

CORRESPONDENCE/MEMORANDUM

STATE OF WISCONSIN

Date: May 27, 1980

File Ref: 2100

To: Central Office

From: Charles E. Higgs

CEH

Subject: Gardner Wildlife Area Conceptual Master Plan

The enclosed is the completed conceptual element and map cards for the Gardner W.A. Master Plan. A rough draft has been circulated amongst the Resource Management Staff and the Lake Michigan District Environmental Impact Coordinator. Their comments have been incorporated into this draft.

So that you may know which people saw the plan and what their comments were, I have appended our district master plan routing sheet. We are prepared to discuss any questions you may have regarding this plan and look forward to assisting you in its final stages of approval.

cc: Area Supervisor Les Neustadter

CORRESPONDENCE/MEMORANDUM

STATE OF WISCONSIN

Date:

File Ref: 2100

To: Master Plan Reviewers

Date of Routing MAY 8, 1980

From: Charles E. Higgs

Subject: Master Plans - District Staff Review

With the high priority being placed on Master Planning it is important that all Resource Management and Environmental Impact District Staff people give a meaningful review of all plans we forward to Madison.

I am asking you to give careful consideration while reviewing this plan. If time does not permit you to get at it soon, move it along and do not sign off, it will come back to you. The office of District Director should be the last to see it. I expect the total review time to be less than 30 working days.

This letter will accompany all plans to the Division Administrator so the responsible bureau in Madison will know who has seen it and what their comments were.

MASTER PLAN GARDNER Wildlife Area

| FUNCTION | REVIEWER | DATE | COMMENTS (SEPARATE PAGES IF NECESSARY) |
|-----------------------------|------------|----------------|--|
| Envir. Impact | | | |
| Parks & Rec. | | | |
| Fish Mgt. | | | |
| Forest Mgt. | | | |
| Wildlife Mgt. | <u>AL</u> | <u>5-9-80</u> | <u>Good!</u> |
| Park Planning | <u>PAR</u> | <u>5/12/80</u> | <u>Very Compact!</u> |
| Real Estate | <u>RA</u> | <u>5-8-80</u> | |
| Office Dist. Dir. | <u>US</u> | <u>5/12/80</u> | <u>IS \$25,000 for 2,000 ac. wildlife? otherwise looks good.</u> |

Please return to Rober

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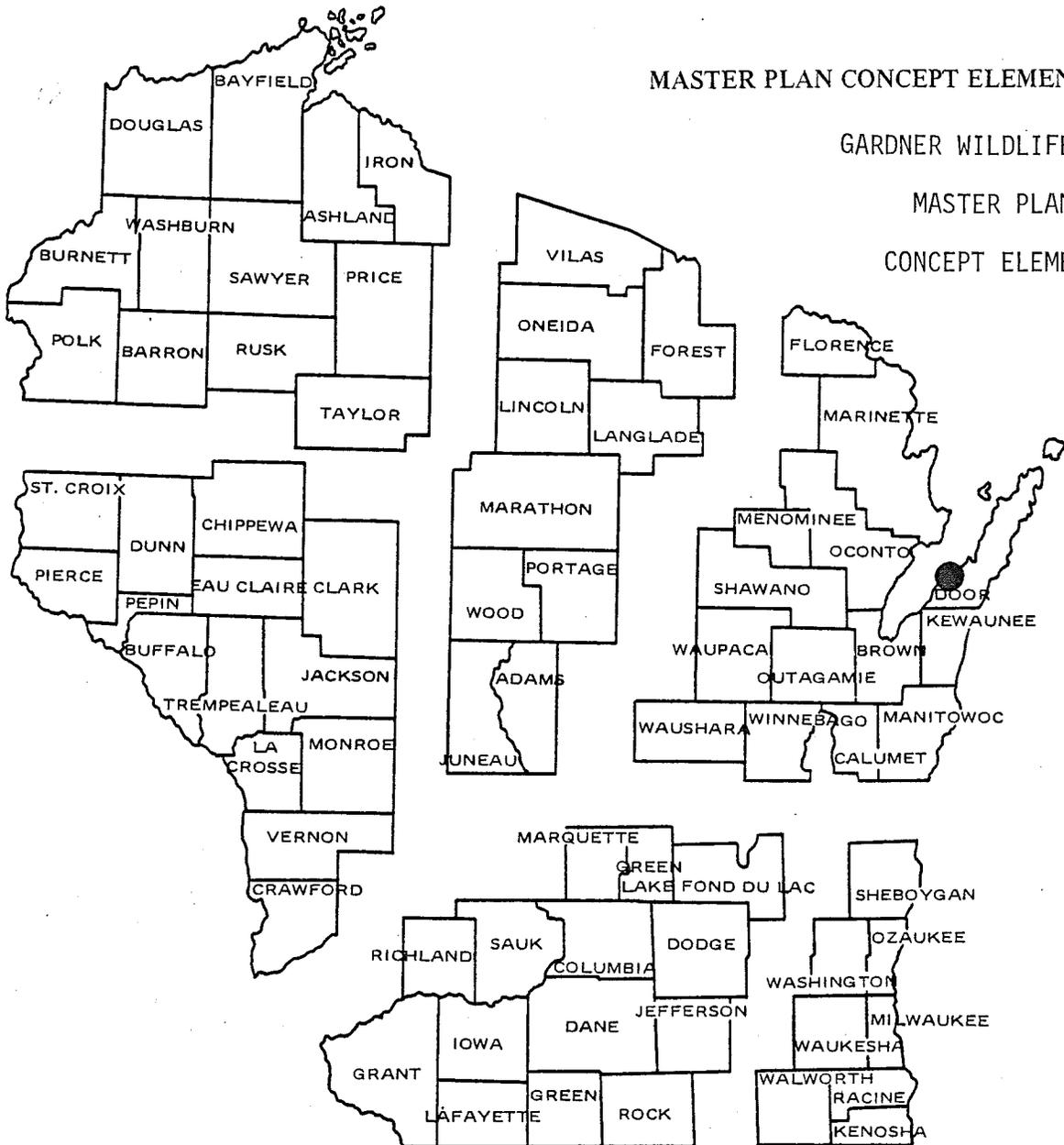
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|-------------------|--------------------|----------------|---|
| Envir. Impact | <i>Wancy M...</i> | | <i>within!</i> |
| Parks & Rec. | <i>OK H...</i> | | <i>dearly, if signs of noncompliance in to be permitted. There has addition to print to be in with...</i> |
| Fish Mgt. | <i>C of Clinic</i> | <i>5/16/80</i> | <i>No Fish. ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓</i> |
| Forest Mgt. | <i>ADK</i> | <i>5-19-80</i> | <i>SEE QUESTION UNDER TABLE 1.</i> |
| Wildlife Mgt. | | | |
| Park-Planning | | | |
| Real-Estate | | | |
| Office Dist. Dir: | | | |

Please return to *RABER*



MASTER PLAN CONCEPT ELEMENT

GARDNER WILDLIFE AREA

MASTER PLAN
CONCEPT ELEMENT

Approved by Natural Resources Board:

PROPERTY TASK FORCE

- Leader – Daniel G. Olson - Wildlife Management
- Jordan Korotev - Forestry
- Lee Kernan - Fish Management
- Frank Roznik - Wildlife Management

_____ Date

Submitted:

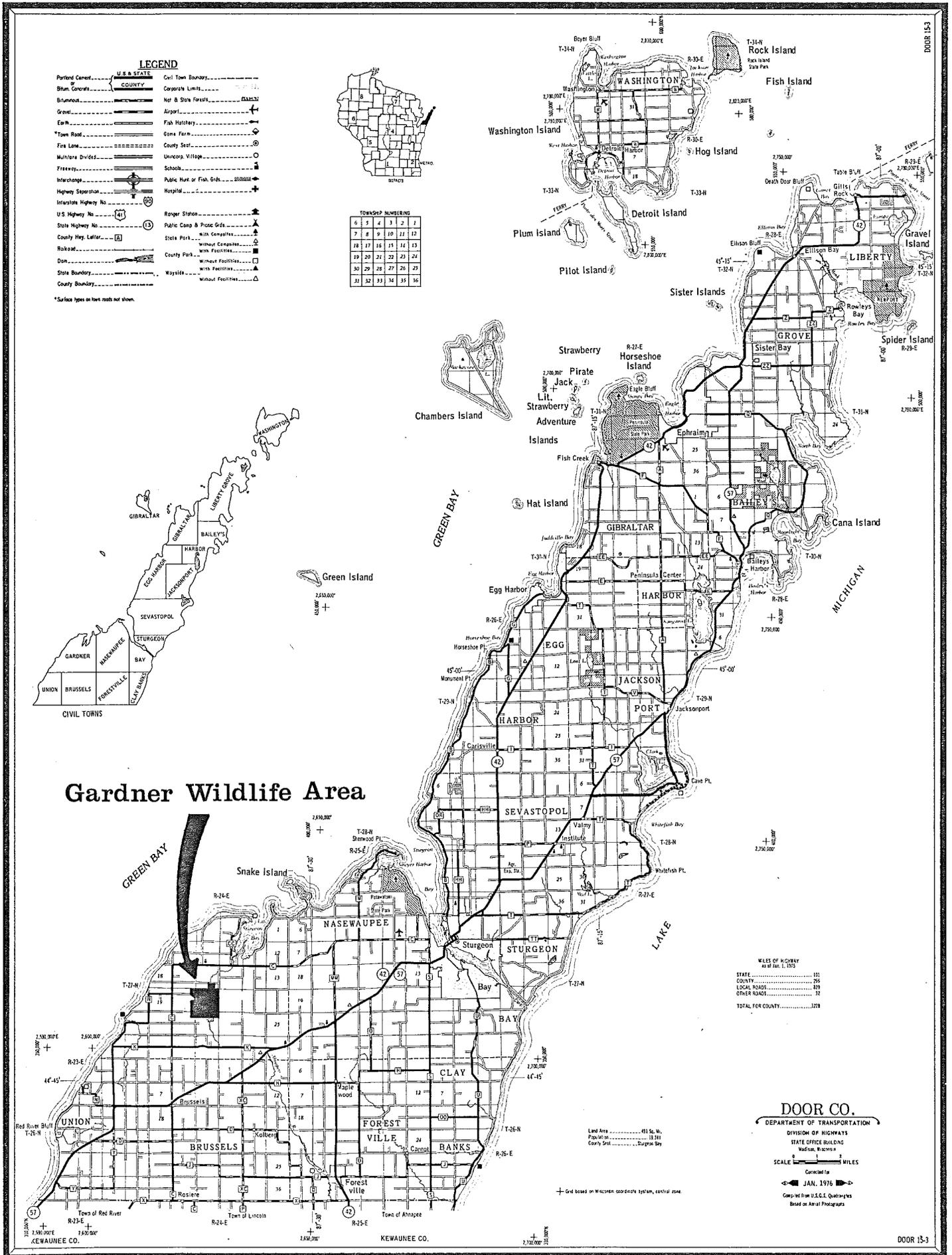


Figure 1. Location - Gardner Wildlife Area, Door County

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SECTION I - ACTIONS

GOALS AND OBJECTIVES

Goal: To manage Gardner Wildlife Area for waterfowl production, public hunting, trapping and compatible recreation.

Annual Objectives:

1. Provide 1.5 ducks per acre on 600 acres of permanent water for a total of 900 ducks.
2. Provide for 1,200 participant-days of hunting and trapping activity:
 - A. Waterfowl - 600 participant-days
 - B. Deer (gun and bow) - 300 participant-days
 - C. Ruffed Grouse/Woodcock - 100 participant-days
 - D. Furbearers - 100 participant-days
 - E. Other Game - 100 participant-days
3. Provide an average of 300 participant-days of snowmobile activity.

Annual Additional Benefits

1. Provide opportunities for 500 participant-days of other recreational activities including hiking, cross-country skiing, snowshoeing and nature observation.
2. Harvest available forest products consistent with property objectives.
3. Contribute to the habitat of migrating, endangered and threatened species as well as benefit indigenous nongame species.

RECOMMENDED MANAGEMENT AND DEVELOPMENT PROGRAM

Gardner Wildlife Area as it exists today is a moderately productive property (Figure 1). The entire property should be designated as a Fish and Wildlife Management Area - RD2 (Figure 2). With the development of a proposed 600-700 acre flowage Gardner will contribute more fully to the future needs of wildlife and wildlife based recreation expressed in the Strategic Element of the Comprehensive Plan. The proposed development should include construction of a 2,000 foot dike, water control structure (which has already been purchased) and anti-seep collar. Existing features and proposed developments are illustrated in Figure 3. Management should be focused on achieving the participant-day use stated in the Goals and Objectives. Maintenance of user facilities (access parking lots, property signs) will be ongoing activities.

The property boundary delineating 1,171.5 acres in Gardner Wildlife Area should remain unchanged and acquisition within the property should be completed. The State currently owns 1,034.4 acres with 137.1 acres in six parcels remaining in private ownership. The remaining 137.1 acres of private land in Gardner will cost approximately \$400-\$500 per acre or \$55,000-\$69,000. This amount will complete state ownership in the property, and pay relocation costs of about \$1,000 on one parcel. The possibility of boundary expansion, to the south, may exist if land control greater than the current property boundary is necessary for the success of the proposed 600-700 acre impoundment. This will be determined at a later date pending completion of the engineering study for the proposed dike and impoundment area.

The general time table for the property should be to proceed at a maximum rate to complete acquisition and construct the proposed flowage. The flowage is planned and should be constructed as soon as funding and project approval are obtained. Cost of the 600-700 acre flowage will be approximately \$25,000 for construction of a 2,000 foot dike. The water control device is already on site with only a few minor structural components to be purchased. Additional costs will be about \$500 annually for maintenance posting, parking lot upkeep and wood duck nesting box construction and repair.

Other considerations include a partial closed area on the flowage if it is needed to hold ducks, (i.e., to protect the resource or enhance hunting opportunities). Pheasant stocking has been an infrequent occurrence on Gardner and has been moderately successful. It may be included in future management but high transportation costs may preclude this activity.

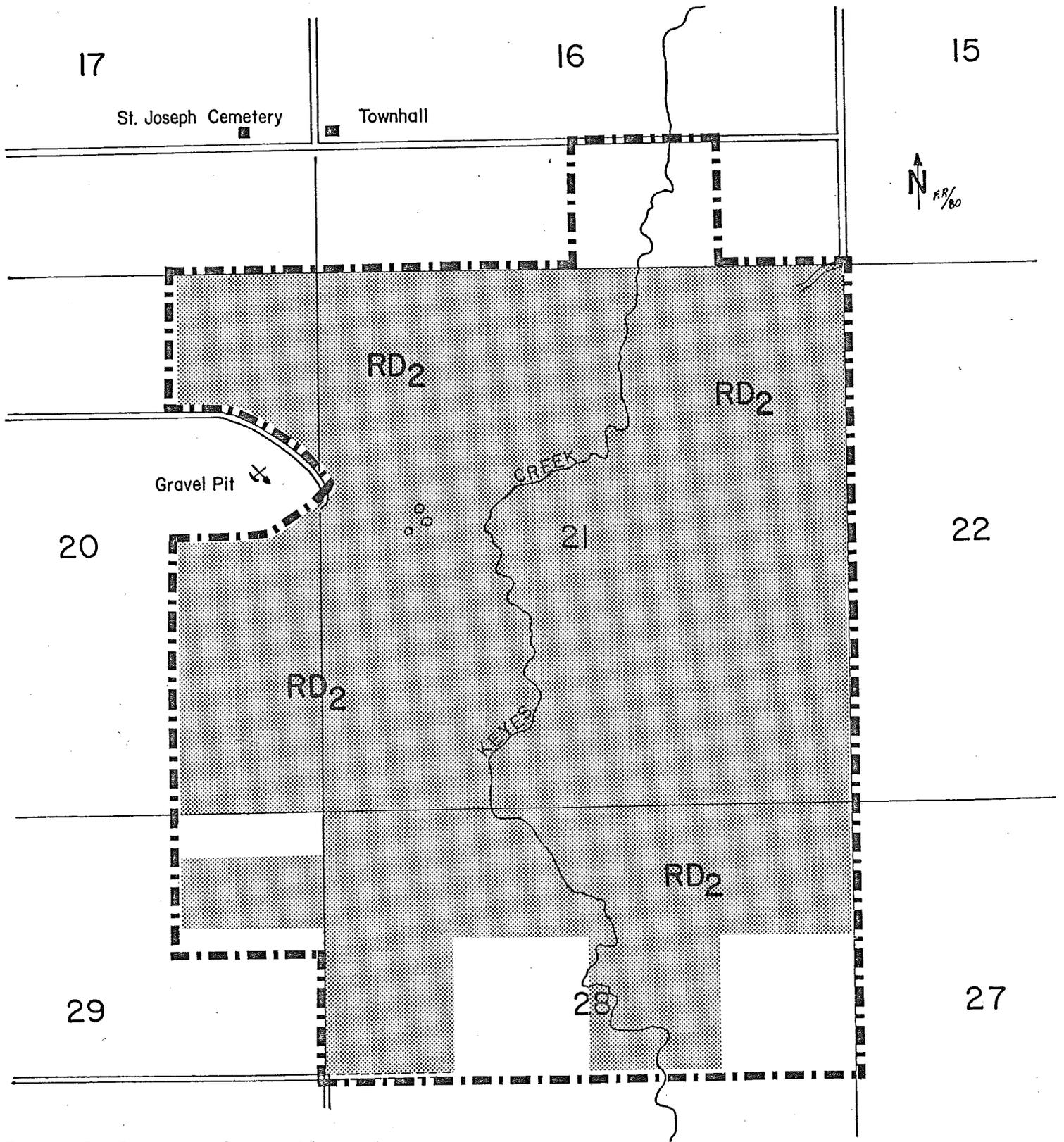


Figure 2. Property Ownership and Land Use Classification Map.

GARDNER WILDLIFE AREA

Scale 1:1320'

LEGEND

- Property Boundary -----
- State Land -----
- Private Land -----
- Fish & Wildlife Management Area -----RD₂

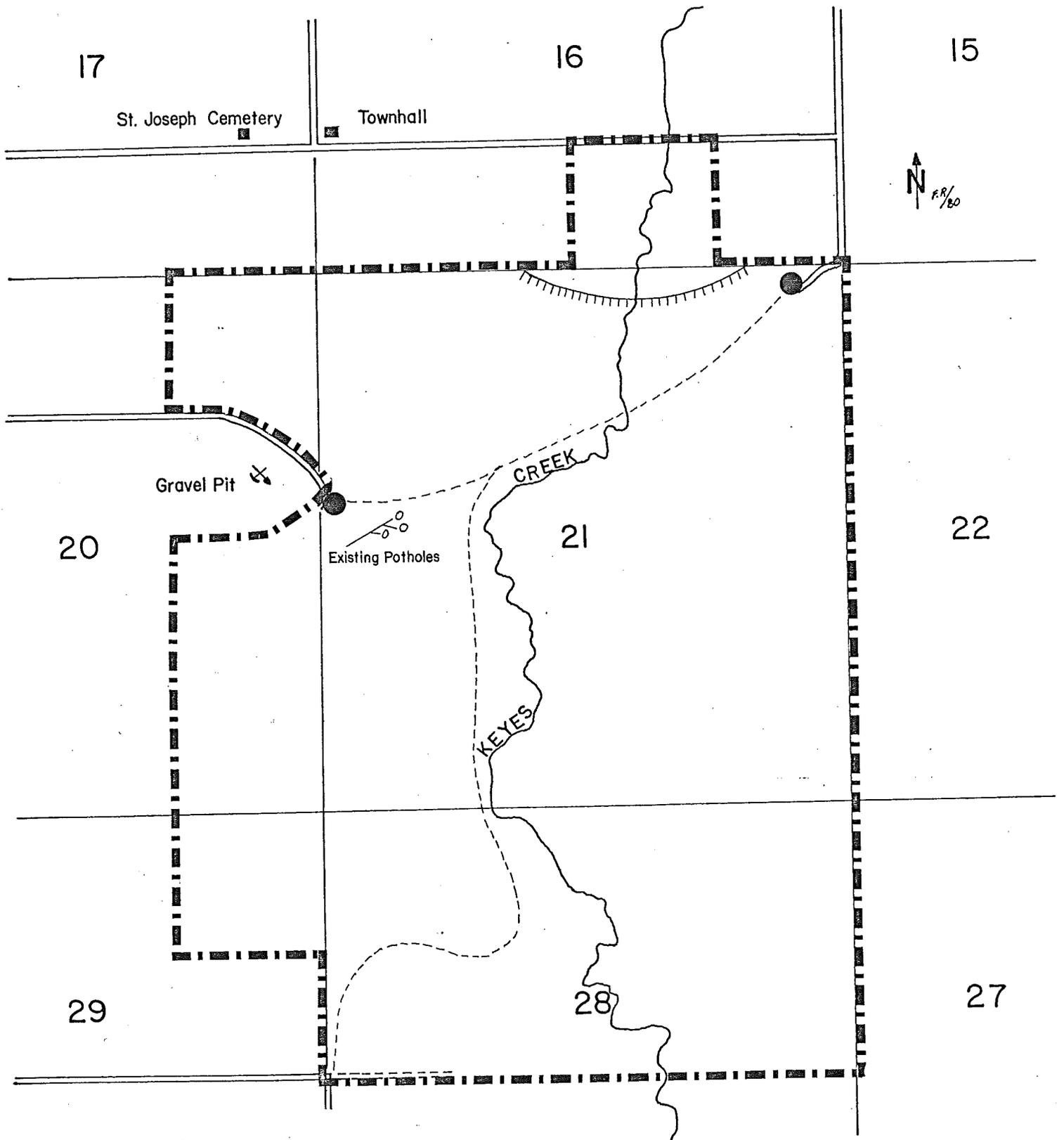


Figure 3. Existing and Planned Development Map.

GARDNER WILDLIFE AREA

Scale 1:1320'

LEGEND

- Property Boundary ————
- Existing Parking & Access ————●
- Existing Snowmobile Trail ————
- Proposed Dike ————

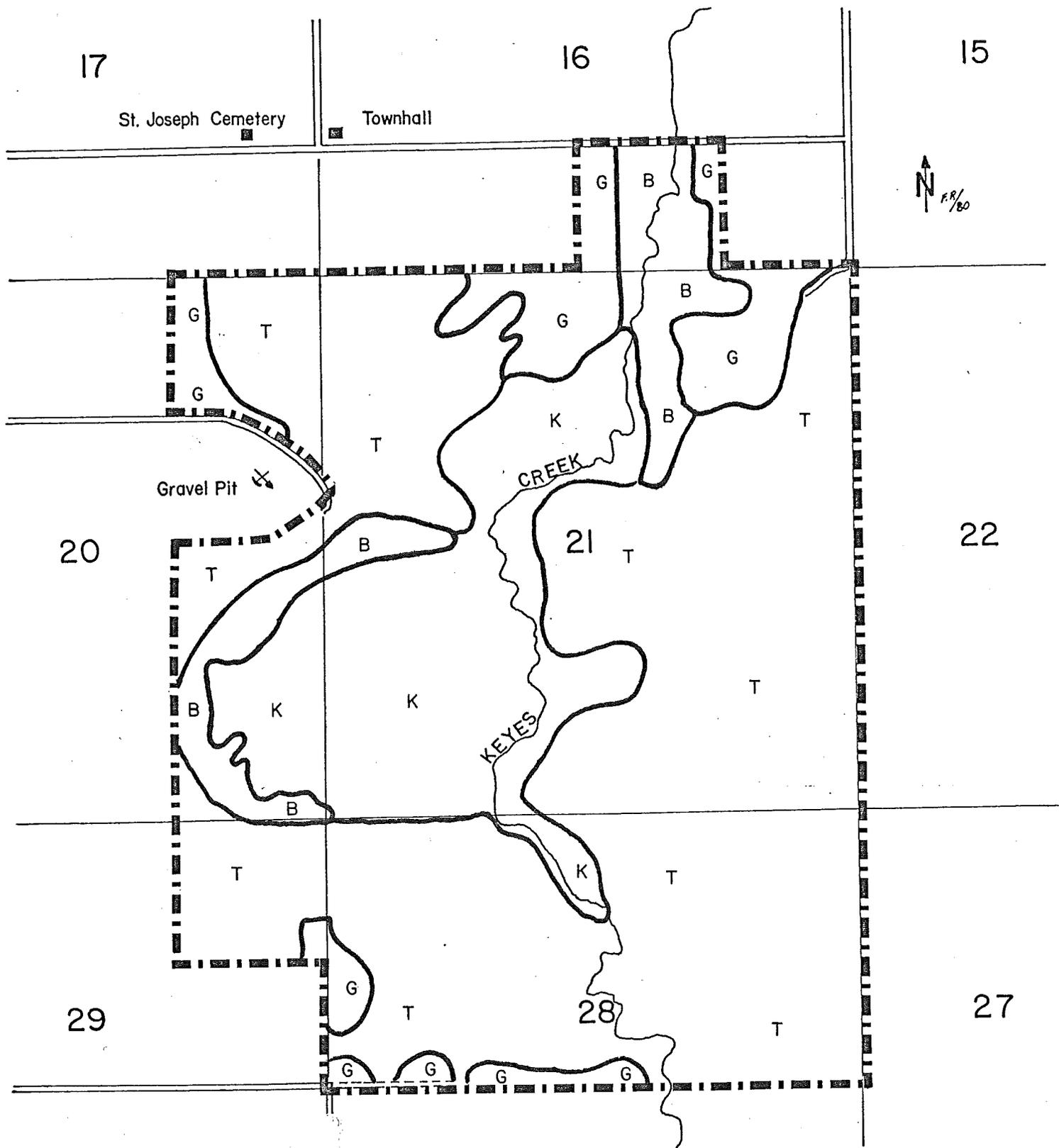


Figure 4. General Cover Map.

GARDNER WILDLIFE AREA

Scale 1:1320'

LEGEND

- Property Boundary ————
- Timber ———— T
- Brush ———— B
- Marsh ———— K
- Grassland ———— G

SECTION II - SUPPORT DATA

BACKGROUND INFORMATION

The Townships of Gardner, Union and Brussels located on the lower half of the Door County peninsula, contain the largest settlement of Belgian people in the United States. Settlement began in this area in 1853. In 1862 the Town of Gardner was founded by F. B. Gardner, a wealthy, prominent businessman. Under his direction, Gardner became the leading trade center in Door County, noted for lumber, shipbuilding and lime exportation. In 1871 a great fire swept through this area killing livestock, destroying houses and killing people. However, the fire severity was overlooked because the fire occurred on the same day as the Great Chicago Fire and the Peshtigo Fire.

Gardner Wildlife Area (W.A.) was initiated in 1958 when approval for federal funding for acquisition was given. A need for state acquisition of Gardner Swamp developed as a result of beavers constructing dams which flooded private land. Numerous man-days were spent trying to alleviate the flooding. It was also noted that during the period of beaver caused flooding, the area provided good duck hunting. With an indication the area could be successfully managed for waterfowl, acquisition of the area was considered. Sportsman's reactions were favorable towards state ownership and a number of landowners indicated they were willing to sell their land.

The primary use of Gardner W.A. since acquisition started has been public hunting. Species managed include deer, waterfowl, muskrats, ruffed grouse and beaver. Pheasants and cottontail rabbits are incidental. Two parking areas have been constructed and three potholes were blown (Figure 3). A plan for a 600-700 acre flowage has been proposed for waterfowl management. Trees and shrubs for food and cover were planted in limited numbers but the practice has been discontinued. Wood duck nesting boxes are currently a major waterfowl production tool in Gardner producing 10-12 broods annually. Current hunting use consists of about 340 participant-days for waterfowl hunting, 220 participant-days for deer, with minimal small game and trapping. Snowmobiling activity is variable, averaging 100 participant-days.

Gardner W.A. has an acreage goal of 1,171.5 acres of which 88% (1,034.4 acres) is currently state-owned. The remaining 137.1 acres within the property boundary consists of six parcels; one contains a mobile home. One parcel is used for agricultural purposes while the other four remain in a natural state.

RESOURCE CAPABILITIES AND INVENTORY

Geology, Soils and Hydrology

The principal bedrock under most of Door County is Niagara dolomitic limestone. A narrow belt of Maquoketa shale underlies the southwest corner of the county. The dolomite is the northeast extension of the

Niagara Escarpment and is near the surface in the northern third of Gardner W.A.. Since dolomite is rich in calcium and magnesium carbonates, its predominance accounts for the hard water of the region.

Door County was covered by the Wisconsin glacial stage and the glacier's recession left surface features which are primarily lacustrine along the shoreline. Inland, numerous dolomitic outcrops are common and glacial drift is fairly thin. Since the escarpment slopes eastward, drift is thickest toward the east, probably less than 200 feet (Weidman and Schultz, 1915).

The soils of Gardner contain 15 types which were consolidated into mucks, water logged soils, silt loams and sandy loams.

The Carbondale-Cathro muck soils are the most widespread soils group of the Gardner property, occupying 80% of the area. The soil association consists of very poorly drained, nearly level organic soils, saturated to a depth of less than one foot. Natural fertility is low with frost hazards further limiting agriculture uses. These soils are best suited as natural wetland areas.

The water logged soils are composed of saprists and flavaquents soils. These soils are usually poorly drained and wet throughout the year. They are impractical to drain because of their low position on the landscape and lack suitable outlets. As with the muck soils, these are best suited for natural areas, thus providing wildlife habitat and other wetland benefits.

The Bonduel, Longrie, Summerville and Solona loams occupy approximately 10% of the property area. These soils are thin (10-40 inches) with underlying dolomitic bedrock. The soils are moderately permeable and often seasonally saturated. Runoff and erosion are also moderate. The soils may be used for agriculture but fertilizer is necessary. Currently these soils are in native vegetation and wood lots.

The silt loams, Kolberg, Kewaunee, Manawa and Omro soils, are found around the periphery of the property. These soils range from very poorly drained to well drained and are usually high in natural fertility. Erosion varies from slight to moderate and wetness is the main limitation. The soils are best suited as a natural area.

The Casco, Emmel, and Omena sandy loams are well drained gently sloping soils of glacial till and outwash plains. They have a low water capacity and permeability is moderate to rapid. Natural fertility is low to medium and erosion is moderate. These soils occupy a small percentage of the property and often contain areas used for gravel pits.

In general, most of the soils of Gardner are best suited to natural vegetation conditions and wildlife habitat areas. The potential, for a flowage to improve waterfowl habitat is excellent.

The water table is at or near the surface throughout most of the Gardner area. Gardner is drained by Keyes (Geises) Creek which is one of the few streams in Door County to drain to the east. Beaver activity in Gardner has inundated from 400-500 acres since 1958. However, in recent years the beaver population has declined and concurrently so has the water level.

Fish and Wildlife

Fish habitat in the property is limited to Keyes Creek which contains brook trout in its headwaters. However, the section of stream within the property boundaries contains only minnows, a few forage fish, carp, and suckers. No brook trout are present and fish management potential for Keyes Creek within the Gardner property is limited. No plans have been formulated for Gardner with respect to fish management.

Gardner is one of the few state wildlife habitat areas of major importance in Door County. Game and furbearer species found in the area include, white tailed deer, cottontail rabbit, snowshoe hare, red fox, beaver, muskrat and otter. Waterfowl makes use of the large water area which annually produces 30-40 broods of wood ducks, mallards, and blue-winged teal. The area's close proximity to Green Bay-Lake Michigan also makes it attractive as a resting area during rough weather. Ruffed grouse and woodcock are common throughout the area. Pheasants are occasionally stocked on the property but no instances of reproduction are indicated. Non-game mammals and birds whose normal range includes the Door peninsula are probably found in the area. However, no complete survey of species is available. One uncommon species found in the area is the pileated woodpecker. No endangered or threatened species are known to inhabit the area. However, if sites containing endangered or threatened species are identified, appropriate protective measures will be taken. If sites are found during development, construction will be suspended until the Office of Endangered and Nongame Species (DNR) is consulted.

Vegetation Cover

The vegetation covering Gardner is composed of seven vegetation types, swamp hardwood, cedar, aspen-northern hardwood, white birch-swamp hardwood, grassland, emergent vegetation and willow (Figure 4). Vegetation cover and acreages are found in Table 1.

Table 1. Vegetation Cover of Gardner Wildlife Area

| <u>Type</u> | <u>Acreage</u> |
|------------------------------|----------------|
| Grassland | 110 |
| Emergent Vegetation | 71 |
| Emergent Vegetation - Willow | 226 |
| Shrub-Willow | 54 |
| Swamp-Hardwood | 443 |
| Cedar | 140 |
| Aspen-Northern Hardwood | 37 |
| White Birch-Swamp-Hardwood | 52 |
| <u>Total</u> | <u>1,133</u> |

Forested land covers approximately 60% of the property of which only 7% is upland forest. The swamp hardwoods (0-12" DBH) cover 443 acres (40%) and white cedar (0-9" DBH) 140 acres (12%). The remaining forest is aspen-northern hardwood and white birch extending over 89 acres (8%). Most of the wooded area was cut heavily from 1930-1950 for lumber and cedar posts. Thus, most of the trees today are immature. However, when stands of trees reach merchantable age, sales should be set up following the manager's handbook for swamp conifer, aspen and northern hardwood as designated in the general technical report (U.S. Forest Service, USDA). Timber sales should be designed to maximize wildlife benefits where possible.

Grassland consisting of primarily commercial species extends over 110 acres (10%) of the property. Since almost all of this is state-owned, it currently is left in a fallow state with some shrubs and trees which were planted for cover and windbreaks.

The remaining 30% of the property is covered by emergent vegetation and willow. The cattail, bulrush and sedge cover type vary in density and area in response to the water level of the beaver flowage. Beaver activity has been declining in recent years contributing a reduction of available brood water and resulting in a homogenous stand of cattail and related species. The emergent vegetation, willow, and flooded timber areas are proposed to include a 600-700 acre flowage. The stabilized water area would greatly increase waterfowl production and hunting recreation.

Wetland types in Gardner are Types 2-7 (Shaw and Fredine, 1956 - Circular 39). These wetland types occupy approximately 83% of the property. No threatened or endangered plants are known to exist on the property. If any are found, the sites will be protected and appropriate measures taken.

Water Resources

Keyes Creek formerly Geises Creek is the only stream in the Gardner area. It is a small stream 5.1 miles long with a gradient of eight feet per mile. The stream originates in several spring fed tributaries and springs at the base of a dolomitic exposure. It flows north through the swamp to Little Sturgeon on Green Bay. The upper two miles of stream were managed for brook trout and had a history of natural reproduction until it was eliminated by highway construction (Poff and Threinen, 1965). Access for the stream is from numerous town and country roads. Keyes Creek develops into an expansive marshland in the property. This is due to the beaver impoundment and the low nature of the land.

Historical and Archaeological Features

Presently no archaeological or historical features or sites are known to exist in Gardner. Available information on Door County, however, does indicate this part of the state possesses a wealth of significant sites. It is probable some may be present on land adjacent to the marsh. As development projects are planned, the State Historical Society will be notified to comment on the exact location. If significant sites are identified they will be preserved.

Land Use Potential

Gardner has no unique or unusual features to justify a special land use class for preservation of habitat, Scientific Areas or Historic or Archaeological Areas. Using the uniform classification of land use, all the land within the property boundary now specified will be designated Fish and Wildlife Development Area - RD₂ (Figure 2). The property will receive protection under state ownership and will be managed with policies and developments to enhance waterfowl production and incidental species, i.e., ruffed grouse, deer, woodcock, beaver and cottontail rabbit.

The property under Fish and Wildlife Development status will be surveyed and maintained for public hunting. A dike and a 600-700 acre flowage are planned to enhance property goals and objectives.

MANAGEMENT PROBLEMS

One resource management problem of Gardner is the deterioration of waterfowl habitat. The property is a mixture of habitat types but currently lacks sufficient food and brood water to produce and attract waterfowl. The proposed dike and flowage should resolve part of this problem.

Deer and bear damage is an annual problem around the Gardner area. Damage to apple and cherry orchards and apiaries from animals which move in and out of the wildlife area is expected to continue but the damage seldom exceeds \$2,000.

Other problems include property vandalism, primarily sign destruction and illegal off the road vehicle use. As the property is used more in the future, more patrolling of the area may be necessary.

RECREATION NEEDS AND JUSTIFICATIONS

Wetland protection is paramount in all areas of the nation, state and local areas. Wetlands provide food and cover for most game species and are directly associated with their abundance or scarcity. In Door County, Gardner is one wetland complex that will be protected under state ownership. With wise and careful management, recreational opportunities will increase for local residents and people from the surrounding area.

Gardner has proven to be a moderately productive waterfowl area. However, its productivity and value as a migration staging area have been dependent on the sporadic water levels associated with the beavers in Gardner. The property with the construction of the proposed flowage should consistently be a prime waterfowl area, as well as provide habitat for other wetland species.

The need for non-hunting and fishing use areas, is growing in Wisconsin. Activities such as cross-country skiing, snowshoeing, snowmobiling and nature observation are compatible with property use and are an added benefit.

ANALYSIS OF ALTERNATIVES

Enlargement - The property boundaries could be expanded to land adjacent to existing property in order to enhance property goals and objectives. However, most of the adjacent land is upland with much of it in agriculture and timber. The contribution of the additional land would add to the property value, but, may be an option for future management only if the need develops. The land currently within the property boundaries represents the land needed for success of the property. However, the possibility of property expansion, to the south may come about if greater land control is needed to bring about the success of the proposed waterfowl impoundment. This will be determined by a detailed engineering study. If boundary expansion is necessary, the exact location and acreage will be identified at a later date. Currently, preliminary studies indicate expansion does not appear necessary.

Reduce - A reduction in the property boundaries would seriously jeopardize the property goals and objectives. Most of the land, (1,034.4 acres of 1,171.5 acres) is currently state-owned with only a few parcels to be purchased to complete the property goal. Any reduction in size would be difficult. Also, the property boundaries identified are necessary for wetland protection and wildlife habitat improvement.

Status Quo - Gardner is currently an asset to Door County as a public hunting and recreation area, a wetland area, and as wildlife habitat. If the property would be allowed to pursue its present course many of the benefits of the property would be realized. However, if the developments discussed in the Recommended Management and Development Program section are not implemented then Gardner will be below its potential for waterfowl production and hunting opportunities.

After examining all possibilities, the best alternative for Gardner is to acquire the remaining parcels within existing boundaries and construct the 600-700 acre flowage. This will enhance the resource potential of Gardner, particularly with respect to waterfowl.

Literature Cited

- Poff, R. J. and C. W. Threinen. 1965. Surface Water Resources of Door County. Wisconsin Conservation Department. Madison, WI pp 66.
- Shaw, S. and G. Fredine. 1956. Wetlands of the United States. U.S. Department of Interior, Fish and Wildlife Circular No. 39. (reprinted 1971).
- Weidman, S. and A. R. Schultz. 1915. The Underground and Surface Water Supplies of Wisconsin. Wisconsin Geol. Nat. Hist. Surv. Bull. XXXV. p. 310-313.

