

**PROPOSED REGULATION OF THE
STATE ENVIRONMENTAL COMMISSION**

LCB File No. R116-22

July 19, 2022

EXPLANATION – Matter in *italics* is new; matter in brackets ~~[omitted material]~~ is material to be omitted.

AUTHORITY: §§ 1-5, NRS 445A.425 and 445A.520.

A REGULATION relating to water quality standards; revising the water quality standards for selenium for the support of aquatic life for certain bodies of water; and providing other matters properly relating thereto.

Legislative Counsel’s Digest:

Existing law requires the State Environmental Commission to adopt regulations to establish standards of water quality. (NRS 445A.425) Under existing law, the Commission must base its water quality standards on water quality criteria which numerically or descriptively define the conditions necessary to maintain the designated beneficial use or uses of the water. Further, the water quality standards must reflect water quality criteria which define the conditions necessary to support, protect and allow the propagation of fish, shellfish and other wildlife if these objectives are reasonably attainable. (NRS 445A.520)

Existing regulations set forth certain water quality standards for selenium, which apply, with certain exceptions, to bodies of water in this State, and include criterion values for: (1) selenium in fish tissue; and (2) dissolved selenium in the water column for aquatic life. Existing regulations also set forth criterion values for selenium in the water column for the protection of aquatic life which apply only to the bodies of water known as the Las Vegas Wash. Existing regulations further require that the Las Vegas Wash be subject to the same water quality standards for selenium as all other bodies of water beginning on January 1, 2023. (LCB File No. R043-19; NAC 445A.1237)

Section 1 of this regulation: (1) revises the version of existing regulations that set forth water quality standards for selenium which is effective through December 31, 2022; and (2) establishes separate criterion values for selenium in fish tissue and dissolved selenium in the water column for aquatic life that apply to the Las Vegas Wash. The criterion values for selenium in fish tissue for the Las Vegas Wash that are set forth in **section 1** are the same as the criterion values for all other bodies of water. The criterion values for dissolved selenium in the

water column for aquatic life for the Las Vegas Wash set forth in **section 1** are different than for other bodies of water.

Sections 3 and 4 of this regulation make conforming changes to repeal the existing regulation which becomes effective January 1, 2023, and would require the Las Vegas Wash to be subject to the same water quality standards for selenium as all other bodies of water.

In the case that LCB File No. R116-22 is not adopted by the State Environmental Commission and approved by the Legislative Commission before January 1, 2023, **section 2** of this regulation revises the version of existing regulations that set forth water quality standards for selenium, which is effective on and after January 1, 2023. The changes set forth in **section 2** are consistent with the changes set forth in **section 1**.

Section 5 of this regulation sets forth the effective date of LCB File No. R116-22, which is the date upon which the regulation is filed by the Legislative Counsel with the Secretary of State. **Section 5** further provides that: (1) **sections 1, 3 and 4** become effective only if LCB File No. R116-22 is adopted by the State Environmental Commission and approved by the Legislative Commission before January 1, 2023; and (2) **section 2** becomes effective only if LCB File No. R116-22 is adopted by the State Environmental Commission and approved by the Legislative Commission on or after January 1, 2023.

Section 1. NAC 445A.1237 is hereby amended to read as follows:

FIRST
PARALLEL
SECTION

445A.1237 1. Except as otherwise provided in subsection 8, the standards for selenium prescribed in this section for the support of aquatic life are applicable to the waters specified in NAC 445A.123 to 445A.2234, inclusive. The criterion values for selenium are calculated to reflect the lack of sturgeon or related fish species in the waters of this State and maintain the conditions necessary to support, protect and allow the propagation of fish species found in the waters of this State. See references a and b.

2. If the standards for selenium are exceeded at a site, the Commission will review and may adjust the standards for the site if:

- (a) The standards are not economically controllable; or
- (b) Site-specific values for fish and water have been derived through a technically defensible study (see references a and b) and results have been approved by the Division.

3. If data from fish tissue are available, such data shall take precedence over data obtained from a water sample. If data from fish egg or ovary tissue are available, such data shall take precedence over data from whole body tissue or fish muscle tissue.

4. Any sampling of fish tissue must be performed in accordance with EPA protocols. See references a and b.

5. Any person or entity wishing to develop site-specific values for fish tissue and water shall submit a proposed sampling and analysis plan to the Division. The plan must be approved by the Division before the study to derive site-specific values for fish tissue and water is conducted.

6. Except as provided in subsections 2 and 8, the criterion values for selenium in fish tissue are instantaneous values that may not be exceeded. The criterion values for selenium in fish tissue are:

Type of Tissue Analyzed	Criterion Value (mg/kg dry weight)
Fish Egg or Ovary Tissue	19
Fish Whole Body Tissue	9.5
Fish Muscle Tissue	13.1

7. Except as provided in subsections 2 and 8, the criterion values for dissolved selenium in the water column for aquatic life ~~is:~~ *are:*

Exposure Duration and Category of Water	Criterion Value (µg/L)
30-day average, lentic water	1.9
30-day average, lotic water	3.9
Intermittent, lentic water	$(1.9 - C_{bkgd}(1 - f_{int}))/f_{int}$
Intermittent, lotic water	$(3.9 - C_{bkgd}(1 - f_{int}))/f_{int}$

↪ The 30-day average and intermittent concentration limits for *dissolved* selenium may be exceeded only once every 3 years. See reference a.

8. The criterion values for selenium ~~[in the water column for the protection of aquatic life]~~ *and dissolved selenium* for the bodies of water known as the Las Vegas Wash, as described in NAC 445A.2156 and 445A.2158, are ~~[20 micrograms per liter for the one-hour average and 5 micrograms per liter for the 96-hour average. The one-hour average and 96-hour average concentration limits may be exceeded only once every 3 years. See references c and d. Data from fish tissue may not be used to substantiate selenium levels for the bodies of water described in this subsection.]~~ *as follows:*

(a) The criterion values for selenium in fish tissue are instantaneous values that may not be exceeded. The criterion values for selenium in fish tissue are as follows:

<i>Type of Tissue Analyzed</i>	<i>Criterion Value (mg/kg dry weight)</i>

<i>Fish Egg or Ovary Tissue</i>	<i>19</i>
<i>Fish Whole Body Tissue</i>	<i>9.5</i>
<i>Fish Muscle Tissue</i>	<i>13.1</i>

(b) The criterion values for dissolved selenium in the water column for aquatic life are:

<i>Exposure Duration and Category of Water</i>	<i>Criterion Value ($\mu\text{g/L}$)</i>
<i>30-day average, lentic water</i>	<i>6.0</i>
<i>30-day average, lotic water</i>	<i>6.3</i>
<i>Intermittent, lentic water</i>	<i>$(6.0 - C_{\text{bkgd}}(1 - f_{\text{int}}))/f_{\text{int}}$</i>
<i>Intermittent, lotic water</i>	<i>$(6.3 - C_{\text{bkgd}}(1 - f_{\text{int}}))/f_{\text{int}}$</i>

↪ The 30-day average and intermittent concentration limits for dissolved selenium may be exceeded only once every 3 years. See reference a.

9. Nothing in this section authorizes a person to take fish without complying with applicable provisions of law related to fishing in this State.

10. As used in this section:

(a) “ C_{bkgd} ” means the average daily ambient concentration integrated over 30 days.

(b) “ f_{int} ” means the fraction of any 30-day period during which there are elevated concentrations of selenium.

- (c) “Fish muscle tissue” means tissue collected from a skinless and boneless fillet.
- (d) “Lentic water” means a standing body of water such as a lake or reservoir.
- (e) “Lotic water” means a flowing or moving body of water such as a stream or river.

References:

- a. U.S. Environmental Protection Agency, Pub. No. EPA 822-R-16-006, *Aquatic Life Ambient Water Quality Criterion for Selenium - Freshwater*, June 2016.
- b. U.S. Environmental Protection Agency, Pub. No. EPA 820-F-16-007, *Technical Support for Fish Tissue Monitoring for Implementation of EPA’s 2016 Selenium Criterion (Draft)*, September 2016.
- c. U.S. Environmental Protection Agency, Pub. No. EPA 440/5-86-001, *Quality Criteria for Water* (Gold Book) (1986).
- d. U.S. Environmental Protection Agency, *National Recommended Water Quality Criteria*, May 2009.

Sec. 2. NAC 445A.1237 is hereby amended to read as follows:

445A.1237 1. ~~The~~ *Except as otherwise provided in subsection 8, the* standards for selenium prescribed in this section for the support of aquatic life are applicable to the waters specified in NAC 445A.123 to 445A.2234, inclusive. The criterion values for selenium are calculated to reflect the lack of sturgeon or related fish species in the waters of this State and maintain the conditions necessary to support, protect and allow the propagation of fish species found in the waters of this State. See references a and b.

2. If the standards for selenium are exceeded at a site, the Commission will review and may adjust the standards for the site if:

SECOND
PARALLEL
SECTION

(a) The standards are not economically controllable; or

(b) Site-specific values for fish and water have been derived through a technically defensible study (see references a and b) and results have been approved by the Division.

3. If data from fish tissue are available, such data shall take precedence over data obtained from a water sample. If data from fish egg or ovary tissue are available, such data shall take precedence over data from whole body tissue or fish muscle tissue.

4. Any sampling of fish tissue must be performed in accordance with EPA protocols. See references a and b.

5. Any person or entity wishing to develop site-specific values for fish tissue and water shall submit a proposed sampling and analysis plan to the Division. The plan must be approved by the Division before the study to derive site-specific values for fish tissue and water is conducted.

6. Except as provided in ~~subsection~~ *subsections 2 [.] and 8*, the criterion values for selenium in fish tissue are instantaneous values that may not be exceeded. The criterion values for selenium in fish tissue are:

Type of Tissue Analyzed	Criterion Value (mg/kg dry weight)
Fish Egg or Ovary Tissue	19
Fish Whole Body Tissue	9.5
Fish Muscle Tissue	13.1

7. Except as provided in ~~subsection~~ *subsections 2 [.] and 8*, the criterion values for dissolved selenium in the water column for aquatic life ~~is:~~ *are:*

Exposure Duration and Category of Water	Criterion Value (µg/L)
30-day average, lentic water	1.9
30-day average, lotic water	3.9
Intermittent, lentic water	$(1.9 - C_{bkgd}(1 - f_{int}))/f_{int}$
Intermittent, lotic water	$(3.9 - C_{bkgd}(1 - f_{int}))/f_{int}$

↪ The 30-day average and intermittent concentration limits for *dissolved* selenium may be exceeded only once every 3 years. See reference a.

8. *The criterion values for selenium and dissolved selenium for the bodies of water known as the Las Vegas Wash, as described in NAC 445A.2156 and 445A.2158, are as follows:*

(a) The criterion values for selenium in fish tissue are instantaneous values that may not be exceeded. The criterion values for selenium in fish tissue are:

<i>Type of Tissue Analyzed</i>	<i>Criterion Value (mg/kg dry weight)</i>
<i>Fish Egg or Ovary Tissue</i>	<i>19</i>
<i>Fish Whole Body Tissue</i>	<i>9.5</i>

<i>Fish Muscle Tissue</i>	<i>13.1</i>
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(b) The criterion values for dissolved selenium in the water column for aquatic life are:

<i>Exposure Duration and Category of Water</i>	<i>Criterion Value (µg/L)</i>
<i>30-day average, lentic water</i>	<i>6.0</i>
<i>30-day average, lotic water</i>	<i>6.3</i>
<i>Intermittent, lentic water</i>	$(6.0 - C_{bkgd}(1 - f_{int}))/f_{int}$
<i>Intermittent, lotic water</i>	$(6.3 - C_{bkgd}(1 - f_{int}))/f_{int}$

↪ The 30-day average and intermittent concentration limits for dissolved selenium may be exceeded only once every 3 years. See reference a.

9. Nothing in this section authorizes a person to take fish without complying with applicable provisions of law related to fishing in this State.

~~9.~~ 10. As used in this section:

- (a) “C_{bkgd}” means the average daily ambient concentration integrated over 30 days.
- (b) “f_{int}” means the fraction of any 30-day period during which there are elevated concentrations of selenium.
- (c) “Fish muscle tissue” means tissue collected from a skinless and boneless fillet.
- (d) “Lentic water” means a standing body of water such as a lake or reservoir.

(e) “Lotic water” means a flowing or moving body of water such as a stream or river.

References:

- a. U.S. Environmental Protection Agency, Pub. No. EPA 822-R-16-006, *Aquatic Life Ambient Water Quality Criterion for Selenium - Freshwater*, June 2016.
- b. U.S. Environmental Protection Agency, Pub. No. EPA 820-F-16-007, Technical Support for Fish Tissue Monitoring for Implementation of EPA’s 2016 Selenium Criterion (Draft), September 2016.

Sec. 3. Section 4 of LCB File No. R043-19 is hereby amended to read as follows:

Sec. 4. ~~[4.]~~ This section and sections 1 and 3 of LCB File No. R043-19 become effective on the date on which LCB File No. R043-19 is filed by the Legislative Counsel with the Secretary of State.

~~[2.—Section 2 of this regulation becomes effective on January 1, 2023.]~~

Sec. 4. Section 2 of LCB File No. R043-19 is hereby repealed.

Sec. 5. 1. Except as otherwise provided in this section, this regulation becomes effective on the date on which the regulation is filed by the Legislative Counsel with the Secretary of State.

2. Sections 1, 3 and 4 of this regulation become effective only if LCB File No. R116-22 is adopted by the State Environmental Commission and approved by the Legislative Commission before January 1, 2023.

3. Section 2 of this regulation becomes effective only if LCB File No. R116-22 is adopted by the State Environmental Commission and approved by the Legislative Commission on or after January 1, 2023.

TEXT OF REPEALED SECTION

Section 2 of LCB File No. R043-19. 1. The standards for selenium prescribed in this section for the support of aquatic life are applicable to the waters specified in NAC 445A.123 to 445A.2234, inclusive. The criterion values for selenium are calculated to reflect the lack of sturgeon or related fish species in the waters of this State and maintain the conditions necessary to support, protect and allow the propagation of fish species found in the waters of this State. See references a and b.

2. If the standards for selenium are exceeded at a site, the Commission will review and may adjust the standards for the site if:

- (a) The standards are not economically controllable; or
- (b) Site-specific values for fish and water have been derived through a technically defensible study (see references a and b) and results have been approved by the Division.

3. If data from fish tissue are available, such data shall take precedence over data obtained from a water sample. If data from fish egg or ovary tissue are available, such data shall take precedence over data from whole body tissue or fish muscle tissue.

4. Any sampling of fish tissue must be performed in accordance with EPA protocols. See references a and b.

5. Any person or entity wishing to develop site-specific values for fish tissue and water shall submit a proposed sampling and analysis plan to the Division. The plan must be approved by the Division before the study to derive site-specific values for fish tissue and water is conducted.

6. Except as provided in subsection 2, the criterion values for selenium in fish tissue are instantaneous values that may not be exceeded. The criterion values for selenium in fish tissue are:

Type of Tissue Analyzed	Criterion Value (mg/kg dry weight)
Fish Egg or Ovary Tissue	19
Fish Whole Body Tissue	9.5
Fish Muscle Tissue	13.1

7. Except as provided in subsection 2, the criterion values for dissolved selenium in the water column for aquatic life is:

Exposure Duration and Category of Water	Criterion Value (µg/L)
30-day average, lentic water	1.9

30-day average, lotic water	3.9
Intermittent, lentic water	$1.9 - C_{\text{bkgd}}(1 - f_{\text{int}})/f_{\text{int}}$
Intermittent, lotic water	$3.9 - C_{\text{bkgd}}(1 - f_{\text{int}})/f_{\text{int}}$

↪ The 30-day average and intermittent concentration limits for selenium may be exceeded only once every 3 years. See reference a.

8. Nothing in this section authorizes a person to take fish without complying with applicable provisions of law related to fishing in this State.

9. As used in this section:

(a) “ C_{bkgd} ” means the average daily ambient concentration integrated over 30 days.

(b) “ f_{int} ” means the fraction of any 30-day period during which there are elevated concentrations of selenium.

(c) “Fish muscle tissue” means tissue collected from a skinless and boneless fillet.

(d) “Lentic water” means a standing body of water such as a lake or reservoir.

(e) “Lotic water” means a flowing or moving body of water such as a stream or river.

References:

a. U.S. Environmental Protection Agency, Pub. No. EPA 822-R-16-006, *Aquatic Life Ambient Water Quality Criterion for Selenium - Freshwater*, June 2016.

b. U.S. Environmental Protection Agency, Pub. No. EPA 820-F-16-007, *Technical Support for Fish Tissue Monitoring for Implementation of EPA’s 2016 Selenium Criterion (Draft)*, September 2016.

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