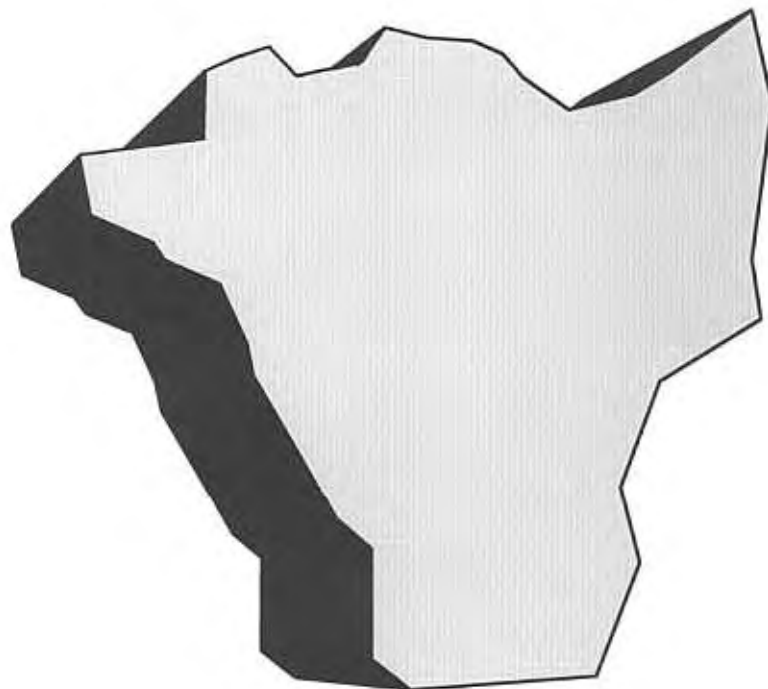


**QUESTION, LITTLE QUESTION, LAKE  
FIVE, AND UNNAMED LAKES  
LAKE MANAGEMENT PLAN**

MATANUSKA-SUSITNA BOROUGH  
PLANNING DEPARTMENT

SEPTEMBER 1998



## ACKNOWLEDGMENTS

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### MATANUSKA-SUSITNA BOROUGH

Michael J. Scott, Manager

and

Planning Department Staff

Code Ordinance

By: M. Scott  
Introduced: 8/18/98  
Public Hearing: 9/1/98  
Amended: 9/1/98  
Adopted: 9/1/98

**MATANUSKA-SUSITNA BOROUGH  
ORDINANCE SERIAL NO. 98-119 (AM)**

AN ORDINANCE OF THE MATANUSKA-SUSITNA BOROUGH ASSEMBLY ADOPTING MSB 15.24.030(C)(18), THE QUESTION, LITTLE QUESTION, LAKE FIVE AND UNNAMED LAKES, LAKE MANAGEMENT PLAN.

WHEREAS, the Question, Little Question, Lake Five and Unnamed Lakes, Lake Management Plan provides guidelines for the continued enjoyment and management of Question, Little Question, Lake Five and Unnamed Lakes; and

WHEREAS, the management guidelines for Question, Little Question, Lake Five and Unnamed Lakes, were developed with input from the residents and property owners of Question, Little Question, Lake Five and Unnamed Lakes; and

WHEREAS, the residents and property owners of Question, Little Question, Lake Five and Unnamed Lakes seek management guidelines to protect water quality and fish and wildlife habitat, improve safety, and enhance the recreational and residential character of the lake; and

WHEREAS, the Planning Commission recommended the assembly amend the Lake Management Plan to designate Little Question, Lake Five and Unnamed Lakes as non-motorized lakes; and

WHEREAS, the Question, Little Question, Lake Five and Unnamed Lakes, Lake Management Plan will promote the public health, safety and welfare.

BE IT ENACTED:

Section 1. Classification. Section 1, 2, and 4 are non-code ordinance; section 3 is of a general and permanent nature and shall become part of the borough code.


Section 2. Approval of plan. The Matanuska-Susitna Borough Assembly does hereby adopt the Question, Little Question, Lake Five and Unnamed Lakes, Lake Management Plan.

Section 3. Amendment of subsection. MSB 15.24.030(C) is hereby amended to add a subsection (18) to read as follows:

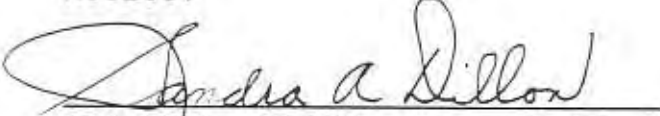
(18) Question, Little Question, Lake Five and Unnamed Lakes, Lake Management Plan, adopted September 1998.

Section 4. Effective date. Ordinance Serial No. 98-119(AM) shall take effect upon adoption by the Matanuska-Susitna Borough Assembly.

ADOPTED by the Matanuska-Susitna Borough Assembly this 1<sup>st</sup> day of September, 1998.

  
DARCIE K. SALMON, Borough Mayor

ATTEST:

  
SANDRA A. DILLON, Borough Clerk

(SEAL)

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## 1 Introduction

### 1.1 Purpose

Lake management plans are developed for a variety of purposes. Most often lake front property owners request management plans because increased development or the provision of new public access brings about increased lake usage and a corresponding increase in user conflicts. As more people use a lake, conflicts among users may occur, bird-nesting sites (especially loons and grebes) may be disturbed, environmental degradation may occur, and the overall quality of the experience may decline. The most often cited complaints are noise generated from watercraft during the evening and night hours and inappropriate use of public access points. A lake management plan seeks to present policies and strategies, which attempt to balance the various demands placed upon a lake, solve lake related problems, and protect the public health, safety, and welfare.

The Question, Little Question Lake, Lake Five and Unnamed Lakes, Lake Management Plan provides management guidelines for:

- ◆ The protection of the residential quality of Question, Little Question, Lake Five and Unnamed Lakes; and
- ◆ The continued recreational enjoyment of Question, Little Question, Lake Five and Unnamed Lakes; and
- ◆ The protection of Question, Little Question, Lake Five and Unnamed Lakes's water quality; and
- ◆ The continued quiet character and use of Question, Little Question, Lake Five and Unnamed Lakes; and
- ◆ The protection and enhancement of fish and wildlife; and
- ◆ The protection of the public health, safety, and welfare.

### 1.2 Approaches to Lake Management

**Motorized Use of Waterbodies** There are two approaches that residents and property owners of the Matanuska-Susitna Borough may use to address lake related issues. One approach is to initiate a petition as authorized by 17.58 of the Borough Code. This ordinance, which was adopted by voter initiation in 1994, allows members of the public to seek either a prohibition of all motorized use on a water body or to establish quiet hours (11 p.m. to 8 a.m.), to establish a 100 foot no wake zone from the shoreline, to require mufflers on all piston driven engines used by watercraft, and to allow special events by permit. Once a petition is filed, a report is drafted by the Department of Planning regarding the suitability of the ordinance for the lake in question and public hearings are then held on the matter by the Planning Commission and Assembly. As of April 1995 this ordinance is in effect for Wasilla,

Cottonwood, Mud, and Finger lakes while all motorized use is prohibited on Cottonwood Creek.

**Lake Management Plan** The other approach that may be utilized for managing a lake is the lake management planning process. A lake management plan is developed with the input of local property owners and residents. The Borough's Department of Planning assists the planning effort by collecting background information, developing maps, etc., but it is the property owners and residents who decide policy issues and develop goals and recommendations. The management planning process also allows a more comprehensive approach to addressing lake related concerns such as how a lake's public access is managed. The lake management planning process also allows property owners and residents to tailor management guidelines to their particular needs and desires.

### 1.3 Process

Lake management plans are typically initiated by individuals having concerns about a particular lake or who have experienced conflicts between user groups. These individuals request that the Department of Planning (Department) of the Matanuska-Susitna Borough complete a lake management plan. Upon receiving a request to complete a lake management plan, the Department holds an informational meeting where all approaches to managing lake related issues are discussed. At the informational meeting a decision is made by property owners/residents on the preferred approach. The Department then collects the necessary background information on the lake and contacts adjacent property owners and users to participate in the planning process.

Meetings are held with lakefront property owners and users to: 1) identify any problems that may exist, 2) develop a set of recommended alternatives, and 3) consider methods of implementing the recommendations. A draft plan is then developed and a public comment period is held to solicit comments on the draft plan. After the public comment period is closed, comments are reviewed and appropriate modifications made. A meeting may be held with adjacent property owners and users to discuss the comments and proposed modifications. Whether or not this meeting is held depends on the comments received; if the comments call for minor changes or none at all, a meeting is not likely to occur. On the other hand, if the comments seek major changes to the draft plan, a meeting is arranged to discuss the comments and proposed modifications.

After the draft plan has been reviewed by the public and community council, a public hearing on the plan is scheduled with the Borough Planning Commission. At the public hearing anyone may comment on the plan. The Commission considers all oral and written comments received and either recommends to the Assembly adoption of



the plan as is, or with modifications, or recommends Assembly disapproval of the plan. After Planning Commission action, the plan is scheduled for a public hearing by the Assembly. The Assembly considers all oral and written comments received and either adopts the plan as is, or with modifications, or disapproves the plan.

#### 1.4 Ponds, Lakes, and Reservoirs<sup>1</sup>

There seem to be no universally accepted scientific definitions of the term's **lake**, **pond**, and **reservoir**. In general, waterbodies which have a noticeable flow are termed either rivers or streams. "Ponded waters" have little or no current compared with rivers and streams.

A pond is usually described as a small, shallow body of water, with uniform water temperature from top to bottom. There is little wave action and often, an abundance of aquatic plants. Although local definitions may vary, a pond is generally less than ten acres in area and ten feet in maximum depth.

A lake is usually larger than a pond. It may be quite large and deep, with an abundance of cold water at the bottom. It also may exhibit areas of rocky, wave-impacted shoreline as a result of exposure to prevailing winds. The area of land around the lake which contributes water to the lake is the **watershed**. The watershed may be large or small when compared to the area of the lake. The water may enter the lake from the watershed as streams and rivers, or through the ground as groundwater. The term watershed is used interchangeably with **catchment** or **drainage basin**, although the latter term can imply a larger area containing several watersheds or **sub-basins**. The boundaries of a watershed are defined by ridges and hills that divide or separate water movement into one drainage basin or another. The **lake basin** includes the lake bottom as well as the surrounding slopes.

#### 1.5 Lake Lifespan<sup>2</sup>

Lakes fill in, drain themselves, or just evaporate and disappear. They do not last forever. Although lakes seem permanent in our human time perspective, they are sediment traps, and it is natural for them to fill in gradually with sand, silt, and organic matter. Natural lake aging or **eutrophication** moves from a nutrient-poor (**oligotrophic**) condition to an intermediate (**mesotrophic**) stage of nutrient availability and biological productivity, and finally to a nutrient-rich or highly

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<sup>1</sup> This section is taken from Diet For A Small Lake, Prepared by the New York State Department of Environmental Conservation and the Federation of Lake Associations, Inc., 1990.

<sup>2</sup> This section is taken from Diet For A Small Lake, Prepared by the New York State Department of Environmental Conservation and the Federation of Lake Associations, Inc., 1990.



productive (**eutrophic**) state (See Figure 1). Eutrophication - the process of nutrient enrichment and basin filling - may take thousands of years, but it can be accelerated greatly by disruptions to the watershed. Human activities that increase nutrient and sediment loadings to a lake are termed **cultural eutrophication** and include forest clearing, road building, construction, and wastewater discharges.

Trophic conditions in lakes are relative, not absolute - that is, there is no definitive line between oligotrophic and mesotrophic, or between mesotrophic and eutrophic. However, each trophic state has characteristic conditions. Oligotrophic lakes have a low level of organic productivity, clear water, and low nutrient levels. These lakes often are characterized by deep water and steep basin walls. Water in mesotrophic lakes contains a moderate supply of nutrients and organic production. Eutrophic lakes are characterized by a very high level of nutrients which causes a significant increase in the rate of plant growth. As a result, water clarity is greatly reduced, and oxygen depletion is common during the summer months. Eutrophic lakes tend to be shallow and typically, have elevated water temperatures.

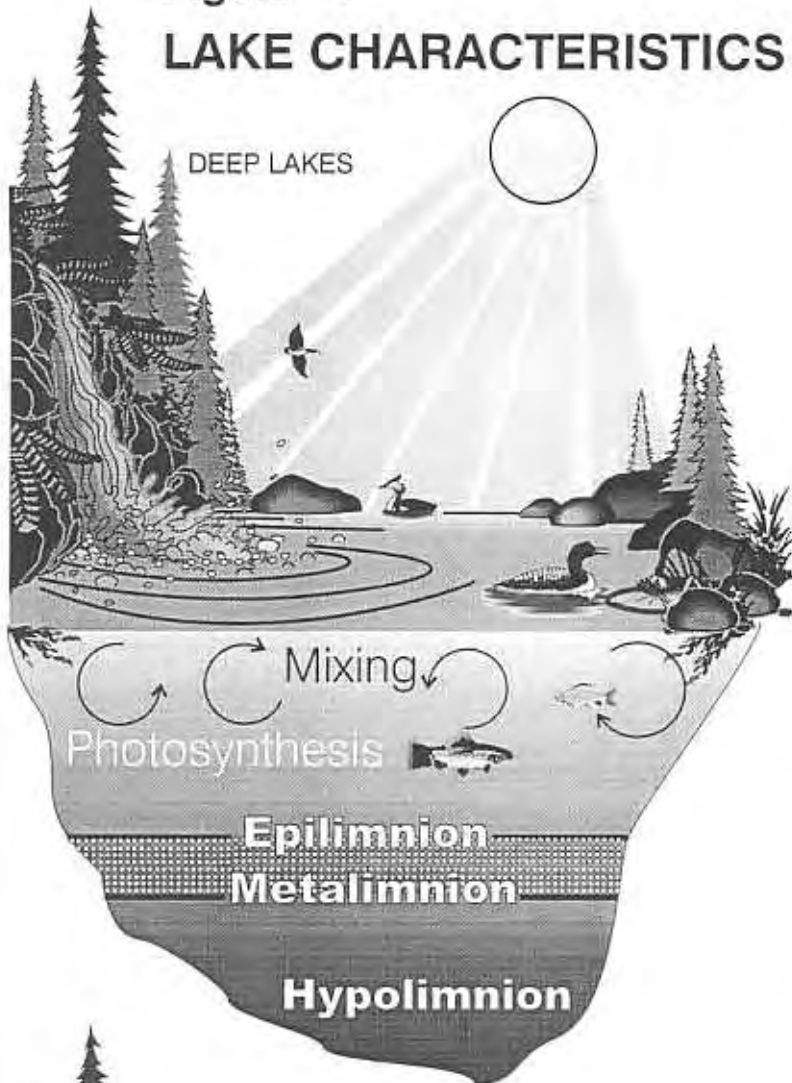
Identification of a lake's trophic status is a useful way to determine its general "health," or biological status, from one year to the next and in comparison with other lakes. If a potential problem is identified in a lake, the trophic status can also be used to evaluate management alternatives.

A few lakes are naturally eutrophic. Many lakes and reservoirs are located in naturally fertile watersheds where the soil is highly erodible. Unless the soil remains undisturbed, these lakes have little chance of being anything but eutrophic. Users of these lakes need to recognize and accept the fact that manmade systems (such as laws, property, or zoning) may not "correct" the conditions. Residents and visitors should adjust their expectations for the appearance and use of such eutrophic lakes.

## 1.6 General Lake Issues and Concerns

This section describes some of the most common concerns and issues that have been raised by residents and property owners of the Borough. There are three main categories of lake related concerns and issues. One category is water quality related. Activities within the shore land area can have a direct impact on lake water quality. A shore land is the land within 500 to 1,000 feet of the normal mean water mark of a lake or pond. The placement of septic systems in unsuitable soils or too close to the lake or the lack of sanitary facilities at public access points can introduce nutrients and pathogens into the lake. Inadequate soil erosion control during upland construction can increase the sediment loading of the lake and thereby create turbid conditions. Removal of vegetation along the shoreline or at unsupervised public access points may also increase erosion of the bank and loss of its ability to filter runoff.

# Figure 1 LAKE CHARACTERISTICS



## Epilimnion

The upper layer of water in a lake that is comprised of uniformly warm water that may be well mixed.

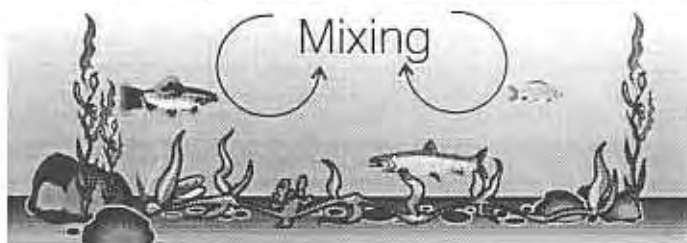
## Metalimnion

The middle layer of water in a lake that marks the transition between top and bottom layers, where temperature changes rapidly with depth.

## Hypolimnion

The bottom layer of water in a lake that is comprised of uniformly cold and relatively undisturbed water.

Source: A Citizen's Guide  
To Understanding and Monitoring Lakes and Streams  
By Joy P. Micha



## Oligotrophic

Clear water, low productivity  
very desirable fishery of large game fish



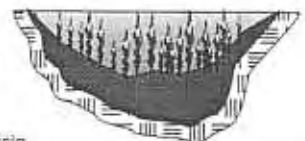
## Mesotrophic

Increased production  
Accumulated organic matter  
Occasional algal bloom  
Good fishery



## Eutropic

Very productive  
May experience oxygen depletion  
Rough fish common



Source: A Lake Leaders  
Handbook 1995  
UWEX-LAKES PROGRAM  
Understanding Lake Data  
By Bryon Shaw, Christine  
Machenich and Lowell Klessig

Illustrations.....Planning Department - Support Services  
Matanuska-Susitna Borough Palmer, Alaska

Another category of concerns is related to the surface use of the lake. Some uses may conflict with one another such as fishing and water-skiing because it is difficult for both activities to occur at the same time and in the same location. Other uses may cause conflicts by the nature of how the use occurs such as becoming a nuisance by creating noise during normal sleeping hours. Some uses of the surface water may create shoreline erosion, and hence, increase sediment loading of the lake, and cause the loss of upland property.

The last category of lake issues regards the impact of recreational use on wildlife and wildlife habitat. Unsuccessful nesting or above average mortality may occur during the nesting season of loons and grebes if the nests are harassed, frequented by watercraft, or swamped by wave action.

#### 1.7 Question, Little Question, Lake Five and Unnamed Lakes Issues and Concerns

The Question, Little Question, Lake Five and Unnamed Lakes, Lake Management Plan was initiated by a request from Question, Little Question, Lake Five and Unnamed Lakes' property owners. Two meetings were held with residents and lakefront property owners. At these meetings, concerns and issues were discussed as well as the proposed lake management plan's guidelines.

The issues identified included:

- 1) The creation of noise, especially in the evening and early morning hours; and
- 2) Protection of the wildlife and wildlife habitat; and
- 3) The potential for erosion caused by wakes; and
- 4) Protection of the quiet, residential character of the lake; and
- 5) Surface uses that create noise and disturb wildlife are primary concerns of property owners; and
- 6) Increased noise and erosion from additional use of the lake by motorized watercraft; and
- 7) The desire to maintain the quiet, recreational/residential quality of the lake; and
- 8) The desire to maintain the lakes' good water quality and prevent water pollution resulting from motor vehicles and winter fishing activities.

It is the desire of the majority of property owners of Question, Little Question, Lake Five and Unnamed Lakes that the quiet, recreational character of the lakes be protected. The present state of the lakes may be characterized as having residential upland development, having a quiet quality, and having active loon nests. Property owners are concerned that the lakes will be used by watercraft with large motors and jetskis/wave runners, which they believe create several negative impacts. Residents of the area believe these uses are incompatible because wildlife is threatened by wakes and noise, turbid water conditions are created as the lakes are relatively shallow, shoreline erosion is caused by wakes, noise is generated by the use and by large

engines, all of which detracts from the quality of life and recreational experience at the lake.

Residents and property owners also want to maintain the present good water quality of the lakes by reducing the potential for water pollution. At the present time, it is believed that winter activities associated with ice fishing may pose water pollution problems especially when motor vehicles are on the lake and with the abandonment of structures used for ice fishing. Better management of these winter uses would help prevent water pollution.

## 2 Inventory of Existing Conditions

### 2.1 Location

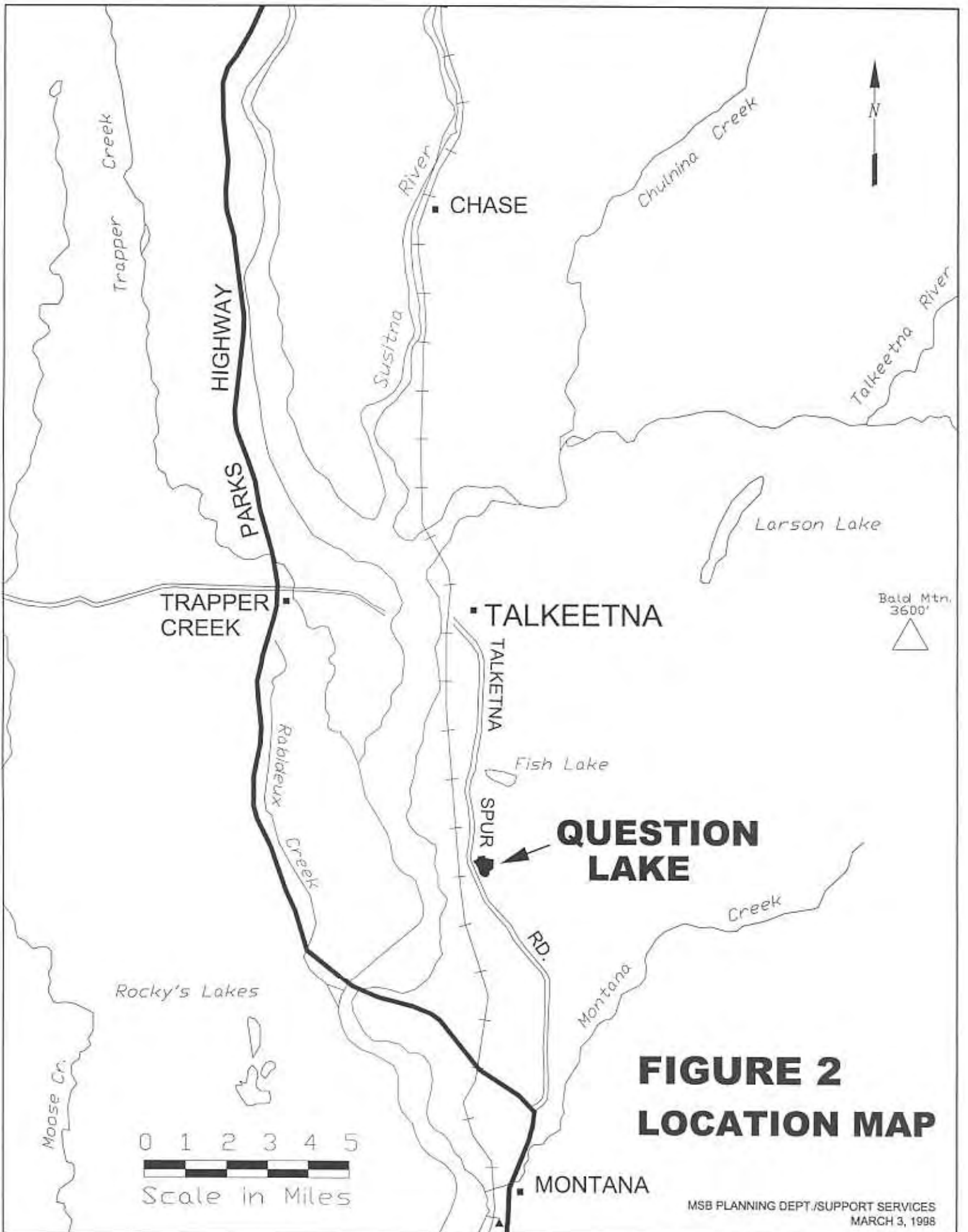
Question, Little Question, Lake Five and Unnamed Lakes is just east of the Talkeetna Spur Road at approximately milepost 7 (see Figure 2). The Question, Little Question, Lake Five and Unnamed Lakes area is located completely within the boundaries of the Talkeetna Community Council (see Figure 3).

### 2.2 Land Ownership

There are 27 lots with shoreline on Question, Little Question, Lake Five and Unnamed Lakes (see Table 1). All but one parcel of land adjacent to Question, Little Question, Lake Five and Unnamed Lakes is privately owned. The Matanuska-Susitna Borough owns one parcel with shoreline at Question, Little Question, Lake Five and Unnamed Lakes. There is no developed public access to the lakes (see Figure 4).

Table 1  
Question, Little Question, Lake Five and Unnamed Lakes  
Landownership and Parcel Size  
(lake front only)

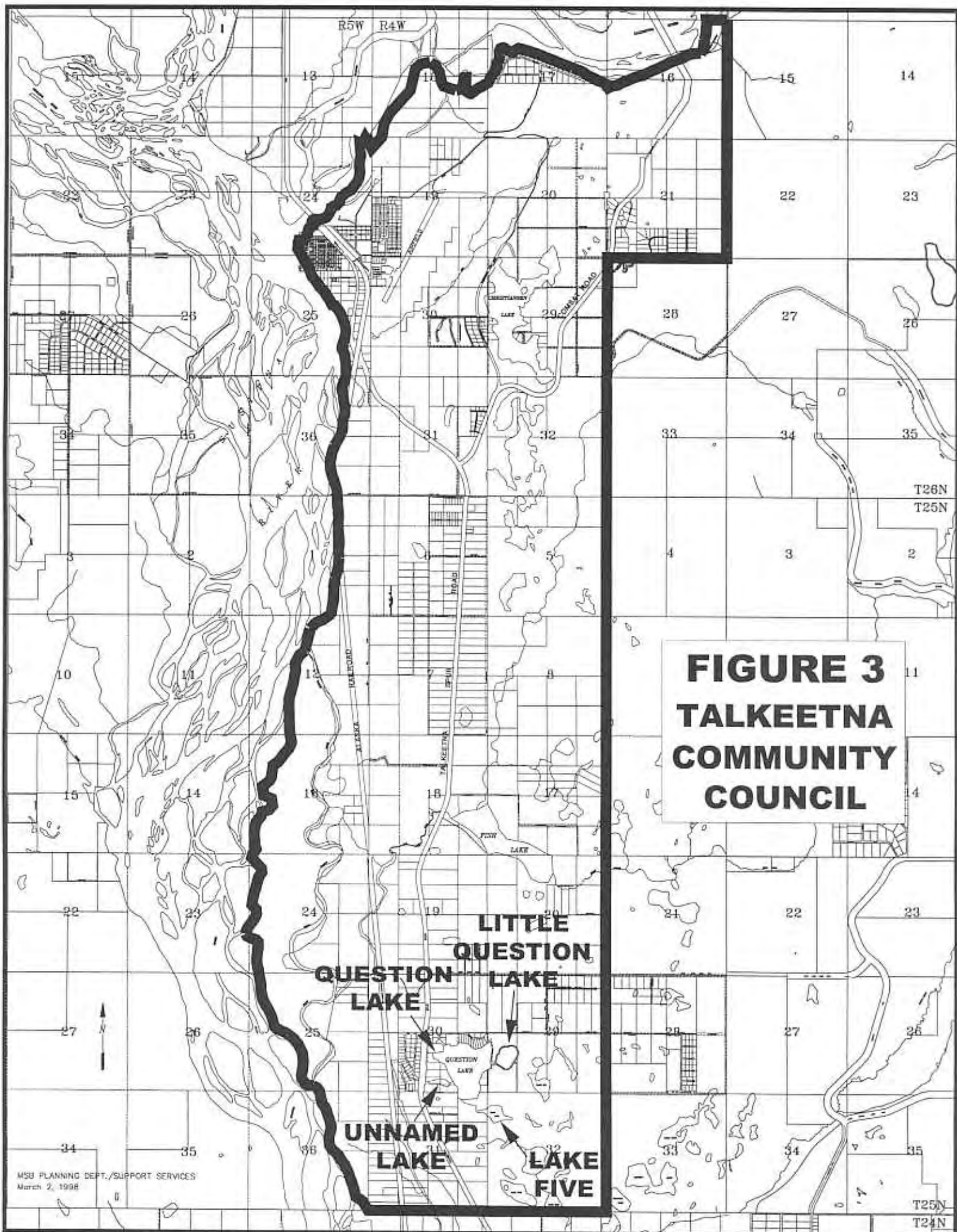
	Private	Mat-Su Borough
Number of Parcels	26.00	1.00
Total Acreage	172.71	6.94
Average Parcel Size		7.10
Smallest Parcel Size		0.92
Largest Parcel Size		39.24



**FIGURE 2  
LOCATION MAP**

MSB PLANNING DEPT./SUPPORT SERVICES  
MARCH 3, 1998





**FIGURE 3  
TALKEETNA  
COMMUNITY  
COUNCIL**

MSB PLANNING DEPT./SUPPORT SERVICES  
March 2, 1998





### 2.3 Present Lake Usage

Question, Little Question, Lake Five and Unnamed Lakes contains about 80 surface acres and 25 surface acres, respectively. The shorelines of Question and Little Question Lakes are 2 miles and ½ mile, respectively. Shoreline information is not available for Lake Five and Unnamed Lakes. The present lack of volume and depth information should be rectified.

Table 2  
Question and Little Question Lakes Characteristics

	Question Lake	Little Question Lake
Surface Acres	80	25
Volume	Unknown	Unknown
Mean Depth	Unknown	Unknown
Maximum Depth	Unknown	Unknown
Shoreline Length	2 miles	½ mile

Source: Department of Planning, Matanuska-Susitna Borough

The lakes are home to nesting loons, terns, and grebes. The lakes also serve as resting points for migrating ducks and swans. A healthy population of rainbow trout exists at the lakes and an inlet stream provides for a very small run of salmon in the fall of the year. Maintaining these fish and wildlife population is a goal of this lake management planning effort.

The present human use of Question, Little Question, Lake Five and Unnamed Lakes may be characterized as being quiet, recreational in nature and the property immediately adjacent to the lakes consist mostly of residential development with some home-based businesses. There are a number of undeveloped lots within the area. Lake front property owners are the predominant users of Question, Little Question, Lake Five and Unnamed Lakes. They boat, swim, and fish at the lake. The use of personal watercraft (a.k.a., jet skis/wave runners) is not a regular occurrence at Question, Little Question, Lake Five and Unnamed Lakes. Property owners are concerned that the use of personal watercraft and boats with large motors will create erosion of the shoreline, turbidity, loss of wildlife, and noise and detract from the existing, tranquil use of the lake. Property owners have indicated that the lake is not frequently used by visitors for boating and fishing.

## 2.4 Existing Plans

### State

The State plan affecting the Question, Little Question, Lake Five and Unnamed Lakes area is the Susitna Area Plan. The Susitna Area Plan, adopted in June 1985 contains management intent for State and Borough lands within the Susitna Planning Area an area encompassing approximately 15.8 million acres. Question, Little Question, Lake Five and Unnamed Lakes are located within the Subunit 9a, Talkeetna Spur Road management unit. Generally speaking, the plan's intent for public lands within the management unit is to maintain and improve public access to lakes, rivers and other amenities, and for recreation and habitat protection. To accomplish the subunit's management intent, the plan further recommends that 50% of the public lands in the Talkeetna Lakes area be retained in public ownership.

### Borough

Borough plans that address Question, Little Question, Lake Five and Unnamed Lakes in some manner include the Borough-wide Comprehensive Plan, adopted in 1971; the Matanuska-Susitna Borough Coastal Zone Management Plan, as amended; and the Borough-wide Long Range Transportation Plan, Public Facilities Plan and the Talkeetna Community Comprehensive Plan, adopted January 1998.

The Borough-wide Comprehensive Plan does not makes specific recommendations for the Question, Little Question, Lake Five and Unnamed Lakes area. On the other hand, the Talkeetna Comprehensive Plan makes a number of recommendations for the Talkeetna Planning Area which contains the Question, Little Question, Lake Five and Unnamed Lakes area. The comprehensive plan recommends that the block of State and Borough land around X, Y, Z, and Tigger Lakes; the block of contiguous public land north of Fish Lake; and the block of Borough land around Number Lakes be reserved for "parks and preserve" purposes. The remaining Borough lands in the area are recommended for settlement. The comprehensive plan also makes recommendations that guide development along Talkeetna Spur Road in an effort to limit congestion and maintain the scenic quality.

Question, Little Question, Lake Five and Unnamed Lakes lye within the Matanuska-Susitna Borough Coastal District (District), as defined within 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-a-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 Question, Little Question, Lake Five and Unnamed Lakes would be reviewed to determine whether or not it is consistent with the Coastal Zone Management Plan. Construction within waterbodies are also reviewed for consistency with the plan. Uncovered floating or pile supported docks which do not extend more than 40 feet beyond the ordinary high water line and do not exceed 400 square feet in size may obtain a general concurrence. Metal drums, however, may not be used as floatation devices.

The Borough Long Range Transportation Plan was adopted in 1987 and has been updated with the adoption (1997) of the Long Range Transportation Plan (2015). The plans do not identify new road projects in the Question, Little Question, Lake Five and Unnamed Lakes area. The Talkeetna Comprehensive Plan recommends that the Talkeetna community remain an "End of the Road" community.

The Borough 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. All of these elements affect the Question, Little Question, Lake Five and Unnamed Lakes area in some way; but the Parks, Recreation, Open Space, and Trails elements would have the most impacts relative to the concerns of this management plan.

## 2.5 Existing Regulations - Public

This section describes the principle regulations affecting use and development in the Question, Little Question, Lake Five and Unnamed Lakes area. This section is **NOT** meant to provide an all-encompassing description of all activities and uses that require permits or approvals from local, state, or federal agencies. Prior to undertaking any development activity, individuals should contact the appropriate local, state, and federal agencies to obtain the required permits and approvals.

### Federal

Any work which results in the dredging or placing of structures or fills in tidal (ocean) waters, streams, lakes, or wetlands require 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 "take" of migratory birds where "take" is defined to mean pursuing, killing, etc., migratory birds. Destruction of nest sites, eggs, or the birds themselves is a violation of the Act.

## State

The Alaska Department of Environmental Conservation (DEC) provides regulations for wastewater disposal. DEC wastewater/septage 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, river, stream, spring, slough, or the mean higher 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 requires a Title 16 permit from the Department of Fish and Game. Activities which result in the construction of a dam which impounds water or places a weir, culvert, or temporarily blocks a stream requires a Title 16 permit. In February 1994 the Habitat and Restoration Division of Fish and Game issued a one year, general permit allowing the vehicle movement on frozen water surfaces in southcentral Alaska. The permit allows certain motorized vehicles less than 2,000 pounds gross vehicle weight and wheeled vehicles less than 10,000 pounds gross vehicle weight to travel upon frozen water surfaces in southcentral Alaska without a special permit (Appendix #1). Finally, the general Alaska Department of Fish and Game fishing regulations apply to Question, Little Question, Lake Five and Unnamed Lakes.

Navigable and public waters in Alaska have special public access requirements. A navigable or public water body includes water suitable for commercial navigation, floating of logs, land and takeoff of aircraft, and public boating, trapping, hunting waterfowl and aquatic animals, fishing, or other public recreational purposes. Question, Little Question, Lake Five and Unnamed Lakes meets the definition of a public water body. Alaska's statute (AS 38.05.128) requires that the public have access to the surface waters of any navigable or public water body of the State. This requirement is typically called a "to" easement. In addition, all navigable and public waterbodies have a 50-foot easement along the water body; this easement is typically called an "along" easement. In regards to the actual ownership of the lands, the boundary between private and public ownership is the ordinary high watermark of a water body or watercourse. Therefore, an "along" easement may be used for transportation or emergency landing purposes but not for overnight camping. These easements are created when the State or Borough obtains patents to their lands and continue with the property when either entity disposes of lands.

## Borough

Several Borough-wide ordinances address the development and use of land adjacent to Question, Little Question, Lake Five and Unnamed Lakes. The regulations are contained within the Borough's planning (Title 15), subdivision (Title 16), zoning (Title 17), and real property management (Title 23) ordinances. The adopted Coastal

Management Plan described earlier, because of its enforceable criteria, also regulates development activities within and near Question, Little Question, Lake Five and Unnamed Lakes.

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 Question, Little Question, Lake Five and Unnamed Lakes, Lake Management Plan will become an instrument of Borough policy similar to the other plans adopted by the Borough Assembly.

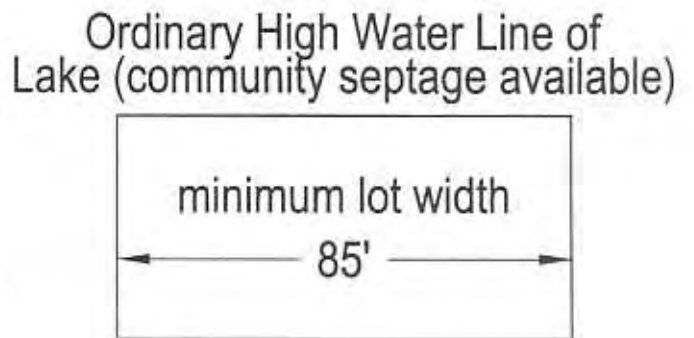
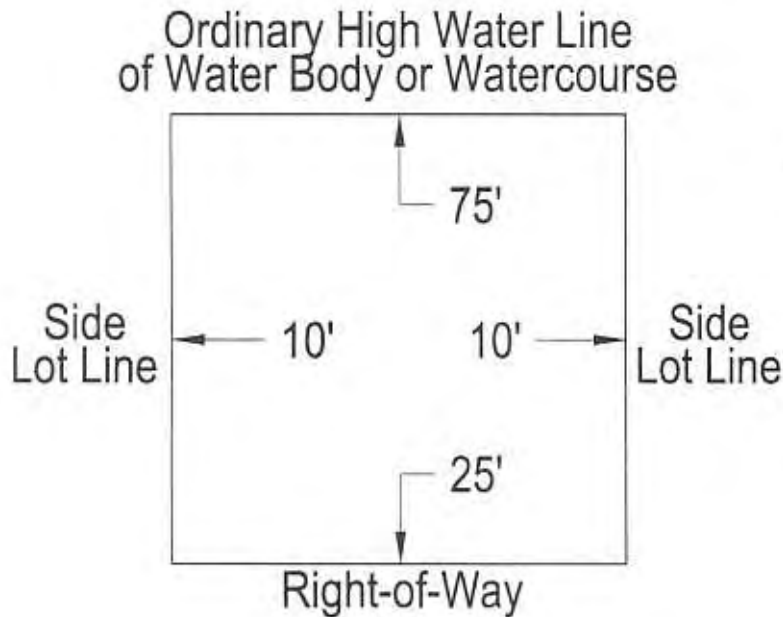
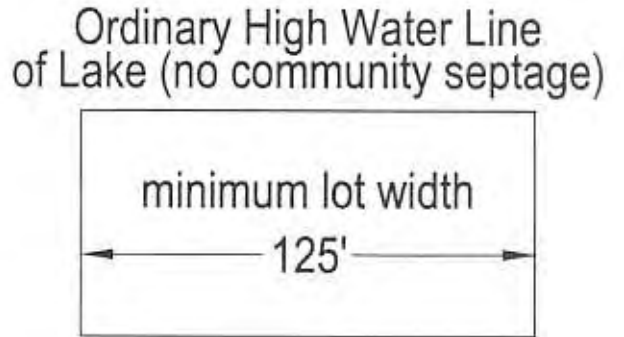
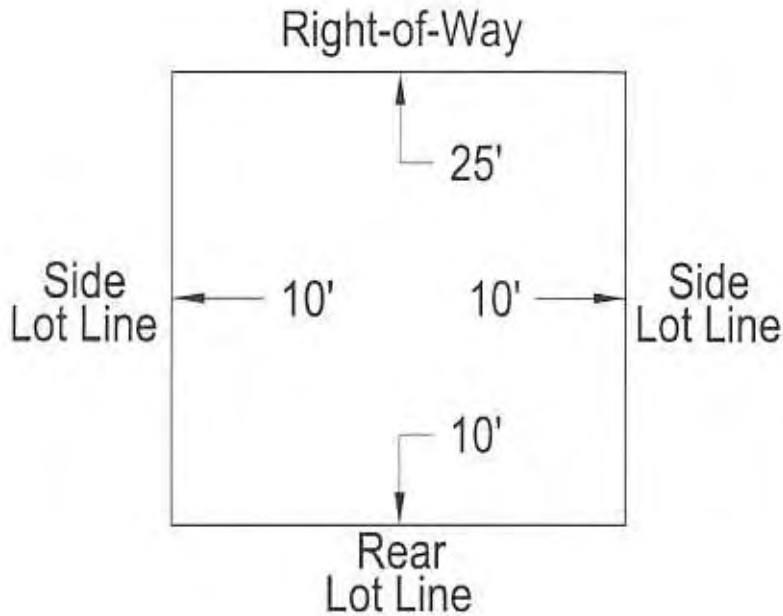
Title 16 provides the subdivision development standards within the Borough and establishes the Platting Board. Two of Title 16's requirements that are of special note to development at Question, Little Question, Lake Five and Unnamed Lakes include a minimum lot size of 40,000 square feet, and a minimum lot width when measured at the lake's water line of one hundred twenty-five feet unless community septage is provided, then the minimum width may be eighty-five feet (see Figure 5).

The Borough has a Borough-wide comprehensive plan which is implemented, in part, through the Borough-wide zoning ordinance. Presently, the Borough undertakes its comprehensive planning on a community by community basis. As most comprehensive plans are implemented through a zoning ordinance, a number of different zoning ordinances exist within the Borough and are identified as Special Use Districts. For example, the cities of Houston, Palmer, and Wasilla all have their own comprehensive plans and all have zoning ordinances unique to their cities. Title 17 contains these various zoning ordinances of the Borough. A list of Title 17's chapters follows.

- 17.01 Acknowledgment of Existing Land Use Regulations.
- 17.03 Public Notification.
- 17.04 Nancy Lake State Recreation Area Special Land Use District.
- 17.08 Hay Flats Recreation Area Special Land Use District.
- 17.15 Palmer Special Land Use District.
- 17.17 Denali State Park Special Land Use District.
- 17.18 Chickaloon Special Land Use District.
- 17.19 Glacier View Special Land Use District.
- 17.29 Flood Damage Prevention.
- 17.36 Residential Planned Unit Development.
- 17.40 Houston Land Use Ordinance.
- 17.45 Wasilla Special Use Land District.
- 17.48 Mobile Home Park Ordinance.
- 17.52 Residential Land Use District.
- 17.55 Setbacks and Screening Easements.
- 17.56 Violations and Enforcement.



Figure 5  
 General Setback Requirements  
 and  
 Lot Size\* Requirements



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

- 17.58 Motorized Uses on Lakes and Waterways.
- 17.60 Conditional Uses.
- 17.65 Variances.
- 17.70 Regulation of Alcoholic Beverage Uses.
- 17.80 Nonconforming Structures.
- 17.90 Regulation of Adult Businesses.
- 17.99 Fees.

Zoning regulations that are of special note to development activities at Question, Little Question, Lake Five and Unnamed Lakes include setback requirements and 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 a right-of-way and ten feet from all 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 watercourse (see Figure 5). In 1994, the voters of the Borough also adopted by initiative, an ordinance that allows by petition and subsequent adoption by the Assembly the following restrictions to be placed on lakes and waterbodies: 1) limiting or elimination of motorized use of lakes, 2) establishment of quiet hours, and 3) establishment of a one hundred foot no wake zone from the ordinary high water mark. The Borough also requires that any development which seeks to establish or operate a mobile home park, junkyard, refuse area or landfill, or dispense alcohol must first obtain a conditional use permit.

The Borough received approximately 350,000 acres of land through the Municipal Entitlement Program. The Planning Department of the Borough manages and disposes of these lands through the policies and procedures described within Title 23. There is one parcel of Borough land at Question, Little Question, Lake Five and Unnamed Lakes.

#### Existing Regulations - Private

Private regulations, in the Question, Little Question, Lake Five and Unnamed Lakes area would be in the form of subdivision covenants for the Question Lake subdivision which is located on the north side of Question Lake. The Borough files do not contain a copy of any recorded covenants although this does not mean that they do not exist. For current information about covenants in the area, the reader is referred to the State of Alaska Recorders Office.

### **3 Goals**

Goals describe the future expectations of residents, property owners, and users for a lake. The following goals reflect the aspirations of Question, Little Question, Lake Five and Unnamed



Lakes residents, property owners, and users and address their principle concerns: water quality, access, wildlife, quality of experience, and the recreational character of the area. The goals are not shown in priority order as they are interdependent.

### 3.1 Water Quality

Question, Little Question, Lake Five and Unnamed Lakes is a significant natural resource and it is the desire of property owners, residents, and users of Question, Little Question, Lake Five and Unnamed Lakes to maintain or improve the lake's water quality.

### 3.2 Recreation and Residential Character

The recreational opportunities offered at Question, Little Question, Lake Five and Unnamed Lakes should be maintained and enhanced but suited to the lake's particular characteristics and should not detract from the quiet quality of experience at the lake.

Question, Little Question, Lake Five and Unnamed Lakes offers a unique natural setting for part and full time residential use and this quality should be protected and preserved.

Upland development should occur in an appropriate manner to ensure that pollution, noise, or other environmental degradation of the lake and uplands does not take place.

Uses of the lake should be compatible, or of the kind that enhance the present quality of the lake which is of a low-impact, quiet, recreational character.

### 3.3 Wildlife

The ability of Question, Little Question, Lake Five and Unnamed Lakes to remain a migratory bird (loon) nesting site should be preserved. Recreational use of the lakes should be compatible with wildlife nesting.

### 3.4 Access

Legal and physical access to the lakes should be assured for all members of the public.

Public access should be properly managed and measures should be developed to maintain safety, cleanliness, sanitary nature, eliminate trespass and to ensure that the area remains open to all.

## 4 Management Issues, Alternatives, and Recommendations

The management issues at Question, Little Question, Lake Five and Unnamed Lakes were identified by the lake's property owners and residents. This section describes several methods for alleviating problems and provides preferred recommendations. The alternatives were developed through discussions with property owners and residents, and a review of how other lakes in the Borough and lakes in other states have been managed.

### 4.1 Access

**Management Issue** Presently there is no developed public access to the lakes. Developed points of access that are unsupervised and unmanaged more often than not, create numerous problems at lakes throughout the Borough. Examples of the problems caused by the lack of a suitable and managed access to a lake include trespass onto private property, creation of unsanitary conditions where no sanitary facilities exist, litter, blockage of the public's access by visitor parking or overnight activities, damage to nearby trees, and unsupervised campfires.

**Alternatives** Two alternatives are available to address the access management issue: 1) develop and actively manage access to the lakes and 2) do not develop the lake's access. Presently funds are unavailable to operate and maintain a new public access to Question, Little Question, Lake Five and Unnamed Lakes. Without active and ongoing management of the access, new development is likely to increase litter and cause environmental degradation; and hence, create more problems than exists today. Not developing the access at this time, preserves the ability to develop it in the future when funds become available for operations and maintenance without causing additional problems today.

**Recommendation** Until funds are made available to provide facilities and adequate supervision, no developed public access should be constructed to Question, Little Question, Lake Five and Unnamed Lakes. In addition, the property owners and residents recommend that the Borough parcel immediately adjacent to the Talkeetna Spur Road and abutting Question Lake be retained in public ownership as recommended by the Susitna Area Plan and Talkeetna Comprehensive Plan. However, as some property owners on the east side of Question Lake do not have road access, a portion of the Borough parcel may be leased for access. Lastly, a public information sign, where the rules of the lake may be shown, should be placed near the Borough parcel that is immediately adjacent to the Talkeetna Spur Road.

### 4.2 Wildlife

**Management Issue** The principle wildlife concerns of Question, Little Question, Lake Five and Unnamed Lakes residents and property owners are the retention and

protection of bird-nesting sites, in particular, loons, grebes and terns. Presently, the lakes have active nests and there is a concern that increased motorized activity on the lakes will harm the existing nesting sites. The remainder of this section will discuss alternatives for preserving and protecting the loon nests.

Loon nesting sites and successful breeding may occur on lakes having development and recreational use if sufficient habitat is available and the nesting sites are not repeatedly disturbed. Loons will nest on shore although islands offer the optimal nest sites. Nesting periods generally begin in late May through late June, however, if a nest is abandoned, a loon pair may attempt a new nest and this second nesting period runs through late July. In order to retain and protect the existing nest site, lake users need to become informed of how recreation and development affect loons, as well as to avoid the nest sites during the critical nesting/mating/rearing periods. While grebes commonly have the same breeding period as loons, grebe nest sites are much different. Grebes prefer to nest on floating objects, typically vegetation.

Nest sites and breeding may be disturbed in a number of ways. Steady activity that comes near a nest site, whether motorized or non motorized, may cause the nest to be abandoned. High motorized activity near a nest site may cause chick mortality by separating the chick from the adult or by the wakes caused by motorized craft may destroy the nest or wash away the eggs. In addition to damaging a nest, activities occurring too close to a nest will cause loons to leave an active nest thereby allowing predators such as gulls and ravens to eat the unprotected eggs or chicks. Discarded monofilament line presents another threat to loons and other birds as it may entangle birds and chicks and ultimately kill them through starvation, predation, or by drowning.

**Alternatives** If nothing is done to inform lake users of the sensitivity of loons and grebes to water borne activities and development, active nests will not be found on Question, Little Question, Lake Five and Unnamed Lakes in the future. In order to maintain the presence of loons and grebes, it is necessary that some proactive steps be implemented. The proactive steps include providing the public with information about waterfowl and bird (loon/grebe) nesting habits and by taking some actions that will reduce the probability of harming nests and nest sites.

**Recommendations** Most individuals will not disturb a nest site if they are informed of its location and the proper behavior when near it. It is recommended that a number of techniques be employed to provide the public with information about loons and grebes. First, existing nests where regular loon or grebe nests have occurred could be encircled by a number of buoys marked with "Loon (or Grebe) Nesting Site - Do Not Approach" placed at least 150 feet (200 feet preferred) from the nest's boundary. Appendix #2 provides an illustration of a low cost, effective buoy. Loon and grebe alert notice and general information about loons should be posted at a weather-

protected signboard at the lake's access point to inform the public about proper "loon or grebe etiquette" (Appendix # 2).

Since Question Lake is a small and shallow lake it is very easy to create wakes and turbid conditions. Wake action may cause loon mortality by swamping active nests or by separating parents from chicks. Turbid waters also reduce fish stocks. Therefore, it is further recommended that a 5-horsepower motor size limit be placed on watercraft using Question Lake in order to reduce wakes, turbidity, and shoreline erosion.

Because Little Question, Lake Five and Unnamed Lakes are very small and shallow lakes, wakes and turbid conditions are easily created. Wake action may cause loon mortality by swamping active nests or by separating parents from chicks. Turbid waters also reduce fish stocks. Therefore, a non motorized only for boats is recommended for Little Question, Lake Five and Unnamed Lakes in order to reduce wakes, turbidity, and shoreline erosion.

#### 4.3 Noise

**Management Issue** Question, Little Question, Lake Five and Unnamed Lakes have a history of low-impact, quiet, recreational use. Residents and property owners of the area wish to maintain these characteristics of the lakes. Additionally, Question, Little Question, Lake Five and Unnamed Lakes are relatively small and shallow lakes and therefore not of sufficient size to adequately support watercraft with large motors, recreational use that generates a large number of wakes nor a large amount of surface water activities.

**Alternatives** Four alternatives may be considered for this management issue; namely: 1) do nothing, 2) prohibit all motorized use, 3) limit the size/power of boat motors that may be used on the lake, and 4) establish quiet hours to allow motorized use which does not detract from the current use and character of the lakes.

The first alternative, "Do Nothing," ignores problems that may be associated with noise. The "Do Nothing" alternative also ignores one of the primary reasons residents and property owners requested that a lake management plan be developed; that being, to control noise. This alternative is therefore rejected.

The second alternative would prohibit all motorized use of the lakes. While this alternative would eliminate noise associated with motors, it would also restrict craft that do not generate noise such as boats with non motorized. A complete ban on motorized use would also eliminate uses that are not associated with the noise problem.

The third alternative is a slight modification of the second alternative where a horsepower or engine displacement limit is placed on watercraft using the lakes. The residents and property owners discussed this and other alternatives and selected motor size limits as the most appropriate method for reducing noise, reducing shoreline erosion, reducing wildlife (loon/grebe) harassment and ensuring that jet skis/wave runners do not become a common occurrence at the lake. The preferred alternative of most property owners/residents is a 5-horsepower boat motor size limit for Question Lake and a non motorized only for boats on Little Question, Lake Five and Unnamed Lakes.

As an additional precaution, residents and property owners wish to establish quiet hours to ensure that noise does not become a continuing problem at the lakes. Quiet hours provides a period of time when motorized use that creates wakes or is repetitive in nature is prohibited. Quiet hours also allow use of the lakes during the quiet hour period for quiet, unobtrusive transit of the lakes and for trolling. The quiet hours periods that have been established through lake management planning efforts within the Matanuska-Susitna Borough are either 10 p.m. through 8 a.m. or 11 p.m. through 8 a.m.

**Recommendation** Residents and property owners of the area initiated the lake management planning process for, among other reasons, to protect the existing quiet, low-impact, recreational use of the Question, Little Question, Lake Five and Unnamed Lakes. Property owners stated a preference for a 5-horsepower boat motor size limit for Question Lake and a non motorized only for boats on Little Question, Lake Five and Unnamed Lakes. It is further recommended that quiet hours be established between 10 p.m. and 8 a.m.

## 5.0 Implementation

Plans may be implemented in a number of ways but are typically implemented through capital improvement programs and subdivision and zoning ordinances. Within the Borough, residents may also petition for motorized use restrictions on lakes and this ordinance may be used to implement a lake management plan. This ordinance was discussed by Question, Little Question, Lake Five and Unnamed Lakes property owners and found not to be needed at this time. Plans may also provide for private implementation through public information campaigns and a list of best management practices that may be used by the public. The problems facing Question, Little Question, Lake Five and Unnamed Lakes at this time do not warrant a special zoning or subdivision ordinance nor do they warrant implementation of the Borough's motorized use of lakes ordinance. Therefore, this plan will utilize a combination of public information and best management practices, and regulations to implement the plan. The plan recommends the use of the Borough's citation authority (MSB 17.58) for infractions of the plan's recommended management guidelines.



In addition, a lake management ordinance<sup>3</sup> may be adopted containing a general provisions section that provides limited guidelines, e.g., wildlife protection, quiet hours, no-wake zones, and bans on overnight camping. The Question, Little Question, Lake Five and Unnamed Lakes area residents and property owners should be contacted to determine whether or not Question, Little Question, Lake Five and Unnamed Lakes should be included in such an ordinance. A description of the implementation proposals follow.

***Question Lake 5 horsepower Limit*** As stated above, Question Lake is a relatively small lake and not suitable for large watercraft or watercraft with large motors. Residents living adjacent to the lake seek to have their shorelines protected from erosion caused by large wakes. Loons nesting on a small lake are placed at an increased risk of disturbance from wakes caused by watercraft with large horsepower engines or by use creating repetitive wake action. The historical use of Question Lake has been low impact recreational; residents and property owners wish to continue this character and the quiet nature of the lake. Therefore, a 5-horsepower boat motor limit is recommended for Question Lake.

***Non motorized Only for Little Question, Lake Five and Unnamed Lakes*** As stated above, Little Question, Lake Five and Unnamed Lakes are very small lakes and are not suitable for large watercraft or watercraft with large motors. Residents living adjacent to the lakes seek to have their shorelines protected from erosion caused by large wakes. Loons nesting on small lakes are placed at an increased risk of disturbance from wakes caused by watercraft with large horsepower engines or by use creating repetitive wake action. The historical use of Little Question, Lake Five and Unnamed Lakes has been low impact recreational; residents and property owners wish to continue this character and the quiet nature of the lakes. Therefore a non motorized only for boats is recommended for Little Question, Lake Five and Unnamed Lakes.

***Access*** Until funds are available to provide adequate facilities, maintenance and supervision no developed public access should be developed into Question, Little Question, Lake Five and Unnamed Lakes. In addition, the Borough parcel immediately adjacent to the Talkeetna Spur Road and abutting Question Lake should be retained in public ownership. However, as some property owners on the east side of Question do not have road access, a portion of the Borough parcel may be leased for access.

***Loons and Grebes*** To protect loons and grebes it is recommended that buoys should be placed a minimum of 150 feet (200 feet preferred) near the nest(s). Appendix #2 provides information on buoy construction and placement. Finally, a weather-protected informational signboard should be constructed at the preferred access point and information about lake

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<sup>3</sup> Note: Due to the diversity of lakes in the Borough and the many requests for lake management plans and guidelines that have been received, a Borough-wide ordinance consisting of a general provisions section containing rules for all lakes, e.g., don't litter and a more specific provisions section containing several lake categories with different guidelines ranging from none to several may be considered.

usage and proper behavior near active loon nests, e.g., "Loon (or Grebe) Alert!" The Question, Little Question, Lake Five and Unnamed Lakes area residents and property owners and Borough should cooperate in implementing the loon and grebe protection program. Additionally, the harassment of loons and grebes and other lake related wildlife such as grebes may become subject to fines under the proposed lake management ordinance described above.

**Quiet Hours** To maintain the existing quiet nature, residential quality, and low-impact use of the lakes, quiet hours are established between the hours of 10 p.m. and 8 a.m. Sunday through Saturday.

**Special Permit** To accommodate building construction, the aforementioned boat motor limits may be waived for the transport of building materials by obtaining a Special Use Permit from the Matanuska-Susitna Borough, Department of Planning.

**Winter Motor Vehicle Control** To reduce the potential of water pollution from petroleum products associated with motor vehicles, motor vehicles are prohibited from the surface of the lakes during the winter months or when the lakes are frozen. "No Motor Vehicles Allowed on Lakes" should be posted at appropriate places to inform lake users of this prohibition.

**Ice House Registration** To reduce the pollution resulting from structures used for ice fishing, these structures should be registered with the Borough. Registration would provide the opportunity to contact the responsible party so that the structure and any associated materials are removed before the lakes thaw.

**Trash and Fireworks** Firework displays are illegal without a special permit issued by the Borough Planning Department; never-the-less, individuals generally display fireworks throughout the Borough. Firework displays create two problems, noise from explosions and trash from the fireworks. Firework displays may also start forest fires. The Borough does not have the resources to actively police the illegal use of fireworks and such use is a low priority for the Alaska State Troopers. However, the Borough should advise property owners of the law and inform them to be considerate of their neighbors, avoid polluting the lakes with debris, and avoid forest fires and disturbance of waterfowl.

**Enforcement** Violation(s) of this lake management plan's guidelines, upon adoption of the plan by the Borough Assembly are subject to the citation and remaining remedies that exist for violation of the lake management plan guidelines (15.24.030(c)).



## APPENDIX #1

# STATE OF ALASKA

WALTER J. HICKEL, GOVERNOR

## DEPARTMENT OF FISH AND GAME

HABITAT AND RESTORATION DIVISION

333 RASPBERRY ROAD  
ANCHORAGE, ALASKA 99518-1599  
PHONE (907) 344-0541  
FAX (907) 349-1723

FISH HABITAT PERMIT PG 93-II-0803

ISSUED: February 23, 1994  
EXPIRES: December 31, 1994

General Public

Re: Vehicle movement on frozen water surfaces within southcentral Alaska

Pursuant to AS 16.05.870(b), the Alaska Department of Fish and Game (ADF&G) 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 certain categories of motorized wheeled and tracked vehicles on the frozen waters of various specified rivers, lakes, and streams within the southcentral region (see attached map).

Categories of motorized vehicles covered by this GP include: any wheeled, tracked, or other ground effect motorized vehicles less than 2,000 pounds gross vehicle weight (GVW) such as snow machines, 3 and 4 wheelers, coots, etc.; and wheeled vehicles less than 10,000 pounds GVW. The use of any ground effect motorized vehicle on specified frozen waters: (1) with GVWs other than indicated above; (2) within State of Alaska Refuges, Critical Habitat Areas, or Sanctuaries (see attached maps); (3) by Alyeska Pipeline Service Company (APSC) for activities along the pipeline corridor, or (4) outside of the described area is not allowed, except by individual Fish Habitat Permit, other general permit, or Special Area Permit issued by the ADF&G, Habitat and Restoration Division, or by the State Pipeline Coordinator's Office for the APSC.

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.

Various rivers, lakes, or streams within the described area have been specified as being important for the spawning, rearing, or migration of anadromous fish pursuant to AS 16.05.870(a). They are utilized by salmon and other anadromous fish for spawning, rearing, or migration, and by resident fish species.

In accordance with AS 16.05.870(d), access to, use and crossings of, or egress from any specified waters, as described above, is hereby authorized provided the stipulations contained herein are adhered to.

1. The ice cover shall be of sufficient thickness to support the weight bearing load of the authorized vehicle(s).
2. There shall be no vehicles or equipment operated in the open water of any specified river, lake, or stream under this GP.
3. The use of snow or ice bridges, access ramps, cribbing to cross any specified river or stream is prohibited unless specifically approved, in writing, by the ADF&G, Habitat and Restoration Division.
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 river, lake, or stream shall not be altered or disturbed in any way to facilitate use of, access to, or egress from their frozen surfaces.
6. Vehicles or equipment shall not be left unattended while on the frozen surface of any specified river, lake, or stream.
7. No vehicles shall be fueled or serviced while on the frozen surface or below the ordinary high water line of any specified river, lake, or stream.

The permittee is responsible for the actions of contractors, agents, or other persons who perform work to accomplish the approved stream crossings. For any activity that significantly deviates from the approved plan, the permittee shall notify the ADF&G, Habitat and Restoration Division, and obtain written approval in the form of an individual permit before beginning the activity. Any action taken by the permittee or an agent of the permittee that increases the scope of the activity or that negates, alters, or minimizes the intent or effectiveness of any stipulation contained in this general permit will be deemed a significant deviation. The final determination as to the significance of any deviation and the need for an individual permit is the responsibility of the ADF&G, Habitat and Restoration Division. Therefore, it is recommended that the ADF&G, Habitat and Restoration Division, be consulted immediately when a deviation from the approved activity is being considered.

This letter constitutes a general permit issued under the authority of AS 16.05.870. Please be advised that this approval does not relieve you of the responsibility for securing other permits: state, federal, or local.

February 23, 1994

Pursuant to 6 AAC 80.010 (b), the conditions of this general permit are consistent with the Alaska Coastal Management Program.

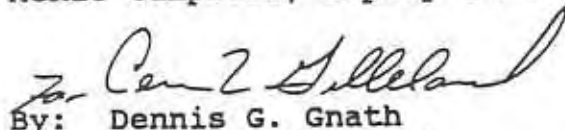
In addition to the penalties provided by law, this general permit may be terminated or revoked for failure to comply with its provisions or failure to comply with applicable statutes and regulations. The department reserves the right to require mitigation measures to correct disruption to fish and game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

The recipient of this general permit (the permittee) shall indemnify, save harmless, and defend the department, 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 general permit. However, this provision has no effect if, and only if, the sole proximate cause of the injury is the department's negligence.

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

Sincerely,

McKie Campbell, Deputy Commissioner



By: Dennis G. Gnath  
Habitat Biologist  
Habitat and Restoration Division  
(907) 267-2284

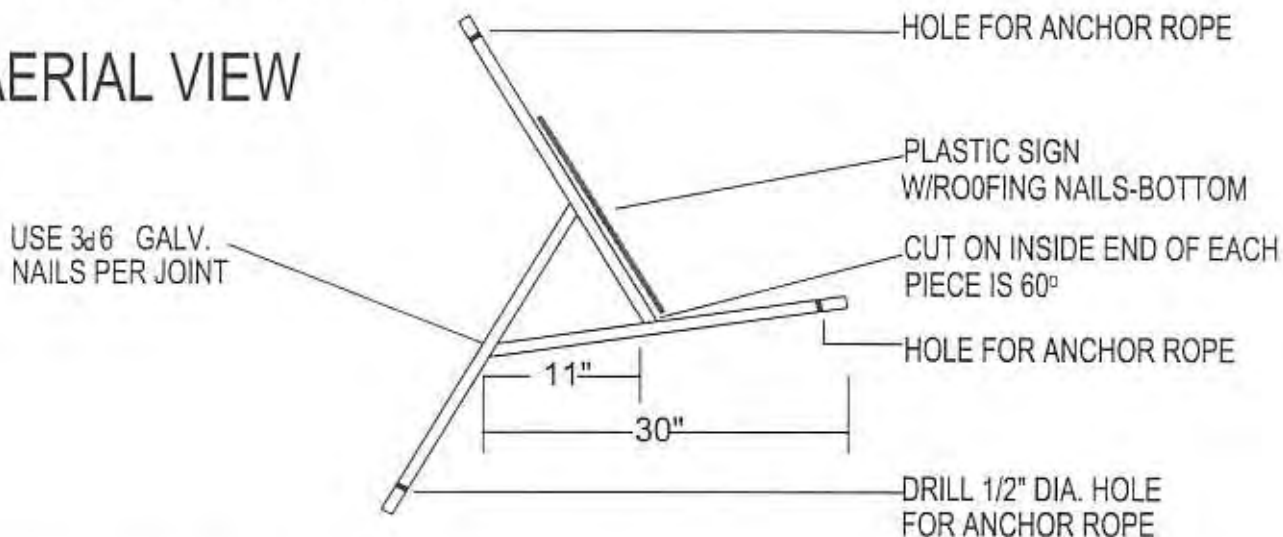
cc: R. Thompson, DNR/DL  
A. Samet, DNR/DL  
D. Kelley, DNR/DL  
S. Dunaway, DNR/DM  
P. Pinard, DEC  
P. Brna, SPCO  
D. Webster, MSB  
W. Wrede, City of Cordova  
M. Pearsall, KPB  
D. Dengel, City of Valdez

## APPENDIX #2

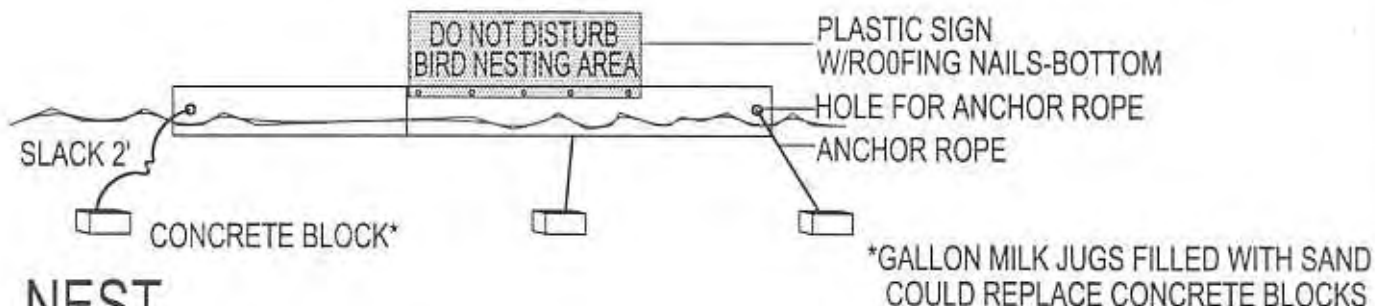
# SIGN FLOAT FOR LOON NESTS

(NOT LIKELY TO TURN OVER  
IN THE STRONGEST WIND)

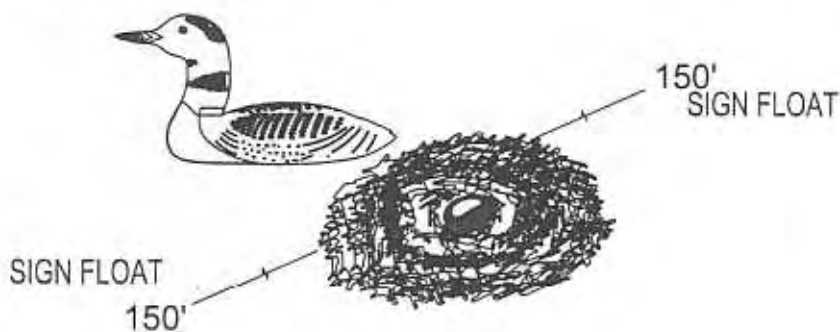
## AERIAL VIEW



## 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 CILLEY, PO BOX 348 TUPELO POINT BOWLAKE, NORTHWOOD, N.H. 03261

ENHANCED BY:  
MATANUSKA-SUSITNA BOROUGH SUPPORT SERVICE 1996

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.

# LOON ALERT



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

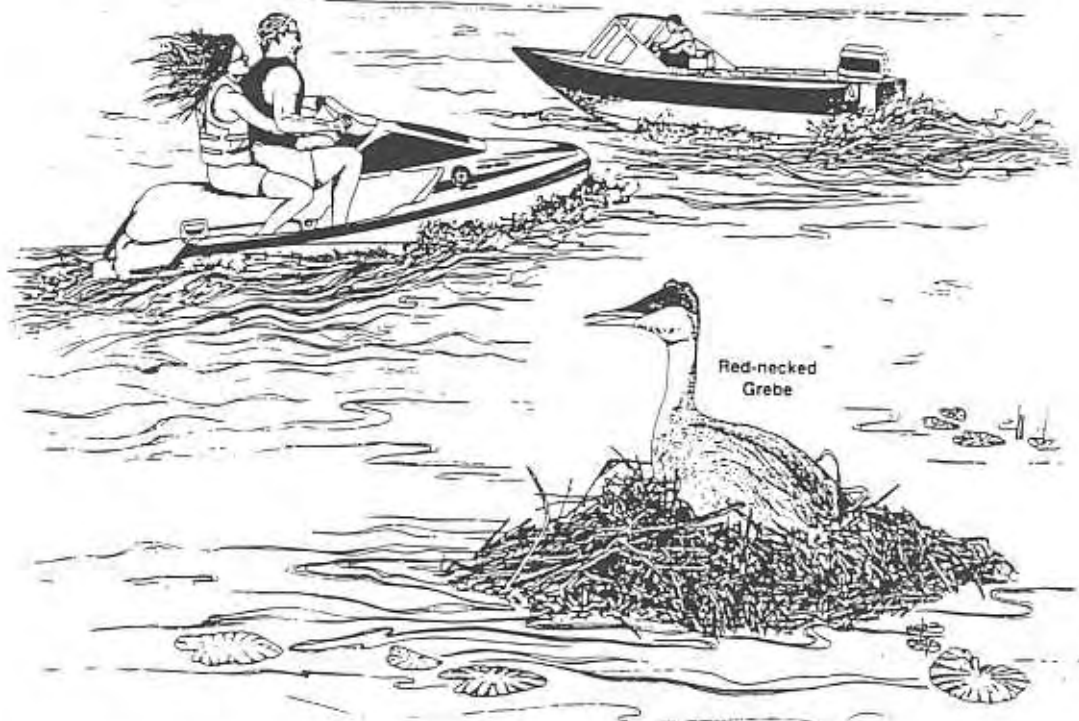
1. Watch loons from a distance.
2. Pick up fishing line and other litter that may entangle loons.
3. Keep your dog on a leash.

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.





# 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**

