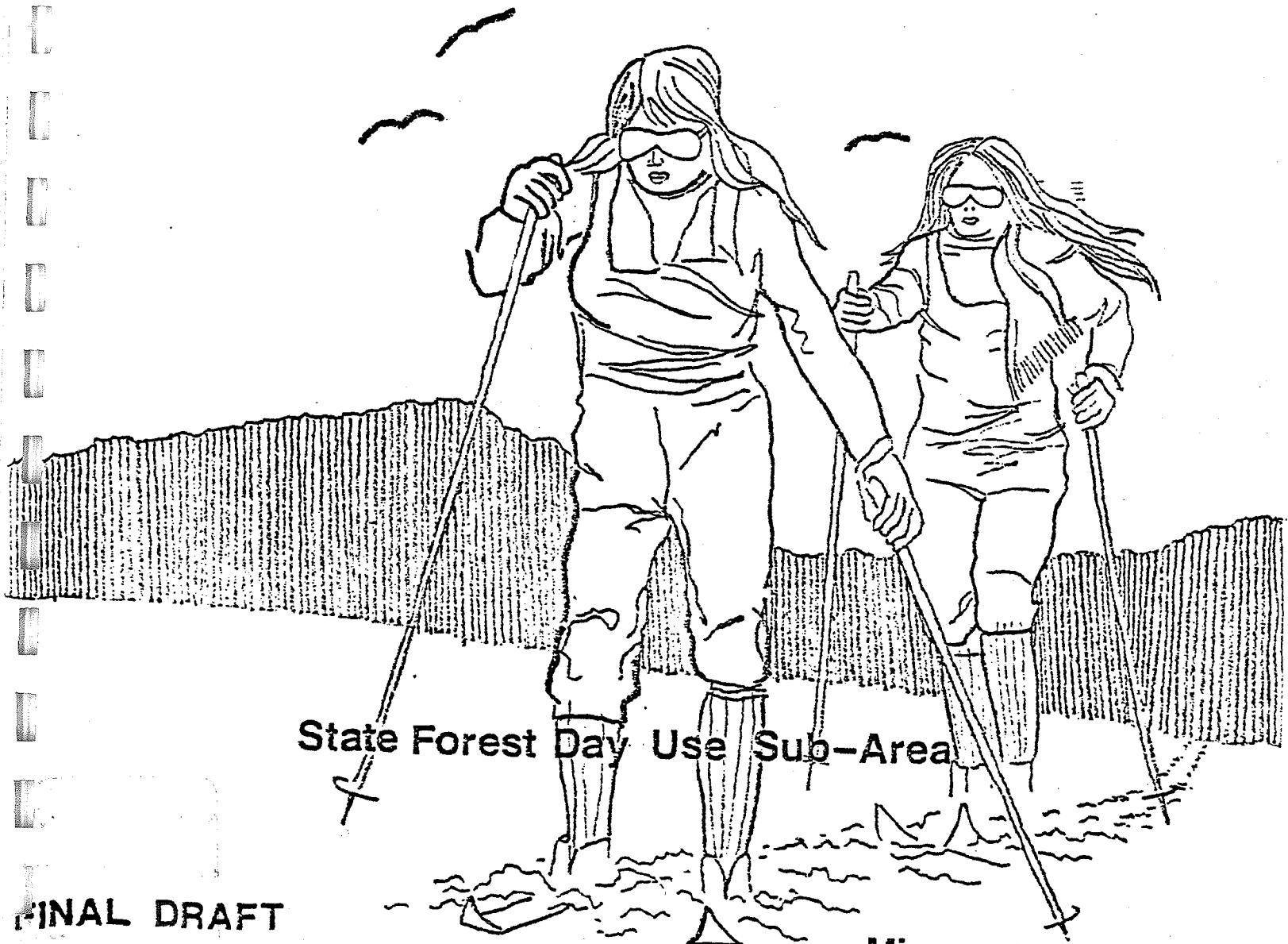




# GOLDEN ANNIVERSARY

## ski touring and hiking trail



State Forest Day Use Sub-Area

FINAL DRAFT

August 1978

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Minnesota Department  
of Natural Resources

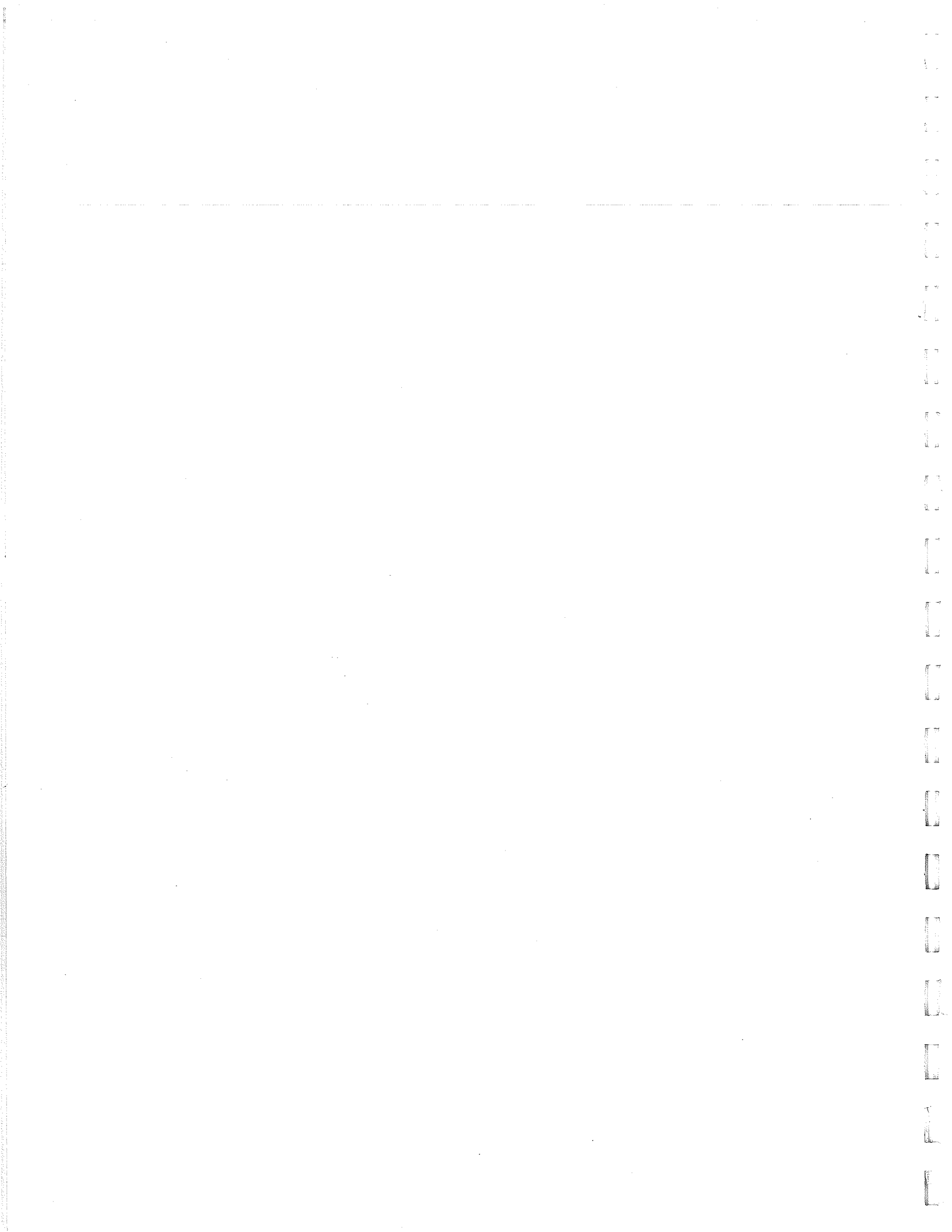


TABLE OF CONTENTS

Foreword -----	i
Summary -----	ii
I. <u>Introduction to the Plan</u> -----	1
Multi Use Concept -----	1
Authority -----	3
Goals and Objectives -----	3
II. <u>Description of the Proposed Action</u> -----	6
Purpose of the Action -----	6
Location of the Project -----	6
Magnitude of the Project -----	6
Unit Goal and Objectives -----	6
Existing Development -----	9
Proposed Development -----	9
Trail Alignment -----	11
Trail Design -----	11
Trail Construction -----	13
Bridges -----	13
Rest Areas -----	17
Signs -----	22
Maps -----	22
Maintenance -----	22
Steps Involved in the Planning Process -----	27
Implementation -----	28
Estimated Costs -----	29
Timing of the Project -----	30
Future Potential Expansion -----	30
Recreational Needs to be Served -----	30

III. <u>Description of the Environment</u> -----	33
Topography -----	33
Soils -----	33
Climate -----	33
Water Resources -----	34
Mineral Resources -----	34
Vegetative Cover -----	34
Wildlife -----	34
Land and Timber Resources -----	34
Air and Water Quality -----	35
Historical and Archaeological Resources -----	35
Transportation and Utilities -----	36
Socio Economic Factors -----	36
Land Use and Development Trends -----	37
Facilities in Region 3 -----	37
Facilities in Itasca County and Grand Rapids Area -----	37
Management Programs Within the Forest -----	38
Potential Concerns and Considerations -----	39
IV. <u>Environmental Impact on the Proposed Project</u> -----	40
Impact on Physical and Biological Environment -----	40
Impact on Historical and Archaeological Resources -----	40
Impact on Transportation and Utilities -----	41
Impact on Socio-Economic Factors -----	41
Impact on Land Use -----	41
Impact on Management of the Forest -----	41
V. <u>Bibliography</u> -----	42
VI. Draft Plan Review: Public Meeting -----	44

## FOREWORD

It is the purpose of this document to serve as both a management plan for the development and maintenance of the Golden Anniversary ski touring-hiking trail (day use sub-area), and as an environmental assessment of this action. The development and maintenance procedures described in this document will insure that the scenic, historic, scientific and recreational qualities of the trail are properly managed for the use and enjoyment of the citizens of Minnesota. The environmental impacts of this action have also been assessed to measure their effects on the environment. This assessment may be used in the event that the Department of Natural Resources – Division of Forestry decides to seek Land and Water Conservation Funding (LAWCON).

## SUMMARY

The major sections of the document are: the Introduction, Description of the Proposed Action, Description of the Environment, and Environmental Impact of the Proposed Project.

The Introduction includes: an overview of pertinent legislation, the authority for state forest sub areas, and the goal and objectives for the state forest ski touring-hiking program. The DNR's overall goal is also revealed.

The Description of the Proposed Action reveals: the location of the project, the unit goal and objectives, existing and proposed development, maintenance, how the plan will be implemented, and whose recreational needs will be served.

The Description of the Environment is an inventory-analysis of the natural and socio-economic resources of the project area. This section attempts to "tie together" the interrelated resource factors that are vital in the planning of this unit.

The final section, the Environmental Impacts of the Proposed Project, deals with the possible affects that the proposed action may incur.

The Golden Anniversary ski touring-hiking management plan will be filed with and be available from Documents Section, Room 140 Centennial Building, St. Paul, Minnesota, 55155.

## Introduction to the Plan

### Multiple Use Concept

It is the policy of the Department of Natural Resources, Division of Forestry, to protect, develop and administer the renewable resources of Minnesota's fifty-six State Forests so they are utilized in the combination of uses that will best meet the needs of Minnesota citizens. This requires harmonious and coordinated management of the forest resources to bring about their maximum productivity as well as providing other public benefits.

The primary management objective is to maintain a maximum sustained yield of various forest products while utilizing renewable forest resources to benefit the greatest number of people. Renewable forest resources that require management and protection include timber, wildlife, soil and water. Management practices such as timber production and harvest, watershed protection, wildlife habitat maintenance, and recreational development are carried out on lands best suited for each use.

This multiple use approach to management is intended to provide equal opportunity for all citizens to enjoy and utilize our forest resources. This means that the forest is a shared resource that must be utilized by various user groups in harmony with each other.

With this multiple use concept in mind, the legislature included state forests in Minnesota's Outdoor Recreation System. This system, created in 1975 by the Outdoor Recreation ACT (ORA), incorporated all state recreation lands into eleven different kinds of areas each with its own classification. The eleven classifications are: Natural State Parks; Recreational State Parks; State Trails; Scientific and Natural Areas; State Wilderness Areas; State Forests; State Wildlife Management Areas; State Water Access Sites; State Wild, Scenic and Recreational Rivers; State Historic Sites; and State Rest Areas. Each member of the system is referred to as a "unit".

By passing the ORA, the legislature revealed its awareness of a growing problem in Minnesota: The increasing number of people using state lands each year for more diverse forms of recreation. While some areas could withstand higher levels of use, other areas experienced overcrowding and conflicts between different recreational users.

To insure that the administration of each unit is managed in a manner that is consistent with the purposes for which the unit was authorized, it is required by the ORA that the managing agency prepare a master plan for each unit. The act states:

"No construction of new facilities or other development of an authorized unit, other than repairs and maintenance, shall commence until the managing agency has prepared and submitted to the state planning agency and the state planning agency has reviewed, pursuant to this section, a master plan for administration of the unit in conformity with this section. This requirement shall not apply to an existing unit until August 1, 1977."

The following day use sub-area plan has been prepared by the DNR to fulfill the requirements of this act as it pertains to state forests. This day use sub-area plan will be incorporated into the overall state forest master plan when that plan is prepared.

This day use sub-area plan has been written prior to the state forest master plan so that monies from the Outdoor Recreation Bonding Bill can be utilized this year. (Laws 1977, Chapter 421, Section 13, Subdivision 4)

Under the terms of this bill, the DNR has been allocated \$1,105,000:

"For betterment of public land and improvements needed for trails for skiing, hiking and bicycling within state parks and recreation areas as listed and described in sections 85.012 and 85.013 and state Forests, as listed and described in section 89.021."



## The Authority

The authority for establishment of these ski touring-hiking areas (day use sub-area) was granted by Minnesota Statutes 86.01 (the Outdoor Recreation Act) subdivision 7 which states:

"Subd. 7. STATE FORESTS AND STATE FOREST SUB-AREAS; PURPOSE; RESOURCE AND SITE QUALIFICATIONS; ADMINISTRATION. (a) A state forest, as established by Minnesota Statutes, Section 89.021, shall be administered to accomplish the purposes set forth in that section, and a state forest sub-area shall be established to permit development and management of specialized outdoor recreation at locations and in a manner consistent with the primary purpose of the forest.

(b) No unit shall be authorized as a state forest sub-area unless it is located within a state forest and contains suitable natural resources to accommodate any of the following uses:

(1) Day use areas. Areas which permit recreational use of the forest in its natural state, not requiring an overnight stay, including but not limited to picnicking, fishing, swimming, boat launching, hiking, interpretation and nature observation.

(2) Campground. Provide minimum facilities to accommodate overnight camping.

(c) Outdoor recreation sub-areas located within state forests shall be administered by the commissioner of natural resources in a manner which is consistent with the purposes of this subdivision."

## Goals and Objectives

The statutes and laws previously cited outline the legislation pertaining to state forest ski touring and hiking trails in regard to funding, planning and establishment. Along with this legislation, it is important to establish a goal for the overall State Forest Ski Touring and Hiking Program.

## State Forest Ski Touring and Hiking Program Goal

The goal of the State Forest ski touring and hiking program is to provide Minnesotans with the highest possible variety of quality ski touring and hiking areas. These ski touring and hiking trails shall be developed so that they may be enjoyed for years to come.

However, since the state forest ski touring-hiking is only a part of the program, it is equally important to recognize the overall DNR ski touring-hiking program goal.

## Overall Program Goal

The goal of the overall DNR Ski Touring and Hiking Program (which includes Natural and Recreational State Parks, Recreation Areas, and State Forests), is to provide Minnesotans with the finest ski touring and hiking areas in the nation.

## Objectives for Overall State Forest Ski Touring-Hiking Program

- \* To provide ski touring-hiking opportunities in state forests which are accessible to all citizens of Minnesota.
- \* To improve the 64 miles of existing ski touring-hiking systems in state forests throughout Minnesota.
- \* To develop 150 miles of new or additional ski touring-hiking systems where feasible in state forests throughout Minnesota.
- \* To provide a variety of ski touring-hiking experiences in state forests taking advantage of scenic, topographic, historic and recreational areas.
- \* To involve the governor's appointed ski touring task force and other concerned citizens in the planning and design of ski touring-hiking trails within state forests.
- \* To provide complementary facilities along each state forest ski touring-hiking trail to insure the rest and comfort of the trail user.

- \* To implement a system of signing design and specifications that are consistent along each state forest ski touring-hiking trail which promotes user enjoyment and safety.
- \* To disseminate current, accurate literature of each state forest ski touring-hiking trail for public information and use.
- \* To provide interpretation on the cultural, historic and vegetative features along state forest ski touring-hiking trails.

## Description of the Proposed Action

### Purpose of the Action

To develop and maintain a safe and enjoyable trail for ski touring-hiking within the Golden Anniversary State Forest. This action will serve to meet the non motorized trail needs of the area residents and the rest of the state.

### Location of the Project

The proposed ski touring-hiking trail is located in the Golden Anniversary State Forest, eight miles south of Grand Rapids. (See map in figure 1). Proposed development calls for 6-10 miles of ski touring-hiking trail, trail shelters, pit toilets and parking areas. Two separate areas for ski touring will be developed in the forest. One in Section 18 north of Pokegama Lake, and one in the main forest area south of Pokegama Lake. (See map in figure 2, page 8).

### Magnitude of the Project

### Goal Identification

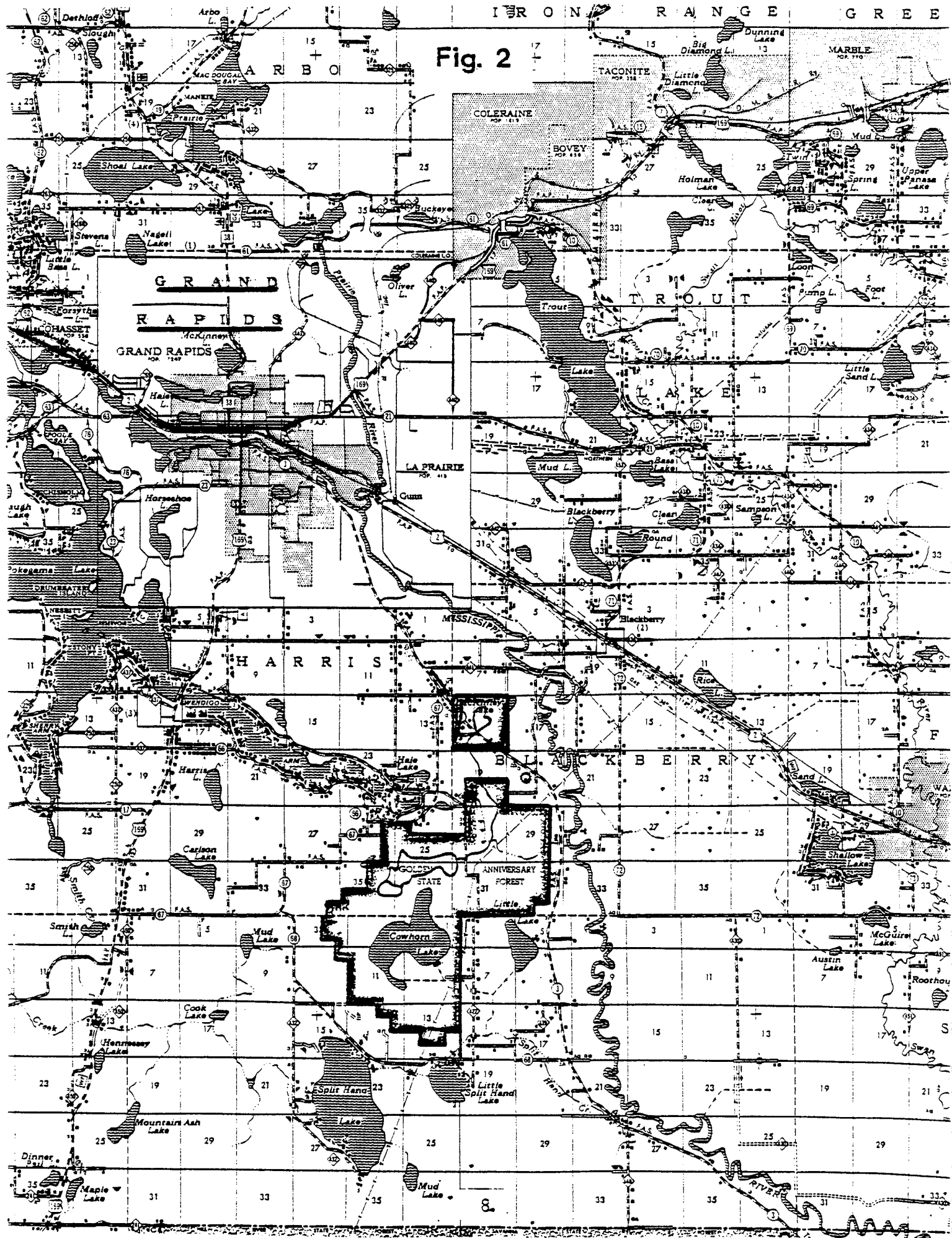
It is the goal of the Department of Natural Resources to develop and maintain the Golden Anniversary State Forest ski touring-hiking trail for the highest quality experience possible.

### Objectives

- \* To properly develop and maintain this trail in light of other on-going management practices.
- \* To gain approval of this plan for the development and management of this day use sub-area.
- \* To complete the development as outlined in this plan by the winter of 1978-79. (i.e., 6 to 10 miles of new ski touring-hiking trail).



Fig. 2



- \* To establish this trail for ski touring and hiking through formal designation of it as a day use sub-area within a state forest.
- \* To develop and implement a maintenance program which will sustain the quality of the trail for the future.

### Existing Development

Present developments in the forest consist of two hunter walking trails developed by the Division of Wildlife. These trails will not be effected by the proposed development.

### Proposed Development

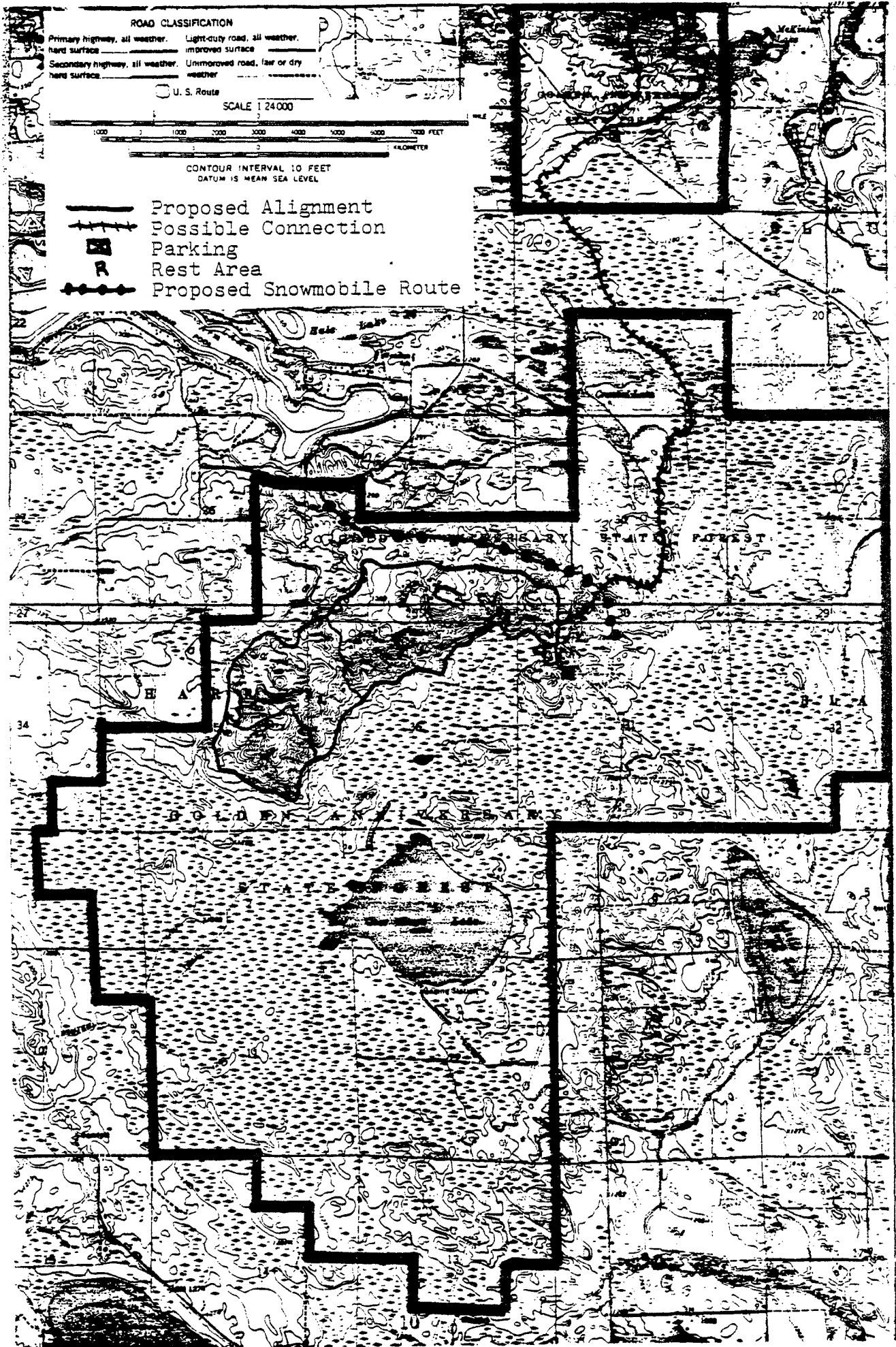
Development of the Golden Anniversary State Forest for ski touring and hiking will involve two separate areas. Development procedures, however, will be similar for both areas.

The first area is located in Section 18 north of Pokegama Lake. One and one half to two miles of ski touring and hiking trail will be developed in this section for use by local residents who have a limited amount of time to spend skiing. A parking area for 5-10 cars will also be constructed here. No other developments are planned at this time. (See map in figure 2, page 8).

The second area is located south of Pokegama Lake and will contain 6-10 miles of trail. One parking area, pit toilets, and a trail shelter will be developed in this area. (See map in figure 2, page 8). A possible connection is shown on the map and will be developed in the future if use is sufficient to warrant it.

Both areas being considered for development are presently used by local snowmobilers. Although no designated snowmobile trails exist within the forest, a use corridor has been established. Because of this established use a proposed snowmobile route is shown in figure 3. This route would permit access to Pokegama Lake along the northern edge of the forest. This route is proposed not only to eliminate conflicts with the ski touring-hiking trail, but also to avoid conflicts with the existing deer yarding area in the lowlands north of Cowhorn Lake.

Fig. 3





DNR personnel will work with the local snowmobile club on a grant-in-aid trail proposal for this area so that this route can be connected.

In section 18 the ski touring and hiking trail will be routed to avoid conflicts with local snowmobile routes. In most cases this will mean routing the trail off of existing roads.

Although there are no designated snowmobile trails in the forest, snowmobiling is an established use and will not be eliminated from the forest.

### Trail Alignment

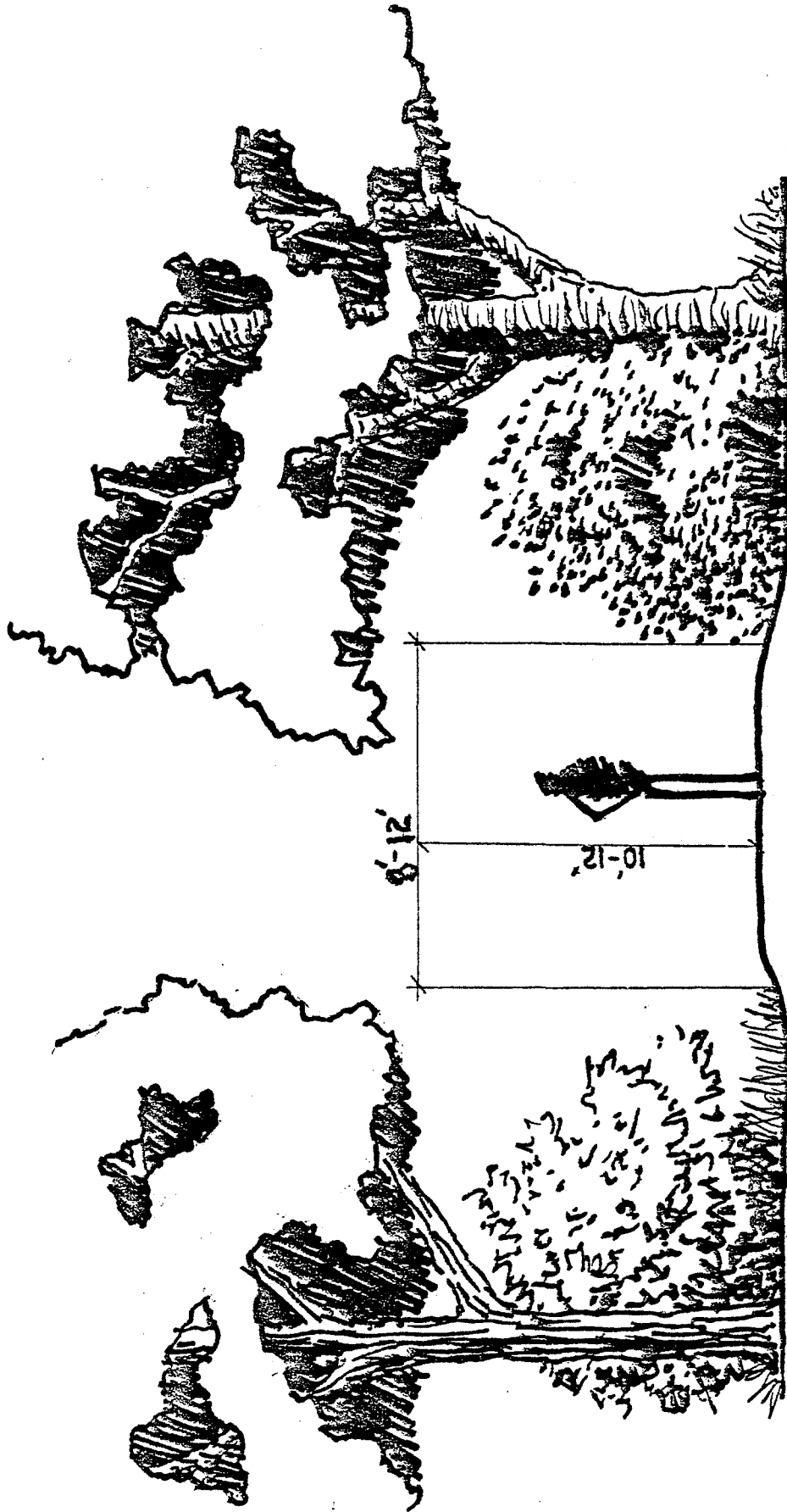
A preliminary alignment for both ski touring-hiking trails has been laid out on a topographic map with preliminary loops identified. (See map in figure 3, page 10). Parking areas and a rest area sight have also been identified. These proposed alignments and complementary facilities are only general and are subject to revision as development commences. The trail will be routed to avoid conflicts with the existing deer concentration area near Cowhorn Lake. It is suggested that the alignment not follow existing roads, since they will be used as logging access.

DNR personnel, members of the local ski club and other concerned citizens, will inspect the preliminary routes in the field and make recommendations for changes. After the changes have been agreed upon, the final routes will be flagged with plastic ribbon and any alterations of the sight specifics will be noted on a map. Drainage problems, bridge sights, and other problem areas will also be marked. It should be mentioned that the trail's alignment will retain certain flexibility in the event it has to be moved in the future.

### Trail Design

The right-of-way for the trail will vary from 8-12 feet depending on terrain and the difficulty rating of the trail. (See figure 4). This width is required to accommodate grooming and maintenance vehicles.

Fig.4  
Ski Touring Trail Treadways



minimum clearances needed  
for ski touring trails

width varies with terrain  
height varies with snow depth

Slopes of not more than 15% are recommended for the novice trail. Gradients up to 25-40% can be utilized for the more advanced loops. Runouts at the bottom of steep hills will be cleared to allow skiers to slow down safely. A minimum width of 6-8 feet is required on hills to allow the skier to herringbone or sidestep up hills and to snowplow down hills.

### Trail Construction

Trail construction will involve the removal of all trees, brush and branches to the desired height and width of the right-of-way. Larger trees should be cut at a height of 2-3 feet to allow a crawler tractor a chance to get a good leverage for stump removal.

Trees and branches removed from the right-of-way should be cut into merchantable lengths, or scattered away from the trail. (Brush and stumps piles can be used to provide wildlife habitat.)

Stumps and rocks should be pushed into piles in designated areas which are inconspicuous from the trail. After clearing the vegetation, the treadway should be leveled with a slight pitch to allow for proper drainage. Cutting and filling techniques may also be used in this process. (See figure 5).

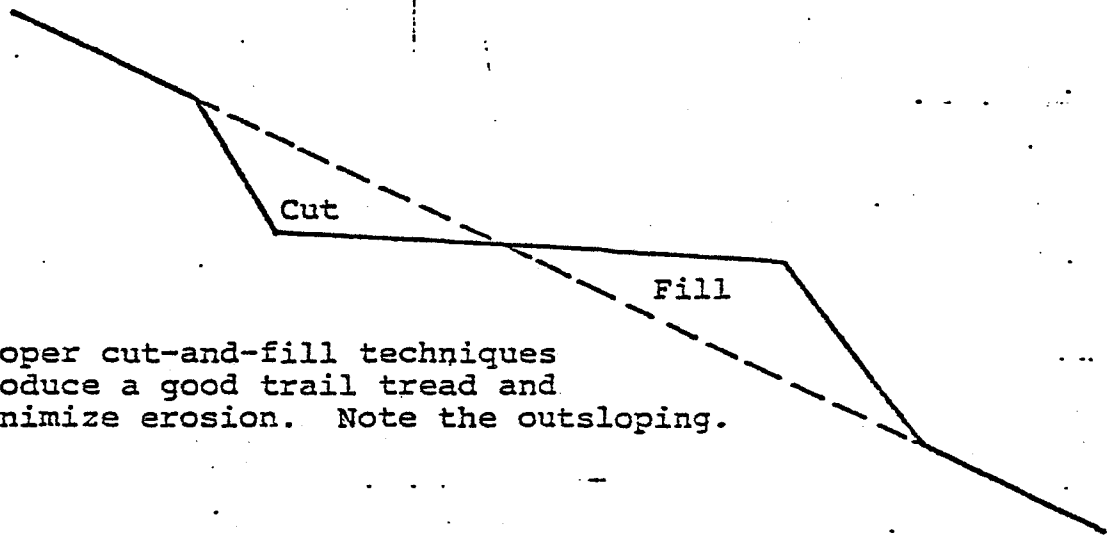
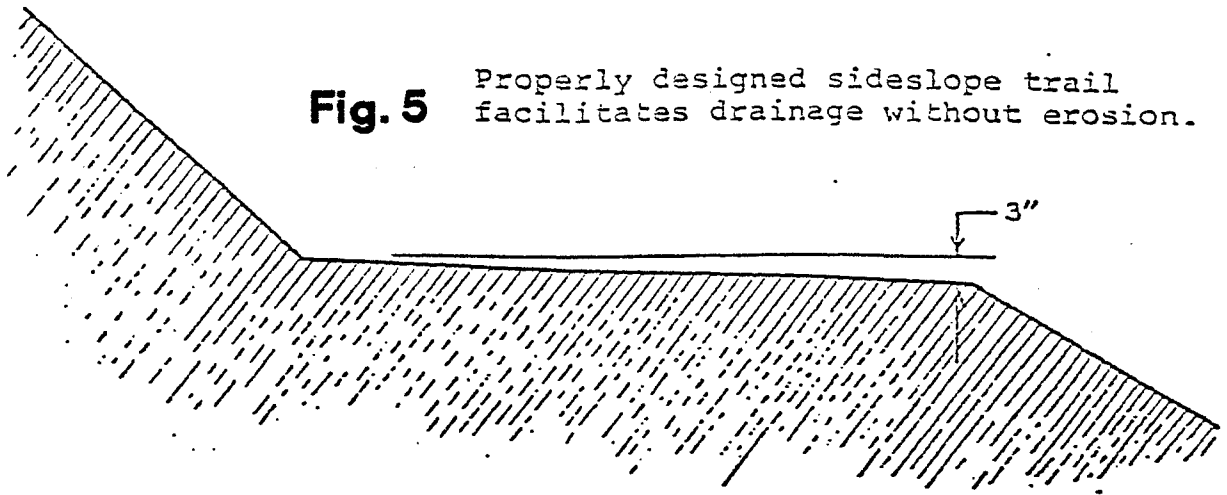
All areas where earth is disturbed will be seeded with a wildlife or other seed mixture to prevent erosion. Where erosion is a problem, water bars as shown in figure 5a will be constructed.

Wet areas along the trail will require courdoroy and/or other fill to allow for multi-season use. Where the treadway is elevated by these methods, culverts may be necessary to maintain natural drainage. (See figure 6).

### Bridges

No bridge crossings have been identified at this time. Should a bridge crossing become necessary after field alignment, the following guidelines will apply:

**Fig. 5** Properly designed sideslope trail facilitates drainage without erosion.



Proper cut-and-fill techniques produce a good trail tread and minimize erosion. Note the outsloping.

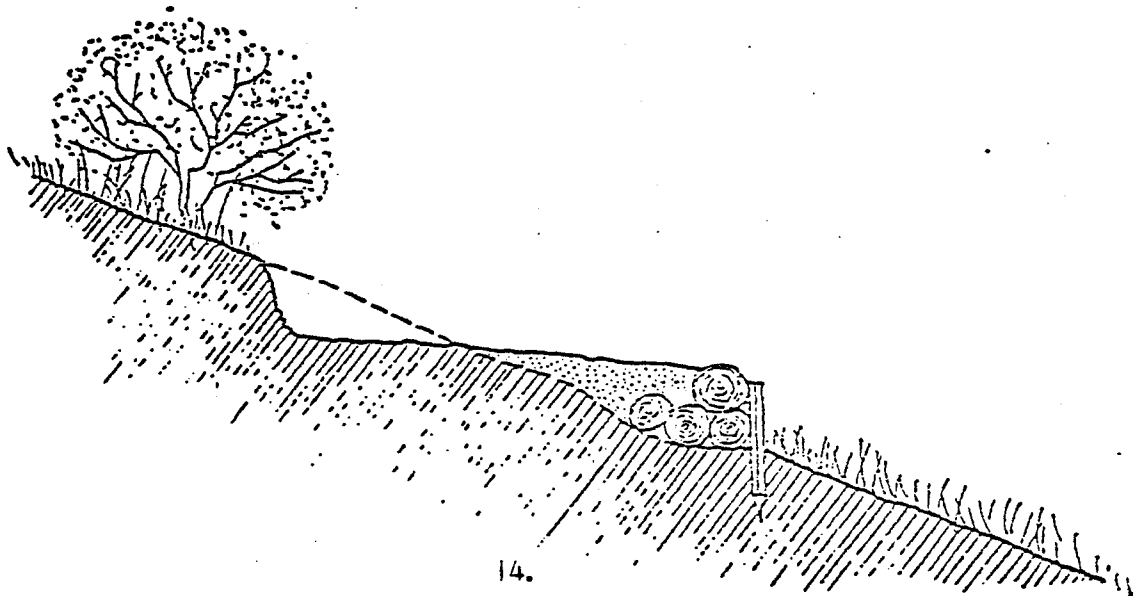
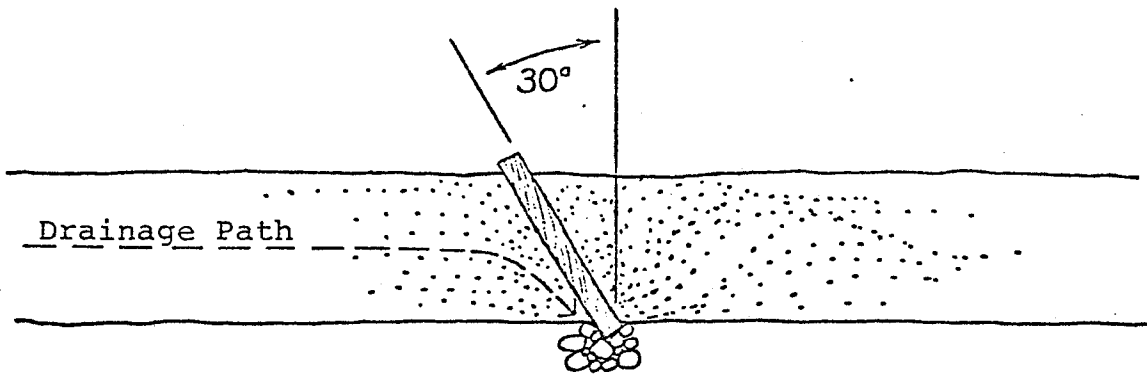
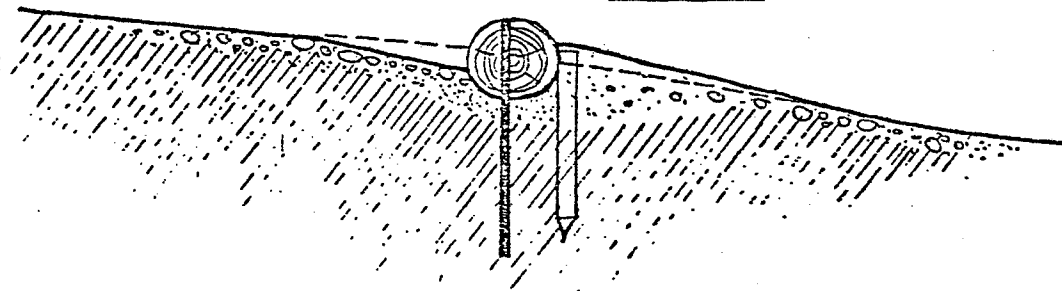


Fig. 5a

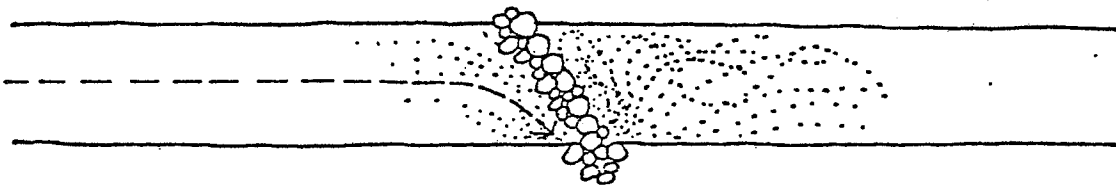


Landscape soil to top of water bar  
on downhill side.



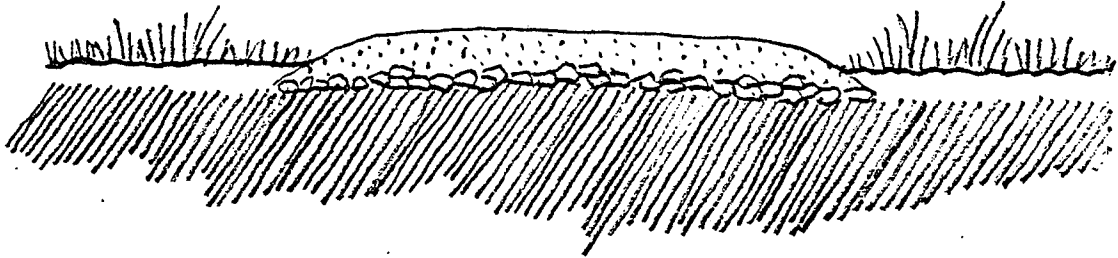
Water Bars

Note log is held in place by steel  
pin and/or wooden stake. Below, stones  
are used as a water bar.

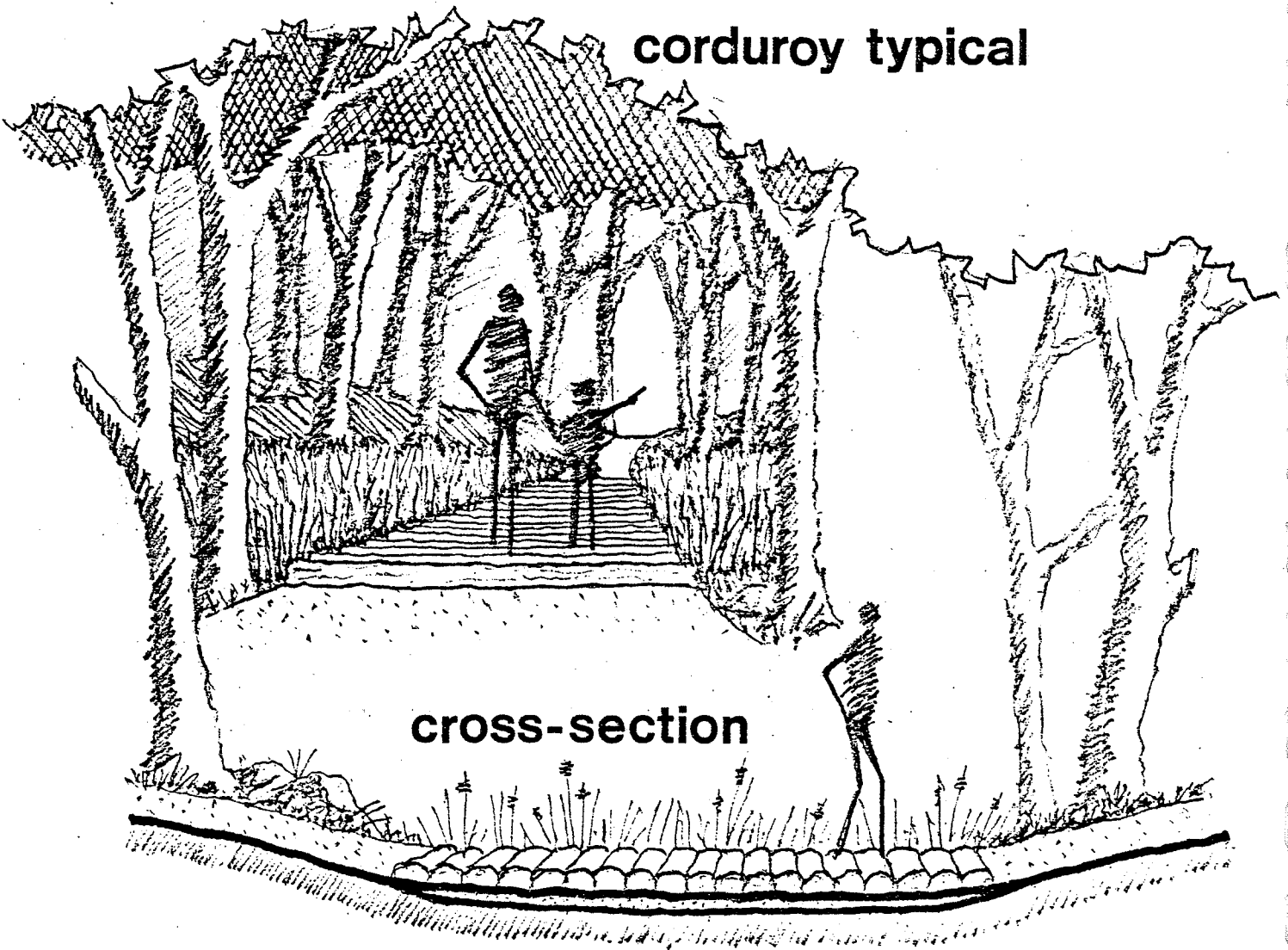


**Fig. 6**

**elevated tread**



**corduroy typical**



**cross-section**

Bridges will be constructed over any large free flowing stream or wet area. Bridge types will vary according to stream width and expected use. Bridge design will be up to the unit manager with help from the Bureau of Engineering. Where possible, bridges should be made of natural materials which blend into the natural setting of the area. (see figures 7 and 8). Permits will be required from the Division of Waters before bridges, culverts, corduroy and other developments which effect waterflow are constructed.

### Barriers

Natural or constructed barriers to prevent motorized vehicle entry will be utilized at trail entrances, road crossings or other problem areas. Narrowing of trail width is the most simple, economical way and should be utilized whenever possible. This method, however, is not feasible when mechanical grooming equipment is utilized, unless other access for this equipment is provided.

If constructed barriers are necessary, the unit manager should decide what type of barrier will suffice.

### Rest Area

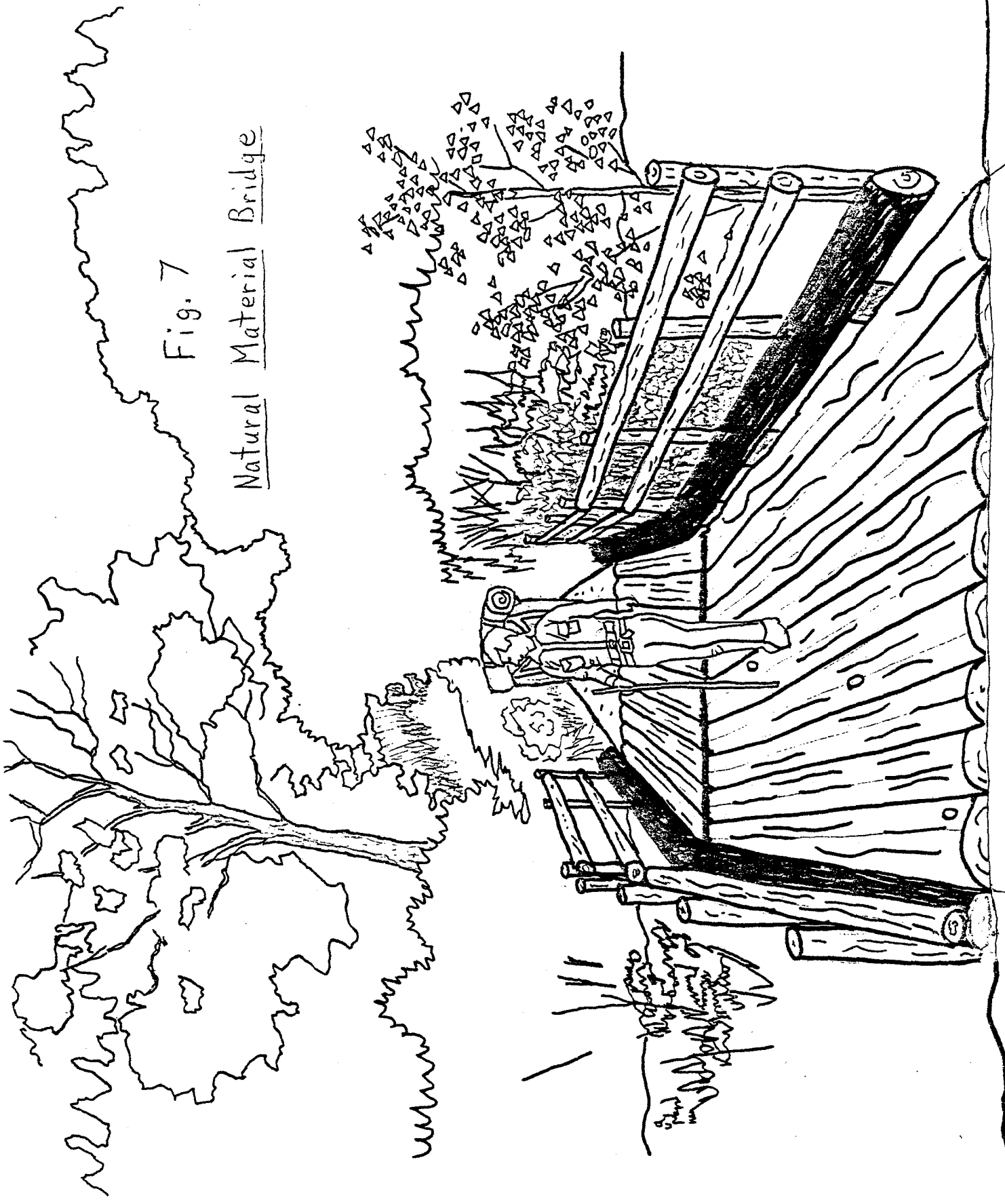
One rest area site has been identified for construction. (See map in figure 3, page 10). The rest area will include a trail shelter and fire ring. (See typical in figure 9, page 20). A pit toilet may be added later if necessary.

Log shelters will be constructed according to Bureau of Engineering standards and will be placed a short distance from the treadway in a manner which will block the prevailing wind. Open spaces between logs should be properly filled with natural materials. Bottoms of shelters should be banked to stop wind flow.

A fireplace ring will be placed in front of the shelter to allow for warmth and cooking. Firewood should also be provided so that trees at the site are not destroyed. Moreover, snowcover in the winter, hinders wood scavenging. Simple log benches every 2-3 miles in scenic locations will provide users an additional chance to rest and enjoy the surroundings. These benches will be of a primitive type and located a short distance off the trail. (See figure 9.5, page 21).

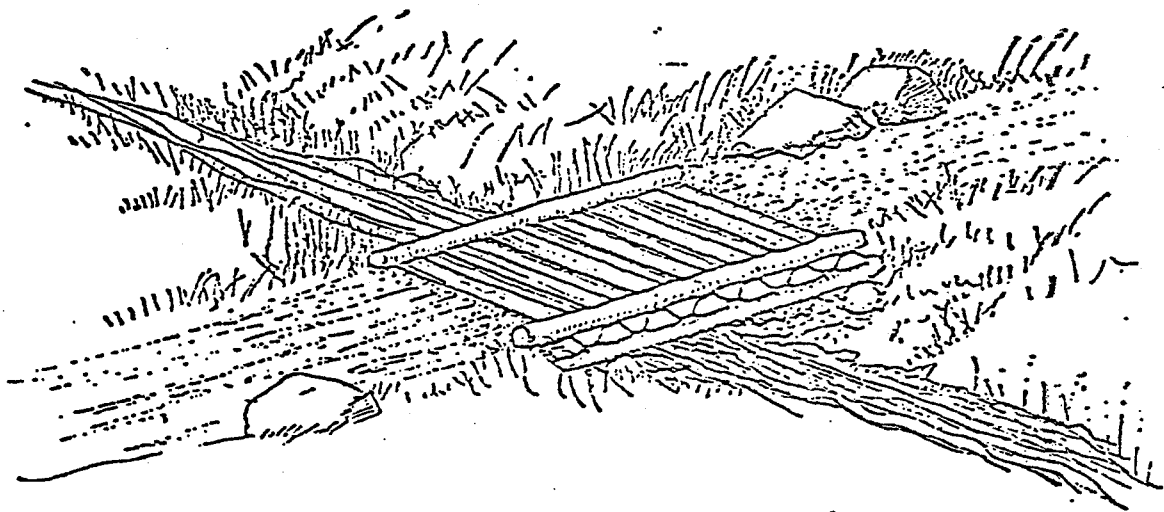
Natural Material Bridge

Fig. 7





**Fig.8 Small Natural Material Bridge**



This is a smaller natural materials bridge. It should be utilized over small stream crossings, drainage ditches and in some cases, over excessive wet lands.

Fig. 9

Rest Area Typical

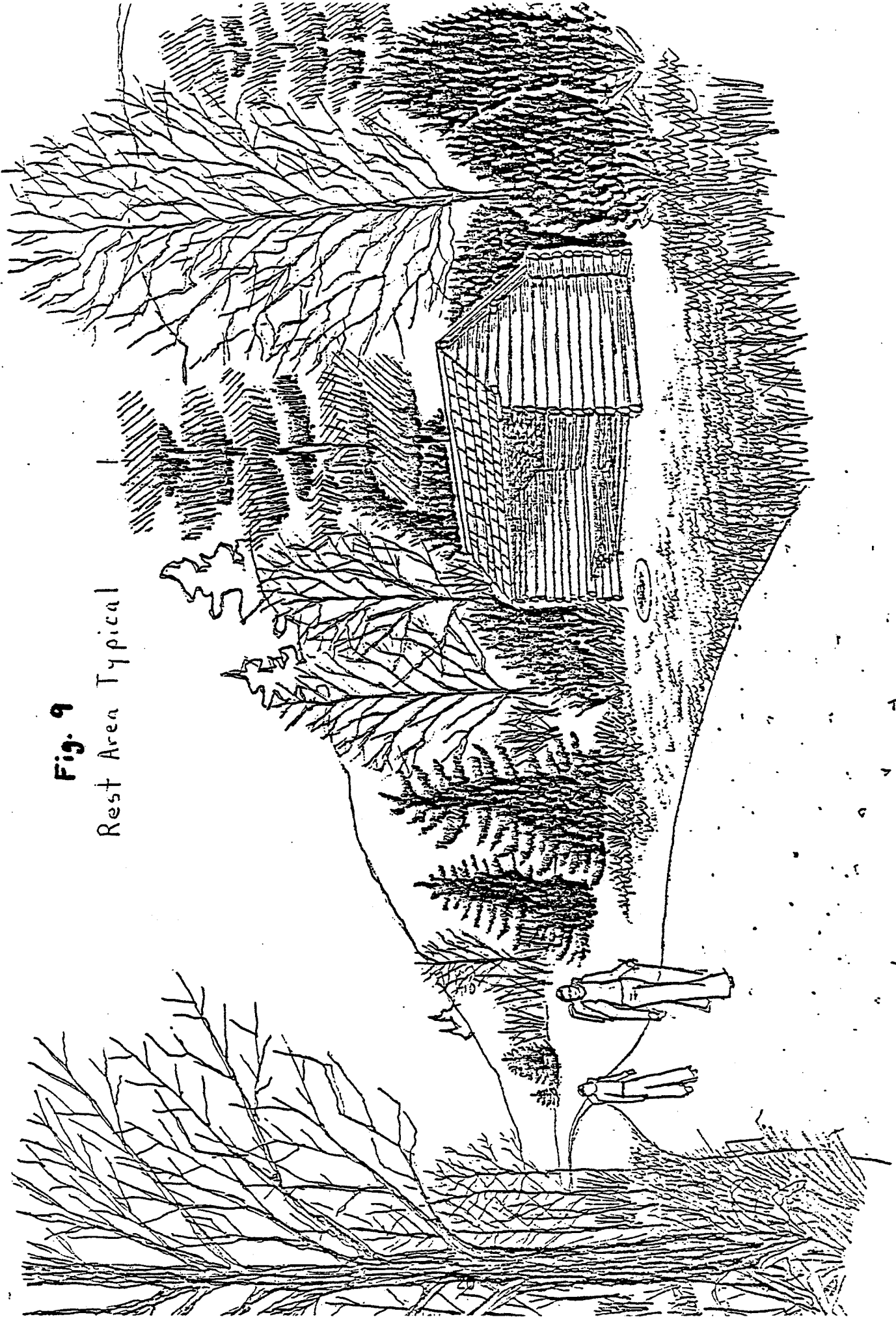
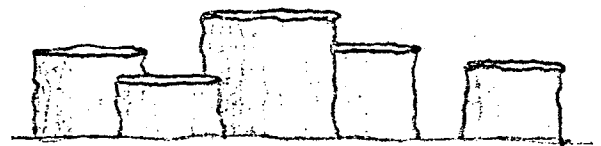
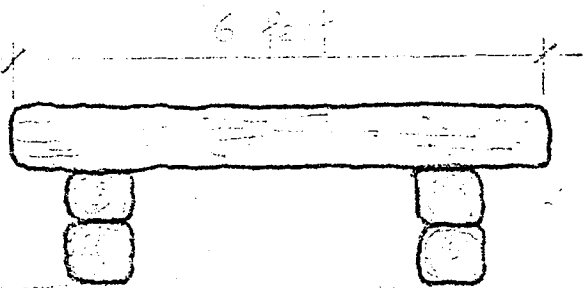
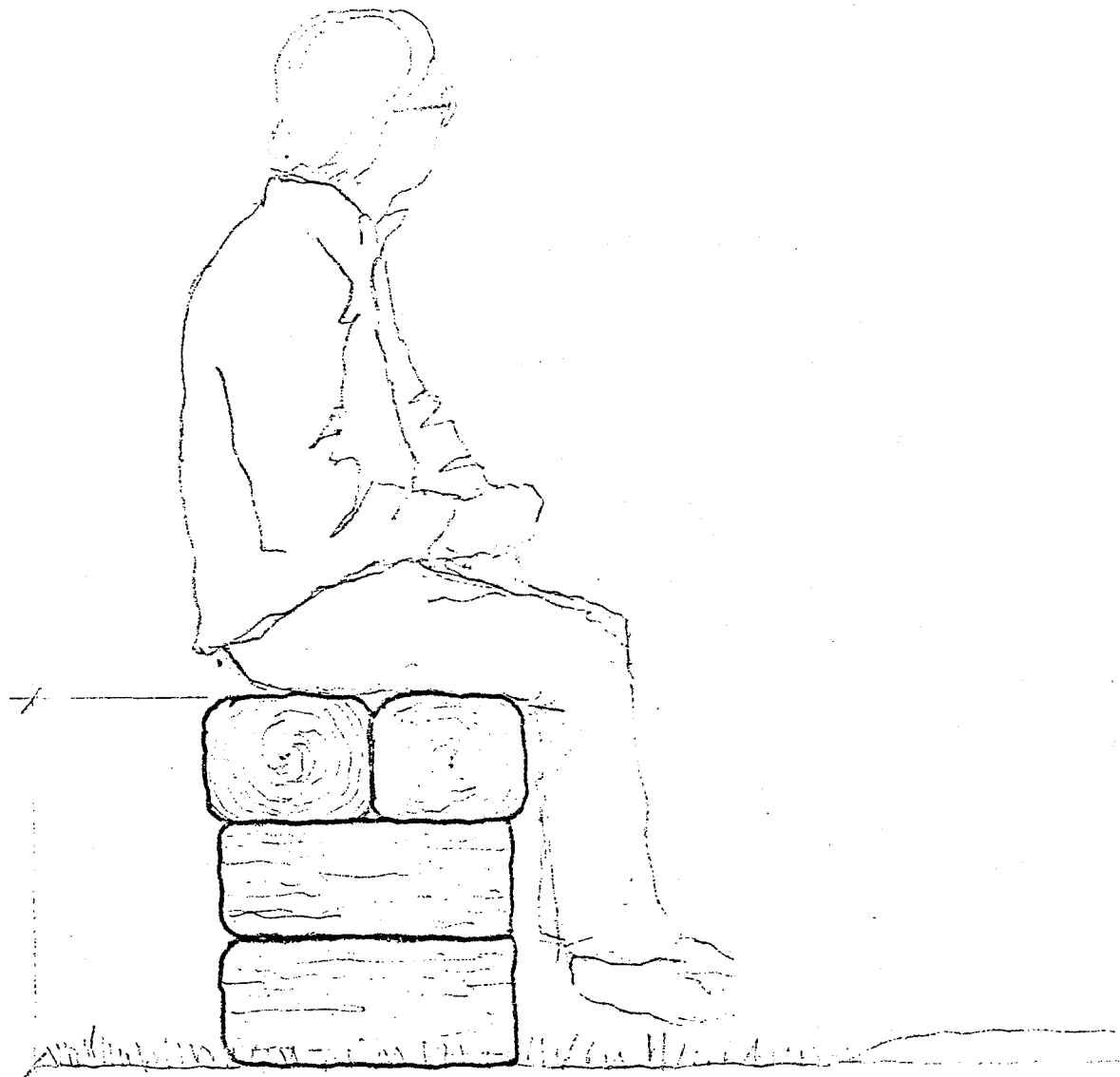


Fig. 9.5



The pit toilet if necessary will be constructed according to Bureau of Engineering standards and should be located a short distance from the rest area. (See figure 10).

### Entrance Roads and Parking Lots

Parking lots with entrance roads will be constructed in the areas marked on the map in figure 3, page 11. A 5-10 car lot should be built at the ski area in section 18. A 5-10 car lot will also be built at the west entrance. (See typical in figure 10.5) Surfacing of the lots with class V gravel may be necessary to make them passable for year-around use.

Wood routed entrance signs should be placed on the main roads to mark access to ski trail parking areas. (See typical in figure 11, page 24).

### Signs

A wood routed trailhead sign showing the layout of the trail will be constructed at each trail entrance. An informational bulletin board containing a printed trail map, emergency phone numbers, trail regulations, and other information will also be built here. (See sign typical in figure 11, page 25).

"You are Here" signs will be placed at all trail junctions, and trail difficulty markers will be placed in strategic locations. Warning, regulatory, and information signs will also be erected in appropriate locations. (See sign typical in figures 11 & 12, pages 25 and 26). Interpretive signs indentifying tree species, management techniquet and other special features of the area should also be erected.

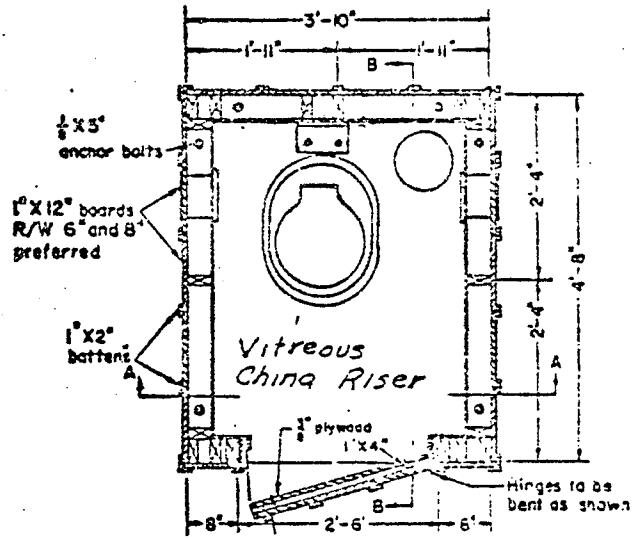
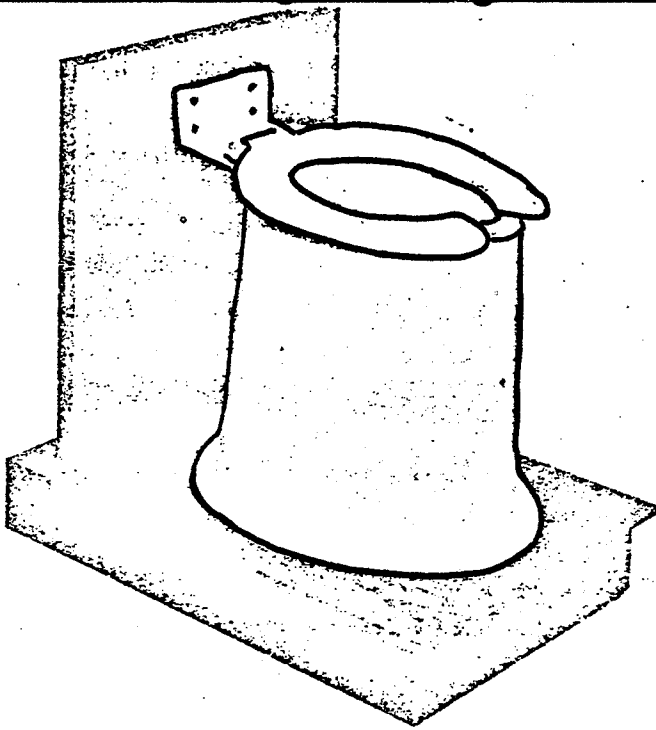
### Maps

User maps are extremely important and will be used in conjunction with the signing system. Maps will show a generalized location of the forest and the trail route with mileages. Interpretive information about the history, development and management of the area will be included on the back. Maps will be the responsibility of the Division of Parks and Recreation to develop and print. The Trail Project Planning Staff and the Division of Forestry will have input as to their content and makeup.

### Maintenance

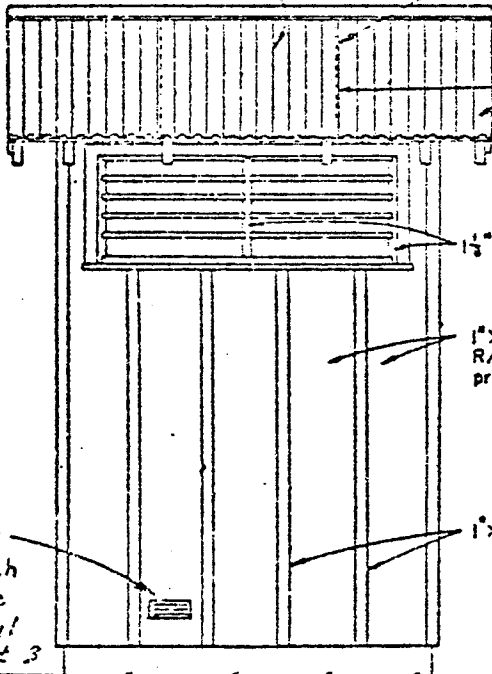
Maintenance of the Golden Anniversary Ski Areas after development is the most important tool for sustaining their quality. Therefore, maintenance monies are essential if the area is to become a quality ski touring and hiking area.

**Fig.10 Single Seat Pit Toilet**

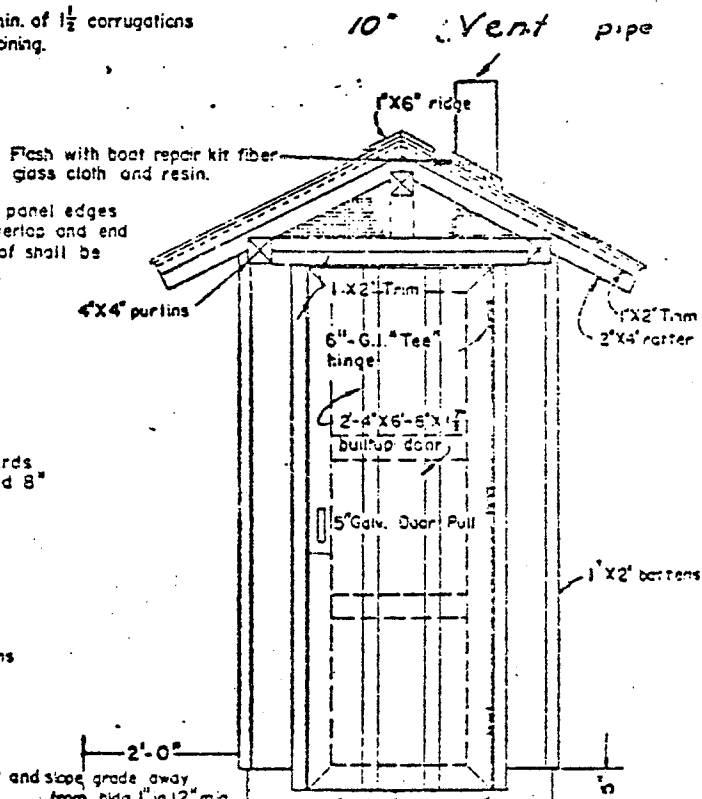


**PLAN**

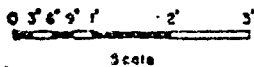
Lap a min. of 1 1/2 corrugations when joining.  
 1/2" x 2 1/2" corrugated translucent fiber glass roofing corrug. or equal. Install in accordance with manufacturer's instructions.



**SIDE ELEVATION**  
 (OPPOSITE SIDE SIMILAR)

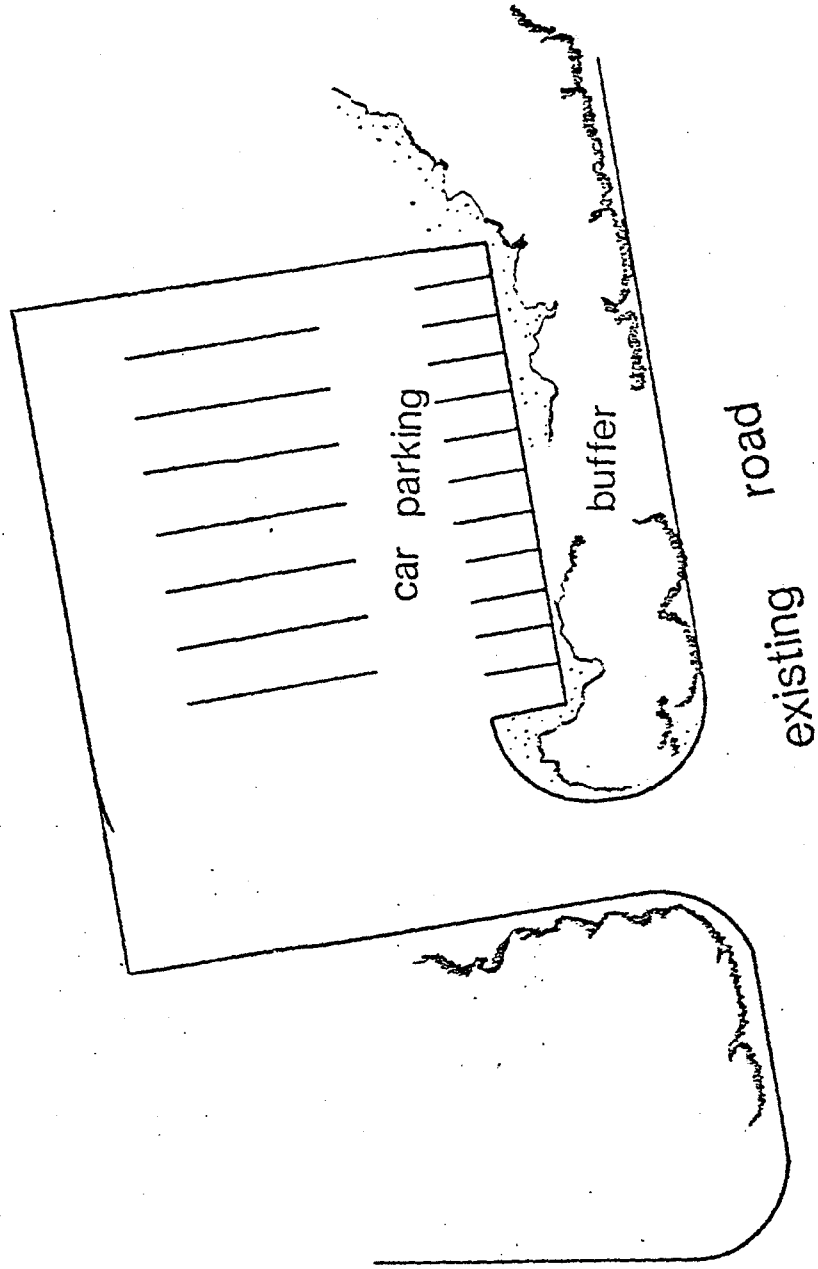


**FRONT ELEVATION**

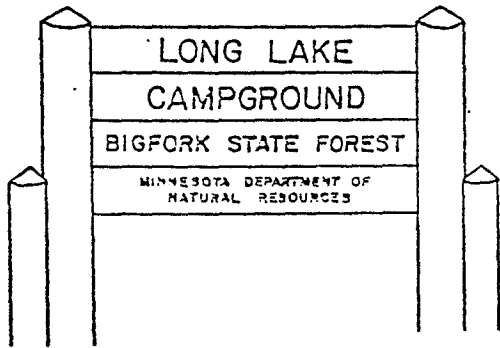


**Fig. 10.5**  
**PARKING LOT TYPICAL**

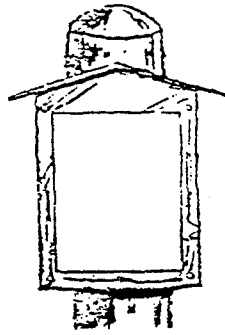
PLAN VIEW



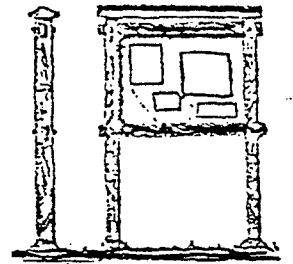
# Fig.11 Sign Typicals



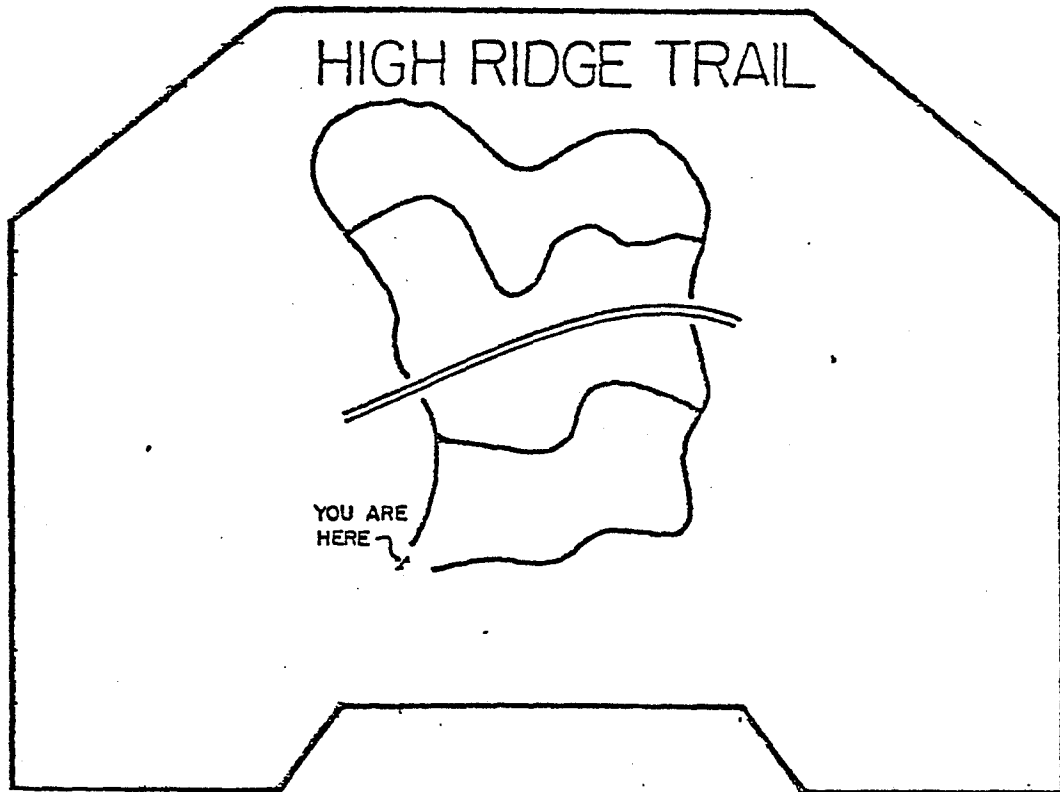
**Entrance Sign**



**"You are Here"  
Sign**



**Information  
Bulletin Board**



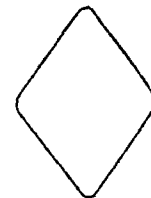
**Trailhead Sign**



**Skier**



**Hiker**

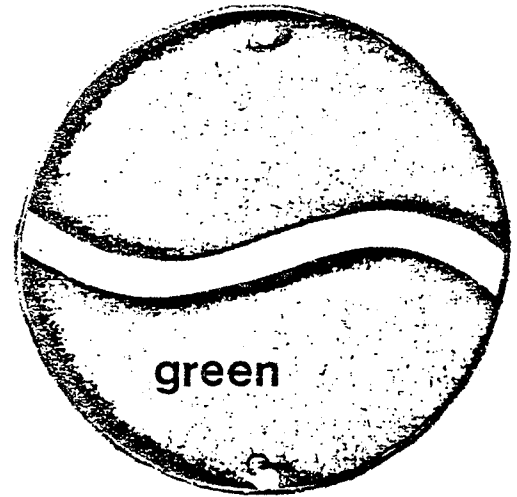


**Blazer**

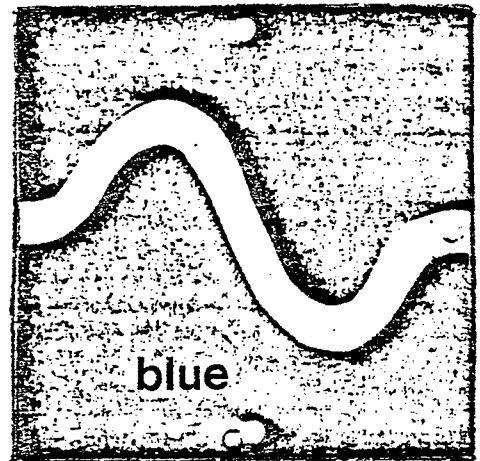
Fig. 12

# Trail Difficulty Symbols

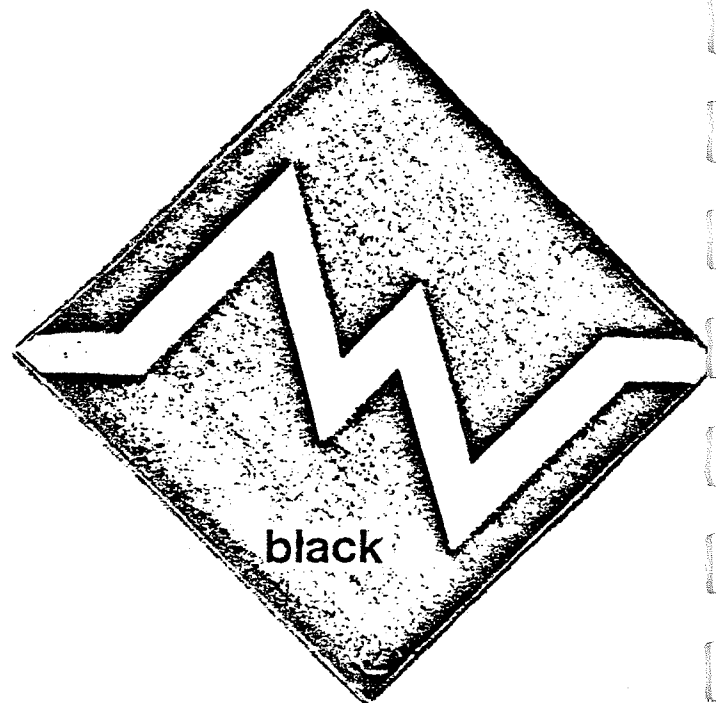
**easy**



**more difficult**



**most difficult**





At present, there are no funds earmarked for maintenance of ski touring and hiking areas developed through the bonding bill program. Therefore, it is a recommendation of this plan that maintenance money be made available through legislation to insure the quality of this area.

Maintenance of the Golden Anniversary Ski Areas will require a year-around program. Routine maintenance will include litter pick-up, cleaning shelters and toilets, stacking firewood, maintaining signs and clearing surface vegetation. Major maintenance will involve removal of windfalls, painting and repairing of structures, and controlling erosion where necessary.

Winter grooming of ski treadway will be done on a contract basis or by state employees using DNR equipment. No equipment is available for state use at this time, therefore, if a contractor cannot be found to groom the treadway, suitable equipment will have to be purchased. Winter grooming will be set up on a flexible schedule to allow for periods of high and low use.

Periodic inspections will be made throughout the year to evaluate maintenance problems and actions needed. Inspections may be made by the District Forester or his designate (i.e. maintenance foreman or by the person in charge of trail grooming). The Regional Trails Coordinator and St. Paul staff may also inspect the trail if necessary.

#### Steps Involved in the Planning Process

1. Project proposal is initiated by district forester and is submitted through the area and regional foresters (At this time, the proposal is evaluated for worthiness and the potential for public support).
2. After proven feasible and consistent with the state forest multi-use concept, the proposal is sent to St. Paul.
3. Proposal is then investigated by the Bureau of Planning and Research with the input of the regional trails coordinator, area and district foresters, and other involved divisions.

4. Area of study is defined and a preliminary plan is prepared based on this study. Regional trail coordinator, and the area and district foresters perform necessary "groundwork" and report information to the Trail Project Planning Staff. Input is also received from various levels of government, special interest groups and others.
5. Preliminary plan is sent out to DNR divisions involved for review.
6. Plan is revised subject to this input and printed for public hearing.
7. A public hearing is held in the local area of the unit.
8. Plan is revised again taking into account public, departmental, and other agency review.
9. Plan is submitted to State Planning Agency for review for consistency with the Outdoor Recreation Act of 1975.
10. Possible revision subject to State Planning Agency review.
11. Final Review by State Planning Agency.
12. Implementation of the plan by the Division of Forestry and the Regional Trail Coordinator.

Note: Planning is an on-going process which does not stop after final State Planning Agency review. The management plan's built in flexibility allows for site specific decision at the time of development. After development is completed, periodic reevaluation of the management program is required for response to changing conditions.

### Implementation

The structure of the Department of Natural Resources is such that the Bureau of Planning and Research – Trail Project Planning is responsible for coordinating the planning process and general implementation monitoring. After the plan is reviewed for the last time by the State Planning Agency, trail development can begin.

The Division of Parks and Recreation has the responsibility for funding the project. They are also responsible for monitoring development and maintenance to insure that funds are spent in compliance with the bonding bill and master plan.

The Division of Forestry implements the plan, by assigning appropriate regional staff to carry out the development and maintenance of the trail. This development and maintenance must be done in accordance with the management plan.

The regional trails coordinator will coordinate other managers activities within the region. He will also coordinate design of trails and facilities with the area and district foresters. Actual construction and maintenance of the trails will be contracted and/or done by state crews under supervision of the area and district foresters. Maintenance schedules and contracts will be worked out by the area and district foresters and the regional trails coordinator.

Changes in the management plan must be cleared through the Bureau of Planning and Research-Trail Project Planning.

Estimated Costs

Parking Lot and Access Road Development	-	6,000
Entrance Signs, Trailhead Signs and Bulletin Boards	-	3,000
Trail Treadway Construction	-	5,000
Rest Area Construction	-	2,000
Trail Signs and Maps	-	1,500
<hr/>		
Estimated Cost		18,500

Maintenance Costs

Maintenance costs will be worked out by the district forester, area forester and regional trails coordinator. A rough estimate of maintenance cost is \$2,000/year.

### Timing of the Project

Sixteen state forest ski touring and hiking areas have been identified as prime areas for development or improvement during 1978. The Golden Anniversary ski touring and hiking trail is one of these projects.

The proposed developments are scheduled to be constructed during the summer and fall of 1978 so that they will be ready for use in the winter of 1978-79.

The area will be monitored continually by the district forester and other personnel to assess any problems that have occurred or to assess any additional developments which may be necessary.

### Future Potential Development

No future development areas are being studied for the Golden Anniversary State Forest at this time. If additional mileages or facilities become necessary, their development should be consistent with this plan. Any future recreational development of any type within the forest will be coordinated with this plan and the overall management plan for the Golden Anniversary Forest when it is formulated.

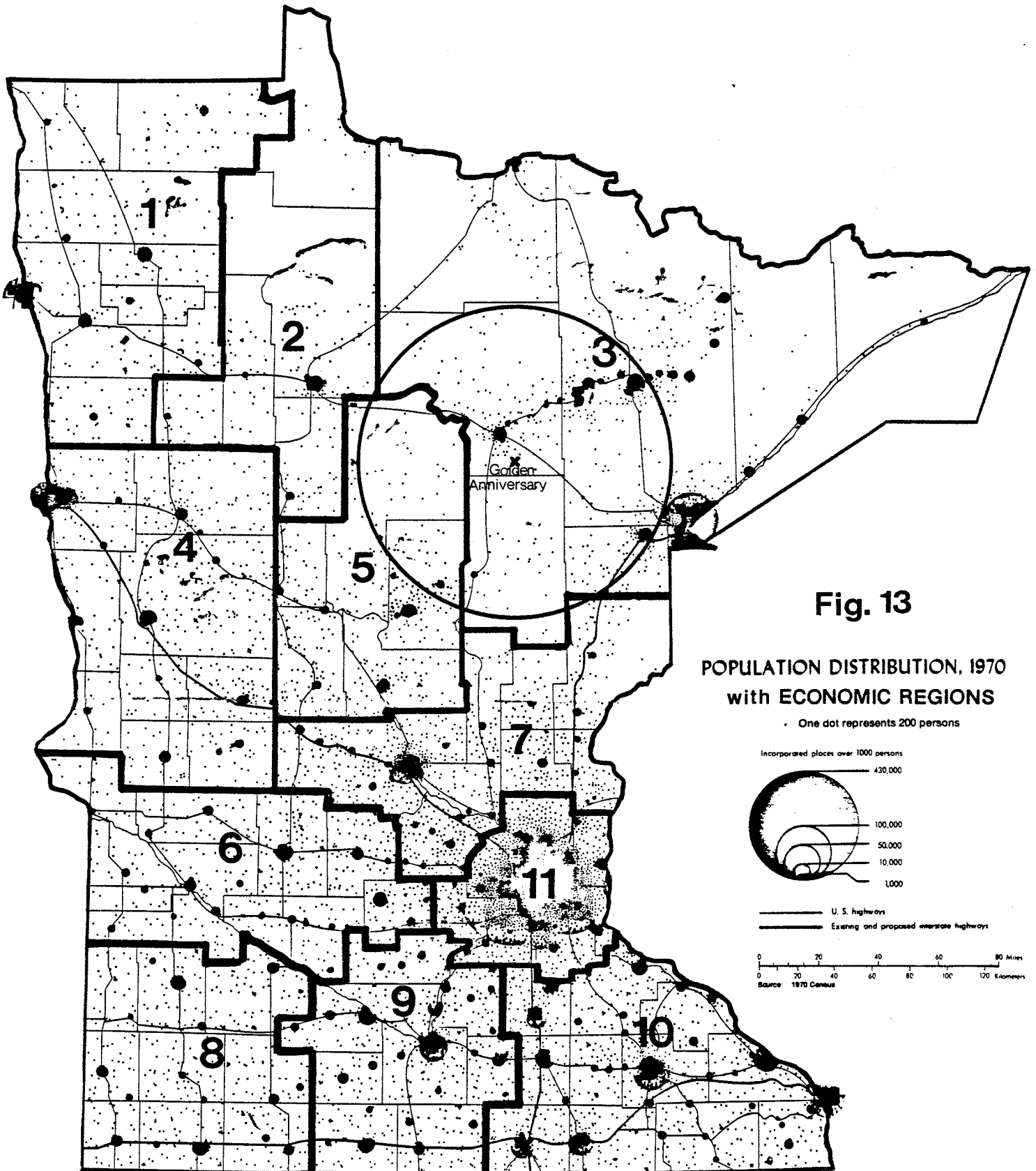
### Recreational Needs to be Served by the Project

Ski touring and hiking are two activities that have experienced a tremendous growth in popularity in recent years. The 1974 Minnesota State Comprehensive Outdoor Recreation Plan (SCORP) identified ski touring and hiking as two of the fastest growing recreational activities in the state.

At that time, it was estimated that the number of Minnesotans participating in hiking was 300,000 and it was projected that over 100,000 Minnesotans would be participating in ski touring by 1975. SCORP also emphasized that these activities would continue to grow in popularity in the future.

The potential use area for the Golden Anniversary unit includes Economic Regions III, V, VII and XI. The map in figure 13 shows the immediate day use area. This area is defined as the distance people would travel to use this unit without requiring overnight facilities. Most day use can be expected from Grand Rapids, Coleraine and other Iron Range Cities which are growing in population. Additional weekend users can be expected from Regions VII and XI as people from these areas travel to northern areas for quality skiing. Twin City residents, where quality trails are in short supply, may figure prominently in the weekend use of this area.

No figures are presently available on user demand by region or state.



## Description of the Environment

### Topography

The topography of the area is rolling with scattered potholes and gullies. The rolling areas are terminal moraines, while the nearly level, poorly drained areas are glacial outwash plains. Elevations range from 1,377 feet in the hilly areas to 1,263 feet in the low areas.

The area contains many medium and small lakes which add to the scenic quality of the terrain.

### Soils

Detailed soil survey information is not presently available for the Golden Anniversary State Forest. Broad soil characteristics show that the area contains sands or loamy sands deeper than four feet. Some small areas have finer textured materials within 3-4 feet. Drainage ranges from very poor to excessive.

Major problems with these soils are droughtiness due to low water holding capacity, low natural fertility and a serious wind and water erosion hazard if lands are cleared. Major soils series are Menahga, Hiwood and Radby.

### Climate

Average annual snowfall for the Grand Rapids area is 50-60 inches with an average annual number of days with snowcover of 1" or more of 130-140 days. The area normally has a snowcover of 6" or more for 60-80 days.

Winter (December, January, February) normal temperature is 10°F. Mean maximum temperature for January is 18° with mean minimum temperature of -6°.

Mean annual precipitation averages 26" with a summer (June, July, August) normal temperature of 65°F. Mean maximum temperature for July is 80° with a mean minimum temperature of 54°.

### Water Resources

Surface water resources in the Golden Anniversary State Forest consists of five small to medium sized lakes with numerous marshes and creeks existing in the area. These natural lake basins are an important amenity to the area.

### Mineral Resources

No economic concentrations of mineral resources are known to occur within the Golden Anniversary State Forest.

### Vegetative Cover

The uplands of the forest support stands of aspen, maple, birch, basswood, Norway pine, jack pine and white spruce while the lowlands produce black spruce, tamarack, and northern white cedar.

### Wildlife

The Golden Anniversary State Forest contains a relative abundance of deer, grouse, rabbits, squirrels and other small game. Other animals present include beaver, mink, muskrat, waterfowl and songbirds. Species present and their abundance in the forest will vary with the seasons.

Of special note is the high concentration of deer found in the area which will provide an excellent chance for skiers to observe wildlife. Precautionary measures, however, will have to be taken in development to insure that this deer concentration area is not disturbed during development and use of the trail.

### Land and Timber Resource

The Golden Anniversary State Forest contains a gross land area of 6,811 acres within its boundaries. Of this, 1,801 acres are administered by the Division of Forestry, 3,570 acres administered by Itasca County, with the remaining acreage (1,440) under private control.



There are 807 acres of timber producing state land in the forest. Norway and white pine (38 percent) and aspen-brich (35 percent) are the predominant coverytypes. The remaining acreage is made up of cedar, hardwoods, black spruce and spruce-balsam coverytypes. The forest also contains 84 acres of lowland and upland brush.

#### Air and Water Quality

Golden Anniversary State Forest is located nearby Grand Rapids which is one of the larger population centers in the area. Local industrial air pollution does exist at times, but does not appear to be a problem here. Auto emissions are also a minor source of local air pollution.

Surface water quality in the area is reasonably good and water pollution is not considered a problem in the area. No wells are being proposed for users in the area. Therefore, groundwater quality has not been studied at this time.

#### Historical and Archaeological Resources

The Golden Anniversary State Forest is located in the Grand Rapids District, Itasca County. In this county, logging became the first important industry, starting in the winters of 1867 and 1868. In 1870, the population of the county was 96. The inflow of people after that date became rapid and has now reached beyond 40,000. A setback occurred in 1880 when the county was ravaged by smallpox. After the smallpox outbreak, logging went into full swing and was a booming industry by the turn of the century. Logging camps and sawmills dotted the land. Logging railroads pushed out in many directions to connect the big logging operations. New towns appeared overnight. It was thought that the supply of timber could never be exhausted. However, in 1916 the last logging drive floated down the Mississippi River and in 1926 that big era of logging ending in Itasca County. Today, state and private forest management prevails.

No archaeological sites have been identified within the Golden Anniversary State Forest to date. The potential for finding such sights is not extremely high, however, this aspect will be investigated before upgrading of the trail begins.

### Transportation and Utilities

Access is provided to the Grand Rapids area via U.S. highway 2, state highway 38 and U.S. highway 169. Access to the trail sites is provided by county road 3 which traverses through the forest. (See figure 2, page 9).

Presently, one known powerline corridor was identified within the forest. No telephone or electrical services are available at this time. Utilities are available, however, to residences and facilities in the surrounding area.

### Socio Economic Factors

The Minnesota State Planning Agency (SPA) population projections for Itasca County and Economic Development Region III are revealed below:

#### Population Projections

<u>Year</u>	<u>Itasca County</u>	<u>Region III</u>
1980	36,600	330,300
1985	37,700	332,600
1990	37,700	332,400
1995	37,500	330,200
2000	36,400	325,400

Four areas of major employment for Itasca County are: Mining (16.5 percent of employed labor force), Government (10.3 percent) Manufacturing (8.3 percent) and Retail and Wholesale Trade (7.2 percent).

Tourist – travel expenditures during 1974 totaled \$14,721,273. These expenditures accounted for 7.2 percent of gross sales.

## Land Use and Development Trends

### Itasca County General Land Use (Forty Acre Parcels)

Cultivated	609	Urban	839
Pasture and open	2,539	Extractive	459
Water	4,027	Transportation	6

Total - 47,098

Current agricultural, residential and commercial/industrial developments in Itasca County do not immediately affect the Golden Anniversary ski touring-hiking trail. State and county lands surround the entire vicinity of the trail. However, it should be mentioned that the Pokegama Lake area, located northwest of the forest, is becoming an area of increasing development.

### Facilities in Region 3

Economic Region 3 encompasses all of northeastern Minnesota, a region that has a great number of outdoor recreation facilities. Two national forests, the BWCA, 16 state parks, 4 corridor trails, 12 historic sites, 22 state forests, 559 miles of ski trails and 1,800 miles of snowmobile trails can be found there. One reason for this area's large number of recreational facilities is that over 85 percent of the land in this region is in public ownership.

Numerous resorts, motels, hotels and campgrounds can also be found throughout the region. Many of these facilities are open year-around to accommodate the needs of outdoor enthusiasts. Gas stations, repair shops and ski shops can also be found throughout the region.

### Facilities in Itasca County and Grand Rapids Area

Itasca County and the Grand Rapids area offer a wide range of facilities and areas for outdoor recreationists to enjoy. Within the county or close to Grand Rapids, are three downhill ski areas, 10 cross-country ski areas (94 miles of trails), 275 miles of snowmobile trail, 3 state parks, 5 state forests, 1 corridor trail, 1 canoe and boating route, 200 plus resorts, 88 campgrounds and many other facilities to serve the outdoor enthusiast.

The Golden Anniversary State Forest is relatively undeveloped. A hunter walking trail is currently the only designated development in the forest. The District Ranger Station is located at Grand rapids, six miles north of the forest.

#### Management Programs within the Forest

Management of the Golden Anniversary State Forest is based on recommendations outlined in the Grand Rapids District Forest Management Plan. These plans are formulated for each forestry district throughout the state and are based on the state "Timber Management Guide" and other policy manuals. The management program is based on a ten year period, while necessary adjustments are made to fit local conditions.

The management program includes timber, wildlife, soils, water, and recreation. Management of these resources requires a coordinated program which brings about maximum productivity and protection as well as providing other public benefits such as recreation.

Development of the Golden Anniversary ski touring-hiking trail will be an integral part of this management program and will not inhibit other forest management practices.

Necessary adjustments will be made in the area to avoid conflicts between other management activities and the trail. Development of the ski touring and hiking trail, however, will not exclude use of administrative vehicles and/or contractors who have been assigned to do work in the area. It will also not exclude automobiles from roads which are normally plowed during the winter.

When timber harvest is recommended in the area, cutting and hauling will try to be scheduled between May 1 and November 1 to avoid conflicts between skiers and contractors. In some instances, such as when swamp conifer types are recommended for harvest, logging operations will have to be performed in the winter to take advantage of frozen ground conditions. In these instances, portions of the trail treadway may have to be closed or rerouted temporarily to permit harvest operations to be run efficiently.

Timber sale contracts will be adjusted to insure that trees are not felled blocking the treadway. Provisions will be written so that the trail treadway, if damaged, will be returned to its original conditions. Provisions will also be written to insure that slash and other debris are scattered away from the trail.

It should be emphasized at this point that some forest trails will not always be permanent. As forests change in age, timber harvest will preclude established trail use in some areas. To adjust for these changing conditions, the trail will be rerouted into other areas in the forest. Thus, while trail use will be an established use in state forests, the trail location may not.

All management decisions concerning the area will be made in a manner that insures that the needs of other management activities and recreation are met with the least possible conflict.

#### Potential Concerns and Considerations

Both areas proposed for development of ski touring and hiking trails within the Golden Anniversary State Forest are presently used by snowmobilers. Although no designated snowmobile trails exist within the forest, a use corridor has been established.

It is a recommendation of this plan that snowmobile traffic be routed along the northern edge of the forest, (See map in figure 3, page 10) still allowing access to Pokegama Lake, but routing them around the ski area.

Another factor that must be considered during the development is a deer yarding area located near Cowhorn Lake. It is a recommendation of this plan that the Area Wildlife Managers be kept informed of all development proceedings and they should field check trail alignment for problems with the deer yard before any development begins.

Signing and natural or constructed barriers will be utilized where necessary to minimize conflicts between different user groups.

## Environmental Impact of the Proposed Project

### Impact on the Physical and Biological Environment

Since the soils in the area are generally coarse to fine textured, some soil compaction may occur in high use areas of the trail treadway. Overuse of such areas may also cause denudation of vegetation from these areas making the soils more susceptible to erosion. Reseeding of the trail treadway after upgrading, however, should help to minimize this problem.

The proposed action will not have a significant impact on the surface or ground water resources. Bridge construction will be undertaken in a manner which will not adversely inhibit streamflow.

No impacts on mineral resources will occur.

Adverse impacts of the proposed action on vegetation will be its loss from trail treadway upgrading and rest area development. These impacts, however, will be offset by reseeding of the trail treadway and rest areas.

Adverse impacts on wildlife will be insignificant. Wildlife will probably benefit from seeding of the treadway with a wildlife mixture. Special consideration will be given to deer concentration areas during alignment and development.

Increased use will cause some deterioration in air quality as a result of increased auto emissions. Use of heavy equipment in development will have a temporary adverse impact on air quality.

Increased use may have an adverse impact on the water quality. Better methods of controlling erosion in the area, however, should have a beneficial impact.

### Impact on the Historical and Archaeological Resources

No impact on these resources has been identified at this time. Further study by the Historical Society may reveal sites which must be avoided during development.

### Impact on Transportation and Utilities

Expected increases in use of the area will have an insignificant impact on traffic volumes on the highway access routes to the area. Access to the area via CSAH 3 should not be adversely affected.

No impact on utilities will occur.

### Impact on Socio Economic Factors

Since all of the land is already in public ownership, no loss from local tax revenue will occur. Beneficial impacts on the local economy will be realized. This will result from increased tourist travel expenditures in the area.

### Impacts on Land Use

Development of a trail will not change the land use of the area.

### Impact on Management of the Forest

Normal forest management activities will only be slightly affected by the development and maintenance of this trail. The area and district forester along with the regional trails coordinator will be delegated further responsibility and jurisdiction by this action. Maintenance of structures, the trail treadway, and the users will be made necessary by this trail.

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11. Population Projections 1970-2000, State Demographer, State Planning Agency.

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## Draft Plan Review: Public Meeting

A public meeting was held May 24 at 7:00 p.m. at the Grand Rapids Community College. Twelve citizens attended the meeting. The following are the main concerns brought up at the meeting.

1. Many of the participants were concerned that snowmobile use would be eliminated from the forest. What was surprising about this was that most persons attending the meeting were skiers or nonsnowmobilers. Most agreed that the two users could get along in the same area if separate trails were provided.

Comment: Snowmobilers are an established use in the area and will be provided for on separate trails.

2. Many citizens were concerned about the trail alignment and were interested in looking at the area after it was flagged to make recommendations.

Comment: After the trail is flagged by DNR personnel and a task force representative, an announcement will be put in the paper. This will allow local citizens to view the alignment and make recommendations.

3. Most participants felt that the trail should be groomed by machinery and this has been addressed in the plan.

4. A member of the Itasca County Environmental Council expressed concern that they had not been contacted during the planning process. He also wanted to know if the county board had been contacted.

Comment: The regional trails coordinator and district forester had contacted the county and given them a copy of the plan. The representative of the Environmental Council was given a copy of the plan, and was asked to send written comments to the trail planners before the 30 day review period ended. No comments were received.