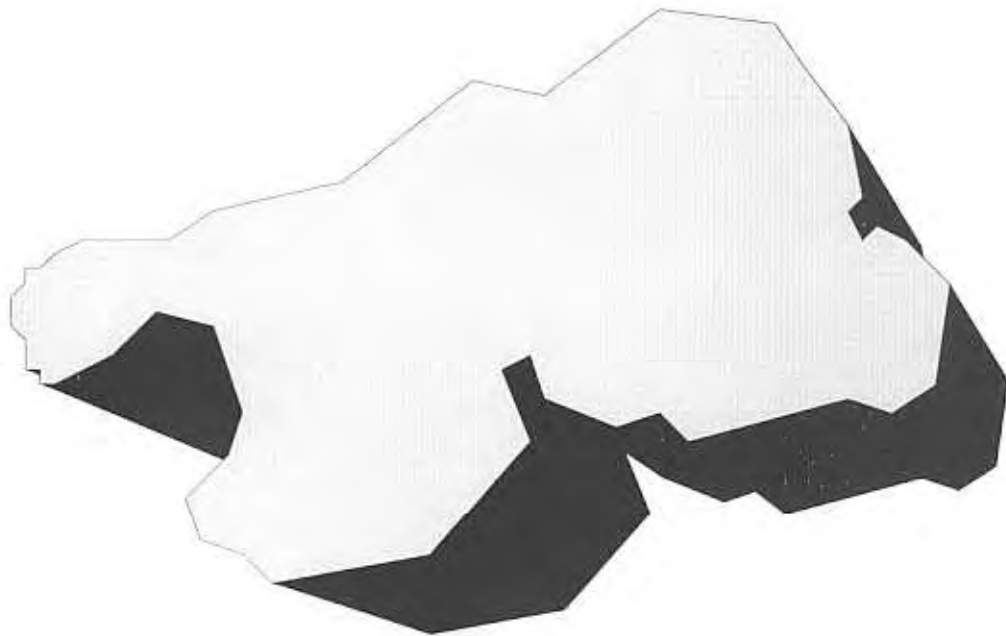


MARILEE LAKE LAKE MANAGEMENT PLAN

MATANUSKA-SUSITNA BOROUGH
PLANNING DEPARTMENT

SEPTEMBER 1998



ACKNOWLEDGMENTS

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MATANUSKA-SUSITNA BOROUGH

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and

Planning Department Staff

Code Ordinance

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

**MATANUSKA-SUSITNA BOROUGH
ORDINANCE SERIAL NO. 98-120**

AN ORDINANCE OF THE MATANUSKA-SUSITNA BOROUGH ASSEMBLY ADOPTING MSB 15.24.030(C)(19), THE MARILEE LAKE, LAKE MANAGEMENT PLAN.

WHEREAS, the Marilee Lake, Lake Management Plan provides guidelines for the continued enjoyment and management of Marilee Lake; and

WHEREAS, the management guidelines for Marilee Lake were developed with input from the residents and property owners of Marilee Lake; and

WHEREAS, the residents and property owners of Marilee Lake 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 Marilee Lake, 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 Marilee Lake, Lake Management Plan.

Section 3. Amendment of subsection. MSB 15.24.030(C) is hereby amended to add a subsection (19) to read as follows:

(19) Marilee Lake, Lake Management Plan, adopted September 1998.

Section 4. Effective date. Ordinance Serial No. 98-120 shall take effect upon adoption by the Matanuska-Susitna Borough Assembly.

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


DARCIE K. SALMON, Borough Mayor

ATTEST:

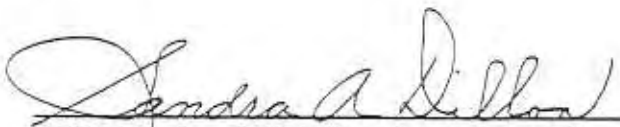

SANDRA A. DILLON, Borough Clerk
(SEAL)

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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 Marilee Lake, Lake Management Plan provides management guidelines for:

- ◆ The protection of the recreational and residential quality of Marilee Lake; and
- ◆ The continued recreational enjoyment of Marilee Lake; and
- ◆ The protection of Marilee Lake's water quality; and
- ◆ The continued quiet character and use of Marilee Lake; 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 either to seek a prohibition of all motorized use on a water body or to establish quiet hours (11:00 p.m. to 8:00 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 Reservoirs¹

There seem to be no universally accepted scientific definitions of the terms **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.

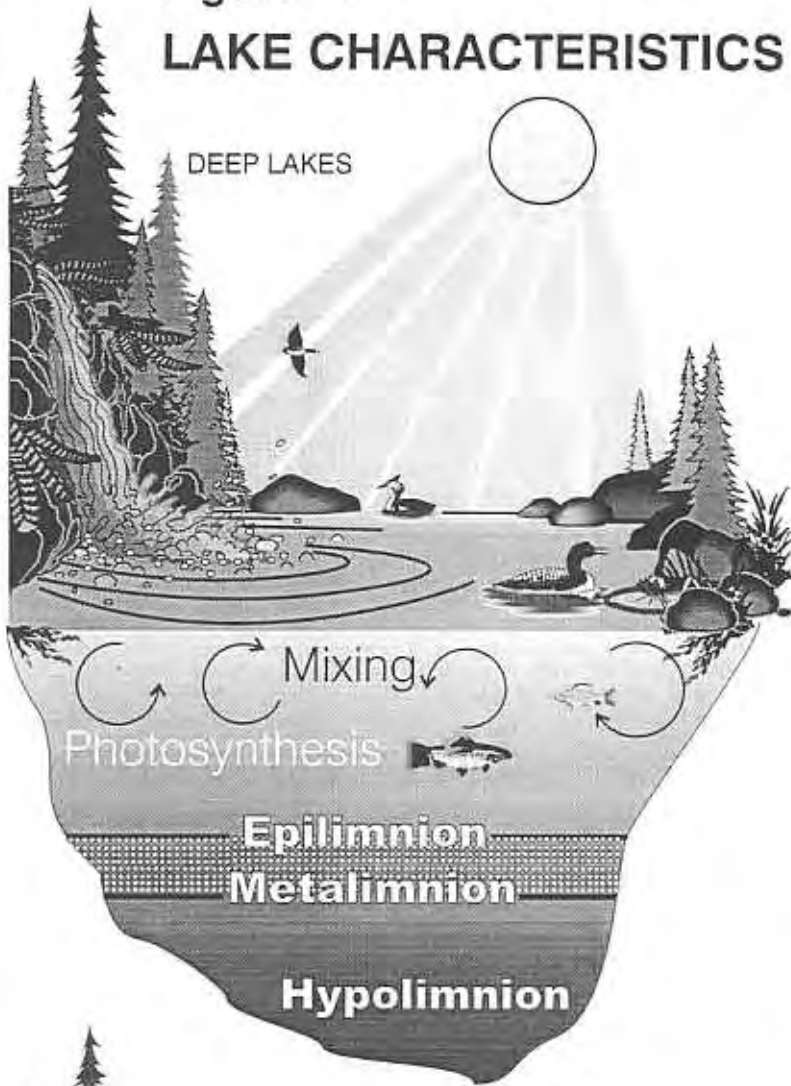
1.5 Lake Lifespan²

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 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.

¹ 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.

² 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.

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.

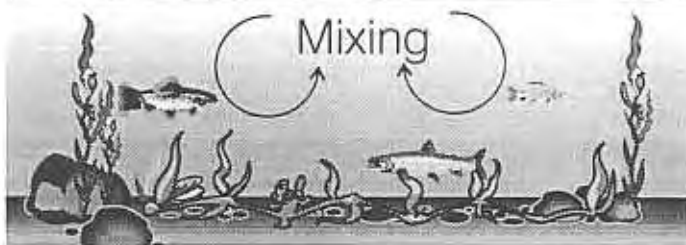
Metalimnion

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



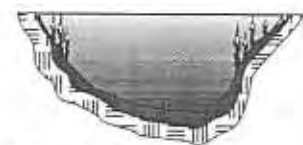
Oligotrophic

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



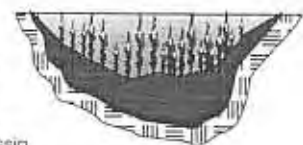
Mesotrophic

Increased production
Accumulated organic matter
Occasional algal bloom
Good fishery



Eutrophic

Very productive
May experience oxygen depletion
Rough fish common



Source: A Lake Leaders
Handbook: 1985
UWEX-LAKES PROGRAM
Understanding Lake Data
By Bryon Shaw, Christine
Machenich and Lowell Klessig

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

Trophic conditions in lakes are relative, not absolute - that is, there is no definitive line between oligotrophic and mesotrophic, or between mesotrophic and eutrophic. Lake Characteristics, Figure 1. 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.

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 Marilee Lake Issues and Concerns

The Marilee Lake, Lake Management Plan was initiated by a request from Marilee Lake property owners. Three meetings were held with residents and lakefront property owners. At this meeting 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
- 2) Protection of the wildlife and wildlife habitat
- 3) The potential for erosion caused by wakes
- 4) Protection of the quiet, recreational character of the lake
- 5) Surface uses that create noise and disturb wildlife are primary concerns of property owners
- 6) Increased noise and erosion from additional use of the lake by motorized watercraft
- 7) The desire to maintain the quiet, recreational/residential quality of the lake

It is the desire of the majority of property owners of Marilee Lake that the quiet, recreational character of the lake be protected. The present state of the lake may be characterized as part-time/week-end residential, quiet, with active loon nests. Property owners are concerned that the lake 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 they harass wildlife, create turbid water conditions, cause shoreline erosion, create noise, and detract from the quality of life and recreational experience at the lake.

2 **Inventory of Existing Conditions**

2.1 Location

Marilee Lake is located approximately 3 miles south of the South Big Lake Road. Marilee Lake is accessed by Burma Road which is connected to South Big Lake Road, Location Map, Figure 2. The Marilee Lake area is located completely within the boundaries of the Big Lake Community Council, Figure 3.

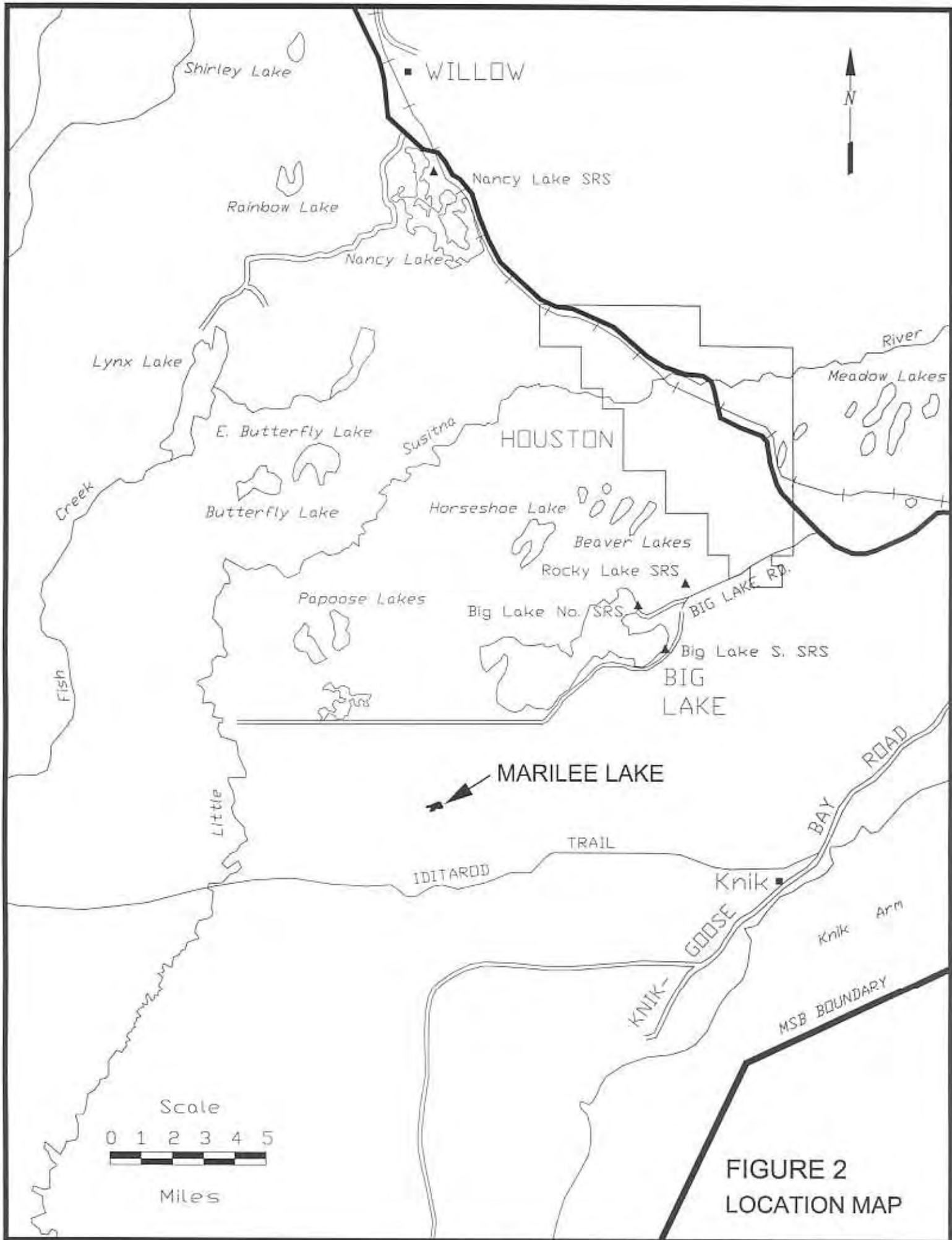


FIGURE 2
LOCATION MAP

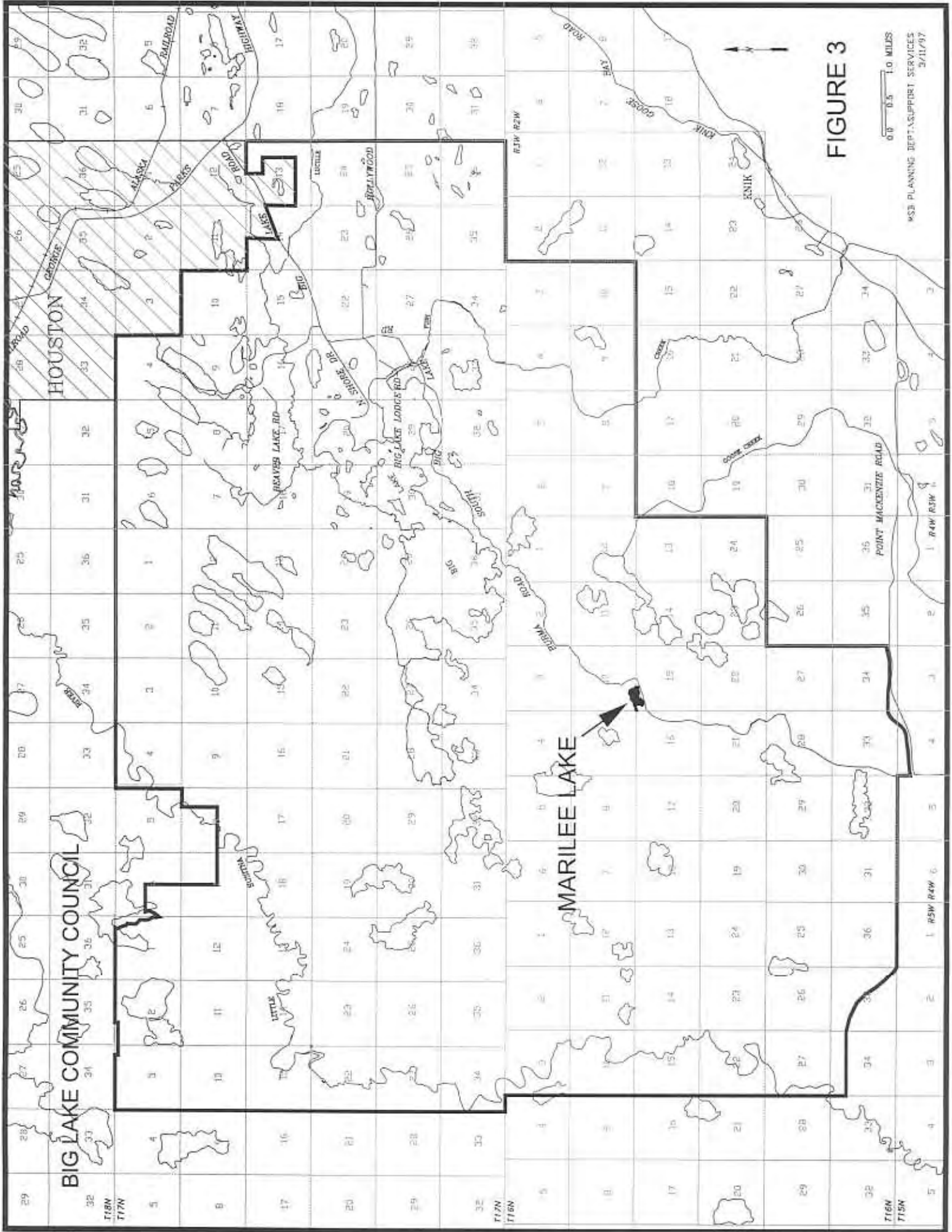


FIGURE 3

MSB PLANNING DEPT./SUPPORT SERVICES
2/11/97

2.2 Land Ownership

There are 22 lots with shoreline on Marilee Lake (see Table 1). There is no developed public access to the lake although there are two undeveloped, section line easements to the lake and one dedicated (by plat) 60 foot easement between lots 13 and 14, Block 1 of Irish Hill subdivision. All but two parcels of the land adjacent to Marilee Lake are privately owned. The Borough owns two parcels with limited shoreline on the lake, Figure 4.

Table 1
Marilee Lake
Landownership and Parcel Size
(lake front only)

	Private	Mat-Su Borough
Number of Parcels	20.00	2.00
Total Acreage	172.71	1,132.00
Average Parcel Size	9.60	566.00
Smallest Parcel Size	0.95	549.00
Largest Parcel Size	140.0	583.00

2.3 Present Lake Usage

Marilee Lake contains 33.8 surface acres and has just over 1 mile of shoreline (see Table 2). Rainbow trout are stocked at the lake and the lake contains active loon nests.

Table 2
Marilee Lake Characteristics

Surface Acres	33.8
Volume	248 acre feet
Mean Depth	7.3 feet
Maximum Depth	18 feet
Shoreline Length	1.2 miles

Source: State of Alaska, Department of Fish and Game

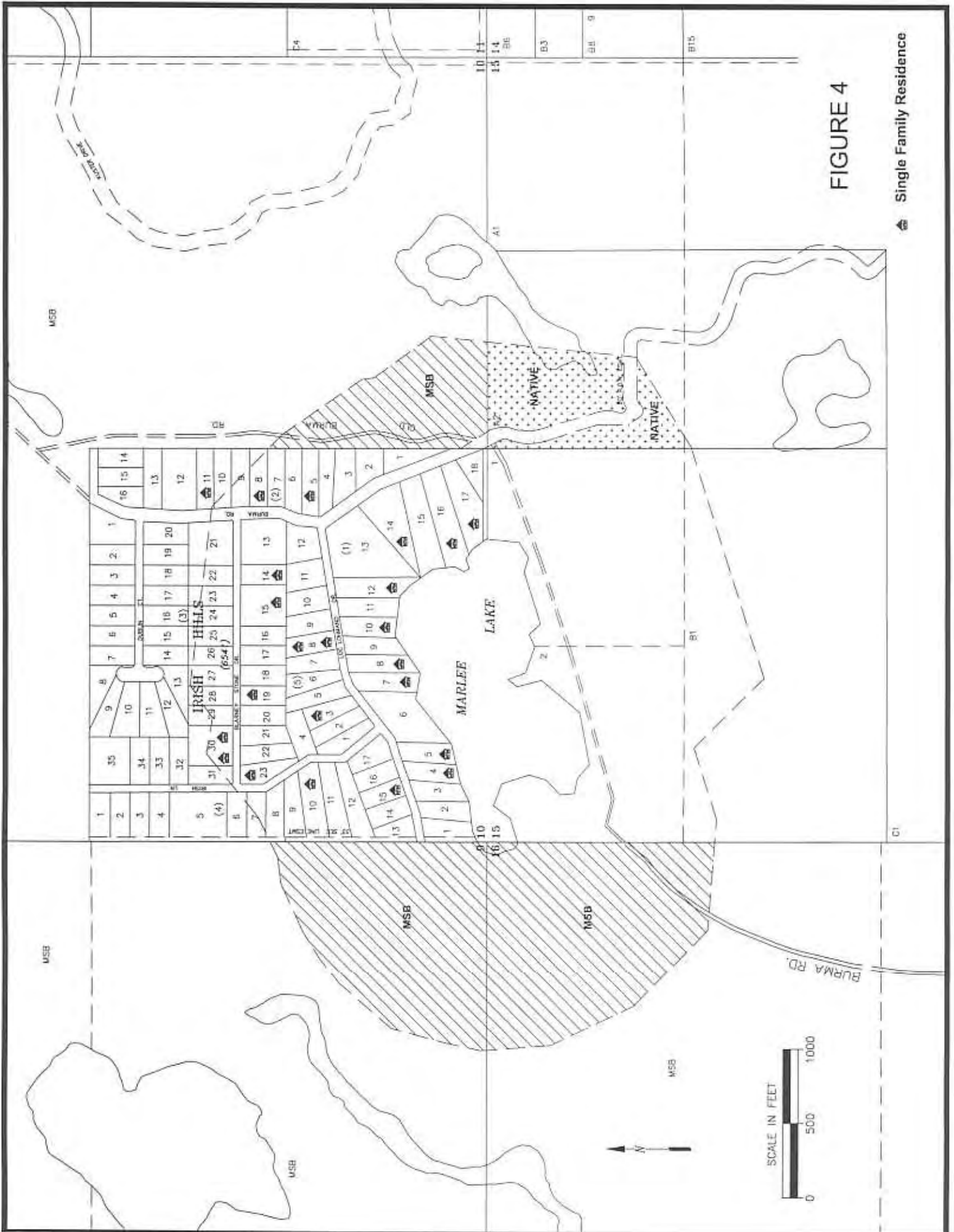


FIGURE 4

Single Family Residence

The present use of Marilee Lake may be characterized as being quiet, recreational and the property immediately adjacent to the lake consists mostly of undeveloped lots with some recreational type development. There are about four residents who live at the lake on a year around basis. Lake front property owners are the predominant users of Marilee Lake. They boat, swim, and fish at the lake. The use of personal watercraft (a.k.a., jetskis/wave runners) is not a regular occurrence at Marilee Lake. 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 Marilee Lake area is the Willow Sub-Basin Area Plan. The Willow Sub-Basin Area Plan, adopted in February, 1982 contains management intent for State and Borough lands within the Willow Sub-Basin Planning Area, which has as its borders the Kashwitna River to the north, Matanuska River to the east, Cook Inlet to the south and the Susitna River to the west. Marilee Lake is located within the Knik management unit. Generally speaking, the plan's intent for public lands within the management unit is to provide lands for settlement, recreation, small farms and personal use forestry.

Borough

Borough plans that address Marilee Lake 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 Big Lake Community Comprehensive Plan, adopted February, 1996.

The Borough-wide Comprehensive Plan does not make specific recommendations for the Marilee Lake area. On the other hand, the Big Lake Community Comprehensive Plan makes a number of recommendations for the Big Lake Planning Area which contains the Marilee Lake area. These recommendations are contained in Appendix #1.

Marilee Lake lies 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 Marilee Lake 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 1997 and identifies a new road connecting Point MacKenzie Road to South Big Lake Road along the section line just east of Carpenter Lake.

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 include: 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 Marilee Lake area in some way, but the Parks, Recreation, and 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 Marilee Lake 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 and 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 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 "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 2). Finally, the general Alaska Department of Fish and Game fishing regulations apply to Marilee Lake.

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. Marilee Lake meets the definition of a public water body. Alaska 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 Marilee Lake. 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 Marilee Lake.

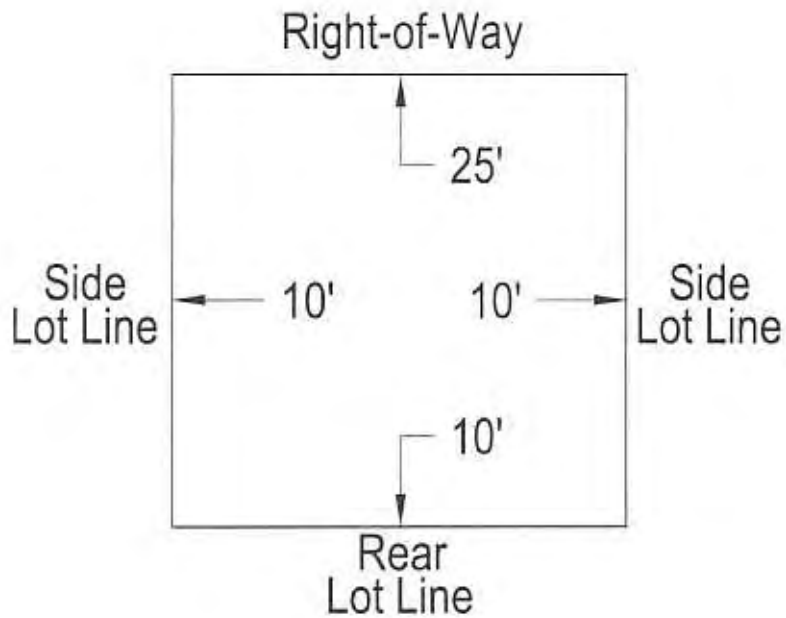
Title 15 establishes and describes the general functions of the Planning Commission (both planning and zoning functions) and the Board of Adjustment and Appeals. Title 15 also describes the comprehensive plan and purposes. Once adopted, the Marilee Lake, Lake Management Plan will become an instrument 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 Marilee 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 unless community septage is provided, then the minimum width may be eighty-five feet (see Figure 5).

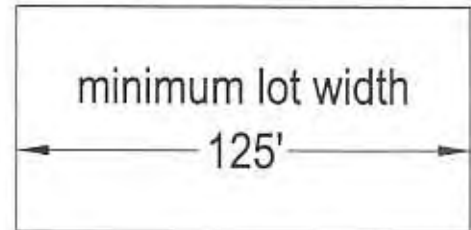
The Borough has a Borough-wide comprehensive plan which is implemented, in part, through the Borough-wide zoning ordinance. Presently, the Borough undertakes its comprehensive planning on a community by community basis. As most comprehensive plans are implemented through a zoning ordinance, a number 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
- 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

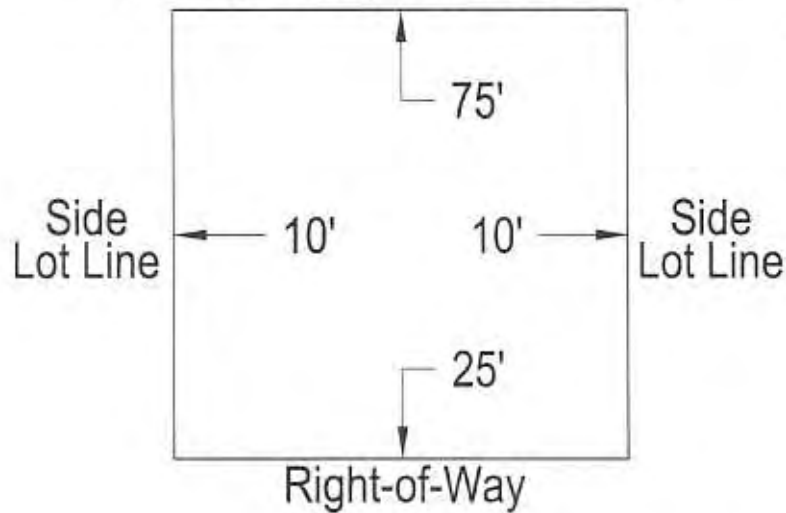
Figure 5
 General Setback Requirements
 and
 Lot Size* Requirements



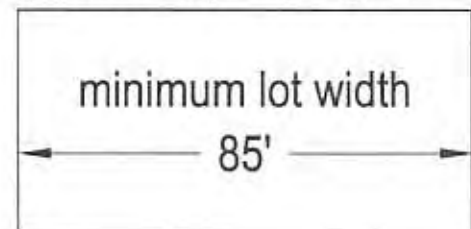
Ordinary High Water Line
 of Lake (no community septage)



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.

Zoning regulations that are of special note to development activities at Marilee Lake 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 are two parcels of Borough land at Marilee Lake. These parcels are presently being considered for disposal.

Existing Regulations - Private

Private regulations, in the Marilee Lake area would be in the form of subdivision covenants for the Irish Hills subdivision which is located on the north side of Marilee 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 Records Office.

3 Goals

Goals describe the future expectations of residents, property owners, and users for a lake. The following goals reflect the aspirations of Marilee Lake residents, property owners, and users and address their principal 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

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

3.2 Recreation and Residential Character

The recreational opportunities offered at Marilee Lake 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.

Marilee Lake offers a unique 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 Marilee Lake to remain a migratory bird (loon) nesting site should be preserved. Recreational use of the lake should be compatible with wildlife nesting.

3.4 Access

Legal and physical access to the lake 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 Marilee Lake 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 lake. 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 lake and 2) do not develop the lake's access. Presently funds are unavailable to operate and maintain a new public access to Marilee Lake. 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 Marilee Lake.

4.2 Wildlife

Management Issue The principle wildlife of concern to Marilee Lake residents and property owners is the retention and protection of loon nesting sites. Presently, the lake has active nests and there is a concern that increased motorized activity on the lake 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 a 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 mono-filament 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 Marilee Lake 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 #3 provides an illustration of a low cost, effective buoy. Loon and grebe alert notices 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" (see Appendix #3).

Since Marilee 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 or electric motors be placed on watercraft using Marilee Lake in order to reduce wakes, turbidity, and shoreline erosion.

4.3 Noise

Management Issue Marilee Lake has a history of low-impact, quiet, recreational use. Residents and property owners of the area wish to maintain these characteristics of the lake. Additionally, Marilee Lake is a relatively small and shallow lake 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 lake.

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 lake. While this alternative would eliminate noise associated with motors, it would also restrict craft that do not generate noise such as boats with electric motors. 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 lake. 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 jetskis/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 or the use of electric motors. With the selection of the 5 horsepower boat motor limit, the property owners/residents did not believe the fourth alternative, quiet hours, was needed.

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 Marilee Lake. Property owners stated a preference for a 5 horsepower boat motor size limit or electric motors.

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 Marilee Lake 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 Marilee Lake 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 for infractions of the plan's recommended management guidelines.

In addition, a lake management ordinance³ 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 Marilee Lake area residents and property owners should be contacted to determine whether or not Marilee Lake should be included in such an ordinance. A description of the implementation proposals follow.

5 horsepower Limit or Use of Electric Motors As stated above, Marilee 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 Marilee 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 motor limitation is recommended for Marilee Lake.

Access Until funds are available to provide adequate facilities, maintenance and supervision no developed public access should be developed into Marilee Lake.

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 #3 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 usage and proper behavior near active loon nests, e.g. "Loon (or Grebe) Alert!" The Marilee Lake 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.

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 lake 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 lake management plan implementation guidelines (15.24.030(c)).

³ 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.

APPENDIX #1

Big Lake Community Comprehensive Plan Recommendations
Amended 1996

TABLE 6
IMPLEMENTATION FOR LAND USE RECOMMENDATIONS

RECOMMENDATIONS	IMPLEMENTATION
Encourage development of the community core area as the location of most community services, the principal shopping area, and the highest density housing area.	Governmental action through siting of public facilities and eventual construction of water and sewer systems in core area.
Appropriate public facilities should be directed to the community core area.	Governmental action through siting of public facilities.
Installation of community water and sewerage systems should be planned for in the community core area encouraging the transition to smaller lot sizes.	Governmental and community action by including water and sewer system on Capital Improvement Program.
Encourage further development within areas of scattered and sparse development and where there are a large number of vacant lots with roads and utilities.	Governmental and community action by not including local road improvements on Capital Improvement Program thus encouraging development along existing road system.
Grandfather structures that preceded setback regulations by granting administrative nonconforming status. This status should be granted without penalty to the property owner.	Existing regulations with modifications if necessary.
Grant administrative nonconforming status with a penalty to existing structures within the planning area that are in violation of current setback requirements, including waterbody setbacks, but do not represent serious injury to public or adjacent property interest. (Nonconforming status should not be granted if the structure represents an actual encroachment, unpermitted fill, etc.)	Existing regulations with modifications if necessary.
Amend Chapter 17.01. Acknowledgment of existing land use regulations, to require that land owners or authorized agents obtain an acknowledgment of existing land use regulations form prior to commencement of development within the Big Lake planning area.	Modification of existing regulation.
Request that the borough administration initiate an amendment to the Matanuska-Susitna Borough Coastal Management Plan boundary which would remove the Big Lake planning area from the regulations of the Coastal Management Plan and allow reduction of the waterbody setback within the planning area to 45 feet.	Modification of existing regulation.
Encourage good quality construction within the Big Lake planning area.	Community action through education.
Buildings which have deteriorated to a dangerous or hazardous condition should be destroyed or removed.	Community action through education; regulation if or when deemed necessary.
Develop a standardized system of informational signage. Informational signage should include such things as location of various facilities; recommendations for disposal of solid waste materials; and general information about allowed uses within the area.	Community and governmental action by jointly developing standardized signage system.
Regulate the appearance and location of signs within the planning area.	Implementation of new sign ordinance for planning area.

TABLE 6
IMPLEMENTATION FOR LAND USE RECOMMENDATIONS

RECOMMENDATIONS	IMPLEMENTATION
Develop a conceptual theme for the community core area that represents the recreational orientation of the planning area with an emphasis on Big Lake.	Community action through development of conceptual theme.
Develop a motto/logo for the area. Motto/logo should be used on informational signage for the area.	Community action through development of motto/logo.
Consider an architectural theme for community core area at a later date.	Community action.
Coordinate all current efforts to develop and implement a community beautification program.	Community action through coordination of current beautification efforts.
Outdoor storage of junk and trash, particularly materials that are hazardous to health and safety, should be regulated.	Community action through education; regulation if or when deemed necessary.
Public hearings should be required prior to construction of towers within the Big Lake Planning Area.	Implementation of new regulations.
Ensure that all development includes adequate sanitary wastewater disposal facilities by promoting proper installation and maintenance of on-site wastewater treatment systems.	Governmental and community action by ensuring compliance with existing regulations.
Encourage better enforcement of the standards and regulations for installation of wastewater disposal systems.	Governmental action through ensuring compliance with existing regulations.
Reduce the number of substandard size lots by encouraging the combining of adjacent sub-standard size lots held in common ownership.	Implementation of new regulations. The intent is to recognize the two lots as one for development purposes without requiring replatting of lots. Once developed lots to be remain in common ownership.
Reduce the number of on-site water and/or sewer systems on substandard size lots by encouraging the development of community water and/or sewerage systems.	Governmental action through existing subdivision regulations as well as community action by including water and/or sewer systems on Capital Improvement Program.
Encourage development of a monitoring program for water quality of the lakes within the planning area. Big Lake should be the first lake monitored with other lakes added to the program as development and use increases.	Governmental action through interagency cooperation and/or grants for monitoring program.
Identify habitat areas and protect them with buoys or signage.	Governmental and community action along with implementation of new regulations.
Establish no-wake areas and post official signs.	Governmental and community action along with implementation of new regulations.

TABLE 6
IMPLEMENTATION FOR LAND USE RECOMMENDATIONS

RECOMMENDATIONS	IMPLEMENTATION
Prohibit motorized activity on Meadow Creek and post official signs.	Implementation of new regulation.
Prohibit motorized activity on Fish Creek downstream from South Big Lake Road and post official signs.	Implementation of new regulation.
Encourage separation of motorized activity from shorelines of waterbodies as determined appropriate by individual management plans and post official signs.	Governmental and community action with implementation of new regulations only if recommended by individual management plans.
Recognize that minimum lot sizes for unique geographic areas within the Big Lake planning area can be larger or smaller than the current 40,000 square feet depending on geographic conditions; desires of landowners affected; and state and local regulations.	Amendment of existing regulation.
Implement a nuisance ordinance for Big Lake to address noise levels and hours of operation for commercial and recreational motorized vehicles on the lake. This should be done after completion of a lake management plan for Big Lake.	Governmental and community action with implementation of new regulations recommended by management plan.
The original nuisance ordinance can be expanded to include other lakes and residential areas within the planning area as regulation is deemed necessary. It is recommended that lake management plans be done prior to expanding the ordinance to include other lakes within the planning area, however, some minimal regulations such as quiet hours and no wake zones could be implemented prior to completion of a management plan when deemed necessary or desirable.	Governmental and community action with implementation of new regulations or amendment of existing regulations.
Encourage residential areas within the planning area to apply for designation as residential land use districts.	Governmental and community action with amendment of existing regulations.
Consider area-wide land use regulations within the planning area to address activities that would be objectionable in residential areas.	Community action followed by governmental action if new land use regulations are deemed necessary or desirable.
Encourage most non-recreationally oriented commercial development to locate within the community core area.	Governmental and community action through existing regulations.
Regulate commercial development along shorelines within the planning area unless water-dependent or water-related.	Implementation of new regulations.
Regulate temporary commercial activity within the planning area. Regulations should address such things as allowed duration and location of permitted activity.	Implementation of new regulations.
Encourage development of commercial enterprises catering to or appropriate for bush trade.	Non-regulatory governmental and community action.

TABLE 6
IMPLEMENTATION FOR LAND USE RECOMMENDATIONS

RECOMMENDATIONS	IMPLEMENTATION
Regulate land use controls such as building height restrictions and development setbacks for lands surrounding the Big Lake airport and including the approaches to the airport.	Implementation of new regulations.
Identify public lands surrounding the airport and included in the airport approach zones and reserve them for airport protection and expansion.	Governmental action through land identification and classification.
Encourage development of recreation oriented commercial enterprises and supporting infrastructure in appropriate areas within the Big Lake planning area.	Non-regulatory governmental and community action.
Support regional industrial development.	Non-regulatory governmental and community action.
Encourage light industrial activity that is compatible with the environment, recreational use and enjoyment of the area.	Non-regulatory governmental and community action.
Consider identifying areas within the Big Lake planning area appropriate for industrial activity.	Community action.
Prohibit heavy industrial activity with noxious or unpleasant characteristics.	Implementation of new regulation.
Discourage kennels and catteries as defined by Matanuska-Susitna Borough Title 24, Animal Control, in the community core area of the Big Lake planning area.	Community action.
Encourage agricultural activity within the planning area but outside the community core area.	Non-regulatory governmental action.
Support state and borough management policies for public lands that will maintain a healthy forest while being consistent with the recreational character of the planning area.	Non-regulatory governmental action.

TABLE 7
IMPLEMENTATION FOR PUBLIC FACILITIES RECOMMENDATIONS

RECOMMENDATIONS	IMPLEMENTATION
Identify key public lands within the planning area that should be reserved for important community purposes including public access, airport expansion, etc.	Non-regulatory governmental and community action.
Identify through the Parks and Recreation Plan those public lands with water frontage that should be reserved and classified for public recreational purposes including access to waterbodies.	Non-regulatory governmental and community action.
The community should periodically research and consider the possibility of incorporating as a city.	Non-regulatory governmental and community action.
Pursue acquiring a community center/auditorium since existing facilities are no longer adequate to serve the needs of the community.	Governmental and community action by including the community center/auditorium on the Capital Improvement Program.
Support the continued cooperation between the borough and state in fire fighting efforts; search and rescue missions; and during other emergencies as needed.	Non-regulatory governmental action.
Support the continued operation and expansion of the Big Lake Fish Hatchery to include tourism and educational uses through transfer of the facility from the State of Alaska to the Matanuska-Susitna Borough.	Non-regulatory governmental and community action.
Borough funding for improvements necessary to bring the existing library up to standards as specified in the Matanuska-Susitna Borough's Public Facilities Plan should be supported through the Big Lake community's Capital Improvement Program.	Governmental and community action by including improvements on the Capital Improvement Program.
Construction of a new library building with adequate parking should be included in the Big Lake community's Capital Improvement Program.	Governmental and community action by including a new library on the Capital Improvement Program.
Interested individuals within the Big Lake community should form a Historical Preservation Society and work with the Matanuska-Susitna Borough Historical Preservation Commission to research and document the history of Big Lake.	Non-regulatory governmental and community action.
Establishment of a museum within the area should be considered at such time as there is adequate documentation of the history of the area.	Governmental and community action by including a museum on the Capital Improvement Program at a later date.
Documented historic sites within the planning area should be developed in compliance with the guidelines of the borough-wide Public Facilities Plan.	Non-regulatory governmental action.
Public land within the planning area should be identified for a future cemetery and steps taken to classify the land for that use.	Governmental action through classification of land.

TABLE 7
IMPLEMENTATION FOR PUBLIC FACILITIES RECOMMENDATIONS

RECOMMENDATIONS	IMPLEMENTATION
Encourage the presence of the Coast Guard and Alaska State Troopers on Big Lake for the purpose of conducting safety inspections of vessels and issuing citations when appropriate. This practice should be expanded to other lakes within the planning area as needed.	Non-regulatory governmental and community action.
Encourage the continued assignment of a State Trooper Detachment to the Big Lake area.	Non-regulatory governmental and community action.
Encourage neighborhoods within the planning area to join the Neighborhood Watch Program.	Community action.
Encourage property owners outside the fire service area to provide their own fire protection.	Community action.
Encourage expansion of the fire service area to include all road-accessible properties.	Non-regulatory governmental and community action.
Support the fire service area by including their needs on the Big Lake community's Capital Improvement Program.	Governmental and community action through the Capital Improvement Program.
Install "dry hydrants" at strategic locations within the planning area.	Governmental and community action through the Capital Improvement Program.
Support the training programs currently held at the Edward "Bud" Beech Fire Hall. Training programs are provided for emergency services personnel and volunteers, however, training for individuals providing self-protection should be encouraged on a space available basis with no additional cost to the borough.	Non-regulatory governmental and community action.
The existing grid system for the borough should be expanded or a new grid system be established for the Big Lake area and street addresses be assigned in compliance with Chapter 11.20 of the Borough Code.	Governmental action through expansion or creation of grid system for the Big Lake area.
Existing street names within the Big Lake planning area should be identified that have historically caused confusion when responding to emergencies. Once identified, the streets should be renamed in compliance with Chapter 11.20 of the Borough Code.	Governmental and community action through renaming of streets if necessary.
Encourage implementation of a yearly educational program through the Big Lake Elementary School to teach elementary age students and their families the correct street names within the planning area as well as proper procedures for reporting emergencies.	Governmental and community action through education.
Encourage development of medical facilities within the Big Lake Planning Area and specifically within the community core area.	Non-regulatory governmental and community action.
Support the needs identified in the Matanuska-Susitna Borough School District Capital Improvement Program for the Big Lake planning area.	Governmental and community action through the Capital Improvement Program.

TABLE 7
IMPLEMENTATION FOR PUBLIC FACILITIES RECOMMENDATIONS

RECOMMENDATIONS	IMPLEMENTATION
Encourage construction of new school facilities and/or improvement of existing school facilities within the Big Lake planning area as needed.	Governmental and community action through the Capital Improvement Program.
Support construction of a new swimming pool at the proposed Houston Senior High School.	Governmental and community action through the Capital Improvement Program.
The public recreational sites identified in the Willow Sub-Basin Area Plan should be analyzed to determine their best use.	Governmental and community action through analysis of recreational sites and determination of best use.
The recreational sites identified in the Willow Sub-Basin Area Plan which are determined to serve community purposes and are located on state land should be transferred to a community recreation land trust for eventual transfer to borough ownership as specified in the Willow Sub-Basin Area Plan.	Governmental and community action including creation of community recreation land trust.
The recreational sites identified in the Willow Sub-Basin Area Plan which are determined to serve community purposes and are located on borough land should be classified as "public recreation land."	Governmental and community action through classification of lands.
A thorough inventory of all park, recreation, and open space resources within the Big Lake planning area should be done, i.e., recreation sites, conservation areas, recreation corridors, park and open space dedications in subdivision plats, etc. A separate Parks and Recreation Plan for the Big Lake planning area should be written after completion of the inventory.	Non-regulatory governmental and community action.
At least 25 percent of existing public open space within the Big Lake planning area should be preserved so that the open, rural character of the area is maintained.	Non-regulatory and governmental and community action.
An interconnected public open space system should be developed in the Big Lake planning area to allow physical access to all public designated recreational sites.	Non-regulatory governmental and community action.
Subdividers of land within the Big Lake Planning Area are encouraged but not required to reserve an appropriate size "local play area" and/or greenbelt area in areas being subdivided.	Non-regulatory governmental action. The intent is to encourage but not to require this.
The policy of a neighborhood park in combination with the Big Lake Elementary School grounds should be continued. Development of the park should be based on community input. Park facilities should be available and accessible for use during non-school hours.	Governmental action through development of park facilities.
The borough should provide sufficient area for a community park within the Big Lake planning area - ideally in a location that can serve also as a future middle school/high school site.	Governmental action through land classification and later through the Capital Improvement Program.
Maintain and upgrade existing regional parks within the Big Lake planning area.	Governmental and community action through the Capital Improvement Program.

TABLE 7
IMPLEMENTATION FOR PUBLIC FACILITIES RECOMMENDATIONS

RECOMMENDATIONS	IMPLEMENTATION
Develop a regional park on the shoreline of Big Lake adjacent to the Sailing Club at MP 9.5 South Big Lake Road.	Governmental and community action through land classification and Capital Improvement Program.
The state and borough, with input from the Big Lake community, should implement the policy of the Willow Sub-Basin Area Plan to establish a community recreation land trust of state land within the Big Lake planning area. State lands identified as recreational sites by the Willow Sub-Basin Area Plan and determined by the Big Lake community to serve a community recreational purpose should be included in the land trust. Land trust lands are to be transferred to borough ownership contingent on the borough's commitment to develop and maintain the recreational values of the sites.	Governmental and community action through development of community recreation land trust.
The borough should implement the policy of the Willow Sub-Basin Area Plan to hold in public ownership some amount of waterfront on all lakes larger than 20 acres with the capability of sustaining year-round natural or stocked game fish species.	Governmental action through retention of land in public ownership.
Easements to lakes and streams within the Big Lake planning area should be inventoried and analyzed for the feasibility of providing physical access. Those easements which are not determined to provide feasible access should be vacated.	Governmental and community action through research of easements.
Feasible access on public lands should be retained in public ownership to provide access to all significant lakes; streams; public recreation sites; and public hunting areas within the Big Lake planning area.	Governmental action through research and reservation of feasible access.
It may be appropriate for some streams within the Big Lake planning area to be buffered by a public access stream maintenance easement. The appropriateness and size of such buffers should be determined on a case by case basis.	Non-regulatory governmental action.
An interconnected public open space system should be developed in the Big Lake planning area.	Non-regulatory governmental and community action.
The dedication of pedestrian or other non-vehicular access may be encouraged in subdivisions where there is an opportunity to link adjacent subdivisions, stream corridors or existing trails.	Governmental and community action. The intent is to encourage but not require dedication.
Develop and maintain the transportation corridors shown on Map 10 for continued access to the trail system as the Big Lake planning area continues to develop.	Non-regulatory governmental action.
A thorough analysis of recreational needs - activities as well as facilities - should be done in order to determine amounts and locations of lands to be dedicated for those uses.	Non-regulatory governmental and community action.
The private sector should be actively and equally involved in the provision of recreational facilities and activities.	Community action.

TABLE 7
IMPLEMENTATION FOR PUBLIC FACILITIES RECOMMENDATIONS

RECOMMENDATIONS	IMPLEMENTATION
Support development of a lake management plan for Big Lake to address the many uses on the lake as well as noise levels and hours of operation for motorized vehicles on the lake.	Governmental and community action with implementation of new regulations recommended by management plan.
Support development of a lake management plan for Crooked Lake to address the current uses on the lake as well as noise levels and hours of operation for motorized vehicles on the lake.	Governmental and community action with implementation of new regulations recommended by management plan.
Support development of a lake management plan for other lakes within the Big Lake planning area as the need or interest arises.	Governmental and community action with implementation of new regulations recommended by management plans.
Support designation of a minimum of 40 contiguous acres of public land, where available, for development of lake-side recreation sites identified in the Willow Sub-Basin Area Plan and determined by the community to be desirable.	Governmental and community action through retention of public lands and classification as appropriate.
The borough should consider construction of a swimming pool at the proposed Houston Senior High School.	Governmental and community action through the Capital Improvement Program.
Where appropriate for scenic or recreational enjoyment, pullouts and waysides should be constructed along major roadways within the planning area. A specific location that should be considered is in the vicinity of MP 9.6 South Big Lake Road.	Governmental and community action through the Capital Improvement Program.
Trailheads and waysides within the planning area should be combined where feasible.	Non-regulatory governmental action.
The Big Lake Community Council and/or Chamber of Commerce should work with the Mat-Su Convention and Visitors Bureau to develop a tourism plan for Big Lake and for assistance in marketing Big Lake's recreational attractions.	Community action.
The state and borough, with input from the Big Lake community, should plan and implement a comprehensive interpretive and directional recreational signage program for the Big Lake area.	Non-regulatory governmental and community action.
A separate trails plan for the Big Lake planning area should be developed. The plan should inventory existing trails and their use and identify existing and future demands for trail use; trail standards; signage; trailheads; and other facility needs. A trail system should then be developed that accommodates the various uses such as winter, motorized, and non-motorized use. The plan should incorporate identified transportation corridors as the main access to trails.	Governmental and community action through development of a trails plan.
Research should be done on right-of-way for all trails identified as needed within the Big Lake trails plan. Existing right-of-way should be documented. Reservation of right-of-way for trails on public lands should be completed. Trails on private land should be identified and necessary steps taken to obtain right-of-way or relocate.	Governmental and community action through efforts to obtain right-of-way where needed.

TABLE 7
IMPLEMENTATION FOR PUBLIC FACILITIES RECOMMENDATIONS

RECOMMENDATIONS	IMPLEMENTATION
Develop and maintain the transportation corridors shown on Map 10 for continued access to the trail system as the Big Lake planning area continues to develop.	Governmental and community action through the Capital Improvement Program.
Reservation of right-of-way across state and borough land should comply with the management guidelines for trail corridors specified in the Willow Sub-Basin Area Plan.	Governmental action through reservation of right-of-way.
Trailheads and waysides should be combined where feasible.	Non-regulatory governmental action.
Separated paths should be constructed along heavily travelled roads within the Big Lake planning area. This specifically includes: Big Lake Road from Parks Highway to Fisher's "Y"; South Big Lake Road from Fisher's "Y" to Fish Creek Day Park; North Shore Drive from Fisher's "Y" to Big Lake North State Recreation Site. These routes should be extended and others constructed as warranted.	Governmental and community action through the Capital Improvement Program.
Encourage the installation of community water and/or sewer systems as needed in areas of small lots and dense development.	Governmental action through existing regulations as well as non-regulatory actions.
Encourage the replacement of pit privies and cribs with private septic systems.	Governmental and community action through enforcement of existing regulations.
Encourage property owners to install septic systems when utilizing on-site wells.	Governmental and community action through enforcement of existing regulations.
Installation of a public water and sewer system within the community core area should be planned for in the future.	Governmental and community action through the Capital Improvement Program.
Encourage expansion of electrical service within the planning area.	Non-regulatory governmental and community action.
Encourage buried electrical lines within the Big Lake planning area.	Community action.
Encourage expansion of telephone service within the planning area.	Non-regulatory governmental and community action.
Encourage buried telephone lines within the Big Lake planning area.	Community action.
Encourage the borough to enforce the existing ordinance prohibiting the hauling of unsecured refuse. Enforcement should include cleanup of trash resulting from violations of the ordinance.	Governmental and community action through enforcement of existing regulations.
Encourage local organizations to work together to prepare and implement a management plan for collection and disposal of recreational trash within the Big Lake planning area.	Community action.
Encourage the borough to establish a facility to handle junk vehicles at the Central Landfill.	Non-regulatory governmental and community action.

TABLE 7
IMPLEMENTATION FOR PUBLIC FACILITIES RECOMMENDATIONS

RECOMMENDATIONS	IMPLEMENTATION
Encourage local organizations to work with the Matanuska-Susitna Borough Department of Public Works to establish and maintain recycling bins at the Big Lake Transfer Station.	Non-regulatory governmental and community action.
Support the current program of accepting batteries and waste oil at the Big Lake Transfer Station and encourage the borough to expand this to include household hazardous waste materials.	Non-regulatory governmental and community action.
Support the Big Lake Transfer Station remaining within the Big Lake planning area and specifically at the current location.	Non-regulatory governmental and community action.
Encourage continued monitoring of the Big Lake landfill site for contamination.	Non-regulatory governmental and community action.
Support and encourage the extension of natural gas into the Big Lake planning area.	Non-regulatory governmental and community action.
Support expansion and improvements to the Big Lake Post Office as needed.	Non-regulatory governmental and community action.
Support expansion of the hours for the Big Lake Post Office to include Saturday hours.	Non-regulatory governmental and community action.

TABLE 8
IMPLEMENTATION FOR TRANSPORTATION RECOMMENDATIONS

RECOMMENDATIONS	IMPLEMENTATION
Upgrade of roads should be prioritized based on functional classification with arterials receiving the highest priority, followed by collectors and local roads.	Non-regulatory governmental and community action.
Prioritize the major thoroughfare road improvements for the Big Lake Capital Improvement Program.	Governmental and community action through the Capital Improvement Program.
Encourage improvement of local roads with road maintenance funds when feasible and necessary to reduce maintenance costs.	Non-regulatory governmental and community action.
Encourage property owners to form Local Improvement Districts for improvement of local roads.	Non-regulatory governmental and community action.
Include local roads on the Big Lake Capital Improvement Program only after major thoroughfares within the community have been improved.	Governmental and community action through the Capital Improvement Program.
Improve traffic circulation through construction of new connecting roadways (See Map 11). Public sector construction of new linkages should receive a lower priority than upgrade of existing thoroughfare road system.	Governmental and community action through the Capital Improvement Program.
Improvements for safety reasons should be given a high priority.	Non-regulatory governmental action.
Road improvements to eliminate substandard curves, blind intersections and acute angle intersections should be given a high priority.	Non-regulatory governmental action.
Installation of fixed-source lighting to improve safety. Specifically, fixed-source lighting should be installed at major intersections; along South Big Lake Road at the Big Lake Elementary School; and at business districts along major roads within the planning area.	Governmental and community action through the Capital Improvement Program.
Construct separated non-motorized and pedestrian trails along major roadways.	Governmental and community action through the Capital Improvement Program.
Review road names within the planning area for compliance with Chapter 11.20 of the borough code, Street Names and Address Numbers.	Governmental action through review and name changes if necessary.
Request Installation of road name signs on all roads within the planning area.	Non-regulatory governmental and community action.
Install informational signage to direct traffic to appropriate services, public parks, and lake access points. Signage should be in compliance with the standardized signage system developed for the planning area.	Non-regulatory governmental and community action.

TABLE 8
IMPLEMENTATION FOR TRANSPORTATION RECOMMENDATIONS

RECOMMENDATIONS	IMPLEMENTATION
Request analysis of the existing road system for needed warning and regulatory signage. Place warning and regulatory signs as indicated by analysis. Priority should be given to major thoroughfares with an emphasis on installing stop signs at all intersecting roads along Big Lake Road, South Big Lake Road and Hollywood Road.	Governmental action through analysis of existing signage.
Priorities for expansion of the road system include completion of the extension of South Big Lake Road to the Little Susitna River, and access around Big Lake (See Map 11).	Governmental and community action through the Capital Improvement Program.
Support construction of the long-term road corridor serving Point MacKenzie as identified by the Assembly in 1992.	Governmental action through the Capital Improvement Program.
Public investment in expansion should be concentrated on arterial roads and those collector roads which provide better traffic circulation within the planning area.	Governmental and community action through the Capital Improvement Program.
Expansion of the residential road system should be accomplished primarily by the private sector as a cost of development.	Governmental action through existing regulations.
Encourage private sector development of commercial water taxi services within the Big Lake planning area to provide access to non-road accessible properties.	Community action.
Continuation of the development and maintenance of ice roads by businesses and residents for winter access to non-road accessible properties.	Community action.
Develop and maintain transportation corridors for continued access to the trail system as the Big Lake planning area continues to develop. (See Map 10).	Governmental and community action through Capital Improvement Program.
Develop a separate trails plan for the Big Lake planning area which will become part of the borough-wide trails plan.	Governmental and community action through development of trails plan.
Protect the existing Big Lake Airport by maintaining the approach zones in accordance with Federal Aviation Administration guidelines. At least in part, this can be accomplished by maintaining in public ownership the land at the east end of the runway.	Governmental action through existing regulations and retention of public lands.
Require proposed private airstrips within the planning area to obtain conditional use permits to avoid conflicts with the existing public airport or to ensure compatibility with adjacent use.	Implementation of new regulation.
Control the placement and height of buildings within the approach zones of the existing public airport.	Implementation of new regulation.
Improve the existing airport to help encourage Big Lake as a regional supply center.	Governmental and community action through the Capital Improvement Program.

TABLE 8
IMPLEMENTATION FOR TRANSPORTATION RECOMMENDATIONS

RECOMMENDATIONS	IMPLEMENTATION
Install a new lighting system at the Big Lake Airport.	Governmental and community action through the Capital Improvement Program.
Resurface the landing strip at the Big Lake Airport.	Governmental and community action through the Capital Improvement Program.
Expand the landing strip at the Big Lake Airport.	Governmental and community action through the Capital Improvement Program.
Provide additional aircraft parking at the Big Lake Airport.	Governmental and community action through the Capital Improvement Program.
Encourage the Alaska Department of Transportation and Public Facilities to clean up the existing "junk" aircraft so that additional parking is available.	Non-regulatory governmental and community action.
Encourage community recognition of Big Lake as a float plane lake.	Non-regulatory governmental and community action.
Encourage private sector development of float plane facilities on Big Lake.	Community action.
Encourage community support of the continued permitting process for a float plane and emergency service access in Fish Creek Park which provides access for float planes from Big Lake to the Big Lake Airport.	Governmental and community action through existing regulations.
Encourage regional transportation links.	Non-regulatory governmental action.
Support improvement of existing transportation links to provide feasible access to Point MacKenzie.	Governmental action through the Capital Improvement Program.
Support construction of new transportation links to provide feasible access to Point MacKenzie. Development of the railroad is supported within a corridor west of Papoose Lakes as shown on Map 11.	Governmental action through the Capital Improvement Program.
Encourage design of the proposed railroad corridor through the planning area such that it is compatible with the residential and recreational character of the area.	Non-regulatory governmental action.
Encourage safe railroad corridor crossings for roads and trails within the area.	Governmental and community action through the Capital Improvement Program.
Encourage buffering along the railroad corridor to protect the recreational and residential character of the surrounding property.	Non-regulatory governmental and community action.

TABLE 8
 IMPLEMENTATION FOR TRANSPORTATION RECOMMENDATIONS

RECOMMENDATIONS	IMPLEMENTATION
Support development of any feasible passenger car service between Anchorage and Point MacKenzie.	Non-regulatory governmental and community action.

APPENDIX #2

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 FG 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.

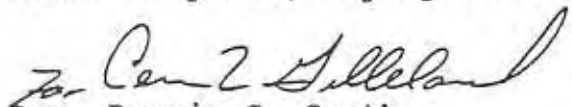
In addition to the penalties provided by law, this general permit may be terminated or revoked for failure to comply with its provisions or failure to comply with applicable statutes and regulations. The department reserves the right to require mitigation measures to correct disruption to fish and game 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

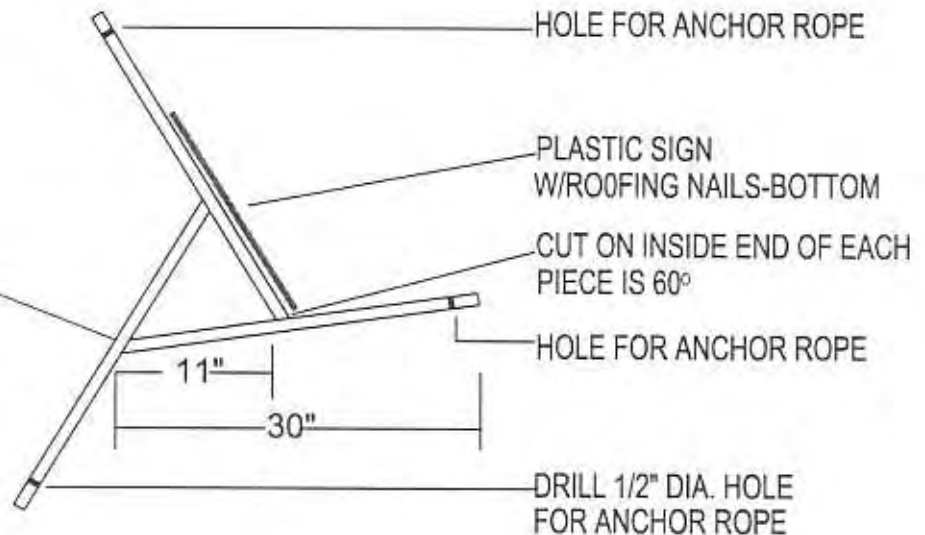
APPENDIX #3

SIGN FLOAT FOR LOON NESTS

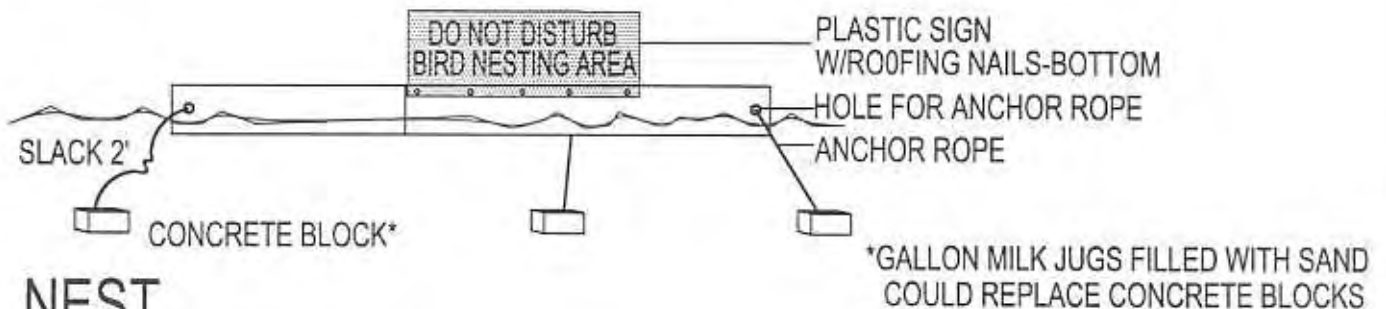
(NOT LIKELY TO TURN OVER
IN THE STRONGEST WIND)

AERIAL VIEW

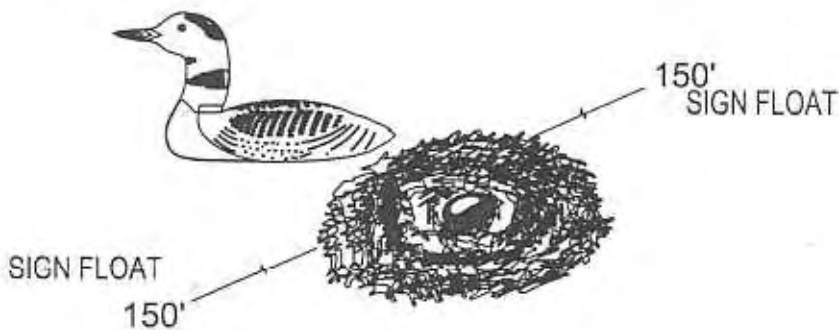
USE 3d6 GALV.
NAILS PER JOINT



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 343, 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.

LOON ALERT



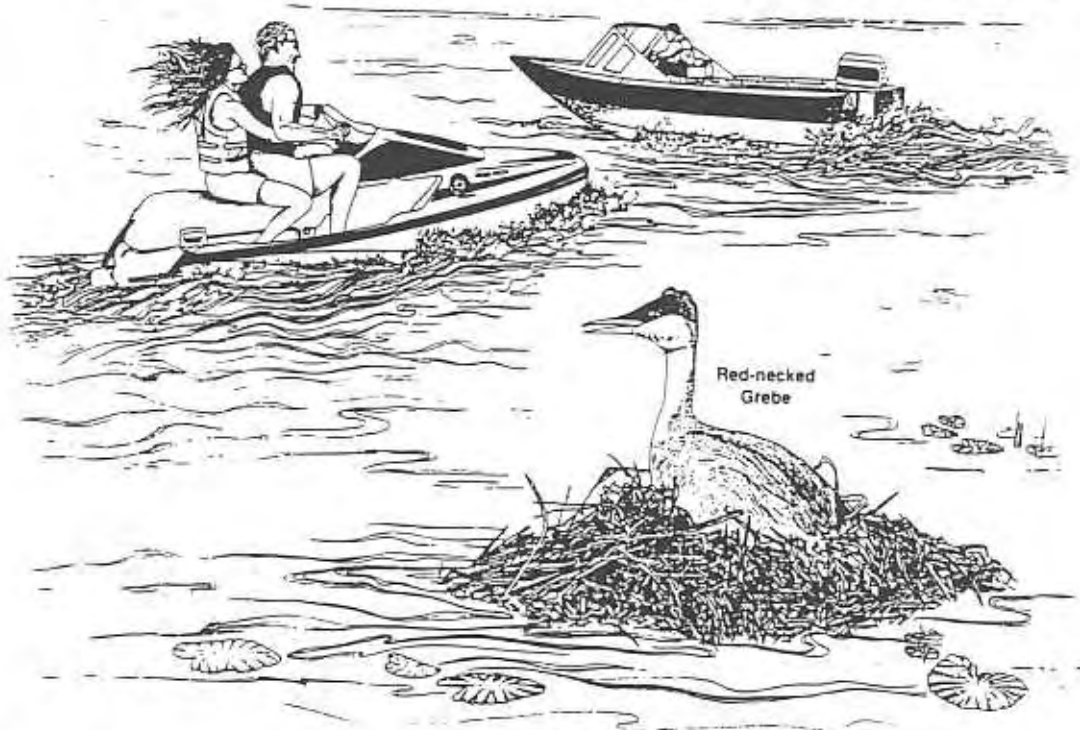
**Help keep this lake safe
for loons and other wildlife:**

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

