU.

•Criteria form the basis for other WQ tools, like TMDLs and permit limits.

•The right designated use is necessary to choose the right criteria which is necessary to get the right WQS in place.

What are Examples of Designated Use Categories? (1)

- Aquatic life
- Recreation
- Public water supply
- Agricultural
- Industrial
- Navigation



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•Examples of designated use categories include:

- PROTECTION OF AQUATIC LIFE
- RECREATIONAL ACTIVITIES
- USE AS A PUBLIC WATER SUPPLY
- AG AND INDUSTRIAL USES, INCLUDING IRRIGATION OR USE FOR COOLING WATER INTAKE.
- NAVIGATION

Recreation is commonly divided into “primary contact recreation” and “secondary contact recreation.”


•What is this picture an example of? Specifically, what type of recreation?

What are Examples of Designated Use Categories? (2)

- Ceremonial Uses
- Shellfish Harvesting Areas
- Wildlife Protection
- Endangered Species Protection
- Hydroelectric Power



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Which categories of Designated Uses are these pictures examples of?

Primary Recreation, Primary Recreation, Aquatic Life.



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Shellfish harvesting, secondary contact recreation (canoeing)

Where Does the CWA Talk About Uses? (1)

- CWA 101(a)(2) sets a national goal that, wherever attainable, water quality provides for the protection and propagation of fish, shellfish and wildlife, and recreation in and on the water
 - Includes protection of aquatic life for human consumption

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- The CWA talks about uses in Section 101(a)(2)
- These uses are commonly referred to as the “101(a)(2)” uses. You may also hear these referred to as “fishable/swimmable” uses.
- These are the designated uses states/tribes must strive for.
- These uses may not be currently attained, but may be attainable in the future. Remember, a designated use is a goal you are striving for. So, while a lake in your state may not currently support swimming, your state still identifies swimming as a use it strives to achieve in that lake.

Where Does the CWA Talk About Uses? (2)

- CWA 303 (c)(2)(a): water quality standards shall serve the purposes of the [Act] and consider the *use* and value for public water supplies, propagation of fish and wildlife, recreational, agricultural, industrial and other purposes, and...navigation

(italics added)

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•Another place the CWA talks about uses is Section 303(c)(2).

•This section includes uses other than aquatic life and recreational uses that are found in 101(a)(2). It's the first place we see mention of use as a public water supply, agricultural, industrial and navigation.

What Does the CWA Mean by "Use"?

- A function of, or activity in, a water that is supported by a level of water quality



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- What exactly does the CWA mean by use?
- As an example, if the activity I enjoy is kayaking, I want to be sure the water quality – in particular, bacteria levels - is good enough that I will not get sick if I fall in and ingest a mouthful of water.
- Think of a use as an activity plus the water quality to support that activity.

What is a “Rebuttable Presumption”?

- The WQS regulations at 40 CFR Part 131 effectively establish a “rebuttable presumption” that CWA 101 (a)(2) uses are attainable
- If a state or tribe disagrees, regulations require appropriate documentation to show such uses are not attainable (i.e. **Use Attainability Analysis** or UAA)
- States and Tribes have the primary role in establishing uses and in weighing evidence regarding their attainability

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- Now let’s consider our WQS regulations
- The WQS Regulations interpret and implement the CWA.
- The regs establish a rebuttable presumption that CWA 101(a)(2) uses are attainable. This means that, unless a state or tribe can demonstrate otherwise, there is a presumption that all water bodies in a state can attain “protection and propagation of fish, shellfish, and wildlife and recreation in/on water.”
- If a state or tribe disagrees over whether or not a water body can attain a 101(a)(2) use, then the WQS regulations require a Use Attainability Analysis to show this.
- When it comes to establishing designated uses, and making a determination as to whether or not a use is attainable – States and Tribes have the primary role in doing this. However, any resulting changes to a designated use is considered a WQS revision, and this requires EPA review and approval.

What are EPA's Regulatory Expectations for Designated Uses?

- EPA's regs state that designated uses:
 - Be specified in State and Tribal WQS regulations
 - Consider all uses identified in CWA 101(a) and 303(c)
 - Do not provide for waste transport or waste assimilation
 - Provide for attainment/maintenance of WQS of downstream waters
 - Be established through a public process

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- The WQS regulation makes some important points about Designated Uses.

May States/Tribes Refine Their Designated Uses?

- Use refinement is a broad term relating to any activity to review and revise the designated uses
- States may refine their designated uses to reflect more specific goals and what is attainable

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- Now let's consider some of the finer details of DUs, such as refinements to uses.
- A use refinement is simply a broad term that encompasses any activity undertaken by a State or Tribe to review and revise its designated uses.
- States and tribes may wish to refine their DUs to reflect a more concise or specific goal for a waterbody.

Why are Refinements to Designated Uses Important ?

- Describe the highest attainable condition more accurately
- Help states/tribes clearly communicate their water quality objectives to stakeholders
- More specificity allows states/tribes to adopt more effective criteria and thus more appropriate endpoints for permits and TMDLs, as well as capturing incremental improvements over time

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- Refinements to DUs are important b/c they help states and tribes describe the highest attainable condition of a waterbody more accurately.
- Highest attainable use may be thought of as the condition that is closest to the naturally expected condition of a water body, AFTER you take into account things like human causes conditions that can't be remedied, hydro modifications, etc.

What are Some Examples of Refined Uses?

- Adopt sub-categories of a use:
 - Recreation:
 - Primary contact/secondary contact (after UAA)
 - Aquatic:
 - Warmwater fishery/coldwater fishery
- Adopt seasonal uses:
 - Seasonal primary contact recreation May 1 – October 1

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- Here are some examples to better explain the idea of refining a use.
- The state or tribe can refine recreational uses by sub-categorizing into primary (ingestion/immersion likely) and secondary contact recreation (low likelihood for ingestion/immersion).
- Similarly, a state/tribe can adopt sub-categories to differentiate b/t coldwater and warmwater fisheries.
- Another way for a state/tribe to refine their DUs is to adopt seasonal uses. For example, in MN, you can't swim for 6 months/year. So, MN adopts a seasonal primary contact recreation use from May to October, and the rest of the year MN has a secondary contact rec use in place.
- Refining your use with sub-categories or seasonal uses allows you to use tailored criteria that allow for a more specific level of protection.

Adopting Sub-Categories: Primary and Secondary Recreation



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What sub-categories are these pictures examples of?

(Both are considered primary contact recreation).

Adopting Seasonal Uses: Same Lake, Different Seasons...



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Here is an example of a seasonal recreation use.

What are EPA's Expectations When Refining Uses?

- When adopting subcategories with less stringent criteria, a UAA is required
- Must reflect the highest attainable use
- May not remove an **existing use**

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- If you state or tribe wants to refine a designated use, there are some expectations EPA has of you.
 - (1) If you refine your use by adopting a sub-category, and the sub-category has a less stringent criteria associated with it, you must do a UAA.
 - Example: Your water body has a designated use of aquatic life protection. Due to high levels of copper in the West, your state wishes to designate copper-limited aquatic life use with a less stringent criteria for copper. In this case, you would need to do a UAA to explain why you cannot achieve a full aquatic life use.
 - (2) WQS must reflect the highest attainable use for a waterbody.
 - (3) State/tribe may not remove an existing use when refining a designated use.
- Existing Uses: Existing uses only come into play in the context of removing a designated use. For example, State X wants to remove a primary contact recreation designated use (swimming) from a lake. No one swims in this lake (water smells bad, covered in algae, there's a better lake down the road, etc etc). One of the first questions this state needs to address is whether or not swimming is an existing use of the lake. If it is, the state may not remove the use. Why not? The WQS regs say that you may not remove a designated use that is an existing use. If swimming is NOT an existing use, the state may proceed forward with a UAA analysis.

What are Existing Uses? (1)

- Existing uses are those uses actually attained in a waterbody on or after November 28, 1975, whether or not they are included in the water quality standards
- Existing uses serve as a baseline or “floor” of water quality, below which we don’t want to drop

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Existing uses serve as a baseline or “floor” of water quality, below which we don’t want to drop.

What are Existing Uses (2)?

- The use **and** the water quality necessary to support the use. For example....
 - Primary contact recreation in a CSO-impacted waterbody
 - Trout fishery in mining impacted waters (high levels cadmium, zinc)
 - Swimming, public water supply, etc.

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How Do I Determine an Existing Use?

- Made on a site-specific basis
- Consider the quantity, quality, and reliability of different types of available data
- Determine the extent to which water quality since 1975 has supported an actual use occurring in the water

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When refining or removing a designated use, how do I know if it's an existing use, and therefore cannot be removed?

=> These decisions are made on a site-specific basis.

What is the Difference Between Existing Uses and Designated Uses?

- Existing uses are not generally adopted into state/tribal law
- State and tribes are not bound to describe existing uses in the same way their WQS articulate designated use
 - Existing uses can be expressed more specifically than designated uses, to reflect degree of use actually attained

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What is the Difference Between Existing Uses and Designated Uses?

“Designated uses focus on the attainable condition while existing uses focus on the past or present condition.”

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Another way to think of designated uses vs. existing uses: Designated uses consider the attainable, or future, condition, and existing uses consider the past or present condition.

Remember...

- Existing uses only come into play when refining or removing a designated use
 - Why?

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When is a Use “Attainable”?

- At a minimum, a use is attainable IF:
 - It is an existing use, OR
 - It can be attained with:
 - Technology-based controls on point sources, and
 - Cost effective and reasonable best management practices for non-point source control

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When is a Use Not “Attainable”?

- Not feasible due to any factor at 131.10(g):
 - Naturally occurring pollutant concentrations
 - Natural flow conditions or water levels
 - Human caused conditions or pollutant sources that cannot be remedied
 - Dams or other hydrologic modifications
 - Natural physical conditions for aquatic life
 - Substantial and widespread social and economic impact

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What is a Use Attainability Analysis (UAA)?

Regulatory:

- A structured scientific assessment of the factors affecting the attainment of the use, which may include the physical, chemical, biological, and economic factors as described in 40 CFR 131.10(g)

Plain language:

- Process for determining the highest attainable use for a water body; provides supporting documentation when a state/tribe refines or removes its designated uses

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What is the purpose of a UAA?

- Help identify the reasons why **attainment** of a use is not feasible;
- Help determine what the highest attainable use is; and
- Identify a defensible rationale and record of decision when adopting a new or revised WQS

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When is a UAA Required?

- Designating uses that do not include CWA 101(a)(2) goals
- Revising designated uses to remove 101(a)(2) goal uses
- Adopting sub-categories of 101(a)(2) uses for specific water bodies which require less stringent criteria

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A UAA does NOT need to be conducted when establishing a sub-category structure.

Confused? Questions?



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Take Home Messages

- Designated uses are an important component of water quality standards
- 101(a)(2) uses are presumed attainable unless demonstrated otherwise through a UAA
- Uses may be refined but must always reflect the highest attainable use
- Existing uses may never be removed

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