

2014 *Draft* EPA Selenium criteria

Utah Division of Water Quality
Water Quality Standards Workgroup Meeting
July 21, 2014



Presentation Overview

- New ammonia criteria
- Rulemaking perspective
- Approach to adoption
- Impacts to Utah facilities



2014 EPA *Draft* Selenium Criteria

- FR vol. 79, No. 93 (Wednesday, May 14, 2014, pp. 27601-27604.
- Comment period extended to July 28, 2014

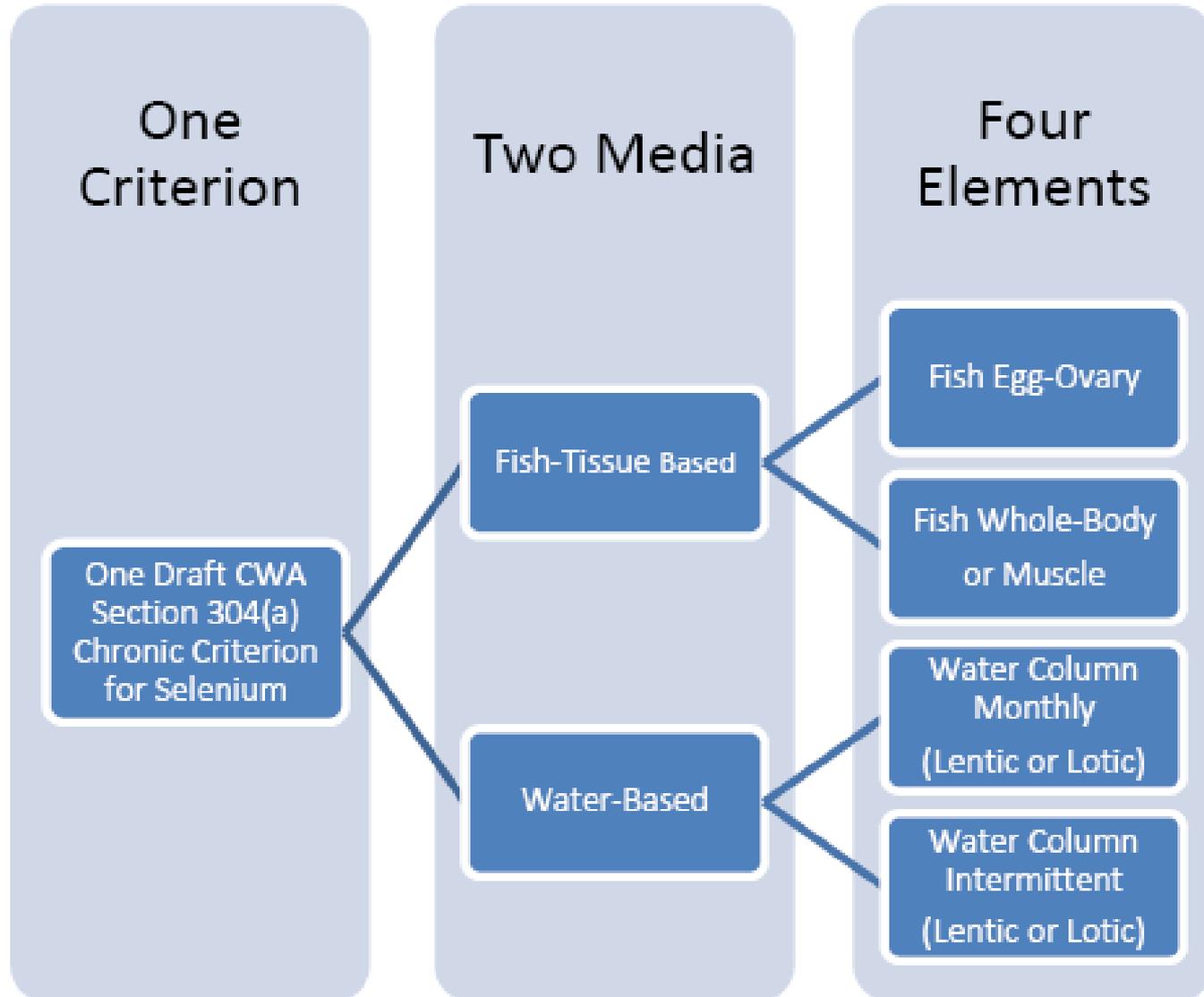


2014 *Draft* EPA Selenium criteria

- EPA recommends adoption of all 4 elements:
 - 1) Fish egg-ovary:
 - 2) Fish muscle
 - 3) Water column for chronic exposures in lentic and lotic waters
 - 4) Water column for intermittent exposures



2014 Draft EPA Selenium criteria



Comparison: existing to new

Utah Current Criterion			2014 EPA Draft Criterion	
	Magnitude	Duration	Magnitude	Duration
Chronic	4.6 µg/l	4-day average	15.2 mg/kg dw in fish eggs or ovaries	Instantaneous
			8.1 mg/kg dw in fish whole-body, or 11.8 mg/kg dw in muscle	Instantaneous
			1.3 µg/l in lakes 4.8 µg/l in streams	30-day average
			$WQC_{int} = \frac{WQC_{30-day} - C_{bkgnd}(1 - f_{int})}{f_{int}}$	Intermittent, # of days fewer than 30 with elevated concentration s
Acute	18.4 µg/l	1-hr average	None	



Intermittent criterion

Streams

(0.1 µg/l Ambient)

1 day = 141 µg/l

29 day = 5.0 µg/l

Lakes

(0.1 µg/l Ambient)

1 day = 36.1 µg/l

29 day = 1.34 µg/l

$$WQC_{int} = \frac{WQC_{30-day} - C_{bkgrnd}(1 - f_{int})}{f_{int}}$$

Where WQC30-day is the water column monthly element, for either a lentic or lotic system, as appropriate. C_{bkgrnd} is the average background selenium concentration, and f_{int} is the fraction of any 30-day period during which elevated selenium concentrations occur, with f_{int} assigned a value ≥ 0.033 corresponding to 1 day).

