

REVISED PROPOSED REGULATION OF THE STATE

ENVIRONMENTAL COMMISSION

P2019-01

July 22, 2019

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

AUTHORITY: §§1-303, NRS 445A.425 and 445A.520.

A REGULATION relating to water quality; making various changes in the water quality standards for certain bodies of water 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)

**NAC 445A.122 Standards applicable to beneficial uses. (NRS 445A.425, 445A.520)**

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 – Water must be suitable to maintain 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.

[Environmental Comm'n, Water Pollution Control Reg. § 4.1.1, eff. 5-2-78] — (NAC A 11-22-82; 12-3-84; 11-9-95)

**NAC 445A.2142 Colorado Region: Designated beneficial uses. (NRS 445A.425, 445A.520)** 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				
<i>Colorado River below Davis Dam</i>	<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 Coldwater Fishery</i>	<a href="#">NAC 445A.2146</a>
<i>Lake Mohave</i>	<i>The entire lake</i>	X	X	X	X	X	X	X	X						<i>Adult Coldwater Fishery</i>	<a href="#">NAC 445A.2147</a>
<i>Colorado River below Hoover Dam</i>	<del>[From Hoover Dam to the Lake Mohave Inlet.]</del> <i>From Hoover Dam to Willow Beach</i>	X	X	X	X	X	X	X	X						<i>Adult Coldwater Fishery</i>	<a href="#">NAC 445A.2148</a>
<i>Lake Mead</i>	Lake Mead, excluding the area covered by <a href="#">NAC 445A.2154</a> , Inner Las Vegas Bay.	X	X	X	X	X	X	X	X						Warm-water fishery	<a href="#">NAC 445A.2152</a>
<i>Inner Las Vegas Bay</i>	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	<a href="#">NAC 445A.2154</a>
<i>Las Vegas Wash at [Telephone Line Road] the Historic Lateral</i>	The limits of this table apply to the body of water known as the Las Vegas Wash from the confluence of <i>Sloan Channel and Las Vegas Wash to [the discharges from the City of Las Vegas and Clark County wastewater treatment plants to Telephone Line Road.] the Historic Lateral</i> . This segment encompasses the discharges from <i>City of Las Vegas, Clark County and the City of Henderson</i> wastewater treatment plants	X	X	X		X			X					X	<del>[Excluding fish, this does not preclude the establishment of a fishery.]</del> <i>Warm-water fish</i>	<a href="#">NAC 445A.2156</a>
<i>Las Vegas Wash at Lake Mead</i>	From <del>[Telephone Line Road] the Historic Lateral</del>	X	X	X		X			X					X	<del>[Excluding fish, this does</del>	<a href="#">NAC 445A.2158</a>

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					
	to its confluence with Lake Mead.															<b>not preclude the establishment of a fishery]</b> <i>Warm-water fish</i>	
<i>Lake Las Vegas</i>	<i>The entire lake</i>		X	X	X	X						X				<i>Warm-water fishery</i>	<a href="#">NAC 445A.2157</a>
Virgin River at the state line	At the Arizona-Nevada state line, near Littlefield, Arizona.	X	X	X		X			X	X							<a href="#">NAC 445A.2162</a>
Virgin River at Mesquite	From the Arizona-Nevada state line to Mesquite.	X	X	X		X			X	X							<a href="#">NAC 445A.2164</a>
Virgin River at Lake Mead	From Mesquite to the river mouth at Lake Mead.	X	X	X		X			X	X							<a href="#">NAC 445A.2166</a>
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	X							<a href="#">NAC 445A.2168</a>
Muddy River at the Wells Siding Diversion	From the Glendale Bridge to the Wells Siding Diversion.	X	X	X	X	X			X	X							<a href="#">NAC 445A.2172</a>
Muddy River at Lake Mead	From the Wells Siding Diversion to the river mouth at Lake Mead.	X	X	X	X	X			X	X							<a href="#">NAC 445A.2174</a>
Meadow Valley Wash	From the bridge above Rox to its confluence with the Muddy River.	X	X	X		X			X	X							<a href="#">NAC 445A.2176</a>
Beaver Dam Wash	Above Schroeder Reservoir.	X	X	X	X	X	X	X	X	X							<a href="#">NAC 445A.2178</a>
Schroeder Reservoir	The entire reservoir.	X	X	X	X	X	X	X	X	X					Trout		<a href="#">NAC 445A.2182</a>
White River at the national forest boundary	From its origin to the national forest boundary.	X	X	X	X	X	X			X							<a href="#">NAC 445A.2184</a>
White River at Ellison Creek	From the national forest boundary to its confluence with Ellison Creek.	X	X	X	X	X	X	X	X	X					Trout		<a href="#">NAC 445A.2186</a>
Dacey Reservoir	The entire reservoir.	X	X	X	X	X	X	X	X	X							<a href="#">NAC 445A.2188</a>
Sunnyside Creek	From its origin to Adams McGill Reservoir.	X	X	X	X	X	X	X	X	X							<a href="#">NAC 445A.2192</a>
Adams McGill Reservoir	The entire reservoir.	X	X	X	X	X	X	X	X	X							<a href="#">NAC 445A.2194</a>
Hay Meadow Reservoir	The entire reservoir.	X	X	X	X	X	X	X	X	X					Trout		<a href="#">NAC 445A.2196</a>
Nesbitt Lake	The entire lake.	X	X	X	X	X	X	X	X	X							<a href="#">NAC 445A.2198</a>
Pahrnagat Reservoir	The entire reservoir.	X	X	X	X	X	X	X	X	X							<a href="#">NAC 445A.2202</a>
Bowman Reservoir	The entire reservoir.	X	X	X	X	X	X	X	X	X							<a href="#">NAC 445A.2204</a>
Eagle Valley Creek	From its headwaters to Eagle Valley Reservoir.	X	X	X	X	X	X	X	X	X					Trout		<a href="#">NAC 445A.2206</a>

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	<a href="#">NAC 445A.2208</a>
Echo Canyon Reservoir	The entire reservoir.	X	X	X	X	X	X	X	X	X				Trout	<a href="#">NAC 445A.2212</a>
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	X				Trout	<a href="#">NAC 445A.2214</a>
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														

(Added to NAC by Environmental Comm'n by R160-06, eff. 8-26-2008)

**NAC 445A.2146 Colorado Region: Colorado River below Davis Dam. (NRS 445A.425, 445A.520)** 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 Coldwater 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> S.V. <del>{Jun-Oct}</del> ≥ 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		c			*												
Total Suspended Solids - mg/L		S.V. ≤ 25			*												
Turbidity - NTU		S.V. ≤ 10			*												
Color - PCU		S.V. ≤ 75							*								
Total Dissolved Solids - mg/L		d							*								
<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>							*								

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	
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		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](#).

(Added to NAC by Environmental Comm'n by R160-06, eff. 8-26-2008; A by R131-12, 12-20-2012; R093-13, 12-23-2013; R102-16 & R109-16, 12-19-2017)

**NAC 445A.2147 Colorado Region: Lake Mohave. (NRS 445A.425, 445A.520)**  
**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			
<b>Beneficial Uses</b>			X	X	X	X	X	X	X	X	X					
<b>Aquatic Life Species of Concern</b>			<b>Adult Coldwater Fishery</b>													
Temperature - °C		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		S.V. ≥ 5.0 <sup>c</sup>			*											
Total Phosphorus (as P) - mg/L		A-Avg. ≤ 0.05			*	*										
Nitrate (as N) - mg/L		S.V. ≤ 10							*							
Nitrite (as N) - mg/L		S.V. ≤ 0.06			*											
Total Ammonia (as N) - mg/L		<sup>d</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>e</sup>							*							
Chloride - mg/L		S.V. ≤ 400 <sup>e</sup>							*							
Sulfate - mg/L		S.V. ≤ 500 <sup>e</sup>							*							
Alkalinity (as CaCO <sub>3</sub> ) - mg/L		S.V. ≥ 20			*											
E. coli - cfu/100 mL <sup>f</sup>		G.M. ≤ 126 S.V. ≤ 410				*										
Fecal Coliform - No./100 mL		S.V. ≤ 1,000		*												
Toxic Materials		<sup>g</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> 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](#).*

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**NAC 445A.2148 Colorado Region: Colorado River below Hoover Dam. (NRS 445A.425, 445A.520)** 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						
Aquatic Life Species of Concern			<i>Adult Coldwater Fishery</i>													
Temperature - °C ΔT <sup>b</sup> - °C	ΔT = 0	<del>[S.V. Nov-Apr ≤ 13 S.V. May-Jun ≤ 17 S.V. Jul-Oct ≤ 23]</del> S.V. ≤ 24 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> S.V. <del>[Jun-Oct] ≥ 5.0</del>			*											
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		c			*											
Total Suspended Solids - mg/L		S.V. ≤ 25			*											
Turbidity - NTU		S.V. ≤ 10			*											
Color - PCU		S.V. ≤ 75							*							
Total Dissolved Solids - mg/L		d							*							
<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		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](#).

(Added to NAC by Environmental Comm'n by R160-06, eff. 8-26-2008; A by R131-12, 12-20-2012; R102-16 & R109-16, 12-19-2017)

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**NAC 445A.2152 Colorado Region: Lake Mead. (NRS 445A.425, 445A.520)**

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						
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. $\geq 5.0$ <sup>c</sup> [ <b>Applies to the epilimnion when stratified, or average in water column during periods of nonstratification</b> ]			*											
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. $\leq 1$							*							
Total Ammonia (as N) - mg/L		<sup>e-d</sup>			*											
Chlorophyll a - $\mu\text{g/L}$	[ <sup>d</sup> ] <sup>e</sup>				*	*										
Total Suspended Solids - mg/L		S.V. $\leq 25$			*											
Turbidity - NTU	[ <sup>e</sup> ] <sup>f</sup>	S.V. $\leq 25$			*											
Color - PCU	[ <sup>f</sup> ] <sup>g</sup>								*							
Total Dissolved Solids - mg/L	Flow Weighted A-Avg. Concentration $\leq 723$ measured below Hoover Dam [ <sup>g</sup> ] <sup>h</sup>	S.V. $\leq 1000$							*							
Chloride - mg/L		S.V. $\leq 400$ [ <sup>h</sup> ] <sup>i</sup>							*							
Sulfate - mg/L		S.V. $\leq 500$ [ <sup>h</sup> ] <sup>i</sup>							*							
E. coli - cfu/100 mL [ <sup>i</sup> ] <sup>j</sup>		G.M. $\leq 126$ S.V. $\leq 410$					*									
Fecal Coliform – [ <b>MF or MPN</b> ] No./100 mL		$\leq 200/400$ [ <sup>j</sup> ] <sup>k</sup>					*									
Toxic Materials		[ <sup>k</sup> ] <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>[e]</sup><sup>d</sup> The water quality criteria for ammonia are specified in [NAC 445A.118](#)

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

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

<sup>[h]</sup><sup>h</sup> The salinity standards for the Colorado River system are specified in [NAC 445A.1233](#).

<sup>[i]</sup><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><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><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><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]* *exceedances* of standards may occur.

(Added to NAC by Environmental Comm'n by R160-06, eff. 8-26-2008; A by R102-16 & R109-16, 12-19-2017)

**NAC 445A.2154 Colorado Region: Inner Las Vegas Bay. (NRS 445A.425, 445A.520)** 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	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. $\geq 5.0^c$			*										
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		[e] <sup>d</sup>			*										
Total Suspended Solids - mg/L		S.V. $\leq 25$			*										
Turbidity - NTU <sup>e</sup>	[d]	S.V. $\leq 25$			*										
Total Dissolved Solids - mg/L [e] <sup>f</sup>		S.V. $\leq 3000$	*												
<i>E. coli</i> - cfu/100 mL <sup>g</sup>		G.M. $\leq 126$ S.V. $\leq 410$				*									
Fecal Coliform [MF or MPN] No./100 mL		$\leq 200/400$ [f] <sup>h</sup>				*									
Toxic Materials		[g] <sup>i</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> 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> 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>i</sup> The water quality criteria for toxic materials are specified in [NAC 445A.1236](#).

~~*[The Commission recognizes that, because of discharges of tributaries, localized violations of standards may occur in the Inner Las Vegas Bay.] It is recognized that storm waters from Las Vegas Wash may enter Las Vegas Bay during storm and flash-flood events and that localized exceedances of the standards may occur in the inner Las Vegas Bay.*~~

(Added to NAC by Environmental Comm'n by R160-06, eff. 8-26-2008; A by R109-16, 12-19-2017)

DRAFT

**NAC 445A.2156 Colorado Region: Las Vegas Wash at ~~Telephone Line Road~~ the Historic Lateral.** (NRS 445A.425, 445A.520) The limits of this table apply to the body of water known as the Las Vegas Wash from the confluence of *Sloan Channel and Las Vegas Wash to ~~the discharges from the City of Las Vegas and Clark County wastewater treatment plants to Telephone Line Road.~~* the Historic Lateral. This segment encompasses the discharges from *City of Las Vegas, Clark County and* the City of Henderson wastewater treatment plants. This segment of the Las Vegas Wash is located in Clark County.

**STANDARDS OF WATER QUALITY ~~{X}~~**  
 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.] Warm-water fish</del>												
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>e</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> 90			<del>*</del>	*									
Nitrite (as N) - mg/L		S.V. $\leq$ <del>10</del> 5			<del>*</del>	*									
Total Suspended Solids - mg/L		S.V. $\leq 135$ <sup>d</sup> <sup>e</sup>			*										
Total Dissolved Solids - mg/L	95% of S.V. samples $\leq 1900$	S.V. $\leq 3000$	*												
Fecal Coliform <del>MF or MPN</del> No./100 mL		<sup>e</sup> <sup>d</sup>			<del>*</del>										*
<i>E. coli</i> - cfu/100 mL		<i>A.G.M <math>\leq 630</math></i>						*							
Toxic Materials		<sup>f</sup> <sup>e</sup>													

\* = The most restrictive beneficial use.

X = Beneficial use.

~~{X} 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.}~~

<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> 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.

(Added to NAC by Environmental Comm'n by R160-06, eff. 8-26-2008)

DRAFT

**NAC 445A.2158 Colorado Region: Las Vegas Wash at Lake Mead.** ([NRS 445A.425, 445A.520](#)) 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 ~~[X]~~**  
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> <i>Warm-water fish</i>													
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>e</sup> <i>S.V. <math>\geq 5.0</math></i>			*											
Total Inorganic Nitrogen (as N) - mg/L	95% of S.V. samples $\leq 17$				*											
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>		*											
Total Suspended Solids - mg/L		S.V. $\leq 135$ <sup>d</sup> <del>[e]</del> <i>c</i>			*											
Total Dissolved Solids - mg/L	95% of S.V. samples $\leq 2400$	S.V. $\leq 3000$	*													
Fecal Coliform - <del>MF or MPN</del> No./100 mL		<sup>e</sup> <del>[d]</del> <i>d</i>							<del>[*]</del>							*
<i>E. coli - cfu/100 mL</i>		<i>A.G.M <math>\leq 630</math></i>							*							
Toxic Materials		<sup>f</sup> <del>[e]</del> <i>e</i>														

\* = The most restrictive beneficial use.

X = Beneficial use.

~~[X] 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.]~~

<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> 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>e</sup> <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>f e</sup> The water quality criteria for Toxic Materials are specified in NAC 445A.1236.

(Added to NAC by Environmental Comm'n by R160-06, eff. 8-26-2008)

DRAFT

NAC 445A.2160 Colorado Region: Lake Las Vegas. 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>											
Temperature $\Delta T^b - ^\circ C$		$\Delta T \leq 2$			*									
pH - SU		S.V. 6.5 - 0 9.0			*									
Dissolved Oxygen - mg/L		S.V. $\geq 5.0^c$			*									
Chlorophyll_a $\mu g/L$		d			*	*								
Turbidity NTU		S.V $\leq 10^e$			*									
Total Dissolved Solids - mg/L		S.V. $\leq 2000^f$			*									
Fecal Coliform No./100ml		S.V. $\leq 1,000$			*									
E. Coli - cfu/100 mL <sup>g</sup>		G.M. $\leq 126$ S.V. $\leq 410$					*							
Toxic Materials		h												

\* = 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  $\mu g/L$ .

<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.

↪ It is recognized that storm waters from Las Vegas Wash may enter the Lake during storm and flash-flood events and that localized exceedances of the standards may occur during such events.