

MORVRO LAKE LAKE MANAGEMENT PLAN



Matanuska-Susitna Borough
Department of Planning and Land Use

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1 Introduction

1.1 Purpose

This lake management plan presents goals and objectives to balance the physical and social demands of those that live or recreate on Morvvo Lake with the need to maintain a healthy and productive lake ecosystem. The lake management plan process was established by the Matanuska-Susitna Borough to provide a means to reduce user conflicts, balance various environmental and recreational demands placed upon a lake, and protect the health, safety and welfare of its residents and lake users.

1.2 Scope

Lake management plans provide guidance for how the surface of the lake is used and makes recommendations concerning public access and education of lake users to meet the goals of the plan. Certain aspects of the plan can be implemented as enforceable regulations through MSB Title 17.59. The borough assembly adopted guidelines for appropriate regulations for different sizes of lakes as follows:

LAKES HAVING A SURFACE OF 75 ACRES OR LESS

May recommend the following guidelines:

- ✓ No wake zone - 100 feet from shoreline
- ✓ Quiet hours - 10 p.m. to 8 a.m.
- ✓ Personal watercraft restriction
- ✓ 10 horse power limit*
- ✓ No wake speed zone on lake*

* These options *may* be recommended on a daily time share basis.

LAKES MORE THAN 75 SURFACE ACRES TO 200 SURFACE ACRES

May recommend the following guidelines:

- ✓ No wake zone - 100 feet from shoreline
- ✓ Quiet hours - 10 p.m. to 8 a.m.
- ✓ Personal watercraft restriction
- ✓ 10 horse power limit**
- ✓ No wake speed zone on lake**

**These options *must* be on a daily time share basis.

LAKES MORE THAN 200 SURFACE ACRES

May recommend the following options:

- ✓ No wake zone - 150 feet from shoreline
- ✓ Quiet hours - 11 p.m. to 8 a.m.

FOR ALL LAKES

- ✓ Access recommendations will be consistent with traditional use and current level of access development.
- ✓ Quiet hours apply to repetitive recreational activities such as water skiing and racing or high speed activities NOT to moderate speed point to point transportation.
- ✓ No wake is defined as the slowest speed a boat or personal water craft can go and still maintain safe operation and maneuverability.
- ✓ Time share means restrictions do not apply on Thursday, Friday, Saturday, and all three day weekends mandated by federal holiday (Memorial Day, Fourth of July, and Labor Day).
- ✓ Ice house means a structure utilized for ice fishing and left on the frozen surface of a lake for more than 24 hours.
- ✓ Motor vehicles means automotive vehicles with rubber tires for use on highways.
- ✓ Motorized watercraft use means the operation of watercraft powered or propelled by a force other than human muscle power, gravity, or wind. This definition does not include airplanes as motorized watercraft when landing, taking off, or taxiing on a water body.
- ✓ Personal watercraft includes vehicles such as jet skis, wave runners, and similar acrobatic or stunt equipment.
- ✓ A wake is the track in the water left after the passage of watercraft or other vehicle.
- ✓ A special permit is a permit approved by the planning director for a special purpose and is limited to a specific time to conduct an event that would otherwise involve activities in violation of MSB 17.59.

These guidelines may be varied due to lake configuration, lake depth, or other considerations through the adoption of individual lake management plans.

According to MSB GIS information, Morvro Lake is approximately 87 surface acres in size, and therefore, falls within the guidelines for lakes more than 75 surface acres to 200 surface acres.

1.3 Process

Lake management plans are initiated by local residents or property owners. The initiators circulate a petition to get the required number of signatures on the petition required by code.

Once a valid petition has been filed with the department, a ballot is mailed to all property owners within 600 upland feet of the affected lake. This ballot serves as notice of the receipt of a valid petition and requests a vote to begin the lake management process. The borough begins a lake management plan if the majority of property owners responding to the mailed ballot vote in favor of developing a lake management plan.

Borough planning staff collects background information on the lake and encourage adjacent property owners and users to participate in the planning process. Borough staff, lake users, lake residents, and property owners identify issues and concerns and establish goals and objectives that are incorporated into the draft plan.

The draft plan is reviewed by the public and community council and by the borough Planning Commission. The commission considers all oral and written comments received in a public hearing and either recommends to the assembly adoption of the plan as is, or with modifications, or recommends Assembly disapproval of the plan. The Assembly either adopts the plan as is or with modifications, or votes down the plan.

1.4 Enforceable Code Restriction

Most of the lake property owners and residents in attendance at the meetings expressed a preference for enforceable restrictions on:

- No wake zone-100 feet from shoreline
- Quiet Hours—11pm to 8am
- 25 hp limit on motors

These restrictions will protect the quiet enjoyment of the properties and allow continued use of the lake by residents and visitors in keeping with traditional practices. The plan will also help future lake users to boat or recreate in a manner that protects neighborhood values.

2. Inventory of Existing Conditions

2.1 Location

Morvro Lake is located within the City of Houston. It is located approximately $\frac{3}{4}$ of a mile west of the Parks Highway. (See figure 2).

The lots along the south and east shores of Morvro Lake are primarily accessed from W. Delroy Rd. Lots along the north are accessed using Horizon Blvd. Lots located to the far southwest corner of the lake are only accessible via plane or boat. Public access to the lake is located at the section line access along the power line bordering W. Delroy Rd. All properties surrounding the lake are under private ownership except for one, owned by the City of Houston, located in

the northeast corner of the lake. The city has had difficulty obtaining access to that parcel.

2.2 Physical Characteristics of the Lake

The surrounding topography of Morvro Lake is relatively flat, with most properties having about 2-3 feet elevation from the lake surface. Much of the shore line is in its natural condition.

Overall, the lake is relatively shallow near the shoreline (3-5 feet), with the center of the lake only reaching a maximum depth of approximately 17 feet (based on input from local residents and property owners). There are no significant seasonal inlet and outlet creeks serving Morvro Lake. The lake is mainly fed by springs. Marshy areas are found near the southern shore. According to the borough's GIS map information, it is approximately ¼ mile wide (although the shoreline is not symmetrical).

Morvro Lake is currently stocked by the Alaska Department of Fish and Game (Figure 1). Water quality problems have not been reported.

Table 1: Morvro Lake Physical Characteristics

Surface Acres	87
Volume	945 Acre ft.
Maximum Depth	17 ft.
Mean Depth	11 ft.
Approximate width	-1/4 mile
Approximate length	+3/4 mile

Source: , ADF&G Bathymetric data, MSB GIS Information, and local knowledge

2.3 Land Use and Land Ownership

The majority of the property around the lake is in private ownership. The parcels along the southeastern shore in Dringle subdivision were subdivided through a wavier process in 1983. The lots along the northern shore are part of Horizon West and Horizon West Add #1 subdivision. Horizon West subdivision was created in 1974 as a 5 lot subdivision. In 1984, Tract B of the subdivision was further split into four lots. The borough has copies of recorded covenants for Dringle subdivision.

The owners of the three large un-subdivided parcels on the southwestern shore and two parcels on the eastern shore are not expressing a desire to subdivide those lots at this time. Additionally, Skyview Airpark subdivision was recently subdivided in 62

lots with a common airstrip. The subdivision does not have direct access to the lake but it does boarder the eastern shore properties.

Approximately 1/4 of the existing lots immediately adjacent to the lake are developed for residential or recreational use.

2.4 Social/Demographic – Usage

The present human use of Morvro Lake may be characterized as being primarily quiet and residential. The lots are large, and the potential for increased residential density and lake usage is of concern to residents. The lake management plan was initiated by lake residents as a result of growth in the surrounding area and concerns over aircraft noise. The lake is designated as a “Private Seaplane Base” by the FAA. There are two small planes on the lake and one part-time commercial aircraft operation. Residents admit to not being bothered by the smaller planes, but the larger commercial operation does produce considerable noise. A sixty home airpark is being constructed just to the east of the lake, but it does not have direct access to the lake. Lake residents want to protect the quiet residential atmosphere of the lake, and ensure protection of water quality and nesting birds. There are three borough recorded subdivisions surrounding the lake, Horizons West, Horizon West Add #1, and Dringle subdivision. Borough files contain copies of recorded covenants, designating residential development for Dringle subdivision. In order to effectively manage lake usage and protect water quality, future residential plans need to be identified. With the continued growth of the area, a lake management plan can provide the guidance necessary to ensure that increased lake usage occurs in a manner that protects the lake and the quality of life that current residents enjoy.

As stated previously, there is only one small public access point to the lake. Residents recognize that future subdivisions and city owned land could potentially provide additional public access. In order to ensure protection of the lake and quality of life, residents recommend that if any additional public access is provided, it be developed as walk-in only.

The lake is stocked by ADF&G. The lake was first stocked in 1987 with rainbow trout fingerling. Last restocked in 2006 with sterile rainbow trout fingerling, the lake is reported to have good fishing. The next re-stocks are scheduled for 2008 and 2010.

2.5 Existing Plans and Lake Monitoring Programs

State

The state plan affecting the Morvro Lake area is the Willow Sub-Basin Area Plan. The Willow Sub-Basin Area Plan, adopted in October 1982, contains management intent for state and borough lands within the Willow Sub-Basin, an area of approximately 970,000 acres. Morvro Lake is within the Wasilla Management Unit,

which recommends the following uses on public lands:

- Settlement
- Small Farm Agriculture
- Commercial Agriculture
- Recreation
- Forestry
- Parks Highway Scenic Areas

Morvro Lake is located within the boundaries of the Matanuska-Susitna Borough Coastal District (District), as defined within the Matanuska-Susitna Borough Coastal Management Plan.

Borough

Borough plans that address Morvro Lake in some manner include the Borough-Wide Comprehensive Plan, adopted in 1971 and amended in 2005, the Borough-wide Long Range Transportation Plan, Public Facilities Plan, MSB Coastal Management Plan and the MSB Recreational Trails Plan.

The Borough-Wide Comprehensive Plan does not make specific recommendations for Morvro Lake. Rather, the 1971 plan makes a series of general recommendations for the Willow area, which do not reflect the current social, economic or development realities.

The Borough's Public Facilities Plan makes recommendations on a regional basis for the provisions of public services including the development of public facilities necessary to the provision of those services. Services included in the plan are public safety (fire protection, emergency medical services, and emergency preparedness); library; historical preservation; governmental administration; education; parks, recreation and open space; trails; and utilities.

Morvro Lake lies within the Matanuska-Susitna Borough Coastal District (District), as defined with in the Matanuska-Susitna Borough Coastal Management Plan, as amended. The Coastal Management Plan seeks to direct the course of local, state or federal development within the District in a manner that protects the important land and water resources of the District. The adopted policies of the Coastal Management Plan are used to evaluate development proposals vis-à-vis resource values in an effort to ensure that the proposals are consistent with the plan's goals and objectives. Local development includes actions that trigger a Borough subdivision, planning or zoning action. For example, a variance application to build a habitable structure or garage closer than 75 feet from the ordinary high water mark of Morvro would be reviewed to determine whether or not it is consistent with the Coastal Zone Management Plan. Construction within water bodies is also reviewed for consistency with the plan.

The 2007 Long Range Transportation Plan recommends future road improvements

for a road network that will meet the stated goal and objective for at least a 20 year window. The plan identified by the greater City of Houston area as in need of improvements for rural roads and primitive trail systems.

Lake Monitoring Program

The borough coordinates a lake monitoring program to monitor water quality, identify problems that degrade water quality, monitor the biological and hydraulic functions of the lake, and establish baseline trends to assist planning. The program depends on local volunteers to gather information and take samples for further testing. In addition, lake monitors identify fish and wildlife habitat and report environmental impacts of natural or man-made origin. Residents of Morvro Lake have attended volunteer training and will participate in the 2007 lake monitoring season.

2.6 Existing Regulations

This section describes the principle regulations affecting use and development in the Morvro Lake area.

Federal

Any work which results in the dredging or placing of structures or fill in tidal (ocean) waters, streams, lakes or wetlands requires a 404 permit from the U.S. Army Corps of Engineers.

Migratory birds, which include loons and grebes, are protected by the Migratory Bird Treaty Act. The Act, among other things, prohibits the “taking” of migratory birds. Destruction of nest sites, eggs, or the birds themselves are a violation of the Act.

Operation of aircraft, both private and commercial, is regulated by the Federal Aviation Administration.

State

The Alaska Department of Environmental Conservation (DEC) provides regulations for wastewater disposal. DEC wastewater/septic regulations [18 AAC 72.015(f)] state that no holding tank, septic tank, soil absorption system, seepage pit, privy, or other waste water collection, treatment, or disposal system may be within 100 feet, measured horizontally, of the mean annual high water level of a lake, stream, spring, slough, or the mean high water level of coastal waters.

In addition to the U.S. Army Corps of Engineers 404 permit requirements; any activity within streams and certain work within lakes require a Title 41 permit from the Alaska Department of Natural Resources (DNR), Office of Habitat Management and Permitting (OHMP). Since 1994, the Alaska Department of Fish & Game, Habitat and Restoration Division issued a general permit, renewed annually, allowing vehicle movement on frozen water surfaces in south-central Alaska. DNR, OHMP

currently issues these permits (Appendix A). Finally, the general ADF&G fishing regulations apply to Morvro Lake.

A navigable or public waterbody includes water suitable for public use and utility including boating, landing and take-off of aircraft, hunting, fishing, and trapping, or other public recreational purposes. Morvro Lake meets the definition of public waterbody.

Land that has been or is currently owned by the State of Alaska, and is adjacent to a navigable or public waterbody has special access requirements. Alaska Statute (AS 38.05.127) requires access to and along the surface waters of navigable and public waterways. An "along" easement, is generally reserved as a 50-foot wide public use easement along the ordinary high-water mark. These easements are created when the state conveys land to a borough or a private individual and the easement stays with the property in perpetuity unless vacated through a public review process. State lands conveyed prior to the passage of AS 38.05.127 may not be subject to the "to" and "along" easements. A review of the conveyance document and in some cases, court documents is required to determine the presence or absence of these easements. Lands patented by the federal government are not usually subject to "to and along" easements. The borough did not identify any "to" and "along" easements around Morvro Lake.

Borough

Several borough-wide ordinances address the development and use of land adjacent to Morvro Lake. The regulations are contained within the borough's planning (Title 15), subdivision (Title 27), zoning (Title 17), and real property management (Title 23) ordinances.

Title 15 establishes and describes the general functions of the planning commission (both planning and zoning functions) and the board of adjustment and appeals. Title 15 also describes the comprehensive plan and purposes. Once adopted, the Morvro Lake, Lake Management Plan will become an instrument of borough policy similar to the other plans adopted by the borough assembly.

Title 27 provides the subdivision development standards within the borough and establishes the platting Board. Two of Title 27's requirements that are of special note to the development at Morvro Lake include a minimum lot size of 40,000 square feet, and a minimum lot width when measured at the lake's water line of one hundred twenty-five feet (Figure 3). If community septic system is provided, then the minimum lot size is 20,000 square feet and minimum width may be eighty-five feet.

Zoning regulations (Title 17) that are of special note to development activities at Morvro Lake include setback requirements, a petition process to limit or eliminate motorized use of lakes, and conditional use permits. Presently, all structures must be

a minimum of twenty-five feet from the right-of-way and ten feet from side and rear lot lines. In addition, the voters of the borough approved, by initiative, a requirement that all habitable structures and garages must be located at least seventy-five feet from the ordinary high water mark of any water body or water course (Figure 3). The borough also requires that any development which seeks to establish or operate certain uses that may impact surrounding properties must first obtain a conditional use permit.

Morvro Lake is within the City of Houston, and is subject to the recommendations in the City of Houston Comprehensive Plan-2003 Update and MSB 17.41- City of Houston Land Use Regulations.

The following goals and recommendations from the City of Houston's Comprehensive Plan apply:

- To actively work toward ensuring that the natural environment of Houston, including but not limited to air and water quality, fish and wildlife habitat and natural vegetation, is enhanced and maintained by encouraging land uses and development that are consistent with the natural characteristics of the community.
- Encourage an understanding of the relationship between human well-being and environmental quality.
- Encourage the establishment of policies by the borough and the state that will help Houston identify and then protect the quality of existing water resources.

Private

Private regulations which exist in the Morvro Lake area would be in the form of subdivision covenants. The borough files contain a copy of covenants for Dringle subdivision. There are no copies in the borough records of covenants for either Horizon West or Horizon West Add #1 subdivision. For current information about covenants, the reader is referred to the State of Alaska Records Office.

Issues and Concerns

The issues and concerns identified by residents include:

- Protection of nesting waterfowl and wildlife habitat (loons & grebes, otters)
- Protection of the quiet recreational and residential nature of the lake
- Protection of water quality
- Reduction of conflicts between motorized and non-motorized uses (safety)
- Narrow configuration of the lake
- Not conducive to accommodating multiple uses
- Public access is limited, with no parking provided
- City of Houston parcel – how will it be developed and/or used?

A majority of those attending the meetings said that the quiet, residential character of the lake should be protected. The present state of the lake is characterized a residential and having a quiet quality. The historical use of Morvro Lake has not included high powered motorized or personal watercraft use. Some property owners are concerned about winter snowmachine usage and the associated noise and trespass issues. While snow machines are a generally allowed use on all state land (including frozen waterbodies), the plan can make recommendations about winter trails leading to the lake, posting public information, and enforcement of quiet hours. Subdivision of the large parcels of undeveloped land and homebuilding on vacant lots may also result in greater impacts of noise and wakes degrading the shoreline, increasing the potential for damage to wildlife and/or waterfowl on the island, and impacting the quiet residential quality of the lake.

4.0 Goals

Goals describe the future expectations of residents, property owners, and users of a lake. The following goals reflect the aspirations of Morvro Lake residents, property owners, and users and address their principle concerns: quality of experience, recreational character of the area, wildlife and water quality. The goals are not shown in priority order as they are interdependent.

4.1 Water Quality and Wildlife/Waterfowl Protection

Morvro Lake is a significant natural resource. It is the desire of property owners, residents, and users of Morvro Lake to maintain or improve the lake's water quality and to ensure that recreational uses of the lake are compatible with nesting waterfowl and wildlife habitat.

4.2 Preservation of Quiet Recreational and Residential Character

It is the desire of property owners, residents, and users of Morvro Lake to preserve the quiet and peaceful residential character of the lake, while allowing some low impact recreational uses for residents.

4.3 Maintenance of Public Access

Currently there is one public access to the lake. This access is walk-in only along a section line at the eastern shore. If a public or private access is developed as a result of a future subdivision, it is recommended that it be designated as walk-in only.

4.4 Educate Residents and Visitors

It is the desire of property owners and residents of Morvro Lake to utilize public education as a means to accomplish many of the other goals of the lake management plan, and to encourage responsible development on properties surrounding the lake.

4.5 Safety

Presently the lake is used by swimmers, boaters and fishers. There is occasional use by float planes, and property owners wish to reduce conflicts and ensure safety for all lake users.

5.0 **Recommendations**

5.1 Maintain Water Quality and Protect Wildlife

Certain uses, such as high powered motorized watercraft can create wakes that contribute to shoreline erosion and disturb nesting waterfowl. Wake action may cause loon and grebe mortality by swamping nests or by separating parents from chicks. Noise caused by large motors may also disturb waterfowl. It is recommended that motorized watercraft observe a no-wake zone 100 feet front the shoreline and visible waterfowl habitat.

Maintaining natural shoreline habitat is one of the best ways to protect water quality.

Natural shoreline vegetation provides erosion control, surface runoff filtration, and habitat for fish and wildlife. It is recommended that lakeshore property owners follow Matanuska-Susitna Borough “*Voluntary Best Management Practices for Development Around Waterbodies.*”

In order to determine baseline water quality conditions on Morvro Lake, volunteers are encouraged to participate in the Borough’s Lake Monitoring Program. The initial water monitoring program for Morvro Lake began 2007.

5.2 Preserve Quiet Recreational and Residential Character

Residents and property owners of the area initiated the lake management planning process to protect the quiet recreational and residential use of the lake. The majority of those attending the meetings support limitations for watercraft motors as a means of reducing noise and promoting safety. It is recommended that motorized watercraft be restricted to 25 horsepower on Morvro Lake.

The establishment of quiet hours, between 11 p.m. and 8 a.m., Sunday through Saturday, is recommended to maintain the existing quiet nature and residential quality of the lake during all seasons.

5.3 Maintain Current Access

There is currently one walk-in public access point to the lake. Those in attendance at the meetings recognize that a future subdivision could provide additional public or private access. It is recommended that if public or private access is identified, it be designated as walk-in only.

5.4 Educate Residents and Visitors

It is recommended that the following methods be used to educate residents and visitors to Morvro Lake about use restrictions and best management practices:

- Mail or deliver notices to inform property owners and residents about code restrictions, and enclose information about non-code recommendations.
- Post lake restrictions along with any “Property for Sale” signs to inform potential buyers that lake restrictions are in place.
- Inform residents about the process for reporting violations to the Matanuska-Susitna Borough Code Compliance Division.

5.5 Safety

It is recommended that float plane pilots use caution and courtesy when taking off, to ensure reduction of conflicts with other lake users. In addition, it is recommended that pilots do a “fly-over” prior to landing on the lake.

6.0 Implementation

Lake management plans are implemented through a combination of regulations, public information, and best management practices. MSB 17.59 Lake Management Plan Implementation, implements adopted lake management plans, using the borough’s citation authority. Specific recommendations of the lake management plans that are implemented through MSB 17.59 are: quiet hours, no wake zones, motorized water craft use, special permits, winter motor vehicles, and ice house registration. When the Morvro Lake, Lake Management Plan is adopted, MSB 17.59 will be amended to include the recommendations of the plan. Those recommendations of the plan that are not included in MSB 17.59 will be implemented through public information and best management practices.

Quiet Hours

To maintain the existing quiet nature, residential quality and low impact use of the lake, quiet hours are established between the hours of 11 p.m. and 8 a.m. Sunday through Saturday. Quiet hours apply to repetitive recreational activities such as water skiing and racing or high speed activities (both in winter and summer) and NOT to moderate speed point to point transportation.

25 horsepower limit

To protect nesting loons, grebes and other migratory waterfowl from disturbance caused by the motorized watercraft wakes and reduce shoreline erosion and potential conflicts between swimmers and boaters, a restriction of 25 horsepower engines is recommended.

Maintain current limited access

There is currently limited public access to Morvro Lake. Residents desire that no additional public access point should be developed, however, if it is, it should be maintained as walk-in only.

FIGURE

Figure 1 ADFG Bathymetric Map

Figure 2 Vicinity Map

Figure 3 General Setback Requirements and Lot Size

Figure 4 land Use Ownership



Sport Fish
Division - ADF&G

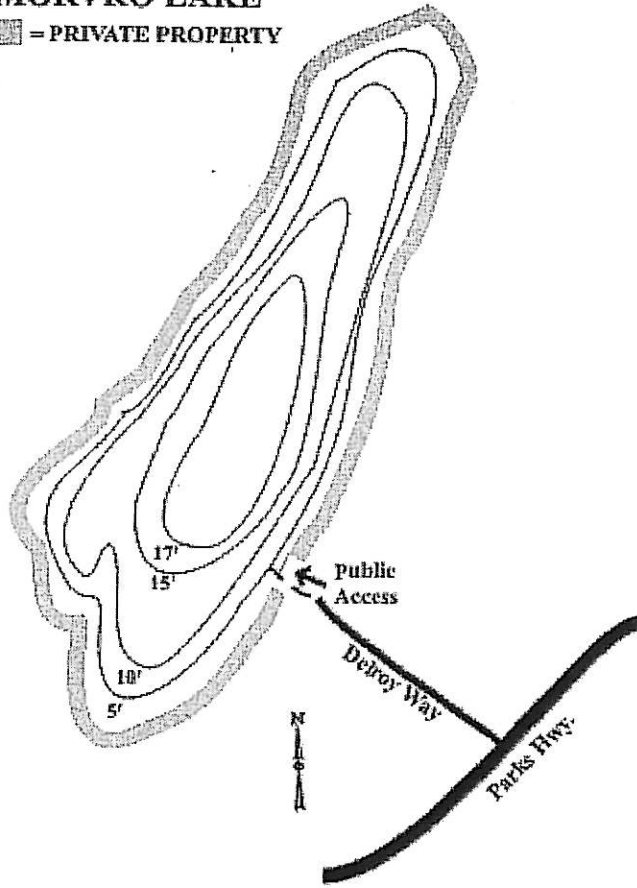
Bathymetric Map and Fishing Information

[Select another Lake](#)

Morvvo Lake

MORVVO LAKE

 = PRIVATE PROPERTY



Comments: Morvro Lake was first stocked by ADFG in 1987 with rainbow trout (RT) fingerling. Morvro Lake could possibly pass fish into Meadow Creek/Big Lake under extreme flood conditions so triploid rainbow trout fingerling are stocked. The access to this lake is poor; there is section line access, but little parking area. Reported to have good fishing. Morvro Lake was not stocked in 2006 due to lack of sterile rainbow trout fingerling. Scheduled for stocking of 4,500 sterile rainbow trout fingerling in 2008 and 2010.
USGS Map: ANCHORAGE C-8

Fishing Information	Lake Characteristics
<p>Species Present: - Rainbow Trout First stocked in: 1987</p> <p>View Stocking Information View the Test Net Data for this lake</p>	<p>Elevation: 245' Shoreline Length: 1.8 mi Volume: 945 Acre Ft. Mean Depth: 11' Surface Acres: 87 Acres Maximum Depth: 17' Management Area: Mat-Su</p>









Stocking Information	
Stocking Access:	Can carry bucket down power line
Stocking Method:	Truck/bucket

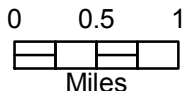
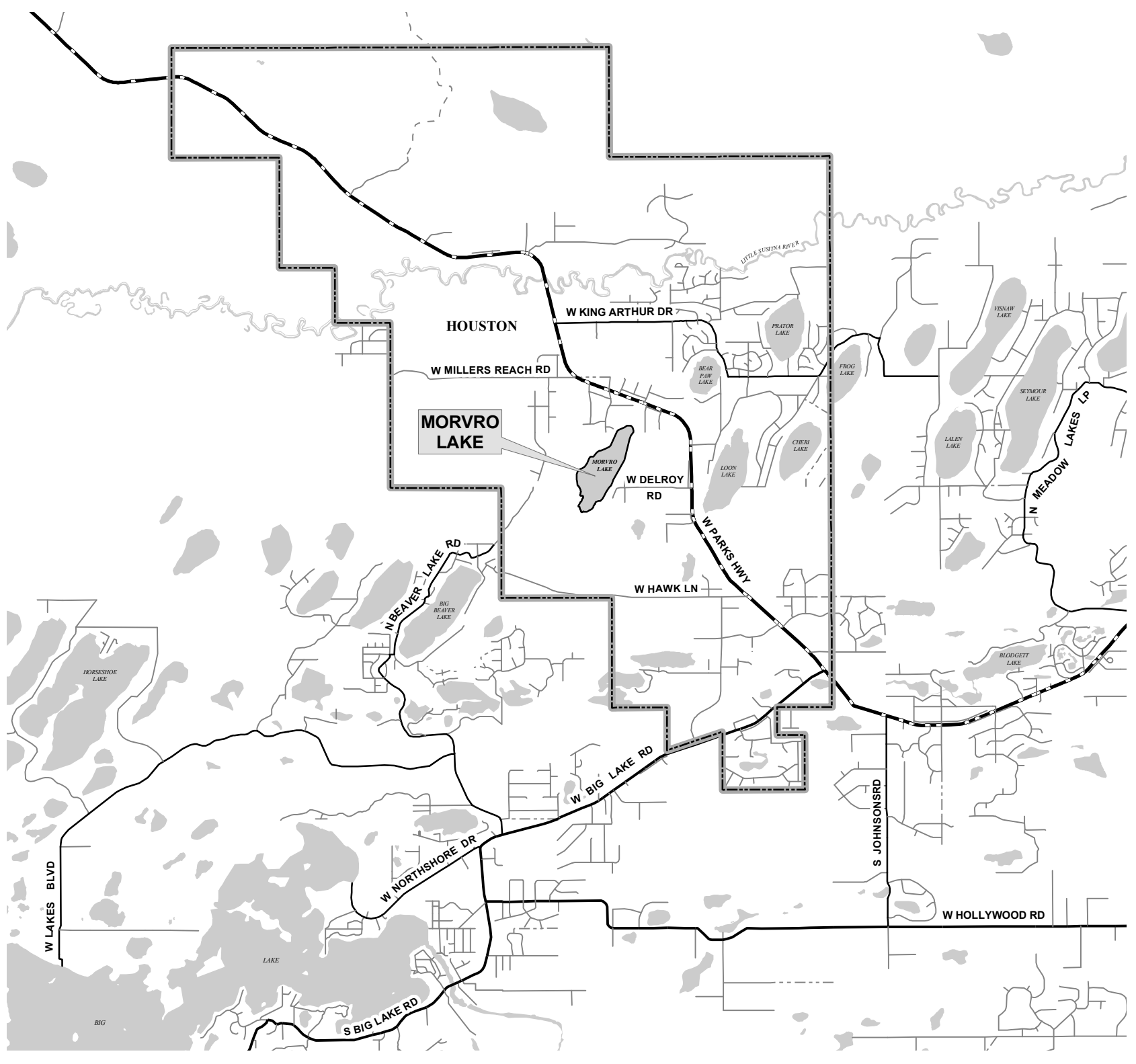
Access Information
<p>Name: Morvro Lake Status: Sectionline Easement Access: Undeveloped -- 1. Investigate land status. 2. Contact property owner and attempt to resolve conflict or move public access. Directions: Mile 54.3 Parks Hwy. West on Delroy Way 0.7 mile to section line access along power line with very limited parking. NOTE: Limited public access. Majority of lake shoreline is privately owned. Please respect private property. Township: T18N, R3W, S34,35 Lat/Long: 61.6 W, 149.766666667 N</p>

MORVRO LAKE Vicinity Map Figure 2

Legend

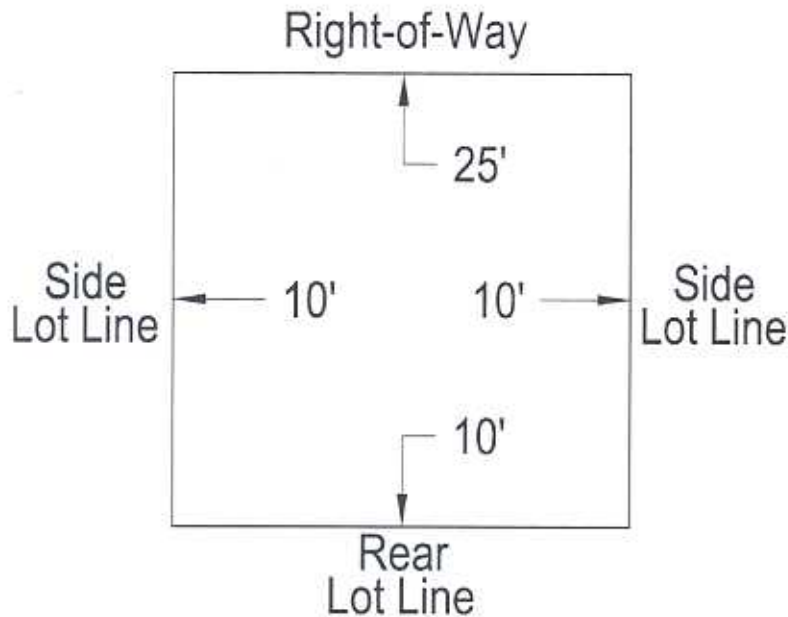
Road Classifications

-  HIGHWAY
-  MAJOR
-  MEDIUM
-  MINOR
-  NOT CONST'D
-  PRIMITIVE
-  CITY OF HOUSTON
-  msbhydrol

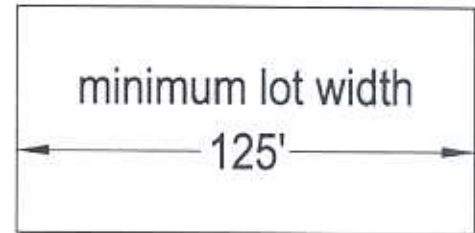


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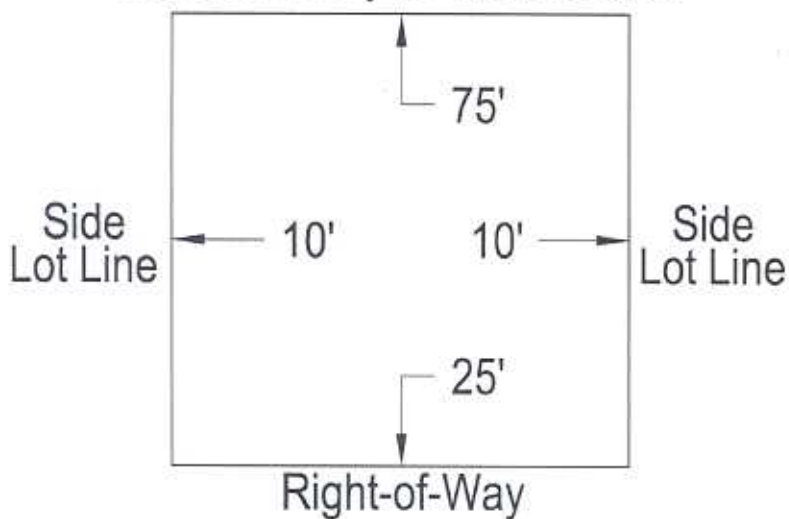
General Setback Requirements and Lot Size* Requirements



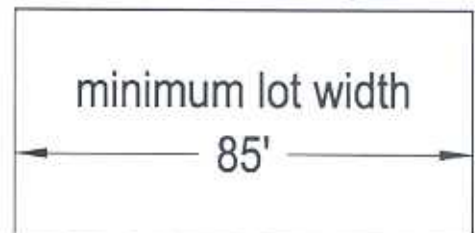
Ordinary High Water Line
of Lake (no community septage)



Ordinary High Water Line
of Water Body or Watercourse

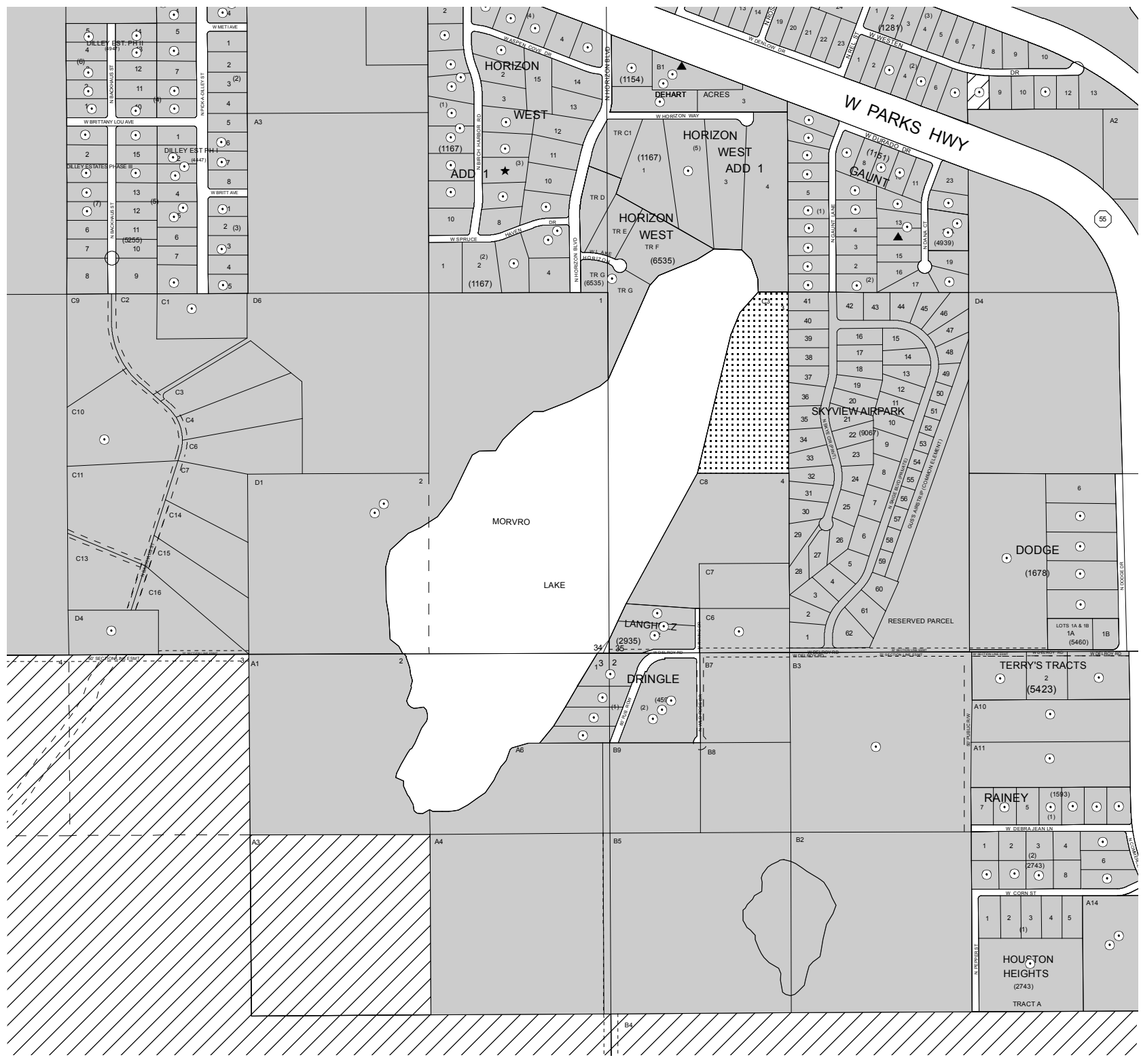


Ordinary High Water Line of
Lake (community septage available)






*All lots must be a minimum of 40,000 sq. ft.

MORVRO LAKE Land Use/Ownership Figure 4






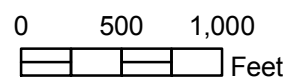
Legend

Ownership

-  PRIVATE
-  CITY
-  BOROUGH

Land Use

-  RESIDENTIAL
-  COMMERCIAL
-  AGRICULTURE



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APPENDICES

Appendix A Vehicle Movement On Frozen Water
Surfaces Within South Central Alaska

Appendix B Voluntary Bets Management Practice
for Development Around Waterbodies

Appendix C Loon Alert

STATE OF ALASKA

DEPARTMENT OF NATURAL RESOURCES

Office of Habitat Management and Permitting

SARAH PALIN, GOVERNOR

1800 GLENN HIGHWAY, SUITE 12
PALMER, ALASKA 99645-6736

PHONE: (907) 745-7363

FAX: (907) 745-7369

FISH HABITAT PERMIT FH-07-IV-0002-GP

ISSUED: January 1, 2007

EXPIRES: December 31, 2007

General Public:

Re: Vehicle Movement on Frozen Water Surfaces within the Matanuska-Susitna Borough

Pursuant to AS 41.14.870(b), the Department of Natural Resources, Office of Habitat Management and Permitting (OHMP) has determined that both the public interest and the proper protection of fish and game would be served through the issuance of a general permit (GP) authorizing the use of motorized vehicles on frozen waters of various specified rivers, lakes, and streams within the Matanuska-Susitna Borough.

Categories of motorized vehicles covered by the GP include: any wheeled, tracked, or other ground affect motorized vehicle that is less than 12,000 pounds gross vehicle weight (GVW). This GP does not authorize cross-country movement of equipment on state land or other activities not generally authorized by the Alaska Department of Natural Resources.

The operation of wheeled or tracked equipment on frozen water bodies has been found consistent with the Alaska Coastal Management Program (ACMP) and the Matanuska-Susitna Coastal District Program, provided this activity is conducted in accordance with all Standard Alternative Measures set forth in Generally Consistent Determination-5 (attached).

Various rivers, lakes, or streams within the above described area have been specified as being important for the spawning, rearing and/or migration of anadromous fish pursuant to AS 41.14.870(a). These rivers, lakes, and streams are utilized by salmon and other anadromous fish for spawning, rearing, or migration. These systems also host a wide variety of resident fish species.

Pursuant to AS 41.14.870(d), access to, crossings of, and/or egress from any frozen specified anadromous fish bearing waterway within the Matanuska-Susitna Borough is hereby authorized provided such activities are conducted in strict accordance with the following stipulations:

- 1) The ice cover shall be of sufficient thickness to support the weight-bearing load of the authorized vehicles(s).
- 2) There shall be no vehicles or equipment operated in the open (un-frozen) water(s) of any specified lake, river, or stream under this authorization (GP).
- 3) The use of snow or ice bridges, access ramps, or cribbing to cross any specified river or stream is prohibited unless specifically approved, in writing, by the Department of Natural Resources, Office of Habitat Management and Permitting (OHMP).
- 4) Access to or egress from frozen waters shall occur only at locations with gently or gradually sloping banks. There shall be no access to or egress from frozen waters at locations with sheer or cut banks.
- 5) The bed or banks of any specified lake, river, or stream shall not be altered or disturbed in any way to facilitate access to, use of, or egress from their frozen surfaces.
- 6) No fuel shall be stored, nor vehicles fueled or serviced while located on the frozen surface or below the ordinary high water line (vegetation line) of any specified lake, river, or stream.

The vehicle owner and the operator, or the legal guardian of minor dependents is responsible for the actions of contractors, agents, or other persons who participate in the approved activity. For any activity that

“Develop, Conserve, and Enhance Natural Resources for Present and Future Alaskans.”

deviates from this approval, the responsible party shall notify OHMP and obtain written approval in the form of an individual permit before beginning the activity. Any action taken which increases the scope of the approved activity or that negates, alters, or minimizes the intent or effectiveness of any stipulation contained in this permit will be deemed a significant deviation from the approved activity. The final determination as to the significance of any deviation and the need for an individual permit is the responsibility of OHMP. Therefore, it is recommended that OHMP be consulted immediately when a deviation from the approved activity is being considered.

This letter constitutes a permit issued under the authority of AS 41.14.870. Please be advised that this approval does not relieve you of the responsibility for securing other permits: state, federal, or local.

Pursuant to 11 AAC 112.010, the conditions of this general permit are consistent with the Alaska Coastal Management Program and the Matanuska-Susitna Coastal District Program.

In addition to the penalties provided by law, this permit may be terminated or revoked for failure to comply with its provisions or failure to comply with applicable statutes and regulations. The OHMP reserves the right to require mitigation measures to correct disruptions to fish and game created by the project that were a direct result of the failure to comply with this permit or any applicable law.

The recipient of this permit (the responsible party or permittee) shall indemnify, save harmless, and defend the OHMP, its agents, and its employees from any and all claims, actions, or liabilities for injuries or damages sustained by any person or property arising directly or indirectly from permitted activities or the permittee's performance under this permit. However, this provision has no effect if, and only if, the sole proximate cause of the injury is the OHMP's negligence.

This permit decision may be appealed in accordance with the provisions of AS 44.62.330--44.62.630.

Sincerely,

Edmund J. Fogels, Acting Deputy Commissioner



By: Michael L. Bethe, Habitat Biologist
Office of Habitat Management and Permitting

Enclosure: Generally Consistent Determination GCD-5, Equipment Crossing of Streams

-tbn

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|--------------------|------------------|------------------|
| cc: M. Agnew, ABWE | C. Godsey, EPA | K. Krause, DMLW |
| J. Hewitt, COE | K. Hudson, MSB | T. Oleck, ABWE |
| S. Seaberg, OHMP | M. Langdon, ADEC | L. Books, DMLW |
| M. Fink, ADF&G | D. Rutz, ADF&G | A. Ott, DNR/OHMP |

GENERALLY CONSISTENT DETERMINATION GCD-5

EQUIPMENT CROSSING OF STREAMS

The following activity is consistent with the Alaska Coastal Management Program per 11 AAC 110.730 when conducted according to the standard alternative measures listed below. This approval does not relieve the applicant from obtaining required permits and approvals from local, State, and federal individual agencies.

ACTIVITY DESCRIPTION

Winter ice crossings of resident fish streams in the North Slope Borough, Northwest Arctic Borough, and Bering Straits CRSA, and short term or transitory crossings of anadromous fish streams by wheeled or tracked vehicles or equipment statewide.

Authority: AS 41.14.840
AS 41.14.870
AS 16.20
AS 38.05.850
5 AAC 95

Permits: Fish Habitat Permit (OHMP)
Special Area Permit (DFG)
Land Use Permit (DNR)

Region: Statewide for crossing of anadromous fish streams; winter ice crossings of resident fish streams in the North Slope Borough, Northwest Arctic Borough, and Bering Straits CRSA.

PROCEDURE

For activities subject to GCD-5, the applicant is not automatically required to complete a coastal project questionnaire (CPQ). For example, a CPQ may not be required for short-term or transitory crossings associated with timber harvest activities on state and federal lands. DFG may require a CPQ for project proposals where it is uncertain whether other state or federal authorizations are required. In all cases, a CPQ is not required for the activities described below on private lands and non-navigable waters reviewed in accordance with AS 41.17, the Alaska Forest Resources and Practices Act.

Prior to crossing any stream, river or lake specified as being important for the spawning,

rearing or migration of anadromous fish, the applicant shall obtain a Fish Habitat Permit pursuant to AS 41.14.840 and AS 41.14.870. In addition, construction of an ice bridge across such water bodies in the North Slope Borough, Northwest Arctic Borough, or Bering Straits CRSA coastal districts requires a Fish Habitat Permit pursuant to AS 41.14.840. OHMP will determine in advance of permit issuance if the activity can be accomplished in a manner that ensures protection of fish habitat.

The standard alternative measures listed under DNR Land Use Permits apply only when a DNR Land Use Permit is issued under this generally consistent determination. All other conditions apply when a OHMP Fish Habitat or DFG Special Areas Permit is issued.

STANDARD ALTERNATIVE MEASURES

Summer In-water Crossings

1. Stream crossings shall be made from bank to bank in a direction substantially perpendicular to the direction of stream flow.
2. Stream crossings shall be made only at locations with gradually sloping banks. There shall be no crossings at locations with sheer or cut banks.
3. Stream crossing activities shall be sited and timed to avoid spawning areas and sensitive fish life stages and habitats. OHMP may restrict or prohibit activities during certain sensitive time periods as necessary.
4. Streambanks and streambeds shall not be altered or disturbed in any way to facilitate crossings. DFG and DNR, or the applicable land manager, shall be notified within three working days of any disturbances. Corrective action may be stipulated as applicable and necessary.
5. Movement of equipment through willow (*Salix*) stands shall be avoided to the extent possible. (North Slope Borough, Northwest Arctic Borough, and Bering Straits CRSA)

Ice Bridge Construction or Crossing Frozen Waterbodies

6. Equipment, other than vessels, must not enter open water areas of a watercourse during winter. Ice or snow bridges and approach ramps constructed at stream crossings must be substantially free of extraneous material (i.e., soil, rock, wood, or vegetation) and, if requested by OHMP, must be removed or breached before spring breakup. Alterations of the banks of a watercourse are prohibited.
7. To avoid additional freeze-down of deep-water pools harboring overwintering fish, watercourses shall be crossed at shallow riffle areas from point bar to point bar.

Compaction or removal of the insulating snowcover from the deep-water pool areas of rivers must be avoided. Exceptions to this stipulation may be authorized by OHMP on a case-by-case basis if it determines the pool is deep enough to prevent complete freeze-down.

DNR Land Use Permits

8. Vehicle maintenance, refueling of equipment, campsites, or storage and stockpiling of hazardous substances on the surface ice of lakes, ponds, or rivers is prohibited. The storage of non-hazardous material on the surface ice of lakes, ponds, or rivers is allowed with consent from DNR or the applicable land manager.
9. Snow ramps or other mitigating measures will be used to avoid unsafe obstacles to snow machiners or others using the riverway for travel.
10. Equipment shall not operate in flowing water without written authorization from DNR, Division of Land.

Wildlife Avoidance

11. Operations must avoid grizzly bear dens by one-half mile. Known bear den locations shall be obtained from OHMP at (907) 459-7289 prior to starting operations. Occupied dens encountered in the field must be reported to the above, and subsequently avoided. (North Slope Borough, Bering Straits CRSA, and Northwest Arctic Borough)
12. Operations shall avoid known polar bear dens by one mile. Known den locations shall be obtained from the U.S. Geological Survey at (907) 786-3424 prior to starting operations. New dens encountered in the field must be reported to the above, and subsequently avoided by one mile. (North Slope Borough, Bering Straits CRSA, and Northwest Arctic Borough)

Spill Notification

13. The lessee or permittee shall immediately notify DEC by telephone, and immediately afterwards send DEC a written notice by facsimile, hand delivery, or first class mail, informing DEC of: any unauthorized discharges of oil to water; any discharge of hazardous substances other than oil; and any discharge or cumulative discharge of oil greater than 55 gallons solely to land and outside an impermeable containment area. If a discharge, including a cumulative discharge, of oil is greater than 10 gallons but less than 55 gallons, or a discharge of oil greater than 55 gallons is made to an impermeable secondary containment area, the lessee or permittee shall report the discharge within 48 hours and immediately afterwards send DEC a written notice by facsimile, hand delivery, or first class mail. Any discharge of oil, including a cumulative discharge, solely to land greater than one gallon up to 10 gallons must be reported in writing on a monthly basis.

The posting of information requirements of 18 AAC 75.305 shall be met. The provisions of 18 AAC 75.310 (Scope and Duration of Initial Response Actions) and other reporting requirements of 18 AAC 75.300 - 18 AAC 75.396 also apply. The lessee or permittee shall supply DEC with all follow-up incident reports. Notification of a discharge must be made to the nearest DEC Area Response Team during working hours: Anchorage (907) 269-7500, fax (907) 269-7648; Fairbanks (907) 451-2121, fax (907) 451-2362; Juneau (907) 465-5340, fax (907) 465-2237. The DEC oil spill report number outside normal business hours is (800) 478-9300.

ADVISORIES

1. The Alaska Historic Preservation Act (AS 41.35.200) prohibits the appropriation, excavation, removal, injury, or destruction of any state-owned historic, prehistoric, or archeological site without a permit from the commissioner. Should any sites be discovered during the course of field operations, activities that may damage the site shall cease and the Office of History and Archaeology in the DNR, Division of Parks and Outdoor Recreation at (907) 269-8721 and the appropriate coastal district shall be notified immediately.



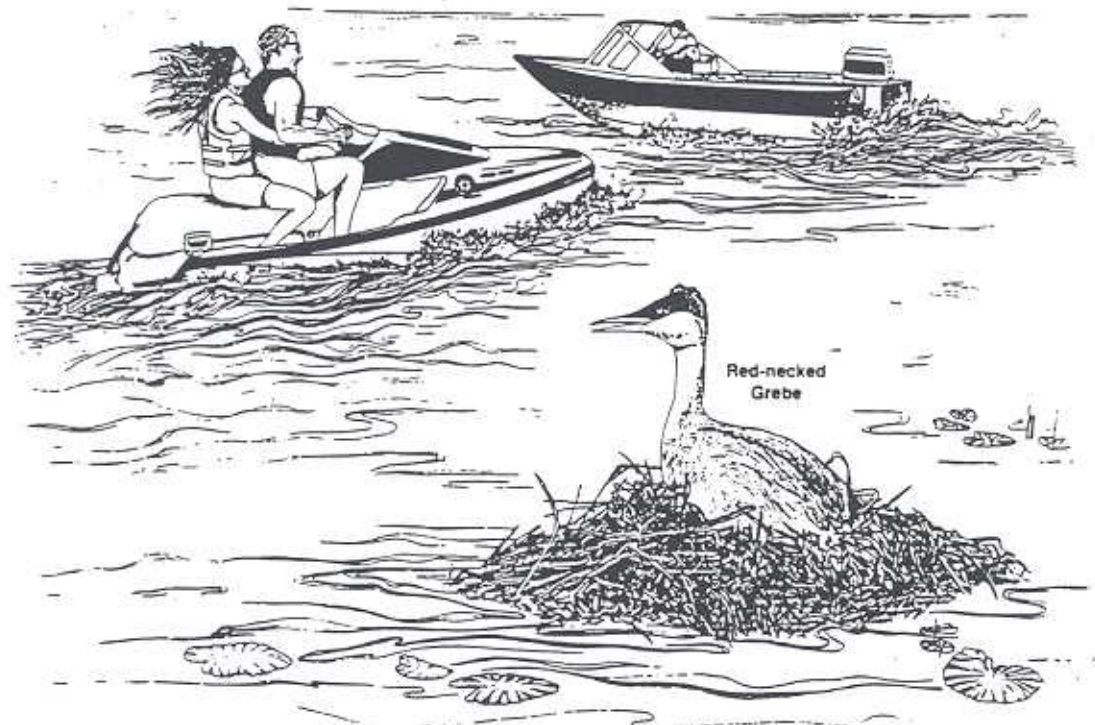
HOW CAN YOU HELP PROTECT WATER QUALITY?

Voluntary Best Management Practices For Development around Waterbodies

Best Management Practice	Rationale
<p>Maintain the natural shoreline or riparian habitat.</p> <ul style="list-style-type: none"> • Preserve a minimum 75 foot wide buffer of continuous, undisturbed native vegetation along at least 50% of the parcel's shoreline or stream bank. • Along remaining 50% of shoreline, limit vegetation removal to what is necessary to accommodate paths, docks, or other limited development. 	<p>Protects water quality by reducing nutrient loading in lakes and minimizing temperature changes to stream environments.</p> <p>Provides flood control and reduces erosion and sedimentation.</p> <p>Protects fish and wildlife habitat by providing cover, nest sites and spawning areas.</p>
<p>Minimize impervious surfaces on shoreline lots.</p> <ul style="list-style-type: none"> • Limit to maximum of 25% of lot area. • Minimize as much as possible within 75 feet of the water's edge. 	<p>Impervious surfaces such as pavement, roof tops, and compacted soil allow runoff to enter waterbodies more readily.</p> <p>Runoff in residential or commercial areas may contain phosphorus and other nutrients that lead to oxygen deficits and algal blooms.</p>
<p>Avoid adding sand beaches or adding fill material to lakeshore, stream banks or wetland areas.</p>	<p>Sand or fill reduces water clarity, is harmful to aquatic life and may contain phosphorus that enriches waterbodies.</p>
<p>Adhere to the state of Alaska's 100 foot waterbody separation for septic systems and outhouses, and keep septic systems in good working order.</p>	<p>Bacterial contamination from poorly maintained or leaking septic systems or outhouses is a human health concern.</p> <p>Nutrients from poorly functioning septic systems or outhouses are waterbody pollutants.</p>
<p>Use landscaping practices that will reduce degradation of waterbodies, including:</p> <ul style="list-style-type: none"> • Test soils to see if fertilizers are needed and use sparingly. • Design a smaller lawn to reduce fertilizer use. • Use native species that grow well without fertilizer. • Avoid fertilizer use completely within 50 feet of the water's edge. 	<p>Lawns are often over-fertilized, which leads to harmful levels of nutrients in the water.</p> <p>Lawns are not as effective as natural vegetation for pollution filtration.</p> <p>Lawns do not provide protective cover for fish and wildlife populations that are part of the waterbody system.</p>
<p>Maintain at least a 75 foot distance from the water's edge for:</p> <ul style="list-style-type: none"> • Additional permanent or accessory buildings. • Driveways, roads and other impervious surfaces. • Livestock or dog quarters or yards. • Manure or compost piles. • Long-term vehicle or equipment storage. <p>Exceptions may include boathouses, floatplane hangers, marinas, piers and docks that need to be closer than 75 feet to serve their purposes.</p>	<p>Protects human health and water quality by reducing contamination from animal waste, compost, fuels, sediment and other substances that pollute waterbodies.</p>

Mat-Su Borough Ordinance 05-023 established voluntary measures that property owners can use to protect the quality of our lakes, streams and wetlands. For more information, contact the Matanuska-Susitna Borough, Department of Planning and Land Use at 745-9851.

STEER CLEAR!



**BOATERS – Stay at least 100 feet away
from nesting Red-necked Grebes.**

Grebes are duck-sized birds that nest on floating vegetation and debris in shallow water.

Wakes from watercraft will destroy their nests and kill their eggs and chicks.

Go slowly along shorelines and avoid nesting areas.

– HELP PROTECT ALASKA'S WILDLIFE –

Wildlife harassment is illegal. Report violations to Fish and Wildlife Protection (State Troopers) or call (800) 478-3377.

This sign was produced by a grant to the Alaska Watchable Wildlife Trust Fund, c/o Alaska Conservation Foundation, 430 W. 7th Avenue #215, Anchorage AK 99501 (907) 276-1917.

POSTED BY ALASKA DEPT. FISH AND GAME



LOON ALERT



**Help keep this lake safe
for loons and other wildlife:**

1. Watch loons from a distance.
2. Pick up fishing line and other litter that may entangle loons.
3. Keep your dog on a leash.

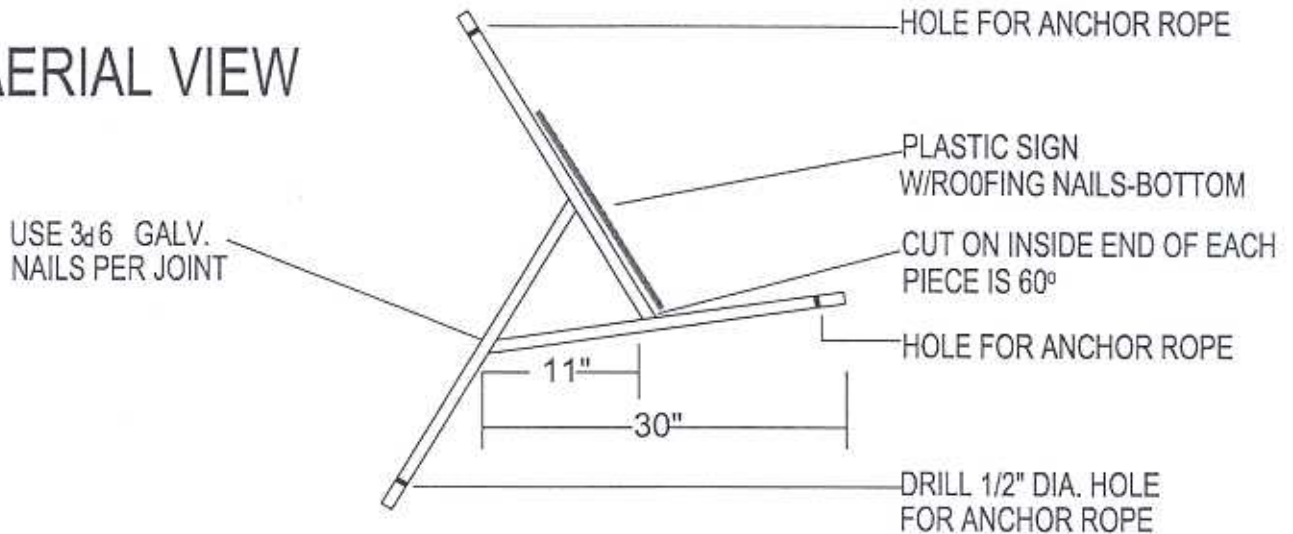
Breeding loons have declined or disappeared from other U.S. states due to human disturbance and habitat loss. Wildlife harassment is illegal. Please report violations to Fish and Wildlife Protection (State Troopers) or call (800) 478-3377. For loon information write: Alaska Department of Fish and Game, Division of Wildlife Conservation, 333 Raspberry Road, Anchorage, AK 99518.



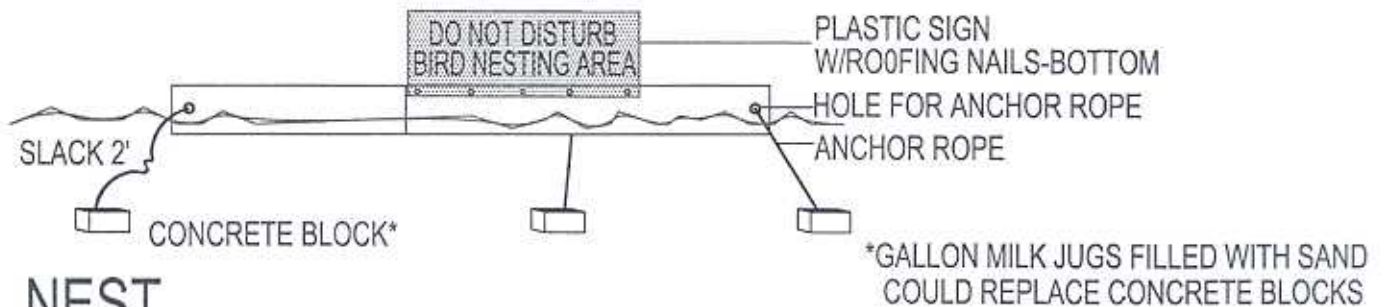
SIGN FLOAT FOR LOON NESTS

(NOT LIKELY TO TURN OVER
IN THE STRONGEST WIND)

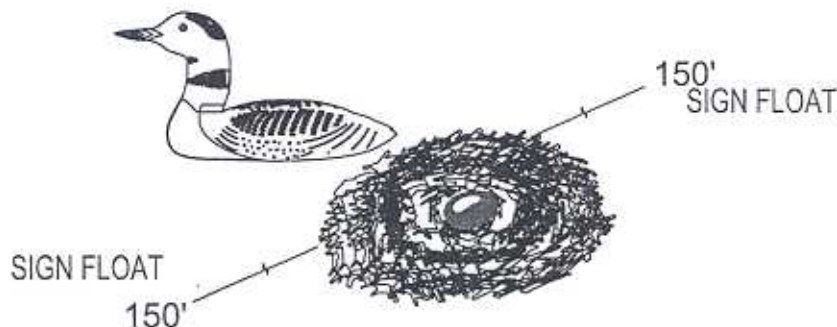
AERIAL VIEW



VIEW FROM WATER



NEST



MATERIALS LIST

3 - 1"x 4"x 30"
WHITE PINE OR
NO. WHITE CEDAR

9 - 6d. GALV BOX NAILS

5 - 1" ROOFING GALV. NAILS

1 - LOON SIGN

2 - 3 CONCRETE BLOCK *
FOR ANCHORS

ENOUGH 1/4" NYLON ROPE
TO REACH BOTTOM OF LAKE
FOR ANCHOR

DESIGNED BY:
HERB CALLEY, PO BOX 348 TUPELO POINT, BOWLAKE, NORTHWOOD, N.H. 03261

ENHANCED BY:
MATANUSKA-SUSITNA BOROUGH SUPPORT SERVICE 1995

The platforms should be attached with two anchors a minimum of 150 feet from the nest (more, if needed to avoid disturbing the loons) and be clearly visible, yet not be a boating hazard. Signs should be removed after nesting is completed (usually by mid-July) each year to preserve their use. Signs should be stored over the winter in a dry area.