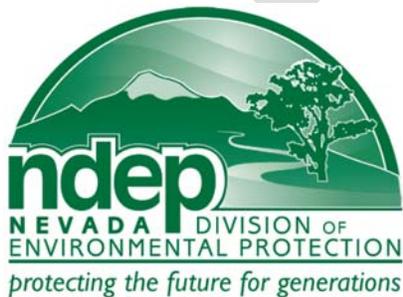


# CONTACT RECREATION ASSESSMENT FOR CLASS D WATERS AND ADJUSTMENTS TO WATERS ON THE FORT McDERMITT INDIAN RESERVATION



*Gleason Creek East of Ely, Nevada*



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# **CONTACT RECREATION ASSESSMENT FOR CLASS D WATERS AND ADJUSTMENTS TO WATERS ON THE FORT McDERMOTT INDIAN RESERVATION**

## **Introduction**

Under section 303 of the Clean Water Act and 40 CFR 131, States have responsibility for setting, reviewing and revising water quality standards. State of Nevada authorities are contained in Nevada Revised Statutes 445A.425, 520 and 565 and water quality standards for waters of Nevada are found in the Nevada Administrative Code (NAC) 445A.118 through 445A.225 (these NAC citation numbers will change to NAC 445A.118 through 2234). The following rationale discusses:

- Changes to NAC reach descriptions for the Quinn River on tribal Lands on the Fort McDermitt Indian Reservation; and
- The contact recreation analysis for proposed changes to the beneficial use for Class D waters (contained in the Nevada Administrative Code 445A.127) and associated changes to water quality standards for the Class D Waters,

## **Fort McDermitt Indian Reservation**

The State of Nevada water quality regulations are not applicable to waterbodies on tribal lands. As a sovereign nation, the Fort McDermitt Paiute and Shoshone Tribes are responsible for regulating the water quality of the river within the boundaries of their land. The three reaches within the NAC that are on the Fort McDermott Reservation include:

- NAC 445A.124 (445A.1312) - The Quinn River, East and South Forks - From their origin to the confluence of the East and South Forks.
- NAC 445A.125 (445A.1314) - Quinn River at Fort McDermitt Reservation - From the point of the confluence of the East and South Forks to the Fort McDermitt Indian Reservation diversion dam.
- NAC 445A.127 (445A.1316) - Quinn River (The Slough) - From the Idaho-Nevada state line in section 31, T. 48 N., R. 38 E.,M.D.B. & M., to the confluence with the main tributary of the Quinn River at the south line of section 17, T. 47 N., R. 38 E. M.D.B. & M.

Changes are proposed to the NAC to remove the segments of the reaches that are on tribal lands.

Proposed changes to the reach descriptions are as follows

- NAC 445A.125 (445A.1314) - The Quinn River at Fort McDermitt Reservation - From the point of the confluence of the East and South Forks to the Fort McDermitt Indian Reservation diversion dam. This reach is entirely within the tribal boundary. This reach will be removed from the NAC.
- NAC 445A.124 (445A.1312) -The Quinn River, East and South Forks - From their origin to the confluence of the East and South Forks. This reach has portions that extend in and out of tribal lands. Additional language will be included to reflect that State water quality regulations do not apply within the borders of the Fort McDermitt Indian Reservation.
- NAC 445A.127 (445A.1316) - Quinn River (The Slough) - From the Idaho-Nevada state line in section 31, T. 48 N., R. 38 E.,M.D.B. & M., to the confluence with the main tributary of the Quinn River at the south line of section 17, T. 47 N., R. 38 E. M.D.B. & M. This reach has portions that extend in and out of tribal lands. Additional language will be included to reflect that State water quality regulations do not apply within the borders of the Fort McDermitt Indian Reservation.

## **Contact Recreation Analysis - Fishable/Swimmable Goal**

The Clean Water Act (CWA) is the cornerstone of surface water quality protection in the United States and employs a variety of regulatory and non-regulatory tools to sharply reduce direct pollutant discharges into waterways, finance municipal wastewater treatment facilities, and manage polluted runoff. These tools are employed to achieve the broader goal of restoring and maintaining the chemical, physical, and biological integrity of the nation's waters so that they can support "the protection and propagation of fish, shellfish, and wildlife and recreation in and on the water." This is the CWA's "fishable/swimmable" goal as articulated in EPA's regulations, which say that these uses should be designated for all waters, unless it is demonstrated that it is impractical to meet them.

The criterion used for the protection of contact recreation is a bacterial standard. In 1986, the U.S. Environmental Protection Agency (EPA) published Ambient Water Quality Criteria for Bacteria—1986. That document contained EPA's recommended water quality criteria for bacteria for the protection of swimmers from gastrointestinal illness in recreational waters. The water quality criteria established levels of indicator bacteria, namely *Escherichia coli* (*E. coli*) and enterococci, that demonstrate the presence of fecal pollution and which should not be exceeded in order to protect swimmers in fresh and marine recreational waters.

Per EPA recommended criteria, NDEP updated the water quality standards for recreation from Fecal coliform to *E. Coli* on the Nevada's Class Waters (NAC 445A.124 - 127) in 2008. The Class D waters (NAC 445A.127) have non-contact recreation as a beneficial use (with an *E. Coli* bacterial standard of an AGM of  $\leq 630$  no./100 ML) but do not have contact recreation as a beneficial use. Surface waterbodies contained in the Nevada water quality regulations (NAC 445A) are designated for either water contact recreation or non-contact recreation, or both (also known as primary and secondary contact recreation). Water contact recreation involves activities where contact with the water occurs and the potential for immersion in and ingestion of the water exists. For the protection of contact recreation NDEP uses an *E. Coli* standard of an annual Geometric Mean (AGM) of  $\leq 126$  no./100 ML and a Single Value (S.V.) number based upon the frequency of use. Non-contact recreational use of a waterbody has been interpreted to mean recreational activities to include activities that generally do not involve immersion in the water. For the protection of noncontact recreation NDEP uses an *E. Coli* standard of an AGM of  $\leq 630$  no./100 ML and no S.V. number.

For a more detailed discussion of criteria for bacteria see the EPA guidance documents, *Ambient Water Quality Criteria for Bacteria – 1986* and *Implementation Guidance for Ambient Water Quality for Bacteria – May 2002 (Draft)*.

When NDEP updated the Class Waters to the *E. Coli* bacteria standard, EPA requested Nevada to perform an assessment of the Class D waters to determine if the waters would meet the fishable/swimmable goal of the CWA.

### **Nevada's Class D waters**

Nevada's Class D waters (NAC 445A.127) have not been designated for contact recreation (swimming). An analysis was carried out to determine whether it is still reasonable for the affected waters to not be protected for contact recreation. The affected Class D waters are listed below in Table 2. As stated

above all the Class D waters currently have the beneficial use of noncontact recreation and the bacterial standard of E. Coli AGM  $\leq$  630 no./100 ML.

Table 2 Class D Waters

Waterbody	Description	County
Murray Creek	From its confluence with Gleason Creek to the south line of section 35, T. 17 N., R. 63 E., M.D.B. & M.	White Pine
Gleason Creek	From State Highway 485 (old State Highway 44) to its confluence with Murray Creek.	White Pine
Quinn River (the Slough)	From the Idaho-Nevada state line in section 31, T. 48 N., R. 38 E., M.D.B. & M. to the confluence with the main tributary of the Quinn River at the south section line of section 17, T. 47 N., R. 38 E., M.D.B. & M.	Humboldt
Lagomarsino Creek	The entire length.	Storey
Stillwater Marsh	All that area of Stillwater Marsh not designated as class C.	Churchill
Lower Steamboat	From gaging station number 10-349300, located in the S 1/2 of section 33, T. 18 N., R. 20 E., M.D.B. & M., to its confluence with the Truckee River.	Washoe
Humboldt River and Humboldt Sink	Rodgers Dam to, and including, Humboldt Sink.	Pershing and Churchill

#### CONTACT RECREATION ASSESSMENT

NDEP conducted an assessment to evaluate whether contact recreation should be added as a beneficial use for these class D waters. As stated above all the surveyed waters currently have the beneficial use of noncontact recreation and the Bacterial standard of E. Coli of an AGM  $\leq$  630 no./100 ML. Site visits were made to each waterbody at multiple locations (if possible) and at a number of times over a two to three year period (2006 through 2009). Photographs collected during the site visits are included in Appendix A.

Recreational uses of waters are likely when in proximity to cities, towns and public use areas such as parks and campgrounds and other areas where people congregate. If the waterbody flows through residential and public use parks and campground areas NDEP will assign contact recreation as a beneficial use. For lake assessments, one site may be sufficient to characterize existing or potential uses if the entire lake can be adequately observed from one location or if that is the only accessible location.

Staff performed a field survey for each waterbody. If possible a number of sites were visited for each waterbody. When evaluating waterbodies on private land, staff did not access the site unless the landowner permitted access. Once an observation was made that would establish the waterbody as having contact recreation, no further evaluations were needed. For instance, if during an assessment

survey, observations showed that contact recreation (swimming) was occurring, NDEP considered this sufficient proof that contact recreation was an existing use.

If the public was present during the assessment survey, they were interviewed to determine the likelihood of the water being used for primary contact recreation. Field assessment forms were completed during the first site visit and during follow-up visits any observed changes from the first visit were documented (i.e. indications of camping or observations of contact recreation). The assessment sheet can be obtained from the department upon request. A copy of a blank assessment survey is included in Appendix B.

A photographic record was made of each waterbody during the assessment. Photographs included an upstream view, downstream view and any evidence of observed or potential uses.

The assessments indicate that contact recreation should be added to some but not all of the Class D waters. NDEP proposes to add the beneficial use of contact recreation and the corresponding E. Coli water quality standards to the following "Class D" waters:

- Murray Creek - From its confluence with Gleason Creek to Crawford Street.
- Lagomarsino Creek - the entire length
- Lower Steamboat Creek - From gaging station number 10-349300, located in the S 1/2 of section 33, T. 18 N., R. 20 E., M.D.B. & M., to its confluence with the Truckee River.
- The Humboldt River - From Rogers Dam to the Humboldt Sink.

NDEP proposes not to change the beneficial use designations to the remaining "Class D" waters:

- Murray Creek - From Crawford Street to the south line of section 35, T. 17 N., R. 63 E., M.D.B. & M.
- Gleason Creek - From State Highway 485 (old State Highway 44) to its confluence with Murray Creek;
- Quinn River (the Slough) - From the Idaho-Nevada state line in section 31, T. 48 N., R. 38 E., M.D.B. & M. to the confluence with the main tributary of the Quinn River at the south section line of section 17, T. 47 N., R. 38 E., M.D.B. & M;
- Stillwater Marsh - Stillwater Marsh west of Westside Road and south of the community of Stillwater, and
- The Humboldt Sink - The entire area

A summary of these changes are included below in Table 3, and a discussion of the reasoning for each waterbody is follows.

Table 3 Summary of changes to Class D waters

Waterbody	Description	Proposed Changes to Use	Proposed changed to WQS
Murray Creek (White Pine County)	From its confluence with Gleason Creek to the south line of section 35, T. 17 N., R. 63 E., M.D.B. & M.		
	<b>Split Murray Creek into two separate waterbodies</b>		
	From its confluence with Gleason Creek to Crawford Street.	Add Contact Recreation to waterbody	Add E. Coli a standards of: AGM $\leq$ 126 no./100 ML S. V. $\leq$ 576 no./100 ML
	From Crawford Street to the south line of section 35, T. 17 N., R. 63 E., M.D.B. & M.	No Changed to Beneficial Uses	No Changes to water quality standards Leave E. Coli at AGM 630 no./100 ML
Gleason Creek (White Pine County)	From State Highway 485 (old State Highway 44) to its confluence with Murray Creek.	No Changed to Beneficial Uses	No Changes to water quality standards Leave E. Coli at AGM 630 no./100 ML
Quinn River (the Slough) (Humboldt county)	From the Idaho-Nevada state line in section 31, T. 48 N., R. 38 E., M.D.B. & M. to the confluence with the main tributary of the Quinn River at the south section line of section 17, T. 47 N., R. 38 E., M.D.B. & M.	No Changed to Beneficial Uses	No Changes to water quality standards Leave E. Coli at AGM 630 no./100 ML
Lagomarsino Creek (Storey County)	The entire length.	Add Contact Recreation to waterbody	Add E. Coli a standards of: AGM $\leq$ 126 no./100 ML S. V. $\leq$ 576 no./100 ML
Stillwater Marsh (Churchill County)	West of Westside Road and south of the community of Stillwater (Stillwater Point Reservoir)	No Changed to Beneficial Uses	No Changes to water quality standards Leave E. Coli at AGM 630 no./100 ML
Lower Steamboat Creek (Washoe county)	From gaging station number 10-349300, located in the S 1/2 of section 33, T. 18 N., R. 20 E., M.D.B. & M., to its confluence with the Truckee River.	Add Contact Recreation to waterbody	Add E. Coli a standards of: AGM $\leq$ 126 no./100 ML S. V. $\leq$ 576 no./100 ML
Humboldt River and Humboldt Sink (Pershing and Churchill)	Rodgers Dam to, and including, Humboldt Sink.		
	<b>Split Humboldt River and Humboldt Sink into separate waterbodies:</b>		
	The Humboldt River from Rogers Dam to the Humboldt Sink	Add Contact Recreation to waterbody	Add E. Coli a standards of: AGM $\leq$ 126 no./100 ML S. V. $\leq$ 576 no./100 ML
	The Humboldt Sink - The entire area	No Changed to Beneficial Uses	No Changes to water quality standards Leave E. Coli at AGM $\leq$ 630 no./100 ML

## INDIVIDUAL ASSESSMENT SUMMARIES

### Murray Creek (White Pine County)

*Description:* From its confluence with Gleason Creek to the south line of section 35, T. 17 N., R. 63 E., M.D.B. & M.

*Population Centers:* Ely

*Discussion:* Murray Creek is located in White Pine County, and originates from Murray Springs just south of Ely, Nevada. The creek is piped to the north-northeast under Ely until the creek surfaces near Orson Ave. and North Street. The creek flows through a residential area with a playground, and then a more rural residential area with pastures and wetlands and then past the wastewater treatment plant. Murray Creek then flows northward toward the Ely Airport in Steptoe Valley. Where access to the stream is available the stream ranges from 1 to 3 feet wide and 0.5 to 1.5 feet deep.

Photographs collected during the site visit are included in Appendix A.

*Recommendation:* Between North Street and Crawford Street, Murray Creek flows through a residential area with a playground adjacent to the creek so it is probable that children would come in contact within this section of the creek. The Creek then flows through agricultural areas pastures and wetlands and then past the wastewater treatment plant. For these reasons NDEP is recommending that Murray Creek be split into two segments, adding contact recreation to the section by the residential area and playground and leaving the creek as noncontact recreation in the downstream section.

*Water Quality:* A total of 11 E. Coli samples have been collected from Murray Creek from 2006 through 2009. The samples have ranged from < 10 No./100 ml to a maximum of 573 No./100 ml. The proposed water quality standards were not exceeded.

### Gleason Creek (White Pine County)

*Description:* From State Highway 485 (old State Highway 44) to its confluence with Murray Creek.

*Population Centers:* Ely and Ruth

*Discussion:* Gleason Creek has been dry during the study period. Discussions with local officials indicate creek is ephemeral.

Photographs collected during the site visit are included in Appendix A.

*Recommendation:* NDEP recommends not adding contact recreation to Lower Gleason Creek, and leaving bacteria standard as is to protect non-contact recreation.

*Water Quality:* Gleason Creek had no flows during each sampling event therefore no data is available.

Quinn River (the Slough) (Humboldt County)

*Description:* From the Idaho-Nevada state line in section 31, T. 48 N., R. 38 E., M.D.B. & M. to the confluence with the main tributary of the Quinn River at the south section line of section 17, T. 47 N., R. 38 E., M.D.B. & M.

*Population Centers:* McDermitt

*Discussion:* Quinn River "The Slough" is located in Humboldt County and flows into the state from Oregon near McDermitt, Nevada; it does not flow through McDermitt. The Slough flows to the south and meanders through agricultural pasture land and the Fort McDermitt Indian Reservation and then to the Quinn River. The Slough is ephemeral and only had ponded water during two site visits when there were rain showers in the area.

Photographs collected during the site visit are included in Appendix A.

*Recommendation:* Quinn River (The Slough) is an ephemeral stream which flows from Oregon through an agricultural area and into the Quinn River. Because the stream is ephemeral and has water in the creek only when there is a precipitation event, it is unlikely people will immerse themselves in the creek. Therefore, NDEP is not changing the recreational uses and leaving the Quinn River (the Slough) as noncontact recreation.

*Water Quality:* No samples were collected from Quinn River (the Slough).

Lagomarsino Creek (Storey County)

*Description:* The entire length.

*Population centers:* Virginia City, Lockwood/Rainbow bend

*Water Quality:* A total of 12 E. Coli samples have been collected from Lagomarsino Creek from 2007 through 2009. The samples have ranged from < 10 No./100 ml to a maximum of 253 No./100 ml. The proposed water quality standards were not exceeded.

*Discussion:* Lagomarsino Creek (also know as Long Valley Creek) is located in Storey County and originates near Virginia City. The creek flows generally northeast and flows into the Truckee River at Lockwood, Nevada. The creek flows through pinion forested areas and range land. There are indications of camping (fire pits and cleared areas for tents), and hunting (various shell casings) along the creek. Lagomarsino Creek ranges from 1 to 5 feet wide and 0.25 to 1 foot deep.

Photographs collected during the site visit are included in Appendix A.

*Recommendation:* Lagomarsino creek flows through a rural area with evidence of camping therefore it is likely that people and children will come in contact with the creek. Also the creek flows through the community of Lockwood. For these reasons NDEP is recommending that recreation involving contact with the water be added as a beneficial use and E. Coli water quality standards be added for a lightly used full body contact (AGM  $\leq$  126 no./100 ML and a S. V.  $\leq$  576 no./100 ML).

*Water Quality:* A total of 12 E. Coli samples have been collected from Lagomarsino Creek from 2007 through 2009. The samples have ranged from < 10 No./100 ml to a maximum of 253 No./100 ml. The proposed water quality standards were not exceeded.

Stillwater Marsh (Churchill County)

*Description:* All that area of Stillwater Marsh not designated as class C.

*Population Centers:* Stillwater

*Discussion:* Stillwater Marsh ("Class D") essentially Stillwater Point Reservoir, is approximately 15 miles east of Fallon Nevada and is entirely within the Stillwater National wildlife refuge. There is no hunting or fishing allowed in and around Stillwater Point Reservoir. There are also no trespassing signs by the reservoir.

Photographs collected during the site visit are included in Appendix A.

*Recommendation:* Stillwater Point reservoir is entirely within the Stillwater National wildlife refuge. The reservoir has no hunting and fishing restrictions and is considered in a sensitive wildlife habit. NDEP is recommending no change to the recreational uses and leaving the use for this portion of Stillwater Marsh with noncontact recreation.

*Water Quality:* A total of 24 E. Coli samples have been collected from Stillwater Marsh from 2000 through 2009. The samples have ranged from < 10 No./100 ml to a maximum of 134 No./100 ml. The proposed water quality standards were not exceeded.

Lower Steamboat Creek (Washoe County)

*Description:* From gaging station number 10-349300, located in the S 1/2 of section 33, T. 18 N., R. 20 E., M.D.B. & M., to its confluence with the Truckee River (from Rhodes Road to the Truckee River).

*Population Centers:* Reno, Sparks

*Discussion:* Lower Steamboat Creek is located in Washoe County, and flows out of Washoe lakes northward into the Truckee River near Sparks, Nevada. This reach of Steamboat Creek extends from the gaging station, near where Steamboat Ditch enters Steamboat Creek, to where it enters the Truckee River near the Truckee Meadows Treatment Plant. The creek flows through residential and agriculture areas, golf courses and then past the wastewater treatment plant. Where access to the stream is available the stream ranges from 3 to 20 feet wide and 0.5 to 5 (?) feet deep.

Photographs collected during the site visit are included in Appendix A.

*Recommendation:* Steamboat Creek flows through a residential and agricultural areas with some of the residential area having direct access to the Creek. The possibility that people would come in contact with the creek is high. For these reasons NDEP is recommending that recreation involving contact with

the water be added as a beneficial use and E. Coli water quality standards be added for a lightly used full body contact (AGM  $\leq$  126 no./100 ML and a S. V.  $\leq$  576 no./100 ML).

*Water Quality:* A total of 16 years and a total of 320 E. Coli samples have been collected from the Lower Steamboat Creek from 1993 through 2009. The samples have ranged from  $< 10$  No./100 ml to a maximum of  $>2005$  No./100 ml. The proposed water quality standards would exceed the Single Value Standard of 576 no./100 ML approximately 9% of the time and the AGM standard of 126 no./100 ML was exceeded 4 out of 16 years (25 %).

#### Humboldt River and Humboldt Sink (Pershing and Churchill)

*Description:* Rodgers Dam to, and including, Humboldt Sink.

*Population Centers:* Lovelock

*Discussion:* NDEP is recommending splitting this reach into two reaches: The Humboldt River from Rogers Dam to the Humboldt Sink, and The Humboldt Sink, the entire area. The Humboldt River from Rogers Dam to the Humboldt Sink is located in Pershing and Churchill Counties near Lovelock, Nevada. The river flows through residential, rural residential areas near Lovelock and then through agricultural areas to the Humboldt Sink.

The Humboldt Sink is also located in Pershing and Churchill Counties near Lovelock, Nevada. The Humboldt Sink is a dry Lake that collects the runoff from the Humboldt River and the agricultural area in the Lovelock area. The sink is used primarily as open range for cattle and a Wildlife Management Area.

Photographs collected during the site visit are included in Appendix A.

#### *Recommendation:*

##### The Humboldt River

The lower Humboldt River flows through a residential area in Lovelock, and agricultural areas with some of the residential area having direct access to the River and discussions with the public indicate people do use the river for swimming and tubing. . The possibility that people would come in contact with the creek is high. For these reasons NDEP is recommending that recreation involving contact with the water be added as a beneficial use and E. Coli water quality standards be added for a lightly used full body contact (AGM  $\leq$  126 no./100 ML and a S. V.  $\leq$  576 no./100 ML).

##### The Humboldt Sink

The Humboldt Sink is southwest of the agricultural areas of Lovelock Nevada and is not adjacent to any residential or population centers. Access to the sink is limited. Waterfowl hunting does occur within the sink. Due to the low likelihood of contact recreation occurring in the Humboldt Sink and the fact that NDEP already protects the area with a bacterial standard to protect for noncontact recreation (E. Coli AGM  $\leq$  630 no./100 ML) NDEP is recommending that the Humboldt Sink not be protected for contact recreation.

#### *Water Quality:*

##### The Humboldt River

A total of 16 years and a total of 320 E. Coli samples have been collected from the Lower Steamboat Creek from 1993 through 2009. The samples have ranged from < 10 No./100 ml to a maximum of >2005 No./100 ml. The proposed water quality standards would exceed the Single Value Standard of 576 no./100 ML approximately 9% of the time and the AGM standard of 126 no./100 ML was exceeded 4 out of 16 years (25 %).

#### The Humboldt Sink

The USGS collected limited data chemistry samples (nitrogen and phosphorus and a suite of metals) in the Humboldt Sink in the late 1980's. There is no bacterial data for the Humboldt Sink

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