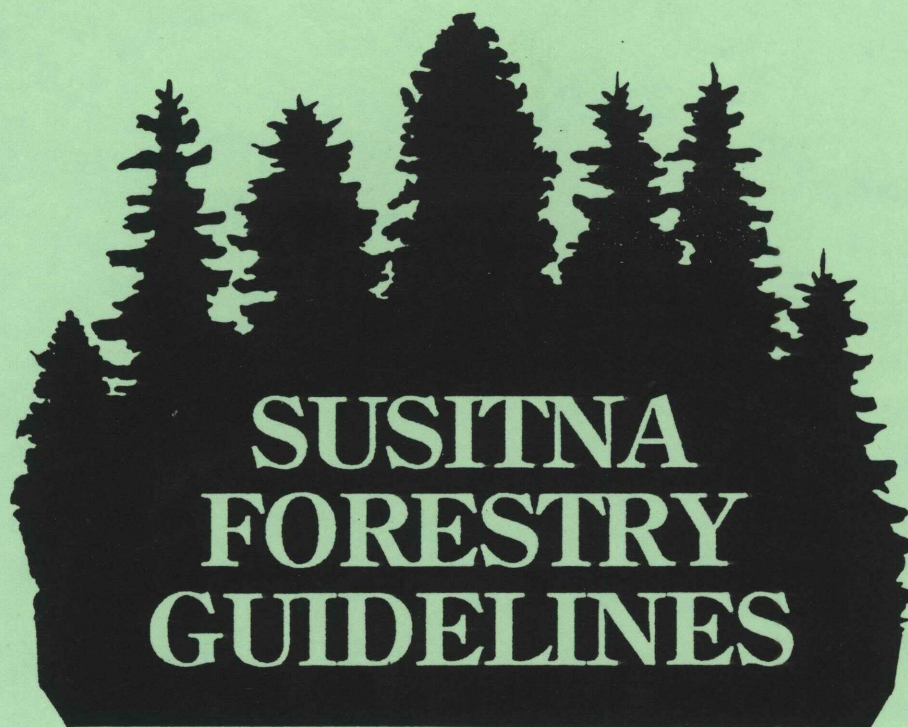




Susitna Forestry Guidelines

December, 1991



Alaska Department of
**NATURAL
RESOURCES**

Division of Land
Land & Resources Section
P.O. Box 107005
Anchorage, Alaska 99510-7005



HOW TO USE THE SUSITNA FORESTRY GUIDELINES

TO FIND...

SEE...

■ Background information on the Susitna Forestry Guidelines	Chapter 1 - Introduction
■ Overview of forest management program in the Susitna valley, including - ◆ Total amount of timber on state land ◆ Annual allowable cut ◆ Personal use program	Chapter 2, Section I - Forest Management Program
■ Guidelines for designing timber sales, such as - ◆ Size ◆ Shape ◆ Harvest methods ◆ Reforestation	Chapter 2, Section II - Timber Sale Design and Management
■ Guidelines for managing timber in special areas such as - ◆ Special habitats ◆ Important recreation areas ◆ Wetlands ◆ Agricultural lands ◆ Cultural and historic (heritage) sites	Chapter 2, Section III - Management of Special Areas
■ Guidelines for road design, construction, and management -	Chapter 2, Section IV - Access Design and Management
■ Guidelines for public notice -	Chapter 2, Section V - Public Notice and Interagency Coordination
■ Directions for changing the guidelines -	Chapter 3 - Implementation, Procedures for Guideline Modification
■ Information on other topics -	Index
■ Definitions -	Appendix A - Glossary
■ Information on specific sites -	Map in back pocket - find the subunit name for the site, then look up the subunit name in the index.

Three main tasks guided by the Susitna Forestry Guidelines are designing timber sales and personal use areas, authorizing individual personal use permits, and designing timber roads. Charts of how to use the guidelines for these tasks are on the colored pages (pp.vi. to ix.).

SUSITNA FORESTRY GUIDELINES

Prepared by Alaska Department of Natural Resources

Division of Land

Division of Forestry

in cooperation with

Alaska Department of Fish and Game

December 1991

Providing jobs, habitat, wood, recreation and other benefits from state-owned forests is part of the Department of Natural Resources' mission. Many ideas exist on how best to fulfill this task. The Susitna Forestry Guidelines were developed with extensive input from other agencies and the public to balance different demands on Susitna valley forests and help achieve this mission. The Guidelines direct management of forest resources, set standards for timber management and access, identify areas available for timber harvesting, summarize current timber volumes, and establish the annual allowable cut.



Alaska Department of
**NATURAL
RESOURCES**



Table of Contents

Summary of How to use the Susitna Forestry Guidelines	inside cover
List of Maps, Figures, and Tables	iv
Acronyms and Abbreviations	v
Using The Susitna Forestry Guidelines for Timber Sales, Personal Use Permits, and Roads	vi

Chapter 1 - INTRODUCTION	1
Summary of Purpose	1
Relationship to Land Use Plans and Legislation	1
State land use plans	1
Susitna Basin Recreation Rivers Management Plan	3
Forest Practices Act	3
Five-year Schedule of Timber Sales and Forest Land Use Plans	3
Area Affected by Susitna Forest Guidelines	4
Planning Process	5
Planning Team	5
Citizens' Advisory Committee	5
Public Review	5
How the Guidelines Were Developed	5
Who Implements the Guidelines	6

Chapter 2 - FOREST MANAGEMENT GUIDELINES	7
Section I - Forest Management Program	7
Timber Sale Program and Timber Base	7
Personal Use Wood	12
Research Natural Areas and Experimental Forests	14
Fire Management	17

Section II - <i>Timber Sale Design and Management</i>	17
Public Use	17
Timber Sale Design	17
Harvesting Systems	20
Harvesting Schedules	20
Slash Disposal	21
Site Preparation	22
Reforestation	22
Use of Chemicals	23
 Section III - <i>Management of Special Areas</i>	23
Agricultural Lands	23
Bald Eagle Habitat	24
Brown Bear Habitat	25
Deception Creek	25
Fish and Wildlife Habitat -- General	26
Heritage Sites	26
Marten Habitat	27
Moose Habitat	27
Private Lands	27
Recreation and Scenic Resources	28
Rivers, Streams, and Lakes	32
Trail Corridors	35
Trumpeter Swan Nesting Areas	36
Wetlands	36
 Section IV - <i>Access Design and Management</i>	37
Access Location and Design	37
Road Construction	39
Road Management	39
 Section V - <i>Public Notice and Interagency Coordination</i>	40

Chapter 3 - IMPLEMENTATION	43
Procedures for Guideline Modification	43
Periodic Review	43
Changes to the Guidelines	43
Research	45
Recommended Changes in Land Use Plans	46
Funding and Enforcement	47
Rights-of-way	48

APPENDICES

Appendix A - Glossary	49
Appendix B - Citizens' Advisory Committee Participating Organizations	57
Appendix C-1 - Gross Timber Acreage by Subunit	59
Appendix C-2 - Gross Timber Volume by Subunit	67
Appendix D - Forest Land Use Plan Requirements	73
Appendix E - Recreation Opportunity Spectrum for the Susitna Forestry Guidelines Area	75
Appendix F - Requirements for Winter Travel	77
Appendix G - Acknowledgments, Planning Team, Staff, Technical Advisors and Signature Pages	79
Appendix H - Publications Related to the Guidelines	83

INDEX	85
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List of Maps, Figures, and Tables

Summary Map: This map shows land ownership, designations, phase boundaries, land use plan and subunit names, and recommended recreation sites. Pocket in Back

Map 1: Location of Planning Area 2

Maps 2a, 2b: Experimental Forests 15,16

Map 3: Generalized Fire Protection Levels 18

Map 4: Recreation Sites 31

Figure 1: Examples of Cutting Units and Harvest Units 18a

Figure 2: Examples of Harvesting Setbacks on River Islands . . 34a

Table 1: Estimated Acreage by Land Ownership 4

Table 2: Estimated Gross Acreage of Land Use Designations on Statelands in the Guidelines Area 4

Acronyms and Abbreviations

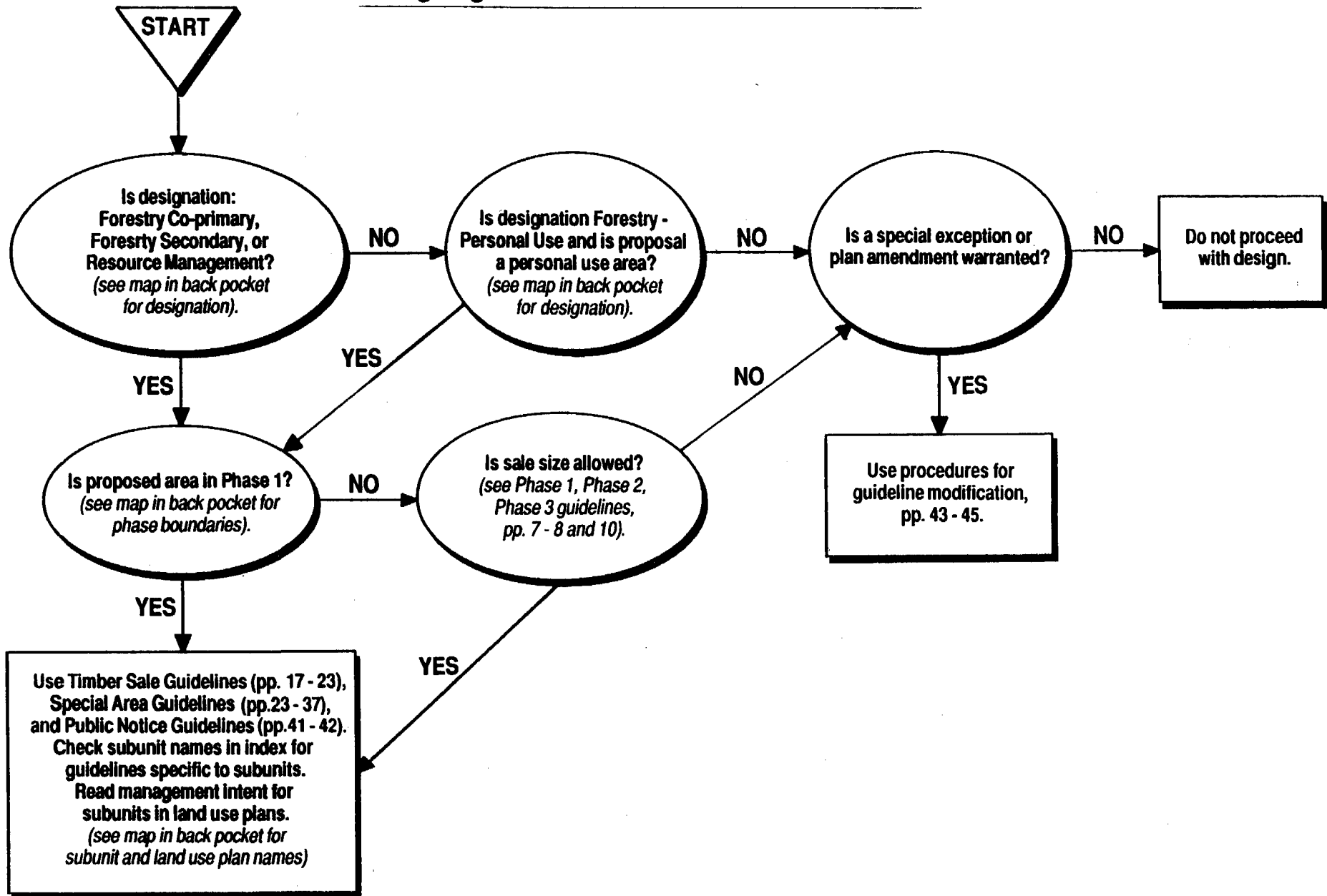
AAC	Alaska Administrative Code
AS	Alaska Statute
bf	board foot
DEC	Alaska Department of Environmental Conservation
DFG	Alaska Department of Fish and Game
DNR	Alaska Department of Natural Resources
DOF	DNR Division of Forestry
DPOR	DNR Division of Parks and Outdoor Recreation
FLUP	Forest Land Use Plan
FMR	Forest Management Report
FPA	Alaska Forest Practices Act
FY	fiscal year (State of Alaska)
INHT	Iditarod National Historic Trail
Mbf	thousand board feet
MMbf	million board feet
OHA	DPOR Office of History and Archaeology
RNA	Research Natural Area
SAP	Susitna Area Plan
SFG	Susitna Forestry Guidelines
SHPO	DPOR State Historic Preservation Office
USC	US Code
USDI	US Department of the Interior

USING THE SUSITNA FORESTRY GUIDELINES FOR TIMBER SALES, PERSONAL USE PERMITS, AND ROADS

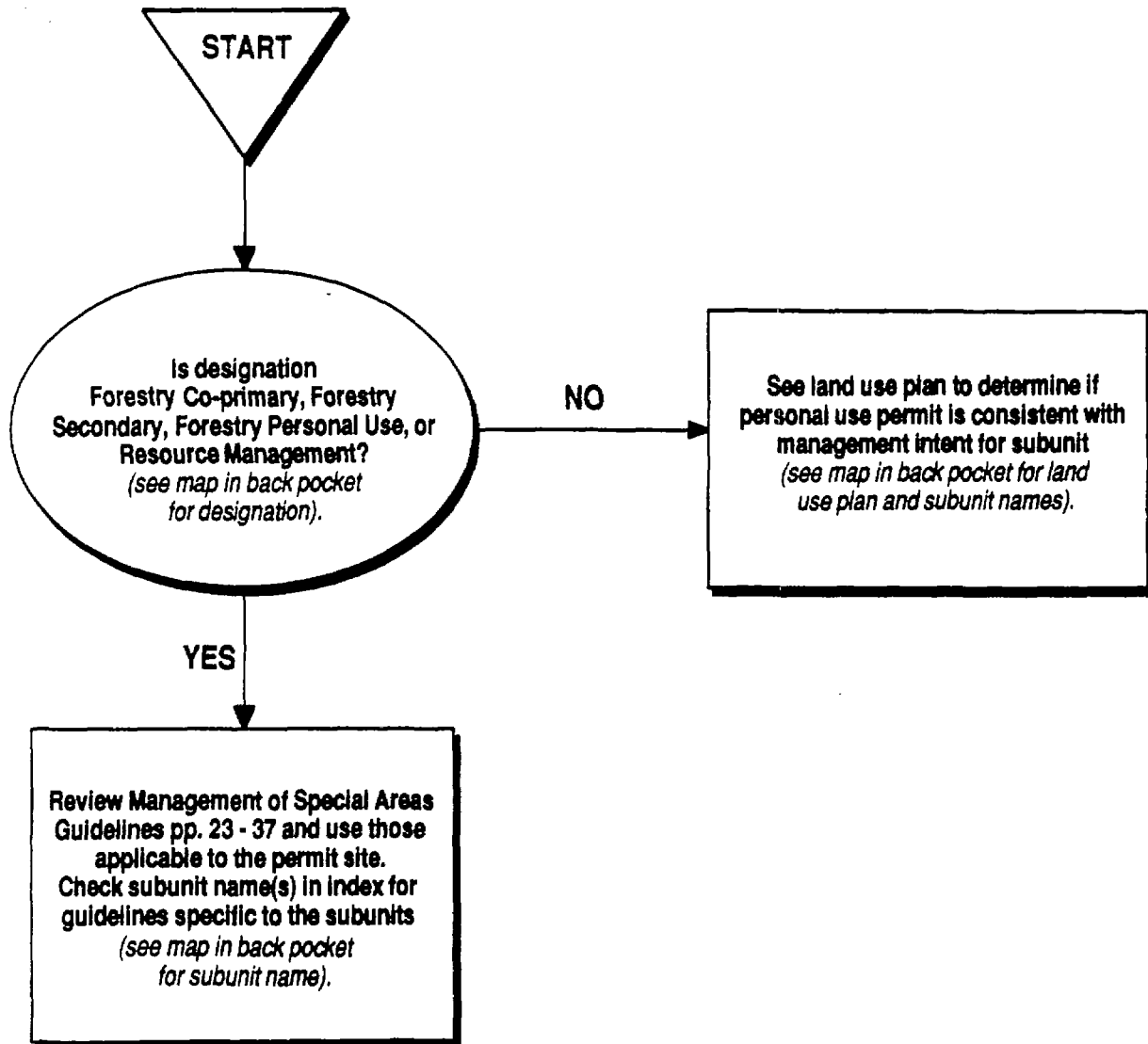
An overview of how to use the Susitna Forestry Guidelines is on the inside front cover of this document. Three main tasks subject to the Susitna Forestry Guidelines are designing timber sales and personal use areas, authorizing individual personal use permits, and designing timber roads. More detailed directions for using the guidelines for these tasks are in the charts that follow.

In the charts, the starting point for using the guidelines is indicated by a triangle . Ovals  show questions to answer before proceeding. Final tasks are shown in rectangles .

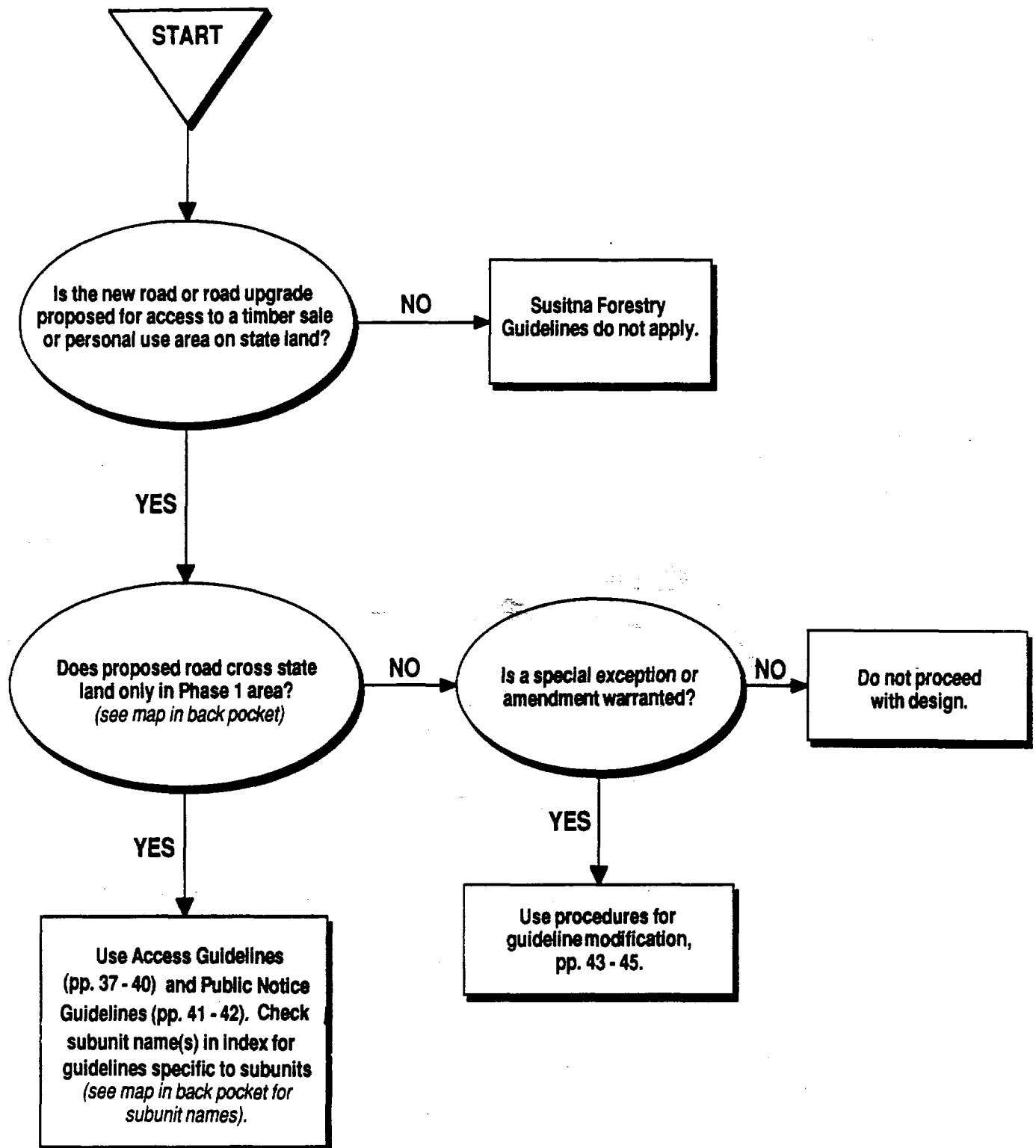
Designing a Timber Sale or Personal Use Area



Authorizing Personal Use Timber Harvest by Individual Permit



Designing Road Access to a State Timber Sale or Personal Use Area



Chapter 1
INTRODUCTION

Chapter 1 - INTRODUCTION

Summary of Purpose

The goal of the Susitna Forestry Guidelines (SFG) is to ensure that state forest lands continue to contribute to the quality of life and economy in the Susitna valley by:

- ◆ providing wood for personal and commercial use
- ◆ supporting tourism, maintaining opportunities for diverse recreational activities in a variety of settings, and protecting scenic quality,
- ◆ protecting and enhancing fish and wildlife habitat, and
- ◆ protecting air, land, and water quality.

The state forest lands in the Susitna Valley will be managed to provide a balanced, sustained yield of these public benefits. To provide wood, fish, game, recreation, and other benefits, state-owned forest lands will include both natural ecosystems and actively managed forests. The guidelines in this document describe the requirements for managing timber and for mitigating negative impacts to other resources and land uses when timber is harvested from state lands.

The Susitna Forestry Guidelines:

- ◆ establish rules for timber management and timber access on state land,
- ◆ describe the areas where forestry is one of the designated uses under the current area and management plans, and
- ◆ describe the current timber volume on state lands where forestry is one of the designated uses.

These guidelines apply only to state land managed by the Department of Natural Resources where forestry is one of the designated uses. They do not apply on private, borough, mental health, or university land, nor in legislatively designated areas (state parks, recreation rivers, or refuges). These guidelines provide detailed guidance for

timber management on state lands. They do not change the land designations nor management intent from the land use plans (see *Relationship to Land Use Plans and Legislation* in this chapter). These guidelines are intended to guide forest management for the next ten years (through 2001). Changes to the guidelines may be made through amendments and special exceptions (see *Chapter 3 - Procedures for Guideline Modification*).

Relationship to Land Use Plans and Legislation

STATE LAND USE PLANS

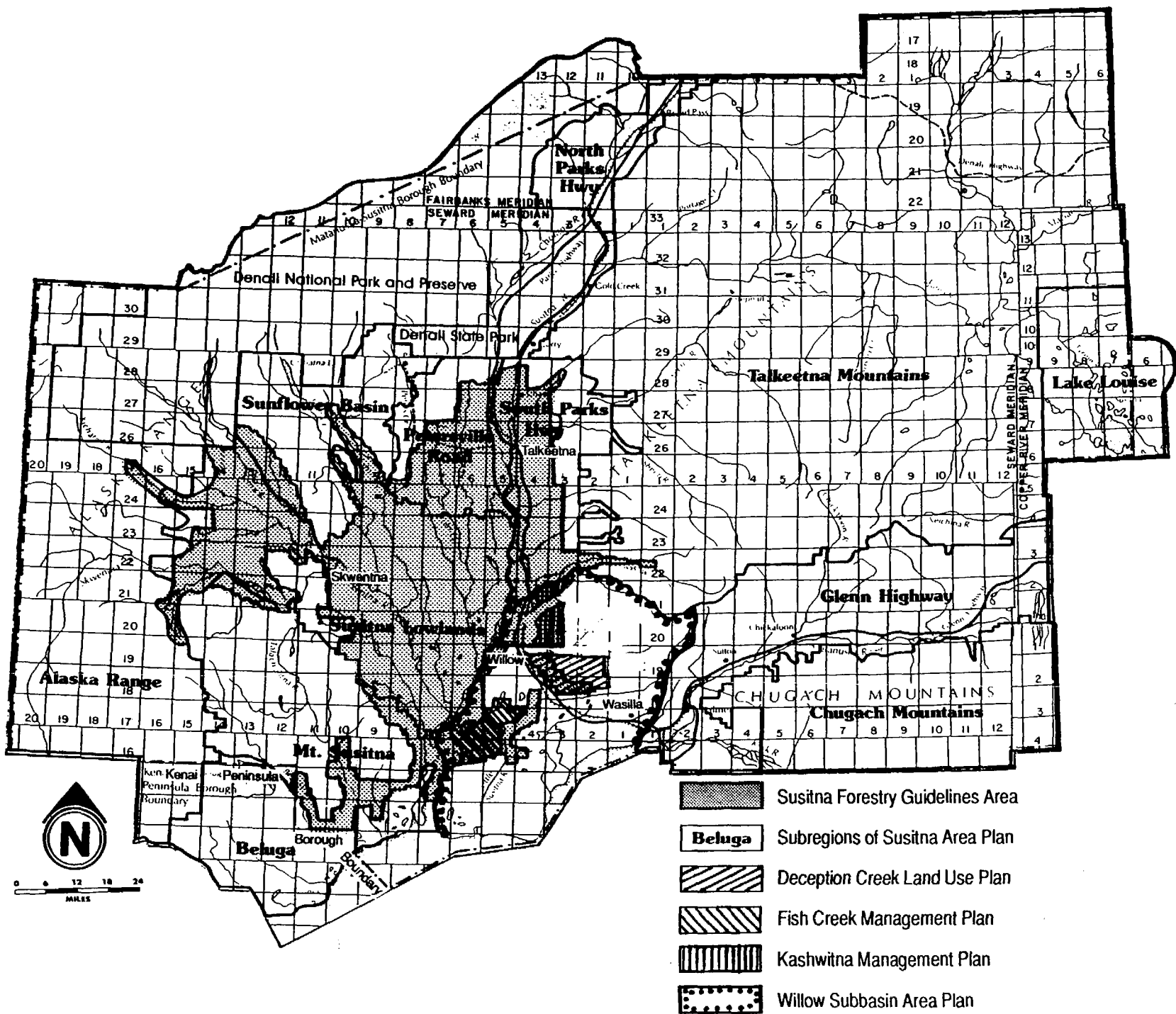
State land use plans determine the main uses of state land. State land use plans in the Susitna Forestry Guidelines area include the -

- ⇒ Susitna Area Plan,
- ⇒ Willow Subbasin Area Plan,
- ⇒ Kashwitna Management Plan,
- ⇒ Deception Creek Land Use Plan, and
- ⇒ Fish Creek Management Plan (see map 1).

The designations in land use plans determine whether forestry is an allowed use, and if allowed, whether it is a primary or secondary use. These designations determine where the Susitna Forestry Guidelines apply: the guidelines apply to all units where forestry is one of the designated uses under these land use plans within the boundary on Map 1. The units referenced in these guidelines are the units established by the land use plans.

The Susitna Forestry Guidelines were developed to provide more detailed guidance on timber management within these units. Forestry issues are among the most controversial land use issues in the Susitna valley. All units designated for forestry also are designated for fish and wildlife habitat. Public recreation, water resources, resource

Map 1. Location of Planning Area



management, and agriculture are also common co-designations with forestry. The land use plans require that co-primary uses be managed to be compatible with each other. The intent of the Susitna Forestry Guidelines is to ensure that forestry is compatible with the other designated uses.

Land use plans are updated approximately every five years. The Susitna Area Plan and Willow Sub-basin Area Plan are due for updating. However, the schedule for completing these updates is uncertain because of staffing levels and other department priorities, such as completing the state land selections project. If an amendment to the area plans deletes forestry as an allowed use in a unit, the Susitna Forestry Guidelines will no longer apply to that unit. If an amendment adds forestry as an allowed use in a unit, the forest guidelines will apply to that unit. Site-specific guidelines for that unit may be developed through the land use plan amendment or through an amendment to the Susitna Forestry Guidelines.

SUSITNA BASIN RECREATION RIVERS MANAGEMENT PLAN

The Susitna Forestry Guidelines do not apply to land within the Susitna Basin State Recreation River corridors. The statute establishing the recreation rivers prohibits commercial timber harvesting in the river corridors except commercial harvesting incidental to access development or habitat enhancement (AS 41.23.470(b)). The Susitna Basin Recreation Rivers Management Plan guides harvesting in the corridors. Recreation River corridors exist along the Talkeetna, Talachulitna, Deshka, and Little Susitna rivers and Lake, Alexander, and Clear creeks.

FOREST PRACTICES ACT

The Alaska Forest Resources and Practices Act (AS 41.17, commonly referred to as the Forest Practices Act or FPA) is the primary law governing forestry activities on state, municipal, and private land, including the Susitna Forestry Guidelines area. The Act establishes minimum statewide standards for multiple use and sustained yield management of forest lands, reforestation, protection of riparian areas, and enforcement procedures. Standards for specific sites may be increased by the Susitna Forestry Guidelines or land use plans. The Susitna Forestry Guidelines are consistent with the requirements of the Act.

FIVE-YEAR SCHEDULE OF TIMBER SALES AND FOREST LAND USE PLANS

The land use plans determine *where* timber harvesting is allowed. The Susitna Forestry Guidelines and the Forest Practices Act determine *how* timber will be managed. Detailed decisions on *when* individual timber sales will be held and *how big* each sale will be, will be made through the Five-Year Schedule of Timber Sales and the Forest Land Use Plan (FLUP) for each sale. The Five-Year Schedule and FLUPs also set stipulations for individual sales, such as the size of cutting units, means of access, and site-specific site preparation requirements.

The Forest Practices Act requires that the DNR Division of Forestry prepare a Five-Year Schedule of Timber Sales annually. This schedule will describe proposed sales, access to the sales, and reforestation plans for the next five years. Timber sales (including personal use harvest areas) must appear on the Five-Year schedule for at least two years unless exempted by regulation (AS 38.05.113(b) and (c)). DNR did not adopt regulations for exemptions prior to adoption of the SFG. If regulations are adopted in the future, the Five-Year Schedule will be consistent with the regulations. Interagency review and public notice of the schedule occurs annually.

The passage of legislation in 1991 proposed a settlement to the lawsuit between the Mental Health Trust and the State of Alaska. The legislation identified forest land in the Susitna Forest Guidelines Area as part of a land pool for possible selection by the Trust. Until these selections are complete, DNR cannot take any actions which will diminish the value of these lands to the Trust. Therefore, the Division of Forestry withdrew its draft Five-Year Schedule of Timber Sales for FY 92-96 and will not offer any timber sales or designated personal use areas in FY 92.

The Forest Practices Act also requires that the Division of Forestry prepare a Forest Land Use Plan for every timber sale. Isolated personal use harvests (i.e., harvests under individual personal use permits) do not require an FLUP. The report is a site-specific plan that describes the sale in detail, including cutting units, secondary roads, and site-specific stipulations (AS 38.05.112(a)). See *Appendix D - Forest Land Use Plan Requirements* for a list of the subjects covered in an FLUP.

Area Affected By Susitna Forestry Guidelines

The Susitna Forestry Guidelines boundary encompasses approximately two million acres in the Susitna valley (see Map 1 and the map in the back pocket). This area is referred to as the "Susitna Forestry Guidelines (SFG) area" in this document. These lands are generally below 1000' elevation and outside the main population centers in the valley.

Approximately 1.6 million acres (84%) of the land are state-owned and managed by the Department of Natural Resources. About 160,100 acres (8%) are owned by the Matanuska-Susitna Borough.

Remaining lands (9%) are owned by private individuals, Native corporations, the University of Alaska, and the Mental Health Trust Authority (see Table 1). Approximately 13,700 private parcels occur within the Susitna Forestry Guidelines area. About 1,100 of these are within subunits where forestry is one of the designated uses.²

Forestry is one of the designated uses on approximately one million acres of state land in the guidelines area (Table 2 and map in back pocket). The Susitna Forestry Guidelines apply to these lands. The remaining 0.9 million acres are non-state lands, or lands designated to other uses such as state recreation rivers, wildlife refuges, agriculture, or settlement.

TABLE 1.
ESTIMATED ACREAGE BY LAND OWNERSHIP

LANDOWNER	Within Guidelines Area	Percent of Guidelines Area
State ¹	1,618,500	84%
Matanuska/Susitna Borough	160,100	8%
Native Corporations	15,600	1%
University	29,400	2%
Mental Health	1,200	<1%
Other Private	96,400	6%
TOTAL	1,921,200	100%

TABLE 2.
ESTIMATED GROSS ACREAGE OF LAND USE DESIGNATIONS ON STATE LANDS IN THE GUIDELINES AREA

DESIGNATION	Acreage	% State Land
Forestry Co-primary	458,600	28%
Forestry Secondary ³	352,500	22%
Forestry Personal Use ³	52,500	3%
Resource Management ³	90,700	6%
Agriculture	76,000	5%
Settlement	385,900	24%
Recreation Rivers	130,200	8%
Other	72,100	4%
TOTAL State Land*	1,618,500	100%

¹ Small, dispersed private lands are included in the state land total in Table 1. Large blocks of private land are shown as "Other Private" in Table 1.

² For more information on land ownership and land use designations in the planning area, see the background report, "Land Ownership - Susitna Region Forest Plan" published by DNR in February, 1989. Copies are available from the DNR Division of Land.

³ Note: Approximately 1,100 parcels totalling 10,600 acres of patented private land or land leased for private use are dispersed within state lands where forestry is one of the designated uses and are included in the totals.

Planning Process

PLANNING TEAM

The Susitna Forestry Guidelines were developed by an interagency team with representatives from:

- Department of Natural Resources
 - Division of Agriculture
 - Division of Forestry
 - Division of Land
 - Division of Parks and Outdoor Recreation
- Department of Fish and Game
- Department of Transportation and Public Facilities
- Department of Environmental Conservation
- Department of Commerce and Economic Development
- Matanuska-Susitna Borough

The planning team developed the Susitna Forestry Guidelines in consultation with the Citizens' Advisory Committee and with technical advice from federal resource agencies and local soil and water conservation districts. Technical advisors represented the USDA Forest Service, USDA Soil Conservation Service, USDI Fish and Wildlife Service, and the Wasilla and Upper Susitna Soil and Water Conservation districts.

CITIZENS' ADVISORY COMMITTEE

The Citizens' Advisory Committee for the SFG consists of representatives from approximately 70 organizations, businesses, and local governments interested in forest management issues in the guidelines area. The committee reviewed and commented on draft guidelines and will review and comment on the public and agency review drafts of the guidelines. Periodic newsletters were sent to the committee to keep them informed on the planning process. *Appendix B* lists organizations represented on the committee.

PUBLIC REVIEW

Forest management issues were identified by the public at a series of public meetings in the fall of 1987 and through written comments on a proposed timber sale. A newsletter about the guidelines was sent to all landowners within the guidelines area. The draft guidelines were reviewed at meetings in Anchorage, Wasilla-Palmer (Cottonwood Creek), Willow, Trapper Creek, Talkeetna, Skwentna, Alexander Creek, and Tyonek in the fall of 1990. The comments were reviewed and considered in revising the draft guidelines. A summary of comments and proposed changes to the draft was sent to everyone who commented. There were 30 days for final public comments before the guidelines were adopted. Public comments on the guidelines were accepted by mail, phone, or in person throughout the process.

HOW THE GUIDELINES WERE DEVELOPED

Identify Issues. Land designations and general land use guidelines come from the land use plans for this area. The planning team identified additional issues from a public meeting on a proposed timber sale in the Susitna valley, from the Citizens' Advisory Committee, and from other public and agency comments (Spring 1988).

Collect Information. Resource information was gathered by the planning team with mapping and computer assistance from the DNR Geographic Information System Unit. Background reports were published on Timber Resources, Land Ownership, Fish and Wildlife Habitat, Public Recreation, Cultural Resources, and Transportation and Access (Summer 1988 - Winter 1989). Copies of these are available from the DNR Division of Land, Land and Resources Section. An atlas showing subunit boundaries, vegetation types, existing access, anadromous streams, and eagle and trumpeter swan nesting areas was compiled for the Susitna Forestry Guidelines project. A copy of this atlas is available for consultation at the DNR Division of Land offices in Wasilla and Anchorage, the Division of Forestry offices in Big Lake and Anchorage, the DFG Division of Habitat office in Anchorage, and the Matanuska-Susitna Borough Planning Department in Palmer.

Develop Agency Review Draft. The planning team and working groups developed draft guidelines and implementation recommendations. These proposals were reviewed by the Citizens' Advisory Committee and revised by the planning team. The proposals were reviewed by the planning team and advisory committee (Summer 1990).

Public Reviews Draft Guidelines. The draft guidelines were revised following agency and advisory committee comment. The revised draft was distributed for public review and discussed at public meetings in January, 1991.

Develop and Adopt Final Guidelines. The guidelines were revised following public comment. A summary of comments and changes to the draft guidelines were sent to the planning team, advisory committee, and mailing list. A notice of the intent to adopt the final guidelines were published, and 30 days allowed for final comment. The final guidelines were signed by the Commissioners of the Department of Natural Resources on October 23, 1991 and by the Commissioner of the Department of Fish and Game on November 4, 1991 (see *Appendix G - Acknowledgments, Planning Team, Staff, and Technical Advisors, and Signature Page*). Forest management decisions in the guidelines area must be consistent with the guidelines.

Who Implements The Guidelines

The DNR Division of Forestry is responsible for implementing the Susitna Forestry Guidelines when designing, reviewing, and offering timber sales, writing timber sale contracts, developing new access, and monitoring and enforcing timber sales. The DNR Division of Land is responsible for maintaining the guidelines, including organizing periodic updates and review of proposed amendments and special exceptions. The Division of Land also issues permits for rights-of-way, winter travel, and other uses of public domain land.

Chapter 2

FOREST MANAGEMENT GUIDELINES

Chapter 2- FOREST MANAGEMENT GUIDELINES

Timber operations on state lands must comply with the guidelines in this chapter and in the state land use plans for this region. These guidelines also apply to timber harvesting and forest clearing for habitat enhancement in the SFG area. The following land use plans must be consulted prior to designing timber operations within their boundaries:

- ⇒ Susitna Area Plan
- ⇒ Willow Subbasin Area Plan
- ⇒ Kashwitna Management Plan
- ⇒ Fish Creek Management Plan
- ⇒ Deception Creek Land Use Plan.

These guidelines are based on the management intent and designated uses established by the land use plans, and on the background reports on Timber Resources, Recreation, Fish and Wildlife, Cultural Resources, Transportation and Access, and Land Ownership.¹ (See also *Chapter 1 - Relationship to Land Use Plans.*)

Section I - Forest Management Program

This section describes the overall forest management program, including programs for timber sales and harvesting for personal use. It also provides background information on the amount of timber in the Susitna valley, sets the annual allowable cut and rotation length, sets guidelines for establishing research natural areas and experimental forests, and describes the existing wildfire management program.

TIMBER SALE PROGRAM AND TIMBER BASE

General Intent. The goals of the timber sale program are to make timber available for existing timber harvesting and processing businesses, and to expand harvesting and processing to provide additional jobs and income while being compatible with other designated uses of the area. DNR will develop Five-Year Schedules of Timber Sales for a regular, predictable series of sale offerings under AS 38.05.113 and its regulations. Timber sales should be offered in a range of volumes and duration to accommodate different sectors of the industry and the public. Sale offerings will be subject to access, markets, the limits of the annual allowable cut, public comment, and DOF staffing to design and administer sales.

Coordination with Other Landowners. DNR will coordinate its timber sale offerings with timber sale offerings of other landowners when it will increase the viability of the offerings or provide other public benefits. Opportunities for coordinating timber sales will be identified, in part, through public and agency review of the Five-Year Schedule of Timber Sales.

Phase 1, Phase 2, and Phase 3. The Susitna Forestry Guidelines (SFG) area is divided into three areas -- Phase 1, Phase 2, and Phase 3 -- for timing timber management programs and development of access to timber on state land (see map in back pocket for

¹ Copies of these reports are available from the DNR Land & Resources Section, P.O. Box 107005, Anchorage, AK, 99510-7005.

phase boundaries). Units in *Phase 1* are relatively near existing access. Phase 1 includes all South Parks Highway subunits, all Petersville Road subunits except the portion of subunit 1a west of Kroto Creek, all Willow Subbasin units except unit 8 (Susitna Corridor), Susitna Lowlands 10a (Chijuk Creek), and the west blocks of Mount Susitna 2b and 2c. Timber management and construction of new access for timber management can take place within the Phase 1 area at any time, subject to the Susitna Forestry Guidelines, the land use plans, and the Forest Practices Act (AS 38.05.112-.113 and AS 41.17). The Mount Susitna subunits are near existing winter roads. Harvesting in the west blocks of these subunits could occur in conjunction with harvesting in the Tyonek area.

Units in *Phase 2* are more remote. Phase 2 includes Susitna Lowlands units 9, 10, 11, 12, and 14, the portion of Petersville Road 1a west of Kroto Creek, and Willow unit 8 (Susitna Corridor). Existing road access is limited to winter roads in the northern part of the area or ice bridges across the Susitna River. Land use designations in this area are controversial and will be reviewed when the Susitna Area Plan is updated. New access and commercial timber sales on state land that will require new access (including new or upgraded winter roads) are prohibited in the Phase 2 area until after 1996 or until the Susitna Area Plan update is adopted. If the update is adopted before 1996, timber sales will be allowed on Phase 2 lands subject to the SFG and the designations of the updated plan. If the update is not completed by 1996, the SFG must be amended before sales requiring new access are allowed in the Phase 2 area on state land. Individual permits for personal use, community woodlots, or small commercial sales that do not require new or upgraded access are allowed in the Phase 2 area before 1996 (See *Commercial Sales in Phase 2 and Phase 3* in this section).

Phase 3 is the most remote part of the SFG area, west of the Kahiltna and lower Yentna rivers. It includes all Sunflower Basin and Alaska Range units, Susitna Lowlands units 1-8 and 13, the east blocks of Mount Susitna 2b and 2c, Mount Susitna 3, 4, 5 and 6. Building access for timber harvesting will be expensive because of distances and barriers such as the Yentna, Skwentna, and Kahiltna rivers. On state land, new timber access and commercial timber sales that will require new access (including new or upgraded winter roads) are prohibited in the Phase

3 area until after 2001. Individual permits for personal use, community woodlots, or small commercial sales that do not require new or upgraded access are allowed in the Phase 3 area before 2001 (See *Commercial Sales in Phase 2 and Phase 3* in this section). The decision to defer activities requiring new access in the Phase 3 area will be reviewed when the Susitna Forestry Guidelines are updated.

Other Land Ownership and Land Uses. Restrictions on new road access in Phase 2 and Phase 3 apply only to access for timber management on state land. They do not apply to access for other activities on state land, nor to rights-of-way across state land for access to land in other ownerships for any purpose, including timber management. For example, if the borough applies for a right-of-way across state land to reach timber on borough land, the SFG shall not be used to deny the right-of-way.

Timber Base. Gross Timber Base. Timber resource estimates are based on the inventory of timber resources prepared by the U.S. Forest Service, US Soil Conservation Service, and Alaska Department of Natural Resources in 1978-80. *Appendices C -1 and C-2, Timber Acreage by Subunit and Gross Timber Volume by Subunit* shows estimates of the gross acreage and volume of timber in each subunit. The gross timber base totals about 526,000 acres of high site and low site forest which support about 463 MMcf of timber.

Prohibited Areas. Within the units where forestry is one of the designated uses, there are some sites where harvesting for most uses is prohibited. These areas reduce the amount of timber available for harvesting. Prohibited areas include the following. Estimated acreage of forest land within the prohibited areas is shown in parentheses.

- ◆ Land within 100' of lakes and most streams, 200'-300' on islands in large braided rivers, 200' along the shore in Willow 6 and 8a, and within 1/4-mile of Little Willow Creek (see *Rivers, Streams, and Lakes* in Section III of this chapter). (22,080 - 47,900 acres)
- ◆ Land within 330' of the right-of-way along the Willer-Kash (Kashwitna) Road (see *Fish and Wildlife Habitat - General, Willer-Kash Road* in Section III of this chapter). (890 acres)
- ◆ Land within 300' of the Kashwitna River for 1/4-mile upstream and downstream of the Parks Highway crossing (see *Recreation and Scenic Resources - Parks Highway Scenic Values* in Section III of this chapter). (10 acres)

- ◆ Land within 300' of known historic sites listed in the Alaska Heritage Resource Survey, including land within 300' of the Iditarod National Historic Trail (see *Heritage Sites* in Section III of this chapter). (320-600 acres)
- ◆ Land within 330' of bald eagle nesting sites. (Some sites may have larger buffers. See *Bald Eagle Habitat* in Section III of this chapter.) (180-250 acres)
- ◆ Five recreation sites in the Petersville Road area and Kashwitna Management Plan (see *Recreation and Scenic Resources - Petersville Road 1a and Kashwitna 1a and 1b* in Section III of this chapter). (230 acres)
- ◆ South Parks Highway 12b and the portion of 12a between the Kashwitna River and the North Fork Kashwitna River (see *Recreation and Scenic Resources - South Parks Highway 12a and 12b* in Section III of this chapter). (11,120 acres)
- ◆ Land within 300' each side of centerline along the Petersville Road in Petersville Road Subunit 3 (see *Moose Habitat - Petersville Road 3a* in Section III of this chapter). (0-70 acres)

An estimated 14-20% of the gross timber base in Phase 1 is within these no-harvest areas and 5-8% of the timber base in Phase 2. Approximately 3-8% of the Phase 3 timber base is in standard no-harvest areas such as stream setbacks or eagle nest areas, but Phase 3 has not been reviewed for unique sites. The majority of land in no-harvest areas is in setbacks from streams. See *Appendices C-1 and C-2 - Gross Timber Acreage by Subunit and Gross Timber Volume by Subunit* for estimates of the acreage affected in each phase.

The 100' stream setback and the 330' zone around eagle nesting trees are established by the Alaska Forest Resources and Practices Act. They do not allow for any timber harvesting. The other prohibited areas are established by the SFG or land use plans. Harvesting may be allowed for special, limited purposes in these areas. For example, harvesting is allowed to prevent or control outbreaks of insects or disease, to suppress wildfire, or to remove hazards to public safety in the other areas under certain conditions. In some areas, harvesting is also allowed to enhance wildlife habitat or improve scenic vistas under certain conditions.

Net Timber Base. The net timber base is the gross timber base minus the prohibited areas. The estimated net timber base for each phase follows.

Area	Acreage	Volume
Phase 1 -		
East side	97,500-106,100 ac	90-97 MMcf
Mt. Susitna	19,000- 19,400 ac	13-14 MMcf
Phase 2	131,000-135,800 ac	117-121 MMcf
Phase 3	217,900-230,300 ac	190-200 MMcf

Harvesting in the Mount Susitna subunits in Phase 1 will likely occur in conjunction with harvesting in the Tyonek area. Timber in the Mt. Susitna units of Phase 1 will be considered part of the timber base and annual allowable cut in the Division of Forestry's Kenai Area. The annual allowable cut for Phase 1 in the Susitna valley will include only the east side (South Parks Highway, Petersville Road, and Willow) units.

The net timber base figures include state lands in the guidelines area that are designated with forestry as one of the primary or secondary uses, and lands designated resource management. (See *Appendix C-1 and C-2 - Gross Timber Acreage by Subunit and Gross Timber Volume by Subunit* for the acreage in each designation.) They include lands where forestry is designated for personal use only; lands open only to personal use comprise about 5% of the volume in the net timber base. The figures do not include lands designated for disposal as settlement or agriculture lands. The figures include both high site and low site forest lands (see *Appendix A - Glossary* for definitions of high and low sites). About 80% of the forest land acreage and 91% of the timber volume is on high site forest lands.

All units are managed for multiple use – forestry is only one of the designated uses. All co-primary uses must be accommodated. In subunits where forestry is a secondary use, it is allowed only when consistent with the primary designations and the management intent. Therefore, these figures are the upper limit of timber volume and acreage available for harvest in each phase. Some reduction to the volume and acreage available for harvest will occur to accommodate other uses on these lands.

The area from which DOF determines timber can feasibly be harvested may change as new information is gathered on soil drainage, vegetation type, feasibility of regeneration, and other factors that affect tree growth. If land use designations change when the land use plans are updated, the new designations will also change the amount of timber available. (See also *Annual Allowable Cut* and *Rotation Length* in this section.)

Conditional Areas. Some land within the net timber base is in conditional harvest areas. Timber harvesting is allowed in these areas, but review of site-specific factors in conditional harvest areas during timber sale planning is likely to reduce the timber available on some of the sites. Conditional areas include the following. Estimated acreage in the conditional areas is shown in parentheses.

- ◆ Shoreline management zones. These are 200' wide along lakes and most streams adjacent to the no-harvest zone, but wider zones are established for certain rivers and streams in the Phase 1 area (see *Rivers, Streams, and Lakes* in Section III of this chapter). (37,400 -89,000 acres)
- ◆ Land in the Iditarod National Historic Trail corridor that are more than 300' from the trail and lands within 150' of regional public trails (see *Trail Corridors - Iditarod Trail, Regional Trails* in Section III of this chapter). (3,900-4,830 acres)
- ◆ Land within 1/4-mile of trumpeter swan nesting areas (see *Trumpeter Swan Nesting Areas* in Section III of this chapter). (2,090-4,890 acres)
- ◆ Land outside the no-harvest zone and within 500' of the Willer-Kash (Kashwitna) Road right-of-way (see *Fish and Wildlife Habitat - General, Willer Kash Road* in Section III of this chapter). (450 acres)
- ◆ Land on slopes 40% in the Deception Creek Land Use Plan (see *Deception Creek - Slope Restrictions* in Section III of this chapter). (340 acres)
- ◆ Recreation site in Susitna Lowlands Subunit 11c (see *Recreation and Scenic Resources -Susitna Lowlands 11c- Recreation site* in Section III of this chapter). (0-640 acres)

An estimated 17-31% of the net timber base in Phase 1 and 16-25% of the net timber base in Phase 2 is within areas where timber harvesting is subject to special guidelines that may affect the amount of timber that can be harvested. Approximately 5-17% of the Phase 3 net timber base is in standard condi-

tional areas such as stream and trail corridors, but Phase 3 has not been reviewed for unique sites. Most land in conditional areas is in the shoreline management zones along rivers and streams. See *Appendix C-1 and C-2 - Gross Timber Acreage by Subunit and Gross Timber Volume by Subunit* for estimates of the amount of timber land in conditional areas in each working circle.

Commercial Sales in Phase 2 and Phase 3. Commercial harvesting in Phase 2 prior to 1996 or the adoption of the updated Susitna Area Plan and in Phase 3 prior to 2001 is subject to the following limitations.

1. Harvest operations must use existing access. Harvests requiring new access or upgrading of existing access (for example, converting a foot trail to a road) will not be allowed.
2. Sales harvested by seed tree methods or clearcuts (see *Appendix A - Glossary*) will be limited to a total of 25 acres of cutting units. Sales harvested by selective methods will be limited to a total of 80 Mbf.

Annual Allowable Cut. The annual allowable cut is the average amount of timber that may be cut from a forest that will maintain a balance between net growth and harvest while meeting the management intent for the forest land. It estimates the maximum amount of timber that can be harvested each year without cutting more timber than grows back.

The annual allowable cut for the SFG area is set by the Susitna Forestry Guidelines. Revisions of the annual allowable cut will be done through updates or amendments to the Guidelines. Site-specific reconnaissance of forest lands is done during timber sale planning for the Five-Year Schedule of Timber Sales. This reconnaissance may identify changes to the timber base that will be incorporated when the annual allowable cut is revised. The annual allowable cut will be reviewed, and if appropriate, revised at least every five years. Revisions may occur more often if warranted by new information on growth rates, regeneration, or other factors that affect harvestable volume, or if land use plan updates change the amount of land where forestry is one of the designated uses.

The initial annual allowable cut follows. The annual allowable cut was developed based on volume regulation – the standing volume of each species in the net timber base is divided by the rotation length to determine the amount that can be cut each year. See *Rotation Length* in this section for the guidelines on rotations.

Phase	Mcf/year
Phase 1 - East side	880-930
Mt. Susitna	130-140
Phase 2	1,110-1,140
Phase 3	1,460-1,520
TOTAL	3,580-3,730

Prior to 1996, most commercial harvesting is limited to the Phase 1 area (see *Phase 1, Phase 2, and Phase 3* in this section). In the Phase 1-East side area, the initial annual allowable cut is 890-940 Mcf per year: about 220-240 Mcf spruce, 380-400 Mcf birch and aspen, and 290-300 Mcf cottonwood. This volume is equivalent to the volume on about 940-990 acres.

Five-Year Schedule of Timber Sales and Mental Health Lands. The annual allowable cut sets the maximum amount of timber that can be offered for sale. The actual amount proposed for sale is set by the Five-Year Schedule of Timber Sales prepared annually by the DNR Division of Forestry, and reviewed by the public.

The passage of legislation in 1991 proposed a settlement to the lawsuit between the Mental Health Trust and the State of Alaska. This law identified forest land in the Susitna valley as part of a land pool for possible selection by the Trust. Until these selections are complete, DNR cannot take any actions that would diminish the value of these lands to the Trust. Therefore, the Division of Forestry withdrew the draft Five-Year Schedule of Timber Sales for FY 92-96 and cannot offer any timber sales or designated personal use areas in FY 92.

Sustained Yield. Sustained yield is defined in AS 41.17.950 (15) (see *Appendix A - Glossary* for definition). In addition, on state lands in the Susitna Forestry Guidelines area, harvesting in any five-year period shall not exceed five times the annual allowable cut. The amount of timber available in any year equals five times the annual allowable cut minus the volume harvested in the previous four years. For example, if the harvest on state lands in one year is five times the annual allowable cut for the Phase 1 area, state timber shall not be harvested from that area for the following four years. This guideline is intended to allow flexibility in scheduling harvests to respond to fluctuations in timber markets, while ensuring that timber is available for harvest

throughout the rotation and that the lands in the guidelines area continue to support forests of a variety of ages to support wildlife, recreation, tourism, and other public uses.

Rotation Length. Stand rotation length in the Susitna Forestry Guidelines area shall be based on the management intent and use designations set by the land use plans.

Some values, such as marten and grouse habitat or recreation in traditional, semi-traditional, or semi-primitive settings (see *Appendix E - Recreation Opportunity Spectrum for the Susitna Forestry Guidelines Area*) require older forests and relatively long stand rotations. Wood production, moose and hare habitat, and related recreation activities such as moose hunting, are optimized with younger forests and shorter rotations. The schedule for cutting on any individual site will be determined by the management intent for that site (see also *Timber Sale Design - Cut and Leave Areas* in Section II of this chapter).

The intent of the SFG is to create and maintain a mix of stand ages to provide a balance of all these uses. Therefore, a portion of the state-owned land where forestry is one of the designated uses will be managed on "standard" rotations that produce relatively young forests, and "long" rotations that maintain older forests. In the Susitna Forestry Guidelines, rotations are defined as follows:

Species	Standard Rotation	Long Rotation
White spruce	100 years	140 years
Paper birch	80 years	100 years
Cottonwood	75 years	95 years
Aspen	60 years	80 years

The standard rotations approximate the age at which timber is mature enough to provide natural regeneration and large enough to provide a mix of wood products such as fuelwood and sawtimber. The long rotation provides approximately 40 years of mature spruce forest between cutting cycles and extends the mature hardwood forests to the approximate age at which significant decay occurs. Rotations could change as more information becomes available on the condition of trees and forest stands at different ages. Rotation ages will be reviewed when the guidelines are updated. (See *Chapter 3 - Periodic Review and Research.*)

Timber management is an allowed use on lands where forestry is designated one of the primary or secondary uses, and on resource management lands (see *Appendix A - Glossary* for definitions of these terms). The proportion of timber managed under standard and long rotations will depend on the land use designation for the affected area, and on the goal to maintain at least 40% of each subunit in cover habitat at all times (see *Timber Sale Design - Cut and Leave Areas* in Section II of this chapter). The rotation lengths that will be used to set annual allowable cut follow.

On Lands With Forestry A Co-primary Use: 60% of the operable timber base will be managed on standard rotations. This will provide wood products and maintain or enhance habitat for species that benefit from younger forests. The remaining 40% will be managed on long rotations to provide wood products and maintain habitat for species that benefit from older forests, and maintain opportunities for recreation that benefits from less disturbance and older forests.

On Lands With Forestry A Secondary Use: 40% of the timber will be managed on standard rotations. In these subunits, habitat and recreation are usually the primary use designations. Habitat needs for moose are likely to be the main impetus for timber harvesting. For estimating annual allowable cut, it is assumed that timber is not actively managed on the remaining land; management will depend on the primary uses.

Resource Management Lands: 40% of the timber will be managed on standard rotations and 60% on long rotations to provide a mix of benefits. The proportion is the reverse of the levels for primary use areas because the long-term designation of these lands has not been determined.

Specific sites or subunits may be managed on rotations shorter than the standard rotation if the management intent is to manage for younger forests. For example, where supplying moose browse is the emphasis, shorter rotations may be used as long as the annual allowable cut for the working circle is not exceeded.

PERSONAL USE WOOD

General Intent. Continuing to provide wood products for personal use is one of the goals for forest lands in the SFG area. DNR will continue to make wood available for personal use within the constraints of budget, access, and the annual allowable cut. Sources of wood for personal use include individual permits in remote areas, designated personal use harvesting areas in accessible regions, designated community woodlots, negotiated personal use sales, use of wood residues in commercial harvesting areas, and harvest of dead and down wood. Personal use harvesting is allowed in subunits where forestry is one of the designated uses and in areas designated Settlement. No permit is needed to harvest wood that is both dead and down in the SFG area.

Regulations on Personal Use. Wood obtained for personal use may not be sold, bartered or used for commercial purposes. Negotiated personal use sales are subject to the regulations in 11 AAC 71.050. Permits for personal use wood are issued for up to 3200 linear feet of houselogs, 10 Mbf of sawlogs, or 10 cords of fuelwood. For each established personal use harvesting area, the Division of Forestry sets the number of cords allowed per permit.

Personal Use Subunits. The Susitna Area Plan directs that timber be managed for harvesting only for personal use in South Parks Highway subunits 4a, 4f, 4g, and 10b, Susitna Lowlands 4b, Mount Susitna 4a, and Alaska Range 1b. These areas have scarce wood resources and current or proposed concentrations of private lands that are likely to result in high demand for the limited wood resources.

In addition, the Susitna Forestry Guidelines establish the following subunits as area where timber will be managed for personal use only.

Petersville Road 2b. Because of the high demand for personal use from surrounding lands and potential conflicts between public recreation use and road access, timber in this unit will be managed for personal use under individual permits.

Petersville Road 3g. Because of the demand for timber for personal use from surrounding lands, timber in this subunit will be managed for personal use.

Petersville Road 7c. In general, timber in subunit 7c will be managed for personal use. It is accessible by road and close to areas where demand for fuelwood is high. The study Scenic Highway Study for the Parks Highway recommends additional openings to improve views along the highway in the northern part of this subunit. North of the line between sections 20 and 29 T25N R5W S.M., commercial timber harvests with cutting units up to five acres may be designed to improve views from the highway. To minimize conflicts between moose and motorists, remaining stands and reforestation should be managed to provide wildlife cover rather than browse production. Selective harvesting, harvesting of birch and leaving spruce, and other techniques for creating openings without adversely impacting visual quality and habitat may be used in this area. Cutting areas designed to improve visual quality should be designed by DPOR in consultation with DOF and DFG.

Willow 12d. Because of the limited extent of timber in this subunit, the SFG recommend that the Willow Subbasin Area Plan update reconsider the designation in this subunit (See Chapter 3 - Recommendations for Changes in Land Use Plans, Willow 12d). In the interim, the limited timber resources in this subunit will be managed for individual personal use permits.

Subunits designated for personal use will be managed for a sustained yield of wood for personal use.

Coordination with Commercial Sales. Demand for personal use wood may exceed the supply available within disposal boundaries or on private parcels outside disposal areas in the following disposal areas. The FLUP for timber sales in these areas will state whether or not there will be wood residues in the sale area available for personal use.

Areas where demand for personal use wood is likely to exceed supply in the next five to ten years based on the amount of private land already patented include:

- ◆ South Parks 12a adjacent to Bartlett Hills subdivision,
- ◆ Petersville Road 1a and 3g adjacent to Amber Lake and Amber Lake North subdivisions,

- ◆ Susitna Lowlands 2d, 2f, and 3a adjacent to Onestone Lake and Shell Hills subdivisions,
- ◆ Susitna Lowlands 5f and 13e adjacent to Kutna Creek subdivision,
- ◆ Susitna Lowlands 6e near Otter Lakes subdivision,
- ◆ Susitna Lowlands 12a and 13b adjacent to Neil Lake remote parcel area,
- ◆ Mount Susitna 2c adjacent to Alexander Creek West subdivision,
- ◆ Mount Susitna 3c adjacent to Dinglishna Hill subdivision.

Areas where demand for personal use wood may exceed supply in the next five to ten years if additional parcels are patented and developed include:

- ◆ Susitna Lowlands 1a adjacent to Whiskey Lake subdivision,
- ◆ Susitna Lowlands 2f adjacent to Shell Lake North subdivision,
- ◆ Susitna Lowlands 3a and Mount Susitna 5a adjacent to Canyon Lake subdivision,
- ◆ Susitna Lowlands 6a and 6e adjacent to Kutna remote parcel area and Trail Ridge subdivision,
- ◆ Susitna Lowlands 11a and 12a adjacent to Parker Lake and Kahiltna Flats subdivisions,
- ◆ Susitna Lowlands 12a and 13b adjacent to Lockwood Lake subdivision.

Compliance with Other Guidelines. Personal use harvesting is subject to the same guidelines as commercial harvesting for stream buffers, trails, eagle nests, heritage sites and other guidelines to protect fish, wildlife, and recreation values. Timber volumes harvested for personal use will be subject to the annual allowable cut for the area in which the harvesting occurs (see also *Timber Sale Program and Timber Base - Annual Allowable Cut* in this section).

South Parks Highway 9c - Talkeetna Woodlot. The Talkeetna Community Council is interested in establishing a community woodlot. This subunit is a candidate for a woodlot for the Talkeetna area, particularly if a woodlot could be established on both state and borough lands.

RESEARCH NATURAL AREAS AND EXPERIMENTAL FORESTS

Research natural areas (RNA's) may be established in the Susitna Forestry Guidelines Area. Proposals for research natural areas identified after the guidelines are adopted will be recommended to the director of the DNR Division of Land. The director will review the proposal and make a determination on whether the site should be established as an RNA. The director will make the determination in consultation with the DNR Division of Forestry and the Department of Fish and Game. DNR will provide public notice of proposed establishment of an RNA to organizations and individuals on the mailing list described in *Public Notice and Interagency Coordination - Five Year Schedule of Timber Sales - Annual Notice 2*, in Section V of this chapter. If warranted by the level of controversy, the director may hold a public meeting before making a determination.

Objectives for research natural areas are to establish sites that:

- ♦ preserve undisturbed examples of vegetation types or communities (including forest types), unique ecological sites, or geologic features for comparison with those influenced by humans,
- ♦ provide educational and research areas for ecological and environmental studies,
- ♦ preserve gene pools for typical and rare and endangered plants and animals.

RNAs in the SFG area should protect features that are not already protected by legislative or administrative action on other public lands.

RNAs should be of the minimum size necessary to protect the features of interest. No significant human intervention or manipulation will be allowed in research natural areas except where required to maintain features for which the area was set aside.

Experimental Forests. The objectives for experimental forests are to:

- ♦ provide research areas for forest management and fish and wildlife habitat studies, including manipulative research on vegetation and habitat.
- ♦ protect existing gene pools and manage areas to provide seed for reforestation.
- ♦ provide educational areas for resource management and environmental studies.

Experimental forests may be established in the Susitna Forestry Guidelines. Proposals for experimental forests identified after the guidelines are adopted will be recommended to the director of the DNR Division of Land. The director will review the proposal and make a determination on the site. The director will make his determination in consultation with the DNR Divisions of Forestry and Parks and Outdoor Recreation (DPOR) and the Department of Fish and Game.

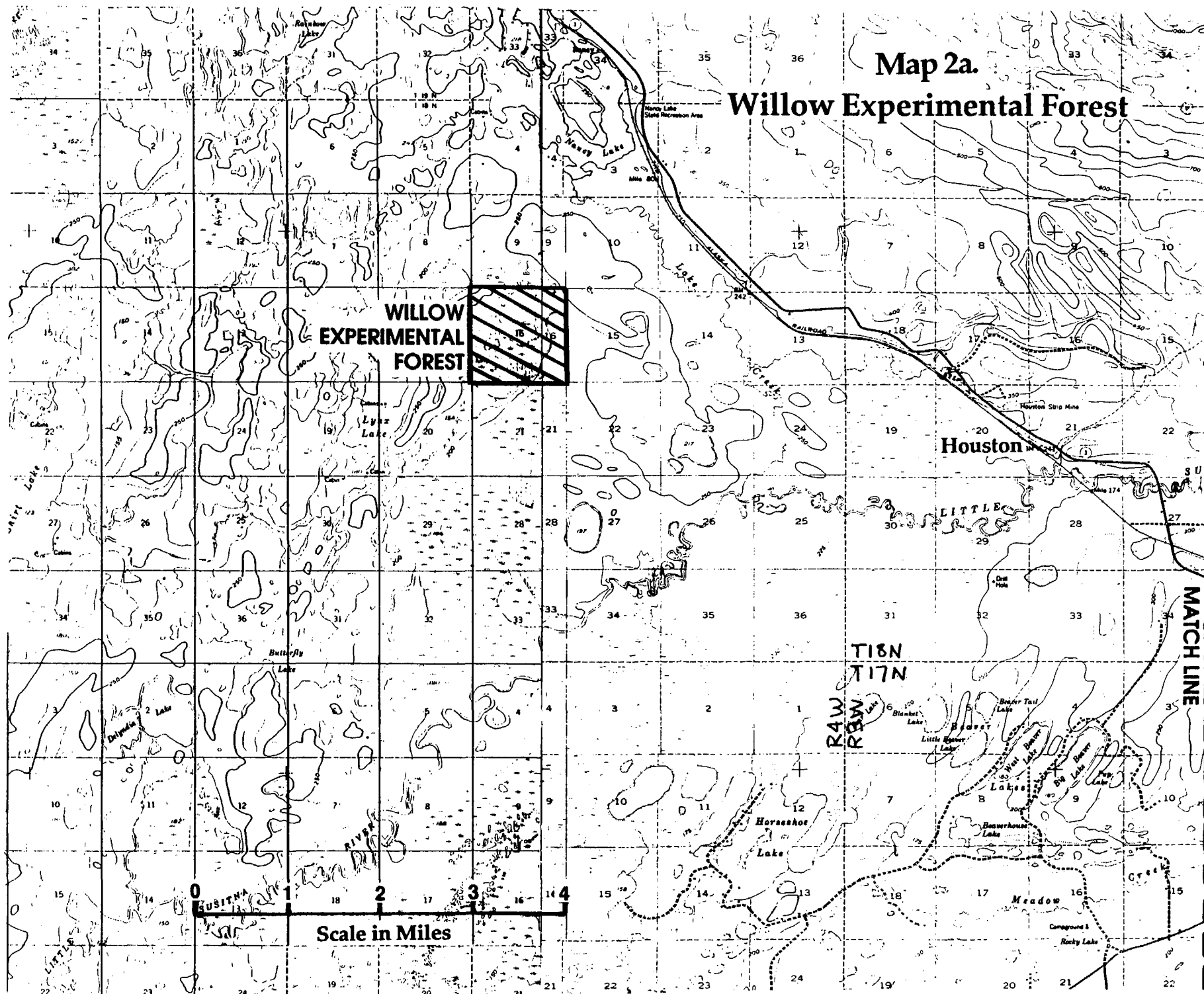
Management Plan. A management plan should be prepared for each research natural area and experimental forest. Each management plan should state the goals for managing the RNA or experimental forest. The management plan should emphasize the process for approving and monitoring research and other activities in these areas, not identifying specific research projects.

Until a plan is adopted, DNR will manage these areas to protect the features for which they were established. Activities will not be allowed that will adversely impact those features. Management of experimental forests includes manipulative research; management of research natural areas does not.

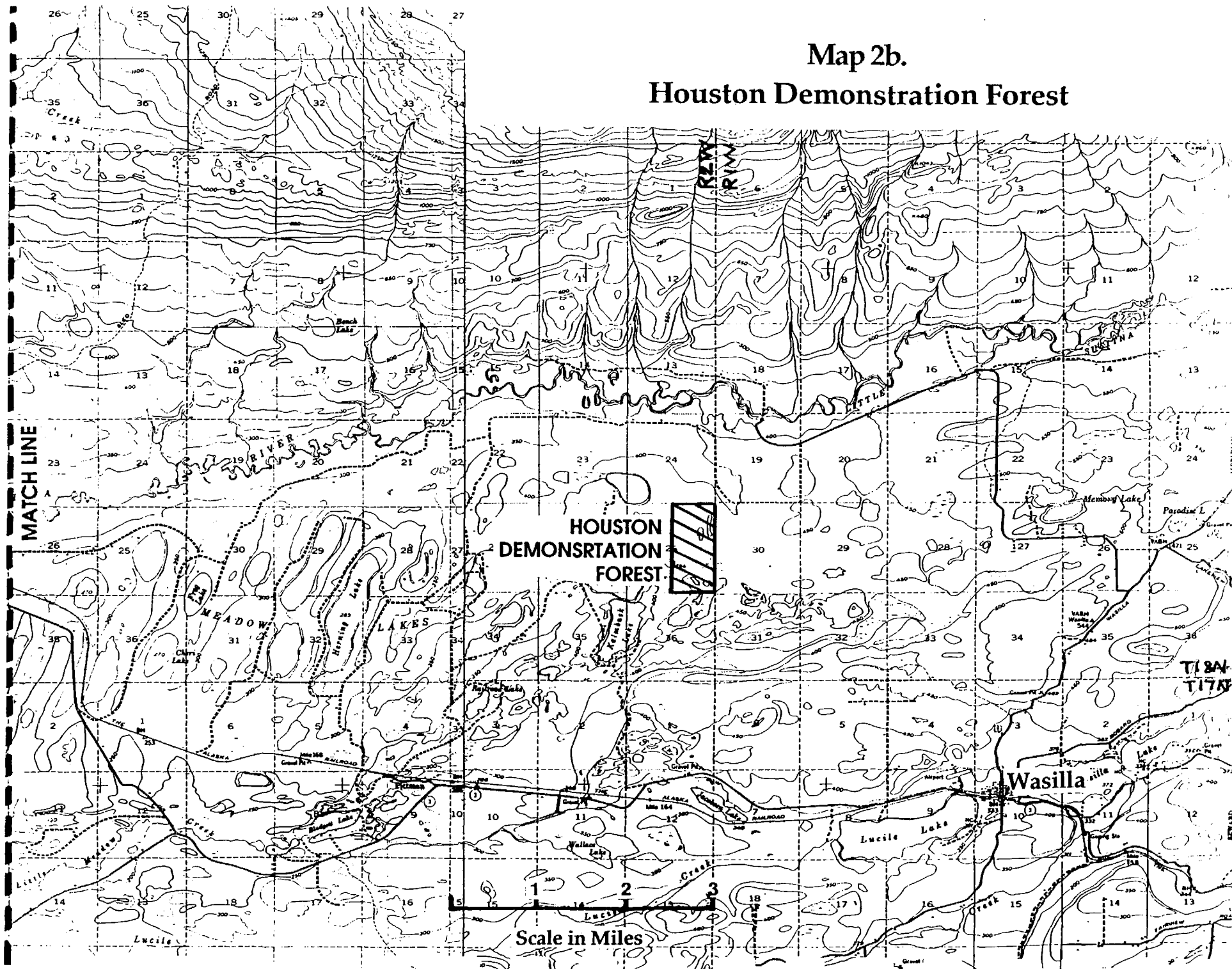
Research Outside the Guidelines. Most research in experimental forests will comply with the Susitna Forestry Guidelines. However, experiments may be needed to assess the effectiveness of the guidelines or identify better techniques for achieving forest management goals. Research projects may be exempted from the guidelines only with prior public notice and prior approval by the DNR divisions of Forestry and Land and consultation with DFG and only if consistent with the management plan for the experimental forest. A management plan for the experimental forest must be adopted before exceptions to the guidelines may be granted.

Willow Experimental Forest and Houston Demonstration Forest. The Willow Experimental Forest northwest of Wasilla (T18N R2W sect. 25 E1/2) and the Houston Demonstration Forest (T18N R3W S.M. section 16) are subject to the Susitna Forestry Guidelines (see Maps 2a and 2b, pages 15 and 16).

Willow Experimental Forest



Map 2b.
Houston Demonstration Forest



FIRE MANAGEMENT

Fire management is directed by the Alaska Interagency Fire Management Plan for the Matanuska/Susitna area². Fire management practices, including suppression priorities and prescribed burning, are designed to implement the land management policies laid out in the land use plans for this area.

The highest level of protection from wildfire is given to critical protection areas (see Map 3, page 18). These are populated areas and areas with physical developments. In this region, critical protection areas include the roaded area from Palmer to Willow, the Talkeetna and Trapper Creek areas, and cabin sites scattered through the valley. Most of the remaining lowlands are in the next level of protection, the full protection zone. The third level of protection, the modified action area, applies to the Susitna Flats State Game Refuge, the high elevation areas from Mount Susitna to Beluga Mountain, the lower slopes of the Talkeetna Mountains, upper Lake Creek, and the Happy River valley. In the area affected by the Susitna Forestry Guidelines, only the upper Skwentna drainage receives the lowest level of protection -- a limited action area. See *Appendix A - Glossary* for definitions of the protection levels.

Section II - Timber Sale Design & Management

This section sets guidelines that apply throughout the SFG area. These guidelines cover timber sale design, harvesting systems and schedules, slash disposal, site preparation, and reforestation, and use of chemicals for forest management.

PUBLIC USE

Timber harvest areas will be available for public use except when special restrictions are necessary to protect public safety, prevent damage to natural resources including regrowth, or protect the safety of the operator and security of the operator's equipment or materials.

See also:

Road Management - Public Use
in Section IV of this chapter.

² ADNR. 1986. Alaska Interagency Fire Management Plan-Mat/Su Planning Area. Anchorage, AK. 51 pp.+ maps

TIMBER SALE DESIGN

Overall Intent. Forest management in the Susitna Forestry Guidelines area is intended to create and maintain a mosaic of age classes that will provide for a mixture of cut and uncut areas to provide and protect fish and wildlife habitat, and produce timber. Forests will also be managed to provide areas for public recreation in a variety of settings (also *Appendix E - Recreation Opportunity Spectrum*). To meet this intent, DOF will use the practices described in this section when designing timber sales. These general guidelines may be varied on a site-by-site basis by DOF in consultation with DFG.

Multiple Use. Forested lands open to timber harvesting shall be managed in a manner consistent with the maintenance of the site-specific conditions necessary for multiple use and with the management intent for the subunit.

Cut and Leave Areas. To ensure that adequate year-round cover is available to meet wildlife species needs, harvests will be designed to leave no less than 40% of the cover habitat in each subunit in cover at all times. Leave areas can be cut after the original harvests regenerate enough to function as cover habitat similar to the uncut areas. All buffers set aside from harvesting that meet the criteria for cover habitat (see *Appendix A - Glossary*) are included in the cover area calculations. Vegetation left as cover habitat may contain either commercial forests or non-commercial vegetation, but must be suitable cover. Visual quality and recreation needs will also be considered in determining what percentage of cover to retain in each subunit.

The DNR Division of Forestry, after interagency review with the DNR divisions of Land and Parks and Outdoor Recreation and the Department of Fish and Game, will determine the rotation age, reentry timing, and species composition for each stand. These decisions will be based on co-primary designations and management intent, site characteristics, markets, habitat conditions, and objectives for wildlife management, recreation, and visual quality within the stand and in the surrounding forest. (See *Appendix E - Recreation Opportunity Spectrum for the Susitna Forestry Guidelines Area* for the range of recreation opportunities and setting considered in the SFG.)

Fish and Wildlife. DFG will identify the main fish and wildlife species managed in each timber sale area. This information will be included in the Five-Year Schedule of Timber Sales and Forest

Map 3. Generalized Fire Protection Levels

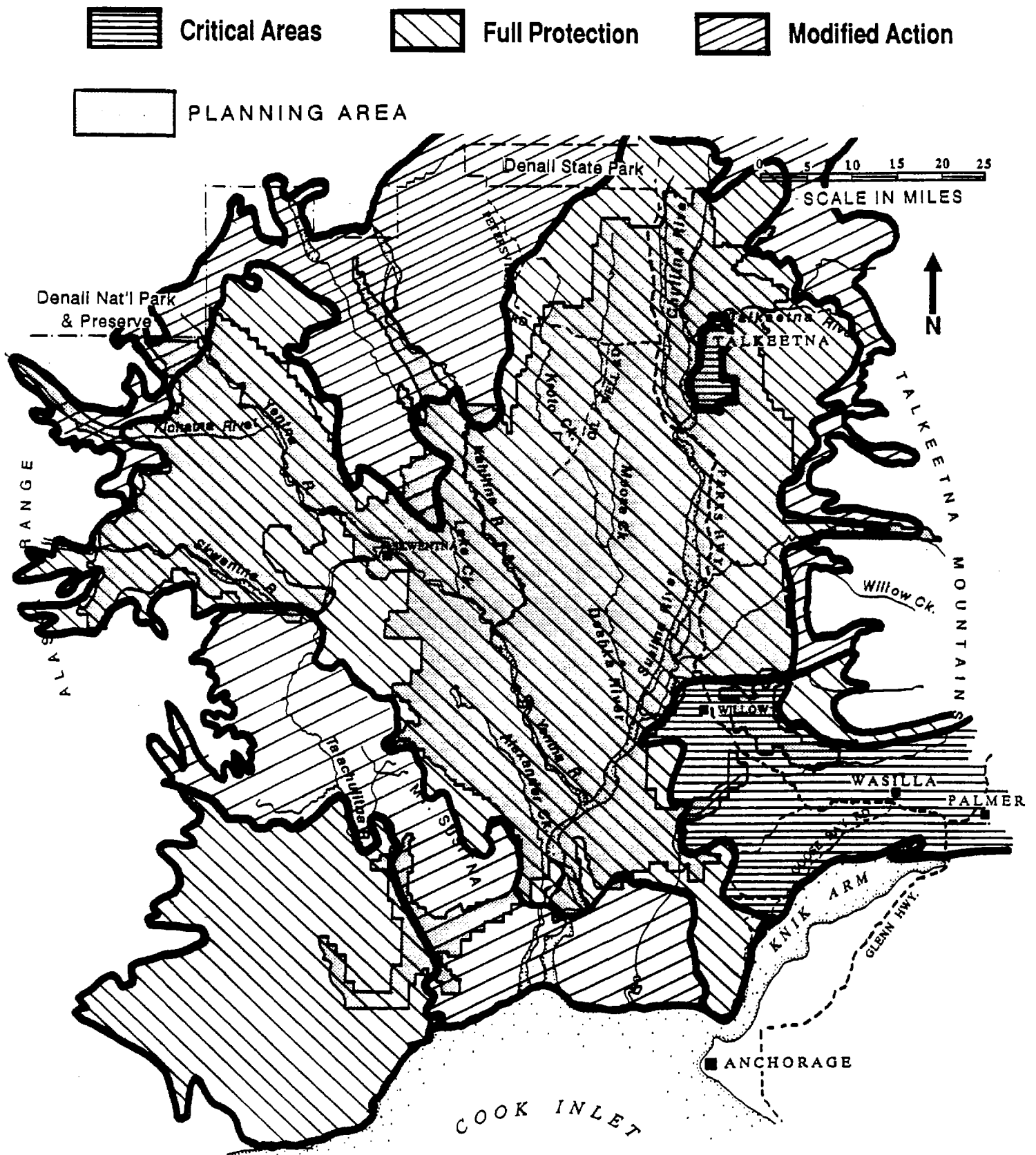
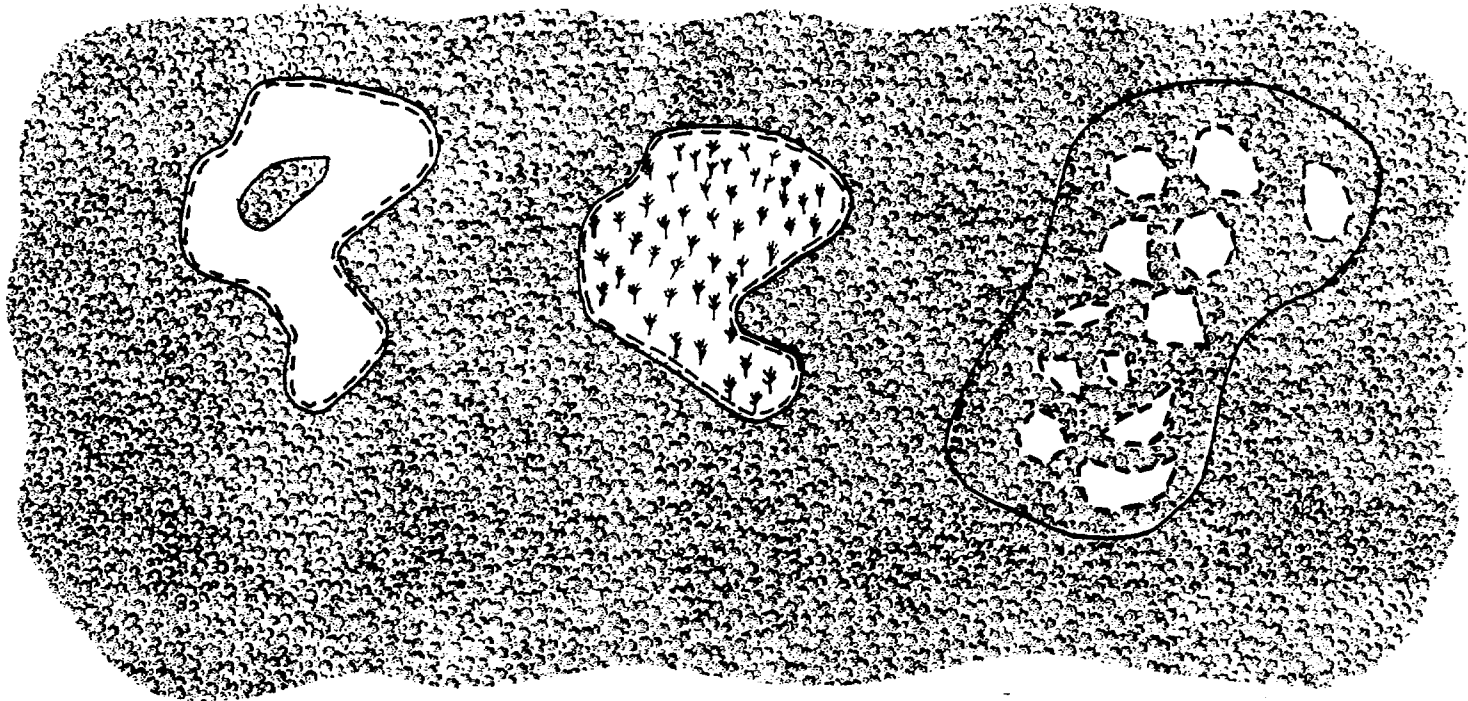


FIGURE 1.
Examples of Cutting Units and Harvest Units



 Cutting Unit Boundary

 Harvest Unit Boundary

 Uncut Vegetation

 Seed Trees

 5 Acres

A Clearcut Harvesting System:
*55-acre clearcut with 50-acre
cutting unit and 5-acre island*

B Seed Tree Harvesting System:
*50-acre harvest unit and
cutting unit, harvest unit and
cutting unit boundaries are the same*

C Group Selection System:
*150-acre harvest unit with
twelve 1 - 5 acre cutting units*

Land Use Plans (FLUPs) for individual sales. The public will be able to comment on the guidelines for habitat management by commenting on the schedule and FLUPs.

Cutting Unit Size and Shape. *Size.* The total area of cutting units within a harvest unit shall be 5-50 acres to optimize benefits for wildlife habitat (see Figure 1, page 18a). The 50-acre limit applies to all harvesting systems except single-tree selection. Total cutting unit area may be increased on a site-by-site basis by DOF in consultation with DFG and DPOR only so long as the enlarged cutting area continues to meet the other guidelines in this document that address fish and wildlife habitat, recreation, and visual quality, and to meet the management intent for the subunit. Preliminary cutting unit design will be included in the Forest Land Use Plan available for public and interagency review. If a proposed cutting unit is greater than 50 acres, the Forest Land Use Plan for the timber sale will state the reasons for enlarging the cutting unit and describe the techniques that will be used to address the other uses in the area.

Unharvested strips at least 330 feet wide shall be left between harvest units. Leave strips are intended to provide escape cover, thermal cover, resting cover, visual screens in hunting areas, and travel corridors for marten, moose, bear, and other wildlife.

Shape. Timber stands shall be designed for shape and edge contrast to provide for wildlife needs and visual quality. In general, cuts shall be designed with irregular borders to increase the amount of forage-producing edge habitat and habitat diversity.

Width. Cutting openings generally shall be no wider than approximately 660 feet to allow access to cover for bears and moose and to encourage full utilization of browse. In areas where DFG identifies important marten populations, openings shall be no wider than approximately 330 feet, to avoid creating open areas that are barriers to marten travel.

Where maximum cutting opening widths are greater than approximately 660 feet, or in cuts larger than 50 acres, residual islands of dense cover shall be left within the opening to provide cover, bedding, and shelter for moose. Islands shall be 0.5 - 5 acres, spaced 660-990 feet apart. Where possible, islands should be designed to maximize conifer cover to provide snow interception and have trees at least 13-20 feet high for hiding cover.

Orientation. In areas of heavy snow accumulation where drifting may bury browse, harvest openings should be oriented downwind. Openings shall also be oriented to minimize blowdown and loss of moose habitat. In other areas, a variety of cutting opening orientations shall be included in timber harvest plans to cover the range of conditions that may be important to moose.

South Parks Highway 9c. To disperse moose browse and minimize conflicts between moose and motorists in revegetating harvest areas, timber harvest openings in South Parks Highway 9c will be limited to 10 acres.

South Parks Highway 14b. To minimize conflicts between moose and travel along the highway and railroad, timber harvests in South Parks Highway 14b will be designed to minimize moose browse production near the road and railroad. Timber sales east of the Parks Highway should be by single-tree selection only. Individual cutting units west of the highway should be no larger than five acres.

Petersville Road 3a. Timber in Petersville Road 3a will be managed to maintain or enhance wildlife habitat, especially for moose. Timber in this subunit may be harvested for personal use or commercial sales with harvest units of up to 30 acres.

See also:

Personal Use Wood - Petersville Road 7c
in Section I of this chapter.

Site Preparation - Site Reconnaissance in this section.

Arrangement of Cutting Units. Wildlife habitat, including escape and thermal cover, refuges from deep snow, and alternate food sources, shall be considered when designing the arrangement of cutting units and leave areas. The location of mature conifer stands near early winter moose concentration areas will benefit moose.

Well-drained upland sites that produce abundant browse are preferred sites for clearing; poorly-drained upland sites that produce less browse are better suited for maintenance as wildlife cover in moose winter range.

Recreation and Visual Quality. The size and shape of cutting areas will be designed with consideration of recreation values and scenic quality. Cutting areas will reflect local topography and be designed to appear similar to natural openings after revegetation. Sales will be designed by DOF in consultation with DPOR. The Department of Commerce and Economic Development Division

of Tourism will have the opportunity to comment on proposed sales during interagency review of the Five-Year Schedule of Timber Sales.

Resource Management Lands. Timber harvesting is an allowed use in subunits designated resource management. However, because the appropriate long-term designation of these lands has not been determined, timber sale contracts shall not exceed five years. Subunits designated for resource management are: Susitna Lowlands 2f, 5b, 6b, 8b, 9c, and 12a and Mount Susitna 3c, 4d, and 6c.

HARVESTING SYSTEMS

Preferred Systems. Where birch is the primary species harvested, seed tree harvesting (see *Appendix A - Glossary*) is the preferred harvesting system for wildlife habitat and timber production. Seed tree harvests provide a natural seed source for regeneration, and exposed mineral soil and sunlit openings that are needed for abundant germination and growth of birch seedlings. Where white spruce is the primary species harvested, single-tree selection is the preferred system. Single-tree selection allows harvest of spruce large enough to provide house logs and sawtimber while leaving forest cover on the site. Spruce are more tolerant of shade than birch and can grow under forest cover. Single-tree selection, group selection, or shelterwood cutting may be prescribed on certain sites where beneficial for wildlife, timber management, recreation, visual quality, or other considerations.

Full-tree Logging. Full-tree logging is encouraged in most areas to provide disturbance of the organic soil for site preparation and to achieve maximum wood utilization from harvested areas. Other logging systems may be used where appropriate because of topography, economic factors, or management of other resources.

Single-tree Selection. Where single-tree selection harvesting is used, stands will be managed to retain forest cover, maintain a variety of tree ages, and keep openings small. Residual stands in areas harvested by single-tree selection must meet the following standards for trees per acre. (See *Appendix A - Glossary* for definitions of high and low sites.)

Average Stand Diameter	Minimum Number Of Trees Left Per Acre	
	High sites	Low sites
≥14 inches	50 trees/ac	90 trees/ac
12-13.9 inches	60 trees/ac	100 trees/ac
10-11.9 inches	75 trees/ac	120 trees/ac
8-9.9 inches	90 trees/ac	150 trees/ac
6-7.9 inches	110 trees/ac	190 trees/ac

HARVESTING SCHEDULES

Concentrate Harvesting. Logging activities should be concentrated in the shortest possible time for each unit. Where timber sales are planned to progress through a series of adjacent subunits, harvest activity should be completed in one subunit before starting in the next. Intensive harvest activity in a single season typically causes less disturbance to wildlife than low level activity over several seasons.

Moose Concentration Areas. DFG will identify winter moose concentration areas in individual subunits before a timber sale is offered. DFG will provide DOF with recommendations on harvest scheduling in winter concentration areas during the timber sale design process. Recommendations will reflect the size of the proposed timber operation and the likely severity of winter conditions. For example, small operations with little equipment may provide browse with little disturbance to moose, while large operations might disrupt use patterns. Similarly, moose in areas that receive high snowfall and have difficult conditions for travel are more sensitive to disturbance.

Coordination with Other Activities. Where possible, timber harvest schedules should be coordinated with other activities to reduce overall impacts.

Seasonal Scheduling. Most current timber harvesting is done in winter when access is easier and disturbance to aquatic habitats, wetlands, and bear activity areas is lowest. Winter logging also benefits suckering in aspen and cottonwood. On the other hand winter harvesting can make site preparation more difficult.

Future harvesting will also be concentrated in the winter. Schedules for harvesting may be specified in individual sales based on considerations of access, site preparation, and forest regeneration. Summer

harvesting will be directed to well-drained sites where summer harvests can aid site preparation. Potential contractors will be advised of requirements for winter operations (e.g., the need to leave equipment on site) before a contract is issued.

Data Collection. Where practical, DFG should complete site-specific habitat evaluations of units scheduled for timber harvest before harvesting occurs. In particular, DFG should evaluate moose browse quantity, quality, and utilization. These data can be used to better define moose range distribution and quality.

See also:

Bald Eagle Habitat and Trumpeter Swan Nesting Areas in Section III of this chapter.

SLASH DISPOSAL

General. Slash disposal benefits reforestation, helps avoid insect and disease outbreaks, reduces the amount of fuel available for wildfires, improves habitat, and aids movement through cutover areas. Slash disposal can also be designed to benefit visual quality, and aid recreational use of cutover areas. Logging and road construction slash should be disposed to avoid hindering wildlife from using cutover areas. Disposal can be accomplished either mechanically, or by burning, or by a combination of both methods. Slash that falls on uncut lands adjacent to harvest areas should be cleaned up or removed to facilitate moose use of cover and feeding areas.

The preferred method of slash disposal is to mix the mineral soil and organic matter. This minimizes the amount of piled material that could hinder public access through the site and degrade visual quality. The Division of Forestry and the Department of Fish and Game are cooperating on experiments to determine the best techniques for mixing the mineral soil and organic matter.

Controlled Burning. Controlled burning may be used as a means of manipulating vegetation, as a method of site preparation and/or as a means of slash disposal. Controlled burning is recommended when climate, soil, and fuel load conditions are conducive to safely removing slash, maintaining forest openings, and improving the quality and quantity of moose forage.

DEC Permits are required for all open burning used for forest management (18 AAC 50.030(e)). All open burns must comply with DEC regulations for open burning in 18 AAC 50.050. Applicants

should contact DEC before stacking slash and designing their burning program. DOF burning permits are required on all projects, from May 1 through September 30. Burn barrels, or warming, cooking, or signal fires are exempt from DOF permit requirements.

Fire Prescriptions. If burning is proposed for slash disposal, the Forest Land Use Plan for the timber sale will state whether broadcast burning or piling and burning will be used. Fire prescriptions and a burn plan specific to the residue and topography of the site will be prepared by DNR after harvesting is completed. No broadcast burning will be conducted outside the area described in the burning prescription. A heliotorch may be used in roadless areas for controlled burning for regeneration or other silvicultural purposes. Use of a heliotorch requires a burn plan. Slash disposal burns using the pile and burn method will not require a burn plan, except where the Area Forester determines a plan is in the best interest of the State.

Public Notice. Members of the public who will be affected by the burn will be contacted by DOF. The public and local community councils will receive written notice of burning activities when DOF prepares the burn plan. Signs will be posted on major roadways to notify the public of any ongoing controlled burning in process.

Private Land. No broadcast burning operation will be conducted within 1/4-mile of privately owned buildings or improvements nor within 1/8-mile of undeveloped private land.

Windrows. If extensive windrows are built, openings should be cut through the windrows to allow moose passage, especially on moose trails.

Marten Habitat. In areas where DFG has identified important marten populations, slash piles and other logging debris that will protrude through the snow should be retained to provide marten access to prey beneath the snow and to improved denning and cover habitat.

Winter Operations. Prior to spring break-up each year, winter roads and skid trails must be cleared of all logging debris and slash in the areas over and immediately adjacent to all bodies of water in and adjoining the harvest unit. (See 18 AAC 70.020.)

Solid Waste Management. Non-wood solid waste must be removed from the site of forest operations and properly disposed of in a permitted landfill facility. (See 18 AAC 60.200 and 95.130.)

See also:

Road Construction - Right-of-way Slash
in Section IV of this chapter.

SITE PREPARATION

General. Site preparation promotes quicker reforestation and reduces grass competition. This benefits habitat and visual quality. Where natural regeneration, artificial seeding, or planting will be used for reforestation, a bed adequate for regeneration will be required after timber harvest. The site preparation method used will depend on site characteristics and vegetation desired for reforestation and habitat. Requirements for site preparation and recommended site preparation methods will be included in the Forest Land Use Plan for individual sales.

Site Reconnaissance. During reconnaissance of a potential timber sale area, DOF will assess ground cover to determine whether grass is likely to invade after timber is harvested. DOF will develop recommendations for site preparation techniques and timing to reduce grass competition with establishment of new forest cover. These recommendations will be included in the Forest Land Use Plan for the sale.

Choice of Techniques. DOF should use the following practices when determining site preparation strategies for timber sales. These general guidelines may be varied on a site-by-site basis by DOF in consultation with DFG.

Disking or other *mechanical disturbance* should be considered to break up soils that are compacted during harvesting. Compaction may reduce seedling growth or cause mortality.

On *aspen sites*, cleared areas should be heavily scarified or lightly burned to produce maximum sucker response.

On *paper birch sites*, scarification should mix the organic layer into the upper mineral soil layer (A horizon) providing optimum conditions for seed germination and seedling survival.

Timing. Areas should be scarified no later than two growing seasons following completion of harvest to minimize grass invasion. Scarification should be done just prior to peak annual seedfall or just prior to artificial seeding to ensure optimum seedbed receptivity.

Soil Exposure. Mineral soil should be exposed uniformly over the harvested area to encourage uniform distribution of trees. Mineral soil must be exposed on at least 50% of the harvested area. Mineral soil patches should be as large as feasible.

See also in this section:

Harvesting Systems - Full Tree Logging

Harvesting Schedules - Seasonal Scheduling

Slash Disposal - Controlled Burning

REFORESTATION

Goal. The goal of reforestation in the Susitna Forestry Guidelines area is to reestablish forests that include a mix of the species currently present (spruce, birch, aspen, and cottonwood). The primary species on each reforested site will vary depending on site conditions, the original forest type, and management intent for the subunit. Harvested areas will generally be regenerated to the original forest type. Non-native species will be planted only for research purposes such as determining species survival and growth rates, not for forest management operations that would convert large areas to new forest types.

Statutes and Regulations. AS 41.17.060 and 11 AAC 95.100 and .170 govern regeneration of forest land. The regulations require regeneration of stands that are not intended for conversion to other uses within seven years in Region II (interior forest) and within five years in Region I (Coastal forest). Currently, most of the SFG area is in Region II. Proposed revisions to these regulations are likely to include all of the SFG area in Region II. Where specific regeneration goals are known (for example, managing for cottonwood or converting to white spruce), they will be specified in individual management units.

Regeneration Information. Forest management reports for timber sales shall specify target species and stocking levels, site preparation requirements, regeneration methods, and a schedule for inspecting regeneration on the site.

Regeneration Methods. Natural regeneration is the main regeneration method currently used in the SFG area. Natural regeneration will continue to be used on most sites in the SFG area, but seeding or planting may be used for a specific timber sale based on the results of a reforestation study on the sale. Reforestation surveys are generally performed two years after scarification.

USE OF CHEMICALS

Prevention of Pest Outbreaks. Forest pest management will emphasize prevention of pest outbreaks. An annual insect and disease detection survey will be conducted by the DNR Division of Forestry in cooperation with the USDA Forest Service. DNR will emphasize silvicultural practices that enhance natural mortality of pests and improve tree vigor to reduce the risk of outbreaks. Examples include harvesting mature trees of susceptible species, using group selection cuts, suppressing intermediate host species, using lethal trap trees around harvest areas, disposing of slash, and establishing utilization standards that minimize slash.

DOF has not used pesticides at an operational scale in the SFG area. Pesticides may be used as a forest management tool to control vegetative competition, assist in establishing regeneration, or control forest damage from insects and diseases. If chemical use is proposed for a specific timber sale, public notice for the sale will include a description of the proposed action and its likely effects on forest growth and the environment.

DEC Authority. The Department of Environmental Conservation (DEC) and US Environmental Protection Agency have primary authority for regulating pesticide use, which includes herbicide use. DEC regulations cover pesticide use and disposal. DEC regulations require applicants for pesticide permits to give public notice of the proposed action. If a local government or 50 residents so request, a public hearing will be held to review the proposed action.

Herbicides. Herbicide application can help promote establishment of desired forest species, especially conifers. However, herbicides have not been widely used for forest management in the SFG area. A study of herbicide effects on fish and wildlife populations and habitat should be conducted prior to operational herbicide use in the Susitna Valley. See *Chapter 3 - Research* for recommendations on this study.

Aerial Application. Generally, pesticide application would be done through ground application to remove grass. It is unlikely aerial application will be used. Aerial application may be used to prevent a large disease or insect outbreak. Pesticides will not be applied within 1/4-mile of private dwellings, anadromous streams, or lakes with fishing or other recreational potential to protect fish and

wildlife habitat and human uses from direct toxicological effects. Pesticides will not be applied within 250' of undeveloped private lands to avoid adverse impacts on private property.

Plan of Operations. Any use of pesticides or herbicides shall require a written plan of operations describing in detail the pesticides or herbicides to be used, the reasons for use; potential effect on humans, wildlife, and vegetation types, the expected results; the area where the chemicals will be used, the method of application, and the application rates. In addition, the plan shall describe how and when an evaluation of the effectiveness will be prepared after the application.

Public Notice. Public notice must be given prior to the use of pesticides or herbicides, and signs must be posted in areas where pesticides or herbicides have been used.

Evaluation. After pesticide or herbicide application, an evaluation of the effectiveness will be prepared.

Fertilization. Fertilization can improve the nutritional status of nutrient-poor soils and make sites more hospitable to seedlings. Nitrogen fertilization of mineral soils should be considered early in the post-logging period to improve the seedbed.

Section III - Management of Special Areas

The guidelines in this section apply only to portions of the Susitna Forestry Guidelines area. They apply either to special types of lands, for examples shorelines or wetlands, or to particular subunits, for example Willow 2 or Susitna Lowlands 11g. See the map in the back pocket to locate subunits or to find the name of a subunit.

AGRICULTURAL LANDS

Fish Creek. The Fish Creek Management Plan was amended in 1987 to allow timber harvesting prior to agricultural sales if harvesting is done before 1995. DNR will not propose new sales in the Fish Creek area before 1995. After 1995, the amendment terminates and timber sales must wait until after design and sale of agricultural parcels. After 1995, if timber sales are proposed before agricultural development, the Fish Creek plan must be amended.

South Parks Highway 13b. Timber in this subunit will be harvested only after the land is sold for agriculture unless sales will not be held for at least 10 years after harvesting. If timber is harvested before agricultural sales are scheduled, scarification and reforestation will be required. DOF will consult with the Division of Agriculture to design timber sales and access.

Agricultural Homesteads. Susitna Lowlands subunits 11g and 13g and Willow 2a are agricultural homestead subunits. Unless the designation for this subunit is changed under the SAP, timber on these lands will be sold with the agricultural rights.

Kashwitna Knobs. Susitna Lowlands 14b is designated for agriculture. It will not be offered for sale for at least five years, nor until year-round roads have been funded. The five-year holding period is intended to allow sufficient time to 1) inventory and plan timber harvest from the site, and 2) review and evaluate the results of previous agricultural disposals to determine the economic feasibility of farming at Kashwitna Knobs. The Susitna Area Plan will determine whether or not timber can be sold before agricultural sales are designed in this subunit.

BALD EAGLE HABITAT

Eagle Nest Setbacks. Under 11 AAC 95.120 (d), harvesting is prohibited within 330 feet of eagle nesting trees. Wider setbacks may be established for individual nest sites where DFG or the US Fish and Wildlife Service (USFWS) identifies activities or site-specific factors that make special provisions necessary. Determination of where wider setbacks are appropriate will be made with due deference to DFG. DFG will consult with USFWS before making recommendations to DNR on setbacks.

DNR, DFG, and USFWS are reviewing existing eagle nest policies and may develop new statewide policies. If new policies are adopted by DNR, they can be applied to the SFG without an amendment to these guidelines. Known nests exist in: South Parks Highway subunits 2, and 9c; Susitna Lowlands 1a, 1b, 3a, 4b, 5f, 9a, 13d, 13e, 14a, and 14e; Mount Susitna 3c, and 3f; and Willow 6, and 8a.

Seasonal Restrictions. In the Susitna Forestry Guidelines area, forestry activities will be prohibited from March 15 through August 31 within 660 feet of known eagle nesting trees. If a nesting tree is not occupied by June 15, operations can occur between June 15 and August 31 between 330 feet and 660 feet from the nest tree. This guideline reflects existing constraints on summer harvesting along the major rivers where nesting occurs and will help protect local bald eagle populations. These constraints include lack of summer access across most streams and wetlands.

Nesting and Perching Habitat. In addition to known nesting sites, DNR will provide and maintain nesting and perching habitat approximately every two miles along major rivers with cottonwood stands on state land. Sites managed for this purpose would be approximately 40 acres each and would include cottonwood or white spruce trees of various sizes. Eagles prefer to nest in cottonwoods; they require the tallest or largest cottonwoods for nesting. Eagles use conifers as roosting areas. Both cottonwoods and white spruce are used for perching. A portion of the cottonwood trees shall be suitable for eagle nesting. Harvesting can take place within these sites as long as the remaining stand meets these conditions. If proposed harvesting would not leave sufficient cottonwoods to meet these requirements, it will be allowed only if another site will be identified to replace it. Replacement sites must meet the criteria in this guideline for suitable bald eagle nesting sites. DOF will consult with DFG on forest management on these sites.

This guideline applies to state land along the following rivers:

- ◆ Susitna River in South Parks Highway 2, 9c, and 14b; Petersville Road 7d; Susitna Lowlands 9a, 11a, 14a, and 14e; Willow 6 and 8a,
- ◆ Chulitna River in South Parks Highway 2,
- ◆ Yentna River in Susitna Lowlands 12b.

USFWS Authority. The US Fish and Wildlife Service (USFWS) has authority for managing bald eagle populations. To protect bald eagle populations in the SFG area, USFWS will be notified of all planned sales. Notification will occur through interagency notification of the Five-Year Schedule of Timber Sales and Forest Land Use Plans for individual sales. Where timber sales contain eagle nesting trees, DOF will design the sale in consultation with DFG and USFWS.

Under the Bald Eagle Protection Act (16 USC 688a), individual logging contractors are legally responsible for avoiding the taking "at any time, in any manner of any bald eagle...or any part, nest, or egg thereof." Taking is defined as "pursue, shoot at, poison, wound, kill, capture, trap, collect, molest, or disturb."

BROWN BEAR HABITAT

Brown Bear Habitat. Cover types which satisfy important brown bear habitat requirements occur in all regions of the SFG area. However, the extent and number of areas that are important brown bear habitats are limited due to their specific composition. Important brown bear habitat types include denning areas, activity centers, moderately moist habitat types where soil disturbance from forest operations could be high, and slopes greater than 35%. These habitat types are rare in the lowlands of the SFG area. Careful management of these limited areas is important to continuing healthy populations of brown bear in the Susitna valley. Timber sales shall be designed to avoid negative impacts on areas identified by DFG as important brown bear habitat, for example by scheduling harvesting to avoid brown bear concentration areas during the season when they are actively used. DFG will identify important brown bear habitat in individual subunits during the timber sale design process.

See also:

Access Location and Design - Bear Habitat
in Section IV of this chapter

DECEPTION CREEK

The Deception Creek Land Use Plan (see map in back pocket) must be consulted prior to timber sale design information for guidelines on:

- ◆ Timber Harvest And Wildlife Enhancement,
- ◆ Areas Where Timber Harvest/Habitat Enhancement Activities Will Be Limited, and,
- ◆ Term and Type of Timber Sale.

The *interim* forestry guidelines in the Deception Creek Land Use Plan are replaced by the guidelines in this chapter, including the following guidelines specific to the Deception Creek planning area.

Peregrine Falcon Nests. Peregrine falcon nests shall be protected as required by federal law. There will be no disturbance of natural vegetation within a 330' radius of any peregrine falcon nesting site.

Unique Habitat or Plant Communities. Timber harvest shall be restricted in certain limited areas with unusual habitats. Examples include isolated stands of over-mature timber valuable for tree-hole nesting bird life and other wildlife species or plant species such as Calypso orchid habitats. DNR will consult with DFG and the US Fish and Wildlife Service prior to resource development in the area of rare or endangered species if any are identified.

Slope Restrictions. Special consideration will be given to any timber harvest/habitat enhancement projects on slopes exceeding 40%. On steeper slopes, rubber-tired skidders may slip, causing erosion. Mechanical scarification is discouraged where a slope is greater than 40%. Research projects on contoured mechanical scarification are allowed. Findings may increase the acceptable slope for scarification applications.

Riparian Management. The no-harvest zone on Deception Creek will be 200' on either side of the creek consistent with the Deception Creek Management Plan guidelines, "Lakeshores and Stream Corridors". See *Rivers, Streams, and Lakes* guidelines in this section for shoreline management zones on other waterbodies.

Reforestation. All harvested units shall be reforested to the original forest type.

Seed trees. The DNR Division of Forestry shall identify the amount and location of birch seed trees that shall be left standing in timber cuts to produce seeds for birch reproduction. Typically, 4-8 trees per acre are left standing to get regeneration that meets standards in AS 41.17.060 and 11 AAC 95.170.

Pre-commercial Stand Management. Mechanical crushing, hydro-axing, or chain-saw thinning may be used independently or in conjunction with other methods to manipulate vegetation changes as a method of pre-commercial stand management. These methods will be used only where salvage of forest products is not feasible.

FISH AND WILDLIFE HABITAT -- GENERAL

General. Fish and wildlife habitat is one of the uses for which state-owned forests will be managed. All state lands in the Susitna Forestry Guidelines area provide habitat for a variety of species. The Forest Management Program, Timber Sale Design and Management and Access Design and Management Sections of this chapter contain guidelines to protect and enhance fish and wildlife habitat wherever timber is harvested. Riparian and lakeshore habitat is particularly important for fish and many wildlife species. The guidelines on Rivers, Streams, and Lakes in this section are designed to protect this important habitat. Specific guidelines are also provided in this section for Bald Eagle Habitat, Brown Bear Habitat, Moose Habitat, Trumpeter Swan Nesting Areas, and Wetlands.

Mount Susitna 2b and 2c. Timber harvests in these subunits will be designed to minimize adverse impacts on visual quality from the air and to maintain or enhance fish and wildlife habitat. DOF will consult with DFG and DPOR to design sales in these subunits.

Willer-Kash Road. The Kashwitna Management Plan establishes a buffer and special management zone to provide wildlife cover and protect scenic values along the Willer-Kash Road.

A buffer zone to provide wildlife cover, provide recreation opportunities, and protect visual quality exists along the road. The buffer extends 380' from the centerline of the road (330' from the edge of the right-of-way). This distance is reserved to provide hiding cover and travel corridors for moose and other wildlife, and to provide visual screening between cutting areas and the road.

Vegetation management (including timber harvest) is allowed within the buffer only to maintain or enhance wildlife habitat, recreation, or visual quality; to clear the right-of-way for transportation and public safety; or to prevent or control outbreaks of insects, disease, wildfire, or hazards to public safety. For example, trees could be cut to open scenic vistas and increase visual diversity along the road. The Department of Fish and Game and the DNR Division of Parks and Outdoor Recreation will be consulted on the design of vegetation management projects in this zone. Vegetation management by DNR will be designed and conducted with due deference to the Department of Fish and Game.

Land adjacent to the buffer is important for additional wildlife cover and public use. A special management zone next to the buffer will be managed to provide cover, minimize the attraction of game to the road, minimize displacement of wildlife, and provide diverse recreational settings. This zone 170' from the edge of the road buffer. DOF will design timber harvests in this area in consultation with the Department of Fish and Game and the Division of Parks and Outdoor Recreation.

See also in this section:

Recreation & Scenic Resources -

South Parks Highway 12a and 12b,

Recreation & Scenic Resources - Susitna Lowlands 11f

Recreation & Scenic Resources - Susitna Lowlands 14e

Recreation & Scenic Resources - Willow 4a

HERITAGE SITES

Known Heritage Sites. The Division of Parks and Outdoor Recreation Office of History and Archaeology (OHA) will review proposals for timber management activities through the interagency review processes for the Five-Year Schedule of Timber Sales and Forest Land Use Plans for individual sales.

The Alaska Historic Preservation Act (AS 41.35) governs state management of heritage resources. This Act states that, "If [DNR] determines that historic, prehistoric, or archaeological sites, locations or remains will be adversely affected by the public construction or improvement, the proposed public construction or improvement may not be commenced until the department has performed the necessary investigation, recording and salvage of the site, location or remains. All investigation, recording and salvage work shall be performed as expeditiously as possible so that no state construction project will be unduly impaired, impeded, or delayed."

Areas of known historic, archaeological, or paleontological sites should not be disturbed. Timber operations shall not occur within 300 feet from the boundaries of known sites unless the State Historic Preservation Office (SHPO) determines, in consultation with DOF, that certain activities can occur without significantly impacting the cultural resource. On unique sites, a larger buffer may be needed. The SHPO shall, within the limits of staffing and funding, assess the extent and significance

of the cultural resource and work with DOF to develop site-specific mitigation measures to protect the cultural site while allowing timber management.

Known sites exist in Susitna Lowlands subunits 1b (4 sites), 2a, 2d, 2f, 4b (3 sites), 5f (4 sites), 6a (2 sites), 6b, 6e (2 sites), and 13e; South Parks Highway subunit 2; Willow subunits 6 (3 sites), 8a, and 12d; and in the Fish Creek Management Plan. These sites are identified on maps maintained by the SHPO.

MARTEN HABITAT

See in this chapter:

Timber Sale Design - Cutting Unit Size & Shape

Slash disposal - Marten Habitat

MOOSE HABITAT

Moose Winter Range. In winter moose range areas identified by DFG where slopes are steep and cause extensive shade, timber harvest on south-facing slopes is preferred over harvest on north-facing slopes. North-facing slopes accumulate more snow and hold it longer. Moose conserve energy by feeding on south-facing slopes with more winter sunlight. Areas where this guideline should be applied will be identified in individual management units.

Petersville Road 3a. To provide escape cover for moose, especially during rutting season, and to minimize moose-motorist conflicts, there will be a no-harvest zone along the Petersville Road in Petersville Road 3a. This zone extends 300' from the centerline of the Petersville Road. Vegetation management is allowed in this zone for the following purposes.

- ◆ For maintenance or enhancement of habitat and recreation values.
- ◆ To prevent or control outbreaks of insects or disease or to suppress wildfire. Harvesting to prevent or control outbreaks of insects or disease will require prior public notice and prior approval by DOF. Harvest operations for these purposes in this buffer must comply with the requirements for reforestation in the SFG, AS 41.17.060, and 11 AAC 95.170.
- ◆ To remove hazards to public safety. For example, overhanging trees along roadways may be removed if they endanger road users.

See also in Section II of this chapter:

Harvesting Systems - Felling and Limbing

Harvesting Schedules - Moose Concentration Areas

Harvesting Schedules - Data Collection

Slash Disposal - Rights-of-way

in Section IV of this chapter:

Access Location & Design - Moose Forage Areas

Access Location & Design - Straight Stretches

Access Location & Design - Cuts and Fills

Access Management - Restrictions in Sensitive Moose Areas

PRIVATE LANDS

Liability. To prevent damage to private lands from trespass, blowdown, or other hazards created by timber harvest on state lands adjacent to private lands, DOF will use the following guidelines when designing timber sales:

Avoid Conflicts. Timber management activities near private land will be designed to avoid conflicts with adjacent landowners to the extent feasible and prudent.

Buffer. A buffer adjacent to private land will be established on a site-by-site basis. The minimum width of this buffer will equal the average height of codominant trees on state land adjoining the private land. DOF will determine average codominant tree height during the reconnaissance or design of a timber sale or personal use area. Average codominant tree height and buffer width will be included in the Forest Land Use Plan for the sale or personal use area. Within this buffer, management will:

- a. Minimize impacts of timber management and timber harvesting on private land.
- b. Consider insect and disease prevention, blow down, wildfire, and public safety hazards when designing timber management activities.

Harvest Methods. All harvest methods, including selective harvesting and other forms of partial cutting will be considered when designing timber management activities in the buffers. DNR will invite affected private landowners to review and comment on proposed buffer management.

RECREATION AND SCENIC RESOURCES

General. Recreation (see *Appendix A - Glossary*) and scenery are two of the uses for which state-owned forests will be managed. The Forest Management Program and the Timber Sale Design and Management sections of this chapter contain guidelines which help protect or minimize adverse impacts to recreation opportunities and visual quality where timber is harvested. The Access Design and Management section contains guidelines which help provide opportunities for road-accessible recreation activities. In addition, the guidelines in this section contain measures to help protect specific recreation and scenic resources.

Recreation activities are dispersed throughout the SFG area, with concentrations of activities along rivers, roads, and trails, and near clusters of private parcels. The impact of timber operations on recreation depends on the type of recreation, harvesting guidelines, and how timber access is developed and managed. Timber operations can benefit some recreation activities and scenic resources, for example by providing road access to a trailhead for snowmachining or opening views along a road. Harvesting and timber access will be incompatible with some recreation activities and scenery, such as those that require a wilderness setting.

Design of timber operations and timber access will consider the likely impacts on recreation, such as changes in levels of use, displacement of existing uses, including commercial recreation activities, and changes in the types of recreation experiences available. See *Appendix E - Recreation Opportunity Spectrum for the Susitna Forestry Guidelines Area* for a description of the types of recreation opportunities currently available in the Susitna Forestry Guidelines area. Forest lands will be managed to ensure that the range of opportunities described in Appendix E continues to be available in the Susitna Forestry Guidelines area.

Commercial Recreation Sites. Design of timber operations adjacent to lodges and other commercial recreation sites will consider impacts of timber harvesting, timber access, and noise or visual quality and recreation opportunities provided at the recreation sites. DOF staff are encouraged to consult commercial recreation operators when designing timber operation.

South Parks Highway 12a and 12b. Fish and wildlife habitat values, recreation values, scenic values, and hunting and fishing use are very high along the Kashwitna River, North Fork Kashwitna River, and Sheep Creek. Timber resources in these areas are limited and access is difficult. Therefore, timber sales will not be allowed in South Parks Highway 12b, nor in the portion of 12a between the Kashwitna River and the North Fork Kashwitna River. Vegetation management is allowed in these areas for maintenance or enhancement of habitat and recreation values.

Timber sales are allowed in the rest of subunit 12a, north of the North Fork of the Kashwitna River. To protect the high non-timber values, timber sales and personal use harvesting in this area will be limited to sales with a total of 45 acres or less in cutting units and with a duration of five years or less.

Vegetation management is allowed throughout subunits 12a and 12b to prevent or control outbreaks of insects or disease or to suppress wildfire. Harvesting to prevent or control outbreaks of insects or disease will require prior public notice and prior approval by DOF. Harvest operations for these purposes must comply with the requirements for reforestation in the SFG, AS 41.17.060, and 11 AAC 95.170. Vegetation management also is allowed to remove hazards to public safety. For example, overhanging trees along trails may be removed if they endanger trail users.

Susitna Lowlands 11f. This is a narrow subunit between the Moose Creek and Kroto Creek branches of the Deshka State Recreation River corridor. Timber harvest and access design in this subunit will consider and minimize potential adverse impacts on the recreation and habitat values of the corridors.

Susitna Lowlands 14e. Subunit 14e is very important for fish, wildlife habitat, and public recreation. Timber harvests and access in this subunit will be designed to protect riparian and aquatic habitat, provide continued browse and cover for moose, and protect scenic and recreation values. Timber harvests and access will be designed by DOF in consultation with DFG and DPOR.

Willow 4a. To protect scenic values, recreation opportunities, and important riparian habitat, timber sales and personal use harvesting are prohibited within 1/4-mile of Little Willow Creek. Vegetation management is allowed in this subunit to maintain or enhance habitat or recreation values.

Visual Quality from the Air. Visual quality contributes to the value of commercial and private aircraft activity in the SFG area. Harvest areas will be designed to reduce visual impacts of harvesting. Cutting units should be designed to reflect natural vegetation patterns, natural openings in the forest cover, and topography. Under the Timber Sale Design and Management guidelines in this chapter, cutting areas will be small and irregularly shaped. Other techniques such as leaving more seed trees or using shelterwood cuts, and leaving parts of subunits uncut will be considered to reduce impacts to scenic areas.

Susitna and Chulitna Rivers. The scenic values along the Susitna and Chulitna rivers in South Parks Highway 2, Susitna Lowlands 14a and 14e, and Willow 6 and 8a are important for boating. To protect scenic values, timber harvests and access in these subunits will be designed to minimize adverse impact on views from the Susitna and Chulitna rivers.

The Willow Subbasin Area Plan additionally prohibits clearcuts within 200' of the shore of both the mainland and islands which can be viewed from the main channel of the river in Willow subunits 6 and 8a. "This distance may be modified based on site specific visual analysis. This buffer also applies adjacent to heavily used boating routes in smaller channels of the river and on islands easily viewed from shore. DOF will plan all timber sales and analyze visual impacts in consultation with the Division of Parks and Outdoor Recreation." These sales should also be planned in consultation with DFG.

The guideline for Willow 6 and 8a differs from the regionwide SFG guidelines on Shoreline Management Zones and Islands and Upwelling Areas. The area plan update should review these standards and wherever possible develop consistent guidelines for the area.

Little Susitna River Corridor. No clearing or use of land for residential, commercial or industrial use shall occur in areas viewed from the Little Susitna River in Willow 8a. Roads shall be prohibited within 1/4-mile of the river except as approved by DPOR. Efforts shall be made to protect water quality and to prohibit noise impacts on the corridor.

Petersville Road 7c. This subunit has high values for scenery, recreation, fisheries, and moose habitat, and has good road access. To protect these values, a [REDACTED] for public use, DOF will work with [REDACTED] SFG to design timber harvests and [REDACTED] joint field review of harvest sites.

Scenic Resources in Susitna Lowlands 11a, 11c, and 11f. Scenic values are important to recreational boating along the Susitna, Kahiltna, and Deshka rivers in these units. To protect scenic values in these subunits, timber harvests and access will be designed to minimize adverse impacts on visual quality from the Susitna, Kahiltna, and Deshka rivers.

Parks Highway Scenic Values. Views along the Parks Highway are important for recreation and tourism, especially during the summer. To protect the visual quality along the highway,

- ◆ Timber harvests in South Parks Highway 2, 11, and 14b, Petersville Road 7c, and Willow 4a will be designed to maintain or enhance visual quality along the Parks Highway. DOF will consult the report *Scenic Resources along the Parks Highway* when designing timber sales or personal use harvest areas in this subunit.
- ◆ Staging areas for logging (including yarding, decking, and equipment storage) in South Parks Highway 2, 11, and 14b should not be visible from the highway during the summer months (June 1-August 31). Exceptions to this guideline may be made when necessary to protect public safety. Staging areas will be put-to-bed following completion of harvesting.
- ◆ The study *Scenic Resources along the Parks Highway* recommends a buffer where the highway crosses the Kashwitna River in South Parks Highway 14b. Timber sales and personal use harvesting will not be allowed within 300' of the Kashwitna River in the area 1/4-mile upstream and downstream of the Parks Highway. Vegetation management is allowed in this buffer to prevent or control outbreaks of insects or disease or to suppress wildfire. Harvesting to prevent or control outbreaks of insects or disease will require prior public notice and prior approval by DOF. Harvest operations for these purposes in this buffer must comply with the requirements for reforestation in the SFG, AS 41.17.060, and 11 AAC 95.170. Vegetation management also is allowed to remove hazards to public safety. For example, overhanging trees along roadways may be removed if they endanger road users.

Talkeetna Cutoff, Petersville Road, and Alaska Railroad Scenic Values. Views along the Talkeetna Cutoff, Petersville Road, and Alaska Railroad are important for recreation and tourism, especially during the summer. To protect the visual quality along these highways, and the railroad,

- ◆ Timber harvests will be designed to maintain or enhance visual quality along the Talkeetna Cutoff in South Parks 9c, along the Alaska Railroad in South Parks 9c and Willow 4a, and along Petersville Road in Petersville Road 3a.
- ◆ Staging areas for logging (including yarding, decking, and equipment storage) should not be visible from the Talkeetna Cutoff, Petersville Road, or Alaska Railroad during the summer months (June 1-August 31). Exceptions to this guideline may be made when necessary to protect public safety. Staging areas will be put-to-bed following completion of harvesting.

Petersville Road 1a. The following sites will be managed for public recreation (see Map 4, page 31). Commercial and personal use timber harvesting is not allowed in these sites. Vegetation management is allowed in these sites to prevent or control outbreaks of insects or disease or to suppress wildfire. Harvesting to prevent or control outbreaks of insects or disease will require prior public notice and prior approval by DOF. Harvest operations for these purposes in this buffer must comply with the requirements for reforestation in the SFG, AS 41.17.060, and 11 AAC 95.170. Vegetation management also is allowed to remove hazards to public safety. For example, overhanging trees along roadways may be removed if they endanger road users.

- ◆ Approximately 150 acres at the *Peters Creek confluence*. This site includes approximately 100 ac of high site forest and 50 acres that includes black spruce, wetlands, and the rivers. If road access develops into this area, it will receive high public use for camping and fishing. Enough land should be retained in the recreation site to allow for campground development. A recreation site reserved from harvesting should be established at the confluence of Peters Creek and the Kahiltna River. This site should be large enough to accommodate camping and a staging area for raft trips, as well as day use for fishing and picnicking.
- ◆ Five-acre parcel of state land on the north shore of *Amber Lake*. This land adjoins a parcel of borough land. Together, the state and borough lands could provide public access to the north shore of the lake.

- ◆ A 55-acre parcel on the western shore of *Schneider Lake*. The parcel includes approximately 43 acres of forest and 12 acres of wetlands. If road access develops to this lake it could be a destination for camping.

Susitna Lowlands 11c Recreation Site. This subunit is designated a recreation site under the Susitna Area Plan. Prior to design of recreation facilities for this site, timber harvesting in this subunit will occur only at the request of DPOR. Vegetation management is allowed in this subunit to prevent or control outbreaks of insects or disease or to suppress wildfire. Harvesting to prevent or control outbreaks of insects or disease will require prior public notice and prior approval by DOF. Harvest operations for these purposes in this buffer must comply with the requirements for reforestation in the SFG, AS 41.17.060, and 11 AAC 95.170. Vegetation management also is allowed to remove hazards to public safety. For example, overhanging trees along roadways may be removed if they endanger road users.

Susitna Lowlands 12a and 12b. If timber sales are designed adjacent to the lakes in T20N R7W sections 9-10 and T20N R8W section 29, recreation sites should be identified. These lakes are large enough for floatplane landings. If road or trail access is developed for timber sales, increased public recreation use is likely and will necessitate establishment of a recreation site.

Willow 4a. The Willow Subbasin Area Plan identifies a recreation site (Site #79) on lower Little Willow Creek. This site will be managed for public use and to protect opportunities to develop recreation facilities such as campgrounds and boat launches, and to protect public access to trails, streams, and wilderness areas.

Willow Creek State Recreation Area. This recreation area was established by the legislature after the Willow Subbasin Area Plan was adopted. It includes part of Willow subunit 6. Lands within the Willow Creek State Recreation Area are managed by the Division of Parks and Outdoor Recreation and are not available for timber harvesting.

Willow 8a. DPOR will identify opportunities for recreation sites during interagency review of the Five-Year Schedule of Timber Sales and Forest Land Use Plans for individual sales if such sales are proposed.

MAP 4. **Recreation Sites**

Key

-  Recreation sites
-  Peters Creek - Kahiltna River confluence
-  Schneider Lake
-  Amber Lake

Scale in Miles

Kashwitna 1a and 1b. Two trailhead recreation sites are identified on state lands in the Kashwitna Management Plan. To retain flexibility for designing appropriate trailhead facilities, timber harvesting is not allowed on these sites.

See also:

Fish and Wildlife Habitat - General, Mount Susitna 2b and 2c, Willer-Kash Road in this section.

RIVERS, STREAMS, AND LAKES

Fish Habitat and Water Quality Objectives. Under AS 41.17.115, the DNR commissioner shall protect riparian areas from the significant adverse effects of timber harvest activities on fish habitat and water quality. The management objectives for fish habitat and water quality on state lands adjacent to lakes and anadromous or high value resident fish waterbody, are adequate preservation of fish habitat by maintaining a short-and long-term source of large woody debris, stream bank stability, channel morphology, water temperatures, stream flows, water quality, adequate nutrient cycling, food sources, clean spawning gravels, and sunlight.

Wildlife Habitat Objectives. The management objective for wildlife habitat is to maintain or enhance existing riparian habitat by protecting and maintaining the following wildlife habitat components:

- ◆ a diverse mosaic of early through late successional vegetation communities,
- ◆ sufficient structural diversity among the various overstory and understory layers to meet the habitat needs of terrestrial and avian wildlife species,
- ◆ adequate availability of cover habitat, including security or hiding cover, thermal cover, and snow interception cover,
- ◆ sufficient forage biomass production for wildlife species dependent on browse,
- ◆ sufficient cover for daily movements and seasonal migrations,
- ◆ adequate water quality, streambank stability, and regular stream flow rates for aquatic fur-bearers, and
- ◆ access to mineral licks.

Recreation Objectives. Recreation activities occur throughout the SFG area but particularly concentrate along rivers, streams, and lakeshores. Waterbodies provide access routes and support recreation by boats, snowmachines, floatplanes and ski planes. Waterbodies are key elements of the beauty and diversity of the landscape. The management objective for recreation is maintenance of diverse recreation opportunities in waterfront areas and the adjacent riparian and woodland areas, and maintenance or enhancement of the scenic values of these lands. (See *Appendix E - Recreation Opportunity Spectrum for the Susitna Forestry Guidelines Area* for the range of opportunities currently available)

0-100'(0-30m) Zone. Anadromous and High Value Resident Fish Waterbodies. Under the AS 41.17.118(a)(2), harvests of timber may not occur within 100 feet (30 meters) immediately adjacent to an anadromous or high value resident fish waterbody.

Lakes. In the SFG area, the no-harvest zone also applies to land within 100' (30m) of all permanent lakes. Exceptions may be made for lakes less than 10 acres if they do not have significant recreation or habitat value and do not contain anadromous or high value resident fish. The determination of significance will be made by DOF with due deference to DFG for habitat values and to DPOR for recreation values. On lakes that are not anadromous or high value fish waters, vegetation management is allowed in this zone to prevent or control outbreaks of insects or disease or to suppress wildfire. Harvesting to prevent or control outbreaks of insects or disease will require prior public notice and prior approval by DOF. Harvest operations for these purposes in this buffer must comply with the requirements for reforestation in the SFG, AS 41.17.060, and 11 AAC 95.170. Vegetation management also is allowed to remove hazards to public safety. For example, overhanging trees along roadways may be removed if they endanger road users.

Shoreline Management Zones. Anadromous and High Value Resident Fish Waterbodies. Under AS 41.17.118(a)(2), a shoreline management zone exists for the area 100'-300' (30m-90m) from all anadromous and high value resident fish waterbodies. Timber harvest in the shoreline management zone is an allowed use, but must be consistent with maintenance of important fish and wildlife habitat and water quality. In the SFG area, harvest must also be consistent with scenic and recreation values.

Lakes. In the SFG area, this zone also applies to land within 100'-300' (30m-90m) of permanent lakes. Exceptions may be made for lakes less than 10 acres if they do not have significant recreation or habitat value and do not contain anadromous or high value resident fish. The determination of significance will be made by DOF with due deference to DFG for habitat values and to DPOR for recreation values.

The Susitna Forestry Guidelines widen the shoreline management zone on certain rivers and streams with unusually high public use, scenic values, or fish and wildlife habitat values (see list of rivers and streams at the end of this guideline). The intent of the wider zones is to protect the scenic and recreation values, provide high quality recreation experiences along the waterways, and identify habitat areas that merit extra consideration.

In shoreline management zones the following guidelines apply:

Road Crossings. To minimize adverse impacts to the environment and risks of degradation to fish and wildlife habitat and water quality, timber access roads will not be located within the shoreline management zone except where a road must cross a stream or access a cutting unit within the shoreline management zone and there exists no feasible alternative. Road construction will occur only where road design, construction, use, and maintenance will maintain important fish and wildlife habitat.

Windfirmness Risk. Timber harvest design within the shoreline management zone will consider the risk of blowdown in residual stands. Risk of blowdown will be evaluated on a site-specific basis. Minimum buffer widths will not be reduced because of a risk of blowdown.

Fish Habitat. Site-specific stream conditions including stream flow rate, dissolved nutrient levels, large woody debris sources, water temperatures, probability of surface erosion, stream gradient, water quality, stream type (glacial vs. clearwater types), soil type, steepness of adjoining slopes, adjoining timber stand type and condition, and other local physical characteristics will be considered before any timber harvesting occurs. DFG will provide recommendations to DOF on the design of timber sales and road access based on these considerations during interagency review of the *Five-Year Schedule of Timber Sales and Forest Land Use Plans*.

Unstable Stream Channels. If there is evidence or a high likelihood that a stream could change course and move into the existing 100' (30m) no-harvest area within 15 years after a proposed timber harvest, then harvesting in the area 100-300' (30-90m) beyond the waterbody will not occur. Along waterways with shoreline management zones wider than the 100-300' (30-90m) zone, the need for expanding the no-harvest area beyond 300' (90m) will be considered case-by-case.

Wildlife Habitat. Wildlife concentration areas, particularly for moose, bears, and furbearers, will preclude any logging activity in the area 100-300' (30-90m) beyond the waterbody, unless the proposed harvesting will maintain or enhance important wildlife habitat. In shoreline management zones wider than the standard 100-300' (30-90m) zone, timber harvest may occur if wildlife concentration areas will be maintained or enhanced. DFG shall identify wildlife concentration areas within the wider shoreline management zones and provide information on how to maintain or enhance these areas during the review of the Five-Year Schedule of Timber Sales. Final decisions on timber sale design in Forest Land Use Plans will be made with due deference to DFG in identified wildlife concentration areas. See Appendix A - Glossary for the definition of due deference.

Public Use. Timber harvest design within the shoreline management zone will consider existing public use in the zone. Timber harvesting may occur in the shoreline management zone if it can be demonstrated that existing public uses including sport fishing and hunting, trapping, fish and wildlife viewing, hiking, and camping will be maintained or enhanced.

Scenic Values. Timber harvest design within a shoreline management zone will consider scenic values along the waterbody. To protect scenic values, timber harvests and access in these zones will be designed to minimize adverse impacts on views from the waterbodies. Design will vary based on topography and vegetation. For example, dense vegetation or high bluffs may hide harvesting beyond the 100' no-cut buffer in some areas, but sparse cover and gradual slopes may reveal impacts over a wider area.

Rivers in Phase 1 and Phase 2 with shoreline management zones wider than 100-300' (30-90m) follow. Waterbodies in Phase 3 have not been reviewed to determine whether wider shoreline management zones are appropriate. Zone width will be established at the time Phase 3 is considered for new access or commercial harvesting.

- ◆ **Susitna River** – 1/4-mile from the ordinary high water mark on either side of the river in South Parks 2, 4a, 9c, and 14b; Petersville Road 7d; Susitna Lowlands 11a and 14e; and Willow 6 and 8a,
- ◆ **Chulitna River** -- 1/4-mile from the ordinary high water mark on either side of the river in South Parks 2,
- ◆ **Kahiltna River** -- 1/4-mile from the ordinary high water mark on either side of the river in Petersville Road 1a,
- ◆ **Yentna River** -- 1/4-mile from the ordinary high water mark on either side of the river in Susitna Lowlands 12b,
- ◆ **Theodore River** -- 1/4-mile from the ordinary high water mark on either side of the river in Mount Susitna 2b and 2c,
- ◆ **Chijuk Creek** -- 400' from the ordinary high water mark on either side of the creek in Susitna Lowlands 11a,
- ◆ **Montana Creek, south and middle forks** -- 1/2-mile from the ordinary high water mark on either side of the creeks in South Parks 12a,
- ◆ **Peters Creek** -- 1/4-mile from the ordinary high water mark on either side of the creek in Petersville Road 1a,
- ◆ **Moose Creek** -- land in T28N R6W S.M. sections 28, 33 N1/2, N1/2S1/2, and 34 NW1/4NW1/4, W1/2SW1/4NW1/4. The Susitna Basin Recreation Rivers Management Plan recommends that this land be added to the Deshka recreation river corridor. The SFG will no longer apply to this parcel if the legislature adds it to the recreation river.

Trapper Creek Shoreline Management Zone. SAP establishes a 1/4-mile "natural setting" guideline on Trapper Creek in Susitna Lowlands 14b. Timber harvesting within 1/4-mile of Trapper Creek in 14b will be by single-tree selection only.

Review of Uncatalogued Streams. DOF should identify streams for which field review is needed by year 2 of the Five-Year Schedule of Timber Sales to allow enough time to plan field review during the seasons when salmon are likely to be present.

If timber sales are offered with less than two years notice, DNR will try to limit the number of stream reviews needed by locating sales in areas previously reviewed through the Five-Year Schedule of Timber Sales or a Forest Land Use Plan, in areas already field-checked for anadromous streams, or in areas without streams. (See *Public Notice - Five-Year Schedule of Timber Sales and Forest Land Use Plan* in Section V of this chapter.)

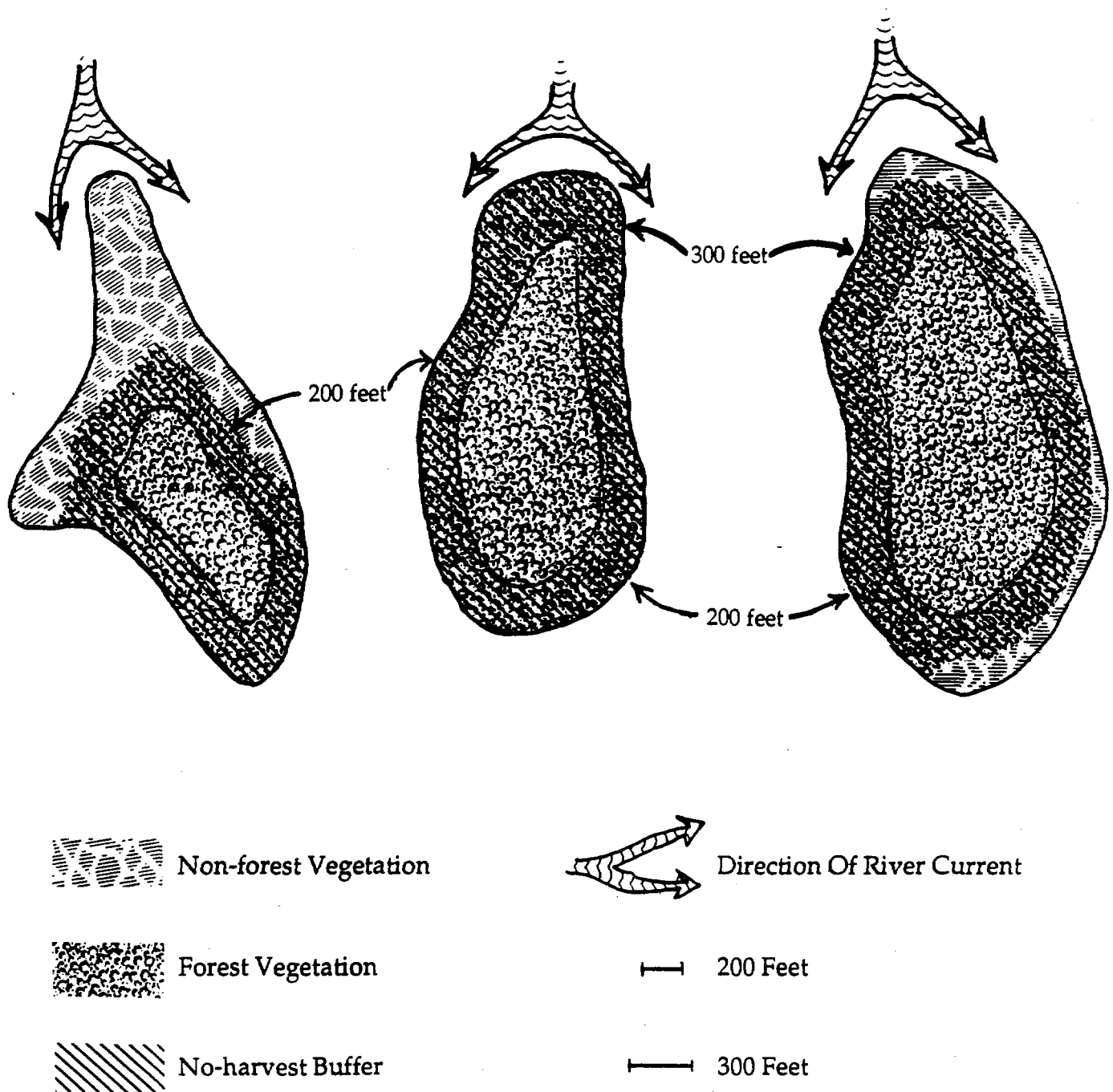
Islands and Upwelling Areas. Timber harvests on islands in braided rivers will be designed to prevent island erosion and protect upwelling areas in the river channels and sloughs. There will be a no-harvest zone that extends inland 200' from the boundary between mature forest stands and nonforest or sapling vegetation. At the upstream tip of these islands, the no harvest zone will include a minimum of 300' inland from the boundary of herbaceous vegetation or 200' from the boundary of the mature forest, whichever is greater. See Figure 2, page 34a for examples. DOF will consult with DFG to design sales in this unit.

Vegetation management for habitat enhancement is allowed in this zone, except for timber harvesting within the 100' no-cut required under AS 41.17.118(a)(2). Decisions on sale offerings and sale design for timber sales for habitat enhancement will be designed with due deference to DFG. Vegetation management also is allowed in this zone to prevent or control outbreaks of insects or disease or to suppress wildfire. Harvesting to prevent or control outbreaks of insects or disease will require prior public notice and prior approval by DOF. Harvest operations for these purposes in this buffer must comply with the requirements for reforestation in the SFG, AS 41.17.060, and 11 AAC 95.170. Vegetation management is allowed to remove hazards to public safety. For example, overhanging trees along roadways may be removed if they endanger road users.

This guideline applies islands in the Susitna, Chulitna, and Yentna rivers in the following units: South Parks Highway 2, Petersville Road 7d, Susitna Lowlands 5f, 11a, 12b, 13d, 13e, 14a, and 14e; and Willow Subbasin 6 and 8a.

Lakeshore Habitat for Moose. Timber within 330 feet of the wetted perimeter of ponds and lakes should be maintained to provide security cover for moose feeding on aquatic plants. Selective removal of merchantable timber from lake fringes beyond the 100' no-cut zone required by AS 41.17.118(a)(2) would be encouraged to maintain shorter (≤ 50 ft)

FIGURE 2.
Examples of Harvesting Setbacks on River Islands



stands with less crown closure (<60%) for habitat enhancement. A more open canopy would encourage the establishment of shade-intolerant browse species such as willow or aspen. This guideline applies to lakes greater than 10 acres in size that can support aquatic vegetation that supply sodium for moose.

See also:

*Recreation - General: Willow 4a in this section,
Access Location & Design - Stream Buffers
in Section IV of this chapter*

TRAIL CORRIDORS

Iditarod Trail. The Susitna, Willow, and Fish Creek plans establish the guidelines for determining the width of the Iditarod National Historic Trail (INHT) corridor. Within the SFG, the corridor width will be determined in accordance with these guidelines. If changes in these guidelines are proposed, they will be considered during the update of the Susitna and Willow plans, not in the SFG.

The INHT is an historic site. Timber sales and permits for personal use harvesting will not be allowed within 300 feet of the trail (see also *Heritage Sites* in this section). Selective commercial timber harvesting will be permitted in the remainder of the INHT trail corridor only if such harvests protect or enhance the visual, sound, and other characteristics of the trail. Other harvesting techniques, such as clearcutting or seed tree harvesting, may be permitted subject to consultation with DPOR where necessary to prevent or control outbreaks of insects, disease, wildfire, or hazards to public safety.

Personal use harvesting by individual permits will be permitted in the remainder of the corridor only if such harvests protect or enhance visual, sound, and other characteristics of the trail. Timber cutting incidental to recreation will be allowed throughout the trail corridor. Use of only dead and down wood will be encouraged for harvesting incidental to recreation.

All timber harvests within the Iditarod Trail corridor will be designed in consultation with the DNR Division of Parks and Outdoor Recreation.

The INHT crosses the following subunits: Susitna Lowlands 2a, 2d, 2f, 4b, 6a, 6b, 6e, and 13e, and Willow 8a and 12d.

Regional Trails. Trails other than the Iditarod Trail mapped in the SFG Atlas are classified as follows. Mapped trails in the Susitna Area Plan are considered "regional trails" unless otherwise specified. Mapped trails in the Willow Subbasin Area Plan are considered "other recreation trails" unless otherwise specified. "Regional trails" and "other recreation trails" are subject to the following guidelines.

Trail Buffer Width. Trails shall be protected by publicly-owned corridors that have a minimum width of 150 feet each side of the centerline.

Land Use in Corridors. The standards for trail management in the Willow and Susitna area plans differ. The Susitna and Willow plan updates should review the trail guidelines and develop consistent standards for trail corridor management. In both plans, trail buffers are intended to protect the quality of the experience of the user and to minimize negative effects such as noise or dust from adjacent land uses. Land uses immediately adjacent to the trail should not adversely affect the recreational enjoyment of the trail. Examples of negative effects are trees blown down, removal of protective trees, or pollution of streams caused by timber operations or timber access.

Under the Susitna Area Plan, to the extent feasible and prudent, timber operations within a trail corridor will be managed so as to not adversely affect trail use or the aesthetic character of the trail.

Under the Willow plan, "Trail corridors are available for personal and selective commercial timber harvest only if such harvests protect or enhance the visual, sound, and other characteristics of the trail. Harvest practices, timing, and transportation should be coordinated with the Division of Parks and Outdoor Recreation, DFG, and the Matanuska-Susitna Borough Trails Committee."

Both plans allow trail crossings or rerouting of trails where necessary. Where necessary for timber roads to cross trail corridors, crossings should be as near to perpendicular as possible. An exception is when a trail corridor is deliberately combined with a public facility or transportation corridor.

Trail Mapping and Identification of New Trails. Field work may find errors or duplications in the trails mapped in the SFG atlas. Trail mapping may be revised in consultation with DPOR.

Additional trails may be identified during review of the Five-Year Schedule of Timber Sales and Forest Land Use Plans. Steps for identifying additional trails follow. These steps should be completed before the final FLUP is published to allow for public review.

- ◆ Identify actively used trails within proposed harvesting units or timber access corridors.
- ◆ In consultation with DFG, DPOR, and the Matanuska-Susitna Borough, the Director of the Division of Land will decide what trails qualify under the standards in the land use plan for the area in question.
- ◆ Assign the trail to the appropriate category and apply the land use plan guidelines for that category.

South Parks Highway 12a. Trails that provide access through this subunit to more remote lands to the east should be maintained and improved during forestry operations.

South Parks Highway 13b. The fisherman's trail to the North Fork of the Kashwitna River through subunit 13b in T22N R3W sections 19 and 20 will not be used for timber sale access. This route should be maintained as a recreational trail. The Susitna Area Plan update should consider establishing a ROW for this trail that would be limited to trail use only.

TRUMPETER SWAN NESTING AREAS

Seasonal Restrictions. Forestry activities that may damage trumpeter swan nesting habitat or cause visual or noise disturbance shall be prohibited from April 1 through August 31 within at least 1/4-mile of waterbodies that have identified trumpeter swan nesting sites or staging areas. The area to which seasonal restrictions apply may be increased or decreased if the potential level of damage or disturbance warrants change as determined by the Division of Forestry with due deference to the Department of Fish and Game. DFG will consult with the US Fish and Wildlife Service before making recommendations to DOF. If a waterbody that has been used for nesting is not occupied by trumpeter swans by June 15, forestry activities may be allowed between June 15 and August 31 within the 1/4-mile zone.

Site-specific Buffers. Site-specific buffers to minimize visual disturbance to identified trumpeter swan nesting sites will be established by the Division of Forestry in consultation with the Department of Fish and Game and the US Fish and Wildlife Service at the time individual sales are designed. Known nests exist in Petersville Road subunits 2b and 6c; Susitna Lowlands 1b, 2a, 3a, 3c, 5a, 5f, 6a, 6b, 6e, 7a, 8b, 11a, 12a, 12b, 13b, 13d, 13e, 14a, and 14b; Mount Susitna 2b; Willow 8a; and Sunflower Basin 6c.

See also:

Access Location & Design - Trumpeter Swan Nesting Areas in Section IV of this chapter.

WETLANDS

Definition. The definition of wetlands is the definition adopted by the State of Alaska under the regulations of the Coastal Management Program (6 AAC 80.900(19)): *"Freshwater wetlands mean those environments characterized by rooted vegetation which is partially submerged either continuously or periodically by surface freshwater with less than 0.5 parts per thousand salt content and not exceeding three meters in depth."*

For purposes of these management guidelines, wetlands are divided into three classes:

- ◆ **CLASS I:** wetlands larger than 100 acres and all wetlands with a locatable stream outlet. The stream shall be considered part of the wetland;
- ◆ **CLASS II:** wetlands between 40 and 100 acres with no outlet; and
- ◆ **CLASS III:** wetlands less than 40 acres with no outlet.

Wetlands Management. The Army Corps of Engineers regulates all activities that result in discharge or placement of dredged or fill material in wetlands. Corps permits for these activities are reviewed by the Department of Environmental Conservation, DFG, and the Division of Governmental Coordination in the Governor's office. National wetlands policy is currently being reviewed, under the lead of the federal Domestic Policy Council. The State of Alaska, through the Governor's office, is participating in this review.

Wetland Buffers. Wetlands help protect water quality and stabilize water supply, provide important feeding, rearing, and breeding grounds for wildlife, provide for winter recreation, and add to landscape diversity. Buffers adjacent to wetlands will, to the extent feasible and prudent, protect these important wetland functions. Buffers should include public lands within 100 feet of Class I wetlands and public lands within 60 feet of Class II wetlands.

Harvesting near Wetlands. Only single-tree selection harvesting is allowed within 100 feet of Class I and II wetlands except when other harvesting techniques are necessary to prevent or control outbreaks of insects, disease, wildfire, or hazards to public safety. For example, overhanging trees along trails may be removed if they endanger trail users. See *Appendix A - Glossary* for definition of Class I and II wetlands.

See also:

Access Location and Design - Access Across Wetlands in Section IV of this chapter.

Section IV - Access Design & Management

The guidelines in this section cover the location, design, construction and management of timber access roads. They apply to timber access roads throughout the SFG area.

ACCESS LOCATION AND DESIGN

General. The location, design, and development of roads shall consider multiple use values of state lands, and reflect the management intent and primary uses for the affected area. The goal is to optimize long term public use benefits from new access while minimizing adverse effects on existing public uses, including maintaining the range of recreation opportunities described in *Appendix E - Recreation Opportunity Spectrum*.

Access Information. Descriptions of proposed access corridors and type of access will be included in the Five-Year Schedule of Timber Sales for sales that will be offered in the current year or the two subsequent years. The Forest Land Use Plan for each sale will include preliminary location of any proposed primary and secondary roads and identify the type of access.

Sensitive Vegetative Cover. Permanent logging roads generally shall be aligned to avoid sensitive vegetative cover types such as riparian zones, wetlands, aquatic feeding sites (ponds), and naturally occurring forest openings. Roads in these cover types will be designed in concurrence with DFG.

Bear Habitat. Roads should be planned to minimize potential increases in vulnerability of black and brown bears to hunting and physical displacement from important foraging and denning habitats by avoiding locations near important feeding sites. DFG will provide DOF information on feeding sites during the timber sale design process. (See also *Brown Bear Habitat* in Section III of this chapter.)

Moose Forage Areas. Natural terrain features should be used to ensure the usability of moose forage areas, as well as other important seasonal use areas, by shielding these forage areas from road traffic. Permanent logging roads generally shall be located in dense timber away from forest openings.

Roads along Waterways. Road crossings within shoreline management zones or the 0-100' shoreline buffers may be allowed when such roads are a better alternative for protecting water quality or when they are the only feasible access to timber. Feasible access is not necessarily the least costly (see *Appendix A - Glossary* for definition of "feasible"). Rights-of-way for stream crossing must be minimized. (See also *Rivers, Streams, and Lakes - 0-100'* and *Shoreline Management Zones* in Section III of this chapter.)

Access across Wetlands. Where access crosses wetlands, only winter access should be used whenever feasible.

Straight Stretches. Minimize straight stretches of road of more than 1/4-mile in forested areas to increase the cover value for moose and minimize the effects of hunting from roads on local moose numbers.

Visual Quality. Timber access will be designed with consideration of recreation values and scenic quality. Sales will be designed by DOF in consultation with DPOR.

Clearing. Minimize the width of the clearing along roads.

Road Standards. In important fish and wildlife habitat areas, forestry access roads shall be constructed to minimum standards to discourage high volume vehicle use but maintain safety and environmental conditions and meet management objectives. These will generally be slow speed, single lane roads without large cuts and fills. DFG will identify important habitat areas as part of the interagency review of the Five-Year Schedule of Timber Sales and Forest Land Use Plans.

Cuts and Fills. Avoid steep cuts and fills that would block moose travel routes.

Landing Areas. Locate log landing areas to minimize the amount of road and skid trail construction.

Avoid Interconnections. To reduce impacts from road hunting and allow greater control of access in local areas, secondary logging road systems shall not be designed to interconnect or form loop systems.

Water Transportation. Wood may be transported on boats or barges. Log rafts will not be used in the SFG area. Navigable waterways in the Susitna valley are heavily traveled in the summer, and log rafts could increase hazards to public transportation.

Trumpeter Swan Nesting Areas. Specific guidelines for development and management of access within one mile of waterbodies with identified trumpeter swan nesting sites will be developed by the Division of Forestry in consultation with the Department of Fish and Game and the US Fish and Wildlife Service at the time access is designed. Facilities and permanent roads for timber management should be at least one mile from waterbodies used for trumpeter swan nesting. The distances between facilities and mainline roads and these waterbodies may be increased or decreased based on site-specific environmental and economic factors by the Division of Forestry with due deference to the Department of Fish and Game. DFG will consult with the US Fish and Wildlife Service before making recommendations to DOF.

Willer-Kash Road. The Willer-Kash (Kashwitna) Road may be extended to provide mainline road access to the portion of South Parks 12a south of the Kashwitna River. This road will not be built closer than 1/2-mile from the Kashwitna River. Timber access roads within this portion of subunit 12a will be designed to minimize vehicle access to the Kashwitna River. Secondary roads and spur roads in this area will be put-to-bed after harvesting. (See also *Fish and Wildlife - General, Willer-Kash Road* in Section III of this chapter.)

Petersville Road 2b. Because of the potential conflicts between public recreation use and road access, no new road access for timber harvest will be proposed in this subunit. (See also p. 36 of Susitna Area Plan for a description of roadless area proposals in this unit and the decision-making process for these proposals.)

Susitna Lowlands 9a and 9c. Year-round road access in the Susitna Lowlands subregion will require public funding. In the near term (5-10 years), access to timber sales in these subunits will be by winter road unless a year-round public road is built to support other land uses.

See also:

Trails - Regional Trails
in Section III of this chapter.

ROAD CONSTRUCTION

Wildlife Concentration Areas. Road construction times should be scheduled and road locations selected to avoid displacing wildlife from seasonal concentration areas.

Topsoil. Where feasible, topsoil from road construction should be stored on site for later use in restoration.

Winter Roads. The general standard for adequate ground protection from vehicle damage will be one foot of snow and one foot of frost. This standard may be varied to allow for variation in winter conditions. For example, deep snow may prevent freezing but provide adequate ground protection. If the ground is not frozen to a depth of at least one foot, additional snow depth is required before winter travel can occur. The amount of additional snow required will depend on the type of vehicle and must be adequate to support the vehicle. For example, vehicles with higher ground pressure require more snow to support them than light ground pressure vehicles.

Prior to spring break-up each year, winter roads and skid trails must be cleared of all logging debris extending over or into any body of water. (See also 18 AAC 70.020(b)(C) and 11 AAC 95.120(a)(1).

Cross-country travel by dozers, sleighs, tracked vehicles, and rubber-tired equipment must also be consistent with the requirements of the statewide Coastal Management Program. See *Appendix F - Requirements for Winter Travel* for a list of Coastal Management Program requirements and information on DNR stipulations for overland winter travel permits.

Material Sites. Prior to the design of the Oilwell Road extension, permanent material sites along the road corridor should be identified and established. Gravel will be needed for road construction and maintenance and is available only along portions of the road corridor.

Right-of-way Slash. Dispose of right-of-way slash so as not to inhibit moose movement.

ROAD MANAGEMENT

General. The management of roads after timber harvesting and implementation of the reforestation plan shall consider multiple use values of state lands, and reflect the management intent and primary uses for the affected area. Road closures, or restrictions on types, times, or levels of use will be considered as a means of balancing resource management goals. In some locations, it may be necessary to limit after-harvest use of a road or manage other resources along the road, for example to protect wildlife, maintain recreation opportunity settings, ensure regeneration, or minimize timber management impacts on existing land uses. Proposals for road management after forest operations are completed shall be included in the Forest Land Use Plan or the transportation schedule of the Five-Year Schedule of Timber Sales. The FLUP or transportation schedule shall state whether or not roads will be permanent or put-to-bed and whether or not roads put-to-bed will be open to off-road vehicle use.

Public Use.

Primary Roads. Primary timber access roads are permanent roads. Primary roads on state land will be open to public use except during spring break-up, periods of excessive rainfall, or other conditions when the roadbed would be damaged by vehicle traffic or when necessary to protect sensitive wildlife populations or other public resources along the road. Road closures will be done subject to the regulations in 11 AAC. *[Note: Regulations for road closure are currently being developed by DNR. When adopted, they will guide road closure decisions statewide. Public notice is required prior to adoption of the regulations.]*

Secondary Roads. Secondary roads will be managed on a case-by-case basis depending on the management intent for lands along the route and funding. If built with public funds as a permanent road, a secondary road will be managed under the same rules as primary roads (see above). If a secondary road is built as a temporary road, it will be put-to-bed (see Road Management - Putting-to-bed in this section). Proposed management for secondary roads will be described in the Forest Land Use Plan.

Spur Roads. Unless otherwise specified in a Forest Land Use Plan, spur roads will be put-to-bed.

Restrictions in Sensitive Moose Areas. Restrict public access in sensitive moose areas by closing spur roads during critical seasonal periods. DFG will identify sensitive moose areas in proposed timber sales by May 1 each year so that this information can be included in Forest Land Use Plans for the sales.

Putting-to-bed. Non-permanent secondary roads and spur roads will be put-to-bed (see *Appendix A - Glossary* for definition of put-to-bed). Roads put-to-bed should be treated to encourage establishment of forest vegetation immediately after forest operations have been completed. In south-central Alaska, browse plants include most willow species, birch, aspen, cottonwood, high-bush cranberry, labrador tea, and other woody shrubs and forbs.

Willow 8a. New timber access in the northern part of the subunit (approximately that part in T19N) will be kept available for additional road vehicle access for recreation after harvesting is complete. Timber access roads extending farther south will be closed to road vehicle access after harvesting is complete. The Five-Year Schedule of Timber Sales should include 1:63,360 or larger scale maps of sale location, access corridors, and identify the type of access proposed (e.g., year-round v. seasonal, and temporary v. permanent) for sales proposed for offering in the current year or the two subsequent years.

Section V - Public Notice & Interagency Coordination

Public notice is required for proposed timber sales, Forest Land Use Plans, and habitat enhancement projects. This section sets the guidelines for public notice.

General. DOF will provide interagency and public notice of proposed timber sales before decisions are made on sale offerings. See *Chapter 1 - Five-Year Schedule of Timber Sales* and *Forest Land Use Plans* for more information on the review process for proposed sales.

Five-Year Schedule of Timber Sales. Under AS 38.05.113, all timber sales must appear on the Five-Year Schedule of Timber Sales for at least two years. In the SFG area, designated personal use

harvesting areas that will be open for multiple personal use permits will be included on the Five-Year Schedule of Timber Sales. These designated personal use areas will be subject to the notice requirements for commercial sales. The Department may adopt regulations exempting small and emergency sales from the Five-Year Schedule requirements. If regulations are adopted, timber sales in the SFG must comply with the regulations. (See also *Forest Land Use Plan* in this section.)

Interagency Notice. Interagency notice shall be given prior to public notice to allow for resolution of interagency disagreements before the public comment period.

Annual Notice. Annual public notice shall be provided for the Five-Year Schedule of Timber Sales under the following guidelines.

1. Notice shall include display advertisements that appear at least twice in Anchorage and Matanuska-Susitna Valley newspapers.
2. The Division of Forestry shall maintain a mailing list of local governments, post offices, and community councils, and of interest groups and individuals that request notification of the Five-Year Schedule of Timber Sales. Annual notice of the Five-Year Schedule of Timber Sales should be sent to all parties on the mailing list. Notices may be brief, but shall include a map and text sufficient to let recipients know whether or not sales are proposed in their areas of interest, and shall include directions for obtaining more detailed information on the sale schedule.

DNR will make a good faith effort to notify interested parties through the mailing list. However, failure to give notice under this guideline does not constitute a legal basis for invalidation or delay of this action. For example, notice may fail to reach a party if the party does not provide DOF with a current address or if the party misses a notice while on vacation.

3. Additional methods of notifying the public of the sale schedule may also be used.
4. DOF will notify landowners or lessees of state lands near proposed sales proposed for offering in the following year. Notification should be sent to landowners and lessees within 1/4-mile of a proposed sale boundary. Notice shall include a location map and directions for obtaining more detailed information. Borough tax records will be used to identify landowners; information on lessees can be obtained from the DNR Division of Land.

5. If annual operating plans propose changes that significantly deviate from the FLUP, DOF should notify the same landowners notified of the sale through the FLUP or Five-Year Schedule of Timber Sales. Significant deviations include actions that would affect non-timber resources, for example, expansion of the sale boundary, changes in the location of cutting units, changes in the harvesting system, or changes in access routes, or changes in the type of access proposed.

Annual Meetings. DOF will hold one or more public meetings each year to review proposed timber sales. Meetings will be scheduled to follow distribution of the Five-Year Schedule of Timber Sales.

Map Scale. The Five-Year Schedule of Timber Sales will include locating timber sales and timber access at a scale of 1:63,360 or greater for sales proposed for offering in the current year or the two subsequent years. The Five-Year Schedule of Timber Sales will also identify the type of access proposed, for example, whether roads will be permanent or temporary, or whether they will be seasonal or year-round roads.

Forest Land Use Plan. A Forest Land Use Plan (FLUP) is required for all timber sales and harvesting except isolated personal use timber harvest (AS 38.05.112). An FLUP is required for negotiated sales under AS 38.05.115.

In the SFG area, public notice for FLUPs should include notice to the DOF mailing list (see *Five-Year Schedule of Timber Sales - Annual Notice 2* in this section). DNR also will notify landowners and lessees of state lands within 1/4-mile of the proposed

boundary of a sale exempted from the Five-Year Schedule requirement. Notice should be sent when the draft Forest Land Use Plan is developed. The notice will include a location map and directions for getting more detailed information.

AS 38.05.945. AS 38.05.945 requires public notice at least 30 days prior to all timber sales other than negotiated sales under AS 38.05.115. Notice is not required for personal use harvests less than or equal to 10Mbf per person. Notice must include newspaper ads, mailing lists, notice to municipalities, Native corporations, and local postmasters; and at least one other method of public notice. In the SFG area, newspaper ads should be display ads.

Isolated Personal Use. No public notice is required for individual permits for personal use wood harvesting. Personal use permits may be offered for a maximum of 10 Mbf.

Habitat Enhancement. The DNR Division of Land should notify the public and affected agencies of proposed habitat enhancement activities that involve timber harvest or forest clearing during the permit review process. Notice should be provided to organizations and individuals on the mailing list described in the guideline on *Five-Year Schedule of Timber Sales -- Annual Notice 2* in this section.

During interagency review of the draft Five-Year Schedule of Timber Sales, DFG will notify the DNR Division of Forestry of forest sites in the SFG area that have been identified as candidates for habitat enhancement. (Forest sites includes high site and low site forest types. See *Appendix A - Glossary* for definitions of high sites and low sites.)

Chapter 3

IMPLEMENTATION

Chapter 3 - IMPLEMENTATION

This chapter describes specific actions needed to support implementation of the guidelines. They include recommendations for research projects, changes to land use plans, platting of rights-of-way, enforcement, and funding. This chapter also includes procedures for changing the guidelines to keep them up-to-date.

Procedures for Guideline Modification

The policies, implementation actions, and management guidelines of this document may be changed if conditions warrant. The Susitna Forestry Guidelines (SFG) will be updated periodically as new data and new technology become available and as changing social or economic conditions place different demands on state lands. This section discusses three topics concerning SFG modification: periodic review, changes to the guidelines, and discretion within guidelines.

PERIODIC REVIEW

The Susitna Forestry Guidelines will be reviewed approximately once every five years to determine if revisions are necessary. An interagency planning team will conduct this review.

CHANGES TO THE GUIDELINES

There are three types of changes to these guidelines: amendments, special exceptions, and minor changes. Amendments and special exceptions are revisions subject to the planning process requirements of AS 38.04.065 and the regulations in 11 AAC 55.250; minor changes are not. The director of the DNR Division of Land determines what constitutes an amendment, special exception, or a minor change. Changes to the guidelines may be proposed by agencies, municipalities, or members of the public. Requests for changes should be submitted to the DNR Division of Land.

The regulations for plan modification are being revised. When new regulations are adopted, they

will supersede the procedures for guideline modification in this document and direct modification procedures. In the interim, the procedures in this chapter will direct modifications.

Guideline Amendments. An amendment permanently changes the guidelines by adding to or modifying the basic management intent for one or more subunits, or by changing allowed or prohibited activities, policies, or guidelines. For example, an amendment might close to clearcutting an area where this activity was previously allowed, allow a particular activity in an area where it was previously prohibited, or change the guidelines for the length of timber rotations. (11 AAC 55.030)

An amendment is a revision under AS 38.04.065. Revisions must be adopted by the Commissioner of DNR. The Department of Natural Resources will provide for review by affected agencies and will convene the planning team as necessary to make recommendations on amendments.

Procedures for Amendment.

1. Taking into account the requirements of AS 38.04.065 (b), the commissioner will prepare a written document that specifies:
 - ◆ The reasons for the amendment such as changed social or economic conditions;
 - ◆ the alternative course of action (what the guidelines are being changed to); and
 - ◆ why the amendment is in the best public interest.
2. Where practical, the decision should be part of or circulated with a finding required by AS 38.05.035(e).
3. Before making the final decision on the amendment, the commissioner will provide for meaningful public participation and public notice consistent with AS 38.04.065(b)(8) and 38.05.945. This notification will include the points described in 1. and may be combined with the public notice required by the applicable permitting procedure. If warranted by the degree of controversy, the commissioner may hold a public meeting before making a decision.

Special Exception. A special exception does not permanently change the provisions of the guidelines and cannot be used as the basis for a reclassification of the subunit. Instead, it allows a one-time, limited purpose variance of the guidelines, without changing their general intent. For example, a special exception might be used to allow a specific harvest in a habitat buffer closed to harvesting if DFG requested the cut to benefit wildlife habitat. (11 AAC 55.030)

Special exceptions may also occur when the proposed activity requires only a small part of a management subunit, does not change or modify the general intent of the guidelines, and serves to clarify or facilitate the implementation of the guidelines. An example would be allowing a prohibited use based on more detailed data in a small area on the edge of a management subunit next to a subunit where it is allowed.

A special exception might be made if complying with the guidelines would be excessively burdensome or impractical or if compliance would be inequitable to a third party, and if the purposes and spirit of the guidelines can be achieved despite the exception. (11 AAC 55.030)

A special exception cannot be used to reclassify an area. Special exceptions may apply to prohibited uses or guidelines.

Special Exceptions to Guidelines Modified by "Will" or "Shall". Special exceptions to guidelines modified by the word "will" or "shall" may be allowed for individual actions. The decision not to follow a pertinent guideline modified by the term "will" will be consistent with the procedures for special exceptions.

Procedures for Special Exceptions.

1. Taking into account the requirements of AS 38.04.065(b), the director will prepare a written decision that specifies:

- ◆ the reasons for the special exception (i.e., why a variance of the guidelines is needed);
- ◆ the alternative action or course of action to be followed;
- ◆ why the special exception is in the best public interest; and
- ◆ how the general intent of the guidelines and management unit will be met by the alternative course of action.

2. Where practical, the decision should be part of or circulated with a finding required by AS 38.05.035(e).
3. Before making the final decision, the commissioner will request comments and give public notice consistent with AS 38.04.065(b)(8) and 38.05.945 to affected local governments, state and federal agencies, adjacent landowners, and the general public. This notification will include the points described in 1. and may be combined with the public notice required by the applicable permitting procedure. If warranted by the degree of controversy, the commissioner may hold a public meeting before making a decision.

Minor Change. A minor change is not considered a revision under AS 38.04.065. A minor change is a change that does not modify or add to the guidelines basic intent, and that serves only to clarify the guidelines, make them consistent, facilitate their implementation, or make technical corrections. (11 AAC 55.030)

Minor changes are made at the discretion of the DNR Division of Land Southcentral Region Manager and do not require public review. Affected agencies will be notified and have an opportunity to comment; the comment period may be provided through existing inter-agency review processes for associated actions. The regional manager's decisions may be appealed to the director. The director's decision may be appealed to the commissioner.

Discretion Within Guidelines. Some guidelines, like those modified by the terms "feasible and prudent," "feasible," and "should" are written to allow for exceptions if the conditions described in the policy are met. See *Appendix A - Glossary* for the definitions of these terms. The procedures for allowing exceptions to these guidelines follow. Allowing exceptions following these procedures are neither revisions nor changes to the guidelines.

Guidelines Modified by "Feasible and Prudent" or "Feasible". Exceptions to guidelines modified by the phrase "feasible and prudent" or "feasible" (see *Appendix A - Glossary* for definitions) may be allowed after the steps outlined below have been taken.

1. The regional manager will prepare a written document that specifies:
 - ◆ the conditions that make compliance with the guideline not feasible or not feasible and prudent;
 - ◆ the alternative course of action to be followed; and
 - ◆ how the intent of the guidelines and management unit will be met by the alternative course of action.
2. Where practical, the decision should be part of or circulated with a finding required by AS 38.05.035(e).
3. Before making the final decision, the director will give notification required by the applicable permitting procedure and request comments on the proposed action. This notification will include the points described in 1.

Guidelines Modified by "should". Exception to guidelines modified by the word "should" can be made by the DNR Division of Land Southcentral Region manager, or the manager's designees. The guideline does, however, state an intent that should be met, using the best managerial practices for the given situation. These exceptions require a written justification in the administrative record. The justification should briefly outline how the action meets the intent of the guideline or why the particular circumstances justify deviation from the intended action or conditions.

Research

Information on forest management in the Susitna area is relatively limited. Additional research is necessary to tailor forest management to the soils, vegetation, fish and wildlife, and other resources of southcentral Alaska. The planning team identified the following particular concerns and strongly supports research on these topics.

Regeneration. Little information exists on reforestation that is specific to the Susitna Forestry Guidelines area. Grass competition, browsing, and wet soils can hinder both natural regeneration and planting. Additional research is needed on appropriate methods of site preparation and reforestation for the Susitna Forestry Guidelines area. Needed studies include:

- ◆ Effects of fertilization of scarified soil on forest regeneration.
- ◆ Effects of fertilization on seedling establishment and vegetative competition.
- ◆ Escapement of hardwood seedlings in moose browse areas.
- ◆ Post-harvest impacts of recreation and other public uses on forest regeneration.

Rotation Ages. Rotations based on site indices are tailored to individual site conditions. Estimates of appropriate rotations based on site indices should be developed when updated information for the Susitna valley is available from the USDA Soil Conservation Service. DOF should determine whether these rotations should replace existing rotations and recommend appropriate changes during the update of the SFG. (See Chapter 2 - Timber Sale Program and Timber Base, Rotation Length).

Forest Succession. Little information exists on forest succession in the Susitna valley. Information that would contribute to wise management of Susitna valley forests includes studies of forest succession patterns, and historic frequency of fire, windthrow, disease, and other disturbances.

Shoreline Management. The Forest Practices Act and Susitna Forestry Guidelines are intended to help protect streams and lakes and the fish, wildlife, recreation, and scenic resources associated with them. However, information of the effectiveness of existing shoreline management techniques in boreal forests is scarce, and very

little is specific to southcentral Alaska. Analysis of the effects of existing shoreline management techniques, and determination of the most appropriate techniques for the Susitna valley are high priorities for research.

Winter Roads. Little information on winter road construction exists for southcentral Alaska. Snow depths and soil temperatures vary significantly from conditions in the interior Alaska and North Slope areas of Alaska and Canada where most research has been conducted. Studies are needed on:

- ◆ Long-term impacts of winter roads in forested and muskeg regions of the Susitna Forestry Guidelines area,
- ◆ Appropriate standards for winter road construction in the Susitna Forestry Guidelines area including ground, snow, or frost conditions needed prior to construction, and
- ◆ Appropriate standards for ice bridge construction in the SFG area.

Experimental Forests & Natural Areas. There is no comprehensive inventory of candidate sites for experimental forests and research natural areas in the Susitna Forestry Guidelines area. The Susitna Area Plan update should coordinate with the Alaska Natural Heritage Program to review state lands for candidate sites.

Herbicides. A study of herbicide effects on fish and wildlife and habitat should be conducted prior to operational herbicide use in the SFG area. The study should cover:

- ◆ Direct adverse effects of herbicides on non-target fish and wildlife species, and a contingency plan for mitigating impacts on fish and wildlife,
- ◆ Effects of shrub competition on growth and survival of spruce and birch regeneration; identification of what amount and duration of competition suppresses tree growth,
- ◆ Effects of herbicides on riparian habitat; identification of the size of buffer needed to prevent contamination of aquatic habitats,
- ◆ Effects of herbicide on the amount of browse, and
- ◆ Persistence of herbicide residues in soil and methods for monitoring herbicide persistence.

Grazing. The team also supports the research on the impacts of grazing on timber and wildlife management recommended in Chapter 4 of the Kashwitna Management Plan.

Recommended Changes in Land Use Plans

General. The SFG resource reports, summary of resource information for individual units, and public comments will be provided to the Susitna and Willow Subbasin area plan update process as background information.

Land Disposals. The Susitna Area Plan (SAP) update should consider whether or not unsold lots in areas where the demand for personal use wood is likely to exceed supply should be kept in public ownership or the number of new lots offered for sale limited.

Recreation and Habitat. More specific management intent for areas designated for public recreation or fish and wildlife habitat is needed. Current intent statements are insufficient to resolve land use conflicts between recreation and habitat, and between these activities and other land uses. In determining management intent for recreation, the Susitna Area Plan update should consider the range of recreation opportunities described in *Appendix E - Recreation Opportunity Spectrum for the Susitna Forestry Guidelines Area*.

Eagles. The SAP update should review the literature on disturbance of eagle nesting sites and review existing guidelines to determine if changes are needed to protect eagle nesting sites from disturbances other than logging.

Research Natural Areas and Experimental Forests. The area plan update should consider establishment of research natural areas and experimental forests in the Susitna valley.

Trails. The area plan update should review the Susitna and Willow Subbasin area plan standards for trail corridor width and management of trail corridors. Unless differences are merited by public use or site characteristics, consistent standards should be developed for the two planning areas.

South Parks 2. This unit is a large heterogeneous area. The plan update should review the topography, vegetation, land uses, and other characteristics of this unit, determine appropriate subunit boundaries, and develop management intent for each subunit.

South Parks 11. The SAP update should reconsider the Forestry - co-primary designation on state lands in this subunit. The designation of forestry as a primary use does not reflect the resource values on state lands. Forest lands in this subunit are nearly all on borough lands. State forest lands in this subunit are not sufficient to support commercial sales.

South Parks 12a and 12b. During the update of the Susitna Area Plan, the planning team should review and reconsider the land use designations and legislative recommendations for subunits 12a and 12b. In most of subunits 12a and 12b, elevations are higher than 1000', timber resources are limited, and access is difficult.

South Parks 13b. The SAP update should consider establishing a ROW for this trail that would be limited to trail use only.

Petersville Road 1a. The SAP update should designate the recreation sites identified in Subunit 1a. The update should develop management intent to guide use of these parcels until recreation facilities for the sites are designed. The guidelines should minimize harvesting and other activities that could decrease the value for recreation development. The plan should also determine if harvesting is allowed on lands not necessary for the recreation site after site design is complete.

Susitna Lowlands. The SAP update should review access options in the Susitna Lowlands. If timber harvests occur, the SFG planning team recommends that the preferred route for timber access is a single corridor through the central part of subunit 11a. The route should not closely parallel either the Kahiltna River nor Kroto Creek, to minimize adverse impacts on these important recreational waterways. Access to Kroto Creek, Peters Creek, and the Kahiltna River should be by spurs, rather than access routes paralleling the riverbank.

Susitna Lowlands 9c and 12a. The SAP update should designate specific primary uses for the resource management lands in Susitna Lowlands subunits 9c and 12a. Changes in access and interest in active timber management on these lands and adjacent borough lands make these units inappropriate for continued resource management designations.

Susitna Lowlands 14a and 14e. The SAP update should consider adding the forested part of 14a to Subunit 14e. This is the land along the Susitna River in or south of T22N, R5W, Sections 34: S $\frac{1}{2}$ S $\frac{1}{2}$ and 35: S $\frac{1}{2}$ S $\frac{1}{2}$. The update should also determine if the appropriate designation for the remainder of 14a is to keep forestry as a secondary use, to specify that timber will be managed for personal use, or to drop forestry from the designated uses.

Willow 4b. The SAP update should reconsider the appropriate designation for the part of Subunit 4b north of Little Willow Creek. Current soils information indicates that this area may not merit an agriculture designation. Areas that are not proposed for agricultural sale in the other parts of the subunit should be considered for addition to Subunit 4a.

Willow 6 and 8a. The update should review the Willow Subbasin Area Plan guideline for harvesting along the Susitna River in these subunits. This guideline differs from the regionwide SFG guidelines for Shoreline Management Zones and Islands and Upwelling Areas (see *Chapter 2 - Rivers, Streams, and Lakes*). Unless differences are merited by site characteristics or public use, consistent standards should be established.

Willow 12d. The Willow Subbasin Area Plan update should reconsider the designations in this subunit. The Forestry - co-primary designation does not reflect the resource values. Timber resources in the unit can be made available for individual personal use permits, but are not large enough to support commercial sales or established personal use harvest areas.

Funding & Enforcement

Adequate staff for field research, timber sale and road design, monitoring, and enforcement are essential to implementation of the Susitna Forestry Guidelines. Current staff levels are inadequate for these tasks. The Susitna Forestry Guidelines recommend that additional funds be obtained and dedicated to staff for these activities.

The Susitna Forestry Guidelines recommend that the legislature give DNR authority to enforce timber trespass, activities that exceed those allowed in timber sale contracts, and other unauthorized uses of state forest lands.

Rights-of-way

Trails identified in the Susitna Forestry Guidelines should be recorded on status plats after the plan is completed.

APPENDICES

Appendix A- GLOSSARY

AAC. Alaska Administrative Code.

All-season road. A road constructed and intended to be used in all seasons of the year.

Amendment. An amendment permanently changes the guidelines by adding to or modifying the basic management intent for one or more subunits, or by changing allowed or prohibited activities, policies, or guidelines. For example, an amendment might close to clearcutting an area where this activity was previously allowed, allow a particular activity in an area where it was previously prohibited, or change the guidelines for the length of timber rotations.

Anadromous fish stream. Streams identified by DFG in the *Catalog of Anadromous Waters* are anadromous streams. AS 41.17.118(c) clarifies that in lieu of site-specific determinations that a stream does or does not contain anadromous fish, it should, for planning purposes, be presumed that a stream is anadromous if it is connected to anadromous waters without DFG-documented physical blockage and has a stream gradient of 8% or less. Where a previous site visit has not been made, DFG will, at the operator's request, conduct a field review to document the presence of anadromous fish. The field review will be scheduled when anadromous fish are likely to be present and the site is accessible.

Annual allowable cut. The average volume of timber that may be cut from a forest that will maintain a balance between net growth and harvest while meeting the management intent for the forest land.

AS. Alaska Statutes.

Board foot. A unit of measure for wood equal to a block of wood one-foot square and one inch thick (1" x 12" x 12").

Broadcast burning. The management technique of burning slash or other vegetation within an area for the purpose of enhancement of forest regeneration, fire hazard reduction, or habitat improvement.

Burn plan. A document including a fire prescription and an assessment of likely impacts to air quality, water quality, and other resources such as wildlife habitat and recreation. A burn plan also specifies measures for controlling the proposed burn.

Clearcuts. Cuts where all trees are harvested within a cutting unit, and where the cutting unit is five acres or greater in size.

Closed forests. Forest lands on which trees cover more than 50% of the surface area.

Codominant trees. Trees with crowns which form the general level of the forest canopy and receive full light from above but relatively little from the sides.

Commercial use wood. Wood harvested for sale, barter, or other commercial purposes. This includes wood used to construct lodges and other commercial facilities, or to heat these facilities during the period of commercial operation.

Commissioner. The Commissioner of the Department of Natural Resources, unless otherwise specified.

Conditional area. Area where timber harvesting is allowed as long as special guidelines (conditions) are met. Meeting these conditions may reduce the amount of timber available for harvesting. For example, a shoreline management zone allows timber harvesting if special guidelines for this zone are met.

Consultation. Processes followed by the Department of Natural Resources under existing statutes, regulations and procedures to inform other groups of the intention to take some action, and seek their advice or assistance in deciding what to do. Consultation is not intended to be binding on a decision. It is a means of informing affected organizations and individuals about forthcoming decisions and getting the benefit of their expertise. DNR replies to parties offering advice or assistance by sending them the decision and the reasons for which the decision was made, or by notifying them that the decision and findings are available for review.

Co-primary use. Designation where more than one use is a primary use. Wildlife Habitat and Public Recreation are also primary uses on lands where Forestry is designated a primary use. On these lands Wildlife Habitat, Public Recreation, and Forestry are co-primary uses. Co-primary uses must be managed to be compatible with each other.

Co-primary uses have equal status: no co-primary use is more important than the others.

Cover habitat. Cover habitat includes hiding cover, snow interception cover, and thermal cover. See the individual definitions of these terms.

Critical protection area or sites. The highest level of wildfire suppression. This designation is used for areas and sites where fire presents a real and immediate threat to human safety and designated physical developments. Fires burning in these areas will be immediately and aggressively suppressed.

Cutting unit. An area within a timber sale from which trees are actually removed. (See *Chapter 2 - Figure 1.*)

DEC. Department of Environmental Conservation.

Decking. The piling of logs.

Designated personal use area. See Personal use.

Designated use. The land use(s) identified by designations (see following definition) in a land use plan. Designated uses include primary, co-primary, and secondary uses. Forestry is one of the designated uses on lands with the following designations: Forestry - co-primary, Forestry - secondary, Forestry - personal use (this may be either a primary or secondary use), and Resource Management.

Designation. A category of land allocation determined by a land use plan. Designations identify the primary and secondary uses for state lands. Designations where forestry is allowed include land where Forestry is designated a primary use (Forestry - co-primary) or a secondary use (Forestry - secondary), and land designated Resource Management. Forestry - co-primary or Forestry - secondary designations may specify that timber harvest is allowed only for personal use. These areas are shown on the map as Forestry - personal use designations.

DFG. Alaska Department of Fish and Game.

DNR. Alaska Department of Natural Resources.

DOF. Alaska Department of Natural Resources, Division of Forestry.

DPOR. Alaska Department of Natural Resources, Division of Parks and Outdoor Recreation.

DOT/PF. Alaska Department of Transportation and Public Facilities.

Due deference. That deference which is appropriate in the context of the commenter's expertise and area of responsibility, and all the evidence available to support any factual assertions. Where due deference is given, if the commissioner does not agree with a commenting agency, the commissioner shall prepare a written statement of the reasons for the disagreement. (AS 41.17.098)

Eagle nesting sites. Nesting sites mapped by USFWS from their bald eagle surveys and shown on the map "Bald Eagle Nesting Sites" accompanying these guidelines. Sites can be added to or deleted from the map based on new information from USFWS eagle surveys or inspection of specific sites. Additions or deletions will be made by DNR in concurrence with DFG and USFWS. Changes to the map will be based on physical characteristics for nesting and evidence of use.

Experimental forest. Forest land retained for forest research that involves site manipulation or long-term observation (e.g., timber management research, habitat enhancement research).

Feasible. Capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, technical, and safety factors. (11 AAC 95.900)

Feasible and prudent. Consistent with sound engineering practice and not causing environmental, social or economic problems that outweigh the public benefit to be derived from compliance with the guideline. (6 AAC 80.900)

Fire prescription. A document stating the objectives of a proposed burn (for example, the amount of slash to be removed and the intensity of the burn), and identifies the weather conditions needed to meet the objectives.

Forestry. Any activity or structure for the harvest or management of timber resources.

Forestry - co-primary. Land where forestry is one of the designated primary uses. Timber harvest for commercial and personal use is allowed consistent with the Susitna Forestry Guidelines and the management intent and guidelines from the land use plan for the affected area.

Forestry - personal use. Land where timber harvest is a primary or secondary use, but is allowed only for personal use.

Forestry - secondary. Land where forestry is one of the designated secondary uses. Timber harvest for commercial and personal use is allowed when consistent with the management intent for the primary uses. Harvesting must also be consistent with the Susitna Forestry Guidelines and guidelines from the land use plan for the affected area.

Full protection area. The second highest category of wildfire suppression. Fires in this category will be controlled through immediate and aggressive suppression.

Goal. A statement of basic intent or of a general condition desired in the long term. Goals usually are not quantifiable nor do they have specified dates for achievement.

Group selection cuts. Cuts where all trees are harvested within a cutting unit, and where the cutting unit is less than five acres in size. (See diagram on last page.)

Guideline. A specific course of action that must be followed when a resource manager permits, leases, or otherwise authorizes use of state lands. Some guidelines state the intent that must be followed and allow flexibility in achieving it. Guidelines range from giving general guidance for decision-making or identifying factors to consider, to setting detailed standards for on-the-ground decisions.

Harvest unit. One or more cutting units plus the uncut areas between them. The total area of cutting units within a harvest unit is generally 5-50 acres. Unless otherwise specified for a particular sale, harvest units will be separated by a buffer of at least 330 feet.

Hiding cover. Hiding cover is vegetation capable of hiding 90% of a standing adult moose from the view of a human at a distance of 200 feet. Generally, hiding cover is provided by vegetation that is at least 13 to 20 feet high.

High site. Forest lands with open mixed forest, closed mixed forest, open cottonwood, closed cottonwood, or closed white spruce cover. See definitions of open forest and closed forest.

Ice bridge. A bridge of ice across a lake, river, or stream, either natural or constructed to a specified thickness to safely accommodate specified vehicle loads.

Identified trumpeter swan nesting sites. Nesting sites mapped by USFWS in their 1975, 1980, and 1985 swan surveys and shown on the map "Trumpeter Swan Nesting Sites" accompanying this guidelines. Sites can be added to or deleted from the map based on new information from USFWS swan surveys or inspection of specific sites. Additions or deletions will be made by DNR in concurrence with DFG and USFWS. Changes to the map will be based on physical characteristics for nesting, evidence of use for nesting within the prior 20 years, and presence or absence of human disturbance.

Landing. A cleared area in the woods to which logs are yarded for loading onto trucks for shipment to a processing plant.

Land use designations. See "Designation".

Land use plan. A plan developed and adopted under AS 38.04.065 that determines management intent, designations, and guidelines for state land. Land use plans in the SFG area include the Susitna Area Plan, Willow Subbasin Area Plan, Kashwitna Management Plan, Fish Creek Management Plan, Deception Creek Land Use Plan, and Susitna Basin Recreation Rivers Management Plan.

Large woody debris. Any large piece of relatively stable woody material having a least diameter of greater than 10 cm (4") and a length greater than 1m (3.3ft) that intrudes into the stream channel.

Legislatively designated area. An area established by an act of the legislature for special management. Legislatively designated areas in the SFG vicinity include: Susitna Basin State Recreation Rivers (five river corridors), Susitna Flats State Game Refuge, and Willow Creek State Recreation Area.

Limited action area. The lowest level of wildfire suppression. Fires in limited action areas will be allowed to burn with the exception of necessary action to prevent undesirable escape from the area. Critical sites within such areas will receive specific protection.

Low site. Forest lands with open white spruce, open black spruce, or closed black spruce cover. See definitions of open forest and closed forest.

Mainline road. A permanent, year-round road built to provide access to continuing harvest operations and identified by DOF as a mainline road at the time the road is designed.

Management intent statement. The statements that define the department's near- and long-term management objectives and the methods to achieve those objectives.

Minor change. A change that does not modify or add to the guidelines basic intent, and that serves only to clarify the guidelines, make them consistent, facilitate their implementation, or make technical corrections. A minor change is not considered a revision to the guidelines.

Modified action area. The third highest category of wildfire suppression. Fires will be contained unless otherwise directed by the land manager or owner upon completion of an annual evaluation.

Multiple use. The term "multiple use" as defined in the Alaska Forest Resources and Practices Act (AS 41.17.950) means:

1. The management of all the various resources of forest land so that they are used in the combination that will best meet the needs of the citizens of Alaska, making the most judicious use of the land for some or all of these resources or related values, benefits, and services over areas large enough to provide sufficient latitude for periodic adjustment in use to conform to changing needs and conditions;
2. That some land will be used for less than all of the resources; and
3. Harmonious and coordinated management of the various resources, each with the other, without significant impairment of the productivity of the land and water, with consideration being given to the relative values of the various resources, and not necessarily the combination of uses that will give the greatest dollar return or the greatest unit output.

Multiple use road. A road constructed and intended to be used for more than one use, such as timber harvest, recreation, hunting access, and mining.

Off-highway vehicle. A vehicle designed or adapted for cross-country operation over unimproved terrain, ice, or snow, and which has been determined by the Department of Transportation and Public Facilities to be unsuitable for general highway use. (13 AAC 40.010)

Off-road vehicle. Same as off-highway vehicle.

Open forest. Forest land on which trees cover 10-50% of the surface area.

Personal use (timber harvest). Timber harvest for use by the harvester. Wood harvested for personal use may not be sold, bartered, or used for commercial purposes (11 AAC 71.050). Personal use wood may not be used to build lodges or other commercial facilities or to heat these facilities during the period of commercial operation. Harvest of wood for personal use is authorized in personal use harvest areas designated by the Division of Forestry through the Five-Year Schedule of Timber Sales or in remote areas under individual permits for personal use. Designated personal use areas are located near road access and are open for multiple personal use permits. (See also *Forestry-Personal Use* in this appendix.)

Pesticide. Any chemical or biological agent intended for use as an insecticide, herbicide, rodenticide, fungicide, or other biocide. (18 AAC 90.060(9))

Phase (area). One of three regions of the Susitna Forestry Guidelines area that determines the timing of timber management and development of access to timber on state land. See p.7 for a description of the three phases.

Policy. An intended course of action or a principle for guiding actions. DNR policies for land and resource management given in these guidelines include goals, management intent statements, management guidelines, and use designations, implementation plans and procedures, and various other statements of DNR's intentions.

Primary road. A permanent road which provides access to within at least five miles of the management site. It is built to accommodate two way traffic at moderate speeds.

Primary use. A designated, allowed use of major importance in a particular management unit. Resources in the unit will be managed to encourage, develop or protect this use. Where a management unit has two or more designated primary uses, the management intent statement and guidelines for the unit - together with existing regulations and procedures - will direct how resources are managed to avoid or minimize conflict between these primary uses.

Prohibited area. An area where timber harvesting is not allowed.

Prohibited Use. A use not allowed in a management unit because of conflicts with management intent, designated primary or secondary uses, or management guidelines. Uses not specifically prohibited nor designated as primary or secondary uses in a management unit are allowed if compatible with primary and secondary uses, the management intent statements for the unit, and the plan's guidelines.

Put-to-bed. A process to stabilize and terminate the use of a logging road, trail, or other means of access by highway vehicles. Roadbeds may be scarified to encourage revegetation; culverts, bridges, etc., may be removed; scarification is done; final grading is done to prevent erosion; water bars may be constructed, barricades may be erected, and in some cases the surface is seeded to reduce erosion.

Recreation. In the SFG, recreation includes the range of opportunities and settings described in *Appendix E - Recreation Opportunity Spectrum for the Susitna Forestry Guidelines Area*.

Remote cabin. Cabin constructed under a permit issued through the Remote Cabin Permit program authorized in AS 38.05.079 and further described in 11 AAC 67.700-.790.

Research natural area. Ecologically representative or unique sites maintained in a natural state for education, long-term observation research, and environmental monitoring.

Resource management. Resource management areas are designated by land use plans. This designation is used when land has all four of the following characteristics: 1) significant existing or potential value for more than one land use when the potential uses are not compatible and one or more of the potential uses requires land disposal (i.e., settlement or agriculture); 2) inadequate existing information to establish the highest values of the land for the long term; 3) no existing road access, nor likelihood of access being developed in the next five to ten years. Accessible lands are defined as those within five miles of roads that can be traveled by 4-wheel drive vehicles; and 4) resource development (e.g., farm development, timber harvests, habitat enhancement) is unlikely in the next five to ten years. Land under a resource management designation will be available for public use in the near term, provided that the uses are not detrimental to the potential long term uses identified when the designation was established. For example, timber may be harvested from potential

agricultural areas designated resource management as long as the agricultural potential is not diminished. Resource management designations will be reevaluated when land use plans are reviewed or when conditions affecting the potential use of the area change, for example, when road access is improved or when better information is available on the benefits and costs of a possible use.

Rotation. The period of years required to establish and grow timber to a specified condition of maturity.

Salvage cutting. A harvest of trees killed or injured to recover as much useable wood as possible prior to deterioration and decomposition.

Scarification. Mechanical process of exposing mineral soil on the forest floor in order to enhance the establishment and development of a new forest crop.

Seasonal wildlife concentration area. Area in which the density of animals of a given species exceeds the density of that species in the surrounding area and is necessary to the perpetuation of the population.

Secondary road. A road constructed and maintained to standards sufficient for timber transportation that provides access to harvest areas. Secondary roads connect spur roads to primary roads.

Secondary use. A designated, allowed use considered important but intended to receive less emphasis than a primary use because it (a) has less potential than a primary use or contributes less to achieving the management intent of the unit than a primary use or, (b) occurs only on limited sites. In those very site-specific situations where a secondary use has higher value than a primary use, the secondary use may take precedence over the primary use but only for a limited area of the management unit. Management for a secondary use will recognize and protect primary uses through application of guidelines, regulations, and procedures. However, if a secondary use can not take place without detrimentally affecting a primary use in the management unit as a whole, the secondary use will not be allowed. If more than one secondary use is identified in a subunit, the uses are co-secondary. Co-secondary uses must be managed to be compatible with each other. Co-secondary uses have equal status: no co-secondary use is more important than the others.

Seed tree harvesting. A harvesting system in which most trees are removed from a stand and openings are created. Openings are similar in size to clear-cuts but about 5-10 of the best mature trees are left standing on each acre to provide a good seed source for forest regeneration.

Selective harvesting. Removal of mature timber, usually the oldest or largest trees, either as single scattered trees or in small groups at relatively short intervals, commonly 5 to 20 years, repeated indefinitely, by means of which the continuous establishment of natural reproduction is encouraged and an uneven-aged stand is maintained. Selective harvesting includes both single-tree selection and group selection harvesting.

Settlement. A designation used where state land has been sold for private use or is proposed for sale. Personal use forestry is allowed as a secondary use in areas in the SFG designated for settlement.

Shall. Requiring a course of action or a set of conditions to be achieved. A guideline modified by the word "shall" is required to be followed by resource managers or users. If a guideline constrained by the term "shall" is not complied with, a written decision justifying the variation is required (see *Chapter 3 - Procedures for Guideline Modification*).

Shelterwood. A timber harvesting system in which a series of two or more cuttings are used to ensure regeneration while keeping some cover on the site at all times. Cuttings may be in strips, blocks, or dispersed throughout the harvest area.

Shoreline management zone. Land between 100 feet and 300 feet from anadromous or high value resident fish waterbodies (AS 41.17.118(a)(2)) and land between 100 feet and 300 feet from lakes. See also *Chapter 2 - Rivers, Streams, and Lakes - Shoreline Management Zones*.

Should. Stating intent for a course of action or a set of conditions to be achieved. A guideline modified by the word "should" states the intent of the guideline and allows a resource manager to use judgment and discretion in deciding either (a) the specific means for best achieving the intent or (b) whether particular circumstances justify deviation from the intended action or set of conditions. A guideline may include criteria for deciding whether such a deviation is justified.

Silviculture. The theory and practice of controlling forest establishment, composition, and growth.

Single-tree selection. A harvesting system in which harvested trees are selected on the basis of the characteristics of individual trees, such as size, form, and health. Stands managed by single-tree selection have trees of many ages and sizes. Openings in stands managed by single-tree selection are small, usually created by harvesting an individual tree or a few adjacent trees. (See also *Chapter 3 - Harvesting Systems, Single-tree Selection*.)

Site preparation. Any activity to prepare for reforestation land where timber harvest has occurred. Site preparation includes scarification to prepare a seedbed for natural or artificial seeding and activities to prepare a harvested area for tree planting.

Skid. To pull logs from the stump to the skidroad and landing.

Slash. Debris left after logging; also, large accumulations of debris after wind or fire. It includes logs, chunks, bark, branches, stumps, and broken understory or brush.

Snags. Dead standing trees or portions thereof.

Snow interception cover. Snow interception cover is vegetation that reduces snow depths on the ground. Shallower snow reduces the energy needed for wildlife movement. In southcentral Alaska, stands with 70% coniferous trees with a mean height of 35 feet provide optimal snow interception cover. Forest stands with lower proportions of coniferous trees offer proportionally less snow interception cover.

Sound cull. A tree that because of rot, curves, or other defects is not suitable for lumber but can be used for pulp and fiber.

Special exception. A special exception does not permanently change the provisions of the guidelines. Instead, it allows a one-time, limited-purpose variance of the guidelines, without changing their general intent. For example, a special exception might be used to allow a specific harvest in a habitat buffer closed to harvesting if DFG requested the harvest to benefit wildlife habitat.

Spur road. A road constructed for access within a timber sale. These roads are generally temporary roads less than one mile in length. Spur roads connect the cutting units to secondary (or occasionally primary) roads.

State land. All land, including uplands, tidelands, and submerged lands, or resources belonging to or acquired by the State. State patented, tentatively approved, and state selected lands are included in this definition.

Subunit. Areas of land that are generally homogeneous with respect to resources, topography, and land ownership, and designated uses. Subunit boundaries are determined by land use plans and shown on the map in the back pocket of the SFG.

Sustained yield. AS 38.04.910 (11) defines multiple use for state land managed by DNR as *"The achievement and maintenance in perpetuity of a high level annual or regular periodic output of the various renewable resources of the state land consistent with multiple use."* AS 41.17.950(15) is specific to forest land and adds that sustained yield *"does not require that timber be harvested in a non-declining basis over a rotation period."*

Thermal cover. Thermal cover is vegetation that moderates adverse climatic conditions by providing summer shade and trapping radiant energy in the winter. In southcentral Alaska, stands with 70% coniferous trees with a mean height of 35 feet provide optimal thermal cover. Forest stands with lower proportions of coniferous trees offer proportionally less thermal cover.

Timber base. The amount of forested land where forestry is an allowed use, and the volume of timber supported by that land. The gross timber base includes all forested state land where forestry is a co-primary or secondary use and land designated resource management. The net timber base is the gross timber base minus prohibited areas.

Timber sale. One or more harvest units offered for sale for commercial use under a single contract under AS 38.05.110 - .120 and described in a Forest Land Use Plan.

Trumpeter swan staging areas. Areas traditionally used by flocks of trumpeter swans, usually estuaries and tide flats, for feeding and resting during fall or spring migration.

USDA. United States Department of Agriculture.

Will. Used interchangeably with and meaning the same as "shall" (see above).

Wetlands. Wetlands include both freshwater and saltwater wetlands. Freshwater wetlands means those environments characterized by rooted vegetation which is partially submerged either continuously or periodically by surface freshwater with less than .5 parts per thousand salt content and not exceeding three meters in depth; saltwater wetlands means those coastal areas along sheltered shorelines characterized by halophilic hydrophytes and macro-algae extending from extreme low tide to an area above extreme high tide which is influenced by sea spray or tidally-influenced water table changes. (6 AAC 80.900). *Class I wetlands* are wetlands larger than 100 acres and all wetlands with a locatable stream outlet. *Class II wetlands* are wetlands between 40 and 100 acres with no outlet. *Class III wetlands* are wetlands less 40 acres with no outlet.

Wildlife concentration area. An area in which the density of animals exceeds the density of the species in the surrounding area and which is necessary to perpetuate the population.

Winter road. A road constructed and intended for winter use only when the ground is frozen and snow depth is greater than a specified minimum.

Yarding. The process of pulling or skidding logs to a centralized point or landing where they are piled prior to loading or hauling away.

Years 1 - 5. In the Five-Year Schedule of Timber Sales, Year 5 is the current year, the year sales are offered for purchase. Year 1 is the first year proposed sales can be on the schedule, it is four years prior to the proposed sale date.

Appendix B- **CITIZENS' ADVISORY COMMITTEE PARTICIPATING ORGANIZATIONS**

Alaska Air Carriers Association

Alaska Airman's Association

Alaska Board of Forestry

Alaska Boating Association

Alaska Center for the Environment

**Alaska Center for the Environment,
Valley Office**

Alaska Forest Association

Alaska Flyfishers

Alaska Frontier Trappers Association

Alaska Hotel and Motel Association

Alaska Husky Wood

Alaska Loggers' Association

Alaska Miners' Association

Alaska Outdoor Council

Alaska Professional Sportfishing Association

Alaska Sportfishing Association

Alaska Survival

Alaska Visitors Association

Big Lake Chamber of Commerce

Board of Forestry

Chase Area

Chase Community Council

City of Houston

City of Palmer

City of Wasilla

Coalition for Boreal Forest Development

Cook Inlet Coalition

Cook Inlet Region, Inc.

Cook Inlet Regional Planning Team

Fish and Game Advisory Council

Flathorn Lake Association

Forest Alliance

Greater Wasilla Chamber of Commerce

**Iditarod Trail National Historic Trail
Advisory Committee**

Kenai Peninsula Fishermen's Association

Kerr and Associates

Klukwan Forest Products, Inc.

Koncor, Inc.

Matanuska-Susitna Borough, Assembly

Matanuska-Susitna Borough, Mayor's Office

**Matanuska-Susitna Convention
and Visitors Bureau**

Matanuska-Susitna Port Commission

Matanuska Valley Sportsmen

Mat-Su Economic Development Corporation

Mat-Su Loggers Association

Mat-Su Motor Mushers

Mat-Su Property Owners Association

Mat-Su Valley Alliance

**Municipality of Anchorage, Department
of Development and Planning**

**National Audubon Society,
Alaska Regional Office**

**National Wildlife Federation,
Alaska Regional Office**

Palmer Chamber of Commerce

Resource Development Council

Riversong Lodge

Rolejo Lake Association

Sealaska Corporation

Sierra Club, Alaska Chapter

Skwentna Community Association

**Society of American Foresters,
Cook Inlet Chapter**

**Southcentral Regional Council of Fish
and Game Advisory Committees**

Southeast Alaska Conservation Council

Steve Jacoby and Associates

Susitna Basin Charter Operators

Susitna Valley Association

Susitna Valley Association, Talkeetna Chapter

Susitna Valley Association, Wasilla Chapter

Susitna Valley Lodge Operator's Association

**Susitna Valley State Park Citizens'
Advisory Board**

Talkeetna Chamber of Commerce

The Nature Conservancy

Tokosha Citizens' Council

Tyonek Native Corporation

Upper Cook Inlet Drift Association

**Upper Susitna Soil and Water
Conservation District**

Wasilla Soil and Water Conservation District

Wildlife Federation of Alaska

Willow Area Community Council

Willow Chamber of Commerce

World Trade Center Anchorage

Y Community Council

Yen-Su Property Owners Association

Appendix C-1

GROSS TIMBER ACREAGE BY SUBUNIT

The estimated gross acreages in each subunit where forestry is one of the designated uses are listed below. This information is based on the timber inventory done by the US Forest Service, US Soil and Conservation Service, and Alaska Department of Natural Resources in 1978-80¹. High site forests are mixed forests, cottonwood forests, and closed white spruce forests. Low site forests are black spruce forests and open white spruce forests.

These tables also list estimates of the acreage in areas where harvesting is prohibited and in conditional harvest areas in each working circle. See also *Chapter 2 - Forest Management Program* for a description of these areas.

PHASE 1 - EAST SIDE

	AREA (acres)		TOTAL
	High Sites	Low Sites	
Forestry Co-primary			
Deception Creek 3a	1,770	1,580	3,350
Deception Creek 3b	1,380	1,080	2,460
Deception Creek 4	230	290	520
Deception Creek 5a	3,590	2,480	6,070
Deception Creek 5b	1,930	910	2,840
Deception Creek 6	350	360	710
Deception Creek 7a	1,640	390	2,030
Deception Creek 7b	2,420	730	3,150
 Kashwitna 1a	 4,060	 2,610	 6,670
Kashwitna 1b	9,710	6,050	15,760
 Willow 6	 9,750	 460	 10,210
Willow 12d	180	1,490	1,670
 South Parks Highway 2	 13,790	 150	 13,940
South Parks Highway 11	610	-0-	610
South Parks Highway 12a	6,440	4,470	10,910
South Parks Highway 12b	6,990	2,980	9,970

¹ For information on the inventory methodology, see USDA Soil Conservation Service. 1986. Timber & Vegetation Resources of the Susitna River Basin - Alaska Report. Anchorage, AK 49 pp.+ appendices.

PHASE 1 - EAST SIDE, *cont.*

	AREA (acres)		TOTAL
	High Sites	Low Sites	
Forestry Co-primary (cont.)			
Petersville Road 1a (east)	11,100	260	11,360
Petersville Road 6d	-0-	-0-	-0-
Petersville Road 7d	170	-0-	170
<i>Subtotal</i>	76,110	26,290	102,400
Forestry Secondary			
South Parks Highway 9c	780	-0-	780
South Parks Highway 14b	850	380	1,230
Willow 4a	4,060	1,230	5,290
Petersville Road 3a	570	<10	570
Petersville Road 3g	100	-0-	100
Petersville Road 6c	2,170	400	2,570
Petersville Road 7c	1,960	80	2,040
<i>Subtotal</i>	10,490	2,090	12,580
Personal Use			
South Parks Highway 4a	1,360	40	1,400
South Parks Highway 4f	4,200	220	4,420
South Parks Highway 4g	580	80	660
South Parks Highway 10b	660	560	1,220
Petersville Road 2b	2,940	20	2,960
<i>Subtotal</i>	9,740	920	10,660
PHASE 1 - EAST SIDE: TOTAL	96,340	29,300	125,640
PHASE 1 - EAST SIDE: NET	75,430-	22,050-	97,480-
<i>(excludes prohibited areas)</i>	81,990	24,070	106,060
Prohibited Areas	14,350- 20,910	5,230- 7,250	19,580- 28,160
Conditional Areas	15,160- 25,030	2,990- 5,750	18,150- 30,780

PHASE 1 - MT. SUSITNA

	AREA (acres)		TOTAL
	High Sites	Low Sites	
Forestry Co-primary			
Mount Susitna 2b	5,420	70	5,490
Mount Susitna 2c (west)	14,720	240	14,960
Subtotal	20,140	310	20,450
Personal Use			
Mount Susitna 4a (west)	60	-0-	60
PHASE 1- MT. SUSITNA: TOTAL	20,200	310	20,510
PHASE 1- MT. SUSITNA: NET <i>(excludes prohibited areas)</i>	18,680- 19,110	290	18,970- 19,400
Prohibited Areas	1,090- 1,520	20	1,110- 1,540
Conditional Areas	3,070- 4,750	10-40	3,080- 4,790

PHASE 2

	AREA (acres)		TOTAL
	High Sites	Low Sites	
Forestry Co-primary			
Willow 8a	7,820	3,090	10,910
Susitna Lowlands 11a	31,270	10,190	41,460
Susitna Lowlands 12b	8,910	3,220	12,130
Susitna Lowlands 14e	5,780	250	6,030
Petersville Road 1a (west)	15,010	3,700	18,710
<i>Subtotal</i>	68,790	20,450	89,240
Forestry Secondary			
Susitna Lowlands 9a	3,420	1,920	5,340
Susitna Lowlands 11c	620	<10	620
Susitna Lowlands 11f	610	40	650
Susitna Lowlands 14a	9,600	12,490	22,090
<i>Subtotal</i>	14,250	14,450	28,700
Resource Management			
Susitna Lowlands 9c	6,230	2,970	9,200
Susitna Lowlands 12a	12,960	2,480	15,440
<i>Subtotal</i>	19,190	5,450	24,640
PHASE 2: TOTAL	102,230	40,350	142,580
PHASE 2: NET	93,080-	37,170-	131,040-
<i>(excludes prohibited areas)</i>	96,870	38,870	135,750
<i>Prohibited Areas</i>	5,350- 8,360	1,480- 3,180	6,830- 11,540
<i>Conditional Areas</i>	9,480- 20,900	2,340- 6,750	11,820- 27,650

PHASE 3

	AREA (acres)		
	High Sites	Low Sites	TOTAL
Forestry Co-primary			
Susitna Lowlands 3a ²	3,040	30	3,070
Susitna Lowlands 5a	3,430	30	3,460
Susitna Lowlands 5f	7,410	1,250	8,660
Susitna Lowlands 6e	4,720	3,860	8,580
Susitna Lowlands 7a	22,630	1,140	23,770
Susitna Lowlands 13b	2,530	580	3,110
Mount Susitna 2c (east)	9,930	2,430	12,360
Mount Susitna 3f	90	<10	90
Alaska Range 1b	3	-	-
Subtotal	53,780	9,320	63,100
Forestry Secondary			
Sunflower Basin 6a	3,160	1,580	4,740
Sunflower Basin 6c	1,440	830	2,270
Susitna Lowlands 1a and 1b	32,500	8,110	40,610
Susitna Lowlands 2a ²	34,740	2,590	37,330
Susitna Lowlands 2d	940	50	990
Susitna Lowlands 3c ²	370	-0-	370
Susitna Lowlands 6a	12,430	2,780	15,210
Susitna Lowlands 13d	10,320	2,060	12,380
Susitna Lowlands 13e	2,220	160	2,380
Mount Susitna 5a	2,660	-0-	2,660
Subtotal	100,780	18,160	118,940

² The acreages listed in this subunit do not include the western part of this subunit. The western part is outside the area where detailed maps (1:63,360 scale) of vegetation are available. The existing inventory in the western part of the subunit is inadequate for estimating acreage and volume.

³ This subunit is outside the area for which detailed vegetation maps (1:63,360 scale) are available. Existing information is inadequate to estimate the timber acreage and volume in this subunit.

PHASE 3, *cont.*

	AREA (acres)		TOTAL
	High Sites	Low Sites	
Resource Management			
Susitna Lowlands 2f	3,710	250	3,960
Susitna Lowlands 5b	400	0	400
Susitna Lowlands 6b	7,130	1,390	8,520
Susitna Lowlands 8b	13,660	3,320	16,980
Mount Susitna 3c	770	-0-	770
Mount Susitna 4d	11,110	580	11,690
Mount Susitna 6c	4	-	-
<i>Subtotal</i>	<i>36,780</i>	<i>5,540</i>	<i>42,320</i>
Personal Use			
Susitna Lowlands 4b	11,310	1,090	12,400
Mount Susitna 4a (east)	1,160	-0-	1,160
<i>Subtotal</i>	<i>12,470</i>	<i>1,090</i>	<i>13,560</i>
PHASE 3: TOTAL	203,810	34,110	237,920
PHASE 3: NET	186,710-	31,610-	218,320-
<i>(excludes prohibited areas)</i>	197,380	33,340	230,720
<i>Prohibited Areas</i>	6,430- 17,100	770- 2,500	7,200- 19,600
<i>Conditional Areas</i>	9,500- 31,460	1,540- 5,320	11,040- 36,780

⁴ This subunit is outside the area for which detailed vegetation maps (1:63,360 scale) are available.
Existing information is inadequate to estimate the timber acreage and volume in this subunit.

GROSS TOTAL FOR STATE LANDS DESIGNATED FOR FORESTRY*(Forestry co-primary use, secondary use, resource management, reserved use, or personal use)*

	High Sites	Low Sites	TOTAL
	422,580	104,070	526,650
ESTIMATED NET TOTAL	374,690	91,120-	465,810-
<i>(excludes prohibited areas)</i>	395,360	96,570	491,930
Total prohibited areas	27,220-	7,500-	34,720-
	47,890	12,950	60,840
Total conditional areas	37,210-	6,880-	44,090-
	82,140	17,860	100,000

STATE LANDS NOT DESIGNATED FOR FORESTRY*(Settlement lands, Agriculture lands, Legislatively Designated areas, and other state lands)*

339,140	83,030	422,170
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BOROUGH LANDS*(Matanuska-Susitna Borough and Kenai Peninsula Borough lands)*

105,250	10,270	115,520
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PRIVATE LANDS*(Native corporation lands, other private lands, university lands, and railroad grant lands)*

79,270	12,610	91,880
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Appendix C-2

GROSS TIMBER VOLUME BY SUBUNIT

The estimated gross volumes in each subunit where forestry is one of the designated uses are listed below. This information is based on the timber inventory done by the US Forest Service, US Soil and Conservation Service, and Alaska Department of Natural Resources in 1978-80.¹ High site forests are mixed forests, cottonwood forests, and closed white spruce forests. Low site forests are black spruce forests and open white spruce forests. Approximately 98% of the volume for the "birch and aspen" category is birch.

PHASE 1 - EAST SIDE

	VOLUME (Thousand cubic feet)			VOLUME (Thousand cubic feet)		
	Spruce ²	Birch & Aspen	Cottonwood	High site	Low site	TOTAL
Forestry Co-primary						
Deception Creek 3a	930	1,150	20	1,500	600	2,100
Deception Creek 3b	630	930	10	1,240	330	1,570
Deception Creek 4	130	160	<10	210	90	290
Deception Creek 5a	1,590	2,430	40	3,270	780	4,060
Deception Creek 5b	720	1,330	20	1,790	280	2,070
Deception Creek 6	180	240	<10	320	110	420
Deception Creek 7a	490	950	20	1,310	140	1,460
Deception Creek 7b	800	1,640	20	2,220	250	2,460
 Kashwitna 1a	 2,630	 2,700	 30	 3,810	 1,540	 5,360
Kashwitna 1b	3,410	4,240	190	6,350	1,480	7,840
 Willow 6	 1,190	 480	 17,310	 18,840	 140	 18,980
Willow 12d	450	160	<10	170	450	610
 South Parks Highway 2	 3,260	 4,950	 11,230	 19,360	 70	 19,440
South Parks Highway 11	160	360	<10	520	-0-	520
South Parks Highway 12a	3,970	4,080	40	6,630	1,450	8,090
South Parks Highway 12b	3,530	3,540	60	6,220	900	7,130
 Petersville Road 1a (east)	 4,800	 6,990	 -0-	 11,660	 130	 11,790
Petersville Road 6d	-0-	-0-	-0-	-0-	-0-	-0-
Petersville Road 7d	60	120	<10	180	-0-	180
 Subtotal	 28,930	 36,450	 28,990	 85,600	 8,740	 94,370

¹ For information on the inventory methodology, see USDA Soil Conservation Service. 1986. Timber and Vegetation Resources of the Susitna River Basin - Alaska Report. Anchorage, AK 49 pp. + appendices.

² Includes white spruce and black spruce.

PHASE 1 - EAST SIDE, *cont.*

	VOLUME (Thousand cubic feet)			VOLUME (Thousand cubic feet)		
	Spruce	Birch & Aspen	Cottonwood	High site	Low site	TOTAL
Forestry Secondary						
South Parks Highway 9c	290	540	<10	840	-0-	830
South Parks Highway 14b	220	330	780	1,200	130	1,330
Willow 4a	1,440	1,500	100	2,550	490	3,040
Petersville Road 3a	320	250	<10	570	<10	570
Petersville Road 3g	40	70	<10	110	-0-	110
Petersville Road 6c	910	1,500	10	2,300	120	2,420
Petersville Road 7c	750	1,370	10	2,100	30	2,130
<i>Subtotal</i>	<i>3,970</i>	<i>5,560</i>	<i>900</i>	<i>9,670</i>	<i>770</i>	<i>10,430</i>
Personal Use						
South Parks Highway 4a	510	950	<10	1,460	10	1,460
South Parks Highway 4f	1,200	2,570	30	3,770	30	3,800
South Parks Highway 4g	140	330	10	480	10	480
South Parks Highway 10b	320	290	480	930	170	1,050
Petersville Road 2b	920	2,020	20	2,960	10	2,960
<i>Subtotal</i>	<i>3,090</i>	<i>6,160</i>	<i>540</i>	<i>9,600</i>	<i>230</i>	<i>9,790</i>
PHASE 1 - EAST SIDE: TOTAL	35,990	48,170	30,430	104,870	9,740	114,590
ESTIMATED PHASE 1 - EAST SIDE: NET ³ <i>(excludes prohibited areas)</i>				82,290- 88,730	7,280- 8,000	89,570- 96,730

³ Net volumes are estimated from (Net acreage/gross acreage) X gross volume. Site specific volumes are not available for prohibited and conditional areas.

PHASE 1 - MT. SUSITNA

	VOLUME (Thousand cubic feet)			VOLUME (Thousand cubic feet)		
	Spruce	Birch & Aspen	Cottonwood	High site	Low site	TOTAL
Forestry Co-primary						
Mount Susitna 2b	1,720	1,380	400	3,450	40	3,500
Mount Susitna 2c (west)	5,180	5,010	370	10,430	130	10,560
<i>Subtotal</i>	<i>6,900</i>	<i>6,390</i>	<i>770</i>	<i>13,880</i>	<i>170</i>	<i>14,060</i>
Personal Use						
Mount Susitna 4a (west)	20	40	-0-	60	-0-	60
PHASE 1- MT. SUSITNA: TOTAL	6,920	6,430	770	13,940	170	14,120
ESTIMATED PHASE 1-MT. SUSITNA: NET <i>(excludes prohibited areas)</i>				12,890- 13,190	160	13,050- 13,350

PHASE 2

	VOLUME (Thousand cubic feet)			VOLUME (Thousand cubic feet)		
	Spruce	Birch & Aspen	Cottonwood	High site	Low site	TOTAL
Forestry Co-primary						
Willow 8a	3,140	4,970	1,430	8,040	1,500	9,540
Susitna Lowlands 11a	14,310	21,630	1,450	33,430	3,970	37,390
Susitna Lowlands 12b	4,390	6,150	30	9,470	1,100	10,570
Susitna Lowlands 14e	1,900	3,330	1,830	6,930	130	7,060
Petersville Road 1a (west)	7,190	10,270	150	15,770	1,840	17,610
<i>Subtotal</i>	30,930	46,350	4,890	73,640	8,540	82,170
Forestry Secondary						
Susitna Lowlands 9a	2,290	2,560	30	3,570	1,310	4,880
Susitna Lowlands 11c	230	430	<10	660	<10	660
Susitna Lowlands 11f	260	430	<10	650	40	690
Susitna Lowlands 14a	8,200	7,160	280	10,020	5,620	15,640
<i>Subtotal</i>	10,980	10,580	310	14,900	6,970	21,870
Resource Management						
Susitna Lowlands 9c	3,790	4,600	40	6,590	1,830	8,430
Susitna Lowlands 12a	5,650	9,180	40	13,880	980	14,870
<i>Subtotal</i>	9,440	13,780	80	20,470	2,810	23,300
PHASE 2: TOTAL	51,350	70,710	5,280	109,010	18,320	127,340
ESTIMATED PHASE 2: NET (excludes prohibited areas)				100,090- 103,290	16,870- 17,680	116,960- 120,970

PHASE 3

	VOLUME (Thousand cubic feet)			VOLUME (Thousand cubic feet)		
	Spruce	Birch & Aspen	Cottonwood	High site	Low site	TOTAL
Forestry Co-primary						
Susitna Lowlands 3a ⁴	800	1,340	1,090	3,220	10	3,230
Susitna Lowlands 5a	1,090	2,360	20	3,460	20	3,470
Susitna Lowlands 5f	2,860	5,180	60	7,350	740	8,100
Susitna Lowlands 6e	2,160	3,410	30	5,070	520	5,600
Susitna Lowlands 7a	8,790	15,880	70	24,290	440	24,740
Susitna Lowlands 13b	950	1,760	20	2,550	170	2,730
Mount Susitna 2c (east)	3,930	4,140	310	7,040	1,340	8,380
Mount Susitna 3f	30	60	<10	100	<10	90
Subtotal	20,610	34,130	1,600	53,080	3,240	56,340
Forestry Secondary						
Sunflower Basin 6a	1,120	670	120	1,420	480	1,910
Sunflower Basin 6c	540	730	30	1,070	230	1,300
Susitna Lowlands 1a and 1b	13,720	19,090	2,630	32,270	3,170	35,440
Susitna Lowlands 2a ⁴	13,400	12,870	1,710	26,810	1,170	27,980
Susitna Lowlands 2d	320	250	30	580	20	600
Susitna Lowlands 3c ⁴	90	250	<10	350	-0-	340
Susitna Lowlands 6a	5,330	8,760	40	13,280	840	14,130
Susitna Lowlands 13d ²	3,340	6,040	3,340	11,450	1,280	12,720
Susitna Lowlands 13e	850	1,490	50	2,350	50	2,390
Mount Susitna 5a	530	1,110	190	1,830	-0-	1,830
Alaska Range 1b	5	-	-	-	-	-
Subtotal	39,240	51,260	8,140	91,410	7,240	98,640
Resource Management						
Susitna Lowlands 2f	1,190	890	430	2,430	80	2,510
Susitna Lowlands 5b	140	270	0	410	0	410
Susitna Lowlands 6b	3,050	5,030	20	7,650	450	8,100
Susitna Lowlands 8b	6,230	9,660	130	13,410	2,600	16,020
Mount Susitna 3c	280	540	<10	820	-0-	820
Mount Susitna 4d	4,310	7,800	30	11,930	210	12,140
Mount Susitna 6c	6	-	-	-	-	-
Subtotal	15,200	24,190	610	36,650	3,340	40,000

⁴ The western part of this subunit is outside the area where detailed vegetation maps (1:63,360 scale) are available. Existing data is inadequate to estimate the timber acreage or volume in this part of the subunit.

⁵ This subunit is outside the area where detailed vegetation maps (1:63,360 scale) are available. Existing data are inadequate to estimate the timber acreages or volumes in this part of the subunit.

⁶ This subunit is outside the area where detailed vegetation maps (1:63,360 scale) are available. Existing data are inadequate to estimate the timber acreages or volumes in this part of the subunit.

	— VOLUME (Thousand cubic feet) —			— VOLUME (Thousand cubic feet) —		
	Spruce	Birch & Aspen	Cottonwood	High site	Low site	TOTAL
Personal Use						
Susitna Lowlands 4b	3,120	7,490	120	10,390	340	10,730
Mount Susitna 4a (east)	430	790	10	1,220	-0-	1,230
<i>Subtotal</i>	3,550	8,280	130	11,610	340	11,960
PHASE 3: TOTAL	78,600	117,860	10,480	192,750	14,160	206,910
ESTIMATED PHASE 3: NET				176,570-	13,090-	189,610-
<i>(excludes prohibited areas)</i>				186,430	13,810	200,240
GROSS TOTAL FOR STATE LANDS DESIGNATED FOR FORESTRY						
<i>(Forestry co-primary use, secondary use, resource management, reserved use, or personal use)</i>						
	172,860	243,170	46,960	420,570	42,390	462,990
ESTIMATED NET TOTAL				371,840-	37,420	409,360-
<i>(excludes prohibited areas)</i>				391,640	39,650	431,290

Appendix D

FOREST LAND USE PLAN REQUIREMENTS

AS 38.05.112 requires that a forest land use plan be prepared prior to harvesting. Statutory requirements are quoted below.

Sec. 38.05.112 FOREST LAND USE PLANS.

(a) The department may not sell or harvest timber, except for isolated personal use timber harvest, until a site-specific forest land use plan has been adopted. A forest land use plan is required whether or not a regional or area land use plan under AS 38.04.065(a) or a forest management plan under AS 41.17.230 has been adopted.

(b) The commissioner shall base a forest land use plan on the best available data, including information provided by other agencies describing the immediate and long-term effects of individual and collective forest activities on the timber base and on other resources and uses.

(c) In addition to the requirements of AS 38.04.065 (b), a forest land use plan shall consider:

- (1) commercial timber, including related activities;
- (2) harvesting of forest products for personal use;
- (3) fish and wildlife habitat, including:
 - (A) identification and protection of important wildlife habitat;
 - (B) retention of riparian, wetland, and ocean-shoreline vegetation critical for fish and wildlife habitat; and
 - (C) classification of water bodies according to physical characteristics;
- (4) uses of forest land for nontimber purposes, including:
 - (A) recreation, tourism, and related activities;
 - (B) mining, mining claims, mineral leaseholds, and material extraction;
 - (C) uses of fish and wildlife;
 - (D) agriculture, including grazing; and
 - (E) other resources and uses appropriate to the area, including compatible traditional uses;
- (5) soil characteristics and productivity;
- (6) water quality; and
- (7) watershed management.

Appendix E

RECREATION OPPORTUNITY SPECTRUM FOR THE SUSITNA FORESTRY GUIDELINES AREA

Forest lands in the Susitna Forestry Guidelines area currently offer opportunities for recreation in a variety of settings. The major types of opportunities are described below. The type of opportunity available may vary by season. For example, an area that is intensively used during hunting season may get little use during the rest of the year. This area would offer a semi-traditional opportunity during the busy hunting season, and traditional opportunity in summer. A wide variety of activities can take place in each setting; a few examples are listed.

CHARACTERISTICS	EXAMPLES OF AREAS OFFERING THIS OPPORTUNITY	EXAMPLES OF ACTIVITIES IN THIS SETTING
<u>I. TRADITIONAL</u> Little modification to the natural environment. Low levels of encounters with other people and signs of human use. No facilities for human use. Highest levels of physical challenge and risk. Highest outdoor skill levels needed. Much of the recreation uses motorized access. No roads.	Most of the remote lowlands in the Susitna Forest Guidelines Area.	Snowmachining. Fly-in or hike-in fishing and hunting. Dogmushing. Dispersed hiking and cross-country skiing.
<u>II. SEMI-TRADITIONAL</u> Little modification to the natural environment. Moderate levels of encounters with other people and signs of human use. Limited facilities for human use (e.g., portage trails, bridges, pit toilets). High levels of physical challenge and risk. High outdoor skill levels needed. Much of the recreation uses motorized access. No roads.	Boatable rivers. Trail systems. Area near access by Parks Highway and Petersville Road.	Boating and rafting. Hiking, skiing, and mushing on trail systems. Snowmachining. Hunting and fishing. Flightseeing. Fly-In Lodges.

CHARACTERISTICS	EXAMPLES OF AREAS OFFERING THIS OPPORTUNITY	EXAMPLES OF ACTIVITIES IN THIS SETTING
<u>III. SEMI-PRIMITIVE</u> Little modification to the natural environment. Moderate levels of encounters with other people and signs of human use. Limited facilities for human use (e.g., portage trails, bridges pit toilets, scattered lodges). High levels of physical challenge and risk. High outdoor skill levels needed. Recreation use during the busiest season is non-motorized except for drop-off by plane. No roads.	Portions of the Susitna Basin State Recreation River corridors. Portions of Nancy Lakes State Park.	Canoeing and rafting. Hiking, skiing, and mushing on trail systems. Fly-in or hike-in fishing. Flightseeing. Fly-In Lodges.
<u>IV. ROADED NATURAL</u> Isolated resource development present (seasonal or year-round roads, mining, timber harvesting, oil and gas wells). High levels of encounters with other people and signs of human use. Some facilities for convenience of users. Moderate to low levels of physical challenge and risk. Low outdoor skill levels needed.	Collinsville mining area. Tyonek I timber sale area. Petersville and Oilwell road corridors Developed recreation sites. Alaska Railroad route north of Talkeetna.	Sightseeing. Picnicking. Swimming. Walking, skiing, snowmachining on seasonal roads. Bicycling. Fishing and hunting on road accessible streams. RV and tent camping in campgrounds. Railroad tours.
<u>V. DEVELOPED</u> Intensively developed (year-round roads, residential and commercial areas). Highest levels of encounters with other people and signs of human use. Many facilities for user convenience and comfort. Lowest levels of physical challenge and risk. Lowest outdoor skill levels needed.	Residential and commercial areas along Parks Highway. Agricultural areas. Communities or industrial areas (Houston, Skwentna, Beluga power plant). City parks.	Sightseeing. Souvenir shopping. Bus tours. Waterskiing and boating on Big Lake. Walking in residential areas and developed parks.

Appendix F

REQUIREMENTS FOR WINTER TRAVEL

Coastal Management Plan Requirements

Alaska Coastal Management Program (ACMP) requirements apply to roads that require any agency permit and occur within the coastal zone boundary. If a road project requires a federal permit or two or more state permits, then it will be coordinated by the state Division of Governmental Coordination.

Under the statewide Coastal Management Program there is general concurrence for movement of "dozers, sleighs, tracked vehicles, and rubber tired equipment cross country during winter" when conducted under the following conditions.

- ◆ Winter cross country travel may begin when adequate snow cover and frost depth conditions exist for the activities intended as determined by an authorized field representative of DNR. Certain cross country activities may begin sooner than others depending on the impact or magnitude of the operations.
- ◆ Vehicles shall be operated in a manner such that the vegetative mat of the tundra is not disturbed and blading or removal of tundra vegetative cover is prohibited.
- ◆ Existing roads and trails shall be used wherever possible. Trail widths shall be kept to the minimum necessary. Trail surface may be cleared of timber, brush, stumps, and snags.
- ◆ Trails and campsites must be kept clean. All solid waste including incinerator residue shall be backhauled to a solid waste disposal site approved by DEC.
- ◆ All oil and hazardous material spills shall be cleaned up and reported per 18 AAC 75.
- ◆ Snow ramps, snow and ice bridges, or cribbing approved by the DFG shall be used to provide access across frozen rivers, streams and lakes so as to preclude cutting, eroding or degrading of their banks. Alteration of the banks of water courses is prohibited.
- ◆ Snow ramps and snow and ice bridges shall be composed only of snow or ice and shall be substantially free of soil and debris.
- ◆ Snow and ice bridges shall be of sufficient thickness to support all vehicles. There shall be no vehicles or equipment operated within the open water of any river, stream or lake unless waived by DFG.
- ◆ Snow and ice bridges must be removed or breached, and cribbing removed immediately after final use or prior to breakup, whichever occurs first.
- ◆ To avoid additional freeze-down of deep water pools harboring overwintering fish, water courses shall be crossed at shallow riffle areas from point bar to point bar. Compaction or removal of the insulating snowcover from the deep-water pool areas of rivers is prohibited.
- ◆ Fuel storage facilities shall not be placed within 100' of water bodies and must be within an impermeable diked area at 110% capacity of the largest independent fuel container. Manifolder tanks or bladders must be considered as a container. Vehicle refueling shall not occur within the annual floodplain.
- ◆ Movement through willow (*Salix*) stands shall be avoided wherever possible.
- ◆ Abandonment of vehicles is prohibited.

DNR Permit Information

DNR permits issued by the DNR Division of Land are required for overland winter travel on state land by heavy equipment and gear. Permits are not required for small vehicles such as snowmachines and 4-wheelers. Permits are issued only for activities on lands under the management jurisdiction of the State of Alaska. ACMP stipulations are included with the Division of Land permit if the operation is within an ACMP management area.

General DNR Division of Land permit stipulations are universally applied and constrain the applicant to conduct activity in a manner that minimizes surface impact and causes the least possible interference with other authorized uses of state land. Other more specific DNR Division of Land permit stipulations and bond requirements are crafted from considerations such as management plans for the area traveled, terrain, ecological factors, weather and frost conditions, the type of equipment used, and other special conditions associated with the activity.

Often stipulations are suggested by agencies that review the permit application. These might include consideration of waste disposal, fire suppression, the size of trees that can be disturbed in the course of operation, procedures for the reporting and clean-up of spills of oil or other hazardous substances, construction and breaching of snow and ice bridges, vehicle refueling and maintenance, and historic and archaeological impacts.

Appendix G

ACKNOWLEDGMENTS, PLANNING TEAM, STAFF, TECHNICAL ADVISORS, AND SIGNATURE PAGES

Acknowledgments

The Susitna Forestry Guidelines staff would like to thank the following people.

Rich McMahon, Jean Tam, and Hal Brackett of the DNR Land Records Information Section for managing the computerized database and for designing and printing the computerized reports and maps that are the foundation for much of the planning work. **J.P. Zellar** for analyzing timber volume data.

Dulce Ben and Odin Brudie for compiling background information on recreation and transportation in the planning area.

Gloria Weinberger for organizing mailings for newsletters and plan drafts.

Pearl Reamer, Nanci Adeszko, and Debbie Chubin for preparing and maintaining mailing lists.

Susan Peck, Robin Hall, and Elaine Thomas for preparing the text layout, maps, figures, and cover for the plan.

Planning Team, Staff, & Technical Advisors

The Susitna Forestry Guidelines was prepared by an interagency planning team representing state agencies and the Matanuska-Susitna and Kenai boroughs. Staff from the Land and Resources Section of the DNR Division of Land and Water coordinated the work of the planning team. Staff from several federal agencies and soil and water conservation districts were technical advisors to the planning team and staff.

PLANNING TEAM

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Department of Fish and Game -- Steve Albert

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**Upper Susitna Soil and Water Conservation
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**Martha Welbourn (Project Manager), Dulce Ben
(through May 1989), Matt Graves (from November
1990)**

STATE OF ALASKA

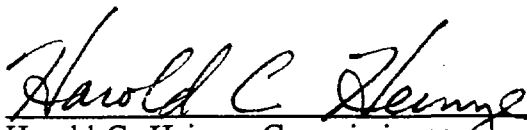
DEPARTMENT OF NATURAL RESOURCES

DIVISION OF LAND AND WATER

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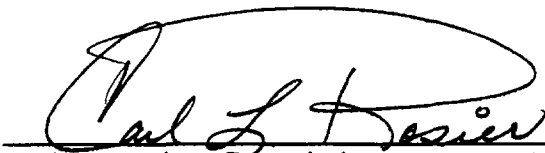
The Commissioner of the Department of Natural Resources hereby adopts the Susitna Forestry Guidelines. The Department of Natural Resources will manage state forest land and resources within the Susitna Forestry Guidelines area consistent with these guidelines.



Harold C. Heinze, Commissioner
DEPARTMENT OF NATURAL RESOURCES

10/23/91
Date

The Alaska Department of Fish and Game assisted the Department of Natural Resources in preparing the Susitna Forestry Guidelines. We appreciate the opportunity to represent fish and wildlife habitat, harvest, and public use values during the development of the guidelines. The Department of Fish and Game will use the guidelines when implementing its authorities and when reviewing and commenting on proposed uses of state lands in the planning area.



Carl L. Rosier, Commissioner
DEPARTMENT OF FISH AND GAME

11/4/91
Date

Appendix H

PUBLICATIONS RELATED TO THE GUIDELINES

- Alaska Dept. of Fish and Game. April, 1991. Fish and Wildlife Resources - Susitna Forestry Guidelines. 186 pp. Anchorage, AK
- Alaska Dept. of Natural Resources. December, 1990. Timber Resources - Susitna Forest Guidelines, 2nd. ed. 36 pp. + Appendices. Anchorage, AK
- Alaska Dept. of Natural Resources. February, 1989. Land Ownership - Susitna Regional Forest Plan. 10 pp. Anchorage, AK
- Alaska Dept. of Natural Resources. December, 1991. Susitna Forestry Guidelines - Regional Map Atlas. Anchorage, AK.
- Alaska Dept. of Natural Resources. 1981. Scenic Resources along the Parks Highway- Inventory and Management Recommendations. Anchorage, AK
- Alaska Dept. of Natural Resources. May 1991. Susitna Forestry Guidelines - Response to Comments on the Public Review Draft. 130 pp. Anchorage, AK
- Alaska Dept. of Natural Resources. March, 1989. Heritage Resources - Susitna Regional Forest Plan. 15 pp. Anchorage, AK
- Alaska Interagency Fire Management Plan - Mat-Su Planning Area. March 1986. 51 pp. + map. Anchorage, AK
- Alaska Dept. of Natural Resources. April, 1989. Recreation Resources - Susitna Regional Forest Plan. 31 pp. + Appendices. Anchorage, AK
- Jacoby, Stephen C. February 1989. February 1989. Matanuska Susitna Borough Forest Management Plan - Forest Inventory. 35 pp. + Appendices. Palmer, AK
- Alaska Dept. of Natural Resources. October, 1989. Transportation and Access - Susitna Regional Forest Plan, 2nd ed. 43 pp. + Appendices. Anchorage, AK
- Seymour, Frank. Alaska Dept. of Commerce and Economic Development. January, 1991. Economic Prospect for the Forest Products Industry in the Mat-Su Borough. 28 pp. Juneau, AK
- Alaska Dept. of Natural Resources. October, 1990. Memo: Background Information for the Susitna Area Plan update. 74 pp. + Abstract. Anchorage, AK

INDEX

A

100'-300' zone - 32
 abbreviations - v
 access - 21
 see also transportation and access
 access across wetlands - 38
 access design and management - 37-40
 access location & design - 3,7,8,10,31,33,37-38,47
 background report - 5
 road crossings - 33
 road management and closures - 39
 road construction - 39,46,77, clearing - 38
 road standards - 38
 water transportation - 38
 acknowledgments - 79
 ACMP - *see Alaska Coastal Management Program*
 acronyms - v
 advertisements - 41
 agency review - 41
 Agriculture, Division of - 5,24,79
 agricultural lands - 4,9,23-24,73,
 acreage & volume 65
 air quality - 1
 Alaska Coastal Management Program - 36,77,78
 Alaska Historic Preservation Act - 26
 Alaska Natural Heritage Program - 46
 Alaska Railroad - 30
 Alaska Range subunits - 8
 Alaska Range 1b - 12, acreage & volume- 63,71
 Alaska Forest Resources and Practices Act -
 see Forest Practices Act
 Alaska Heritage Resource Survey - 9
 Alexander Creek - 3,5,13
 all-terrain vehicle - *see off-highway vehicle*
 Amber Lake - 13,30
 amendment - 3,6,10,43, defined - 49

anadromous waterbodies - 5,32-33,34, defined - 49
 Anchorage - 5
 annual allowable cut - 7,10-11,12,13, defined - 49
 aquatic habitat - *see wetlands and rivers, streams, & lakes*
 area plan - *see land use plans*
 Army Corps of Engineers - 36
 AS 38.04.065 - 43-44,73
 AS 38.05.035 - 43-45
 AS 38.05.112 - 3,8,73
 AS 38.05.113 - 3,7,8,41
 AS 38.05.945 - 41,43-44
 AS 41.17 - 3,8,22,25,27,28,30,32,73
 AS 41.23.470 - 3
 aspen - 11,20,22,34,40
 atlas of vegetation - 5
 ATV - *see off-highway vehicle*

B

background reports - 5,46
 bald eagles - *see eagles*
 Bartlett Hills - 13
 bears - 19,20,25,33,37
 brown bear habitat - 25
 Beluga Mountain - 17
 birch - 11,13,20,22,25,40,46,
 acreage and volume - 67-72
 black spruce - 11,30,59, acreage and volume- 67-72
 blowdown - 27,33
 borough land - *see Matanuska-Susitna Borough*
 boundary of Susitna Forestry Guidelines area - 2,4
 broadcast burning - 21, defined - 49
 buffers - 17,26,27,29,46
 rivers, streams, and lakes - 32-35
 trails - 35-36
 trumpeter swans - 36
 burn plan - 21, defined - 49

C

Calypso orchid - 25
campground - 30
Canyon Lake - 13
changes to the guidelines - 43-45
chemicals, use in forest management - 23
Chijuk Creek - 8,34
Chulitna River - 24,29,34
Citizens' Advisory Committee - 5,6,57
Clear Creek - 3
clearcut - 10,18a,29,35, defined - 49
 see also harvesting systems
Coastal Management - *see Alaska Coastal Management Program*
Commerce and Economic Development, Department of - 5,20,83
commercial use - 1,10,11,13,19,30,73, defined - 49
 see also timber sales
commercial recreation sites - 28
conditional areas - 10, defined - 49,
 acreage & volume - 60-72
controlled burning - 21
coordination with other landowners - 7
co-primary use - 4,9,12, defined - 49,
 acreage & volume - 59-72
cottonwood - 11,20,22,24,40,59,
 acreage & volume - 67-72
cover habitat - 12,13,17,19,26,27,28,32,38,
 defined - 50
cultural resources - *see also heritage sites*
cut and leave areas - 17
cuts and fills - 38
cutting units - 3,10,18a, defined - 50
 arrangement - 19
 orientation - 19
 size and shape - 19,28,29

D

DEC - *see Environmental Conservation, Department of*
Deception Creek Land Use Plan (all subunits) - 25,
 acreage and volume - 59, 67
decking - 29, defined - 50
Deshka River - 3,28,29,34
designated use - *see designation*
designation - 1,4,7,8,9,10,12,17, defined - 50
DFG - *see Fish and Game, Department of*
Dinglishna Hill - 13
discretion within guidelines - 44-45
disease - 9,21,23,26,27,28,29,30,32,34,35,37
disking - 22
diversity - 1,17,32,37
DNR - *see Natural Resources, Department of*
DOF - *see Forestry, DNR Division of*
DOT&PF - *see Transportation and Public Facilities, Department of*
DPOR - *see Parks and Outdoor Recreation, DNR Division of*
draft guidelines - 5
due deference - 33, defined - 50

E

eagles - 5,24-25,46, nest sites defined - 50
 nest setbacks - 9,24
East side-Phase 1 - 9,11,
 acreage & volume - 59-60,67-68
enforcement - 47
Environmental Conservation,
 Alaska Department of - 5,21,23,26,79
 DEC permits - 21
 DEC authority for pesticides - 22
equipment storage - 29
exotic species - *see non-Native species*
experimental forests - 14,46, defined - 50

F

feasible and prudent - 44-45, defined - 50
fertilization - 23,45
fire management - 9,17,21,26,27,28,29,30,32,34,35,37
 broadcast and controlled burning - 21
 fire prescriptions - 21, defined - 50
 interagency fire management plan - 17,83
Fish and Game, Department of -
 5,6,13,14,17,19,21,22,24,26,27,28,29,32,33,34,
 35,36,37,38,40,41,44,79
fish and wildlife habitat -
 1,7,8,10,11,13,17,19,20,22,26,28,46,73 77
 background report - 5
 fish and wildlife habitat in riparian areas - 32-35
 habitat enhancement - 9,13,27,28,34,41
 research needs - 45
 wildlife concentration areas - 33,38
Fish and Wildlife Service, US - 5,24,25,36,38
Fish Creek Management Plan - 1,7,23,27,35
Five-Year Schedule of Timber Sales - 3,7,10,11,17,
 19,24,26,30,33,35,37,39,40,41
flightseeing - 30,75,76
FLUP - *see Forest Land Use Plan*
FMR - *see Forest Land Use Plan*
Forest Land Use Plan - 3,13,17,19,21,22,24,26,27,
 30,33,35,37,39,40,41,73
forest management guidelines - 7
Forest Management Report - *see Forest Land Use Plan*
Forest Practices Act - 3
Forest Service, US - 5,8,23,79
forest succession - 45
Forestry, DNR Division of - 3,5,6,7,9,10,11,13,14,17,
 19,21,22,24,25,26,27,28,29,30,32,33,34,36,37,
 38,40,41,45,79
FPA - *see Forest Practices Act*
fuelwood - 12
fuel storage - 77
full-tree logging - 20
funding - 47
furbearers - 32,33

G

geographic information system (GIS) - 5
glossary - 49
grass competition - 22,45
grazing, research needs - 46,73
gross timber base - 8
group selection - 18a,20,22, defined - 51
 see also selective harvesting
grouse - 11
guideline modification procedures - 43-45

H

habitat - *see fish and wildlife habitat*
Happy River - 17
harvesting - *see timber harvest*
hazards - 9,26,27,28,29,30,32,34,35,37,77,78
herbicide - 23,46
heritage resources - 7,26-27 *see also historic sites*
 background report - 5
high sites - 8,9,30, defined - 51,
 acreage and volume - 59-72
historic sites - 9,35,78 *see also heritage resources*
houselogs - 12,20
Houston Demonstration Forest - 14
How to Use the Susitna Forestry Guidelines -
 inside cover, vi-ix

I

ice bridges - 8,46,76,77, defined - 51
Iditarod National Historic Trail - 9,10,35
implementation - 43-47
INHT - *see Iditarod National Historic Trail*
insects - 9,21,23,26,27,28,29,30,32,34,35,37
interagency review - 41
interagency fire management plan -
 see fire management
inventory - 8
islands - 29,34,34a,47

K

Kahiltna River - 8,29,30,34,38,47
Kashwitna Knobs - 24
Kashwitna Management Plan - 1,7,9,26
 Kashwitna 1a - 9,32, acreage & volume - 59,67
 Kashwitna 1b - 9,32, acreage & volume - 59,67
Kashwitna River - 8,9,28,29
Kashwitna Road - *see Willer-Kash Road*
Kroto Creek - 7,28,47
Kutna Creek - 13

L

Lake Creek - 3,17
lakeshores - 8,10,30,32-35,45
 see also rivers, streams, and lakes
Land, DNR Division of - 5,6,14,17,36,40,41,43,44,
 45,78,79
land disposals - 46
land ownership - 4 (table), 7
 background report - 5,83
land use designation - *see designation*
land use plans - 1,2,36,46,47
landing areas - 38, defined - 51
legislatively designated areas - 1, defined - 51,
 acreage and volume - 65
liability - 27
Little Susitna River - 3,29
Little Willow Creek - 8,28,30,47
Lockwood Lake - 13
lodges - 28,75,76
logging - *see timber harvesting*
low sites - 8,9, defined - 51,
 acreage and volume - 59-72

M

management plan - *see land use plans*
map atlas - 5,83
marten - 11,19,21,27
Matanuska-Susitna Borough - 4,8,13,30,35,36,40,79,
 acreage and volume - 65
material sites - 39
Mental Health Trust - 3,4,11
mineral licks - 32
mining - 73
minor change - 43-44, defined - 52
modifying the guidelines - 43-45
Montana Creek - 34
moose - 12,13,19,26,29,33,34,38,40
 browse and forage areas - 21,28,32,37,45
 concentration areas - 19,20
 data collection - 21
 lakeshore habitat - 34
 winter range - 27
Moose Creek - 28,34
Mount Susitna - 17
Mount Susitna-Phase 1 - 9,11,
 acreage and volume - 61,69
Mount Susitna subunits - 8,9
 Mount Susitna 2b - 8,26,34,36,
 acreage and volume - 61,69
 Mount Susitna 2c - 8,13,26,34,
 acreage and volume - 61,63,69,71
 Mount Susitna 3c - 8,13,20,24,
 acreage and volume - 64,71
 Mount Susitna 3f - 8,24,
 acreage and volume - 63,71
 Mount Susitna 4a - 12,
 acreage and volume - 61,64,69,72
 Mount Susitna 4d - 8,20,
 acreage and volume - 64,71
 Mount Susitna 5a - 8,13,
 acreage and volume - 63,71
 Mount Susitna 6c - 8,20,
 acreage and volume - 64,71
multiple use - 3,17, defined - 52

N

Native Corporations - 4
natural areas - *see research natural areas*
Natural Resources, Alaska Department of-
1,4,5,6,7,8,11,12,21,23,24,25,34,39,40,41,43,47
DNR permit for overland winter travel - 78
Neil Lake - 13
net timber base - 9,10
noise - 28,29,35
non-Native species - 22
North Fork Kashwitna River - 9,28,36

O

off-highway vehicle - 39,77,78, defined - 52
Office of History and Archaeology - 26
OHA - *see Office of History and Archaeology*
Oilwell Road - 39
Onestone Lake - 13
orientation of cutting units - 19
ORV - *see off-highway vehicle*
Otter Lakes - 13

P

Palmer - 5,17
Parker Lake - 13
parks - 1
Parks and Outdoor Recreation, DNR Division of-
5,13,14,17,19,20,26,28,29,30,32,33,35,36,38,79
Parks Highway - 8,12,19,29 *see also Scenic Resources*
peregrine falcon nests - 25
periodic review of guidelines - 43
personal use wood harvesting - 1,3,4,7,8,9,12,13,19,
28,29,30,35,41,73, defined - 50,52
acreage and volume - 60-72
compliance with other guidelines - 13
pests - *see insects, disease*
pesticides - 23, defined 52

Peters Creek - 30,34,47
Petersville Road - 9,27,30
Petersville Road subunits - 8,9
Petersville Road 1a - 8,9,13,30,34,47,
acreage and volume - 60,62,67,70
Petersville Road 2b - 12,36,
acreage and volume - 60,68
Petersville Road 3a - 9,19,27,30,
acreage and volume - 60,68
Petersville Road 3g - 12,13,
acreage and volume - 60,68
Petersville Road 6c,
acreage and volume - 60,68
Petersville Road 6d,
acreage and volume - 60,67
Petersville Road 7c - 13,29,
acreage and volume - 60,68
Petersville Road 7d - 24,34,
acreage and volume - 60,67
Phase 1, 2, and 3 - 7,9,10,11,34, defined - 52,
acreage and volume - 59-72
planning team - 5,79
planning process - 5
planning staff - 79
pre-commercial stand management - 25
primary road - 39, defined - 52
primary use - 1,9, defined - 52 *see also co-primary use*
private land - 4,21,27,40, acreage and volume - 65
procedures for guideline modification - 43-45
prohibited areas (for timber harvest) - 8,28,32,33,34,
defined - 52, acreage and volume - 60-72
public meetings - 5,41,43-44
public notice - 6,14,21,23,40-41,43-45
for control of insects, disease, wildfire,
or hazards - 26,27,28,29,30,32,34,35,37
public recreation - *see recreation*
public safety - 9,17,26,27,28,29,30,32,34,35,37
public use - 17,33,37,39
put-to-bed - 38,39,40, defined - 53

R

railroad - *see Alaska Railroad*

Recommendations for Changes
in Land Use Plans - 46-47

recreation - 1,7,11,17,19,20,27,28-32,46-47,73,
defined - 53
*see also visual quality, scenic resources, trails,
and rivers, streams, and lakes*

background report - 5,83

commercial recreation sites - 28

in riparian areas - 32-35

recreation opportunity spectrum - 11,28,32,46,75,76

Recreation Rivers - 1,4
*see also Susitna Basin Recreation River
Management Plan*

recreation sites - 10,30

research needs - 45

reforestation/regeneration - 10,20,22,25,28,45

refuges - 1

Region I and II - 22

research - 14,45-46

Research Natural Areas - 14,46, defined - 53

resident fish - 32-33

resource management lands - 4,12,19, defined - 53

Rights-of-way - 26,39,48

riparian management - 25,28,37,46,73
see also rivers, streams, and lakes

rivers, streams, and lakes - 8,10,28,32-35,46

RNA - *see Research Natural Areas*

roads - *see access*

rotation for timber harvest - 11-12,17,45, defined - 53

salvage - 25, defined - 53

sawlogs - 12, 20

scarification - defined - 53
see site preparation

scenic resources - 1,8,9,13,28-32,45 -
see also visual quality

in riparian areas - 32-35

Parks Highway - 13,29,83

S

Schneider Lake - 30

seasonal guidelines - 20,24,29,36

secondary roads - 38,39,40,53

secondary use - 1,9,11, defined - 53,
acreage and volume - 59-72

seed tree harvesting - 10,18a,20,25,29,35,
defined - 54

selective harvesting - 10,13,19,20,27,34,35,37,
defined - 54

settlement - 4,9, defined - 54, acreage & volume - 65

Sheep Creek - 28

Shell Hills and Lake - 13

shelterwood - 20,29, defined - 54

shoreline management - 10,45
shoreline management zone - 29,32-34,38,47,
defined - 54

"should", guidelines modified by - 45, defined - 54

SHPO - *see State Historic Preservation Office*

shrub competition - 46

single-tree selection - 10,20,34,37, defined - 54
see also selective harvesting

site preparation - 20,21,22,25, defined - 54

skid trails - 21,25,39, defined - 54

Skwentna - 5,8

Skwentna River - 8,17

slash disposal - 21,39, slash defined - 54

slope restrictions and steep slopes - 25,27,32

snowmachines - 32,75,76,77,78

Soil and Water Conservation Districts - 5,79

Soil Conservation Service, US - 5,8,45,59,79

soils - 10,39,46,73
exposure for site preparation - 20-22

solid waste management - 21

South Parks Highway subunits - 8,9

South Parks 2 - 24,27,29,34,46,
acreage and volume - 59,67

South Parks 4a - 12,34,
acreage and volume - 60,68

South Parks 4f - 12,
acreage and volume - 60,68

South Parks 4g - 12,
 acreage and volume - 60,68
 South Parks 9c - 13,19,24,30,34,
 acreage and volume - 60,67
 South Parks 10b - 12,
 acreage and volume - 60,68
 South Parks 11 - 29,47,
 acreage and volume - 59,67
 South Parks 12a - 9,13,28,34,36,38,47,
 acreage and volume - 59,67
 South Parks 12b - 9,28,47,
 acreage and volume - 59,67
 South Parks 13b - 24,36,47
 South Parks 14b - 19,24,29,34,
 acreage and volume - 60,67
 special areas management - 23-36
 special exception - 43-44, defined - 54
 species composition - 17,22
 spruce - *see black spruce, white spruce*
 spur roads - 38,39,40, defined - 54
 staging areas - 29
 State Historic Preservation Office - 26-27
 stocking levels - 22
 streams - 8,10,33,45
 see also anadromous waterbodies, rivers,
 streams, and lakes
 subunits - 5, defined - 55
 summary of purpose - 1
 summer harvesting - 20-21
 Sunflower Basin subunits - 8
 Sunflower Basin 6a -
 acreage & volume - 63,71
 Sunflower Basin 6c - 36,
 acreage & volume - 63,71
 Susitna Area Plan - 1,3,7,8,10,24,30,35,38
 Susitna Basin Recreation Rivers
 Management Plan - 3,34
 Susitna Corridor - 8
 Susitna Flats State Game Refuge - 17

Susitna Lowlands subunits
 Susitna Lowlands 1a - 8,13,24,
 acreage and volume - 63,71
 Susitna Lowlands 1b - 8,24,27,36,
 acreage and volume - 63,71
 Susitna Lowlands 2a - 8,24,27,36,
 acreage and volume - 63,71
 Susitna Lowlands 2d - 8,13,20,27,
 acreage and volume - 63,71
 Susitna Lowlands 2f - 8,13,27,
 acreage and volume - 64,71
 Susitna Lowlands 3a - 8,13,24,36,
 acreage and volume - 63,71
 Susitna Lowlands 3c - 8,36,
 acreage and volume - 63,71
 Susitna Lowlands 4b - 8,12,24,27,
 acreage and volume - 64,72
 Susitna Lowlands 5a - 8,36,
 acreage and volume - 63,71
 Susitna Lowlands 5b - 8,20,
 acreage and volume - 64,71
 Susitna Lowlands 5f - 8,13,24,27,34,36,
 acreage and volume - 63,71
 Susitna Lowlands 6a - 8,13,27,36,
 acreage and volume - 63,71
 Susitna Lowlands 6b - 8,20,27,36,
 acreage and volume - 64,71
 Susitna Lowlands 6e - 8,13,27,36,
 acreage and volume - 63,71
 Susitna Lowlands 7a - 8,36,
 acreage and volume - 63,71
 Susitna Lowlands 8b - 8,20,36,
 acreage and volume - 64,71
 Susitna Lowlands 9a - 8,24,38,
 acreage and volume - 62,70
 Susitna Lowlands 9c - 8,20,38,47,
 acreage and volume - 62,70
 Susitna Lowlands 10a - 8
 Susitna Lowlands 11a - 8,13,24,29,34,36,47,
 acreage and volume - 62,70
 Susitna Lowlands 11c - 8,10,29,30,
 acreage and volume - 62,70
 Susitna Lowlands 11f - 8,28,29,
 acreage and volume - 62,70

Susitna Lowlands 11g - 8,24
Susitna Lowlands 12a - 8,13,20,30,36,47,
 acreage and volume - 62,70
Susitna Lowlands 12b - 8,24,30,34,36,
 acreage and volume - 62,70
Susitna Lowlands 13b - 8,13,36,
 acreage and volume - 63,71
Susitna Lowlands 13d - 8,24,34,36,
 acreage and volume - 63,71
Susitna Lowlands 13e - 8,13,24,27,34,36,
 acreage and volume - 63,71
Susitna Lowlands 13g - 24
Susitna Lowlands 14a - 8,24,29,34,36,47,
 acreage and volume - 62,70
Susitna Lowlands 14b - 8,24,34,36,47
Susitna Lowlands 14e - 8,24,28,29,34,
 acreage and volume - 62,70
Susitna River - 8,24,29,34,47
sustained yield - 1,3,11,13, defined - 55

T

Talachulitna River - 3
Talkeetna - 5,17, woodlot - 13
Talkeetna Mountains - 17
Talkeetna River - 3
Talkeetna Cutoff - 30
technical advisors - 79
Theodore River - 34
thinning - 25
timber harvest - *see also timber sales, personal use*
 harvest unit - 18a,19, defined - 51
 harvesting schedules - 20
 harvesting systems - 20,27
 summer harvesting - 20-21
 winter operations - 20-21
timber resources - 7,8
 background report - 5,83
 timber acreage - 8,9,59-65
 timber base - 8,9,10, defined - 55
 timber volume - 8,9,67-72

timber sales - 19,28,29,35, defined - 55
 see also commercial use
 design and management - 1,17-23,25,27,33
 management of special areas - 23-36
 public notice - 41
 sales in Phase 2 and Phase 3 - 10
 sale program and timber base - 7-12
 sale size - 7,28

tourism - 11,20,29,30,73

trails - 10,28,30,35-36,46,76

see also Iditarod National Historic Trail

Trail Ridge - 13

transportation and access - *see access*

Transportation and Public Facilities,
 Department of - 5,79

Trapper Creek (town) - 5,17; 34 (creek)

trumpeter swans - 5,10,36,38, nest site defined - 51,
 staging area defined - 55

Tyonek - 5,8,9

U

unique habitat or plant communities - 25

University of Alaska - 4

upwelling areas - 29,34,47

US Fish and Wildlife Service
 see Fish and Wildlife Service, US

V

variance - 44

vegetation types - 5,10,32,37

visual quality - 17,19,20-21,22,26,29,35,38
 see also scenic resources

volume regulation - 10

W

Wasilla - 5

water quality - 1,29,30,32,33,37,38,73

water transportation - 38

wetlands - 20,36-37,38,73, defined - 55

Whiskey Lake - 13

white spruce - 20,22,24,46,59,
 acreage and volume - 67-72

wildfire - *see fire management*

wildlife habitat - *see fish and wildlife habitat,*
 habitat enhancement

"will" and "shall", guidelines modified by - 44-45,
 defined - 54,55

Willer-Kash Road - 8,10,26,38

willow (plant species) - 34,40,77

Willow (town) - 5,17

Willow Creek State Recreation Area - 30

Willow Experimental Forest - 14

Willow Subbasin Area Plan - 1,3,7,29,30,35,47

Willow subunits - 8,9

 Willow 2a - 24

 Willow 4a - 28,29,30,
 acreage and volume - 60,67

 Willow 4b - 47

 Willow 6 - 8,24,27,29,30,34,47,
 acreage and volume - 59,67

 Willow 8a - 8,24,27,29,30,34,36,40,47,
 acreage and volume - 62,70

 Willow 12d - 13,27,47,
 acreage and volume - 59,67

windfirmness risk - 33

windrows - 21

winter travel - 77-78

winter roads - 8,21,38,39,46,77, defined - 55

winter operations - 20-21

woodlots - 8,12,13

woody debris - 32,33,
 large woody debris defined - 51

Y

yarding - 29, defined - 55

Yentna River - 8,24,34

This publication was released by the Alaska Department of Natural Resources, Division of Land, for the purpose of identifying areas available for timber harvest and to set standards for timber management and timber access, at the cost of \$6.20 per book.

R17W R16W R15W R14W R13W R12W R11W R10W R9W R8W R7W R6W R5W R4W R3W R2W R1W R1E

T29N
T28N
T27N
T26N
T25N
T24N
T23N
T22N
T21N
T20N
T19N
T18N
T17N
T16N
T15N
T14N

SUSITNA FORESTRY GUIDELINES

LEGEND

State Land Where Forestry is One of the Designated Uses

The Susitna Forestry Guidelines apply to lands with the following designations.

- Forestry - Co-Primary
- Forestry - Secondary
- Forestry - Personal Use
- Resource Management

Other State Land

To determine whether or not forest management activities are allowed on lands with these designations, see the land use plan for these areas.

- Agriculture
- Settlement
- Legislatively Designated Areas
- Other Designations (these include land with Wildlife Habitat, Public Recreation, and Water Resources designations where Forestry is not a designated use)

Non-State Land

- Private, Native, University, and Mental Health Land
Note: Parcels of land smaller than 160 acres are not shown on this map.
- Borough Land

Phases for Timber Management

- 1E Phase 1 - East Side
- 1M Phase 1 - Mt. Susitna
- 2 Phase 2
- 3 Phase 3

Land Use Plan & Subunit Names

State-owned subunits outside legislatively-designated areas are labeled on the map, for example, SL 14e. The capital letters identify the land use plan that includes the subunit, the number indicates the management unit (a group of related subunits), and the lower-case letter indicates the subunit. If there is only one subunit in a management unit, the lower-case letter is dropped. There are several subregions in the Susitna Area Plan, so the subunit name for these units also indicates the subregion that includes the subunit. For example, subunit SL 14e is in management unit 14 in the Susitna Lowlands subregion of the Susitna Area Plan.

- Susitna Area Plan Subunits**
- AK Alaska Range subunits
 - MS Mount Susitna subunits
 - PR Petersville Road subunits
 - SB Sunflower Basin subunits
 - SL Susitna Lowlands subunits
 - SP South Parks Highway subunits
 - TM Talkeetna Mts. subunits
- Subunits in Other Planning Areas**
- DC Deception Creek Land Use Plan subunits
 - FC Fish Creek Management Plan subunits
 - KP Kashwitna Management Plan subunits
 - WI Willow Subbasin Area Plan subunits

▲ New Recreation Sites Recommended by the Guidelines

