Overview of EPA's Draft Revised National Cadmium AWQC for the Protection of Aquatic Life

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Process Overview

- EPA released draft updated national recommended aquatic life AWQC for cadmium on December 1, 2015
  - **Docket No. EPA-HQ-OW-2015-0753**
- Public comments are being accepted for 60 days
- Criteria document has undergone Agency and external expert peer review and revision
  - External Peer Review Report and EPA Response to External Peer Review Comments were released with document

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Process Overview

- EPA will consider public comments submitted and revise and publish the final criteria document in late spring 2016
  - Timeline is litigation-driven so adherence to 60 day comment period is critical
- Finalized cadmium criteria will provide recommendations to states and tribes authorized to establish water quality standards under the Clean Water Act

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Criteria Update Overview

- 2015 update revises acute and chronic freshwater and estuarine/marine criteria
- Values were last updated in 2001
- Criteria revisions are based on new toxicity data, with little change in scientific approach
  - Hardness remains primary driver for freshwater criteria
  - Direct exposure effects remain focus

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Criteria Update Overview

- Updated criteria incorporates data for more than 70 new species and 49 new genera

Number of Aquatic Species Included in Cadmium AWQC				
	Freshwater Acute	Freshwater Chronic	Estuarine/Marine Acute	Estuarine/Marine Chronic
1980	29	13	31	1
1985	52	16	35	2
2001	65	21	61	2
2015	101	27	94	2

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Updated Criteria: Overview

- Revised freshwater criteria slightly decrease in stringency; revised estuarine/marine values slightly increase in stringency
- Values change primarily based on additional toxicity data

Summary of 2001 and 2015 Draft Aquatic Life AWQC for Cadmium (ug/L, dissolved)

	2015 AWQC Update		2001 AWQC	
	Acute (1 hour)	**Chronic** (4 day)	**Acute** (1 day)	**Chronic** (4 day)
Freshwater (Total Hardness = 100 mg/L as $CaCO_3$)	2.1	0.73	2.0	0.25
Estuarine/marine	35	8.3	40	8.8

Updated Criteria: Freshwater

- Fish (most notably salmonids) are drivers of acute value; invertebrates are drivers of the chronic value
- As in 2001, freshwater acute criterion was lowered to protect commercially and recreationally important rainbow trout (and other salmonids)

Summary of 2001 and 2015 Draft Freshwater Aquatic Life AWQC for Cadmium (ug/L, dissolved)

	2015 AWQC Update		2001 AWQC	
	Acute (1 hr)	**Chronic** (4 day)	**Acute** (1 day)	**Chronic** (4-day)
Freshwater (Total Hardness = 100 mg/L as $CaCO_3$)	2.1	0.73	2.0	0.25

Updated Criteria: Estuarine/Marine

- Invertebrates are drivers of acute and chronic value
- Additional toxicity data were not available for chronic value derivation; change in value was based on change in acute-to-chronic value calculation

Summary of 2001 and 2015 Draft Estuarine/Marine Aquatic Life AWQC for Cadmium (ug/L, dissolved)				
	2015 AWQC Update		2001 AWQC	
	Acute (1 hr)	Chronic (4 day)	Acute (1 day)	Chronic (4-day)
Estuarine/marine	35	8.3	40	8.8

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