

PETITION P2022-15 (SITE-SPECIFIC SELENIUM STANDARDS)

**PROPOSED PERMANENT REGULATION OF THE
NEVADA STATE ENVIRONMENTAL COMMISSION**

A PROPOSED PERMANENT REGULATION relating to water quality; making various changes in provisions that establish standards for water quality; and providing other matters properly relating thereto.

PETITION 2022-15 Changes to the Nevada Administrative Code revising the standards for selenium for support of aquatic life applicable for the bodies of water known as the Las Vegas Wash, as described in NAC 445A.2156 and 445A.2158.

EXPLANTION – Matter in *italics* is new; matter in brackets ~~fomitted material~~ is material to be omitted.

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

Section 1 of P2022-15 amends section 8 of NAC 445A.1237 to include new site-specific selenium criterion values for support of aquatic life in the bodies of water known as the Las Vegas Wash and removes the effective date from the title of NAC 445A.1237.

Section 2 of P2022-15 removes from Chapter 445 of NAC, the version of NAC 445A.1237 that would be effective on January 1, 2023.

Proposed Revisions:

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

NAC 445A.1237 Standards for selenium for support of aquatic life applicable to designated waters. ~~Effective through December 31, 2022.~~ (NRS 445A.425, 445A.520)

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:

| 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. The criterion values for selenium in the water column for the protection of aquatic life 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.*~~

8. The criterion values prescribed in this section for support of aquatic life are applicable to the body of water known as the Las Vegas Wash, as described in NAC 445A.2156 and 445A.2158.

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> |

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 (ug/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 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.
- (Added to NAC by Environmental Comm’n by R043-19, eff. 12-30-2019)

Section 2 of NAC 445A.1237 is hereby repealed:

~~*[NAC 445A.1237 Standards for selenium for support of aquatic life applicable to designated waters. [Effective January 1, 2023.] (NRS 445A.425, 445A.520)*~~

~~*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) |
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| 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 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.~~

~~(Added to NAC by Environmental Comm’n by R043-19, eff. 12-30-2019; A by R043-19, 12-30-2019, eff. 1-1-2023)}~~