Form 1100-1
Rev. 10-77

Item 6.C-5 Minutes of _____

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
Madison, Wisconsin

ITEM RECOMMENDED FOR NATURAL RESOURCES BOARD AGENDA

TO THE SECRETARY: Date September 11, 1979

FROM: John M. Keener

SUBJECT: MASTER PLANNING - Approval of conceptual master plan for the Augusta Wildlife Area, Eau Claire County.

1. To be presented at September Board meeting by C. D. Besadny.

2. Appearances requested by the public: None.

Name	Representing whom?

3. Reference materials to be used:
Memorandum dated September 11, 1979 from John M. Keener to Anthony S. Earl. Augusta Wildlife Area Master Plan (Concept Element).

4. Summary:
The Concept Element of the Master Plan has been developed for the Augusta Wildlife Area which is located in Eau Claire County. The Department proposes to manage the property for waterfowl and forest game production as well as to provide compatible, outdoor recreational opportunities.

5. Recommendation: That the Natural Resources Board approve the Concept Element of the Master Plan.

APPROVED:

C. D. Besadny, Administrator — 9/11/79 Date

A. C. Damon, Deputy Secretary — Date

Secretary — 9/12/79 Date

Signed:

John M. Keener, Director
Bureau of Wildlife Management

cc: Judy Scullion - 5
Ron Nicotera - 5
Art Doll - 9
Jim Huntoon - 4
John Keener - 4
Dave Gjestson - 4
Pete Jensen - 3
James Lissack - Eau Claire

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CORRESPONDENCE/MEMORANDUM

STATE OF WISCONSIN

Date: September 11, 1979 *File Ref:* 2300

To: Anthony S. Earl

From: John M. Keener

Subject: Master Plan for the Augusta Wildlife Area - Eau Claire County

The final Concept Element of the subject Plan is presented for your approval. The Plan has been subjected to a 30-day review by the appropriate Department functions, advisory groups and other resource agencies.

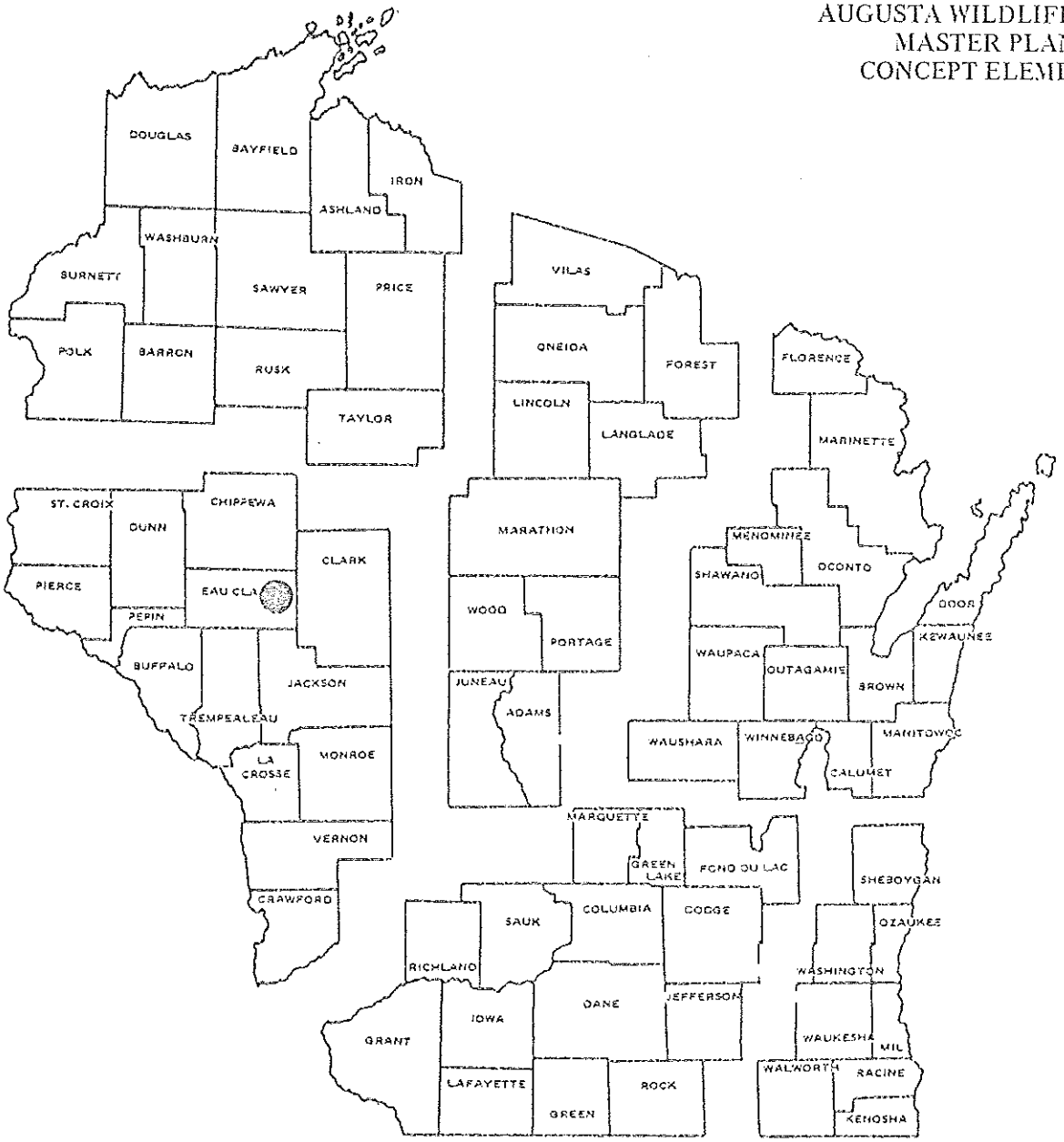
Comments received have been reviewed by the Bureau of Wildlife Management and the West Central District. Agreement was reached on the treatment of comments, the majority of which were incorporated into the final draft. No public controversy has been brought to our attention during the review process.

The Plan establishes objectives to produce ducks, deer and ruffed grouse as well as to provide public hunting. Property management will provide additional benefits of goose production, trapping, benefits for nongame species and nonhunting recreation.

Presently, the state owns 2,020 acres with a goal to control 2,640 acres. No change in ownership acreage or boundary is necessary to achieve the proposed goal and objectives for this property.

DLG:mg
cc: Judy Scullion - 5
Ron Nicotera - 5
Art Doll - 9
Jim Huntoon - 4
John Keener - 4
Dave Gjestson - 4
Pete Jensen - 3
James Lissack - Eau Claire

AUGUSTA WILDLIFE AREA
MASTER PLAN
CONCEPT ELEMENT



PROPERTY TASK FORCE

Leader - Rolland Nesbit - Wildlife Manager
Henry Anderson - Forester
Douglas Erickson - Fish Manager
Norman Pazderski - Parks & Recreation

Submitted: May, 1979

Approved by Natural Resources Board:

_____

Date

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
MADISON, WISCONSIN

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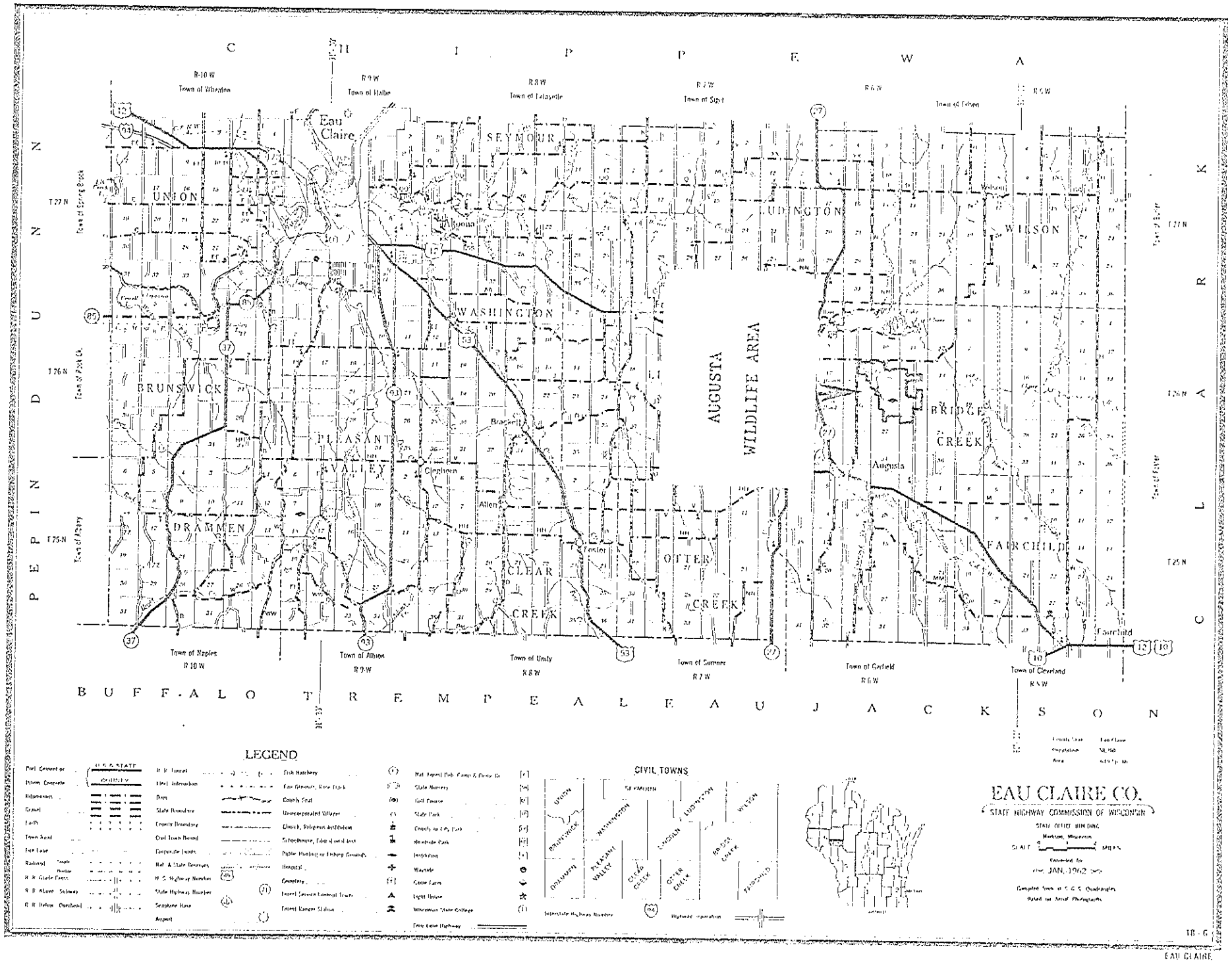

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UNION
LUDINGTON
WILSON
WASHINGTON
BRUNSWICK
PLEASANT VALLEY
DRAMMEN
CLEAR CREEK
OTTER CREEK
BRIDGE CREEK
FAIRCHILD
AUGUSTA WILDLIFE AREA
Altoona
Brackett
Cleghorn
Allen
Foster
Augusta
Fairchild
LEGEND
CIVIL TOWNS
EAU CLAIRE CO.
STATE HIGHWAY COMMISSION OF WISCONSIN
STATE OFFICE BUILDING
Madison, Wisconsin
SCALE MILES
Corrected for
JAN. 1962
Compiled from U.S.G.S. Quadrangles
Based on Aerial Photographs
18 - 6
EAU CLAIRE

GOAL AND OBJECTIVES

GOAL:

To manage the Augusta Wildlife Area for waterfowl and forest game production as well as to provide compatible, outdoor recreational opportunities.

OBJECTIVES:

Annually:

1. Produce about .75 ducks per acre on 420 acres of water (315 ducks) and provide 360 participant days of waterfowl hunting.

2. Produce a fall population of 35-40 deer per square mile of deer range (130-150 deer) and provide 850-1,000 participant days of bow and gun deer hunting.

3. Manage for a cyclic high population of 250-300 ruffed grouse per square mile of habitat (500-600 grouse) and provide about 300-350 participant days of grouse hunting.

ADDITIONAL BENEFITS:

Annually:

1. Produce one gosling per 20 acres of water (21 geese).

2. Provide about 500 participant days of trapping and other hunting activities.

3. Benefit production of other game and nongame species indigenous to the area.

4. Accommodate 1,000 participant days of other recreation including nature study, hiking, ski-touring and berry picking.

5. Contribute to the habitat of migratory endangered or threatened species.

RECOMMENDED MANAGEMENT AND DEVELOPMENT PROGRAM

Upland timber will be managed for forest game by maintenance of existing openings, creation of some new openings and management for a shade intolerant timber stand. Aspen (5 acre units) will be managed through coordination of timber sales and noncommercial cutting to establish uneven age blocks. The primary game species benefitting from these activities are white-tailed deer, ruffed grouse and woodcock. Oak stands (210 acres) would be maintained for mast production and nesting cavities for wood ducks. Clover seeded trails will be maintained for ruffed grouse and deer and will serve as fire breaks.

Currently, 620 acres of private land exist within the approved wildlife area boundary (Fig. 1). Agriculture, forestry, permanent and seasonal residences are the primary uses of this land. Improvements on these tracts include one set of agricultural buildings, two wooden frame houses and three trailer houses. At the time of optioning, a decision will be made on disposal of buildings. Buildings located on the area perimeter may be sold with small acreages where compatible with management.

Acquisition of most of the 620 acres is necessary for establishment of waterfowl nesting areas and, if necessary, a waterfowl closed area. Purchase would also provide the area necessary for enlargement of "Wood duck pool"; creation of an additional flowage; and for obtaining additional dike material.

Grasslands will be developed or maintained for waterfowl nesting cover. The primary species benefitting are mallards and blue-winged teal. Prescribed burning will be utilized for the management of marsh vegetation and mowing will be used to maintain upland sites.

Shallow impoundments and level ditches will be constructed in lowland portions of sections 15, 22, 23 and 27 (Figure 2). Invasion of woody vegetation will be controlled by discing, controlled burning and chemical treatment. Food for migrating waterfowl will be established by drawing down water levels periodically and seeding impoundments with millet.

A general timetable for acquisition cannot be established beyond stating that acquisition will proceed as rapidly as funds become available, willing sellers are determined, and appraisals are accepted.

One major development for waterfowl habitat, either flowage or level ditching, should be accomplished annually for 10 years. This will spread development costs and permit evaluation of wildlife responses.

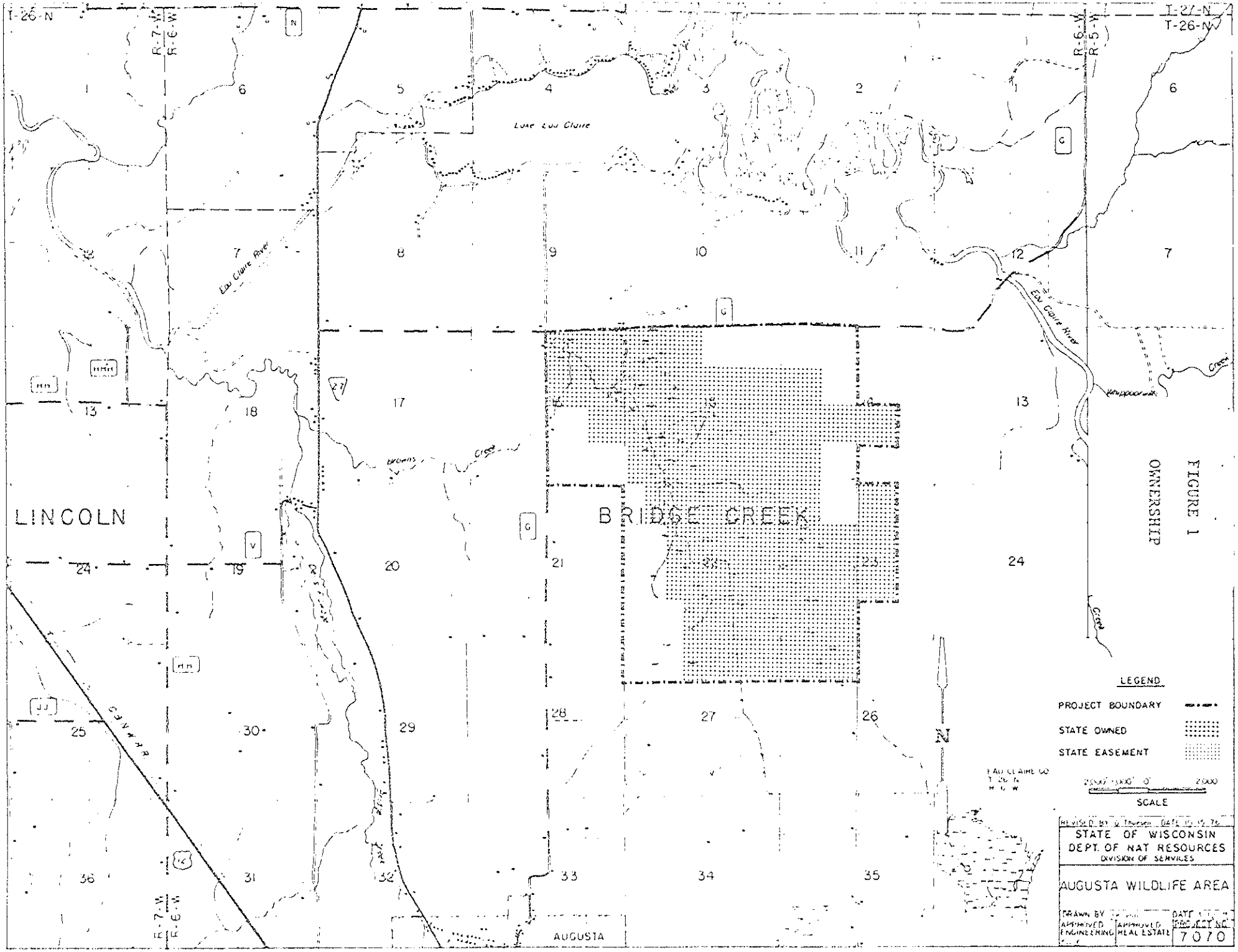
Estimated general costs are as follows:

1. Acquisition - $186,000 total.

2. Development - $5,000 annually for the next 10 years.

3. Maintenance - $2,500 to $3,500 annually.

Private developments on adjacent lands should be limited to assure accessibility of the wildlife area to the general public and to protect planned development on the area. Strict compliance and enforcement of Forest Conservancy zoning regulations is a necessity.


T-26-N
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T-27-N
T-26-N
R-5-W
Lake Eau Claire
Eau Claire River
Eau Claire River
Brooms Creek
LINCOLN
BRIDGE CREEK
RAILROAD
AUGUSTA
FIGURE 1
OWNERSHIP
LEGEND
PROJECT BOUNDARY
STATE OWNED
STATE EASEMENT
SCALE
STATE OF WISCONSIN
DEPT. OF NAT RESOURCES
DIVISION OF SERVICES
AUGUSTA WILDLIFE AREA
DRAWN BY
APPROVED ENGINEERING
APPROVED REAL ESTATE
DATE
PROJECT NO
7070

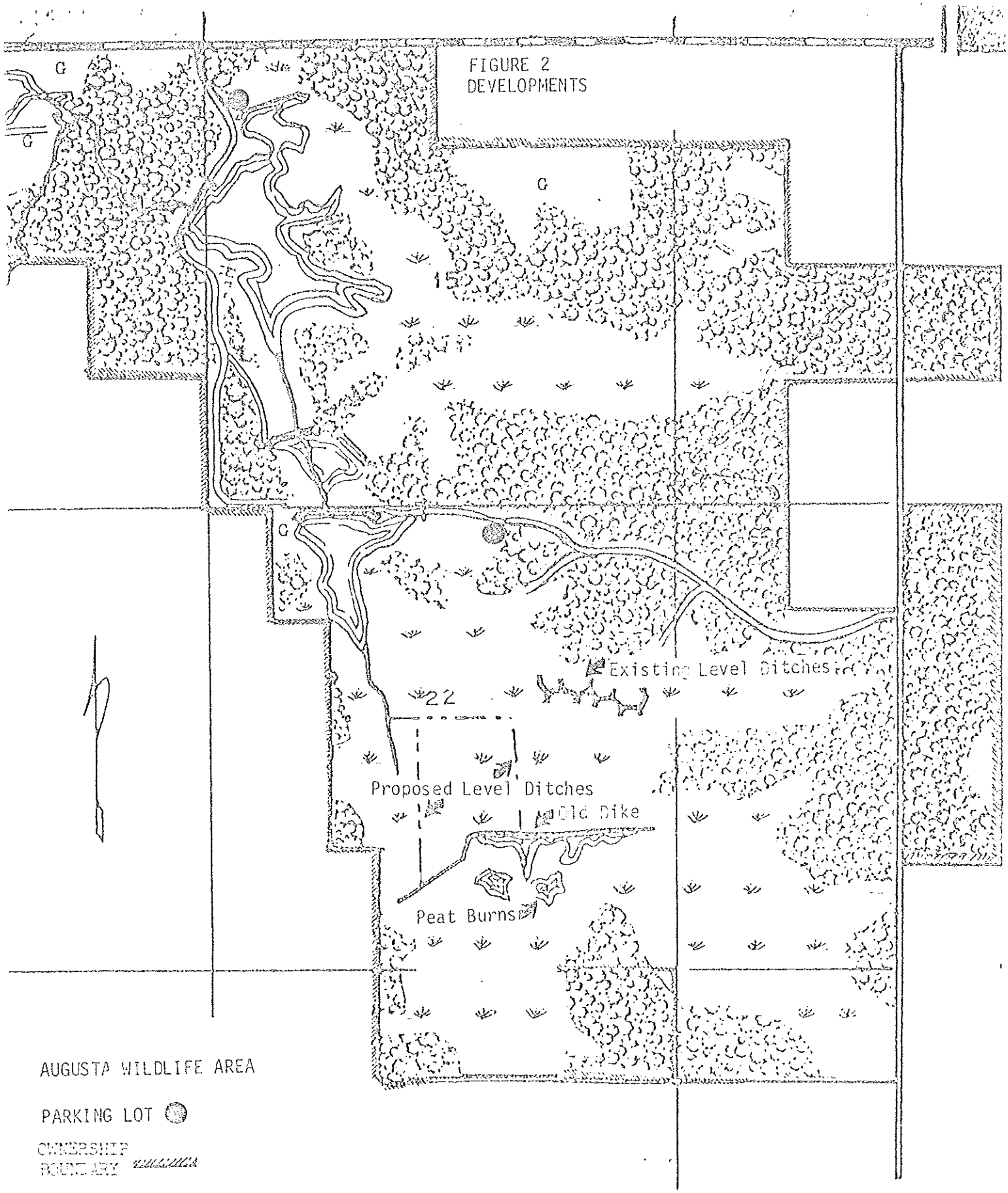


FIGURE 2
DEVELOPMENTS
G
G
G
G
15
22
Existing Level Ditches
Proposed Level Ditches
Old Dike
Peat Burns
AUGUSTA WILDLIFE AREA
PARKING LOT
OWNERSHIP BOUNDARY
OPEN WATER
GRASS G
MARSH
TIMBER
3/4" = 1 mile

Legislation to permit the Department to control hunter numbers on all state-owned wildlife areas should be enacted so that it may be applied as necessary when crowding becomes a limiting factor for retaining reasonable hunting quality. It may also be necessary to restrict access to foot travel only.

BACKGROUND INFORMATION

History of Property Creation:

Prior to the establishment of the state wildlife area in 1942, the entire region was subject to exploitive timber harvest and probably was burned over by wildfire. The interspersion of timber, brush and grasslands favored a growing deer herd and supported sharptailed grouse which were present at least through the 1930's.

Many attempts were made prior to World War II to drain the many marshlands in Eau Claire County. These marshes attracted thousands of ducks and geese until wetland drainage and a variety of land use changes began to have a negative impact on bird use.

The department wildlife area activities evolved around land acquisition from 1942 to 1955. Development on the area began in December of 1955 when a dredged ditch and low dam without a water control structure were created in the southern portion of the marsh (Figure 3). This served to reduce the effectiveness of the drainage ditches and provide some open water for waterfowl. Due to washouts, this low dike is presently not retarding water flow.

Three flowages with water control structures were created in 1957, 1960 and 1966 with a total surface water acreage of approximately 136 acres. In 1959, an 8-acre runoff pond (Wiggins Pond) was created in the northwest corner of the area by plugging Brown's Creek with large rocks (Figure 3).

In January of 1964, 1,350 feet of level ditching was completed connecting eight (25 ft. x 50 ft.) potholes. During July, 1964, 12 potholes were created by blasting with ammonium-nitrate (Figure 3). Prescribed burning and discing have been used in attempts to control invasion of the marsh by trees and brush.

Current Management Activities:

Upland management consists of small timber sales, creation and seeding of openings, opening maintenance with Tordon and by mowing, and the shearing of nonmerchantable trees to set back succession to a stage more favorable to deer, ruffed grouse, snowshoe hare and woodcock. Cottontail rabbits have also responded favorably to these activities.

The area is posted with Department signs each fall. Patrolling by field personnel for the purposes of law enforcement, maintenance, use surveys and area landowner contacts are routine. Land acquisition is a high priority activity and 2,020 acres of the 2,640-acre goal have been acquired.

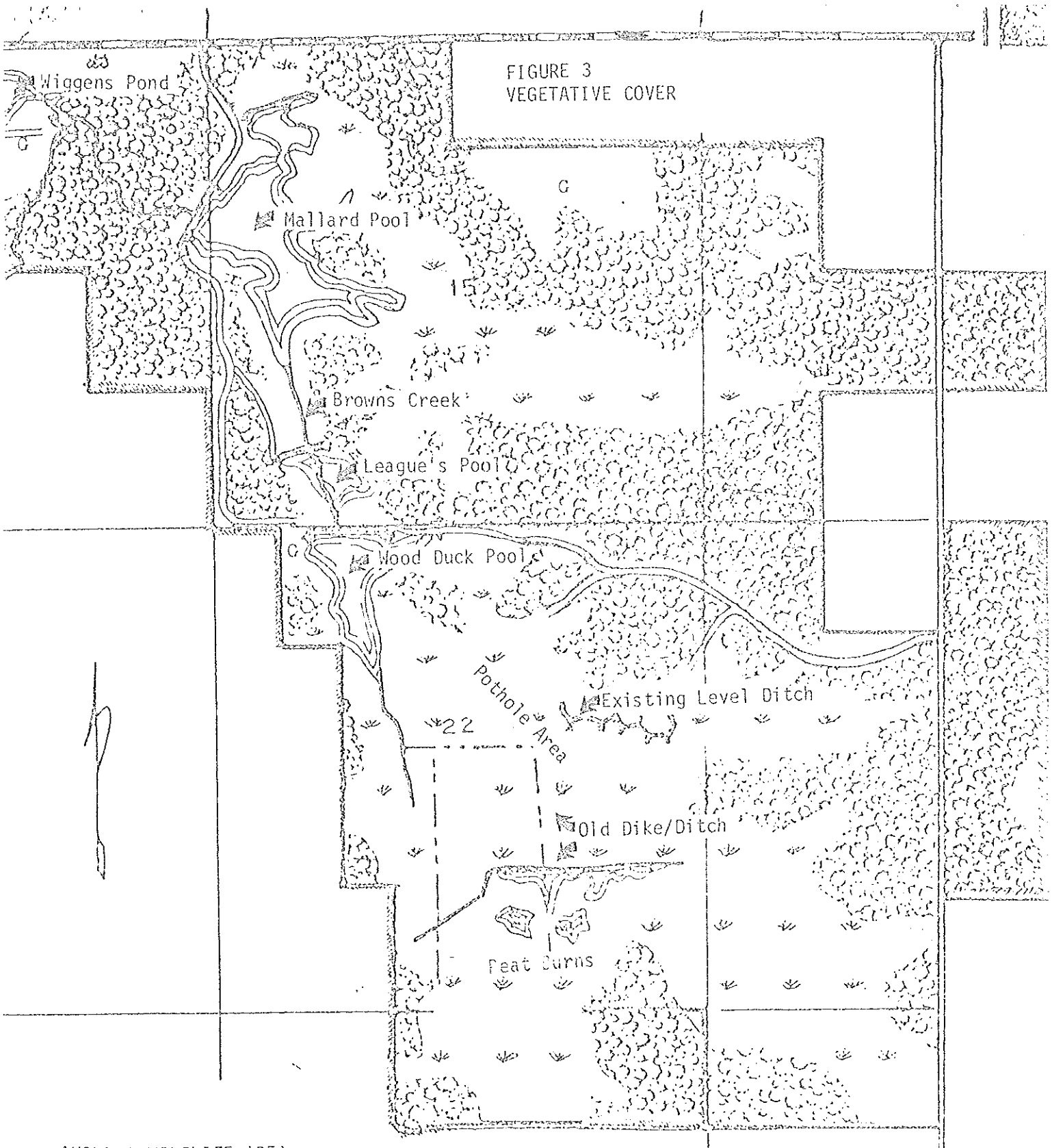


FIGURE 3
VEGETATIVE COVER
Wiggens Pond
Mallard Pool
Browns Creek
League's Pool
Wood Duck Pool
Pothole Area
Existing Level Ditch
Old Dike/Ditch
Peat Burns
G
15
22
AUGUSTA WILDLIFE AREA
OWNERSHIP
BOUNDARY
OPEN WATER
GRASS G MARSH
TIMBER
3/4" = 1 mile

RESOURCE CAPABILITY

Soils, Geology and Hydrology:

Eau Claire County lies almost entirely within the 'Border Drift' region between the prominent middle Wisconsin (Cary; Woodfordian) terminal moraine to the north and the 'Driftless Area' to the south. The land surface and deposits at the Augusta Wildlife Area site are 16,000 to 24,000 years old and are considered Early Wisconsin in age.

The surface over most parts of Eau Claire County is quite uneven and hilly, being a typical erosion type of topography as it developed in sandstone. A level tract of valley bottom lies northeast of Augusta along the Eau Claire River.

The Augusta Wildlife Area consists of gently rolling, upland soils interspersed with lowland peat. The sandy upland soils developed from glacial outwash deposits and range from naturally excessively drained to poorly drained. Poorly drained soils restrict management activities to summer and winter months. Peat and muck soils in the marshes range from five feet to an inch or so in depth.

Fish and Wildlife:

Forest game species inhabiting the area are white-tailed deer, ruffed grouse, woodcock, snowshoe hare, cottontail rabbit and gray squirrel. Management of upland forests and openings will benefit these species through increased interspersion of food and cover.

Nesting waterfowl species on Augusta Wildlife Area are Canada goose, mallard, blue-winged teal and wood duck. Transient waterfowl utilizing the area in the spring and fall include those already mentioned plus snow geese, American wigeon, green-winged teal, black duck, gadwall, lesser and greater scaup, ring-necked duck, common goldeneye, bufflehead, hooded merganser and whistling swan. Aquatic furbearers include muskrat, mink and beaver.

Maintenance and establishment of small flowages and level ditches will benefit nesting waterfowl and aquatic furbearers. Maintenance of the oak timber type will benefit wood ducks through nesting cavities and mass production. At final nest box installation will be utilized to supplement natural sites. Aspen management will favor beaver, deer and ruffed grouse. Grasslands maintenance and development will provide nesting cover for mallards and blue-winged teal and grazing areas for Canada geese. The increased size of water areas will enhance the attractiveness of the area to migratory waterfowl. Refuge and closed area protection may be needed in order to hold waterfowl on the area during the fall.

Otter, coyote, red fox and raccoon are present in small numbers and should offer some sport trapping opportunity. Other fauna includes small mammals (14 species), nongame birds (35 species) and reptiles and amphibians (10 species). At least one pair of sandhill cranes are known to be nesting on the area.

No endangered or threatened species are known to live on the area. Inventories will be conducted and the Office of Endangered and Nongame Species (DNR) consulted prior to implementation of development plans.

Fish present on the area consist of mud minnows (Umbra limi), fathead minnows (Pimephales promelas) and black bullheads (Ictaluris melas). The 1976 drought eliminated these species when flowages dried up. However, it is anticipated that they will return upon establishment of normal water levels. These flowages normally provide a source of minnows for bait dealers and fishermen and might provide a source of forage minnows for DNR fish propagation projects. Minnows will be discouraged from the flowage because they actively compete with ducks for food. The Department has no plan for restocking or harvesting minnows. Water depths are too shallow and winter oxygen content too low to sustain a sport fishery.

Vegetative Cover (Figure 3):

Major cover types on the Augusta Wildlife Area are marsh (514 acres), lowland brush (158 acres), grassland (46 acres) and forested upland (1,124 acres).

Major plant species in the marsh perimeter are reed canary grass (Phalaris arundinacea), cattail (Typha spp.), blue flag iris (Iris spp.), and burreed (Sparganium spp.). The southern portion of the marsh contains a thick layer of sphagnum moss (Sphagnum spp.).

The marsh proper contains 150 acres of water. The major plant species is water smart weed (Polygonum amphibiam). Following drawdown common smart weed (Polygonum hydropipier) and stick-tight (Bidens spp.) voluntarily invade. Japanese millet (Echinochloa crusgalli) is seeded on exposed mudflats for fall waterfowl food.

Alder (Alnus rugosa) and willow (Salix spp.) are the major plant species in the lowland brush type.

The grasslands consist of older agricultural fields and trails. The trails and 14 acres of fields have been seeded to an alsike/white dutch clover mixture. Nine acres of fields have been seeded to switch grass (Panicum sp.) and wheat grass (Agropyron sp.) for waterfowl nesting cover. Natural vegetation occurring in fields are quack grass (Agropyron repens) and bracken fern (Pteridium aquilinum).

Hazelnut (Corylus americana walt) is the dominant species in the upland brush type.

Primary cover types within the forested upland are aspen (Populus spp.) 568 acres , jack pine (Pinus banksiana) 329 acres , oak (Quercus spp.) 210 acres , white pine (Pinus strobis) 13 acres , and white birch (Betula papyrifera) 9 acres .

The forested upland understory consists of bracken fern (Pteridium aquilinum), wintergreen (Gaultheria spp.) dewberry (Rubus spp.) and blackberry (Rubus spp.).

Vegetation types on the Augusta Wildlife Area

Type	Acreage	Percentage
Water	150	7.4
Grass marsh and lowland brush	672	33.3
Seeded trails and fields	46	2.3
Upland brush	5	0.2
Aspen and white birch	577	28.6
Oak	210	10.4
Borrow pits and access roads	23	1.1
Pine	337	16.7
TOTAL	*2,020	100%

*Excludes 620 acres of private land within project boundary that has not been typed.

Water Resources (Figure 3):

The headwaters of Brown's Creek originate in old, nonfunctional drainage ditches in the south end of the marsh. The watershed affecting ditch flow consists of approximately eight square miles.

The drainage ditches have silted in and marsh vegetation has encroached so that width is restricted to less than 2 feet with a water depth of 6 to 12 inches. Several small beaver dams are located in the ditches.

Brown's Creek has an average width of 4 feet and an average depth of 0.4 feet. It slopes on a gradient of 25 feet per mile. The pH is 6.6 with a methyl purple alkalinity of 20 ppm. Its specific conductance is 73 micromhos at 77°F. Stream color is light brown (sample date October, 1963).[1] This water chemistry limits the species and abundance of waterfowl food plants.

Four flowages (144 acres) presently exist on the wildlife area:

1. Wood Duck Pool - normal head of 36 inches; impounds approximately 40 acres.

2. League's Pool - normal head of 48 inches; impounds approximately 16 acres.

3. Mallard Pool - normal head of 60 inches; impounds approximately 80 acres.

4. Wiggens Pond - normal head of 36 inches; impounds approximately 8 acres.

Historical and Archaeological Features:

No known historical or archaeological features exist on the project area. The Wisconsin State Historical Society, Historic Preservation Section, 816 State Street, Madison 53706 will be contacted prior to any major land disturbance project.

[1]Surface Water Resources of Eau Claire County, Wisconsin Conservation Department, (1964).

Land Use Potential:

The Augusta Wildlife Area contains less than ideal natural conditions for the production of fish and wildlife but can be developed for improved production by utilizing various habitat management techniques. As a result, the entire property is classified "Wildlife Management Area" (RD2).

MANAGEMENT PROBLEMS

Private Development Encroachments:

In the past, requests have been made to change zoning within and adjacent to the Augusta boundary from Forest Conservancy lands to agricultural lands. These requests were made for the purpose of selling lots and/or establishing permanent residences. To date the Eau Claire County Zoning Administration has denied these requests. However, this does not preclude zoning changes in the future, nor does it prevent adjacent land now classified as agricultural from being subdivided.

Additional buildings, for year-round or seasonal use, in the vicinity of the wildlife area could increase the use of state developments, thus limiting recreational opportunities for the general public on the Augusta Wildlife Area.

Poor Wildlife Habitat:

Natural plant succession has reduced the value of the marsh for waterfowl and furbearers. Drainage ditches which once provided open water for these species have almost completely filled in. Plant succession is difficult to control. Cutting woody vegetation often results in suckering, which increases the problem. Special permits are required for chemical treatment of vegetation and clearing drainage ditches.

Waterfowl habitat is also restricted by the lack of secure upland nesting cover and open surface water at the south end of the marsh. Upland nesting cover is difficult and costly to establish. Creating open surface water could be accomplished by dredging or raising the water level. Both operations are expensive.

Portions of the upland forest consist of low quality aspen-oak and maple at a stage of succession which provides poor game habitat. Aspen could be managed by clear cutting small stands (less then 5 acres in size) on a 40-year rotation. However, inconsistent markets for aspen and the desirability of several small sales (10 acres or less in size) rather than a few large sales limits cutting of merchantable trees.

Poor Water Quality:

Water on the Augusta Wildlife Area limits the variety and quantity of waterfowl foods produced in the area. This limitation may produce an unfavorable cost/benefit ratio for management in the future and will be monitored closely.

Public Overuse:

The increasing human population in Eau Claire County may increase the number of hunters on public lands, resulting in lower quality hunting and necessitating some form of hunter number control.

Law Enforcement:

Vandalism to trail gates has resulted in illegal vehicle use, signs have been torn down or shot, firewood has been cut without permit and snowmobiles have used trails even though signs have been put up identifying the area as being closed to their use.

Fire Control:

A problem exists in controlling fires within the marsh. Vegetation and normal sub-surface water levels hinder plowing activities. A combination of level ditches and flowages to segment the marsh is highly desireable for control of wild fires and controlled burning. However these are expensive to create.

Statutory Changes Needed

Control of hunter use on the wildlife area may be needed. Currently, the major problem on Augusta is during the opening weekend of the deer gun season.

RECREATION NEEDS AND JUSTIFICATION

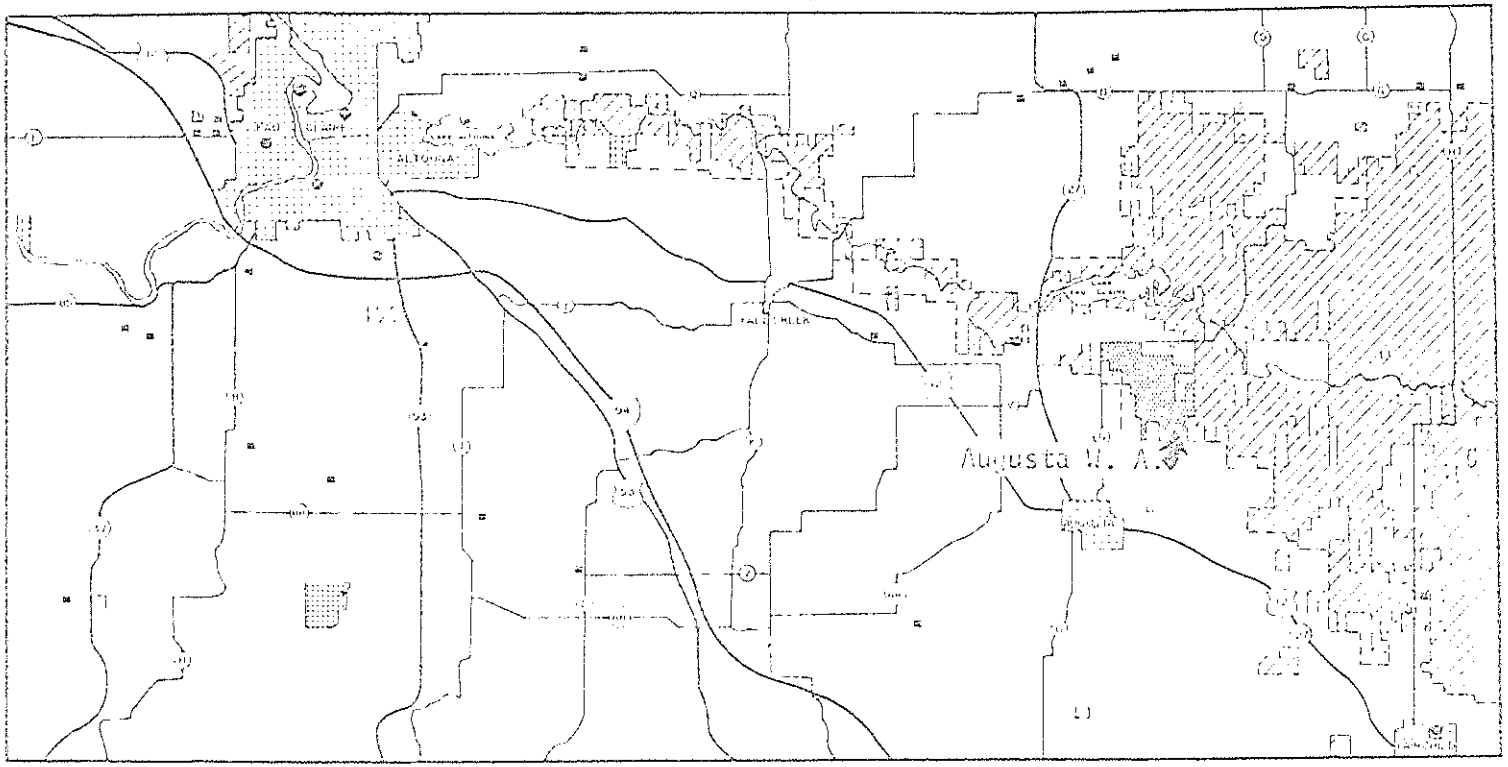
The Augusta Wildlife Area lies only 30 miles from the Eau Claire-Chippewa Falls metropolis. Increasing transportation costs are leading to higher populations in this area. The 1970 population of 75,157 is projected to increase to 156,766 by 1990*. This increasing population is expected to place more of a burden on the public lands of Eau Claire County (Figure 4) in meeting outdoor recreational needs.

Private parcels of land located within the boundaries of large public forests are receiving increasing interest from persons seeking vacation and retirement homes. This is resulting in a haphazard distribution of residences without regard for utility services, scenic values, or public use of public forests. The amount of private land being posted against trespass is increasing each year placing additional pressure on public lands. There are, however, ample sites to allow building within the region's communities and the periphery of these communities without using lands within public forests.

As a result of increasing human populations, highway construction and rural residences, wildlife habitat has declined. Deer range in Eau Claire County declined between 1961 and 1972 from 63% of the county's gross area to 55%.

*"Small Area Population Projections for Wisconsin" Technical Bulletin No. 59, Department of Natural Resources, 1972.

EAU CLAIRE COUNTY, WISCONSIN



State (owned)

State (Leased)

County

Township (> 20 Acres)

Township (< 20 Acres)

City & Village

Conservancy Boundary

Public Lands of Eau Claire County

Scale

0 1 2 3 4 5 6 7 8 9 10

Prepared by: Resource Planning and Zoning Dept.

FIGURE 4

Demands for outdoor recreational activities in the Eau Claire-Chippewa Falls area will increase every year. Many of these activities are compatible with the goal and objectives of the Augusta Wildlife Area and include hunting, trapping, hiking, cross country skiing and nature study. Certain recreational activities (swimming, camping, snowmobiling, and off-the-road vehicle sports) are incompatible with the goal and objectives of the property and will be discouraged or prohibited.

ANALYSIS OF ALTERNATIVES

"As is" Management:

"As is" management would result in only partial development of the area and would not allow the area to realize it's full potential. Natural succession would take over. The marsh would eventually convert to brush swamp and then to timbered swamp. This would eliminate the value of the marsh for aquatic furbearers and waterfowl.

Deer and grouse habitat would deteriorate if upland forests were allowed to overmature. Lack of timber harvest however, would increase the number of cavity trees for wood duck nests.

Enlarge Projects:

The majority of the lands adjacent to the presently approved project boundary are agricultural. Those lands would be expensive to purchase and they are not vital to planned developments, although they would be highly desirable as a buffer zone.

Reduce Project:

Since the majority of the lands necessary for the proposed program are already in state ownership, it is not desirable to reduce the project and still attempt to protect current developments and obtain the wildlife productivity desired.

Manage for Timber Production:

Current timber needs in Eau Claire and adjacent counties of Chippewa and Clark are being met by county forest lands. This does not preclude the sale of merchantable timber, but management strictly for timber would result in larger sales which in turn could result in less diversity of age classes and cover types to the detriment of forest game, particularly ruffed grouse.

Provide Sport Fishing in Flowages:

Flowages could be deepened by raising existing dikes, creating new ones and changing water control structures to provide sport fishing in flowages. However, poor water quality, lack of water during dry years, freeze-out potential, and reduction in waterfowl use would eliminate this from serious consideration. Also, disturbance caused by fishermen may result in inadvertant hazing of waterfowl.

Removal of peat soils down to mineral soils to reduce biological oxygen demand and create deeper water would be impractical due to extreme costs, minimal fishery benefits returned and poor water quality mentioned above. This would also reduce waterfowl value.

Development and Management of Forest and Wetland Habitat for Wildlife Production:

This alternative is most compatible with the goal and objectives of the Augusta Wildlife Area. This alternative would provide hunting and other compatible uses without detriment to the wildlife populations present.

Regarding potential historical or archaeological sites, all areas of development will be thoroughly investigated for the presence or absence of sites and appropriate protective measures will be taken for significant sites. If any are found during development, construction will be suspended until the State Historical Preservation officer is consulted. The site(s) will be evaluated and, if significant, would be preserved.

All areas of development will also be examined for the presence or absence of endangered and threatened species and appropriate protective measures will be taken for significant sites. If any sites are found during development, construction will be suspended until the Office of Endangered and Nongame Species (DNR) is consulted. The site(s) will be evaluated and protective measures taken for significant sites.