

# AuTrain Wildlife Area and Refuge

## Master Plan



Michigan Department of Natural Resources  
Wildlife Division  
Brian Roell  
\_/\_/17

### **Intended Purpose and General Management Direction**

The Michigan Department of Natural Resources (DNR) has the primary responsibility and statutory authority for the management of resident wildlife, fish, and state forest land in Michigan. This management plan was developed to guide the Department's management of state forest, wildlife, and related public trust natural resources in the AuTrain Wildlife Management Area and Refuge (AuTrain WMAR), one of only three waterfowl sites in the Upper Peninsula (U.P.).

At a local level, this plan helps fulfill goals and objectives of other higher level Department and Wildlife Division plans and initiatives. The Department goals (protect natural resources, sustainable recreation, strong natural resource-based economies, and strong relationships and partnerships), along with the Wildlife Division's Guiding Principles and Strategies (Goal 2-Manage habitat for sustainable wildlife populations,

Goal 4-Increase public participation in hunting and trapping), More Bang For Your Buck concepts (outstanding grouse, woodcock and turkey hunting, challenge of small game hunting, and great diversity of high quality waterfowl hunting).

Partnerships with other agencies and organizations have been important for management over the years. For example, a small portion of the refuge on the east side of the AuTrain Basin is part of the Hiawatha National Forest (HNF), also there is an agreement in place which is part of the hydroelectric license that allows the DNR to post refuge buoys transversely across the basin. Other partnerships have been with the multiple owners of the hydro-power plant and dam which has changed ownership several times since construction (currently the owner is U.P. Hydro LLC). The changing needs for power in the U.P. and the increased liability of dam ownership puts the long-term sustainability of the dam and the water it holds back forming the AuTrain basin and a large portion of the refuge in a relatively unpredictable state.

The majority of the roughly 6,000 acres that makes up the AuTrain WMAR is tax reverted property (Figure 1). However, approximately ~300 acres within the refuge was purchased with Pittman Robertson funding and recently 80 more acres were added to the refuge with funding from a Natural Resource Trust Fund Grant.

## **Background**

In the late 1960's the Michigan Department of Natural Resources began planning several major waterfowl management areas in the U.P. These waterfowl sites were designed to be stop-over areas for migrating Canada geese. The most suitable site in the central U.P. was the AuTrain Basin and in the spring of 1972 the project was officially initiated. The main goals at the time were to provide a secure resting and feeding area for waterfowl by cooperatively managing 18,405 acres of public land, and adjacent private lands, which also includes 2000 acres of water. To accomplish this, portions of the AuTrain WMAR (Figure 1) are closed to the public from September 1<sup>st</sup> to November 10<sup>th</sup>, including the south portion of AuTrain basin, creating a refuge. Throughout the next several decades, land clearing occurred and local wildlife personnel along with multiple sharecroppers planted a variety of crops. By 1997, the area included an estimated 550 acres of crops (including 220 acres of small grain).

Management decisions at the refuge have been influenced by the increased costs of funding the original project scope, the changing roles of Wildlife Division employees, the increased population of geese throughout the Midwest, and the reduction of the use of the refuge by waterfowl. By the mid 1990's, there were indications that the original management plan was too broad and may never be fully implemented. Unfortunately, the plan was abandoned before the refuge was fully completed.

The scaled back management activities through 2012 have been to keep at least 231 acres of hay fields in production to provide a feeding and resting location for migrating geese and sandhill cranes. The most recent replanting occurred in 2012, when 40

acres were replanted to alfalfa and clover mix. At that time only two sharecroppers farmed these public lands. For many years, the DNR had supplied most of the fertilizer required for these hay fields, approximately \$8,000 to \$12,000 each year.

A renewed interest in sharecropping opportunities by the local farming community, our desire to reclaim once abandoned croplands, and funding restraints has created the cooperative management system we use today.

Currently, the DNR provides land, lease free, to 10 local farmers. In return, the sharecropper agrees to actively manage crops and rotate them on a recommended schedule. Depending on available funding, cost-sharing may be available for grain crops if a portion of the crop is set-aside for wildlife.

All farming activities cease between September 1, and November 10<sup>th</sup> when the refuge is closed.

## **Wildlife Species**

The refuge portion of the AuTrain WMAR provides one of the best opportunities within the WUP State Forest system to manage for large grasslands and associated wildlife species such as: American kestrel, upland sandpiper, bobolink and sandhill cranes. Large opening management, along with sharecropped agricultural practices will continue to be a high priority on this landscape.

Much of the forested lands provide habitat for wildlife including game and nongame species as well as rare species such as red-shouldered hawk, and northern goshawk. Other woodland raptors including cooper's, sharp shinned, and red-tailed hawks and several owl species. The upland forest is comprised of a complex of hardwood and aspen stands that provide hunting opportunities for deer, bear, upland birds, and hare, as well as trapping opportunities for furbearers.

The crop and shrub land areas are home to a host of open land species such as dickcissel, grasshopper sparrow, sharp-tail grouse and northern harrier all Michigan species of special concern.

The AuTrian basin itself is home to trumpeter swans, common loons, osprey, bald eagle, great blue heron and nesting waterfowl. Surveys done by local Audubon members have found that this area is the most intensely used stopover site in the Central U.P. for wading shorebirds. During the spring migration birds such as buff-breasted sandpiper, short-billed dowitcher, greater yellowlegs, black bellied plover, and many more use this important stopover.

True to the intended purpose of the game area when it was created in 1972, we will continue to manage for goose hunting opportunities. However, the primary focus of

wildlife habitat management will be to collectively address the habitat requirements identified in the Regional State Forest Management Plan. The following are the featured species for the Chatham/AuTrain Management Area: Bobolink, Canada Goose, Northern Goshawk, Upland Sandpiper, and Sharp-tail Grouse (Table 1).

**Table 1.** Featured species used to guide wildlife management on the AuTrain Wildlife Management Area and Refuge.

<b>Common Name</b>	<b>Featured Species</b>	<b>T&amp;E, SC Species</b>	<b>Climate Change Vulnerable</b>	<b>Remarks</b>
Canada Goose	X			<b>Stopover grazing, Closed Refuge</b>
Northern Goshawk	X	X		<b>Large mature hardwood stands</b>
Bobolink	X		X	<b>Opening maintenance, hay production, Rx Fire</b>
Sharp-tail Grouse	X	X		<b>Developing burn plans, mechanical tree removal, Rx Fire</b>
Upland Sandpiper	X			<b>Developing burn plans, mechanical tree removal, Rx Fire</b>

The Canada goose is a highly valued wildlife species for many hunters in Michigan. Generally, throughout their life cycle goose habitat is not a limiting factor and in urban areas geese have become a nuisance. Grazing areas and waste grain are important to geese during migration and for winter survival. The refuge provides ample grazing areas and with the increasing interest by local farmers it may provide grains in the future.

Northern goshawks primarily use large stands of deciduous and mixed coniferous forests. This raptor strongly favors mature forests where there is a variety of understory trees and shrubs. Patch size, remoteness (away from human disturbance) and proximity to a water body seem to be the most important microhabitat features when selecting nest sites. The canopy closure should be roughly 60% for these forest raptors. Goshawk nests are typically found below the crown in large fork crowned deciduous trees.

Many grassland birds, such as the bobolink, are area sensitive and the opportunity to observe and manage for them is very limited in the west U.P. The sharecropping within the refuge which focuses on the production of hay for livestock has led to the creation of habitat for grassland birds. This area attracts many grassland species although the value of the habitat can change depending upon the type of management. To increase nesting success we suggest farmers delay hay harvest and discourage second cuts.

Fortunately, the combination of drier soil conditions and short growing season the fields in this area typically do not produce a 2<sup>nd</sup> crop of hay.

The sharp-tailed grouse habitat requirements include a complex of large open grasslands and low shrub lands. Habitat can include open grass / hay fields and shrub land such as natural meadows, open bogs, and abandoned farm fields. Sharp-tails prefer areas with very few trees and avoid areas with trees over 25-feet and evergreens during the breeding season. Trees over 25-feet within a ½ mile of the dancing ground (or “lek”) can cause birds to abandon the site.

In general, upland sandpipers prefer to nest and rear broods within taller vegetation and forage within short vegetation. Areas adjacent to the sharecropping fields with low to moderate forb and grass cover with low woody cover provide excellent nesting cover. Adding wooden fence posts or other display perches are an important component of suitable habitat. Future management opportunities may include artificial perch sites.

## **Existing Conditions**

The Regional State Forest Management Plan breaks the western UP into smaller Management Areas which are groupings of state owned forest compartments. The AuTrain WMAR falls within the Chatham/AuTrain Management Area which is mostly on a Fluted Ground Moraine soil type in northeastern Marquette County and western Alger County. The State Forest in this management area covers about 16,300 acres in two mostly contiguous tracts (Figure 2). The major ownerships near the AuTrain WMAR are non-industrial private. The dominant natural communities are mesic northern forests and poor conifer swamps. Major forest cover types include northern hardwood, aspen, and mixed lowland conifer. In general, this area has a high-range of site quality. This management area provides multiple benefits to the public including forest products, dispersed recreational activities, and fish and wildlife habitat. The management priority in this area is to continue to provide these multiple benefit in a sustainable manner while minimizing user conflicts.

The AWMAR is just over 6,000 acres and because of the different cover types available there is an opportunity to manage for more than one set of goals and objectives therefore the game area is divided into two Management Areas (Table 2; Figure 3).

The **Forested Management Area** consists of the majority of the wildlife area where management goals are to provide quality habitat for northern goshawk, wild turkey, ruffed grouse, American woodcock, white-tailed deer, and black bear (Table 3).

The **Refuge Management Area** is where we have the greatest potential for restoration and maintenance of grasslands and low shrublands. Management goals are aimed at

maintenance and expansion of sharp-tailed grouse habitat and populations while providing stopover habitat for Canada geese and Sandhill cranes (Table 3).

**Table 2.** Summary of the primary current cover types on the AuTrain Wildlife Management Area and Refuge based on MiFi surveys from 2011.

<b>Cover Type</b>	<b>Acres</b>	<b>Percent of Game Area</b>
Aspen	2,222	37
Northern Hardwood	1,861	31
Herbaceous Openland	738	12
Cropland	378	6
Mixed Upland Deciduous	156	3
Lowland Conifers	130	2
Cedar	117	2
Lowland Shrub	109	2
Upland Mixed Forest	71	1
Upland Shrub	70	1
Lowland Deciduous	66	1
Water	37	1
Upland Spruce/Fir	34	1
<b>Total</b>	<b>6,087*</b>	

\*Cover types which added up to less than 1% where not included

## Recreational Use

The AuTrain WMAR provides a host of recreational opportunities for local residents and visitors alike, including hunting, trapping, snowmobiling, hiking, bird watching and wildlife viewing. State wildlife areas in Michigan are under continual pressure for other uses, however under Federal and State regulations, recreational and commercial uses on the area that are not incidental to our management for the purposes described above and are generally not allowed. Circumstances for a possible exemption:

1. The uses do not interfere or conflict with the wildlife conservation purposes of the area.

2. The Department has no obligations to determine if requested uses would conflict or interfere; the burden of determining must remain with those requesting the uses.
3. The requested uses cannot be exclusive of other allowable uses and must not result in the Department losing management control of any portion of the area.
4. A lack of a specific prohibition in rules and regulations for the area does not constitute approval of the activity.
5. The Department always reserves the ability to disallow activities previously allowed as wildlife conservation needs dictate.

Additionally, the Department will continue to monitor any existing commercial and recreational uses for interference with the intended purposes of the area as described in this plan.

## Impacts on the Local Economy

Contributions to the local economy resulting from activities on the AuTrain WMAR include the opportunity to sharecrop on 475 acres with local farmers, normal Forest Resources Division timber management activities using local loggers, plus thousands of hours of outdoor recreation for hunters, trappers, birdwatchers and dispersed camping. These all provide a direct economic boost to local restaurants, sporting goods stores, convenience stores and gas stations.

**Table 3.** Desired future condition of cover types and habitat issue direction on the AuTrain Wildlife Management Area and Refuge.

<i>Cover type and Habitat Issues</i>	<i>Desired Future Condition</i>
Aspen	Maintain current acreage with a balance set of age classes
Northern Hardwood	Maintain high quality older age class hardwood
Herbaceous Open land	Decrease
Acres of Agriculture	Increase where appropriate
Mixed Upland Deciduous	Maintain
Lowland Conifers	Maintain
Cedar	Maintain
Lowland Shrub	Maintain
Upland Mixed Forest	Maintain
Upland Shrub	Increase

<i>Cover type and Habitat Issues</i>	<i>Desired Future Condition</i>
Lowland Deciduous	Maintain

## Goals, Objectives, and Management Actions

What follows is the strategic direction for the AuTrain WMAR, to be implemented during this 10 year planning cycle. This plan describes the **goals** or desired future condition for the area, the **objectives** under each goal, and the **actions** associated with each objective. Goals come mostly from the featured species and habitat issues relevant to the Chatham/AuTrain Management Area.

**Goal I:** Provide suitable grazing areas for stopover migrating geese or other waterfowl both inside and outside of the Refuge Management Area.

**Rationale:** Canada geese are highly desirable game species and managing for their habitat, especially the grazing component of the open land, benefits numerous other wildlife species. White-tailed deer and turkey also benefit from Actions taken under this Goal.

**Metrics:** Staff observations, feedback from other users and hunters.

**Objective A.** Create partnerships with the local agricultural community, while also enhancing forage for Canada geese.

**Action1.** Monitor and where feasible increase opportunity to create more agricultural fields.

**Action2.** Provide funding/incentives to leave a portion of the grain crop for wildlife.

**Objective B.** Maintain or increase grazing forage available inside and outside of the refuge.

**Action 1.** The minimum required for consideration for sharecropping of hay fields is mowing of the fields so vegetation is no higher than 4 to 6" height within the boundaries of the Au Train Wildlife Refuge by September 1<sup>st</sup>. Also, all hay bales & equipment must be removed by this date as well.

**Goal II:** Sustainable populations of Upland Sandpiper on the Refuge Management Area.

**Rationale:** Upland Sandpiper and the associated open land birds many of which are Michigan species of special concern will benefit from Actions taken under this Goal.

**Metrics:** Staff observations, regular contact with local birding groups.

**Objective A.** Maintain large openings and a mosaic of both agricultural lands and natural grass lands.

**Action 1.** Maintain and create natural grass and shrub openings at appropriate locations throughout the Management Area use prescribed burning.

**Objective B.** Create partnerships with the local agricultural community, while also enhancing forage upland sandpiper.

**Action1.** Monitor and where feasible increase opportunity to create more agricultural fields.

**Goal III:** Increase the population of sharp-tail grouse in the Refuge Management Area.

**Rationale:** Sharp-tail grouse are a highly desirable game species and managing for their habitat benefits numerous other open land wildlife species. White-tailed deer and other open land species also benefit from Actions taken under this Goal.

**Metrics:** Staff observations, lek surveys, feedback from sharecrop farmers and other users of the refuge to assess trends in the sharp-tail population.

**Objective A.** Reduce woody tree cover in known lek areas.

**Action 1.** Mechanically remove most trees particularly trees tall than 25 feet and all evergreens within a ½ mile.

**Objective B.** Provide suitable openings and increase upland shrub areas.

**Action1.** Maintain and create natural grass and shrub openings at appropriate locations throughout the Management Area use prescribed burning.

**Objective C.** Create partnerships with the local agricultural community, while also enhancing forage for sharp-tailed grouse.

**Action1.** Monitor and where feasible increase opportunity to create more agricultural fields.

**Action2.** Provide funding/incentives to leave a portion of their grain crop for wildlife.

**Goal IV:** Sustainable populations of Bobolink on the Refuge Management Area.

**Rationale:** Bobolink and the associated open land birds many of which are Michigan species of special concern will benefit from Actions taken under this Goal.

**Metrics:** Staff observations, regular contact with local birding groups.

**Objective A.** Maintain large openings and a mosaic of both agricultural lands and natural grass lands.

**Action 1.** Suggest and encourage farms to adopted a practice of mowing “from the inside out”.

**Action 2.** Maintain and create natural grass and shrub openings at appropriate locations throughout the Management Area use prescribed burning.

**Goal V:** Sustainable populations of northern goshawk on the Forested Management Area.

**Rationale:** Northern goshawks are a species of special concern in Michigan. Numerous other game and non-game species also benefit from Actions taken under this Goal. (i.e. red-shouldered hawk).

**Metrics:** Staff observations, regular contact local birding groups.

**Objective A.** large tracts of forest with an intermediate amount of canopy closure, small forest openings for foraging, and an open understory.

**Action1.** During the normal forest inventory system work with Forest Division staff to ensure habitat needs for this species are met.

**Objective B.** If an active or goshawk nest is found, the following actions will be put into place until such time as the nest is determined to be inactive.

**Action1.** Active goshawk nests will be buffered with a 5-chain radius (8 acre) protection area, centered on the nest tree, in which there will be no cutting or new roads constructed. Avoid human disturbance, including loading and skidding, in this protection area.

**Action2.** An additional zone of 5 chains (total of 10 chains centered on the active nest trees) will be established in which there is no management activity during the following activity times from April 1 to July 30.

**Action3.** Limit biomass harvesting and chipping operations; within this 10 chain zone, retain the maximum one-third of residues per the Woody Biomass Harvesting Guidance (Michigan DNR 2010).

**Objective C.** If a goshawk nests is determined to be inactive the nest site will be protected with a 1-chain no-harvest buffer. If the nest is found to be in disrepair or un-occupied for multiple years, it can be classified as an unsuitable nest in which case no buffer is required.

**Goal VI.** Increase mast producing trees and shrubs AuTrain WMAR (both Management Areas)

**Rationale:** This area has very little hard mast producing trees which provide a highly desirable food source for wildlife, especially the oak component of the forest. White-tailed deer, turkey, black bear will also benefit from Actions taken under this Goal.

**Metrics:** Staff observation and assessment of oak or any other mast producing trees or shrubs.

**Objective A.** Maintain and increase oak and other mast producing trees and shrubs.

**Action 1.** Protect existing oak resources during normal compartment review cycle.

**Action 2.** Regularly look for opportunities to introduce oak and other mast producing species into the AuTrain WMAR (both Management Areas).

**Action 3.** Develop an evaluation system to monitor the success of the oak trees recently planted and all those to follow.

## **Acquisition and Disposal of Land**

Currently the State is in negotiation with a private land owner to secure two parcels which are located within the AuTrain Wildlife refuge on the west side of the AuTrain basin (Figure 4). These parcels are an UP Region Wildlife Division high priority acquisitions. They serve as important stopover habitat for migrant waterfowl, shorebirds, and many rare species along with providing waterfowl hunting opportunities in the adjacent areas. It also is very important to maintain the integrity of the refuge itself, otherwise if we are unable to secure this acreage the land may be sub-divided and developed into camps or residential housing units. Any such development will negatively impact both wildlife and the public through the destruction of habitat and conversion/encroachment of this site from public land to privatized dwellings.

The AuTrain Basin is important to many different interest groups (fishing, camping, kayaking, hunters) and serves as an important recreational area, especially for the public that resides in the area from Marquette to Munising as well as other local communities in between. There is also strong public support regarding the acquisition of these parcels from the sporting community as well local units of government.

Currently, there are two parcels within the boundary which are privately owned on the east side of the basin. The DNR has not ranked the acquisition of these two parcels as a priority therefore we will be pursuing a change to the refuge boundary on the east side of the basin during the 2019 year of entry compartment review.

## **Review and Approval**

This plan will be made public through the 2019 year of entry compartment review. At this time Wildlife Division will also make a proposal which would place the Refuge Area into its own compartment with each agricultural field representing a stand. This change would greatly simplify forest treatment proposals in the future. The opportunity for public review will be made through the Forest Division open house process. The final document will be posted on the DNR webpage in the appropriate ADA format. The next planned review for the AuTrain WMAR will occur at 10 year intervals during compartment review.

## **Approvals**

---

(Name), Field Operations Manager

Date

---

(Name), Regional Supervisor

Date

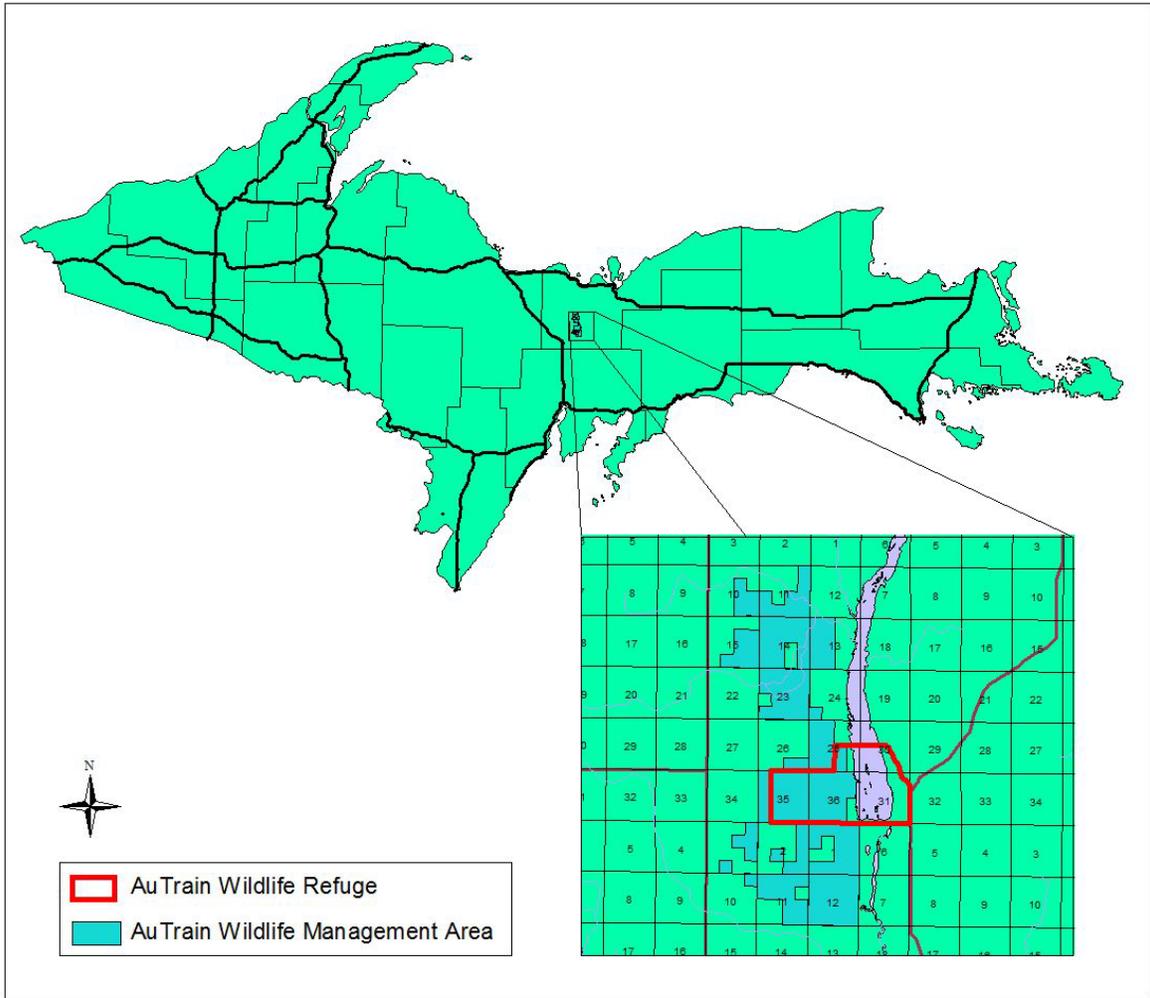


Figure 1. Location of the AuTrain Wildlife Management Area and Refuge.

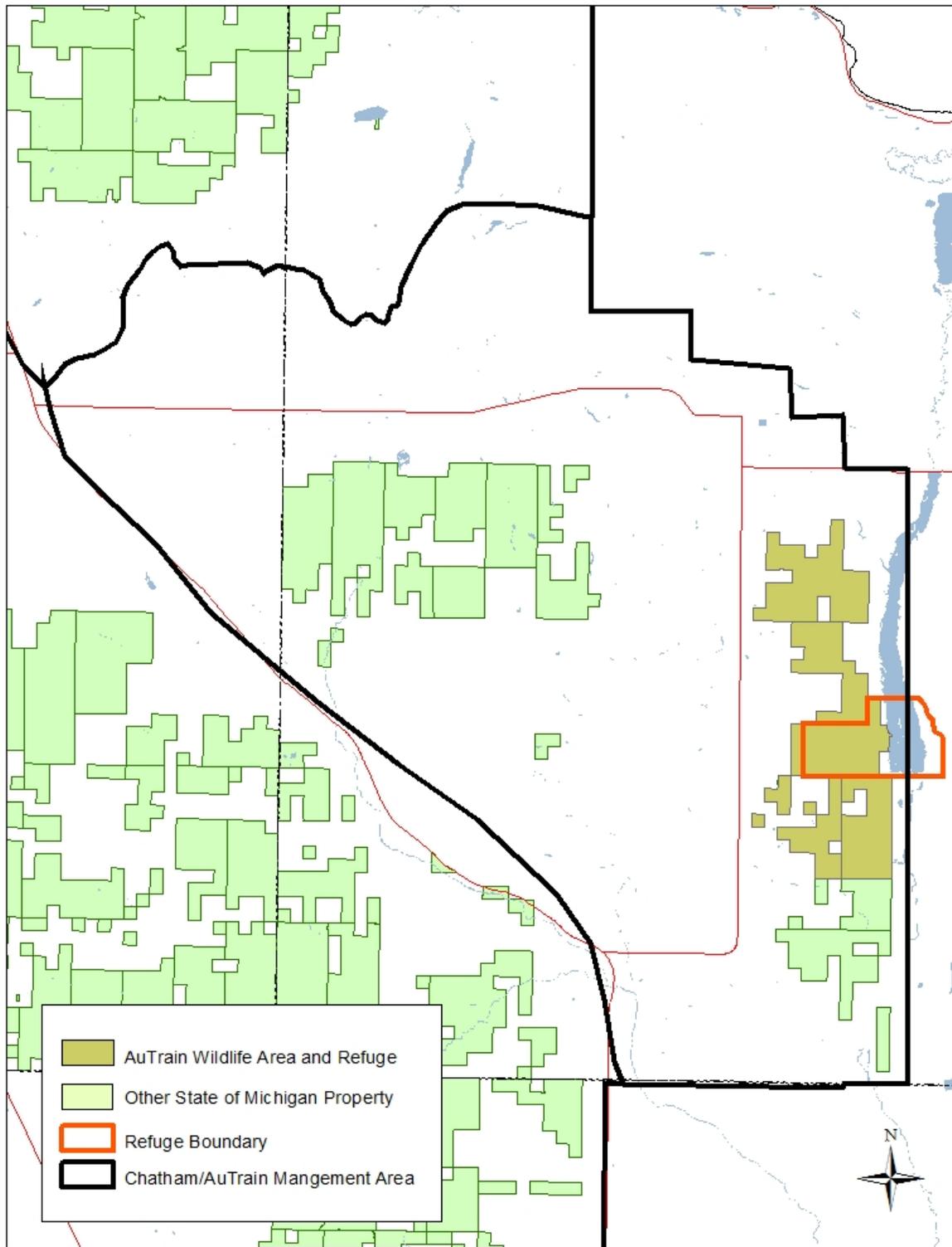


Figure 2. Chatham/AuTrain Management Area

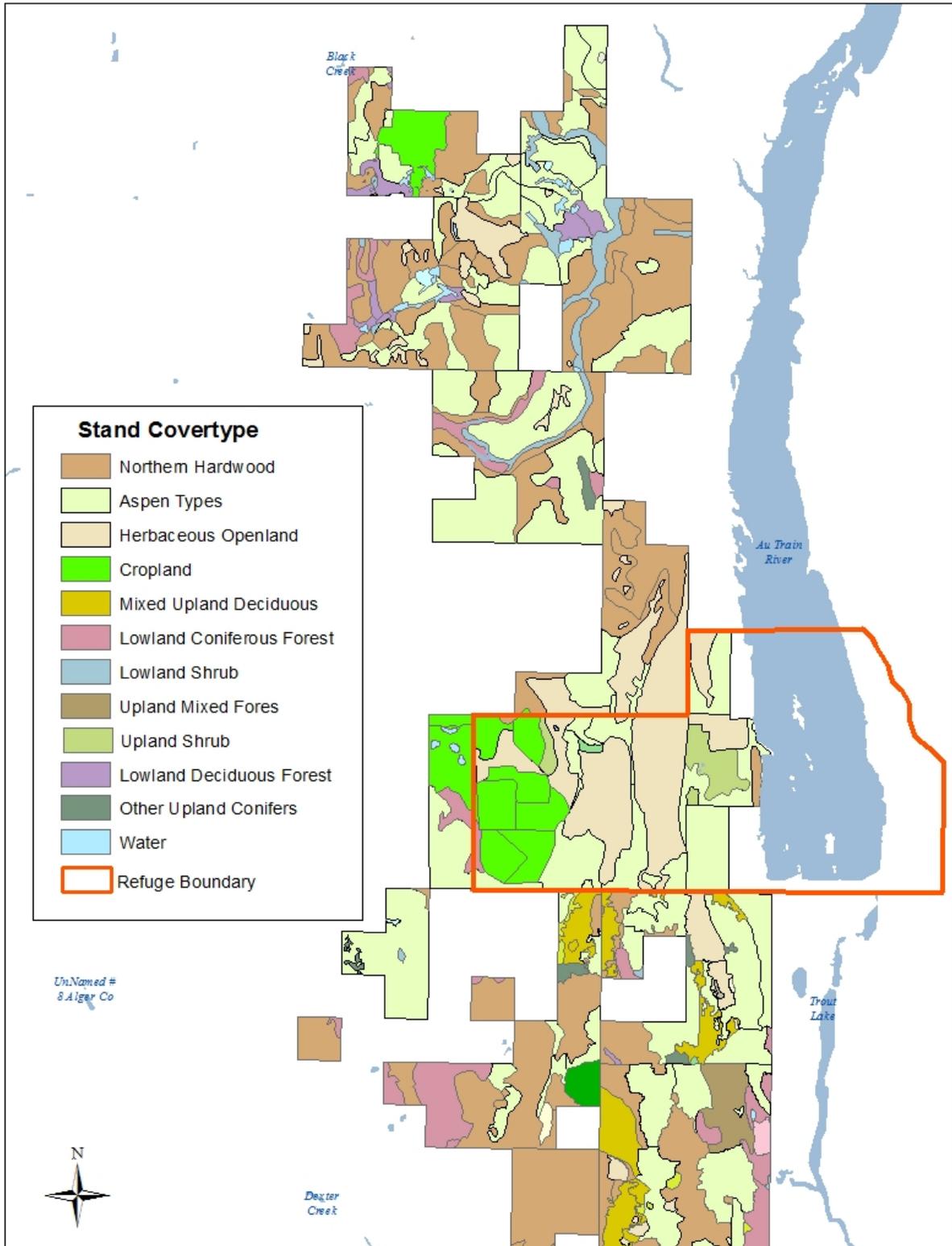


Figure 3. Map representing the major habitat cover type classes in the AuTrain Wildlife Management Area and Refuge.

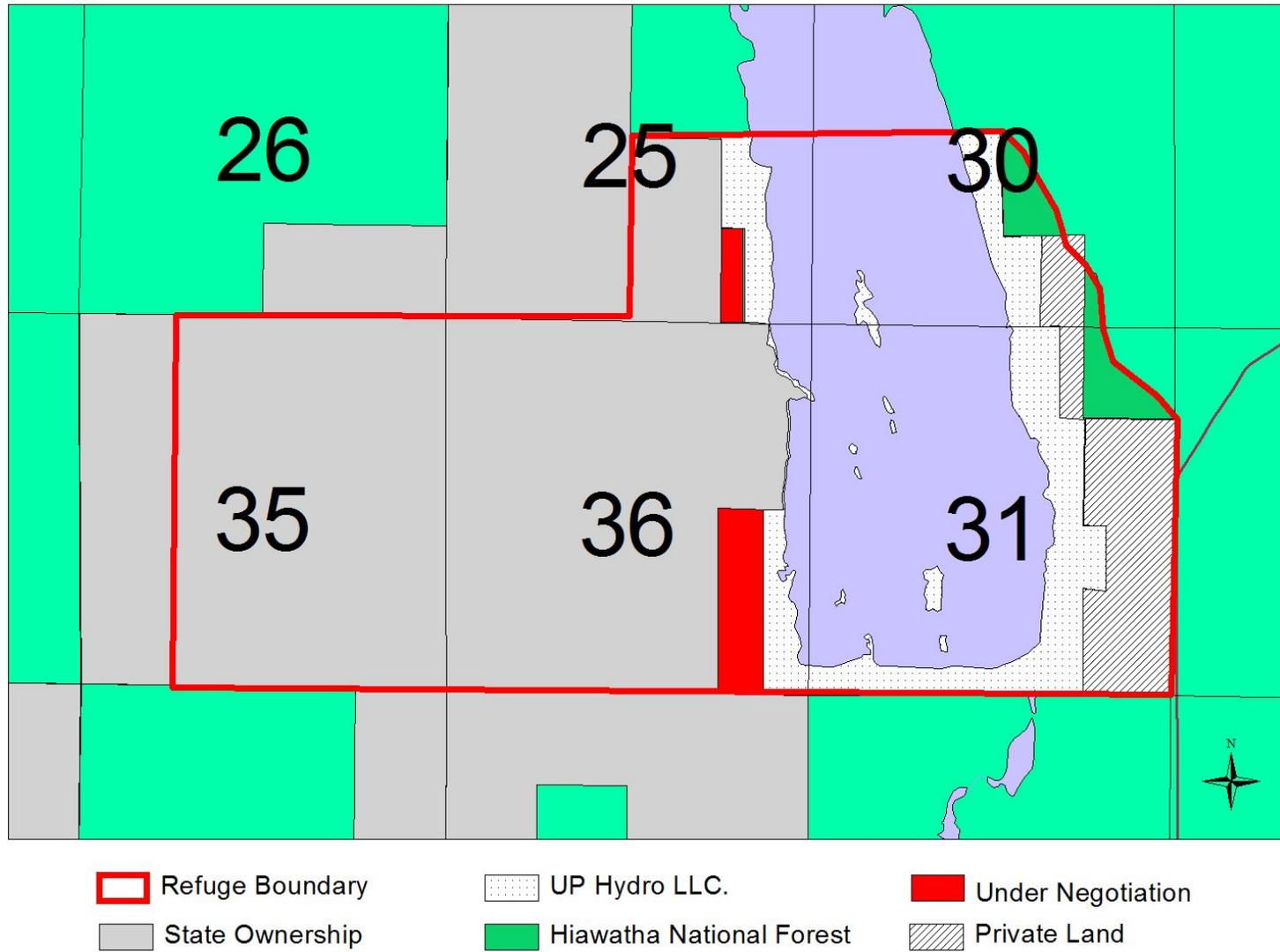


Figure 4. Current ownership of the refuge within the AuTrain Wildlife Management Area

