

**ADOPTED REGULATION OF THE  
STATE ENVIRONMENTAL COMMISSION**

**LCB File No. R037-19**

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

AUTHORITY: §§1-14, NRS 445A.425 and 445A.520.

A REGULATION relating to water quality; revising certain water quality standards that are applicable to certain designated waters in this State; and providing other matters properly relating thereto.

**Legislative Counsel’s Digest:**

Existing law requires the State Environmental Commission to adopt regulations establishing the standards of water quality and amounts of waste which may be discharged into the waters of this State. (NRS 445A.425) Each standard adopted by the Commission must ensure a continuation of the designated beneficial use or uses applicable to the body of water to which the standard applies. (NRS 445A.520)

Existing regulations establish the water quality standards for certain bodies of water in this State. (NAC 445A.11704-445A.2234) This regulation amends various water quality standards for certain designated waters in this State.

**Section 1.** Chapter 445A of NAC is hereby amended by adding thereto the provisions set forth as sections 2 and 3 of this regulation.

**Sec. 2.** *The limits of this table apply to the body of water known as Lake Mohave, which extends from Willow Beach to Davis Dam. Lake Mohave is located in Clark County.*

## STANDARDS OF WATER QUALITY

### Colorado River: Lake Mohave

PARAMETER	REQUIREMENTS TO MAINTAIN EXISTING HIGHER QUALITY	WATER QUALITY CRITERIA TO PROTECT BENEFICIAL USES	Beneficial Uses <sup>a</sup>														
			Livestock	Irrigation	Aquatic	Contact	Noncontact	Municipal	Industrial	Wildlife	Aesthetic	Enhance	Marsh				
<i>Beneficial Uses</i>			X	X	X	X	X	X	X	X	X						
<i>Aquatic Life Species of Concern</i>			<i>Adult cold-water fishery.</i>														
Temperature - °C $\Delta T^b$ - °C	$\Delta T = 0$	S.V. $\leq 24$ $\Delta T \leq 2$			*												
pH - SU		S.V. 6.5 - 9.0 $\Delta pH \pm 0.5$			*												
Dissolved Oxygen - mg/L		S.V. $\geq 5.0^c$			*												
Total Phosphorus (as P) - mg/L		A-Avg. $\leq 0.05$			*	*											
Nitrate (as N) - mg/L		S.V. $\leq 10$							*								
Nitrite (as N) - mg/L		S.V. $\leq 0.06$			*												
Total Ammonia (as N) - mg/L		<i>d</i>			*												
Total Suspended Solids - mg/L		S.V. $\leq 25$			*												
Turbidity - NTU		S.V. $\leq 10$			*												
Color - PCU		S.V. $\leq 75$							*								
Total Dissolved Solids - mg/L		<i>e</i>							*								
Chloride - mg/L		S.V. $\leq 400^e$							*								
Sulfate - mg/L		S.V. $\leq 500^e$							*								
Alkalinity (as CaCO <sub>3</sub> ) - mg/L		S.V. $\geq 20$			*												
E. coli - cfu/100 mL		G.M. $\leq 126$ S.V. $\leq 410$				*											
Fecal Coliform - No./100 mL		S.V. $\leq 1,000$			*												
Toxic Materials		<i>g</i>															

\* = The most restrictive beneficial use.

X = Beneficial use.

<sup>a</sup> Refer to NAC 445A.122 and 445A.2142 for beneficial use terminology.

<sup>b</sup> Maximum allowable increase in temperature above water temperature at the boundary of an approved mixing zone, but the increase must not cause a violation of the single value standard.

<sup>c</sup> Applies to the epilimnion when stratified, or average in water column during periods of nonstratification.

<sup>d</sup> The water quality criteria for ammonia are specified in NAC 445A.118.

<sup>e</sup> The salinity standards for the Colorado River system are specified in NAC 445A.1233.

<sup>f</sup> The geometric mean must not be exceeded in any 30-day period. The single value must not be exceeded in more than 10 percent of the samples collected within any 30-day period.

<sup>g</sup> The water quality criteria for toxic materials are specified in NAC 445A.1236.

**Sec. 3. The limits of this table apply to the entire body of water known as Lake Las**

**Vegas. Lake Las Vegas is located in Clark County.**

## STANDARDS OF WATER QUALITY

### Lake Las Vegas

PARAMETER	REQUIREMENTS TO MAINTAIN EXISTING HIGHER QUALITY	WATER QUALITY CRITERIA TO PROTECT BENEFICIAL USES	Beneficial Uses <sup>a</sup>												
			Livestock	Irrigation	Aquatic	Contact	Noncontact	Municipal	Industrial	Wildlife	Aesthetic	Enhance	Marsh		
<i>Beneficial Uses</i>				X	X	X	X				X				
<i>Aquatic Life Species of Concern.</i>			<i>Warm-water fish.</i>												
<i>Temperature ΔT<sup>b</sup> - °C</i>		<i>ΔT ≤ 2</i>			*										
<i>pH - SU</i>		<i>S.V. 6.5 - 9.0</i>			*										
<i>Dissolved Oxygen - mg/L</i>		<i>S.V. ≥ 5.0<sup>c</sup></i>			*										
<i>Chlorophyll a - μg/L</i>		<i>d</i>			*	*									
<i>Turbidity - NTU</i>		<i>S.V. ≤ 10<sup>e</sup></i>			*										
<i>Total Dissolved Solids - mg/L</i>		<i>S.V. ≤ 2000<sup>f</sup></i>		*											
<i>Fecal Coliform - No./100ml</i>		<i>S.V. ≤ 1,000</i>		*											
<i>E. Coli - cfu/100 mL<sup>g</sup></i>		<i>G.M. ≤ 126 S.V. ≤ 410</i>				*									
<i>Toxic Materials</i>		<i>h</i>													

\* = The most restrictive beneficial use.

<sup>a</sup> Refer to NAC 445A.122 and 445A.2142 for beneficial use terminology.

<sup>b</sup> Average temperature in the epilimnion should not exceed 2 °C above ambient temperature (i.e., temperature in epilimnion of Lake Mead).

<sup>c</sup> Applies to the epilimnion when stratified, or average in water column during periods of nonstratification.

<sup>d</sup> The seasonal average chlorophyll-a concentration within 0-2.5 m, April through September, should not exceed 15 μg/L.

<sup>e</sup> Turbidity must not exceed that characteristic of natural conditions by more than 10 Nephelometric Turbidity Units (NTU).

<sup>f</sup> The salinity standards for the Colorado River system are specified in NAC 445A.1233.

<sup>g</sup> The geometric mean must not be exceeded in any 30-day period. The single value must not be exceeded in more than 10 percent of the samples collected within any 30-day period.

<sup>h</sup> The water quality criteria for toxic materials are specified in NAC 445A.1236.

↪ The Commission recognizes that storm waters from Las Vegas Wash may enter Lake Las Vegas during storm and flash-flood events and that localized exceedance of the standards may occur during such events.

**Sec. 4.** NAC 445A.11704 is hereby amended to read as follows:

445A.11704 As used in NAC 445A.11704 to 445A.2234, inclusive, *and sections 2 and 3 of*

*this regulation*, unless the context otherwise requires, the terms and symbols defined in NAC

445A.11708 to 445A.1178, inclusive, have the meanings ascribed to them in those sections.

**Sec. 5.** NAC 445A.122 is hereby amended to read as follows:

445A.122 1. The following standards are intended to protect both existing and designated beneficial uses and must not be used to prohibit the use of the water as authorized under title 48 of NRS:

(a) Watering of livestock. The water must be suitable for the watering of livestock without treatment.

(b) Irrigation. The water must be suitable for irrigation without treatment.

(c) Aquatic life. The water must be suitable as a habitat for fish and other aquatic life existing in a body of water. This does not preclude the reestablishment of other fish or aquatic life.

(d) Recreation involving contact with the water. There must be no evidence of man-made pollution, floating debris, sludge accumulation or similar pollutants.

(e) Recreation not involving contact with the water. The water must be free from:

(1) Visible floating, suspended or settled solids arising from human activities;

(2) Sludge banks;

(3) Slime infestation;

(4) Heavy growth of attached plants, blooms or high concentrations of plankton, discoloration or excessive acidity or alkalinity that leads to corrosion of boats and docks;

(5) Surfactants that foam when the water is agitated or aerated; and

(6) Excessive water temperatures.

(f) Municipal or domestic supply. The water must be capable of being treated by conventional methods of water treatment in order to comply with Nevada's drinking water standards.

(g) Industrial supply. The water must be treatable to provide a quality of water which is suitable for the intended use.

(h) Propagation of wildlife. The water must be suitable for the propagation of wildlife and waterfowl without treatment.

(i) Waters of extraordinary ecological or aesthetic value. The unique ecological or aesthetic value of the water must be maintained.

(j) Enhancement of water quality. The water must support natural enhancement or improvement of water quality in any water which is downstream.

*(k) Maintenance of a freshwater marsh. The water must be suitable for the maintenance of a freshwater marsh.*

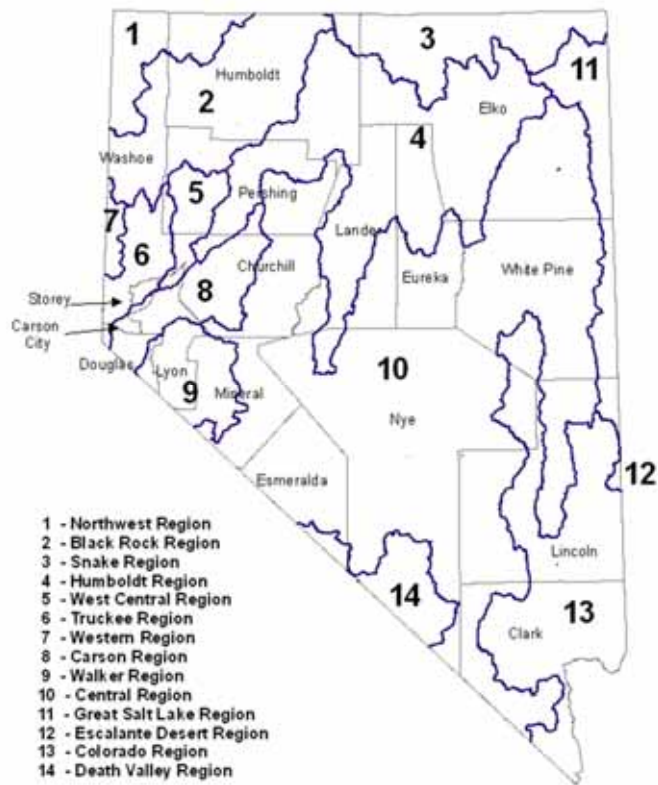
2. This section does not entitle an appropriator to require that the source meet his or her particular requirements for water quality.

**Sec. 6.** NAC 445A.1242 is hereby amended to read as follows:

445A.1242 The designated beneficial uses and water quality standards for select bodies of water within the 14 hydrographic regions of Nevada, as established by the Division of Water Resources of the Department and the United States Geological Survey in 1968, are set forth in the following table for each region as follows:

Region No.	Hydrographic Region	NAC Reference for:	
		Beneficial Uses	Water Quality Standards
1	Northwest Region	NAC 445A.1252	NAC 445A.1254 to 445A.1268, inclusive
2	Black Rock Region	NAC 445A.1282	NAC 445A.1284 to 445A.1316, inclusive
3	Snake Region	NAC 445A.1332	NAC 445A.1334 to 445A.1422, inclusive
4	Humboldt Region	NAC 445A.1432	NAC 445A.1434 to 445A.1578, inclusive
5	West Central Region	NAC 445A.1612	NAC 445A.1614

Region No.	Hydrographic Region	NAC Reference for:	
		Beneficial Uses	Water Quality Standards
6	Truckee Region	NAC 445A.1622	NAC 445A.1624 to 445A.1764, inclusive
7	Western Region	NAC 445A.1782	NAC 445A.1784
8	Carson Region	NAC 445A.1792	NAC 445A.1794 to 445A.1864, inclusive
9	Walker Region	NAC 445A.1882	NAC 445A.1884 to 445A.1934, inclusive
10	Central Region	NAC 445A.1952	NAC 445A.1954 to 445A.2068, inclusive
11	Great Salt Lake Region	NAC 445A.2092	NAC 445A.2094 to 445A.2112, inclusive
12	Escalante Desert Region	NAC 445A.2132	NAC 445A.2134
13	Colorado Region	NAC 445A.2142	NAC 445A.2144 to 445A.2214, inclusive , <i>and sections 2 and 3 of this regulation</i>
14	Death Valley Region	NAC 445A.2232	NAC 445A.2234



Sec. 7. NAC 445A.2142 is hereby amended to read as follows:

445A.2142 The designated beneficial uses for select bodies of water within the Colorado

Region are prescribed in this section:

Water Body Name	Segment Description	Beneficial Uses											Aquatic Life Species of Concern	Water Quality Standard NAC Reference	
		Livestock	Irrigation	Aquatic	Contact	Noncontact	Municipal	Industrial	Wildlife	Aesthetic	Enhance	Marsh			
Colorado River below Davis Dam	<del>From the Lake Mohave Inlet to the California-Nevada state line below Davis Dam, except for the length of the river within the exterior borders of the Fort Mojave Indian Reservation.</del> <i>Colorado River, from Davis Dam to the California-Nevada state line, except for the length of the river within the exterior borders of the Fort Mojave Indian Reservation.</i>	X	X	X	X	X	X	X	X					<i>Adult cold-water fishery</i>	NAC 445A.2146
<i>Lake Mohave</i>	<i>The entire lake.</i>	X	X	X	X	X	X	X	X					<i>Adult cold-water fishery</i>	<i>Section 2 of this regulation</i>
Colorado River below Hoover Dam	From Hoover Dam to <del>the Lake Mohave Inlet.</del> <i>Willow Beach.</i>	X	X	X	X	X	X	X	X					<i>Adult cold-water fishery</i>	NAC 445A.2148
Lake Mead	Lake Mead, excluding the area covered by NAC 445A.2154, Inner Las Vegas Bay.	X	X	X	X	X	X	X	X					Warm-water fishery	NAC 445A.2152
Inner Las Vegas Bay	Lake Mead from the confluence of the Las Vegas Wash with Lake Mead to 1.2 miles into Las Vegas Bay.	X	X	X		X		X	X					Warm-water fishery	NAC 445A.2154
Las Vegas Wash at <del>Telephone Line Road.</del> <i>the Historic Lateral</i>	<del>From the confluence of the discharges from the City of Las Vegas and Clark County wastewater treatment plants to Telephone Line Road.</del> <i>From the confluence of Sloan Channel and Las Vegas Wash to the Historic Lateral.</i> This segment encompasses the discharge from <i>Clark County wastewater treatment plant, the City of Las Vegas wastewater treatment plant and the City of Henderson wastewater treatment plant.</i>	X	X	X		X		X					X	<del>Excluding fish, this does not preclude the establishment of a fishery.</del> <i>Warm-water fish.</i>	NAC 445A.2156

Water Body Name	Segment Description	Beneficial Uses											Aquatic Life Species of Concern	Water Quality Standard NAC Reference	
		Livestock	Irrigation	Aquatic	Contact	Noncontact	Municipal	Industrial	Wildlife	Aesthetic	Enhance	Marsh			
Las Vegas Wash at Lake Mead	From <del>{Telephone Line Road}</del> <i>the Historic Lateral</i> to its confluence with Lake Mead.	X	X	X		X			X				X	<del>{Excluding fish, this does not preclude the establishment of a fishery}</del> <i>Warm-water fish.</i>	NAC 445A.2158
<i>Lake Las Vegas</i>	<i>The entire lake.</i>		X	X	X	X			X					<i>Warm-water fishery.</i>	<i>Section 3 of this regulation</i>
Virgin River at the state line	At the Arizona-Nevada state line, near Littlefield, Arizona.	X	X	X		X		X	X						NAC 445A.2162
Virgin River at Mesquite	From the Arizona-Nevada state line to Mesquite.	X	X	X		X		X	X						NAC 445A.2164
Virgin River at Lake Mead	From Mesquite to the river mouth at Lake Mead.	X	X	X		X		X	X						NAC 445A.2166
Muddy River at the Glendale Bridge	From the river source to the Glendale Bridge, except for the length of the river within the exterior borders of the Moapa Indian Reservation.	X	X	X	X	X	X	X	X						NAC 445A.2168
Muddy River at the Wells Siding Diversion	From the Glendale Bridge to the Wells Siding Diversion.	X	X	X	X	X		X	X						NAC 445A.2172
Muddy River at Lake Mead	From the Wells Siding Diversion to the river mouth at Lake Mead.	X	X	X	X	X		X	X						NAC 445A.2174
Meadow Valley Wash	From the bridge above Rox to its confluence with the Muddy River.	X	X	X		X		X	X						NAC 445A.2176
Beaver Dam Wash	Above Schroeder Reservoir.	X	X	X	X	X	X	X	X						NAC 445A.2178
Schroeder Reservoir	The entire reservoir.	X	X	X	X	X	X	X	X				Trout		NAC 445A.2182
White River at the national forest boundary	From its origin to the national forest boundary.	X	X	X	X	X	X		X						NAC 445A.2184
White River at Ellison Creek	From the national forest boundary to its confluence with Ellison Creek.	X	X	X	X	X	X	X	X				Trout		NAC 445A.2186
Dacey Reservoir	The entire reservoir.	X	X	X	X	X	X	X	X						NAC 445A.2188
Sunnyside Creek	From its origin to Adams McGill Reservoir.	X	X	X	X	X	X	X	X						NAC 445A.2192
Adams McGill Reservoir	The entire reservoir.	X	X	X	X	X	X	X	X						NAC 445A.2194
Hay Meadow Reservoir	The entire reservoir.	X	X	X	X	X	X	X	X				Trout		NAC 445A.2196
Nesbitt Lake	The entire lake.	X	X	X	X	X	X	X	X						NAC 445A.2198
Pahrnagat Reservoir	The entire reservoir.	X	X	X	X	X	X	X	X						NAC 445A.2202
Bowman Reservoir	The entire reservoir.	X	X	X	X	X	X	X	X						NAC 445A.2204
Eagle Valley Creek	From its headwaters to Eagle Valley Reservoir.	X	X	X	X	X	X	X	X				Trout		NAC 445A.2206



Water Body Name	Segment Description	Beneficial Uses											Aquatic Life Species of Concern	Water Quality Standard NAC Reference	
		Livestock	Irrigation	Aquatic	Contact	Noncontact	Municipal	Industrial	Wildlife	Aesthetic	Enhance	Marsh			
Eagle Valley Reservoir	The entire reservoir.	X	X	X	X	X	X	X	X	X				Trout	NAC 445A.2208
Echo Canyon Reservoir	The entire reservoir.	X	X	X	X	X	X	X	X	X				Trout	NAC 445A.2212
Clover Creek	From its origin to the point where it crosses the east range line of T. 4 S., R. 67 E., M.D.B. & M.	X	X	X	X	X	X	X	X					Trout	NAC 445A.2214
Irrigation	Irrigation														
Livestock	Watering of livestock														
Contact	Recreation involving contact with the water														
Noncontact	Recreation not involving contact with the water														
Industrial	Industrial supply														
Municipal	Municipal or domestic supply, or both														
Wildlife	Propagation of wildlife														
Aquatic	Propagation of aquatic life														
Aesthetic	Waters of extraordinary ecological or aesthetic value														
Enhance	Enhancement of water quality														
Marsh	Maintenance of a freshwater marsh														

**Sec. 8.** NAC 445A.2144 is hereby amended to read as follows:

445A.2144 The standards for water quality for select bodies of water within the Colorado Region are prescribed in NAC 445A.2144 to 445A.2214, inclusive ~~†~~, *and sections 2 and 3 of this regulation.*

**Sec. 9.** NAC 445A.2146 is hereby amended to read as follows:

445A.2146 The limits of this table apply to the body of water known as the Colorado River from ~~the Lake Mohave Inlet~~ *Davis Dam* to the California-Nevada state line, ~~below Davis Dam,~~ except for the length of the river within the exterior borders of the Fort Mojave Indian Reservation. This segment of the Colorado River is located in Clark County.

## STANDARDS OF WATER QUALITY

Colorado River below Davis Dam

PARAMETER	REQUIREMENTS TO MAINTAIN EXISTING HIGHER QUALITY	WATER QUALITY CRITERIA TO PROTECT BENEFICIAL USES	Beneficial Uses <sup>a</sup>													
			Livestock	Irrigation	Aquatic	Contact	Noncontact	Municipal	Industrial	Wildlife	Aesthetic	Enhance	Marsh			
Beneficial Uses			X	X	X	X	X	X	X	X	X					
Aquatic Life Species of Concern			<i>Adult cold-water fishery.</i>													
Temperature - °C		<del>S.V. Nov-Apr ≤ 13</del> <del>S.V. May-Jun ≤ 17</del> <del>S.V. Jul-Oct ≤ 23</del> S.V. ≤ 24			*											
ΔT <sup>b</sup> - °C	ΔT = 0	ΔT ≤ 2														
pH - SU		S.V. 6.5 - 9.0 ΔpH ± 0.5			*											
Dissolved Oxygen - mg/L		<del>S.V. Nov-May ≥ 6.0</del> <del>S.V. Jun-Oct</del> S.V. ≥ 5.0			*											
Total Phosphorus (as P) - mg/L	A-Avg. ≤ 0.02 S.V. ≤ 0.03	A-Avg. ≤ 0.05			*	*										
Nitrate (as N) - mg/L	A-Avg. ≤ 1.1 S.V. ≤ 1.6	S.V. ≤ 10						*								
Nitrite (as N) - mg/L		S.V. ≤ 0.06			*											
Total Ammonia (as N) - mg/L		<sup>c</sup>			*											
Total Suspended Solids - mg/L		S.V. ≤ 25			*											
Turbidity - NTU		S.V. ≤ 10			*											
Color - PCU		S.V. ≤ 75						*								
Total Dissolved Solids - mg/L		<sup>d</sup>						*								
<i>Chloride - mg/L</i>		<i>S.V. ≤ 400<sup>d</sup></i>						*								
<i>Sulfate - mg/L</i>		<i>S.V. ≤ 500<sup>d</sup></i>						*								
Alkalinity (as CaCO <sub>3</sub> ) - mg/L		S.V. ≥ 20			*											
E. coli - cfu/100 mL <sup>e</sup>		G.M. ≤ 126 S.V. ≤ 410				*										
Fecal Coliform - No./100 mL	A.G.M. ≤ 50 S.V. ≤ 100	S.V. ≤ 1,000		*												
Toxic Materials		<sup>f</sup>														

\* = The most restrictive beneficial use.

X = Beneficial use.

<sup>a</sup> Refer to NAC 445A.122 and 445A.2142 for beneficial use terminology.

<sup>b</sup> Maximum allowable increase in temperature above water temperature at the boundary of an approved mixing zone, but the increase must not cause a violation of the single value standard.

<sup>c</sup> The water quality criteria for ammonia are specified in NAC 445A.118.

<sup>d</sup> The salinity standards for the Colorado River system are specified in NAC 445A.1233.

<sup>e</sup> The geometric mean must not be exceeded in any 30-day period. The single value must not be exceeded in more than 10 percent of the samples collected within any 30-day period.

<sup>f</sup> The water quality criteria for toxic materials are specified in NAC 445A.1236.

**Sec. 10.** NAC 445A.2148 is hereby amended to read as follows:

445A.2148 The limits of this table apply to the body of water known as the Colorado River from Hoover Dam to ~~the Lake Mohave Inlet.~~ *Willow Beach*. This segment of the Colorado River is located in Clark County.

## STANDARDS OF WATER QUALITY

### Colorado River below Hoover Dam

PARAMETER	REQUIREMENTS TO MAINTAIN EXISTING HIGHER QUALITY	WATER QUALITY CRITERIA TO PROTECT BENEFICIAL USES	Beneficial Uses <sup>a</sup>												
			Livestock	Irrigation	Aquatic	Contact	Noncontact	Municipal	Industrial	Wildlife	Aesthetic	Enhance	Marsh		
Beneficial Uses			X	X	X	X	X	X	X	X	X				
Aquatic Life Species of Concern			<i>Adult cold-water fishery.</i>												
Temperature - °C		<del>S.V. Nov-Apr ≤ 13</del> <del>S.V. May-Jun ≤ 17</del> <del>S.V. Jul-Oct ≤ 23</del> S.V. ≤ 24			*										
ΔT <sup>b</sup> - °C	ΔT = 0	ΔT ≤ 2													
pH - SU		S.V. 6.5 - 9.0 ΔpH ± 0.5			*										
Dissolved Oxygen - mg/L		<del>S.V. Nov-May ≥ 6.0</del> <del>S.V. Jun-Oct</del> S.V. ≥ 5.0			*										
Total Phosphorus (as P) - mg/L	A-Avg. ≤ 0.02 S.V. ≤ 0.033	A-Avg. ≤ 0.05			*	*									
Total Nitrogen (as N) - mg/L	A-Avg. ≤ 1.0 S.V. ≤ 1.5				*	*									
Nitrate (as N) - mg/L		S.V. ≤ 10						*							
Nitrite (as N) - mg/L		S.V. ≤ 0.06			*										
Total Ammonia (as N) - mg/L		<sup>c</sup>			*										
Total Suspended Solids - mg/L		S.V. ≤ 25			*										
<i>Chloride - mg/L</i>		<i>S.V. ≤ 400<sup>d</sup></i>							*						
<i>Sulfate - mg/L</i>		<i>S.V. ≤ 500<sup>d</sup></i>							*						
Turbidity - NTU		S.V. ≤ 10			*										
Color - PCU		S.V. ≤ 75							*						
Total Dissolved Solids - mg/L		<sup>d</sup>							*						
Alkalinity (as CaCO <sub>3</sub> ) - mg/L		S.V. ≥ 20			*										
E. coli - cfu/100 mL <sup>e</sup>		G.M. ≤ 126 S.V. ≤ 410				*									
Fecal Coliform - No./100 mL	A.G.M. ≤ 50 S.V. ≤ 100	S.V. ≤ 1,000		*											

PARAMETER	REQUIREMENTS TO MAINTAIN EXISTING HIGHER QUALITY	WATER QUALITY CRITERIA TO PROTECT BENEFICIAL USES	Beneficial Uses <sup>a</sup>																	
			Livestock	Irrigation	Aquatic	Contact	Noncontact	Municipal	Industrial	Wildlife	Aesthetic	Enhance	Marsh							
Toxic Materials		f																		

\* = The most restrictive beneficial use.

X = Beneficial use.

<sup>a</sup> Refer to NAC 445A.122 and 445A.2142 for beneficial use terminology.

<sup>b</sup> Maximum allowable increase in temperature above water temperature at the boundary of an approved mixing zone, but the increase must not cause a violation of the single value standard.

<sup>c</sup> The water quality criteria for ammonia are specified in NAC 445A.118.

<sup>d</sup> The salinity standards for the Colorado River system are specified in NAC 445A.1233.

<sup>e</sup> The geometric mean must not be exceeded in any 30-day period. The single value must not be exceeded in more than 10 percent of the samples collected within any 30-day period.

<sup>f</sup> The water quality criteria for toxic materials are specified in NAC 445A.1236.

**Sec. 11.** NAC 445A.2152 is hereby amended to read as follows:

445A.2152 The limits of this table apply to the body of water known as Lake Mead, excluding the area covered by NAC 445A.2154, Inner Las Vegas Bay. Lake Mead is located in Clark County.

## STANDARDS OF WATER QUALITY

### Lake Mead

PARAMETER	REQUIREMENTS TO MAINTAIN EXISTING HIGHER QUALITY	WATER QUALITY CRITERIA TO PROTECT BENEFICIAL USES	Beneficial Uses <sup>a</sup>																	
			Livestock	Irrigation	Aquatic	Contact	Noncontact	Municipal	Industrial	Wildlife	Aesthetic	Enhance	Marsh							
Beneficial Uses			X	X	X	X	X	X	X	X	X									
Aquatic Life Species of Concern			Warm-water fishery.																	
Temperature $\Delta T^b$ - °C	$\Delta T = 0$	$\Delta T \leq 2$			*															
pH - SU	95% of S.V. samples $\leq 8.8$	S.V. 6.5 - 9.0			*															
Dissolved Oxygen - mg/L		S.V. $\geq 5.0^c$ <del>in the epilimnion or average in water column during periods of nonstratification</del>			*															
Total Inorganic Nitrogen (as N) - mg/L	95% of S.V. samples $\leq 4.5$				*	*														
Nitrate (as N) - mg/L		S.V. $\leq 10$							*											
Nitrite (as N) - mg/L		S.V. $\leq 1$							*											

PARAMETER	REQUIREMENTS TO MAINTAIN EXISTING HIGHER QUALITY	WATER QUALITY CRITERIA TO PROTECT BENEFICIAL USES	Beneficial Uses <sup>a</sup>													
			Livestock	Irrigation	Aquatic	Contact	Noncontact	Municipal	Industrial	Wildlife	Aesthetic	Enhance	Marsh			
Total Ammonia (as N) - mg/L		<sup>††d</sup>			*											
Chlorophyll a - µg/L	<sup>††e</sup>				*	*										
Total Suspended Solids - mg/L		S.V. ≤ 25			*											
Turbidity - NTU	<sup>††f</sup>	S.V. ≤ 25			*											
Color - PCU	<sup>††g</sup>							*								
Total Dissolved Solids - mg/L	Flow Weighted A-Avg. Concentration ≤ 723 measured below Hoover Dam <sup>††h</sup>	S.V. ≤ 1000							*							
Chloride - mg/L		S.V. ≤ 400 <sup>††i</sup>							*							
Sulfate - mg/L		S.V. ≤ 500 <sup>††i</sup>							*							
E. coli - cfu/100 mL <sup>††j</sup>		G.M. ≤ 126 S.V. ≤ 410				*										
Fecal Coliform - <del>MPN/100 mL</del> <sup>††j</sup> <del>or</del> <sup>††k</sup> <b>No./100 mL</b>		≤ 200/400 <sup>††k</sup>				*										
Toxic Materials		<sup>††l</sup>														

\* = The most restrictive beneficial use.

X = Beneficial use.

<sup>a</sup> Refer to NAC 445A.122 and 445A.2142 for beneficial use terminology.

<sup>b</sup> Maximum allowable increase in temperature above water temperature at the boundary of an approved mixing zone.

<sup>c</sup> *Applies to the epilimnion when stratified, or average in water column during periods of nonstratification.*

<sup>d</sup> The water quality criteria for ammonia are specified in NAC 445A.118.

<sup>††e</sup> The requirements for chlorophyll *a* are:

<sup>1</sup> Not more than 1 monthly mean in a calendar year at Station LWLVB 1.85 may exceed 45µg/L. Station LWLVB 1.85 is located at the center of the channel at a distance of 1.85 miles into Las Vegas Bay from the confluence of the Las Vegas Wash with Lake Mead.

<sup>2</sup> The mean for chlorophyll *a* in summer (July 1-September 30) must not exceed 40 µg/L at Station LWLVB 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 LWLVB 1.85 is located at the center of the channel at a distance of 1.85 miles into Las Vegas Bay from the confluence of the Las Vegas Wash with Lake Mead.

<sup>3</sup> The mean for chlorophyll *a* in the growing season (April 1-September 30) must not exceed 16 µg/L at Station LWLVB 2.7 and 9 µg/L at Station LWLVB 3.5. Station LWLVB 2.7 is located at a distance of 2.7 miles into Las Vegas Bay from the confluence of the Las Vegas Wash with Lake Mead. Station LWLVB 3.5 is located at a distance of 3.5 miles into Las Vegas Bay from the confluence of the Las Vegas Wash with Lake Mead.

<sup>4</sup> 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.

<sup>5</sup> 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.

<sup>††f</sup> Turbidity must not exceed that characteristic of natural conditions by more than 10 NTU.

<sup>††g</sup> Color must not exceed that characteristic of natural conditions by more than 10 PCU.

<sup>††h</sup> The salinity standards for the Colorado River system are specified in NAC 445A.1233.

<sup>††i</sup> 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.

<sup>††j</sup> The geometric mean must not be exceeded in any 30-day period. The single value must not be exceeded in more than 10 percent of the samples collected within any 30-day period.

<sup>††k</sup> 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 milliliters, nor must more than 10 percent of the total samples taken during any 30-day period exceed 400 per 100 milliliters.

<sup>††l</sup> The water quality criteria for toxic materials are specified in NAC 445A.1236.

↳ The Commission recognizes that at entrances of tributaries to Lake Mead, localized ~~(violations)~~ *exceedance* of standards may occur.

**Sec. 12.** NAC 445A.2154 is hereby amended to read as follows:

445A.2154 The limits of this table apply to the body of water known as Inner Las Vegas Bay, consisting of Lake Mead from the confluence of the Las Vegas Wash with Lake Mead to 1.2 miles into Las Vegas Bay. Inner Las Vegas Bay is located in Clark County.

## STANDARDS OF WATER QUALITY

### Inner Las Vegas Bay

PARAMETER	REQUIREMENTS TO MAINTAIN EXISTING HIGHER QUALITY	WATER QUALITY CRITERIA TO PROTECT BENEFICIAL USES	Beneficial Uses <sup>a</sup>													
			Livestock	Irrigation	Aquatic	Contact	Noncontact	Municipal	Industrial	Wildlife	Aesthetic	Enhance	Marsh			
Beneficial Uses			X	X	X		X		X	X						
Aquatic Life Species of Concern			Warm-water fishery.													
Temperature $\Delta T^b$ - °C	$\Delta T = 0$	$\Delta T \leq 2$			*											
pH - SU	95% of S.V. samples $\leq 8.9$	S.V. 6.5 - 9.0			*											
Dissolved Oxygen - mg/L		S.V. $\geq 5.0$ <sup>c</sup>			*											
Total Inorganic Nitrogen (as N) - mg/L	95% of S.V. samples $\leq 5.3$				*											
Nitrate (as N) - mg/L		S.V. $\leq 90$			*											
Nitrite (as N) - mg/L		S.V. $\leq 5$			*											
Total Ammonia (as N) - mg/L		<del>†</del> <sup>d</sup>			*											
Total Suspended Solids - mg/L		S.V. $\leq 25$			*											
Turbidity - NTU	<del>†</del> <sup>e</sup>	S.V. $\leq 25$			*											
Total Dissolved Solids - mg/L <sup>f</sup>	<del>†</del>	S.V. $\leq 3000$	*													
<i>E. coli</i> - cfu/100 mL		<i>A.G.M. <math>\leq 630</math></i>						*								
Fecal Coliform <del>(MF or MPN/100 mL)</del> <sup>g</sup> <i>No./100mL</i>		$\leq 200/400$ <sup>g</sup>				<del>†</del>	*									
Toxic Materials		<del>†</del> <sup>h</sup>														

\* = The most restrictive beneficial use.

X = Beneficial use.

<sup>a</sup> Refer to NAC 445A.122 and 445A.2142 for beneficial use terminology.

<sup>b</sup> Maximum allowable increase in temperature above water temperature at the boundary of an approved mixing zone.

<sup>c</sup> *Applies to the epilimnion when stratified, or average in water column during periods of nonstratification.*

<sup>d</sup> The requirement for water quality with regard to the concentration of total ammonia is provided pursuant to the provisions of NAC 445A.118. Data must be collected at Station LWLVB 1.2. Station LWLVB 1.2 is located at the center of the channel at a distance of 1.2 miles into Las Vegas Bay from the confluence of the Las Vegas Wash with Lake Mead.

- <sup>e</sup> Turbidity must not exceed that characteristic of natural conditions by more than 10 NTU.
- <sup>f</sup> The salinity standards for the Colorado River system are specified in NAC 445A.1233.
- <sup>g</sup> Any discharge from a point source into Las Vegas Wash must not exceed a log mean of 200 per 100 milliliters 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 milliliters.
- <sup>h</sup> The water quality criteria for toxic materials are specified in NAC 445A.1236.
- ☛ The Commission recognizes that ~~the, because of discharges of tributaries, localized violations of standards may occur in the Inner Las Vegas Bay.~~ *water quality standards for the inner Las Vegas Bay may be exceeded during storm and flash flood events. During these events, the beneficial use of noncontact recreation and the E.coli water quality criteria do not apply.*

**Sec. 13.** NAC 445A.2156 is hereby amended to read as follows:

445A.2156 The limits of this table apply to the body of water known as the Las Vegas Wash from the confluence of ~~the discharges from the City of Las Vegas and Clark County wastewater treatment plants to Telephone Line Road.~~ *Sloan Channel and Las Vegas Wash to the Historic Lateral.* This segment encompasses the discharge from *the Clark County wastewater treatment plant, the City of Las Vegas wastewater treatment plant and* the City of Henderson wastewater treatment plant. This segment of the Las Vegas Wash is located in Clark County.

### STANDARDS OF WATER QUALITY <sup>†</sup>

#### Las Vegas Wash at ~~Telephone Line Road~~ *the Historic Lateral*

PARAMETER	REQUIREMENTS TO MAINTAIN EXISTING HIGHER QUALITY	WATER QUALITY CRITERIA TO PROTECT BENEFICIAL USES	Beneficial Uses <sup>a</sup>												
			Livestock	Irrigation	Aquatic	Contact	Noncontact	Municipal	Industrial	Wildlife	Aesthetic	Enhance	Marsh		
Beneficial Uses			X	X	X		X			X					X
Aquatic Life Species of Concern			<del>Excluding fish, this does not preclude the establishment of a fishery.</del> <i>Warm-water fish.</i> <sup>†</sup>												
Temperature $\Delta T^b$ - °C	$\Delta T = 0$	<i>S.V. <math>\leq 34^\circ</math></i>			*										
pH - SU		S.V. 6.5 - 9.0			*										
Dissolved Oxygen - mg/L		<sup>†</sup> <i>S.V. <math>\geq 5.0</math></i>			*										
Total Inorganic Nitrogen (as N) - mg/L	95% of S.V. samples $\leq 20$				*										
Nitrate (as N) - mg/L		S.V. $\leq$ <del>100</del> <i>90</i>	<del>†</del>		*										
Nitrite (as N) - mg/L		S.V. $\leq$ <del>10</del> <i>5</i>	<del>†</del>		*										

PARAMETER	REQUIREMENTS TO MAINTAIN EXISTING HIGHER QUALITY	WATER QUALITY CRITERIA TO PROTECT BENEFICIAL USES	Beneficial Uses <sup>a</sup>												
			Livestock	Irrigation	Aquatic	Contact	Noncontact	Municipal	Industrial	Wildlife	Aesthetic	Enhance	Marsh		
Total Suspended Solids - mg/L		S.V. ≤ 135 <sup>††c</sup>			*										
Total Dissolved Solids - mg/L	95% of S.V. samples ≤ 1900	S.V. ≤ 3000	*												
Fecal Coliform <del>MF or MPN/100 mL</del> <i>No./100 mL</i>		<sup>††d</sup>					[*]								*
<i>E. coli - cfu/100 mL</i>		<i>A.G.M. ≤ 630</i>					*								
Toxic Materials		<sup>††e</sup>													

\* = The most restrictive beneficial use.

X = Beneficial use.

<sup>†</sup> ~~The goal of the standards set forth in this table is to ensure that the beneficial uses for the body of water described in this section will include, without limitation, the propagation of aquatic life, including, without limitation, fish by the next triennial review required by the Clean Water Act, 33 U.S.C. §§ 1251 et seq.~~ *Warm-water fish indicates protection of aquatic life warm-water fish, not the establishment of a warm-water fishery.*

<sup>a</sup> Refer to NAC 445A.122 and 445A.2142 for beneficial use terminology.

<sup>b</sup> Maximum allowable increase in temperature above water temperature at the boundary of an approved mixing zone except during storm flow conditions.

<sup>†c</sup> ~~Aerobic conditions are desirable for the beneficial uses of propagation of aquatic life, excluding fish, watering of livestock, recreation not involving contact with water and propagation of wildlife. So as not to prevent the development and restoration of marshes and wetlands in the Las Vegas Wash, aerobic conditions are established as a goal rather than a standard and the goal is not intended to preclude development of a limited fishery in selected areas. Aerobic conditions is intended to mean the absence of objectionable odors that may be caused by wastewater discharges in excess of existing odors.~~

<sup>†c</sup> The total suspended solids standard does not apply when flows are greater than 110 percent of average flow as measured at the nearest gage. "Average flow" is defined as the 12-month rolling average of the average monthly flow.

<sup>†d</sup> Any discharge from a point source into the Las Vegas Wash must not exceed a log mean of 200 per 100 milliliters 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 milliliters.

<sup>†e</sup> The water quality criteria for toxic materials are specified in NAC 445A.1236.

**Sec. 14.** NAC 445A.2158 is hereby amended to read as follows:

445A.2158 The limits of this table apply to the body of water known as the Las Vegas Wash from ~~Telephone Line Road~~ *the Historic Lateral* to its confluence with Lake Mead. This segment of the Las Vegas Wash is located in Clark County.

## STANDARDS OF WATER QUALITY ~~††~~

### Las Vegas Wash at Lake Mead



PARAMETER	REQUIREMENTS TO MAINTAIN EXISTING HIGHER QUALITY	WATER QUALITY CRITERIA TO PROTECT BENEFICIAL USES	Beneficial Uses <sup>a</sup>														
			Livestock	Irrigation	Aquatic	Contact	Noncontact	Municipal	Industrial	Wildlife	Aesthetic	Enhance	Marsh				
Beneficial Uses			X	X	X		X				X						X
Aquatic Life Species of Concern			† <del>Excluding fish, this does not preclude the establishment of a fishery.</del> <b>Warm-water fish.</b> <sup>†</sup>														
Temperature ΔT <sup>b</sup> - °C	ΔT = 0	<i>S.V. ≤ 34°</i>			*												
pH - SU		S.V. 6.5 - 9.0			*												
Dissolved Oxygen - mg/L		<del>†‡</del> <i>S.V. ≥ 5.0</i>			*												
Total Inorganic Nitrogen (as N) - mg/L	95% of S.V. samples ≤ 17				*												
Nitrate (as N) - mg/L		S.V. ≤ <del>100</del> <b>90</b>			<del>†*</del>	*											
Nitrite (as N) - mg/L		S.V. ≤ <del>10</del> <b>5</b>			<del>†*</del>	*											
Total Suspended Solids - mg/L		S.V. ≤ 135 <del>†‡</del> <sup>c</sup>			*												
Total Dissolved Solids - mg/L	95% of S.V. samples ≤ 2400	S.V. ≤ 3000	*														
Fecal Coliform - <del>MPN/100 mL</del> <b>No./100 mL</b>		<del>†‡</del> <sup>d</sup>								<del>†*</del>							*
<i>E. coli</i> - cfu/100 mL		<i>A.G.M. ≤ 630</i>								*							
Toxic Materials		<del>†‡</del> <sup>e</sup>															

\* = The most restrictive beneficial use.

X = Beneficial use.

† ~~The goal of the standards set forth in this table is to ensure that the beneficial uses for the body of water described in this section will include, without limitation, the propagation of aquatic life, including, without limitation, fish by the next triennial review required by the Clean Water Act, 33 U.S.C. §§ 1251 et seq.~~ **Warm-water fish indicates protection of aquatic life warm-water fish, not the establishment of a warm-water fishery.**

<sup>a</sup> Refer to NAC 445A.122 and 445A.2142 for beneficial use terminology.

<sup>b</sup> Maximum allowable increase in temperature above water temperature at the boundary of an approved mixing zone.

~~†‡~~ <sup>c</sup> ~~Aerobic conditions are desirable for the beneficial uses of propagation of aquatic life, excluding fish, watering of livestock, recreation not involving contact with water and propagation of wildlife. So as not to prevent the development and restoration of marshes and wetlands in the Las Vegas Wash, aerobic conditions are established as a goal rather than a standard and the goal is not intended to preclude development of a limited fishery in selected areas. Aerobic conditions is intended to mean the absence of objectionable odors that may be caused by wastewater discharges in excess of existing odors.~~

<sup>d</sup> <sup>c</sup> The total suspended solids standard does not apply when flows are greater than 110 percent of average flow as measured at the nearest gage. "Average flow" is defined as the 12-month rolling average of the average monthly flow.

~~†‡~~ <sup>d</sup> Any discharge from a point source into the Las Vegas Wash must not exceed a log mean of 200 per 100 milliliters 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 milliliters.

~~†‡~~ <sup>e</sup> The water quality criteria for toxic materials are specified in NAC 445A.1236.