Compilation of Surface Water Quality Criteria for Human Consumption of Drinking Water and Aquatic Organisms Adopted By Other States[1]

Background on Designated Uses

- Consumption of aquatic organisms
  - Clean Water Act Section 101(a)(2) use and must be designated on all waters unless the consumption of aquatic organisms is not an existing use and a use attainability analysis has been completed to demonstrate that the use is not an attainable use.
- Consumption of drinking water
  - Not a Clean Water Act Section 101(a)(2) use
  - Clean Water Act Section 303(c)(2)(A) describes that in setting standards states shall take into consideration a waterbody's use and value for public water supplies and that standards protect the public health or welfare, enhance the quality of water, and serve the purposes of the Clean Water Act.

Summary of Criteria (See Tables 1 and 2)

- Criteria Magnitude
  - States primarily rely on EPA Recommended Drinking Water and Fish Consumption Criteria to protect drinking water and aquatic organism consumption designated uses
    - 2015 Recommendations (See Table 2)
      - Some states have adopted or are in the process of adopting all of the 2015 recommended criteria (Idaho, Utah, Virginia, Washington, Michigan, North Dakota, Texas have adopted)
      - Some states are adopting some of the recommended criteria (Montana adopted 67, already had more stringent criteria for the other parameters)
      - Many states are still evaluating the criteria
    - Cancer Risk Factors (See Table 1)
      - States use both 10^{-5} and 10^{-6}
      - Some states vary the cancer risk factor by pollutant, using 10^{-5} for arsenic, for example
    - Fish Consumption Rates (Table 1)
      - Some states use a higher fish consumption rate than EPA's assumed consumption rate of 22 grams/day for the 2015 recommended criteria and 17.5 grams per day for the 2002 recommended criteria
  - Some states also use National Primary Drinking Water Regulations Maximum Contaminant Levels (MCLs) for several compounds for waters designated for public water supplies
    - Some states use MCLs for only some compounds such as asbestos, copper, and arsenic
- Criteria Duration (See Table 1)
  - A number of states do not explicitly describe the duration

[1] Summary was compiled by reviewing a subset of Surface Water Quality Standards from other states. The summary is not comprehensive, but is intended to provide a cross-section of different approaches.

  - Five states use a 30-day duration
  - Two states describe a lifetime exposure of 70 years
  - States also use 12 months, 24 hours, and 4 days
  - At least one state uses one year
- Criteria Frequency
  - A number of states do not explicitly describe the frequency
  - States that do explicitly describe the frequency use “not to exceed”

Table 1. Summary of duration, frequency, cancer risk, and use of National Primary Drinking Water Maximum Contaminant Levels (MCLs).

State	Duration	Frequency	Cancer Risk	National Primary Drinking Water MCLs
Alabama			10^-6 10^-5 for arsenic	Some compounds
Alaska	Amount of a pollutant that may be present in seafood (e.g., fish) will not render fish unsafe to eat, water unsafe to drink, and the consumer will be protected if they were subject to continuous exposure over a lifetime (e.g., 70 years).		10^-5	
Arkansas			10^-5	Beryllium
California	30-day average			
Colorado	Chronic 30-day standard		10^-6	Several used for water supply
Delaware			10^-6	Used for fish+water
Hawaii	30-day period carcinogen	Not to exceed		
	12-month non carcinogen	Not to exceed		
Idaho	Calculated as "harmonic mean flow": a long term mean flow value calculated by dividing the number of daily flows analyzed by the sum of the reciprocals of those daily flows		10^-5	Arsenic, Copper, Abestos
Indiana	30-day average			
Iowa		Concentrations in excess of the human health criteria will	10^-5	Class C waters-Drinking water supply

State	Duration	Frequency	Cancer Risk	National Primary Drinking Water MCLs
		be allowed only within the boundaries of the mixing zone		
Kentucky		Shall not be exceeded		
Maine			10^-6	Asbestos
Maryland				Public Water Supply Designated Waters Only, also bromoform, chlorodibromomethane, chloroform, and dichlorodibromomethane
Massachusetts			10^-6	
Mississippi			10^-6	
Montana		May not exceed		Several
Nebraska		Not to be exceeded	10^-5	Several
Nevada				Several
North Dakota				Several
Pennsylvania	70-year lifetime for carcinogens		10^-6	Applied to PWS designated use if more stringent than HHC
Rhode Island			10^-5	
South Carolina			10^-6	Used if 304(a) criteria not calculated, asbestos
Tennessee			10^-5	
Texas			10^-5	Several
Utah			10^-6	
Vermont			10^-6	

State	Duration	Frequency	Cancer Risk	National Primary Drinking Water MCLs
Washington DC	30-day average		10^-6	
Washington	24-hour average not to be exceeded	Some Compounds		Arsenic, Copper
	4-day average concentration not to be exceeded more than once every three years on the average.			
West Virginia		Concentration not to be exceeded		
Wisconsin			10^-5	Used if the HHC exceeds the MCL for PWS

Table 2. Summary of State Adoption Status of EPA 2015 Recommended Criteria.

State	Status	Approval Status	Modifications	Notes
Idaho	adopted all	approved	fish consumption rate of 66.5 g/d	revised the criteria (not sure if all or if they followed EPA methodology)
Pennsylvania	adopting all	not approved	some rounded to one less significant figure	proposing 85 (9 were not significantly different); awaitng final approval
Utah	adopted all	approved		adopted all 94 (no permitted discharges for any of them)
Virginia	adopted all	approved	10-5 risk factor	adopted all 94 in 2018
Washington	adopted all (EPA promulgated)	approved	175g/d fish consumption rate	EPA promulgated 144 HHC and state promulgated 45
Michigan	adopted some	approved		only adopted 3
Nebraska	adopted some	approved	several adopted using 10-5	adopted many as recommended
North Dakota	adopted some	approved		adopted EPA criteria for priority pollutants + Ba, 2-4-D, methoxychlor, nitrates & pH

State	Status	Approval Status	Modifications	Notes
Texas	adopted some	approved	used old BW, DI, FI inputs and 10-5, used childhood exposure factors (not RSCs)	
Massachusettes	adopting all	not approved	not adopting those above MCL	in the process of proposing all as-is except for those that are higher than MCLs
Maryland	adopting some	not approved	69 of 94 from 9/2 Region 3 meeting	in the process of adopting 69 of 94; still reviewing other 25
Alabama	not adopted		will likely keep 2 L/d for drinking water intake	have not adopted any; still evaluating
Arkansas	not adopted			has not adopted any and have no plans to do so
California	not adopted			has not adopted any but will consider adopting them in the future as time and resources allow
Colorado	not adopted			considering adopting all in 2023
Georgia	not adopted		looking at using state-specific inputs	looking into and considering state-specific inputs , "may be kicking this can down the road some more"
Indiana	not adopted			has not adopted any but is planning on adopting in future
Alaska	not adopted			reviewing options of what to do next
Florida	not adopted			working on 2-3 year fish consumption study and plan to research BAFs and RSCs (Jan 2020 email)
Iowa	not adopted			not planning to adopt any time soon
Kansas	not adopted			deferring adoption to see how it goes with other states first
Kentucky	not adopted			proposed all 94 but pulled all due to pushback by industry; don't know what next step will be
Minnesota	not adopted			have not adopted any
Mississippi	not adopted			not proposing any in current triennial review to stakeholder concerns, will continue to evaluate and consider in next triennial review
Missouri	not adopted			tried to adopt majority during last triennial review but pulled them due to stakeholder comments; starting to review now
New Hampshire	not adopted			expect to consider during next triennial review starting next year
New Jersey	not adopted			planning on adopting but don't have a date yet

State	Status	Approval Status	Modifications	Notes
New Mexico	not adopted			anticipating adopting as part of next triennial review starting this year
North Carolina	not adopted			just starting trienial review; not sure yet what they will do
Rhode Island	not adopted			has not adopted any, have not decided if they will or not but next triennial review is in 2022
South Carolina	not adopted			proposed all 94 but pulled all due to pushback by industry
Tennessee	not adopted			proposed all 94 but pulled all due to pushback by industry
Wisconsin	not adopted		planning to use BW 70kg, WI 2L/d and FI 20g/d	in the process of reviewing EPA recommended criteria
Wyoming	not adopted			considering as part of current triennial review but stalled trying to figure out an appropriate stakeholder process
Arizona				
Connecticut				
Delaware				
Illinois				
Louisiana	not adopted		if they adopt in the future, will use 30 g/d fish consumption	have only adopted ammonia for aquatic life
Maine	adopted all	approved	fish consumption rate of 32.4 g/d	
Montana	adopted some	approved		adopted 67, they already had more stringent stds for the other 27 so they didn't adopt those
Nevada				
New York	not adopted			
Ohio	adopting some	refiling	see notes column	many the same, many 10 times higher and many completely different (different ones are ORSANCO or MCL)
Oklahoma				
Oregon				
South Dakota				
Vermont				