CREX MEADOWS WILDLIFE AREA MASTER PLAN
IMPLEMENTATION ELEMENT

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ACQUISITION (Figure 1). Seventy three parcels totaling 5051 acres remain within the Crex boundaries. The ten parcels most critical to development are listed as follows:

TRACT 1 (520 acres) - Owned by Burnett County, this parcel has excellent potential for sharp-tailed grouse habitat, and will connect sharptail management units on Crex and Governor Knowles State Forest.

TRACT 2 (40 acres) - Parcel adjoining state lands on three sides and is needed for sharptail habitat management, including firebreak construction and burning.

TRACT 3 (80 acres) - This parcel is needed for more effective water level management on an existing flowage.

TRACT 4 (20 acres) - Parcel is the site of a proposed small flowage and would allow more effective water level control of an existing flowage.

TRACT 5 (60 acres) - Parcel is needed for more effective water level management of an existing flowage.

TRACT 6 (90 acres) - Parcel is the site of a proposed flowage.

TRACT 7 (20 acres) - Parcel is the site of a proposed flowage.

TRACT 8 (120 acres) - Parcel is the site of a proposed flowage.

TRACT 9 (40 acres) - Parcel is the site of a proposed flowage.

TRACT 10 (40 acres) - Parcel adjoins state land on three sides and is needed for flowage construction and blocking.

The remaining parcels are required for development, blocking, or protective acquisition and should be purchased in fee as they become available. Trading land and the acquisition of flowage easements are two alternatives to fee purchase that may apply to specific parcels.

DEVELOPMENT (Figure 2)

A. Flowage construction (Objectives 1,2,4,5,7)

1. 510 acres - This flowage site lies between North Fork and Upper North Fork flowages and has a very dependable water supply. Flowage has excellent potential for goose nesting and brood habitat.

2. 240 acres - Flowage can be built quite inexpensively because existing town road will be used as dike. Will have to obtain land control, either by purchase or easement from Burnett County.

3. 61 acres - Good potential for duck and goose habitat once water levels in this shallow marsh are stabilized.

4. 57 acres - Will tie in well with Upper North Fork flowage, which is heavily used by both breeding and migrating waterfowl. Very dependable water supply.

5. 408 acres - A natural flowage site with a large watershed and a relatively short dike. Requires additional land control.

6. 28 acres - This small flowage will replace an existing beaver pond that has excellent mallard and teal production.

7. 35 acres - This small flowage will replace an existing beaver pond, and will maintain or increase current duck production in the area.

8. 61 acres - Will require additional land control. Existing beaver pond is heavily used by wood ducks, mallards and teal.

9. 135 acres - Water quality here should result in a very productive flowage similar to Dike 4 and 5 to the south.

10. 61 acres - A natural flowage site, this will be the only major development in the northern "protective acquisition" zone. A large beaver pond is present. Additional land control needed.

11. 322 acres - A very good water supply, but will be an expensive project due to the length of the dike. Town road will be raised to create dike.

12. 62 acres - Will require additional land control. Judging from past waterfowl use, this flowage should be attractive to woodducks, mallards and teal.

B. Water Transfer Ditch (Objective 1,2,5,7)

Construct 2.8 miles of water transfer ditch to facilitate water movement between flowages, and throughout Crex. Ditches are

particularly important in stabilizing flowage levels when the diversion pump is being operated.

1. Rice Lake Marsh to Dike 6 - 1.2 miles. This ditch will facilitate water transfer from Cranberry Marsh to Dike 6 and will also function as a firebreak.

2. Reed Lake Marsh - 1.2 miles. This will extend an existing ditch and will connect Dike 1 and Reed Lake, improving water transfer via pumping. Ditch will also serve as a firebreak through 2½ miles of marsh.

3. Monson Lake and Dike 4 - Total .4 miles. Two short segments that will connect existing ditches with the flowages. Ditches will improve water transfer and will double as firebreaks.

C. Firebreak Construction (Objectives 1,2,3,4)

Twenty-nine miles of 100 foot wide firebreak will be constructed to facilitate burning 18,000 acres of brush prairie and wetlands. Upon completion, each of 70 burn units will be surrounded by a fuel break allowing each unit to be burned individually.

D. Pothole Construction

Construct or restore 300 potholes (.05 acre each) to provide breeding pair habitat for several species of ducks. Potholes will be placed within ¼ mile of brood habitat.

E. Parking Lots and Observation Areas (Objectives 5,6)

Construct five parking lot/boat access sites and one additional observation area to accommodate public use of Crex.

F. Nesting Structures (Objectives 4,6)

Install 15 heron/cormorant nesting platforms on flowages to replace the loss of natural dead tree nesting sites. Nest structures for other species will be constructed as required (osprey, eagle, etc.)

G. Interpretive Center (Objective 6)

As the wildlife interpretive program expands a wildlife interpretive center is proposed for construction. The center will be located near, but not directly adjacent to the Crex Headquarters. Funding will be a combination of public and private sources.

OPERATIONS AND MAINTENANCE

Planned maintenance activities as described are at full development.

A. Annually maintain 23 miles of dike, 45 water control structures, and diversion pump. This will involve 60 man-days per year.

B. Conduct routine water control activities on 38 flowages impounding 6100 acres of water. This will involve 40 man-days per year.

C. Maintain 84 miles of firebreak by mowing every four years or by less frequent treatment with herbicides. Also included is annual mowing of 12 sharptailed grouse dancing grounds. This will involve 50 man days per year.

D. Conduct periodic maintenance of public use facilities including 1 interpretive center, 14 parking lots, 4 observation areas, and 1 picnic area. Grading, post replacement, mowing, garbage pickup, and building and toilet maintenance will involve 50 man-days per year.

E. Annual maintenance of boundary, informational, refuge, and closed area signs will require 5 man-days per year.

VEGETATION MANAGEMENT

A. Prescribed Burning (Objectives 1,2,3,4)

At full development, burn 18,000 acres of prairie-wetlands habitat on a 4 to 5 year rotation. Four thousand acres will be burned annually. Since burning is so weather dependent, it is difficult to schedule individual burn units more than two years in advance. Prescribed burn units are shown in Figure 5.

Year	Burn Unit	Acres
1985	4	41
	8	1651
	13	303
	24	49
	25	111
	30	80
	34	108
	35	180
	36	240
	39	580
	45	118
	46	120
	55	584
	58	157
	61	347
	62	145
	67	111
		4925
1986	7	90
	17	114
	26	192
	29	265
	32	505
	33	72
	57	361
	63	160
	66	468
	68	113
		2340

B. Brush-Prairie Restoration (Objectives 3,4)

Clear 2500 acres of forested upland using timber sales, firewood permits, and non-commercial methods. Figure 3 shows existing vegetation types and forest compartment boundaries, while Figure 4 shows future vegetation types at full development. Young aspen stands comprise 500 acres of the 2500; most of this will be carried to normal rotation age and harvested commerically. The remaining 2000 acres will be cleared over a 12 year period, averaging 165 acres per year. Following clearing, the stands will be burned on a four year rotation and maintained as brush prairie habitat. A six year clearing schedule is described below:

Year	Compartment	Stand	Timber Type	Acres	Activity
1984	3	1	OX 5-11	152	Harvest
	3	2	PJ 5-9	10	Harvest
	7	7	OX 0-5	142	Harvest
	7	8	OX 5-11		
	7	2	OX 0-5	120	Non-commerical
	10	12 & 14	A 0-5	105	Non-commercial
	3	14	OX 5-11	58	Harvest
1985	5	16	OX 5-11	64	Harvest
	5	17	OX 0-5	18	Non-commercial
	4	3	OX 5-11	40	Harvest
	4	7	OX 5-11	40	Harvest
	7	12 (N½)	OX 5-11	30	Harvest
	3	5	OX 0-5	38	Non-commercial
1986	4	8	OX 0-5	37	Non-commercial
	5	34 (N½)	OX 5-11	30	Harvest
	5	35	OX 0-5	29	Harvest
	7	3(partial)	OX 5-11	50	Harvest
	7	2(partial)	OX 0-5	30	Non-commercial
	8	4(partial)	OX 5-11	20	Harvest
	8	5(partial)	OX 0-5	40	Non-commercial
	8	7 (S)	OX 5-11	25	Harvest
1987	10	17 (W)	A 5-11	80	Harvest
	12	14 (N)	OX 5-11	20	Harvest
	12	17	OX 5-11	40	Harvest
	12	10	G	28	Non-commercial
1988	3	21 NE(partial)	OX 5-11	40	Harvest
	9	32	OX 5-11	16	Harvest
	9	6 (West)	OX 5-11	25	Harvest
	11	4 (W & partial E)	A 0-5	80	Harvest
1989	8	17 (S)	OX 5-11	40	Harvest
	8	21 (E)	A 0-5	40	Harvest
	8	13 (N)	A 0-5	20	Harvest
	9	23 (partial)	A 0-5	40	Harvest
	12	14 (S)	OX 5-11	20	Harvest
	14	17 (S)	OX 5-11	40	Harvest

C. Grass-Prairie Restoration (Objectives 3,4,6)

Restore and maintain 3500 acres of grass-prairie by reducing the density of oak sprouts with herbicides and mowing (Figure 4). The refuge and a one-quarter mile wide strip around it will be the core unit of prairie chicken habitat on Crex. Two hundred acres will be treated annually.

D. Agricultural Crops (Objectives 4,5,6,7)

Plant 260 acres annually on the Crex refuge to provide food for local and migrating ducks, geese, and sandhill cranes, as well as wintering sharptailed grouse and prairie chickens (Figure 2). Rye, buckwheat, soybeans and corn will be planted on a four year rotation. A 12 acre management pool will be seeded to millet every other year. Cropping alternatives will be pursued that will minimize costs yet remain consistent with property objectives.

E. Dense Nesting Cover (Objectives 1,3,4)

Establish 250 acres of dense nesting cover (DNC) on old agricultural fields to provide nesting habitat for ducks and prairie chickens (Figure 2). DNC will generally be a mix of warm season grasses, since a secondary objective is to restore the grass prairie component. Twenty five acres will be seeded annually.

F. Marsh Improvement (Objectives 1,2,7)

Create 800 acres of open water in floating sedge-grass bog (Figure 2). Many sedge marshes on Crex, especially those flowed by a dike, have sufficient water depth, but the solid floating mat limits use by waterfowl. A "Cookie Cutter", which is a heavy duty aquatic plant harvester, would be effective in opening up floating mats, thereby increasing the acreage of waterfowl habitat. Alternatives such as herbicides (Rodeo) will be explored as well.

G. Forest Management (Objectives 5,6,10)

At full development forested areas on Crex will encompass a minimum of 6000 acres (Figure 4) and will be managed for wildlife habitat, aesthetics and timber production (pulp and fuelwood). The following is a list of timber types on Crex Meadows and will be managed as follows:

1. Aspen will generally be rotated based on site index with sale layout designed to maximize benefit to wildlife.

2. Jack pine will be managed for the most part on a 50 year rotation but may vary slightly depending on specific objectives.

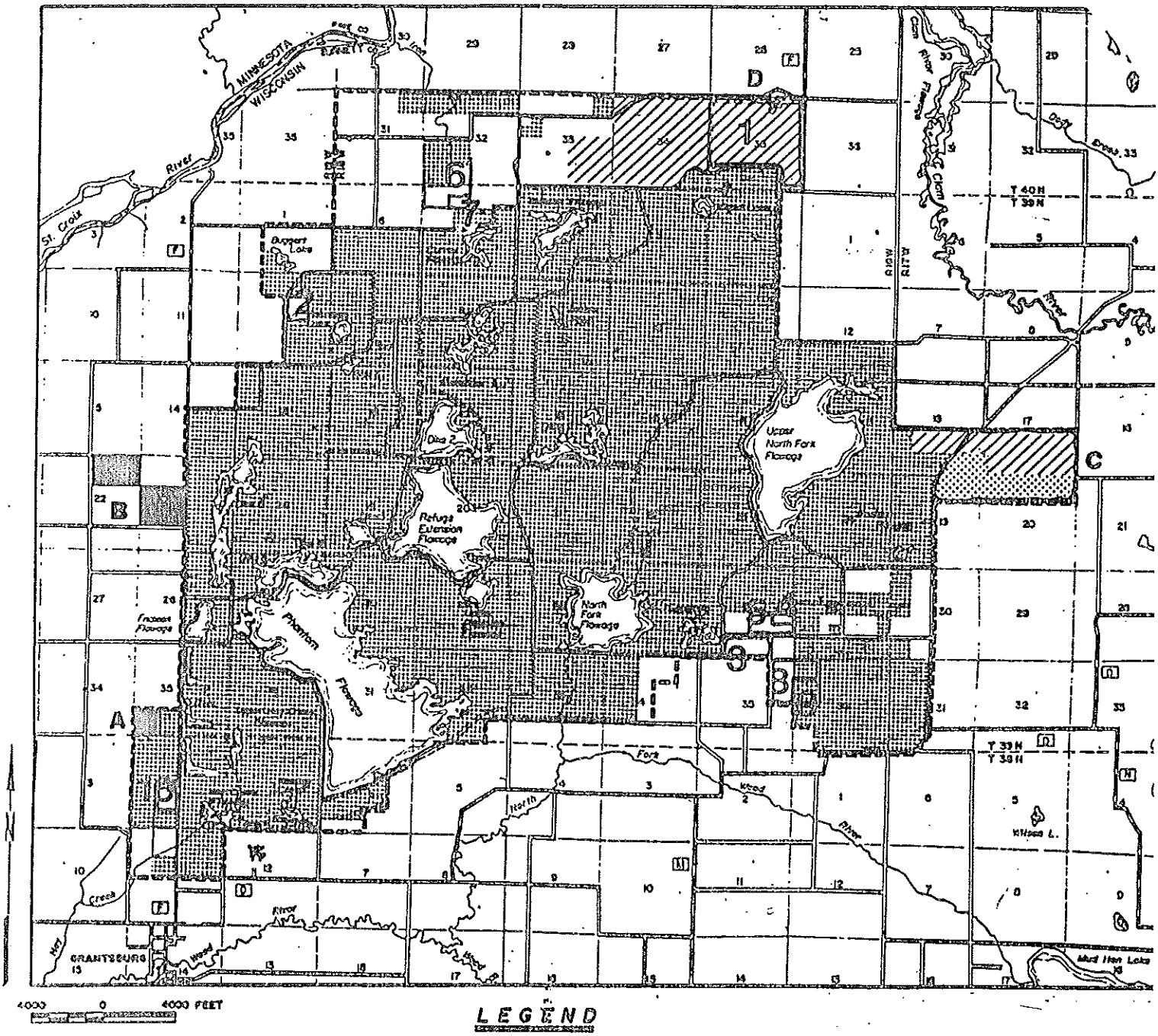
3. Red and white pine will be managed for sawlog production and carried to maximum rotation age.

4. Scrub oak will be managed for fuelwood production with the rotation age being extended to 80 years in some cases. With 82% of the oak type 40 years of age and older, the primary objective is to schedule timber harvests in such a manner that will develop a better age class diversity in the future. This will be accomplished by establishing scattered timber sales over a period of time in the large even aged stands.

Scheduling timber sale activity in the forest production zone will be evaluated jointly from both a forest and wildlife management perspective. Some factors that influence harvest scheduling include proximity to recently cleared or completely cleared areas, proximity to areas scheduled to be cleared in the near future, public use or sensitive areas, as well as damage from wildfire, insect, disease, and/or wind.

The six year forest management schedule is listed below.

Year	Compartment	Stand	Timber Type	Acres	Activity
1984	... No timber sale activity...				
1985	2	3	OX 5-11	23	Harvest
	a portion of 14	24	OX 5-11	25	Harvest
1986	a portion of 8	12	OX 5-11	25	Harvest
1987	a portion of 12	14	OX 5-11	30	Harvest
	a portion of 14	17	OX 5-11	30	Harvest
1988	a portion of 8	12	OX 5-11	25	Harvest
1989	a portion of 12	14	OX 5-11	30	Harvest
	a portion of 14	17	OX 5-11	30	Harvest

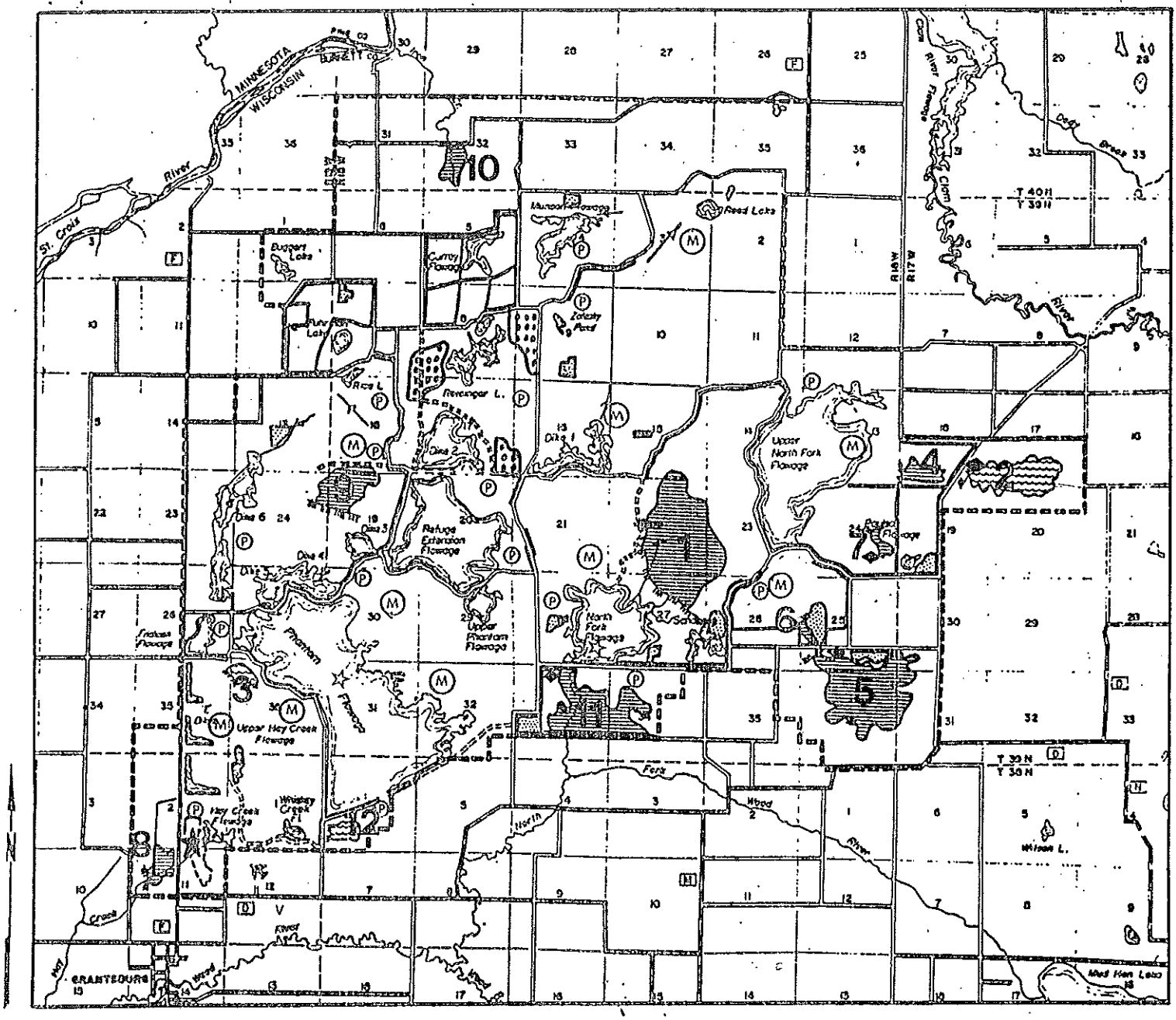


LEGEND

- PROJECT BOUNDARY
- REVISED BOUNDARY
- STATE-OWNED
- LANDS TO BE ACQUIRED (A-B)
- COUNTY-OWNED (C-D)

CREX MEADOWS
WILDLIFE AREA

FIGURE 1. PROPERTY OWNERSHIP

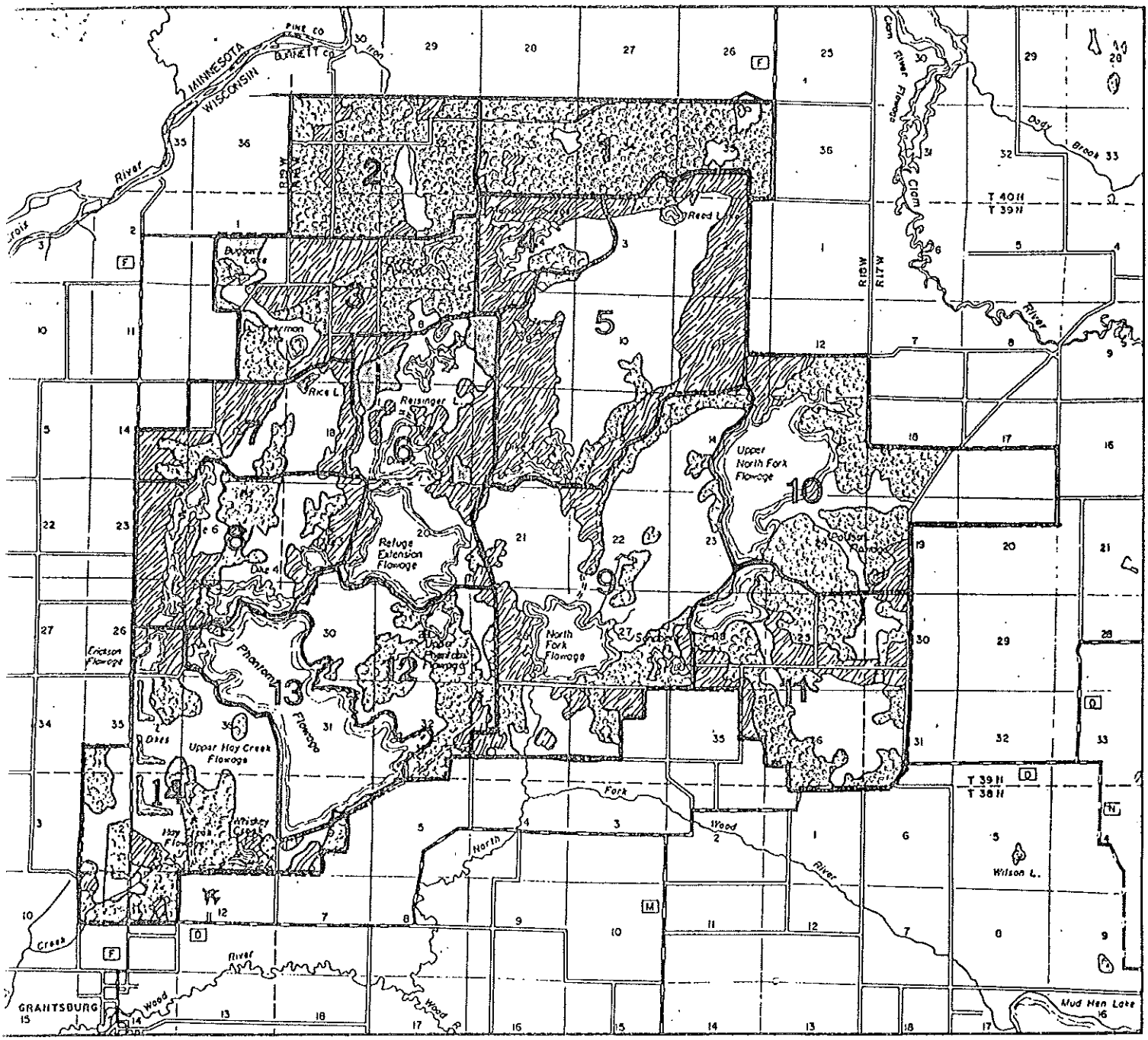


LEGEND

- PROJECT BOUNDARY
- FIREBREAK
- DITCH
- DENSE NESTING COVER
- HIKING-HUNTER TRAIL
- DIKE
- FLOWAGE
- PARKING LOT
- OBSERVATION AREA
- INTERPRETIVE CENTER (POSSIBLE LOCATION)
- CROP FIELDS
- (P) POTHOLES
- (M) MARSH IMPROVEMENT
- NESTING STRUCTURES

CREX MEADOWS
WILDLIFE AREA

FIGURE 2 PLANNED DEVELOPMENT AND VEGETATION MANAGEMENT



LEGEND

PROJECT BOUNDARY

OPEN WATER

AGRICULTURAL FIELDS

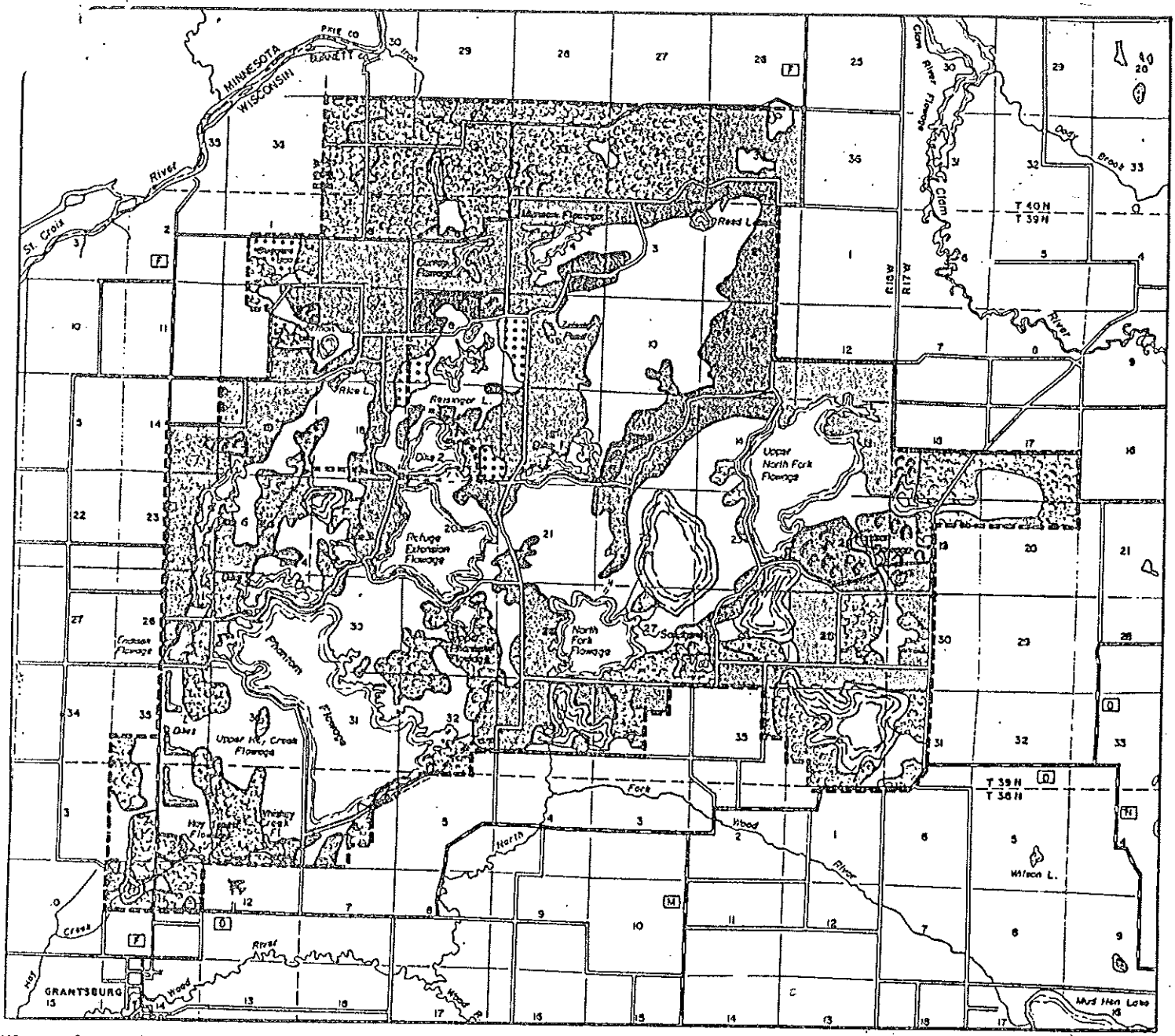
FORESTED

UPLAND PRAIRIE

MARSH

EX MEADOWS
LDLIFE AREA

FIGURE 3 EXISTING VEGETATION AND COMPARTMENT BOUNDARIES



LEGEND

PROJECT BOUNDARY

OPEN WATER

CREX MEADOWS WILDLIFE AREA

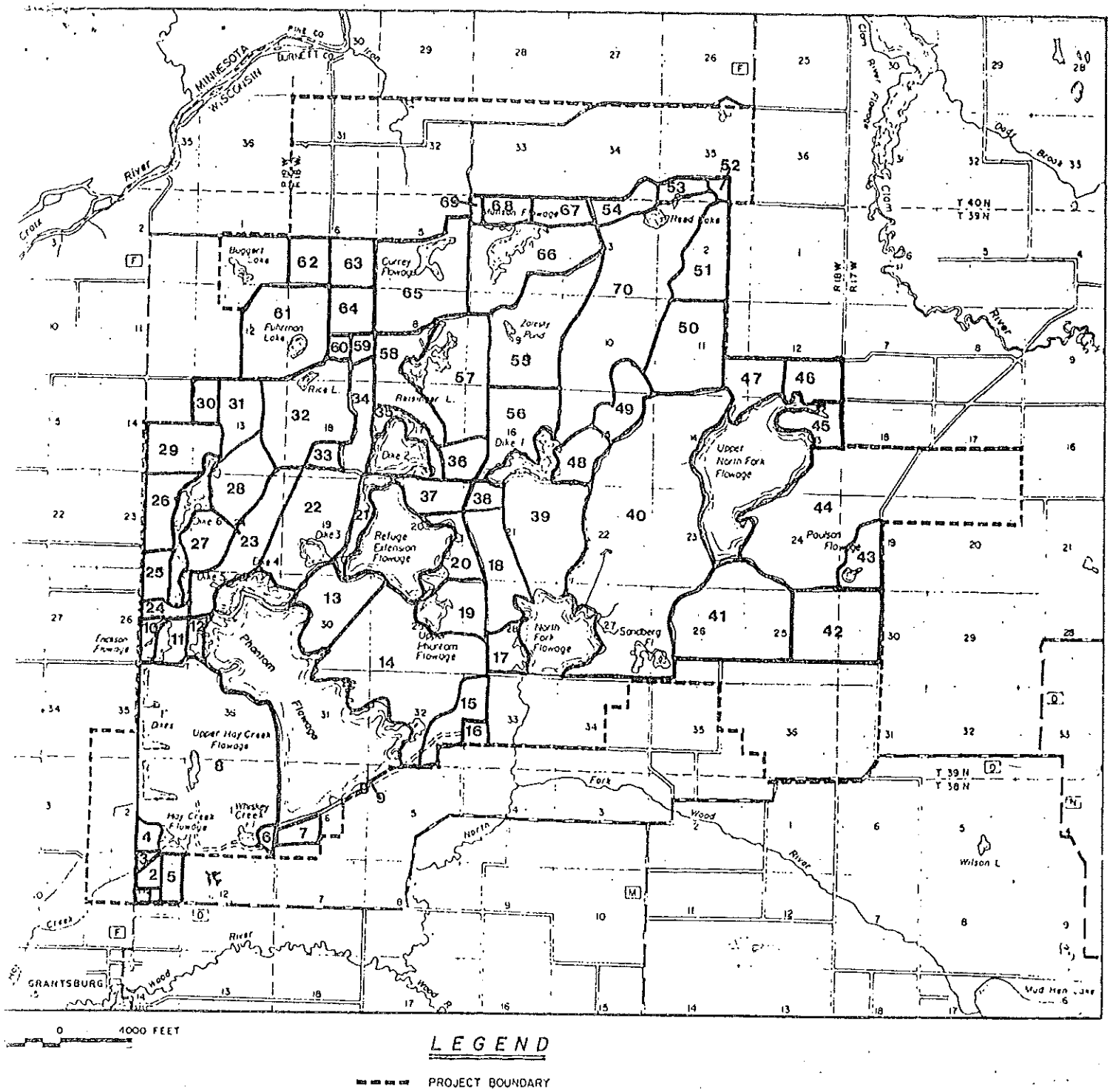
CROP FIELDS

FORESTED

UPLAND PRAIRIE

MARSH

FIGURE 43 FUTURE VEGETATION



LEGEND

PROJECT BOUNDARY

REX MEADOWS
ILDLIFE AREA

GURE 5 PRESCRIBED BURN UNITS