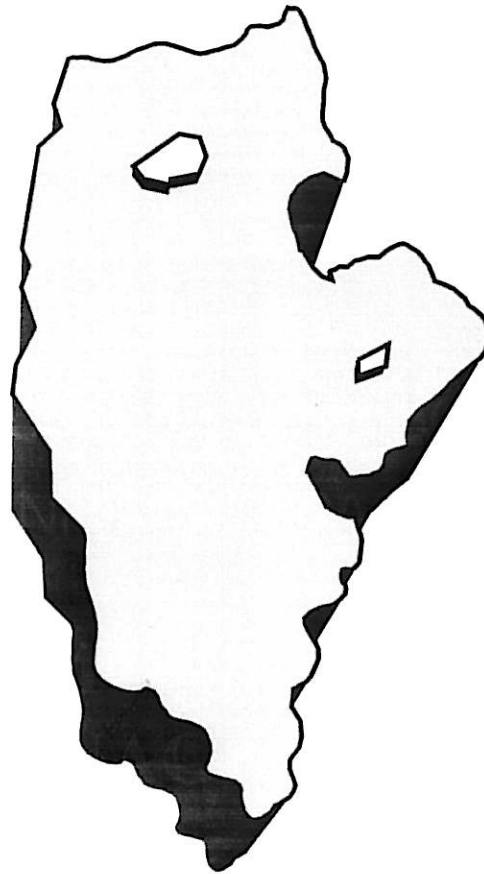


DIAMOND LAKE LAKE MANAGEMENT PLAN

MATANUSKA-SUSITNA BOROUGH
PLANNING DEPARTMENT

APRIL 1999



ACKNOWLEDGMENTS

MATANUSKA-SUSITNA BOROUGH ASSEMBLY

Darcie K. Salmon, Mayor

Jim Colberg
Larry DeVilbiss
John Hartrick
Doyle Holmes
Janet Kincaid
Jay Nolfi
Jim Turner

MATANUSKA-SUSITNA BOROUGH PLANNING COMMISSION

Craig Savage, Chair

Fred Agree
Timothy L. Anderson
Jim Colver
Patty Cullison
Dan Kelly
Steve Rowland
Craig Savage

MATANUSKA-SUSITNA BOROUGH

Michael J. Scott, Manager

and

Planning Department Staff

CODE ORDINANCE

By: M.Scott
Introduced: 3/16/99
Public Hearing: 4/6/99
Amended: 4/6/99
Adopted: 4/6/99

**MATANUSKA-SUSITNA BOROUGH
ORDINANCE SERIAL NO. 99-066 (AM)**

AN ORDINANCE OF THE MATANUSKA-SUSITNA BOROUGH ASSEMBLY AMENDING MSB 15.24.030(C)(20), DIAMOND LAKE, LAKE MANAGEMENT PLAN.

WHEREAS, at the April 6, 1999 regular assembly meeting the assembly amended the plan to remove the paragraph entitled "Borough Lands" under section 5.0, Implementation; and

WHEREAS, at the April 6, 1999 regular assembly meeting the assembly amended the plan to remove the sentence, "Posts should be erected to eliminate vehicles from direct access to the lake, but to still permit walk-in access." in the paragraph entitled "Lake Access" under section 5.0, Implementation.

BE IT ENACTED:

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


Section 2. Approval of plan. The Matanuska-Susitna Borough Assembly does hereby adopt the Diamond Lake, Lake Management Plan.

Section 3. Amendment of subsection. MSB 15.24.030(C) is hereby amended to add paragraph (20) to read:


(20) Diamond Lake, Lake Management Plan, March 1999,
adopted 1999.

Section 4. Effective date. Ordinance Serial No. 99-066(AM) shall take effect upon adoption by the Matanuska-Susitna Borough Assembly.

ADOPTED by the Matanuska-Susitna Borough Assembly this 6th day of April, 1999.


DARCIE K. SALMON, Borough Mayor

ATTEST:


SANDRA A. DILLON, Borough Clerk

(SEAL)

CODE ORDINANCE

By: M. Scott
Introduced: 3/16/99
Public Hearing: 4/6/99
Adopted: 4/6/99

**MATANUSKA-SUSITNA BOROUGH
ORDINANCE SERIAL NO. 99-067**

AN ORDINANCE OF THE MATANUSKA-SUSITNA BOROUGH ASSEMBLY AMENDING MSB 17.59, LAKE MANAGEMENT PLAN IMPLEMENTATION.

BE IT ENACTED:

Section 1. Classification. Section 1 and 7 of this ordinance are non-code. Sections 2,3,4,5 and 6 are of a general and permanent nature and shall become a part of the borough code.

Section 2. Amendment of subsection. MSB 17.59.060(B)(2) is hereby amended to add paragraph (k) to read:

(k) Diamond Lake.

Section 3. Amendment of paragraph. MSB 17.59.060(C)(1-3) is hereby amended to read:

(1) [BIG LAKE -]150 feet from the shoreline.

(a) Big Lake.

(2) [WEST PAPOOSE LAKE -] 100 feet from the shoreline.

(a) West Papoose Lake.

(b) Diamond Lake.

(3) [CROOKED LAKE -] 50 feet from the shoreline at the public boat dock.

(a) Crooked Lake.

Section 4. Amendment of subsection. MSB 17.59.060(D)(2) is hereby amended to add paragraph (h) to read:

(h) Diamond Lake.

Section 5. Amendment of subsection. MSB 17.59.060(D)(6) is hereby amended to add paragraph (h) to read:

(h) Diamond Lake.

Section 6. Amendment of subsection. MSB 17.59.060(G) is hereby amended to add paragraph (7) to read:


(7) Diamond Lake.

Section 7. Effective date. Ordinance Serial No. 99-067 shall take effect upon adoption by the Matanuska-Susitna Borough Assembly.

ADOPTED by the Matanuska-Susitna Borough assembly this 6th day of April, 1999.


DARCIE K. SALMON, Borough Mayor

ATTEST:


SANDRA A. DILLON, Borough Clerk

(SEAL)

Table of Contents

	Page
1. Introduction	1
1.1 Purpose	1
1.2 Approaches to Lake Management	1
1.3 Process	2
1.4 Ponds, Lakes and Reservoirs	3
1.5 Lake Life Span	3
1.6 General Lake Issues and Concerns	4
1.7 Diamond Lake Issues and Concerns	5
2. Inventory of Existing Conditions	5
2.1 Location	5
2.2 Land Ownership	5
2.3 Existing Plans	6
State	6
Borough	7
2.4 Existing Regulations	8
Federal	8
State	8
Borough	9
Private	11
2.5 Present Lake Usage	11
3. Goals	12
3.1 Water Quality	12
3.2 Recreation and Residential Character	12
3.3 Wildlife	13
3.4 Access	13
4. Management Issues, Alternatives and Recommendations	13
4.1 Access	13
4.2 Wildlife	14
4.3 Public Lands	15
4.4 Noise	16
4.5 Water Quality	17
5. Implementation	18

List of Figures

- Figure 1: Location Map
- Figure 2: Big Lake Community Council Boundary and Planning Area
- Figure 3: Land Ownership
- Figure 4: General Setback Requirements and Lot Size Requirements
- Figure 5: Diamond Lake Bathymetric Map

List of Tables

Table 1: Land Ownership and Parcel Size

Table 2: Diamond Lake Characteristics

Appendix #1: Vehicle movement on frozen water surfaces within Southcentral Alaska

Appendix #2: Bird nesting area buoys, Loon Alert! and Steer Clear! posters

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. 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 complaint is noise generated from watercraft during the evening and night hours. 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 Diamond Lake Management Plan provides management guidelines for:

- o The continued recreational enjoyment of Diamond Lake; and
- o The protection of the quality of life of residential development at Diamond Lake; and
- o The protection and enhancement of water dependent activities; and
- o The provision of controlled and maintained access; and
- o The protection and enhancement of fish and wildlife; and
- o The protection of the public health, safety and welfare.

1.2 Approaches to Lake Management

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. The ordinance, which was adopted by voter initiation in 1994, allows members of the public to either prohibit all motorized use on a waterbody or to establish quiet hours (11 p.m. to 8 a.m), a 100 foot no wake zone from the shoreline, requirement of mufflers on all piston driven engines, and allows special events by special permit. Once a petition is filed, a report is drafted by the Planning Department 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. Since this ordinance was adopted by voter initiative, it may not be amended for a period of two years. As of April

1995, this ordinance is in effect for Wasilla, Cottonwood, Mud and Finger Lakes while all motorized use in prohibited on Cottonwood Creek.

The other approach that may be utilized for managing a lake is a lake management plan. A lake management plan is developed with the input of local property owners and residents. The Borough Planning Department 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. The lake management planning process 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 Planning Department of the Matanuska-Susitna Borough complete a lake management plan. With the concurrence of the Planning Commission which is vested with planning authority in the Borough, the Department collects background information on the lake and contacts adjacent property owners and users to participate in the planning process.

Meetings are held with adjacent property owners and users to: 1) identify any problems that may exist, 2) develop 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, 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 are no 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 may also exhibit areas of rocky, wave-impacted shoreline as a result of exposure to prevailing winds. The area of land impacted 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. 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 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 Associates, 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 Associates, Inc., 1990.

Trophic conditions in lakes are relative, not absolute - that is, there is no definitive line between oligotrophic and mesotrophic, or between mesotrophic and eutrophic. However, each trophic state has characteristic conditions. Oligotrophic lakes have a low level of organic productivity, clear water, and low nutrient level. 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 areas (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 shoreland area can have a direct impact on lake water quality. The shoreland is the land within 500 to 1,000 feet of the normal mean water mark of a lake or pond. The placement of septic area in unsuitable soils or too close to the lake or 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 loading sediment to the lake. Removal of vegetation along the shoreline or at unsupervised public access points may increase erosion of the bank and loss of its ability to filter runoff.

Another category of concerns and issues 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 cause conflicts by the nature of how the use occurs such as becoming a nuisance by creating noise during sleeping hours. Some uses of the surface water

may create shoreline erosion and hence, sediment loading at the lake and loss of private 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 if nests are harassed, frequented by watercraft, or swamped by wave action.

1.7 Diamond Lake Issues and Concerns

The Diamond Lake Management Plan was initiated by a request from Diamond Lake property owners. A meeting was held with residents and property owners. At this meeting concerns and issues were discussed.

The issues identified included:

- 1) Maintaining the general peacefulness (lack of noise), of the lake especially in the evening and early morning hours; and
- 2) Protection of the wildlife and wildlife habitat, especially loons; and
- 3) Unsanitary conditions and trash at access locations caused by recreationalists; and
- 4) The need to restrict public access and recreational use; and
- 5) Maintaining and improving water quality.

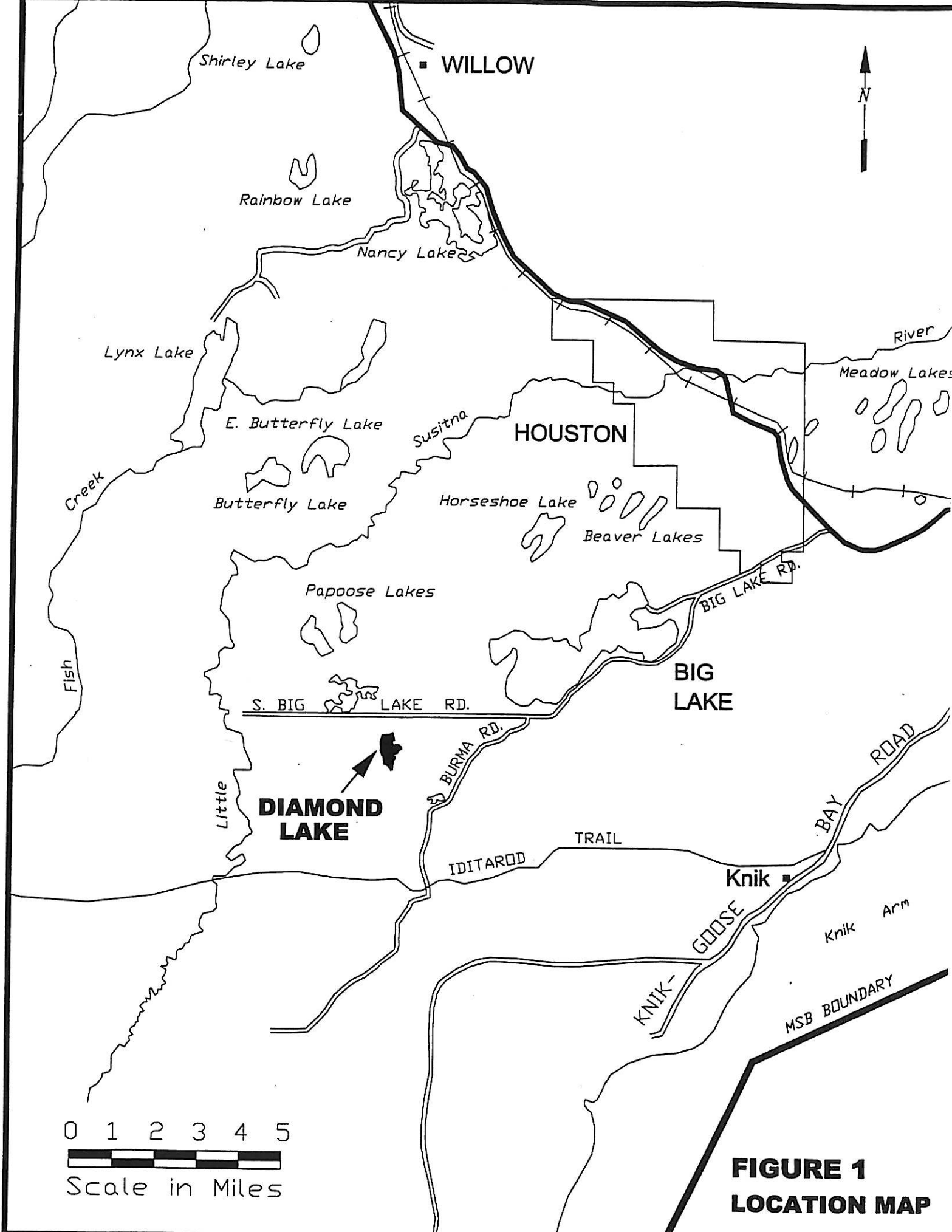
2 **Inventory of Existing Conditions**

2.1 Location

Diamond Lake is located approximately 11 miles from the George Parks Highway and is part of the greater Big Lake community (see Figure 1). Diamond Lake is accessed by South Big Lake road at about milepost 11.5 which is located directly south of the lake. The Diamond Lake area is located completely within the boundaries of the Big Lake community council (see Figure 2).

2.2 Land Ownership

There are 38 lots within the Diamond Lake planning area. The lots range in size from the 0.28 acres to 604 acres (see Table 1). The average privately owned lot size is 2.33 acres. The land immediately adjacent to Diamond Lake is predominately privately owned, although the Borough owns several large tracts in the area (see Figure 3).



**FIGURE 1
LOCATION MAP**

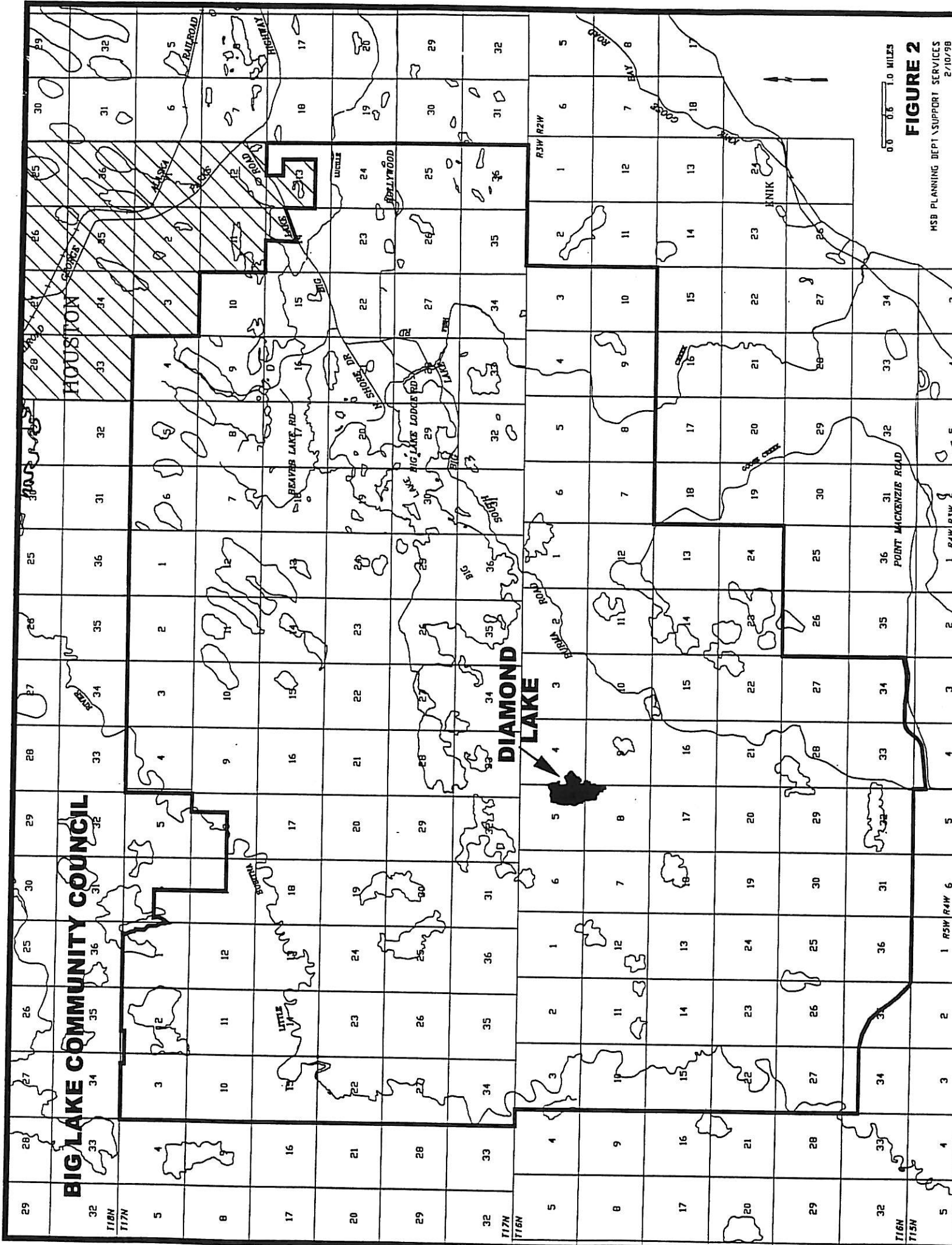


FIGURE 2
 HSB PLANNING DEPT \ SUPPORT SERVICES
 2/10/98

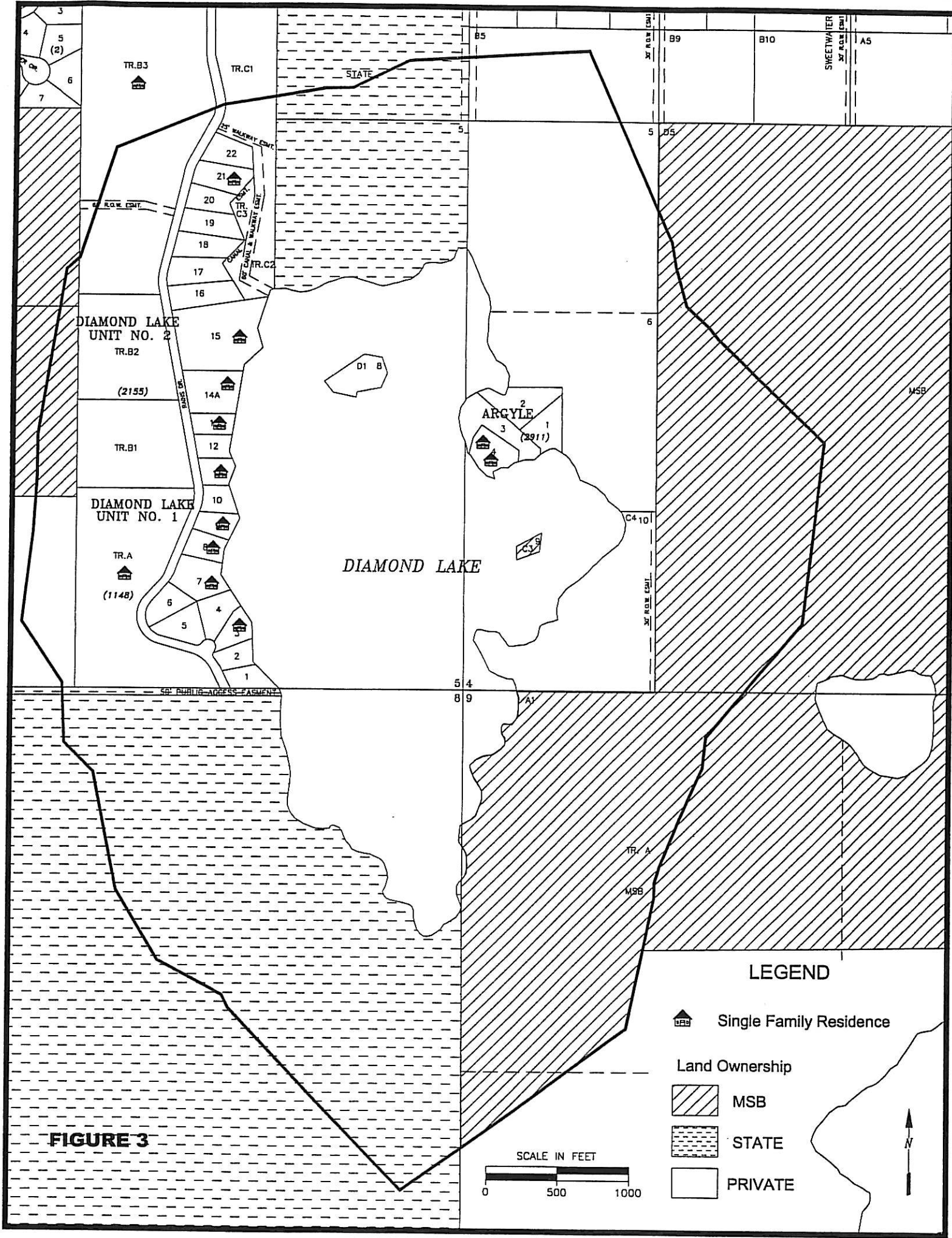






FIGURE 3

LEGEND

-  Single Family Residence
- Land Ownership**
-  MSB
-  STATE
-  PRIVATE

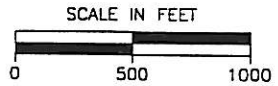


Table 1
Land Ownership and Parcel Size

	Mat-Su Borough	State	Private
Number of Parcels	4	2	34
Total Acreage	1010.73	677.8	159.88
Average Parcel Size	252.68	338.9	4.7
Smallest Parcel Size	0.28	73.8	0.92
Largest Parcel Size	583.0	604	41.7

2.3 Existing Plans

State

State plans affecting the Diamond Lake area include the Willow Sub-Basin Plan and the Susitna Basin Recreation Rivers Management Plan. These plans provide management guidelines and designate classifications for State and Borough lands.

The Willow Sub-Basin Area plan, adopted in October 1982, contains management intent for State and Borough lands within the Willow Sub-Basin, an area of approximately 1,500 square miles. Diamond Lake is located within the Wasilla management unit. Generally speaking, the plan's intent for public lands within the Wasilla management unit is to encourage their use for settlement except for those lands adjacent to the Little Susitna River which the plan recommends be retained in public ownership.

The Susitna Basin Recreation Rivers Management Plan, adopted in January 1991 by the Alaska State Legislature provides guidelines and management practices for State land within the mile wide corridors of six rivers within the Borough. The corridors include the Talkeetna, Talachulitna, Little Susitna and Deshka Rivers (also Kroto and Moose Creeks) and Alexander and Lake Creeks.

Diamond Lake is not within any of the corridors. The corridor closest to the lake is the Little Susitna River corridor (subunit 1a) which is located approximately four miles to the west. In regards to the Diamond Lake area, the plan provides guidelines for the proposed road extension of South Big Lake Road to and across the Little Susitna River (subunit 1a). A special management area (SMA) has been

designated for the area where the proposed extension would meet and potentially cross the Little Susitna River. The SMA allows for the development of a public use site at the river with appropriate facilities, but restricts any boat launch to non-motorized boats only.

Borough

Borough plans that address Diamond Lake in some manner include the Borough-wide comprehensive plan, adopted in 1971; the Matanuska-Susitna Borough Coastal Zone Management Plan, as amended; the Big Lake comprehensive plan, adopted in 1996; and the Borough wide Long Range Transportation and Public Facilities plans.

The Borough-wide comprehensive plan does not make specific recommendations for Diamond Lake. Rather, the 1971 plan makes a series of general recommendations for the Big Lake area which include providing for the disposal of garbage and trash, and the need for public facilities, particularly, fire and school. Concern for the contamination of Big Lake, principally from upland development was also noted within the plan.

Diamond 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 Diamond 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 Big Lake comprehensive plan was adopted in 1996. The plan provides recommendations for land use, transportation, public facilities and recreation. It is expected that the plan's recommendations will be implemented through a special use district and capital improvement program. The special land use district (SPUD) is currently under development and will prescribe land use regulations for the area, including Diamond Lake.

The Borough Long Range Transportation Plan was updated in 1997. The plan identifies three road corridors in the vicinity of Diamond Lake. The plan recommends upgrading new Burma Road to provide access between South Big Lake Road and Point MacKenzie Road and upgrading Big Lake Road/South Big Lake Road from Parks Highway to Burma Road Realignment.

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 Diamond 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.

2.4 Existing Regulations - Public

This section describes the principal regulations affecting use and development in the Diamond 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 waste water disposal. DEC waste water/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, a 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 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 (see Appendix 1). Finally, the general Alaska Department of Fish and Game fishing regulations apply to Diamond 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, landing and takeoff of aircraft, and public boating, trapping, hunting waterfowl and aquatic animals, fishing or other public recreational purposes. Diamond 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 water bodies 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 waterbody 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. Note, land patented by the federal government, and state and borough land transferred prior to the adoption of AS 38.05.128 are not usually subject to the "to" and "along" easements.

Borough

Several Borough-wide ordinances address the development and use of land adjacent to Diamond 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 Diamond Lake.

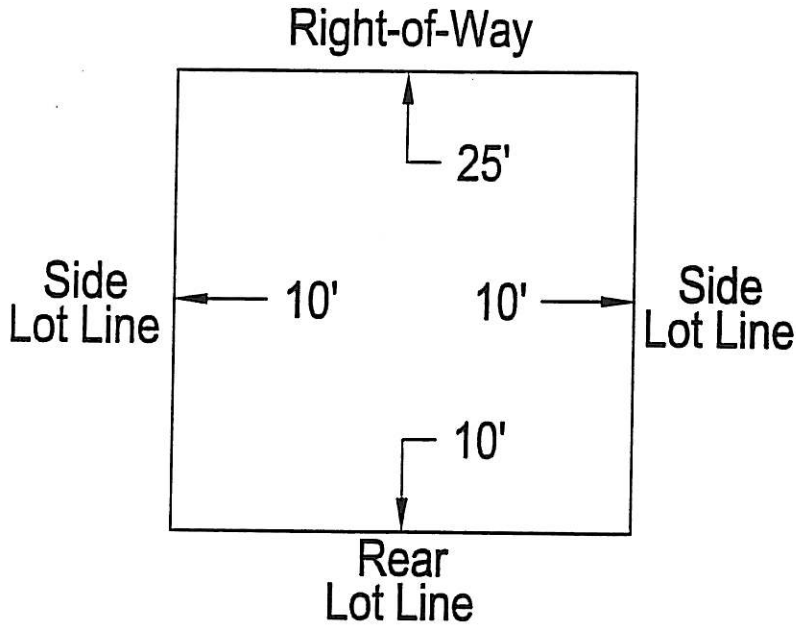
Title 15 establishes and describes the general functions of the Planning Commission (both planning and zoning functions) and Board of Adjustment and Appeals. Title 15 also describes the comprehensive plan and purposes. Once adopted, the Diamond Lake Management Plan will become an instrument of Borough 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 Diamond 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 eight-five feet (see Figure 4).

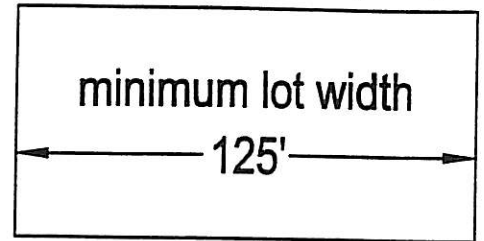
The Borough has a borough wide comprehensive plan which is implemented, in part, through the borough wide zoning ordinance. Presently, the Borough undertakes its comprehensive planning on a community by community basis. As most comprehensive plans are implemented through a zoning ordinance, a number 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 District.
- 17.48 Mobile Home Park Ordinance.
- 17.52 Residential Land Use District.
- 17.55 Setbacks.
- 17.56 Violations and Enforcement.
- 17.58 Regulation of Motorized Use of Certain Lakes and Waterways.
- 17.60 Conditional Uses.
- 17.65 Variances.
- 17.70 Regulation of Alcoholic Beverage Uses.

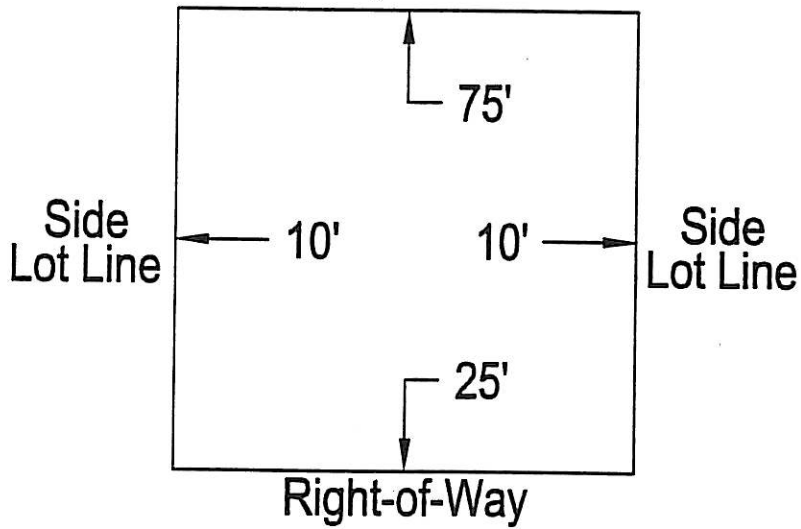
Figure 4
**General Setback Requirements
 and
 Lot Size* Requirements**



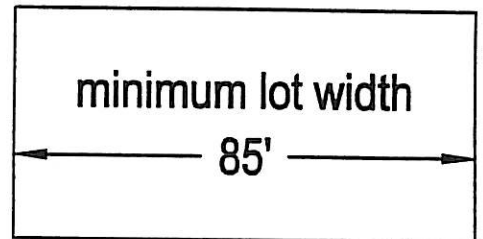
Ordinary High Water Line
 of Lake (no community septage)



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.

- 17.75 Single Family Residential Land Use District.
- 17.80 Non-conforming Structures.
- 17.90 Regulation of Adult Oriented Businesses.
- 17.99 Fees.

Zoning regulations that are of special note to development activities at Diamond 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 waterbody or watercourse (see Figure 4). 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 Department of Community Development of the Borough manages and disposes of these lands through the policies and procedures described within Title 23. As of December 1994, the Borough owned about 428 acres within the Diamond Lake area (see Table 1).

Existing Regulations - Private

Private regulations which exist in the Diamond Lake area consist of subdivision covenants. Only two subdivisions within the area have covenants, these being Diamond Lake Unit Number 1 and Diamond Lake Unit Number 2. The covenants regulate dwelling type, limit land uses to residential and define nuisances within the aforementioned subdivisions.

2.5 Present Lake Usage

Diamond Lake contains 139 surface acres within its numerous coves and has just 2.7 miles of shoreline (see Table 2). Figure 5 illustrates the lake's bathymetry. Rainbow trout and land locked Silver Salmon are found in the lake.

Table 2
Diamond Lake Characteristics

Surface Area	139 acres
Maximum Depth	23 feet
Mean Depth	7.6 feet
Shoreline Length	2.7 miles
Volume	1,059 acre feet

Source: State of Alaska, Department of Fish and Game

The present use of Diamond Lake may be characterized as primarily recreational. There are few residents who live at the lake throughout the entire year. The majority of property owners either reside at the lake only during the summer or visit the lake during the weekends. Most lake front property owners have their principal place of residence in Anchorage.

Lake front property owners are the predominant users of Diamond Lake. They boat, swim and fish at the lake. The use of personal watercraft (jet skis) also occurs on Diamond Lake and has been reported to cause some wake conflicts. The lake is visited by non-property owners who use the lake for recreational purposes such as ice fishing.

3 Goals

Goals describe the future expectations of Diamond Lake residents, property owners and users for the Diamond Lake area. The following goals reflect the aspirations of Diamond Lake residents, property owners and users and address their principal concerns: water quality, access, wildlife and the residential/recreation character of the area. The goals are not shown in priority order as they are interdependent.

3.1 Water Quality

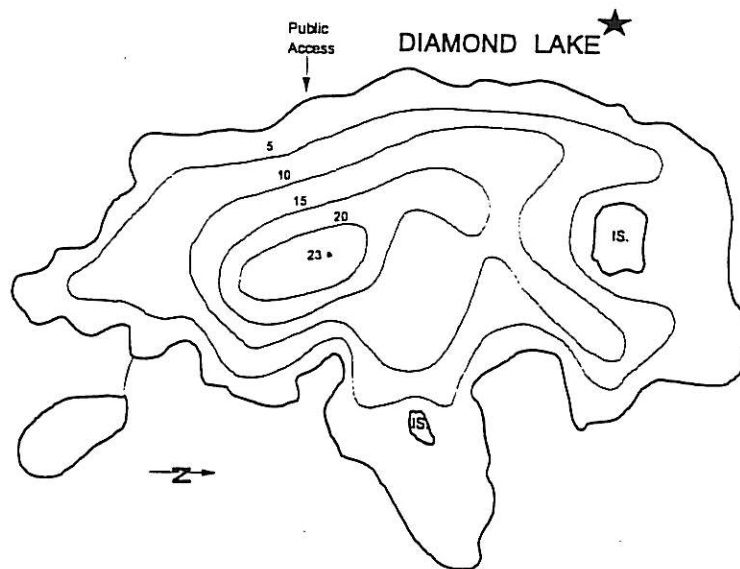
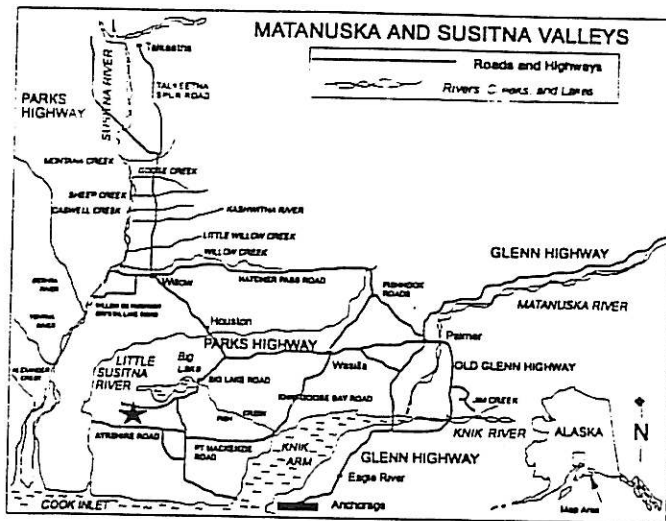
Diamond Lake is a significant natural resource and it is the desire of property owners, residents and users of Diamond Lake to maintain or improve the lake's water quality.

3.2 Recreation and Residential Character

The variety of recreational opportunities offered by Diamond Lake should be maintained and enhanced but suited to the lake's particular characteristics and should not detract from the quality of experience at the lake.

MATANUSKA-SUSITNA VALLEYS STOCKED LAKES SERIES

State of Alaska
 Department of Fish and Game
 Sport Fish Division:
 1800 Glenn Hwy #4
 Palmer, AK 99645
 (907) 745-5016



U.S.G.S. Map Ref.	Tyonek C-1, T16N, R4W, S5	Geographic Location	61°31'N, 150°01'W
Elevation	150'	Surface Acres	139
Volume	1,059 Acre Ft.	Maximum Depth	23'
Mean Depth	7.6'	Shoreline Length	2.7 Miles
Surveyed	8/15/78 ADFG	Year 1st Stocked	1987
Game Fish Present	Rainbow Trout, Landlocked Silver Salmon		

DIAMOND LAKE PUBLIC ACCESS: Mile 52.3 Parks Hwy. East on Big Lake Rd. 3.6 miles to "Y". Left at "Y" on South Big Lake Rd. 8.9 miles to Raines Drive. Left on Raines Dr. 1.2 miles to section line access and short trail to lake. **NOTE:** Limited public access. Majority of lake shoreline is privately owned. Please respect private property.

Diamond 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.

Use of the lake should be compatible or enhance the present character of the lake which is of low-impact, quiet recreational character.

3.3 Wildlife

The ability of Diamond Lake to remain a migratory bird (loon) nesting site should be preserved and enhanced. 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 residents and property owners.

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

4 **Management Issues, Alternatives and Recommendations**

The management issues at Diamond 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 are managed and how lakes in other states have been managed.

4.1 Access

Management Issue The present access point to the lake is not maintained or supervised. As a result, vehicles are parked haphazardly, trash is left at the site, trespass on nearby private property occurs and overnight campers tend to block access. The general public will often leave their canoes and boats overnight on private property near the access point. Presently, the unmaintained and unsupervised nature to the access point makes it difficult to access and enjoy the lake for visitors and property owners alike. Environmental degradation has occurred and unsanitary conditions exist.

Alternatives If the current state of affairs is not addressed the environmental degradation, trespass and access conflicts will continue. Therefore some proactive measures should be taken. Since the vast majority of the public will obey the rules and laws if they know them, one alternative is to provide the appropriate information to the public and property owners. Eliminating public access to Diamond Lake is not an alternative as it would violate State law.

Recommendation It is recommended that public awareness information be provided at the access point to the lake. "No Overnight Camping, No Open Fires, and No Overnight Boat Storage" signs should be placed at the parking landing areas. A "No Wake Zone" sign should be mounted near the landing to enhance safety. A weather protected signboard should be placed near the staging area where information about the lake, birdlife and general "rules of the area" could be reviewed by all. The information at the signboard should also identify where nearby overnight camping is permitted.

4.2 Wildlife

Management Issue The principal wildlife of concern to Diamond 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 sites. The remainder of this section will discuss alternatives for preserving and protecting the existing loon nesting sites.

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

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 due to separation from the adult or 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 to water borne activities and development, active nests will not be found on Diamond Lake in the future. In order to maintain reproductive loons at Diamond Lake, it is necessary that some pro-active steps be implemented.

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. First, the existing island where regular loon nests have occurred should be encircled by a number of buoys marked with "Loon Nesting Site - Do Not Approach" placed at least 150 feet (200 feet preferred) from the shoreline. Appendix #2 provides an illustration of a low cost, effective buoy. These buoys may be obtained from the State of Alaska, Department of Fish and Game. Loon 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 etiquette" (see Appendix #1). To further protect the loon nesting sites it is recommended that an annual letter be mailed to property owners in the area to remind them of the sensitive nesting period.

4.3 Public Lands

Management Issue The Borough received lands under Municipal Entitlement Lands program of the Alaska Lands Act for four distinct purposes. In addition to obtaining lands from the state the Borough obtains title to properties through tax foreclosures, donations and purchases. Within the Diamond Lake area the Borough owns about 1011 acres including four parcels with water frontage. Three of these lots connect to, or are a part of, large Borough parcels, and one is a small island.

The Borough attempts to balance a number of uses of its public lands. Some lands are sold or leased for revenue generation while other lands are retained for public purposes such as schools and parks. Borough lands at lakes provide several management opportunities: recreation, private ownership and habitat protection. Borough lands may also be used to comply with state requirements to provide access to all public waterbodies. Briefly stated then, the management issues in regards to Borough lands are: What amount of Borough lake front property should be retained in Borough ownership and how should the retained lands be managed?

The Susitna Area Plan (SAP) contains guidelines for lake shore management and while SAP does not directly apply to Diamond Lake, it's guidelines may be used for discussion purposes. The SAP has three types of lakes: 1) wilderness 2) recreation and 3) general development. Each lake type has different management guidelines. Because most of the lake front property of Diamond Lake is in private ownership, Diamond Lake would be considered a General Development Lake by

SAP standards. General development lakes are managed to allow a mixture of natural and developed uses. In addition, SAP guidelines note that general development lakes having significant³ recreation values should have 50% of the public lands retained in public ownership, for public uses. Diamond Lake would not be considered to have significant recreation values because the lake does not have an existing commercial recreational enterprise on the lake, the area's major recreation activities are located elsewhere, i.e., Big Lake; the upland development is primarily residential-recreation and there is no well developed public recreation access to or recreation activities occurring on the lake.

The Borough Assembly and Planning Commission have also developed policies for Borough lands. An overall policy directive from both the Assembly and Planning Commission is to increase the number of land disposals in order to place more lands in private ownership and increase revenues through sale and tax receipts. The Planning Department seeks to balance the need to retain lands for public purposes and the need to increase revenues through land disposals.

Alternatives There are three alternatives to be considered; these are: 1) retain all lands, 2) disposal of all lands and 3) dispose of some lands while retaining others. Alternatives one and two are not consistent with the Department's mission to retain lands for public purposes and increase revenues through disposals. Therefore the management alternative is to determine which parcels and how many of them should be retained or sold.

Recommendations Parcels providing direct access from South Big Lake Road to Diamond Lake should be retained for public access reasons. Parcels that provide access to the lake for larger Borough parcels should also be retained for lake access purposes. The decision to dispose of the larger Borough parcels surrounding the lake but not fronting on the lake would be made on a case by case basis. Parcels obtained through tax foreclosures will be sold unless they have some unique characteristics because they were already in private ownership.

4.4 Noise

Management Issue Diamond Lake has a history of low-impact, quiet, recreational use of the lake. Residents and property owners of the area wish to maintain this characteristic of the lake. Additionally, Diamond Lake is relatively small and shallow, therefore not of sufficient size to adequately support recreational use that generates a large number of wakes.

³ The term "significant" is not defined within SAP but Webster's defines the word significant as: "something momentous, of importance, critical".

Alternatives Three alternatives may be considered for this management issue; namely; 1) do nothing, 2) prohibit all motorized use, and 3) establish quiet hours.

The first alternative, "Do Nothing," ignores problems that may be associated with noise. The "Do Nothing" alternative also ignores on the primary reasons residents and property owners requested that a lake management plan be developed. 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 area not associated with the noise problem. This alternative is therefore also rejected.

The third alternative is to establish quiet hours at the lake. The use of quiet hours creates a period of time when motorized use that creates noise and is repetitive in nature is prohibited. Quiet hours also allow use of the lake during the quiet hour period for quiet, unobtrusive, transit of the lake for trolling/fishing.

Recommendation Residents and property owners of the area initiated the lake management planning process, for among other concerns, to protect the existing quiet recreational use of Diamond Lake. It is therefore recommended that quiet hours be established during the hours of 10 p.m. to 8 a.m. Sunday through Saturday.

4.5 Water Quality

Management Issue The residents and property owners of the area believe that ice houses and ice fishing are major contributors to the degrading water quality at Diamond Lake. Recreationalists who ice fish contribute to unsanitary conditions at Diamond Lake because there are no outhouse facilities, nor trash receptacles. Many ice fishers build fires while fishing, leaving partially burned wood as well as trash. Ice houses are unsightly, and are often left after breakup to sink into the lake. The firewood and ice houses also create safety problems in the summer for boats and aircraft.

Alternatives If the current state of affairs is not addressed the environmental and aesthetic degradation will continue. Therefore some proactive measures should be taken. One alternative is to prohibit ice fishing at Diamond Lake. The residents and property owners do not wish to prohibit ice fishing altogether. A second alternative is to establish a registration procedure for ice houses. This second alternative is preferred among the residents and property owners of Diamond Lake.

Recommendation The Matanuska-Susitna Borough should establish a registration system for ice houses on Diamond Lake. The purpose of the registration system is to track the use of ice houses and allow the borough to contact users before breakup to remind them to remove the ice house. The need for registration should be included on the signboard at the public access site.

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 Diamond 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 Diamond 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 capital improvements, public information and best management practices to implement the plan. In addition should a Lake Management ordinance⁴ be adopted containing a general provisions section that provides limited guidelines, e.g., wildlife protection and bans on overnight camping. Diamond Lake area residents and property owners should be contacted to determine whether or not Diamond Lake should be included in such a ordinance. A description of the implementation proposals follows.

Loons To protect loons it is recommended that buoys be placed a minimum of 150 feet (200 feet preferred) around the island to inform lake users of the nest site. Appendix #2 provides information on buoy construction and placement. These buoys may also be obtained from the State of Alaska, Department of Fish and Game. Additionally, 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 Alert!" The Diamond Lake residents, property owners and the Borough should cooperate in implementing the loon protection program. Additionally, the harassment of loons and other lake related wildlife such as grebes may become subject to fines under the proposed lake management ordinance described above.

Lake Access The existing access point is the most suitable location for access to the lake, but overnight camping should be discouraged.

⁴ 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 is being considered.

Trash, Fireworks and Ice houses Information should be posted at the information signboard at the public access point informing users to pack out what they pack in. Signs should be posted stating "No Overnight Camping - Do Not Litter, and No Open Fires." Other information to be included on the signboard is "No Overnight Boat Storage." Additionally, signs illustrating the need and process for registering ice houses should be posted. The information and signs should be provided by the Borough. The Borough should be responsible for the ice house registration program.

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, by correspondence, to be considerate of their neighbors, avoid polluting the lake with debris and avoid forest fires and disturbance of waterfowl.

Noise/wakes Diamond Lake is shallow and relatively small in size. Because of the size and shallowness of this lake it is easy to create wakes and turbid conditions. Also, the use of certain watercraft, such as personal watercraft (a.k.a. jet skis) have a tendency to create many wakes which may cause shoreline erosion. Personal watercraft due to this repetitive use also create noise which has been identified by residents as a nuisance, especially during the weekday, evening hours. Residents and property owners therefore recommend that personal watercraft (a.k.a. jet skis) be banned from using the lake. Additionally, a 100' "no wake" zone should be instituted to protect the shoreline from erosion.

Quiet hours Diamond Lake residents and property owners wish to maintain quiet hours during the summer, evening, and early morning hours. The upland development is predominantly residential in character. To protect the shoreline and existing quiet, residential character of the area and recreational use, quiet hours should be imposed on the lake during which no repetitive motorized use creating noise should occur. The recommended quiet hours are 10 p.m. through 8 a.m. Sunday through Saturday.

10 Horsepower limit Residents living adjacent to the lake seek to have their shorelines protected from erosion caused by large wakes. Loon and grebe nesting on the 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 on Diamond Lake has been low impact recreational; residents and property owners wish to continue this character. Therefore a 10 horsepower motor limitation is recommended for Diamond Lake.

APPENDIX #1

STATE OF ALASKA

WALTER J. HICKEL, GOVERNOR

DEPARTMENT OF FISH AND GAME

HABITAT AND RESTORATION DIVISION

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

FISH HABITAT PERMIT 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

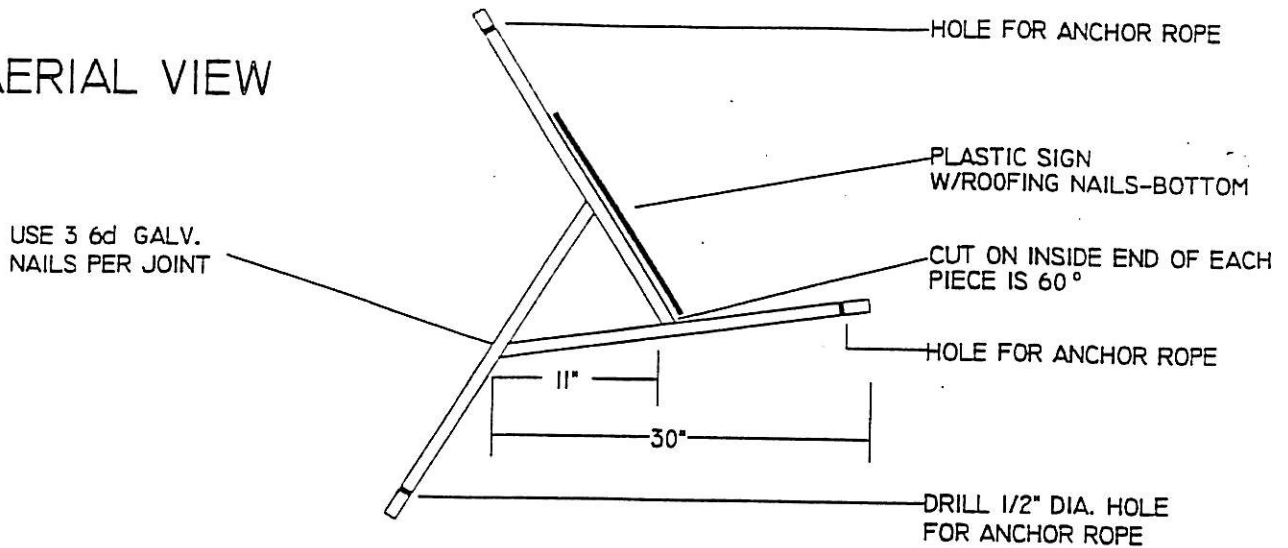
cc: R. Thompson, DNR/DL
A. Samet, DNR/DL
D. Kelley, DNR/DL
S. Dunaway, DNR/DM
P. Pinard, DEC
P. Brna, SPCO
D. Webster, MSB
W. Wrede, City of Cordova
M. Pearsall, KPB
D. Dengel, City of Valdez

APPENDIX #2

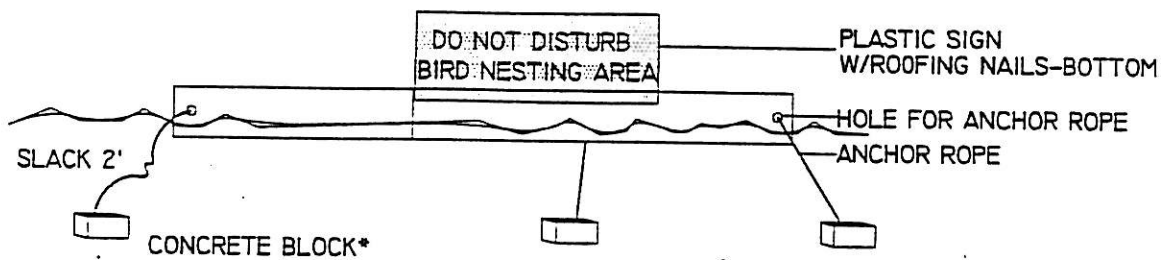
SIGN FLOAT FOR LOON NESTS

(NOT LIKELY TO TURN OVER
IN THE STRONGEST WIND)

AERIAL VIEW

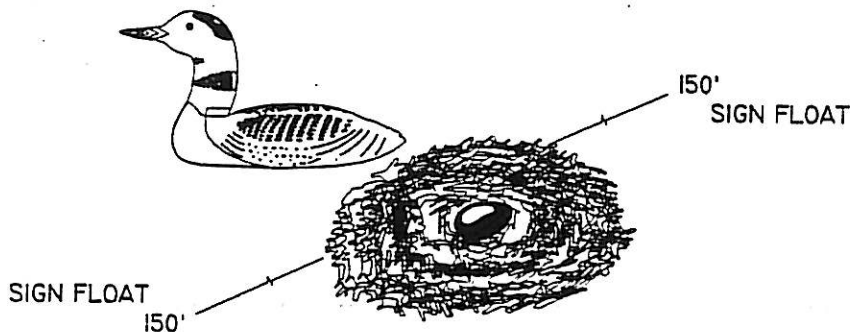


VIEW FROM WATER



*GALLON MILK JUGS FILLED WITH SAND
COULD REPLACE CONCRETE BLOCKS

NEST

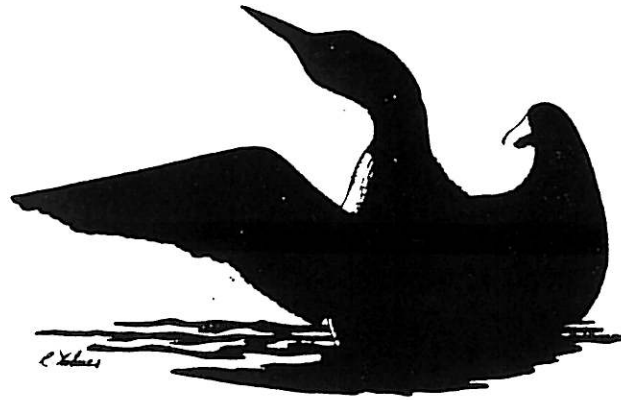


MATERIALS LIST

- 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

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



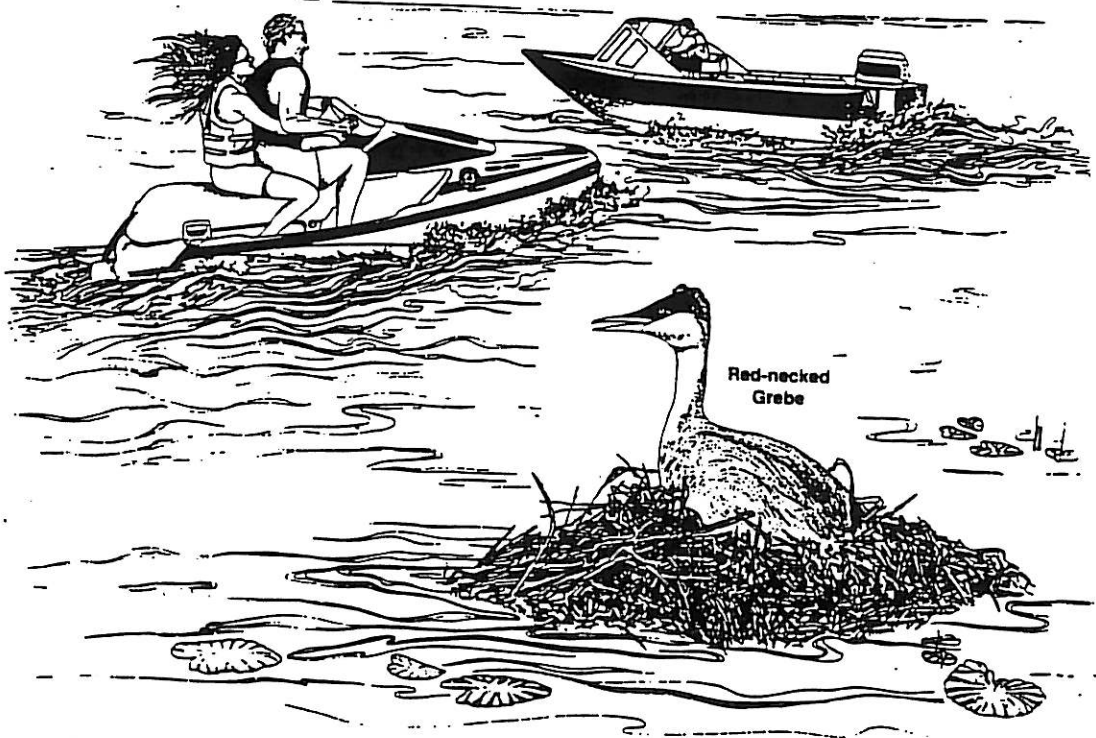
**Help keep this lake safe
for loons and other wildlife:**

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

