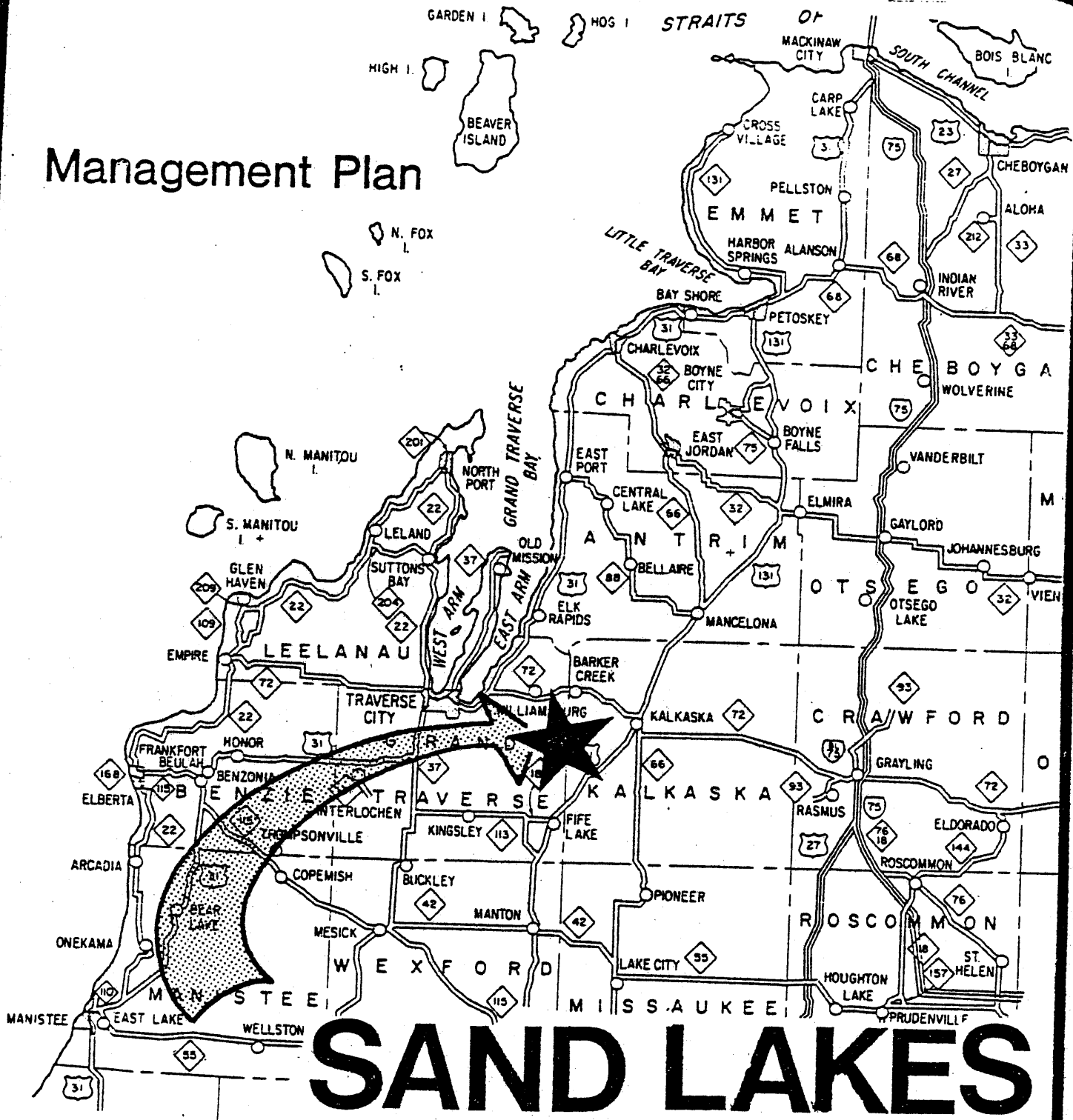


# Management Plan



# SAND LAKES QUIET AREA



Department of Natural Resources  
Forest Management Division

JAN. 83

D.K.

December 21, 1982

Memorandum to the Natural Resources Commission:

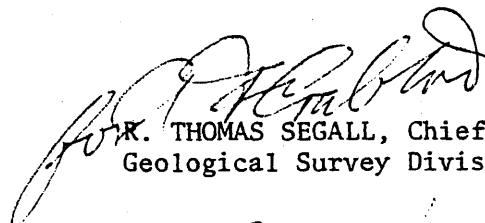
Re: Sand Lakes Quiet Area

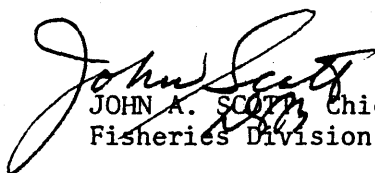
The Sand Lakes Quiet Area was dedicated by the Natural Resources Commission in 1973. A major purpose of that dedication was to emphasize non-motorized dispersed recreation and other quiet recreational activities within the Quiet Area. Since that time, public access to the Area with motorized vehicles has been limited. The public continues to have motorized access to the Guernsey Lake Campground for rustic camping and access to boat launching facilities on Big Guernsey Lake. There has also been motorized access by Department of Natural Resources personnel and by others as needed to manage the resources of the Quiet Area. This is in conformance with the 1973 approved plan.

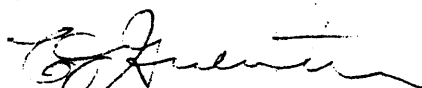
In October of 1980, the Natural Resources Commission was asked to reclassify a parcel of land inside the Quiet Area from non-development to development status allowing hydrocarbon development. That reclassification became quite controversial and resulted in a request for further study. The Director of the Department established an interdisciplinary DNR task force to review the management of the Quiet Area, inventory the resources there, involve interested citizens in discussing possible management, and provide a recommended management plan.

The DNR task force has completed its charge and offers the attached plan for Commission approval. The task force believes this plan conforms to the general philosophy of the plan approved by the Commission in 1973, contains many more specific proposals describing actual management, and provides for several compromises among the various users of the Quiet Area.

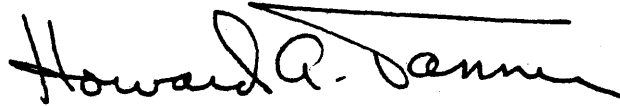
  
HENRY H. WEBSTER, Chief  
Forest Management Division

  
R. THOMAS SEGALL, Chief  
Geological Survey Division

  
JOHN A. SCOTT, Chief  
Fisheries Division

  
CHARLES J. GUENTHER, Chief  
Wildlife Division

I have analyzed and discussed this recommendation with the Deputy Directors and staff and we concur.

  
HOWARD A. TANNER  
Director

## INTRODUCTION

The Sand Lakes Quiet Area is roughly 15 miles east of Traverse City. It consists of 2775 acres, mostly in Grand Traverse County, with a little over 20 percent in Kalkaska County. The topography is gently rolling to moderately steep. Small pothole lakes and marshes are scattered throughout the Area. Several of the lakes are particularly noteworthy because they possess thick pure deposits of marl (calcium carbonate) on the shores and in the lakebeds. The major forest types are oak and pine with smaller amounts of aspen and grass openings. The variety of landforms, soils, and vegetation are particularly desirable for an enjoyable recreational experience.

Certain statements from the 1973 management plan approved by the Natural Resources Commission for the Sand Lakes Quiet Area and from the Memorandum to the Director transmitting that plan provided guidance for the development of this updated plan. A number of those statements are repeated here.

"The intrusions of motorized recreational vehicles has indicated the need for the development of certain northern Michigan lands for fulfilling a recreational experience of solitude. . . This unique area still retains a natural wilderness aspect."

"The purpose of this proposal is the development of a forest area within which major emphasis will be placed on quiet recreational activities. Other uses will be modified or restricted so as not to conflict with the basic objective. This area will provide excellent opportunities for aesthetic enjoyment and for study or contemplation of the forest environment. Many uses of this area can easily be adapted to harmonize with the emphasized, more tranquil recreation uses. It is important, however, that non-compatible uses which would interrupt the solitude of the area be excluded."

"Proper Management calls for as little development as possible."

"Management of the forest must be as intensive as possible to maintain its health, vigor, and variety. Management units should be as small as practical, with natural, not mechanical, boundaries. Logging access routes must, of course, be obliterated after harvesting. Aspen can be reproduced in small, irregular clear-cut blocks."

"It is recommended that if oil and gas development occurs, the intrusion be kept to a minimum by requiring slant drilling to the extent feasible. If wells are located within the Sand Lakes Quiet Area, the oil and gas would be piped out of the area, electric pumps would be used at the wells, and the electric lines would be buried."

The management plan presented here incorporates those ideas into a workable management program which provides for the various uses mentioned and in the manner described. This plan recognizes non-motorized, dispersed recreation as the key value for the Quiet Area. The uses which tend to conflict with the key value use are excluded, modified or provided for only under stringent restrictions in order to minimize those conflicts.

It should be noted that the key value designation indicates the primary use. Secondary uses will be accommodated up to the point where they begin to impair the primary use. Secondary uses should be modified, limited, or excluded when they impair that primary use. Impairment does not mean every conflict between uses that do not impair the primary use, such as, conflicts between hunting, skiing, fishing, hiking, vegetative management, or other uses that are permitted by this plan and its specifications. Various alternatives for reducing conflict should always be considered. Exclusion is one of those alternatives. In the case of the Quiet Area, public motorized access is excluded and that is modified in the case of the Guernsey Lake Campground. Hydrocarbon development is excluded within the Quiet Area boundaries except for the site in Section 24 of Whitewater Township.

The management plan which follows describes the present management program for the major resources and their uses in the Quiet Area. Recommended management programs are then developed for those resources and their uses.

## FISHERIES

### Present Program

Fisheries Division has had, and continues to have, an active management program within the Sand Lakes Quiet Area. The Sand Lakes contain populations of trout, Assinica brook trout, bluegills, bass, and sunfish. Big Guernsey Lake contains rainbow and brown trout and also warm water fish. Trolling presently occurs on the 52 acre lake. Vehicular access to the Guernsey Lakes, via the state forest campground, results in greater fishing pressure there than on the Sand Lakes where a walk of up to a half-mile restricts watercraft access. Fishing pressure is not great on any of the lakes. Motors are not limited on any of the lakes, but lack of access to the Sand Lakes effectively limits their use.

### Recommended Program

Fisheries Division will continue its program of management within the Sand Lakes Area. That program consists of doing surveys, treatments, and stockings as necessary. To do this, Fisheries has used, and will continue to need, the existing road system which is closed to public motorized use. Limited access (walk-in) on the Sand Lakes will result in relatively low fishing usage, but a highly desirable experience for some. To maintain that type of experience, all motors will be banned on the Sand Lakes. The Guernsey Lakes will be subject to a "slow-no wake speed" restriction. The Department will work with local units of government to enact such ordinances.

## ROADS, TRAILS, and CAMPGROUNDS

### Present Program

There are approximately 12 miles of roads existing within the Quiet Area. Those roads are closed to motorized traffic except that needed for management of the resources. The roads are also utilized as hiking and cross country ski trails, and in fact make up the major portion of the trail system. The Shore to Shore Riding and Hiking Trail passes through the southern part of the area and is popular with horseback riders.

There are two camping opportunities available within the Quiet Area. The Guernsey Lake State Forest Campground represents the major development within the Quiet Area. It has 36 primitive campsites and is a major point of access to the area. The camping fee is presently \$4.00 per night. This campground has recently been renovated and is one of the more heavily used campgrounds in the State Forest system. The other campsites are situated near the Sand Lakes. Minimal facilities (well and toilet) are provided and no charge is presently made for camping there. Camping materials must be packed in from the parking areas at Guernsey Lake or off Broomhead Road. Dispersed camping is allowed throughout the Area.

### Recommended Program

The present trail system should be maintained with possible expansion to 15 to 20 miles as opportunities develop and as use dictates. As previously, the trails should be self-interpretive and accommodate cross country skiing where possible. Where feasible, logging, service, and existing roads may be incorporated into the trail system.

Limited motorized access will be necessary for fisheries, wildlife, and forest management programs. New roads will be kept to a minimum and will be developed only to provide access for management of the resources of the Quiet Area. The roads will be built to minimal standards and, unless added to the trail system, will be closed immediately after the management activities cease.

Guernsey Lake Campground will continue to operate as at present; that is, a state forest campground with the developments now in place. Motorized vehicle access will be permitted to the campground and parking area now there. When the campground is in need of major renovation, an evaluation should be done to determine the suitability of maintaining the campground in its present form. All Quiet Area values should be considered in making that determination. The use of gasoline engines on Guernsey Lake should also be re-evaluated.

The Sand Lakes themselves provide the other popular camping opportunities within the Quiet Area. There are no prepared campsites in the vicinity of the Sand Lakes. However, continued and congregated use has caused site deterioration at certain places. This has indicated a need for either preventive development or some other means of use control. Primitive campsites could be prepared in a scattered manner to disperse camping pressure. This could provide some temporary relief. It is probable that this will have to be combined with other measures. One suggested control is to limit camping to prepared or developed sites, either on a first-come first-serve basis, or by using a registration system handled through the Traverse City DNR office. Another possibility may be to restrict camping within 1000 feet of the Sand Lakes, but allow dispersed camping beyond that. Additional information must be gathered to address this question and propose a solution. That solution must encompass the philosophy that the camping quality must be maintained, users should not be greatly inconvenienced, and site deterioration should not occur.

### FOREST and WILDLIFE

#### Present Program

Since the designation of the Quiet Area, forest management and wildlife habitat treatments within the area have been very limited. Budget and manpower limitations along with greater priority placed on treatments in other areas have been responsible for this.

To overcome this type of problem, a new inventory and treatment scheduling system has been developed by the Department. This new Operations Inventory system requires a sequential examination of all state forest lands resulting in a list of recommended treatments. A multi-disciplinary team reviews those recommendations and assigns priorities. The top priorities are to be treated in each area before moving on to another. This assures that treatments will occur throughout the forest on a regular basis and certain areas will not be neglected. This is important in achieving a variety of forest types of varying size and providing varied wildlife habitat. The Sand Lakes Quiet Area was scheduled for inventory in 1981, was inventoried in August of that year, and treatments were prescribed by the multi-disciplinary team and would begin in 1983.

Hunting is one of the popular recreational pursuits within this Area. Deer and ruffed grouse are the two most popular species hunted. Again, treatments have lagged and positive habitat treatments are becoming critical to provide for these species. The lack of forest and wildlife treatments recently is reflected in the large number and types of treatments now recommended.

#### Recommended Program

One of the attributes that was valued in the Sand Lakes was the variety of habitat types and species of animals present there. As the trees have aged and management has decreased, the variety has decreased and will continue to do so. Tables 1 and 2 show the percentage of the Area in the various species types and by size of trees. The present stands are all in pole and sawtimber sizes. The aspen cover type will be lost, i.e., convert to other species, if not treated soon. The jack pine is over-age and badly in need of treatment. That over-mature jack pine is already infested with jack pine budworm which can cause mortality. Those dead trees serve as a breeding source for bark beetles which can and do cause widespread mortality amongst several species of trees. This substantially increases fire danger in an already volatile fuel type. Should wild fires occur, it may be necessary for the Department to use mechanized fire equipment for control. For these reasons, immediate and effective management is essential for the aspen and jack pine.

This concern, along with the desire to maintain healthy vigorous forests and viable wildlife populations, has led to the proposed treatments listed in Table 3. Because of the concern for the key value of dispersed recreation, the majority of the treatments are thinnings with only a small number of clearcuts in aspen and jack pine (Figure 1). The longer lived oak and red and white pine have few treatments prescribed. Additional grass openings would be created to improve diversity and wildlife habitat. Table 1 shows the species composition after the treatments are completed. That cover type mix can be expected within the next 10 years and probably sooner if markets can be found and budgets allow.

TABLE 1  
FOREST COVER TYPES  
IN THE SAND LAKES QUIET AREA  
(In Percentages)

<u>Type</u>	<u>Area prior to treatment</u>	<u>Area after treatment</u>
Aspen	9%	9%
Grass	3%	7%
Jack Pine	8%	3%
Oak	44%	44%
Red Pine	22%	27%
White Pine	5%	5%
<u>Misc.</u>	<u>9%</u>	<u>5%</u>
TOTAL	100%	100%



TABLE 2  
FOREST STAND COMPOSITION  
IN THE SAND LAKES QUIET AREA  
(In Percentages)

<u>Type</u>	<u>Prior to Treatment</u>			<u>After Treatment</u>		
	<u>Seedlings and Saplings</u>	<u>Poles</u>	<u>Sawtimber</u>	<u>Seedlings and Saplings</u>	<u>Poles</u>	<u>Sawtimber</u>
Aspen		92%	8%	81%	19%	
Jack Pine	2%	98%		2%	98%	
Oak		88%	12%	13%	75%	12%
Red Pine		18%	82%	4%	18%	78%
White Pine	2%	35%	63%	3%	24%	73%

TABLE 3

PROPOSED TREATMENTS

<u>Stand No.</u>	<u>Type</u>	<u>Area in Acres</u>	<u>Final Harvest</u>
			<u>Comments</u>
31	A6	41	Aspen is way over-mature
51	A6	9	Aspen over-mature, leave pine
63	A6	40	Aspen over-mature, possible leave some pine
65	A6	9	Aspen over-mature
82	J6	40	Jack pine beginning to die back
85	A5	13	Low quality aspen, increase density with cut
89	J6	4	Jack pine beginning to die back
93	A6	23	Aspen mature, adjacent to lake, visual management
107	A6	7	Aspen mature, center rot
113	J6	9	Jack pine beginning to die back
<u>Thinning</u>			
1	J6	7	Jack pine in very poor condition
2	O6	53	Remove mature aspen clones from type
3	R9	30	Thin out red pine logs
8	R9	33	Thin out logs and remove aspen clones
11	J6	5	Jack pine over-mature
14	O6	53	Remove mature aspen & thin red pine clumps
15	A6	38	Remove over-mature aspen
25	A9	15	Aspen mature, campground nearby
26	R6	14	Remove over-mature aspen clumps
27	J6	8	Jack pine decadent
29	R9	37	Remove poor jack pine and aspen clones
30	W9	13	Remove mature aspen clones
34	R9	9	Jack pine type decadent

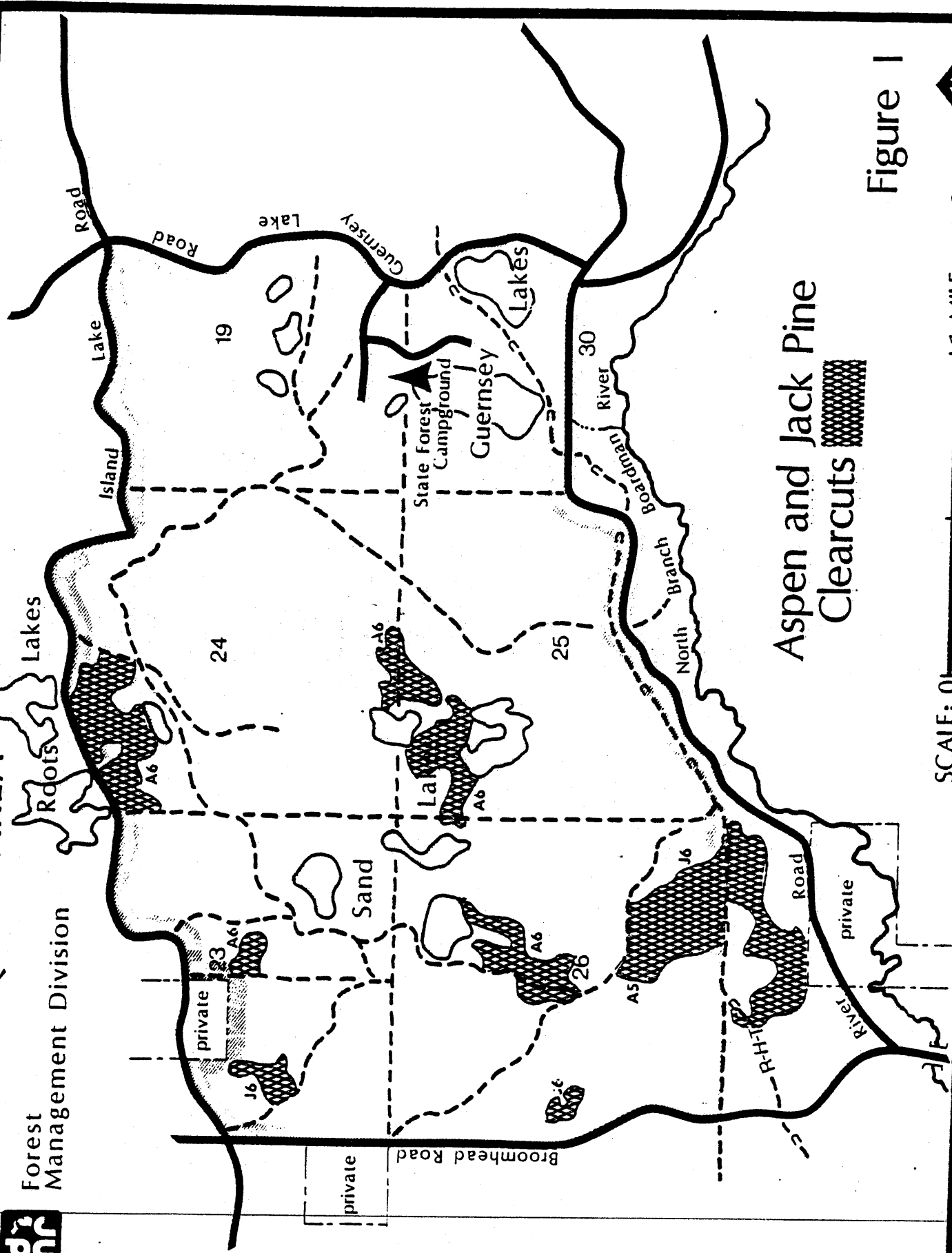
Table 3  
Thinning (continued)

<u>Stand No.</u>	<u>Type</u>	<u>Area</u>	<u>Comments</u>
37	J6	12	Jack pine type decadent
39	J6	9	Aspen in poor condition
40	R9	33	Remove aspen and decadent jack pine
41	R9	11	Both aspen and jack pine in poor condition
44	J6	10	Remove decadent jack pine
45	R9	10	Remove decadent jack pine and aspen
46	A9	5	Aspen over-mature, jack pine decadent
48	06	13	Aspen over-mature
49	R9	48	Jack pine not growing
50	A6	16	Aspen poor condition, centers rotten
52	R9	17	Expand aspen component
54	R9	15	Jack pine breaking up
56	J6	12	Very poor stand
57	R9	10	Thin sawlogs
58	R9	7	Remove low grade species
60	R9	12	Aspen over-mature
66	R9	38	Remove jack pine, thin sawlogs
67	R9	23	Remove all jack pine, thin sawlogs
69	J6	66	Jack pine budworm heavy infestation
70	06	12	Jack pine to be removed with surrounding stand
71	06	11	Jack pine and aspen types are dying out
72	W6	19	Jack pine and aspen types are dying out
74	R9	8	Thin out both logs and poles
75	06	13	Aspen type breaking up
77	W9	25	Aspen and jack pine types are in poor condition
79	R9	50	Aspen and jack pine over-mature
<u>CULTURAL</u>			
63	A6	40	Remove residual
65	A6	9	Remove residual
82	J6	40	Plant red pine after jack pine harvest
89	J6	4	Plant red pine after jack pine harvest
113	J6	9	Plant red pine after jack pine harvest

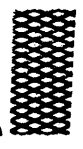
# SAND LAKES QUIET AREA



Forest Management Division



## Aspen and Jack Pine Clearcuts



SCALE: 0 | 1 MILE

NORTH:

Figure 1

As suggested in the 1973 plan, management units should be as small as practical while utilizing natural boundaries. At present, the minimum feasible economic clearcut is 10 acres for aspen and jack pine. This is possible only if several such areas are reasonably close so that one operator can move equipment quickly and inexpensively to each site. For this reason, clearcuts in the aspen and jack pine types in the Quiet Area will be limited to 10 to 20 acres with the smaller being the preferred goal where possible. This constraint will most likely reduce the prices received for the trees but, maximum economic return from timber is not the objective of management in the Quiet Area. Biologically, aspen can be reproduced with clearcuts as small as two acres. However, such small cuts are very uneconomical, often requiring payments beyond the value of the trees cut. There is also increased danger of losing the aspen type to other species of trees. Because aspen is such a small component of the Area ( 9 percent ) and is a vital part of the wildlife habitat, it should be maintained where possible utilizing 10 to 20 acre clearcuts. Technological change and timber markets may alter the economically feasible minimum and if that occurs, smaller clearcuts may be possible. In any case, the acreage presently in aspen should be maintained, but not intentionally expanded. Figure II shows the areas where aspen will be maintained.

The other major timber types, oak, red pine, and white pine, can be regenerated using selective and/or shelterwood harvesting systems. Visible impacts are much reduced with such systems. Any planting which may be necessary, other than under emergency circumstances, e.g., following a forest fire, will be done by hand. Access developed for logging, wildlife treatments or fisheries management, unless it becomes part of the trail system, will be blocked or obliterated after treatment is completed. Treatments, to the extent possible, should be conducted as with hydrocarbon development, during the period April 1 through June 30 and/or after Labor Day to November 14.

Aesthetics will be important throughout the Area and especially in travel, water, and recreation site influence zones. Those stands bordering the roads making up the boundary of the Quiet Area will also be classified in influence zones and management will be altered appropriately. The extent of the influence zone will vary according to the vegetation and topographic characteristics and the activities which are being considered. Impacts on the Quiet Area should be minimized to the extent possible.

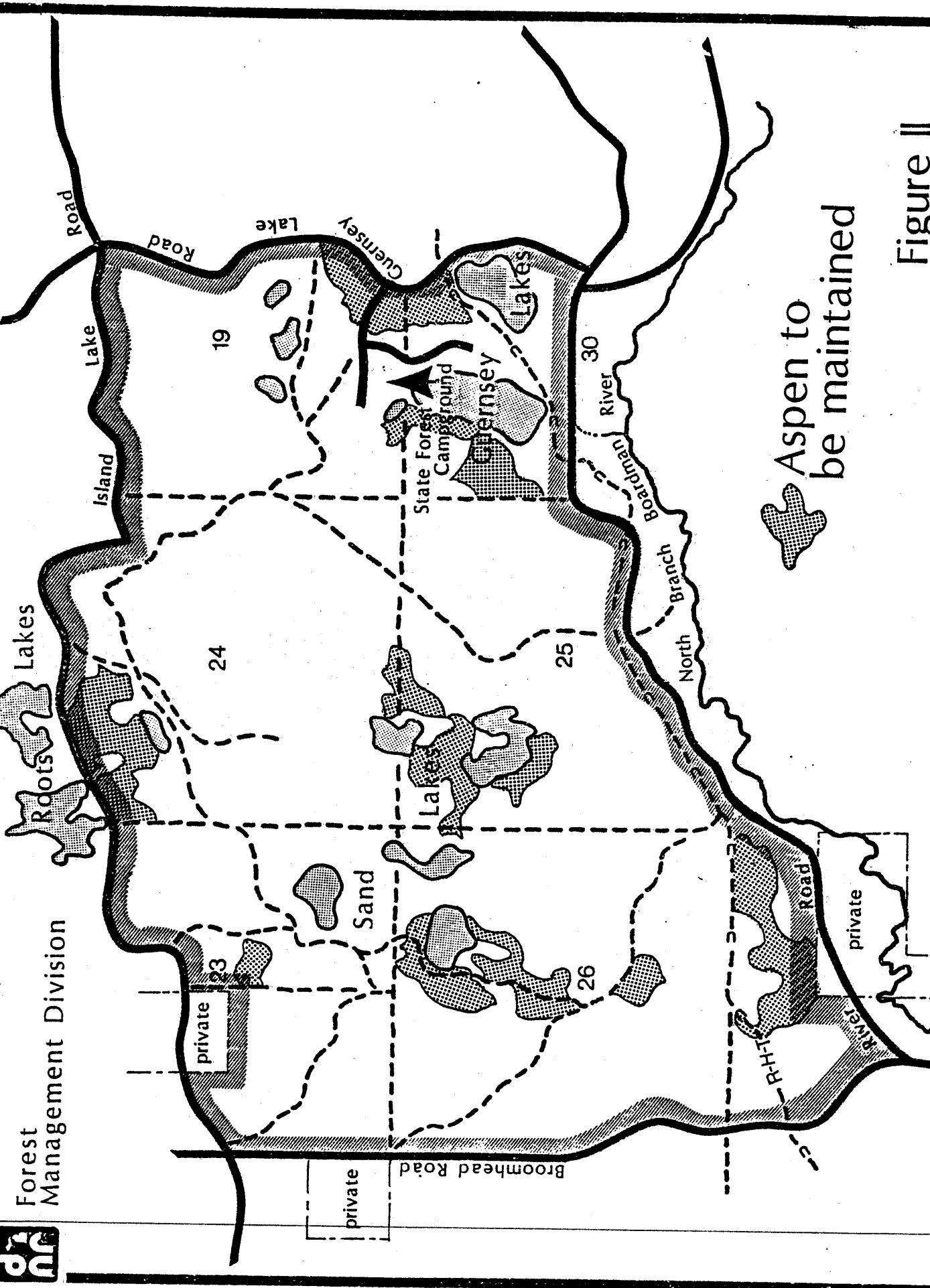
Buffers, where possible, should be maintained on both sides of pathways. These should be reasonable deep, but can vary depending on the terrain. Clearcuts, if necessary, can be cut up to the pathway, but they should extend for only short distances along the pathway. Pathways, unless they coincide with a road, should not be used as a road to remove timber. Roads that are created and do not become part of the trail system should be obliterated or camouflaged with a natural barrier when the work is completed. Slash should be removed and scattered outside the buffer area. Pathways, to the extent feasible and desirable, should be returned to their original condition. The Department will monitor vegetative treatments to ensure compliance.

In order to further recognize the importance of the aesthetic and recreational aspects of the Quiet Area, the Department will classify the Quiet Area under the current use portion of the Michigan Resource Inventory Act, P.A. 204, 1979. The Quiet Area will be included in the inventory overlay listing special and unique environments. This classification will be coordinated with the local unit of government preparing the overlay.

# SAND LAKES QUIET AREA



Forest Management Division



Aspen to be maintained

Figure II

SCALE: 0 1 MILE NORTH: ↑

## HYDROCARBON DEVELOPMENT

### Present Program

Oil and gas development has become the most controversial of all the activities present or proposed for the Sand Lakes Quiet Area. Such development seems least compatible with the key value use of non-motorized dispersed recreation. It is for this reason that directional drilling from outside the boundaries has been used in all cases up to this time to reach bottom hole locations under the Quiet Area.

#### (1) Outstanding Leases

The present status of leases for the Quiet Area is shown in Figure III. Most of the leases are developmental and are held by production. The non-developmental leases occur in Sections 23 and 24 in the Quiet Area. Some areas, particularly in Section 26, are no longer leased.

Amoco concurred with a task force suggestion that certain lands now held by production under development leases in Sections 26 and 35 be reclassified as non-development leases. In addition, Nomeco has agreed in principle to reclassification of their development leased lands in Sections 19, 25, 30, now held by production, to a non-development status as part of an overall agreement allowing development of a site in Section 24 (see Figure III).

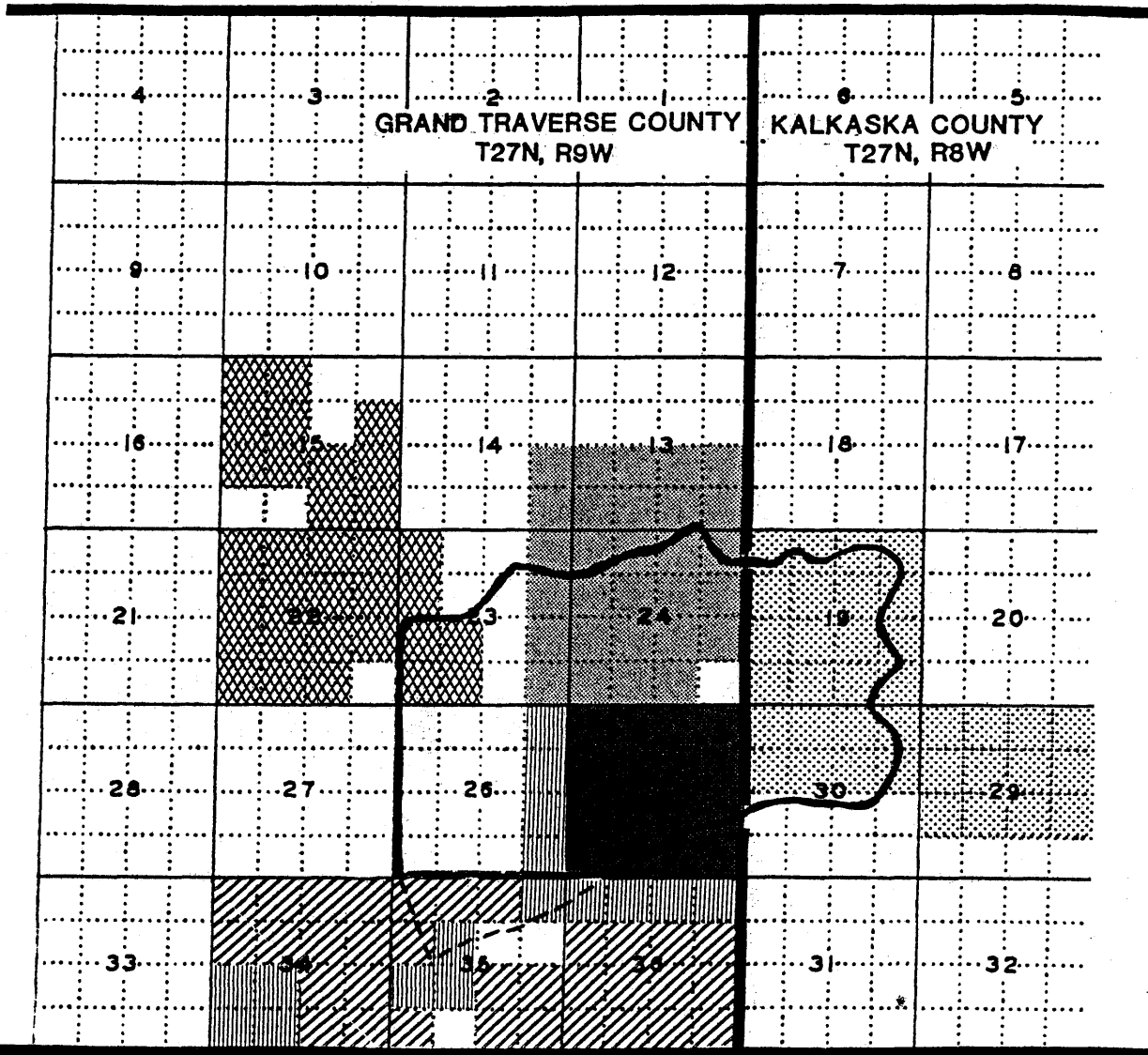
#### (2) Proposed Wells

Figure IV shows the location of the proposed Nomeco well in Section 24. The surface location is just inside the boundary. The bottom hole is slightly less than one-half mile south. Nomeco has indicated that, given present information, this is the last exploratory well which they intend to drill within the Quiet Area. Early in 1982, Nomeco indicated that there was an additional development well which they wished to drill. The bottom hole location is in Section 30, just north of River Road, and the approximate surface location is located south of the Quiet Area and the Boardman River. (see Figure IV). This second Nomeco well is a development well intended to recover additional gas from the reservoir penetrated by an existing well just to the south. Without this additional development well, Nomeco expects that some recoverable gas will be lost from the reservoir.

Since the well can be directionally drilled from an acceptable site outside the Quiet Area and far enough away from the Boardman River, there should be little or no impact on the Quiet Area. A permit has been issued for the drilling of that developmental well with the approved surface location south of the Boardman River as described.



# STATE OIL AND GAS LEASES - SAND LAKES QUIET AREA



~~~~~ QUIET AREA BOUNDARY

----- POSSIBLE EXPANDED BOUNDARY

| Lease Number | Lessee | Date Leased | Date Expires       | Non-Development Acres                  | Development Acres | Total Acres |
|--------------|--------|-------------|--------------------|----------------------------------------|-------------------|-------------|
| 9002         | Nomeco | 9/20/67     | 9/20/81            | 600 in Section 24<br>160 in Section 23 | 400               | 1160        |
| 9003         | Nomeco | 9/20/67     | Held by Production |                                        | 640               | 640         |
| 9010         | Nomeco | 9/20/67     | Held by Production |                                        | 1334.24           | 1334.24     |
| 9042         | Amoco  | 9/20/67     | Held by Production | 200 in Section 23<br>40 in Section 22  | 1040              | 1280        |
| 9044         | Amoco  | 9/20/67     | Held by Production |                                        | 640               | 640         |
| 9045         | Amoco  | 9/20/67     | Held by Production |                                        | 1320              | 1320        |