

LCB File No. R136-04

PROPOSED REGULATION OF THE STATE ENVIRONMENTAL COMMISSION

Petition 2004-24

Explanation – Matter in **Bold** is new; matter in brackets ~~omitted material~~ is material to be omitted.

Section 1. Chapter 445A.195 is hereby amended to read as follows.

NAC 445A.195 Lake Mead excluding area covered by NAC 445A.197. (NRS 445A.425, 445A.520)

Lake Mead

PARAMETER	REQUIREMENTS TO MAINTAIN EXISTING HIGHER QUALITY	WATER QUALITY STANDARDS FOR BENEFICIAL USES	BENEFICIAL USES AS DESIGNATED IN NAC 445A.194 (Most Stringent Use Listed First)
Temperature Single Value	ΔT 0°C ^a	ΔT 2°C ^a	Propagation of aquatic life, including, without limitation, a warm-water fishery.
pH Single Value	95% of samples not to exceed 8.8 SU	Within Range 6.5-9.0 SU	Propagation of aquatic life, including, without limitation, a warm-water fishery, recreation involving contact with water, propagation of wildlife, municipal or domestic supply, or both, industrial supply, irrigation and watering of livestock.
Dissolved Oxygen Single Value	—	≥ 5 mg/l in the epilimnion or average in water column during periods of nonstratification	Propagation of aquatic life, including, without limitation, a warm-water fishery, watering of livestock, recreation involving contact with water, recreation not involving contact with water, municipal or domestic supply, or both, and propagation of wildlife.
Chlorophyll <u>a</u> – μ g/l	b		Recreation involving contact with water, propagation of aquatic life, including, without limitation, a warm-water fishery, recreation not involving contact with water and municipal or domestic supply, or both.
Un-Ionized Ammonia–mg/l	—	c	Propagation of aquatic life, including, without limitation, a warm-water fishery.
Total Dissolved Solids Single Value	Flow Weighted Annual Average Concentration ≤ 723 mg/l measured below Hoover Dam ^d —	— ≤ 1000 mg/l	Municipal or domestic supply, or both, and irrigation.
Chloride Single Value	e	≤ 400 mg/l ^e	Municipal or domestic supply, or both, watering of livestock and propagation of wildlife.
Sulfate Single Value	e	≤ 500 mg/l ^e	Municipal or domestic water supply, or both.
Suspended Solids Single Value	—	≤ 25 mg/l	Propagation of aquatic life, including, without limitation, a warm-water fishery, and recreation not involving contact with water.
Nitrogen Species as N Single Value	Total Inorganic Nitrogen 95% of Samples ≤ 4.5 mg/l	Nitrate ≤ 10 mg/l Nitrite ≤ 1 mg/l	Municipal or domestic supply, or both, watering of livestock, propagation of aquatic life, including, without limitation, a warm-water fishery, and propagation of wildlife.
Turbidity Single Value	f	≤ 25 NTU	Propagation of aquatic life, including, without limitation, a warm-water fishery, municipal or domestic supply, or both, recreation involving contact with water and recreation not involving contact with water.

PARAMETER	REQUIREMENTS TO MAINTAIN EXISTING HIGHER QUALITY	WATER QUALITY STANDARDS FOR BENEFICIAL USES	BENEFICIAL USES AS DESIGNATED IN NAC 445A.194 (Most Stringent Use Listed First)
Fecal Coliform		≤200/400 ^g MF or MPN/100 ml	Recreation involving contact with water, irrigation, recreation not involving contact with water, municipal or domestic supply, or both, propagation of wildlife and watering of livestock.
E. Coli 30-day Log Mean Single Value	— —	≤126 MF/100 ml ≤235 MF/100 ml	Recreation involving contact with water, recreation not involving contact with water, municipal or domestic supply, or both, irrigation and watering of livestock.
Color-Pt-Co Units Single Value	h	—	Recreation not involving contact with water and municipal or domestic supply, or both.

- a. Maximum allowable increase in temperature above water temperature at the boundary of an approved mixing zone.
- b. The requirements for chlorophyll *a* are:
 - (1) Not more than one monthly mean in a calendar year at Station ~~[3] Las Vegas Bay 1.85 (LVB 1.85)~~ may exceed 45µg/l.
 - (2) The mean for chlorophyll *a* in summer (July 1-September 30) must not exceed 40 µg/l at Station ~~[3] LVB 1.85~~, and the mean for 4 consecutive summer years must not exceed 30 µg/l. The sample must be collected from the center of the channel and must be representative of the top 5 meters of the channel. “Station ~~[3] LVB 1.85~~” means the center of the channel at ~~[which the depth is from 16 to 18 meters]~~ **a distance of 1.85 miles into Las Vegas Bay from the confluence of Las Vegas Wash with Lake Mead.**
 - (3) The mean for chlorophyll *a* in the growing season (April 1-September 30) must not exceed 16 µg/l at Station ~~[LM4] LVB 2.7~~ and 9 µg/l at Station ~~[LM5] LVB 3.5~~. “Station ~~[LM4] LVB 2.7~~” is located ~~[just outside of the Las Vegas Bay launch ramp and marina, next to buoy RW “1”]~~ **a distance of 2.7 miles into Las Vegas Bay from the confluence of Las Vegas Wash with Lake Mead.** “Station ~~[LM5] LVB 3.5~~” is located ~~[next to buoy RW “A” with the southshore landmark of Crescent island.]~~ **a distance of 3.5 miles into Las Vegas Bay from the confluence of Las Vegas Wash with Lake Mead.**
 - (4) The mean for chlorophyll *a* in the growing season (April 1-September 30) must not exceed 5 µg/l in the open water of Boulder Basin, Virgin Basin, Gregg Basin and Pierce Basin. The single value must not exceed 10 µg/l for more than 5 percent of the samples.
 - (5) Not less than two samples per month must be collected between the months of March and October. During the months when only one sample is available, that value must be used in place of the monthly mean.
- c. ~~[See footnote b to NAC 445A.197.]~~ **The ambient water quality criteria for ammonia are specified in NAC 445A.118.**
- d. The details of this standard are set forth in the “1996 Review-Water Quality Standards for Salinity, Colorado River System” approved by the commission on March 25, 1998.
- e. The combination of this constituent with other constituents comprising TDS must not result in the violation of the TDS standards for Lake Mead and the Colorado River.
- f. Turbidity must not exceed that characteristic of natural conditions by more than 10 Nephelometric Units.
- g. Based on a minimum of not less than five samples taken over a 30-day period, the fecal coliform bacterial level must not exceed a log mean of 200 per 100 ml nor must more than 10 percent of the total samples taken during any 30-day period exceed 400 per 100 ml.
- h. Color must not exceed that characteristic of natural conditions by more than 10 units Platinum-Cobalt Scale.

The commission recognizes that at entrances of tributaries to Lake Mead, localized violations of standards may occur.

Section 2. Chapter 445A.196 is hereby amended to read as follows.

NAC 445A.196 Requirements to maintain existing higher quality for area of Lake Mead from ~~[western boundary of Las Vegas Bay Campground to]~~ the confluence of Las Vegas Wash with Lake Mead to 1.2 miles into Las Vegas Bay from the confluence; standards for beneficial uses; goal of requirements and standards. (NRS 445A.425, 445A.520)

1. The requirements to maintain existing higher quality become effective when the existing water quality is higher than the water quality standard for beneficial uses, as determined by the commission. Once the requirements to maintain existing higher quality become effective, the requirements are applicable thereafter. For the area of Lake Mead from the ~~[western boundary of~~

~~the Las Vegas Bay Campground to the confluence of the Las Vegas Wash,]~~ *confluence of Las Vegas Wash with Lake Mead to 1.2 miles into Las Vegas Bay from the confluence,* the requirements to maintain existing higher quality are set forth in NAC 445A.197, and include, without limitation, requirements relating to temperature, pH, total inorganic nitrogen, total dissolved solids and turbidity.

2. The water quality standards for beneficial uses for Lake Mead from the ~~[western boundary of the Las Vegas Bay Campground to the confluence of the Las Vegas Wash]~~ *confluence of Las Vegas Wash with Lake Mead to 1.2 miles into Las Vegas Bay from the confluence,* are set forth in NAC 445A.197, and include, without limitation, standards relating to temperature, pH, dissolved oxygen, nitrate, nitrite, un-ionized ammonia, total dissolved solids, suspended solids, turbidity and fecal coliform. The beneficial uses for this area are:

- (a) Irrigation;
- (b) Watering of livestock;
- (c) Recreation not involving contact with the water;
- (d) Industrial supply;
- (e) Propagation of wildlife; and
- (f) Propagation of aquatic life, including, without limitation, a warm-water fishery.

3. The goal of the requirements of subsection 1 and the standards of subsection 2 is to ensure that all of Lake Mead is fishable and swimmable by the next triennial review required by the Clean Water Act, 33 U.S.C. §§ 1251 et seq.

Section 3. Chapter 445A.197 is hereby amended to read as follows.

NAC 445A.197 Lake Mead from ~~[western boundary of Las Vegas Bay Campground to]~~ the confluence of Las Vegas Wash *with Lake Mead to 1.2 miles into Las Vegas Bay from the confluence* (NRS 445A.425, 445A.520). Control point at ~~[the Western Boundary of the Las Vegas Bay Campground]~~ *1.2 miles into Las Vegas Bay from the confluence of Las Vegas Wash with Lake Mead.*

Inner Las Vegas Bay

PARAMETER	REQUIREMENTS TO MAINTAIN EXISTING HIGHER QUALITY	WATER QUALITY STANDARDS FOR BENEFICIAL USES	BENEFICIAL USES AS DESIGNATED IN NAC 445A.196 (Most Stringent Use Listed First)
Temperature Single Value	ΔT 0°C ^a	ΔT 2°C ^a	Propagation of aquatic life, including, without limitation, a warm-water fishery.
pH Single Value	95% of samples not to exceed 8.9 SU	Within Range 6.5-9.0 SU	Propagation of aquatic life, including, without limitation, a warm-water fishery, propagation of wildlife, irrigation, industrial supply and watering of livestock.
Dissolved Oxygen Single Value	—	≥5 mg/l	Propagation of aquatic life, including, without limitation, a warm-water fishery, watering of livestock, recreation not involving contact with water and propagation of wildlife.
Nitrogen Species as Single Value	Total Inorganic Nitrogen 95% of Samples ≤5.3 mg/l	Nitrate ≤90 mg/l Nitrite ≤5 mg/l	Propagation of aquatic life, including, without limitation, a warm-water fishery, watering of livestock and propagation of wildlife.
Un-Ionized Ammonia as N-mg/l	—	b	Propagation of aquatic life, including, without limitation, a warm-water fishery.
Total Dissolved Solids Single Value	c	≤3000 mg/l	Watering of livestock and irrigation.

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Suspended Solids Single Value	—	≤25 mg/l	Propagation of aquatic life, including, without limitation, a warm-water fishery and recreation not involving contact with water.
Turbidity Single Value	d	≤25 NTU	Propagation of aquatic life, including, without limitation, a warm-water fishery and recreation not involving contact with water.
Fecal Coliform MF or MPN/100 ml Single Value	—	e	Propagation of wildlife, recreation not involving contact with water, irrigation and watering of livestock.

- a. Maximum allowable increase in temperature above water temperature at the boundary of an approved mixing zone.
- b. ~~[The 4 day average for the concentration of un-ionized ammonia in the vertical column of water and the four-sample rolling average for each interval sampled must not exceed 0.05 mg/l more often than once every 3 years. The daily value for this average must account for diurnal fluctuation. Data must be collected at Station 2 from at least three locations between the surface and total depth. This standard is not applicable to the area between Station 2 and the confluence of the Las Vegas Wash. The single value must not exceed 0.45 mg/l more often than once every 3 years. "Station 2" means the center of the channel at which the depth is 10 meters.]~~
The ambient water quality criteria for ammonia are specified in NAC 445A.118 and apply at Station LVB 1.2. "Station LVB 1.2" means the center of the channel at a distance of 1.2 miles into Las Vegas Bay from the confluence of Las Vegas Wash with Lake Mead.
- c. Any increase in total dissolved solids must not result in a violation of the standards set forth in "1996 Review-Water Quality Standards for Salinity, Colorado River System" approved by the commission on March 25, 1998.
- d. Turbidity must not exceed that characteristic of natural conditions by more than 10 Nephelometric Units.
- e. Any discharge from a point source into Las Vegas Wash must not exceed a log mean of 200 per 100 ml based on a minimum of not less than five samples taken over a 30-day period nor may more than 10 percent of the total samples taken during any 30-day period exceed 400 per 100 ml.

The commission recognizes that, because of discharges of tributaries, localized violations of standards may occur in the inner Las Vegas Bay.