



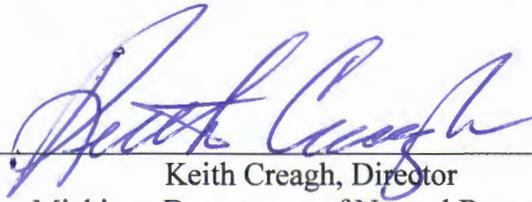
DRUMMOND ISLAND COMPREHENSIVE RESOURCE MANAGEMENT PLAN

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MICHIGAN DEPARTMENT OF NATURAL RESOURCES

DRUMMOND ISLAND COMPREHENSIVE
RESOURCE MANAGEMENT PLAN

Approved:



Keith Creagh, Director
Michigan Department of Natural Resources
Lansing, Michigan

Date: 11/5/2015

ACKNOWLEDGEMENTS

The Michigan Department of Natural Resources (DNR) appreciates the valuable contributions offered by many individuals, agencies and organizations during the development of this plan.

We express our sincere appreciation to the members of the Drummond Island Writing Team for their dedication and hard work as they developed the recommendations that helped guide this plan. Specific organizations and representatives are outlined in the recommendation document in Appendix A.

We extend a special thank you to Jordan Pusateri Burroughs, faculty member in the collaborative Partners in Ecological Research and Management between Michigan State University Department of Fisheries and Wildlife and the DNR. As the facilitator of the Drummond Island Writing Team, Jordan did a wonderful job of keeping the team on track and helping them achieve success.

Finally, we thank Dave Jentoft, DNR Wildlife Division, Karen Rodock, DNR Forest Resource Division, and Neil Godby, DNR Fisheries Division, for writing this plan. Dave Jentoft deserves special recognition for his leadership and dedication to this project.

PREAMBLE

Recommendations in this plan were conceived by representatives of eight organizations and one at-large public member who comprised the Drummond Island Writing Team. Three representatives from the DNR also were members of the Writing Team. DNR members facilitated this effort by helping the Team explore ideas and articulate recommendations, but they refrained from originating or promoting recommendations contained in this plan. Any recommendations related to Natural Resource Commission (NRC) regulation changes are at this point suggested items that are not endorsed by the Director. These recommendations provide the opportunity to discuss and present future regulation options. All recommendations will follow standard NRC regulation setting protocols. The Writing Team is described in more detail in Section 2.2.



The Pittman-Robertson Wildlife Restoration Act of 1937 created a funding mechanism for state wildlife agencies to restore and manage their wildlife resources. A federal excise tax on firearms and ammunition, bows and arrows is collected by the Internal Revenue Service and apportioned to states through a formula based on the number of licensed hunters and the size of each state. Eligible states are those that have passed laws preventing the use of hunting license fees for any purpose other than managing the state's wildlife. The federal excise tax, along with hunter license fees, are used to acquire lands; protect, restore and manage wildlife habitats; manage wildlife populations; conduct wildlife research and surveys; provide hunter access; and develop, operate and maintain facilities and infrastructure necessary to manage wildlife resources. Additionally, a specific portion of the federal excise tax is dedicated for hunter education, and for developing and managing shooting ranges. Since its inception in 1937, Michigan's share of the Wildlife Restoration Funds has reached over \$275 million.

TABLE OF CONTENTS

1. INTRODUCTION.....	Page 8
1.1. PURPOSE OF THE PLAN	
1.2. MANAGEMENT AUTHORITY AND PROCESS	
2. THE PLANNING PROCESS.....	Page 9
2.1. ISSUE SCOPING MEETING	
2.2. DRUMMOND ISLAND WRITING TEAM	
2.3. PLAN WRITING	
2.4. PUBLIC REVIEW AND COMMENT	
2.5. NATURAL RESOURCE COMMISSION AND SUMMARY OF RECOMMENDATIONS FOR CONSIDERATION	
3. DESCRIPTION.....	Page 11
3.1. OWNERSHIP	
3.2. ECONOMY	
3.3. LAND COVER, HABITAT TYPES, AND STATE FOREST MANAGEMENT AREAS	
3.3.1. MAXTON MANAGEMENT AREA	
3.3.2. DRUMMOND ISLAND MANAGEMENT AREA	
3.4. TRIBAL INVOLVEMENT IN MANAGEMENT ON DRUMMOND ISLAND	
4. MANAGEMENT GOALS AND ACTIONS.....	Page 16
GOAL 1 MANAGE FOREST SUSTAINABILITY.....	Page 16
G.1.1 FOREST MANAGEMENT AND TIMBER	
G.1.2 BIODIVERSITY AND RARE FEATURES	
G.1.3 MANAGEMENT CONSIDERATIONS BY COVER TYPE AND ISSUES	
G.1.3.1 ASPEN	
G.1.3.2 CEDAR	
G.1.3.3 NORTHERN HARDWOODS AND MAST SOURCES	
G.1.3.4 OPEN LANDS	
GOAL 2 MANAGE FOR SUSTAINABLE WILDLIFE POPULATIONS...Page 22	
G.2.1 WHITE-TAILED DEER	
G.2.2 BLACK BEAR	
G.2.3 FURBEARERS	
G.2.3.1 BOBCATS	
G.2.3.2 BEAVER, OTTER, AND MUSKRATS	
G.2.4 SNOWSHOE HARE	
G.2.5 RUFFED GROUSE AND AMERICAN WOODCOCK	
G.2.6 WATERFOWL AND WETLANDS MANAGEMENT	
G.2.7 NON-GAME, RARE AND INVASIVE SPECIES MANAGEMENT	
G.2.7.1 SHARP-TAILED GROUSE	
G.2.7.2 RARE PLANT SPECIES AND FEATURES	
G.2.7.3 FERAL SWINE	
G.2.7.4 CORMORANTS	

GOAL 3 MANAGE FOR SUSTAINABLE FISH POPULATIONS.....	Page 38
G.3.1 YELLOW PERCH MANAGEMENT	
G.3.2 NORTHERN PIKE MANAGEMENT	
G.3.3 WALLEYE MANAGEMENT	
G.3.4 GENERAL FISHING REGULATIONS	
 GOAL 4 PROVIDE PUBLIC RECREATIONAL OPPORTUNITIES....	Page 41
G.4.1 HUNTING, TRAPPING, FISHING, AND WILDLIFE VIEWING	
G.4.2 NON-MOTORIZED RECREATION ACCESS	
G.4.2.1 NON-MOTORIZED TRAILS	
G.4.2.2 NON-MOTORIZED WATER ACCESS	
G.4.3 MOTORIZED RECREATION ACCESS	
G.4.3.1 ATV AND OTV	
G.4.3.2. MOTORIZED WATER RECREATION	
 GOAL 5 STAKEHOLDER AND PUBLIC PARTNERSHIP.....	Page 45
G.5.1 PROMOTING PUBLIC AWARENESS	
G.5.2 PARTNER'S ROLE IN MANAGEMENT	
 5. CONCLUSION.....	Page 46
 6. LITERATURE CITED.....	Page 47
 7. APPENDICES.....	Page 48
APPENDIX A: DRUMMOND ISLAND WRITING TEAM RECOMMENDATIONS	
APPENDIX B: LAND USE/COVER TYPES ON DRUMMOND ISLAND	
APPENDIX C: AREA IDENTIFIED FOR PROHIBITING USE OF BAIT AND ELEVATED PLATFORMS	
APPENDIX D: DRUMMOND ISLAND GROUSE ENHANCED MANAGEMENT SYSTEM MAP	
APPENDIX E: AREA PROPOSED FOR RESTRICTED WHEELED MOTORIZED VEHICLE USE	
APPENDIX F: DRUMMOND ISLAND TRAIL AND ROUTE	
APPENDIX G: SUMMARY OF PUBLIC COMMENTS RECEIVED FROM PLAN REVIEW	

INTRODUCTION

1.1 Purpose of Plan

The Michigan Department of Natural Resources (Department) has the primary responsibility and statutory authority for the management of resident wildlife, fish, and state forest land in Michigan. This plan was developed to guide the Department's management of state forest, wildlife, and related public trust natural resources on Drummond Island. Partnerships with other organizations have assisted with management in the past and will be increasingly important in the future.

1.2 Current Management Authority and Process

Primary legal authority for wildlife management comes from the Natural Resources and Environmental Protection Act, Public Act 451 of 1994. Part 401 of Public Act 451 gives authority to the Natural Resources Commission (NRC) and the Department Director to issue orders (the Wildlife Conservation Order) specific to wildlife management and hunting.

On May 18, Public Act 21 of 2013 amended the Natural Resources and Environmental Protection Act to give the NRC the exclusive authority to regulate the recreational taking of fish in this state and co-authority with the legislature to designate species as game. The authority to regulate recreational taking of fish is conferred in Part 487, Sport Fishing, 1994, PA 451, mcl 324.48703a.

Effective wildlife management incorporates assessments of both biological and social factors that influence management. Management of numerous wildlife species is supported by quantitative data from research, field surveys, mail surveys and published literature. Wildlife management also incorporates qualitative information in the form of: general experience, observations in the field, discussions with Tribal governments, stakeholders, Department staff, and other agency staff in Michigan and in other states.

Forest management on state forest lands is governed under Natural Resources and Environmental Protection Act, Public Act 451 of 1994. Part 525, Sustainable Forestry on State Forest Lands, requires the Department to manage state forest lands consistent with the principles of sustainable forestry, implement a management plan with long term management objectives and maintain third party forest certification.

This plan is appropriately aligned with Department plans and guidance including the following:

- Regional State Forest Management Plan
- Wildlife Division's strategic plan, *Guiding Principles and Strategies*, or GPS
- Michigan Deer Management Plan (2010)
- Michigan Black Bear Management Plan (2009)
- Michigan Woody Biomass Harvesting Guidance (2010)
- Within-Stand Retention Guidance (Bielecki et al., 2012)
- *Forest Certification Work Instruction*
- Off-Road Vehicle (ORV) Management Plan (2008)

- Michigan State Forest Management Plan (2008)
- Sustainable Soil and Water Quality Practices on Forest Land
- Michigan DNR Silvicultural Guidelines
- Fisheries Division's strategic plan, *Charting the Course*
- Michigan Comprehensive Trail Plan

The Department plans and guidance provide direction that was incorporated into this plan. This plan provides recommendations for management of resources on Drummond Island.

2. THE PLANNING PROCESS

The Department developed this plan through a process that included review of scientific information and involvement of affected stakeholder groups and members of the general public. The process included the following phases:

1. Issue scoping meetings
2. Formation of the Drummond Island Writing Team (DIWT)
3. Recommendations of the DIWT to the Department and NRC
4. Plan writing
5. Public review and comment
6. Director approval

The information compiled and evaluated during all of these phases was used to produce a plan that is based on sound science while carefully and respectfully considering the diverse perspectives held by individuals interested in Drummond Island. Each phase of the planning process is described below.

2.1 Issue Scoping Meeting

On June 8, 2011, the Department hosted a public scoping meeting to obtain people's concerns about wildlife, fisheries, and state forest management on Drummond Island. The Department asked attendees to describe the issues they had concerning these subjects. There were 28 attendees at the meeting. Topics raised at the scoping meeting were grouped into the following categories: forest management, wildlife, fisheries, recreation, and partnerships for management including public outreach. The goals of this plan follow the topics identified during the scoping meeting.

2.2 Drummond Island Writing Team

The Department assembled the Drummond Island Writing Team (DIWT) to serve as an advisory committee to the development of this plan. The DIWT's charge was to provide a series of recommendations regarding the future management of the state's wildlife populations, forest, and related natural resources on Drummond Island. The DIWT included representatives from eight organizations representing conservation, hunting, fishing, forest management, recreational, economic development, and tourism interests as well as a member representing the general public and three representatives of the Department representing wildlife, forestry, and public

safety interests. Organizations were selected to represent the interests of Michigan residents that are impacted by management on Drummond Island. Representatives of tribal and educational institutions were invited to participate, but declined to be part of the process.

The DIWT submitted its final report, *Recommendations for Drummond Island Comprehensive Resource Management Plan*, to the NRC on July 12, 2012 (Appendix A or available at www.michigan.gov/wildlife). The report provides recommendations regarding management of various natural resources including wildlife, fisheries, state forest, recreation, and others. Supervisory and resource staff from the Department were present during DIWT meetings to provide requested information and to identify restrictions, or sideboards, during the recommendation-forming process.

2.3 Plan Writing

Between July 2012 and October 2013, the Department evaluated the information and recommendations obtained in the previous phase to develop a draft of this plan. This plan primarily addresses the recommendations and other management items that apply to the management authority of the Department or the NRC. The submission of the plan for public review was delayed due to the land exchange agreement that was being development by the Department and the U.S. Fish and Wildlife Service on some Drummond Island public land parcels. The exchange will be moving forward in the fall of 2015. Department staff reviewed the draft prior to its public release in September 2015.

Most recommendations of the DIWT are incorporated in this plan. These recommendations are highlighted throughout the plan within parentheses as a DIWT recommendation and states what page the recommendation is located on in the DIWT final report. Some recommendations are not addressed because they: (1) are outside the management authority of the Department for state forest land, fish, and wildlife species; (2) fall outside the scope of this plan; or (3) will be addressed through other means as identified. Those recommendations are identified below along with the reason for their exclusion:

- Rock crawl: (3) (This recommendation is for the Drummond Island Off-Road Club)
- Shipwreck buoys: (2)
- Law Enforcement (includes the specific recommendations below): (2)
 - Drummond Island Conservation Officer
 - Vacant Conservation Officer Positions
 - Improve Patrol of ORV and Snowmobile Trails
 - Volunteer Conservation Officer Program
- Aquatic Invasive Species - closing the Chicago Ship Canal and possible elimination of salt water shipping in the Great Lakes: (1)
- Great Lakes Levels - restoring Lake Huron and Lake Michigan levels by reducing outflow through the St. Clair and Detroit Rivers: (1)
- Funding - increase hunting and fishing license fees: (1)
- Examining the Plan Progress - reconvene DIWT 1 year after plan approval: (3) (this will take effect upon plan approval by the Department Director).

2.4 Public Review and Comment

A draft of this plan was released September 3, 2015 for public review and comments were accepted until October 16. Seventeen individuals submitted comments during this period. An open house was also held on Drummond Island on September 12, 2015 to solicit input. The Department reviewed the comments received and modified the plan where deemed appropriate and was provide for final approval by the Director on November 5, 2015. Public comments are outline in Appendix G.

2.5 Natural Resources Commission and Summary of Recommendations for Consideration

The Natural Resources Commission (NRC) is a seven-member public body whose members are appointed by the Governor and subject to the advice and consent of the Senate. The NRC has the authority to regulate the taking of game, including establishing method and manner of take. Department recommendations on such items as season length and harvest limits are brought forward to the NRC for review and approval. This process includes an opportunity for public review and comment on items brought to the NRC for action. Actions are implemented by the Department based upon the decisions of the NRC.

Recommendations in this plan related to the taking of game require NRC approval. Those items are highlighted throughout this plan in parentheses. The recommendations were made solely for Drummond.

3. DESCRIPTION

Drummond Island (Drummond) is an approximately 126 square-mile island located along the eastern border of Chippewa County at the mouth of the St. Mary's River in northern Lake Huron. The island is part of the St. Ignace sub-subsection as defined by Albert (1995). Limestone bedrock at or close to the ground surface is common, and influences the cover and community types on the island. The growing season ranges from 130-140 days. Average annual precipitation is 30-32 inches across the sub-subsection. Annual snowfall averages 60-80 inches.

3.1 Ownership

A significant portion (57%) of Drummond is state forest land (Figure 1). Approximately 60% of this state forest land was acquired using state game fund resources derived from deer hunter license revenue.

kayaking, hiking, camping, motorized trail riding, and visiting unique natural features or special areas.

3.3 Land Cover, Habitat Types, and State Forest Management Areas

There are a variety of cover types on Drummond ranging from upland openings and northern hardwoods to lowland conifer swamps and marshes (refer to the land use/land cover map in Appendix B). Soil or geological characteristics have a strong influence on the cover types on the island. For example, the limestone bedrock supports alvar, a rare natural community type, on the north end of the island (see further discussion below in section 3.3.1 and in G2.7.2, *Rare Species and Features*), and encourages northern white cedar to dominate in many upland settings. These unique cover type characteristics influence the habitat of the island and form important habitat components for island wildlife that will be discussed in section 4 of this plan. Drummond also has approximately 130 miles of shoreline. Some areas are very rocky while others are coastal marsh. Cedar is common along the shoreline, and is used extensively by neo-tropical migratory birds as they migrate through the area.

The majority of the island is forested (i.e., undeveloped) with little fragmentation by dwellings or other infrastructure in interior areas other than roads. There are numerous dwellings in coastal areas on the southern and northwestern shorelines where privately-owned land is abundant. Most state land is contiguous. There is high habitat value for species like black bear that need large tracts of forested or undeveloped land to roam. However, most of the island is accessible by road or trail, and many are used regularly so there is human influence in many of these otherwise remote areas.

All state forest land has been grouped into management areas (MA) as part of the regional state forest management planning process (www.michigan.gov/regionalforestplans). Management Areas are distinct areas of state forest ownership that have been grouped according to common attributes. MAs in the eastern Upper Peninsula (U.P.) range in size from 1,400 to 148,000 acres. Featured wildlife species have been identified for each MA. These are species that have been chosen to represent the habitats and important issues facing the suite of species using the habitat. Drummond contains two MAs: the Maxton Plains MA and the Drummond Island MA (Appendix C) (Figure 2).

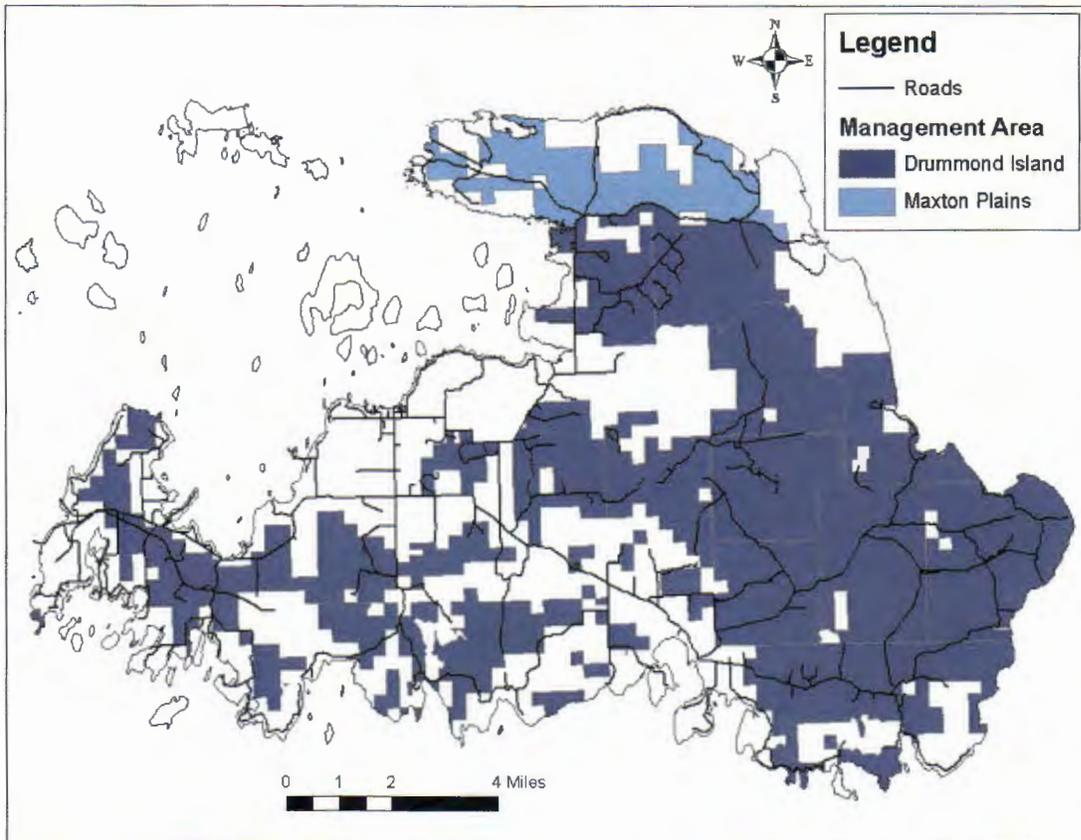


Figure 2. Locations of the Maxton Plains and Drummond Island Management Areas on Drummond Island.

3.3.1 Maxton Management Area

The Maxton Plains MA is located on the north end of Drummond and contains 4,363 acres. Dominant cover types in the MA include upland mixed forest (25%), aspen (22%), and upland open or semi-open land (17%). Other primary, but less abundant, types listed in decreasing order of abundance are upland conifers, lowland open or semi-open lands, and cedar. Featured wildlife species in the MA are black bear (*Ursus americanus*), sharp-tailed grouse (*Tympanuchus phasianellus*), and upland sandpiper (*Bartramia longicauda*). The Maxton Plains Ecological Reference Area, an “A” ranked (high quality) globally rare alvar community, is part of the MA. Alvar is a grass- and sedge-dominated community, with scattered shrubs and sometimes trees, which occurs on broad, flat expanses of calcareous limestone bedrock covered by a thin veneer of mineral soil. Alvar supports a unique habitat that includes rare plant species like prairie smoke (*Geum triflorum*), beauty sedge (*Carex concinna*), and small skullcap (*Scutellaria parvula*) (Kost et al. 2007). Recent management within this MA has been limited primarily to natural processes and invasive species treatments largely as a result of the sensitivity of the alvar community. The alvar is a self-sustaining natural community type and habitat due, in part, to the very thin soils over bedrock.

3.3.2 Drummond Island Management Area

The Drummond Island MA includes most of the state land on the island (a total of 43,771 acres), and starts immediately south of the Maxton Plains. Dominant cover types include aspen (26%), cedar (17%), and northern hardwoods (15%). Other primary, but less abundant, types listed in decreasing order of abundance are open or semi-open lands (both lowland and upland), lowland deciduous including aspen and poplar, upland and lowland conifers, and upland mixed forest. Featured wildlife species include black bear (*Ursus americanus*), northern goshawk (*Accipiter gentilis*), ruffed grouse (*Bonasa umbellus*), sharp-tailed grouse (*Tympanuchus phasianellus*), snowshoe hare (*Lepus americanus*), and white-tailed deer (*Odocoileus virginianus*). Two wildlife floodings, Potagannissing and Pigeon Cove, are present as well as numerous natural wetlands. Larger forest openings are located toward the southeastern part of the MA. These are used by a variety of wildlife including the sharp-tailed grouse, which is a grassland species.

Forest types are generally interspersed across the MA. Aspen is common in the eastern part of the MA, but some of these aspen stands near Marble Head are on bedrock or very shallow soils and tree stocking levels are lower than other stands in this MA. Aspen habitat near Marble Head that may be preferred by birds including woodpeckers differs from habitat in other areas that has attributes, like higher stem densities per acre, preferred by ruffed grouse. Cedar is also interspersed throughout the island. Some forest species mix in areas, such as cedar and aspen, which is common in southern portions of the island.

Soils and plant composition differ between the larger forest openings in this MA and the alvar in the Maxton Plains MA. Like other forest openings elsewhere in the eastern U.P., succession has resulted in woody encroachment into these openings particularly by pioneer species like aspen. Treatments have taken place to maintain the open habitat so that they will continue to support species like the sharp-tailed grouse.

3.4 Tribal Involvement in Management on Drummond Island

Drummond Island is located within the 1836 ceded territories and the 2007 Inland Consent Decree affirmed and defined the right of tribal members to hunt, fish, and gather under tribal government regulations. Five tribal governments were party to the consent decree, including the Bay Mills Indian Community, the Sault Ste. Marie Tribe of Chippewa Indians, the Grand Traverse Band of Ottawa and Chippewa Indians, the Little River Band of Ottawa Indians, and the Little Traverse Bay Band of Odawa Indians. Tribal rights and concerns are a significant factor in shaping management recommendations on the island and the Department is obligated under the terms of the consent decree to consult with the Tribes on some recommendations (e.g., harvest regulations for black bear). Most other actions undertaken by tribal members are covered by respective tribal government regulations (e.g., deer and small game hunting, trapping, fishing on inland lakes and streams, and gathering).

4. MANAGEMENT GOALS & ACTIONS

Goal 1. Manage Forests Sustainability to Maintain Forest Diversity, Provide Wildlife Habitat, and Support Timber Production

State forest land on Drummond is managed for sustainability and is certified as being well managed to obtain sustainable forest conditions under the Forest Stewardship Council and Sustainable Forestry Initiative programs. The state forest is also managed according to various plans, guidance, and work instructions identified in the introductory section. The state forest lands across the State of Michigan are examined annually by internal and external auditors for compliance of both certification programs and state standards documents. The state forest lands are evaluated on a 10-year cycle, which is part of the forest inventory “Compartment Review” program.

During the forest inventory process all state forest land is evaluated. When possible, the condition of any adjacent lands that may affect the management of state land is also evaluated. The forest inventory is a multi-faceted process for determining cover types and condition, age classes, and evaluating special features of the area. State silvicultural guidelines for the various species are used to assist in determination of the management direction during the forest inventory process.

Management of state forest land takes into consideration the type of funding that was used to acquire the land. For example, according to state and federal regulations including Michigan’s Assent Legislation required to use federal funds (specifically MCL 324.40501), funds accruing to the state from license fees paid by hunters shall not be used for any purpose other than game and fish activities under the administration of the department. In short, the Department must manage state land acquired using hunting license fees or matching federal funds for game and fish purposes.

Management decisions are made through a co-management process among Department divisions including Forest Resources, Wildlife, Fisheries, and Parks and Recreation Divisions. During the review period, there is ample opportunity for public review and comment through various means, including public open houses and on-line resources.

G1.1 Forest Management and Timber Production

As mentioned previously, Drummond is divided into two management areas. Most of the Maxton MA is classified as an Ecological Reference Area because of the alvar community within the area. Harvest of timber is not projected for the upcoming 10-year planning period here due to the unique nature of the landscape. Timber harvests will occur within the Drummond Island MA, which contains 91% of the state forest land on the island. Harvests are planned for most timber types, including northern hardwood, aspen, upland conifers and lowland conifers, to improve forest health, sustain or improve wildlife habitat for various species, and provide jobs in the forest products industry. The timber harvests of the various cover types are planned to maintain the species composition, diversity, and age-class distribution by promoting regeneration

in some stands within the Drummond MA. In the previous decade, roughly 800 acres per year were treated on average.

The harvest of forest products from state forest land is part of the economic base for Drummond. A portion of the timber harvested goes to Drummond businesses for processing into lumber and wood cottage industry products. The remainder is removed from Drummond by the ferries to larger mills on the mainland.

G1.2 Biodiversity and Rare Features

Areas with high biological diversity are to be identified during the forest inventory process and evaluated to determine if they meet the standards defined in the *Biodiversity Management on State Lands*, work instruction 1.4. Areas meeting the standards are then considered for possible inclusion into one of several categories of high conservation value area (HCVA), or special conservation areas (SCA). Drummond has several identified types of HCVAs (core interior habitat, coastal environment areas, and a variety of ERAs), and several identified types of SCAs (cold water lakes and streams, non-dedicated natural areas, habitat areas, “other SCAs,” potential old grown (POG)), etc.) within the state lands (Figure 3).

Old growth describes an ecological condition where forest vegetation is dominated by trees in the mature stages of their life cycle. Old-Growth forest (also termed primary forest, ancient forest, virgin forest, or primeval forest) is an area of forest that has few or no signs of human disturbance and that exhibits unique ecological features related to age, composition and associated structure. Old growth forests are of natural origin. They may be dominated by late successional forest species (i.e. sugar maple), or may be a very old example of a stand dominated by long-lived early- or mid-seral species (i.e. oak or red pine). Old growth is divided into two categories under work instruction 1.4 as follows:

- Type 1 Old Growth: A forested area three acres or more in size that has never been logged and that display old-growth characteristics.
- Type 2 Old Growth: A forested area 20 acres or more acres in size that has been logged (minor cutting), but which does not result in the elimination of any major canopy species and that retains (never lost) significant original elements of old-growth structure and functions.

Actively or passively managed second growth forest stands (of natural or planted origin) that were effectively clearcut in the late 1800s and early 1900s, but have subsequently developed late-successional or old growth structure, composition, and function, are not considered to be Type 1 or Type 2 Old Growth.

Prior to the 2015 Year of Entry, SCAs were identified using different criteria or category definitions that no longer exist due to updates in classification mechanisms. Consequently, all of these areas will be thoroughly evaluated to determine if they should still be considered SCAs. This is most commonly encountered for stands in the POG and “other SCA” categories. Stands

current identified as POG, as well as all other stands on state land, are evaluated using the old growth standards as forest inventory is conducted during the compartment review cycle (DIWT Recommendation – pg. 22). Stands meeting the Type I or Type 2 old growth standards are then placed into that SCA category. POG or “other SCA” stands that do not meet the Type 1 or Type 2 old growth categories are also checked to see if they meet the criteria of any of the current HSVA or SCA categories. If they do not meet that criteria, then they are removed from the SCA status.

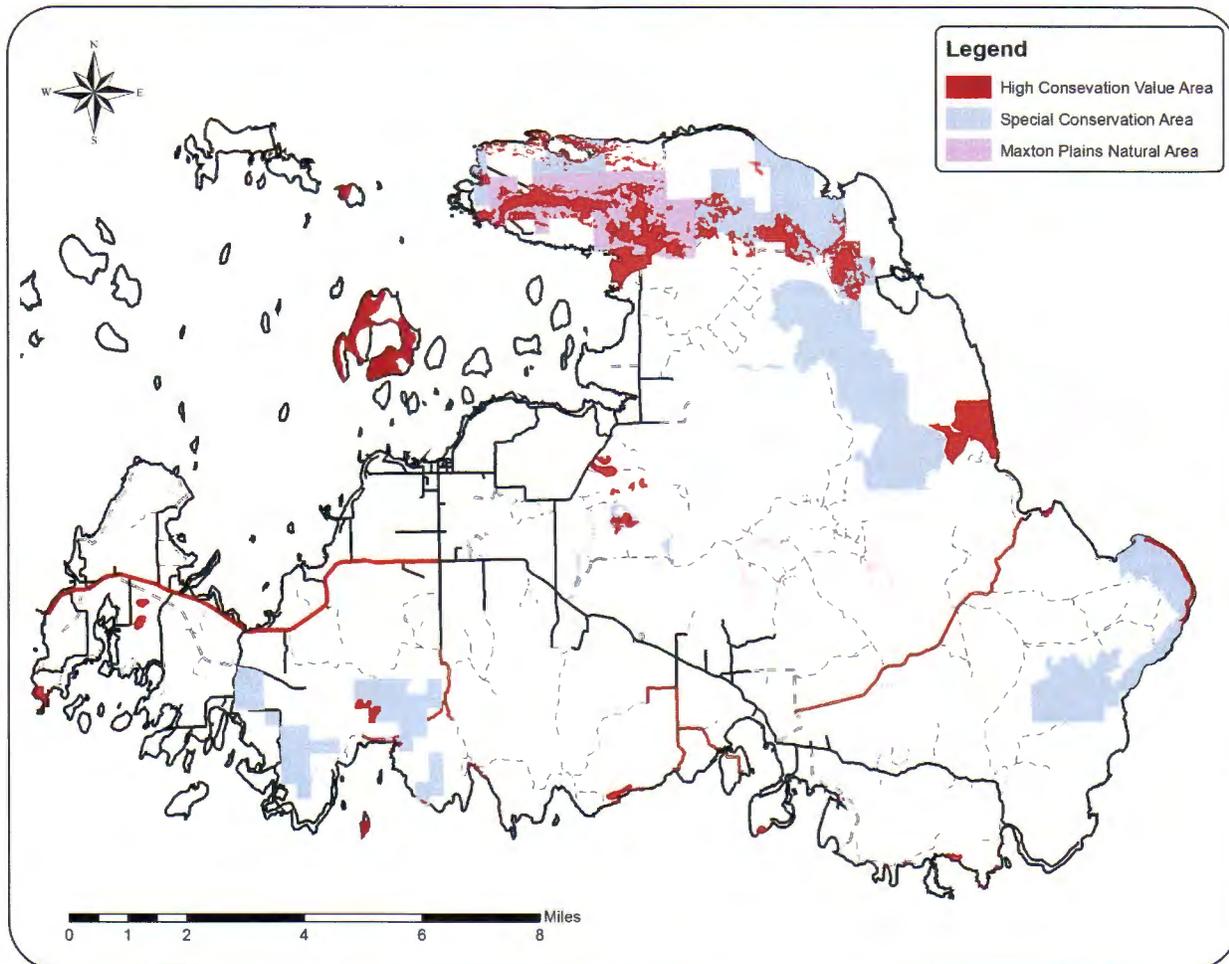


Figure 3. Locations of the Areas on Drummond Island

The state forest is managed to retain and enhance the diversity of tree and wildlife species across the landscape. The various documents discussed in the introductory section provide guidelines for retention of live trees and coarse woody debris within the treatment areas that are harvested and adjacent stands. Legacy trees are another form of biodiversity that are to be maintained within stands and treatment areas. A Legacy Tree is an individual tree of a long-lived species, usually mature or remnant of old growth, which provides a biological legacy. It is an individual old tree (or occasionally a small group of old trees) that function(s) as a refuge or provides other important structural habitat values. By definition, relatively short-lived species (including big-tooth and trembling aspen, balsam fir, balsam poplar, and paper birch) cannot be legacy trees.

Forest stand diversity, both between nearby stands and within a stand, encourages wildlife habitat diversity. Numerous species benefit from having multiple tree species as well as multiple ages within a stand or near a stand. Snags and coarse woody debris provide similar benefits. Species depending on these features range from deer and ruffed grouse to snowshoe hare, beaver, and some raptors. The Department will encourage diversity within and between stands in many situations to encourage habitat for the various wildlife that depend on this diversity.

G1.3 Management Considerations by Cover Type and Issue

Tree species on Drummond vary in ecology. Some species, like aspen, require full sunlight while others, like sugar maple, can tolerate some shade. Red pine prefers well-drained, sandy soils while northern white cedar is adapted to live in poorly drained mucks. Other plant species, including herbaceous vegetation as well as other woody species like shrubs, have similar requirements or tolerances. Forest stands are generally composed of areas with similar general vegetative characteristics, particularly tree species composition. Some stands are non-forested, but still reflect the general vegetative characteristics of the site.

Numerous stand types are present on the island. The most common stand types in the MAs are identified and discussed here. Some wildlife habitat considerations are also discussed briefly due to their relationship with the stand type, or cover type. Wildlife-related issues are addressed in more detail in Goal 2.

G1.3.1 Aspen

Aspen is one of the dominant stand types, and an important one for wildlife. It comprises approximately 25% of the state forest land on the island, and is also a component in additional acreage of mixed stand types. Featured wildlife species associated with this type include white-tailed deer, ruffed grouse, and snowshoe hare. Aspen exists in a variety of age classes, which provides for the various habitat needs of species like ruffed grouse and deer.

Management goals for aspen include maintaining and enhancing this type on the island and providing various age classes in close proximity to one another in order to meet wildlife habitat needs. Due to its ecological characteristics, stands require even-aged management. Mature stands are typically clearcut to encourage regeneration of the stand. If not clearcut, most stands would eventually convert to a different, more shade-tolerant, forest type. Some stands are not accessible or have other factors limiting manager's ability to actively manage the stand. These stands will convert to more shade-tolerant types in the future.

The Department attempts to manage aspen stands to provide varying age classes in close proximity to one another, allowing the various habitat requirements like food and cover the various age classes provide to be near each other. Transportation and related market constraints on Drummond challenge this latter goal. In recent years, larger harvests (≥ 100 acres) have occurred in order to meet the first objective, avoiding potential future type conversions while also encouraging young forest habitat preferred by deer, ruffed grouse, woodcock, and snowshoe hare. Department retention guidelines dictate leaving part of a stands to meet other management objectives. Retention is often used to maintain wildlife travel corridors and fulfill other similar habitat needs.

G1.3.2 Cedar

Northern white cedar dominates on approximately 16% of state forest on Drummond, and is also present as a component in additional mixed forest types (ex. lowland mixed conifer). Cedar is important for featured wildlife species including white-tailed deer, snowshoe hare, and black bear. It also provides important habitat for other mammals and Neotropical migratory birds. The eastern U.P. is part of a very active migration corridor for birds migrating between southern wintering latitudes and northern breeding and production areas. Insects found in cedar stands are important food sources for migrating birds.

Northern white cedar is often left unharvested due to its value as wildlife habitat and the difficulty in regenerating cedar stands. In a deer wintering complex, for example, managers retain cedar due to its value as cover for deer during the winter months. Cedar is a preferred winter food for deer and is slow growing, making its recruitment unsuccessful or unpredictable at most sites (see *G2.1 White-tailed Deer* section). These characteristics warrant retention of cedar. Most stands are approximately 100 years old, and originated in unique circumstances including hot fires following the large-scale harvesting activities and low deer densities early in the 20th century. These conditions, like many other experienced during that era, were unique, and are unlikely to occur again given current management practices. Successful consistent methods of regenerating cedar have not been identified except in a few isolated instances where local dynamics were unique.

Management guidelines for state forest indicate that stands in a deer wintering complex will be managed to provide deer wintering habitat. Cedar stands in a wintering complex will be maintained to provide or encourage closed canopy cover. Outside of wintering areas, cedar may be managed to encourage regeneration and provide forest products, but retention should include cedar in a similar composition to that found within the stand. In a deer wintering complex, cedar harvesting will only occur where there is a reasonable expectation that regeneration will result in stands with similar species and structural composition as that found in the stand prior to harvesting. Stand replacement will be the objective in stands where cedar is dominant or co-dominant.

G1.3.3 Northern Hardwoods and Mast Sources

Northern hardwoods comprise 14% of state forest land. Northern hardwood stands on the island are typically dominated by sugar maple with varying percentages of American beech, red maple, yellow birch, ironwood, red oak, ash, cedar, white spruce, balsam fir, and white pine. Hardwood stands typically are prescribed for selective harvests when basal areas and associated crown closures reach a point that suppresses understory growth. Removing individual trees allows the understory to receive light needed for growth. Most stands are a product of the early logging days, and management encourages age class, structural, and tree species diversity, which is important to many wildlife species.

Beech Bark Disease is an invasive tree disease that is impacting the American Beech component in the northern hardwood stands across the eastern U.P. The beech resource is declining dramatically. Beech on Drummond Island are currently showing signs of the advancing spread of beech scale. Beech trees not showing signs of decline likely will within two years. The Department is assessing the beech resource and mitigating the impact of this disease by reducing

beechness with northern hardwood stands. A component of beech will be retained in the stands with emphasis on retaining beech that may be resistant to the beech scale (ex. disease-free trees). Other opportunities for mitigating the impact of beech bark disease may include planting disease resistant beech if trials currently underway prove successful. Emerald Ash Borer (EAB) is a concern for affecting ash as it has been found in areas throughout the U.P. Ash is found in low density in the northern hardwood stands on Drummond and is limited within the other cover types. It is expected that EAB will affect the ash resource on Drummond Island but economic and silvicultural impacts will be minimal due to the limited ash resource. Diversity of tree species within the northern hardwood stands will continue to be encouraged.

The northern goshawk and black bear are primary featured wildlife species associated with this type, although hardwood stands provide habitat for others as well. Management benefitting goshawks will include buffering any nests found, and following the wildlife habitat specifications in the *Interim Management Guidelines for Red-Shouldered Hawks and Northern Goshawk on State Forest Lands* (August 2012).

The hard and soft mast produced by beech, oak, and other species are important for bear and other wildlife. Beech mortality on the island resulting from beech bark disease will reduce a food source for bear as beech nuts become much more limited. Oak is present, but relatively limited. The Department will encourage natural mast-producing species while conducting forest treatments, and will consider planting where desirable, site conditions are favorable, and resources are available. Treatments such as releasing oak crowns, leaving mast-producing species during a harvest, and planting oak or disease-resistant beech (if available) are among the options that will be considered.

G1.3.4 Open Lands

Open and semi-open lands, both upland and lowland, account for 13% of state forest land. Upland open land, including larger forest openings like those found at Sheep Ranch and Big Burn, comprise over half of this open land category. Sharp-tailed grouse are the primary featured wildlife species outside of the alvar. The upland sandpiper is featured in the Maxton MA, which is primarily open land in the alvar community.

Habitat management in open lands has included prescribed burns, mechanical maintenance, and invasive species control. Burning has been conducted to release nutrients into the soil and discourage encroachment of woody growth. However, burning is costly and resources to conduct prescribed burns are currently very limited. Most recently, mechanical management was implemented in portions of the Sheep Ranch and Big Burn openings in partnership with the DISC and the Ruffed Grouse Society. Future partnership with stakeholders will be encouraged, and may be necessary to conduct future opening management efforts. The Department will continue to encourage maintenance of open land habitat on Drummond to maintain this important habitat for sharp-tailed grouse and other open land wildlife species.

Openings can also be a source of food items for deer as they begin to migrate back out to the summer range. Snow melts from these areas first, exposing herbaceous items earlier than in nearby woods. Actions that will benefit deer during this transition period include maintaining openings located near wintering complex and encouraging palatable natural foods in these areas.

Goal 2. Manage for Sustainable Wildlife Populations in Balance with the Habitat

Drummond has abundant wildlife resources ranging from game species to state and federally threatened or endangered species. Wildlife management objectives include maintaining populations in balance with the available habitat, supporting rare species, and providing opportunities for hunting and wildlife viewing important to residents and visitors.

Surveys, habitat management, and regulation setting are tools used by the Department in managing wildlife. Habitat management on state forest land is conducted through the state forest management planning and implementation process as described below. Specific activities range from timber harvests to prescribed burns, water management, and tree planting.

Wildlife habitat management is strongly tied to forest management, especially on Drummond where state forest land covers over half of the island. Most habitat management activities on state forest land are subject to the state forest management planning process, including a Department review and approval process within which the public has opportunities to review and comment on proposed plans. Many habitat management objectives, such as maintaining aspen and providing young forest growth, are met using forest management activities, particularly timber harvests.

The Department operates under a number of management guidelines and requirements that influence such things as how a logging operation is conducted, when activities must cease, and what is left in a forest stand following the harvest. Many of the management guidelines and requirements directly relate to wildlife habitat concerns.

As mentioned earlier, featured wildlife species have been chosen for each MA on Drummond to represent the habitats and important issues facing the suite of species utilizing those habitats. The featured species include white-tailed deer, black bear, snowshoe hare, ruffed grouse, sharp-tailed grouse, northern goshawk, and upland sandpiper. Although each species has individual habitat requirements that it represents, many habitat management activities that benefit one of the featured species will also benefit others. For example, some activities that benefit grouse will also benefit hare and deer. Although habitat management activities may also occur for other wildlife species, habitat management priorities will be based on the habitat recommendations for the featured species, and these species can be used as indicators for system and habitat health.

The various tree species, stand types, age classes, and arrangement of these characteristics on the island provide a broad base of habitat that allows the wildlife species mentioned earlier as well as numerous others to live on the island. Forest stands range from aspen and northern hardwood to cedar, lowland conifer, and lowland deciduous stands. Non-forested stands including grassy openings, marsh, and those dominated by shrubs are also part of this forest landscape. The management of each type of habitat is influenced by the ecology of the species and its relationship to the wildlife they support.

A regulation setting process is used to manage harvest or take of wildlife. Harvest regulations for species such as black bear or bobcat may be adjusted according to population indicators. A population indicator is a measure of a factor that relates to the population. Population

estimations are often impractical to calculate given available information for most species. Rather, many surveys provide data that are useful as an index for population trends. Population trends coupled with other indicators like habitat condition (ex. forest regeneration), winter conditions, and social factors (ex. hunter satisfaction, nuisance complaints) provide important information necessary to gauge population abundance and form regulation recommendations. Department recommendations are made to the NRC as described in section 2.1.

The wildlife species addressed in this plan do not represent all of the species present on the island. Species or categories of species (ex. furbearers, waterfowl) discussed in this plan were selected using the following criteria: 1) the featured species for the MAs on the island; 2) those that are popular game species; and 3) the expressed interest of island stakeholders as identified by the DIWT.

G2.1 White-tailed Deer

White-tailed deer have been managed by the Department to balance population size with the habitat and social interests. Factors influencing herd management include age class distribution, sex ratios, and habitat condition. Winter severity can have a significant influence on population size and age class composition. Hunting is the primary tool used by the Department for population management.

The white-tailed deer is one of the most popular and sought after game species on Drummond. In 2014, an estimated 1,151 deer hunters spent 8,639 hunter days in the Drummond Deer Management Unit (DMU 117) (Frawley, 2015). Deer management has included a popular “no-spike” rule in place since 1997 and habitat management on state forest lands, which encourages young, early-successional regeneration while maintaining areas of critical wintering cover. Management has also taken place on private lands where many landowners have established food plots and some have managed their forests to benefit deer. The white-tail has been selected as a featured species in the largest MA on the island.

Age data obtained from deer check stations indicates that harvest pressure on bucks is typically greatest on the 1 ½ year old (yearling) age class. On average, yearlings comprise 43% of the buck harvest in the eastern U.P. based on check station data from 2005-2014 (Figure 4). Although bucks harvested on Drummond are skewed in favor of mature bucks ($\geq 2 \frac{1}{2}$ years old), the yearling age class still comprised 33% of the buck harvest during the same time period.

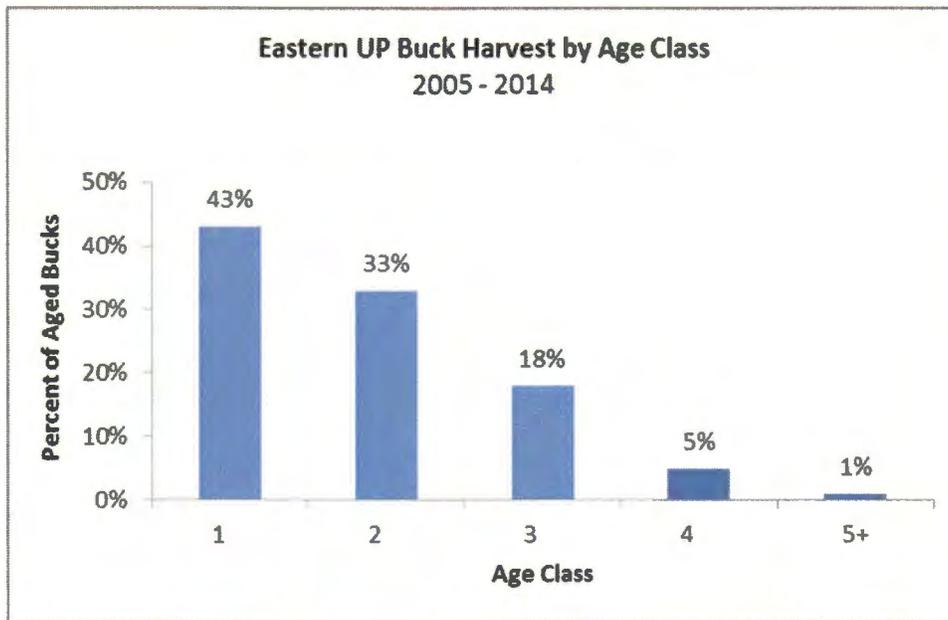


Figure 4. Percent of bucks harvested annually by age class in the Eastern Upper Peninsula based on check station data, 2005-2014.

The Department has supported voluntary management practices that are consistent with Department management goals and objectives. A “no spike” rule (spike horned bucks are not to be harvested) was supported by a majority of hunters and landowners, and has been in effect on Drummond since 1997. A 2003 survey indicated that the “no spike” rule was supported by approximately 81% of hunters and 78% of landowners. There was insufficient support at that time for additional antler point restrictions (i.e., three points on a side). At least 66% of hunters and landowners needed to be supportive for the restrictions to be made mandatory at that time, and the 66% threshold was not attained (Frawley, 2003).

There is great interest in advancing more bucks to at least the 2 ½ year old age class. The DIWT recommended that antlered deer have at least three points on one antler to be legally harvested on Drummond. Yearling bucks comprised 33% of the registered Drummond harvest on average since 2005 despite the “no spike” rule. Sixteen percent have sported 4 antler points or fewer, and these additional animals would be protected with a three-point on one side antler restriction. Most (62%) harvested bucks sporting five points or more have been 2 ½ year olds or older while 14% have been yearlings (Figure 5). Approximately 25% of bucks harvested annually since 2008 (when the hunter’s choice regulations took effect) have been yearling bucks compared to 40% from 2001-2007 based on check station data. These data should be considered with caution as severe winter weather has resulted in reduced fawn survival during multiple years since 2007.

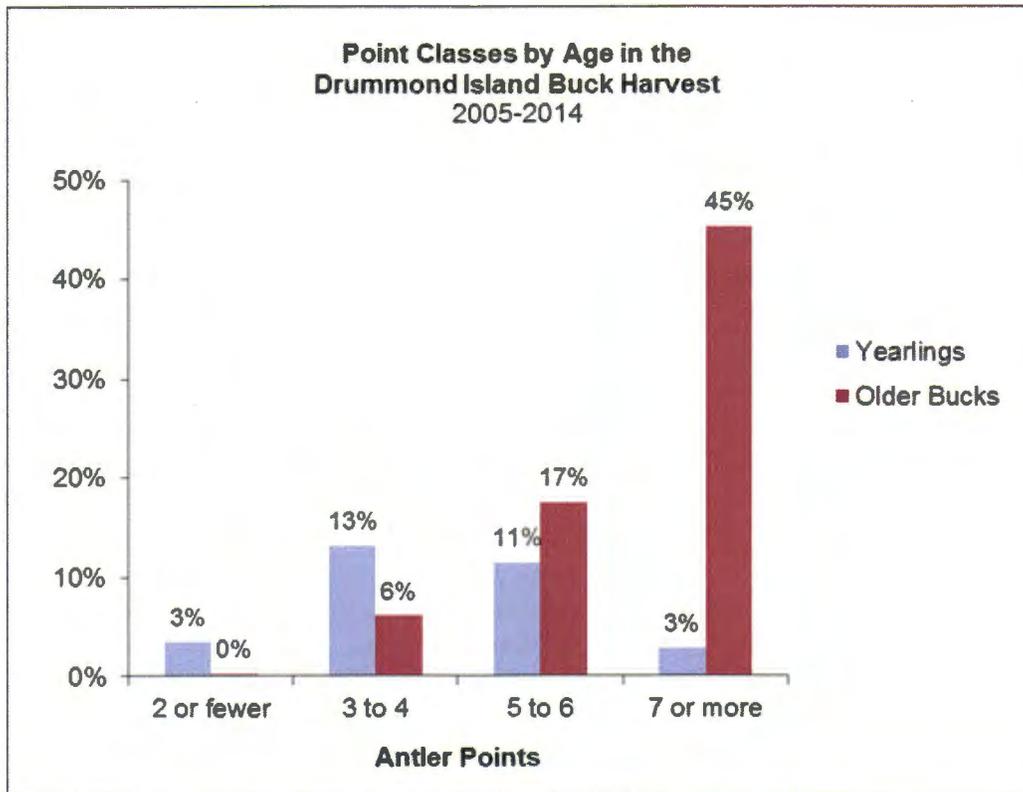


Figure 5. Ages and point classes of harvested bucks during all seasons based on Department check station data for Drummond Island, 2005-2014.

The DIWT recognized that deer hunting has evolved over the last century. Hunters have access to more and better equipment, including improved firearms and archery equipment, blinds, clothing, and attractants. Access has also improved with the increased use of ATVs. These changes have allowed for improved hunter efficiency and, in some cases, enjoyment. However, they have also resulted in more challenges for bucks to survive and advance into older age classes, which many hunters desire.

In response to changes that may be influencing buck vulnerability, the DIWT made recommendations to influence the population size and composition of the deer herd. Recommendations included 1) limiting the deer harvest to one deer per year per hunter outside of any antlerless quota established by the NRC; and 2) restricting the use of bait and elevated platforms within a specified area on the island during a timeframe that includes the regular firearm season (Nov. 5 – 30) (NRC action required). Both recommendations were intended, in part, to reduce harvest pressure on bucks. The second recommendation was also intended to promote favorable conditions for young bucks to advance to an older age class. An area was recommended (see map in Appendix C) based on factors including the abundance of state land, roads and related features that can be used as clear boundaries, and attempts to delineate an area of sufficient size and configuration to yield biological results while maintaining the ability to use these hunting tools on most of the island. Evaluation of the results of this recommendation should begin three years following implementation. *Many concerns were received during the public comment period related to the DIWT recommended white-tailed deer regulation changes outlined above. Therefore, the Department will hold additional discussions with Drummond*

Island recreationists to ensure that all stakeholders have an opportunity to provide input on potential deer regulation changes. A public meeting to discuss this important topic is being planned for spring 2016. The DIWT deer recommendations will be presented as options. After this meeting, any potential deer regulations changes will be brought from the Department to the NRC for consideration. At this time (Nov. 2016), no deer regulations related to Drummond Island are being brought forward for NRC approval.

A special mandatory stamp on deer hunting licenses for Drummond was also recommended to facilitate monitoring the effects of the above recommendations (NRC action required). The stamp would be free of charge to hunters, similar to the Michigan sharp-tailed grouse stamp. Stamp holders would be required to submit deer harvest data. Hunters failing to report their harvest information would be ineligible to hunt deer on Drummond the following year. Given the limited resources available to the Department, such monitoring would require the partnership of stakeholders for implementation. The DIWT identified the Drummond Island Sportsmen Club (DISC), which was represented on the team, as a partner.

Several challenges are associated with the special mandatory stamp, and costs associated with each challenge, that were not identified or discussed at the time this recommendation was made. The stamp would need to be created in the Retail Sales System (RSS). A method of identifying hunters ineligible for a Drummond stamp during a license year would need to be developed or implemented in the RSS. Harvest data collection methods (i.e. a survey to Drummond hunters, specifying harvest in RSS when obtaining a stamp the following license year) would need to be developed and specified. Analysis of the data would also require staff time and related costs. Advertizing for the stamp requirement and methods for enforcement would also be necessary. Funding for each of these items would need to be identified and implemented. Implementation of these items would require reorganization of priorities for Department staff. Furthermore, a formal agreement between the Department and the DISC and/or another partner would likely be necessary to implement the mandatory deer hunting stamp for Drummond, including data collection and enforcement. Such an agreement should be in place prior to or in conjunction with enactment of the stamp and associated rules by the NRC should the Commission be favorable to the recommendations (DIWT Recommendation – pgs. 7-8). *The DNR will not be moving forward with this recommendation at this time due to financial cost and staff time.*

A primary habitat issue for deer on Drummond is wintering habitat. Winter conditions are one of the largest limiting factors to the deer population in the region. Availability of quality wintering habitat, including cover and food sources, is important for winter survival as well as production in spring, particularly during winters with above average snow depths. Most deer in the U.P., including on Drummond, migrate from the areas where they spend snow-free months, generally referred to as “summer range”, to spend the winter in areas of protective cover where snow depths are generally shallower than on the summer range. The wintering areas, or wintering complex, includes both the protective cover and nearby sources of browse. Cover on Drummond is normally dominated by cedar, but other conifers including hemlock, spruce, and balsam fir can also be important. Since suitable cover exists on only a fraction of their normal range, deer congregate in these wintering complexes. Winter deer densities in a wintering complex can far exceed summer densities. Browse availability within areas of cover is, therefore, typically limited. Nearby areas of deciduous browse low to the ground can be very

important to wintering deer. Browse may be the result of either young deciduous growth or ongoing management activities that provide food sources near ground level (i.e. tops from a timber harvest in stands of aspen or northern hardwoods).

As winter subsides, areas where snow melts faster, such as forest openings, can provide important food sources as deer begin to migrate back out to the summer range. Actions that will benefit deer during this transition period include maintaining openings located near wintering complex and encouraging palatable natural foods in these areas.

Wintering complexes will be managed to benefit deer in accordance with established policy. Specifically, cover will be encouraged by maintaining cedar and other close-canopy conifers. Deciduous stands in a wintering complex will be managed to encourage young growth close to the ground, which will provide browse in close proximity to areas of cover. Aspen will be managed to maintain this resource on the landscape while encouraging young growth for browse. In wintering complex, timber harvests involving northern hardwoods, aspen, or other palatable species will normally take place during the winter months so that tops will be available for winter browse.

G2.2 Black Bear

The black bear is another important game species on Drummond. From 1990 to 2007, an average of 102 hunter days was spent annually hunting bear on Drummond (Frawley, 2008). Bear hunting licenses are obtained through a preference point system. The number of licenses available is based on quotas determined by the NRC, and quota recommendations are made to the NRC based on management objectives. Bear harvest, therefore, generally follows license quotas, which reflect management goals.

The Department collects bear harvest information when hunters register their harvest at a registration station. Registration of harvested bear is mandatory, and allows the Department to collect important information such as age and sex of the animal taken, method of take, and location of harvest. This information is then used to assess population trends and form harvest recommendations.

Survey results suggest that the bear population on Drummond has fluctuated over the past 25 years, but trends since 2006 have been low compared to earlier years. Harvest quotas were reduced from 25 licenses in 2007 to 8 in 2008. Since 2011, one license has been available for the island (1 bear could also be harvested using a tribal license). Figure 6 shows the bear harvest and hunter success rate since 1988 in relation to the license quota.

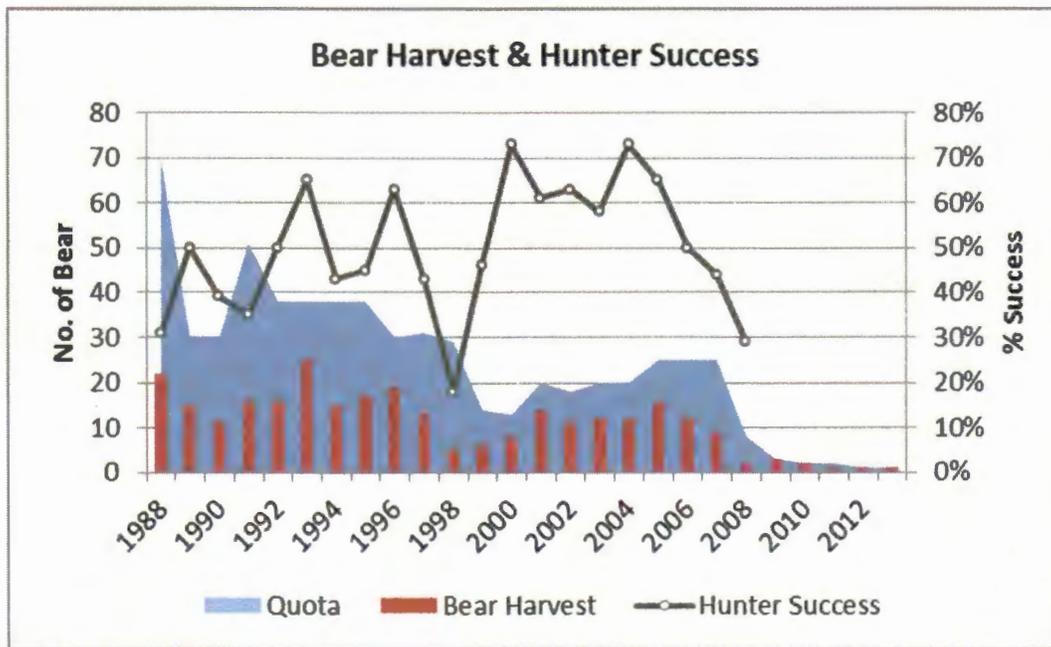


Figure 6. Drummond Island black bear harvest and hunter success, 1988-2013 based on the Michigan Black Bear Hunter Surveys. Note: hunter success was 100% from 2009-2013, corresponding to a reduced quota of ≤ 3 licenses available.

Black bear habitat is comprised of a variety of cover types including swamps, northern hardwoods, aspen types, and grassland areas. The variety may relate to the distance that these animals roam. Females have home ranges of 10-50 square miles, while home ranges for males can be much larger. Foods range from ants and carrion to grasses as well as hard and soft mast such as berries, beech nuts, and acorns. Oak and beech are both present in limited quantities on the island, primarily as components in northern hardwood stands. Beech is currently more abundant, but beech bark disease is present and a substantial reduction in beech is expected. Forest stands will be evaluated through the forest inventory process for the potential of planting mast-producing species to replace some of the beech lost by beech bark disease. This may include planting red oak or disease-resistant beech, if available. Site conditions will be a major factor when considering planting since much of the island is rocky and has shallow soils.

Management of black bear within the Drummond Bear Management Unit (BMU) will be based on the goals outlined in the Michigan Black Bear Management Plan (2009). There is sufficient habitat on Drummond to increase the bear population from its current level while keeping bear-related conflicts minimal. The short-term goal in the BMU is to increase the population to a level that remains consistent with plan goals. Harvest quota recommendations will reflect this short-term goal.

G2.3 Furbearers

G2.3.1 Bobcats

Bobcats are typically found in lowland coniferous and mixed cover types (see Drummond cover type map in Appendix B). The most used lowland stands in one Michigan study were of white

and black spruce, white cedar, balsam, alder, willow and poplar followed by swamps covered with thick growths of alder-willow or of white cedar (Baker, 1983). Home range can range from 5 to 40 square miles, and an individual can travel as far as 7 miles in a nightly search for food (Kurta, 1995).

Bobcat hunting and trapping seasons were opened on Drummond (Unit B) in 1995. The hunting season was shortened by 36 days in 1998. Both hunting and trapping seasons were shortened in 2009 (hunting season by another 31 days, trapping season by 36 days).

The Department collects bobcat harvest information when hunters register their harvest at a registration station. Registration of bobcats is also mandatory, and allows the Department to collect important information such as age and sex of the animal taken, method of take, and location of harvest. Collected information is helpful for assessing harvest and other trends useful for population management. However, bobcat survey and registration data for Unit B is limited.

Registrations indicate trapping is the most common method used to harvest a bobcat on Drummond. On average, 65% of bobcats registered since 2000 were harvested via trapping. Harvest in the unit has fluctuated since 2000 (Figure 7), with an average of 6 harvested per season. Opinions solicited through the bobcat harvest survey (Frawley, 2015) for the U.P. suggest hunters and trappers have observed only minor changes in the bobcat population across the peninsula dating back to the 2005 season. However, opinion information is only available at the regional scale.

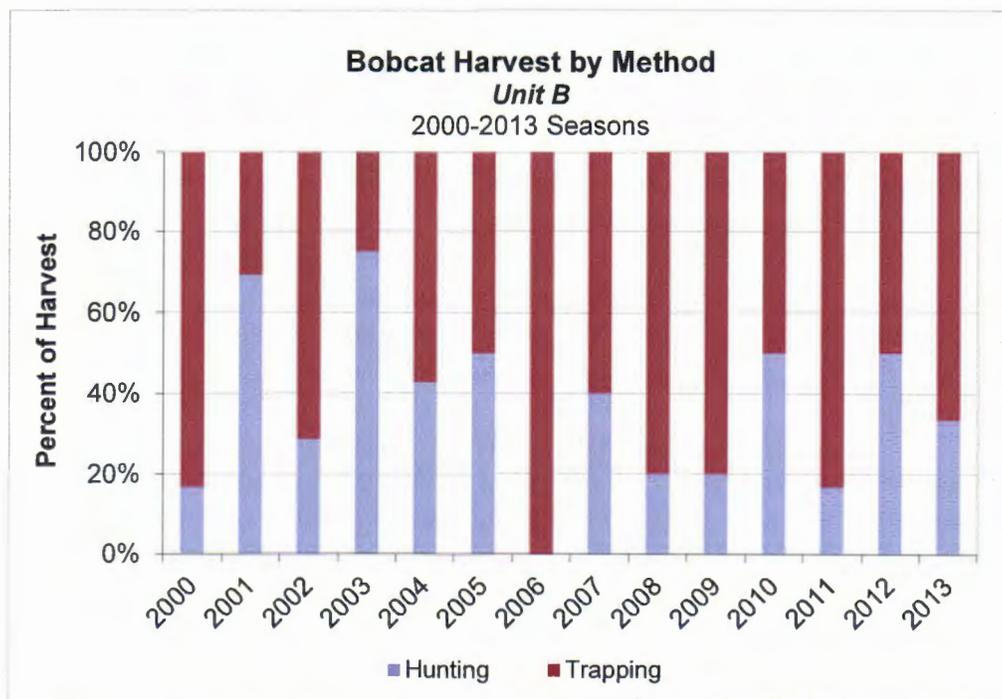


Figure 7. Bobcat harvest on Drummond (Unit B) by method of harvest based on registration station data, 2000-2013 seasons.

Trappers can legally use a foothold, body-gripping or conibear-type trap. The DIWT recommended that cable restraints as well as dry land and surface ice body gripping traps be prohibited in Unit B. The recommendation reflects the team's primary desire to increase the bobcat population on Drummond, but also addresses their interest in reducing conflicts with hunting dogs. Alternatively, the DIWT recommended that Unit B be closed to harvesting bobcats for 5 years (NRC action required).

The Department's goal is to maintain a viable population of bobcats sufficient to support recreational opportunities including hunting and trapping. The population is not currently limited by habitat; habitat conditions are suitable to support an increase in the bobcat population. The short-term goal for the island is to allow the bobcat population to increase to a level that does not exceed the carrying capacity. Habitat maintenance or improvement will be considered during management prescriptions, including leaving lowland conifer forest untreated in many cases, to support the population. This action is consistent with management objectives for deer wintering complex as well as for bear management. Harvest recommendation development will be consistent with the short-term goal (DIWT Recommendation – pg. 9).

G2.3.2 Beaver, Otter, and Muskrats

Beaver, river otter, and muskrats are common furbearers on Drummond. Beaver have influenced wetland systems across the island. According to the Potagannissing Wildlife Flooding Strategic Management Plan, 2003, beaver activity was having a significant influence in the flooding system controlled by the Potagannissing dam. After several unsuccessful attempts in the 1990s to temporarily draw the water level in the flooding down, it was determined that the abundance of beaver in the system would make dewatering the entire flooding nearly impossible. However, it was also concluded that the wetland complex would be of relatively high value even without the dam.

Habitat management for these species has primarily involved protection of wetland and surface water systems. The Potagannissing dam was converted to a fixed spillway system in 2006. The Pigeon Cove Wildlife Flooding has been managed as a marsh system since the 1990s. The system offers primarily emergent marsh with some hemi-marsh to wildlife including beaver and muskrat. Both systems as well as numerous naturally-fluctuating systems on the island provide habitat for these furbearing mammals as well as many other wetland dependent wildlife species.

Wetlands and other water bodies and riparian habitat will continue to be managed to protect aquatic systems on which these species depend. As an example, aspen stands near a stream or other waterbody where beaver activity is present may be managed to encourage beaver use of the system.

Fur harvesting will be the primary method of population management. Nuisance or damage complaints will be addressed on a case-by-case basis in accordance with Department policy. Efforts will be made to address nuisance complaints through the regular fur harvesting seasons. However, nuisance control permits will be issued when warranted.

G2.4 Snowshoe Hare

Drummond is a popular destination for hunters interested in pursuing snowshoe hare. The cedar and other lowland conifer stands common on the island provide many areas of cover close to the ground, preferred habitat for hare. Forest stands providing deciduous growth close to the ground are used for feeding, particularly when closely associated with low conifer cover.

The Department does not conduct a survey for snowshoe hare specifically for Drummond. The Small Game Harvest Surveys offer harvest and opinion information only to the zone level (the U.P. is Zone 1) (Frawley, 2015). According to the surveys, hunter numbers and harvest have been on a declining trend since the late 1990s (Figure 8), a trend common to small game hunting throughout Michigan.

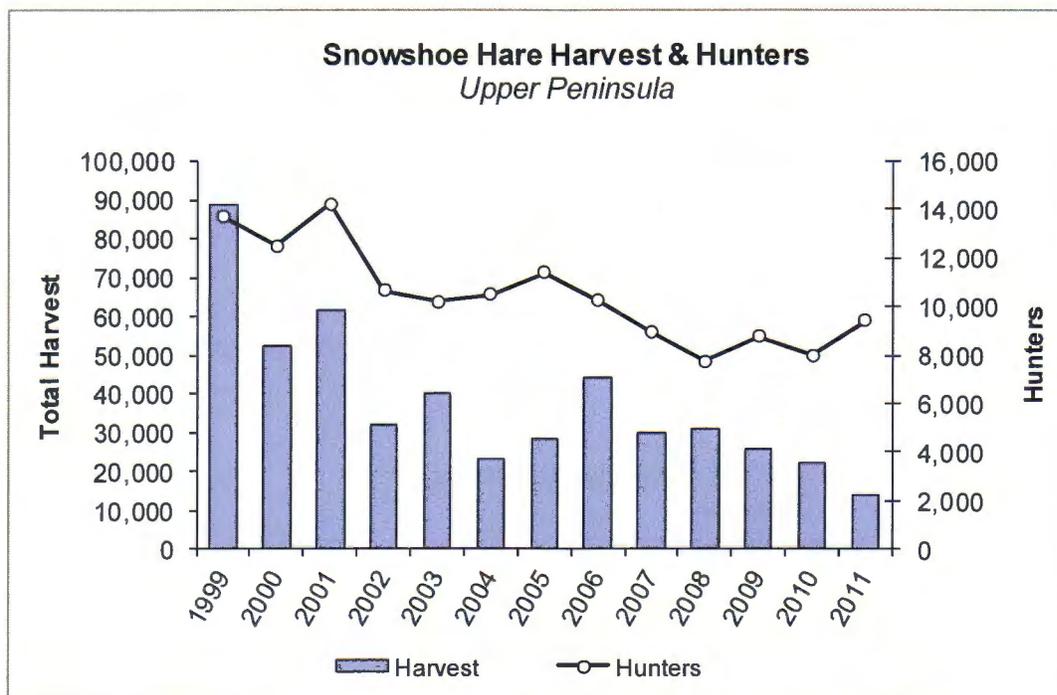


Figure 8. Snowshoe hare harvest and number of hunters in the Upper Peninsula, 1999-2011, based on the Small Game Harvest Surveys.

The snowshoe hare is a featured species in the Drummond MA. Management practices in areas of prime habitat will be done to maintain or enhance hare habitat. For example, young deciduous growth will be encouraged close to areas with conifer cover, and forest management practices will meet or exceed the Michigan Woody Biomass Harvesting Guidance (2010) recommendations to encourage woody debris in regenerating stands. In deciduous stands near suitable cover, habitat improvements may include creation of brush piles or avoiding chipping operations to leave adequate woody debris on the ground. Many of the activities will be conducted through the forest management process, particularly timber harvesting operations. The Department will consider habitat characteristics important to hare while planning management activities in conifer and nearby deciduous stands.

G2.5 Ruffed Grouse and American Woodcock

Ruffed grouse and American woodcock are typically found in early successional habitats, particularly aspen or aspen associations on Drummond. Ruffed grouse prefer young aspen stands (< 25 years old) with high stem densities. Older trees that provide sites for roosting and budding are also important. Grouse feed on buds, catkins, and leaves as well as the flower buds of older aspen (> 25 years old) (Hammill & Visser, 1984). Woodcock also prefer young aspen growth, particularly when it is in association with moist soils where they can use their long beaks to probe for earthworms.

The Department uses several surveys to monitor grouse and woodcock populations. Hunter cooperator surveys, spring breeding surveys, and harvest surveys contribute valuable management information each year. Grouse and woodcock spring surveys are conducted by Department staff, biologists from other agencies, and volunteers. The hunter cooperator survey is made possible through data collected by volunteer hunters and shared with the Department (Frawley & Stewart, 2009).

Ruffed grouse have approximately ten-year cycles in abundance over much of Canada and Alaska, and the Great Lakes states of Wisconsin, Minnesota, and Michigan. Trends for ruffed grouse in the U.P. since 1991 are consistent with statewide trends (Figure 9). Woodcock have experienced an average long-term decline of 0.77% per year in Michigan since 1968 (Vander Wagen et. al, 2014), which appears to be associated with habitat declines across their range. Woodcock singing-ground survey results for U.P. routes have been higher in recent years than those in the 1990s and early 2000s (Figure 10).

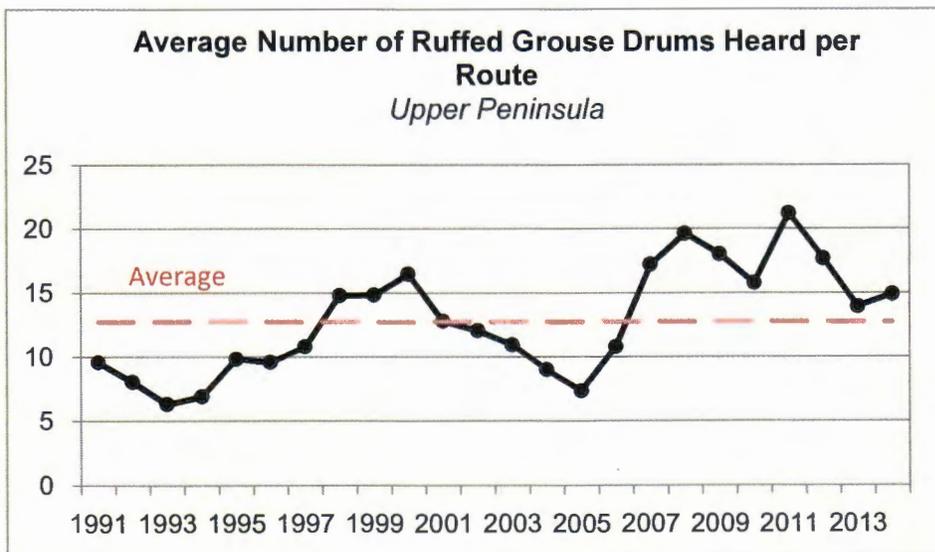


Figure 9. Average number of ruffed grouse drums heard per survey route in the Upper Peninsula, 1991-2014.

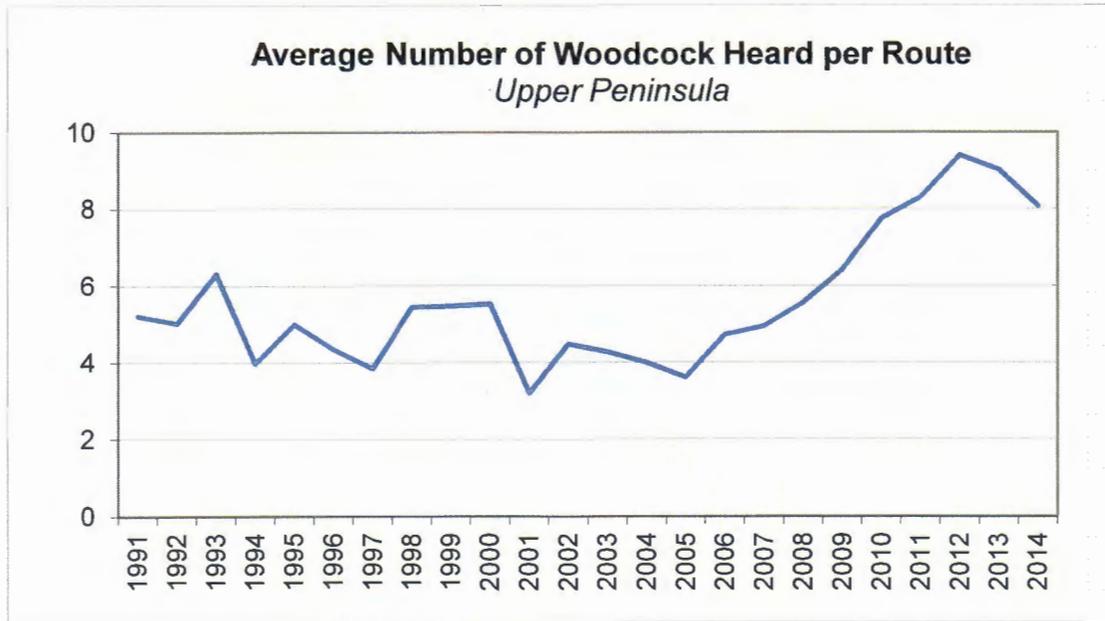


Figure 10. Average number of American woodcock heard per Singing-Ground Survey route in the Upper Peninsula, 1991-2014.

Population trends for Drummond likely follow those of the rest of the U.P. given the proximity of the island, similarity in climate, and similarity of cover types to parts of the mainland where these trends are noted. Population management on Drummond will be consistent with that in the rest of the region.

Aspen forest types (aspen and lowland aspen/balsam poplar) cover nearly 30% of the state forest land on Drummond. Aspen and balsam poplar are also components of other stands in varying densities, such as upland mixed forest stands.

Upland game bird habitat management will provide various age classes for ruffed grouse and woodcock. Aspen stands will be managed to: 1) promote this cover type on the landscape through regeneration harvests to strive for no net loss of aspen in manageable areas; 2) encourage varying age classes in close proximity to one another through rotational management; and 3) retaining other structural habitat characteristics such as drumming logs and sufficient edge area. Forest management in aspen types on the island will follow these general wildlife principles.

More specifically, an area will be managed to encourage use by ruffed grouse and woodcock. The approximately 2,850 acre area of state land between First Lake and the Maxton Plains has been designated as the Drummond Grouse Enhanced Management Site (GEMS) (Appendix D). The GEMS has been identified as a destination for upland game and walk-in hunting on the island. Objectives for the GEMS include managing the habitat intensively to encourage use by upland game birds, deer, and other species with similar habitat requirements, and restricting access to non-motorized traffic to facilitate walk-in hunting opportunities sought by many

hunters. Access to this area had been restricted by berms along former logging trails. A kiosk, parking area, and gates have been placed at the GEMS to identify the area, provide parking, and more formally restrict access while also facilitating access for habitat management. Future efforts will include habitat management and trail improvements as needed to meet the objectives for the GEMS in accordance with the management plan for the area. (DIWT Recommendation – pg. 8).

Collaboration will be important for managing the GEMS. The Department has partnered with stakeholder groups including the Ruffed Grouse Society and the DISC in management activities to date, and will continue to seek partnering opportunities for future management activities.

Aspen types in the GEMS will be treated on a short rotation, treating stands once they become 30-40 years of age rather than allowing stands to become older, to encourage young forest habitat. Additional treatments may occur to promote age class diversity between nearby stands. This management will also favor deer, snowshoe hare, beaver, and other wildlife.

G2.6 Waterfowl and Wetlands Management

The St. Mary's River corridor is part of a major migration corridor for waterfowl due to its location in relation to the Great Lakes. Waterfowl and other bird species migrate through the area in the spring and fall, and some are summer residents that breed, nest, and rear young on Drummond.

Waterfowl are subject to federal regulation for managing harvest due to their migratory nature. States have the ability to set season structures and bag limits within the established federal framework. In Michigan, the Department's Waterfowl Work Group and the Citizens Waterfowl Advisory Committee consider available options within the federal framework for the upcoming season, and make recommendations to the NRC for season structure and bag limits. These recommendations typically include attempts to maximize hunter opportunity while taking into account concerns about individual species or issues, such as population trends for a particular species. Drummond is currently part of Zone 1, which includes the entire U.P. Harvest management on Drummond will continue to follow the framework set for the rest of its zone.

Wetland and waterfowl habitat management on Drummond has involved water level control on managed floodings and protection of wetland habitats including coastal wetland habitat conservation. Past management of the two managed wildlife floodings on the island, Potagannissing and Pigeon Cove, involved water level manipulation through adjustable control structures. Although these structures allowed water levels to be increased on the systems, drawdowns proved difficult. Both of these systems will be managed to provide wetland habitat within a landscape perspective while attempting to minimize maintenance efforts and costs.

The Potagannissing flooding was renovated to fixed spillway and rapids system in 2006. This system maintains water levels to facilitate boat access on the flooding while limiting the maintenance necessary on the system. Water levels have been and will continue to undergo fluctuations governed by natural processes rather than adding adjustable water control structures. In 2011, a failed fish ladder was removed by Fisheries Division. Future management of the

flooding will primarily involve maintenance of the remaining earthen dam sections through woody vegetation control.

The water control structure on the Pigeon Cove Wildlife Flooding has allowed water levels to maintain a marsh system. The outlet lies approximately ¼ mile inland from Pigeon Cove on Potagannissing Bay. Most of the flooding has succeeded to emergent marsh; there is little open water on this system at present. The water control structure is inspected regularly. Although there are no plans at present, this control structure may require replacement in the future. At that time, the system will be evaluated to determine the best course of action for replacement or removal. Actions taken will be consistent with priorities for managed wetland areas in the region.

The objective for wetland and coastal habitat management is to maintain these systems to encourage use by waterfowl and other wetland wildlife. Wetland and coastal habitat management on the island will primarily be accomplished through the forest management planning and approval process. Marshes and other wetlands will be buffered appropriately while conducting management activities in surrounding forested stands to maintain the habitat characteristics that support these wildlife species. Best management practices will be implemented on state forest land to control erosion and sedimentation that can impact water quality. Additional management activities that may enhance wetland habitat, such as invasive species control, will be considered on a case-by-case basis. In many cases, wetlands and coastal habitats will be passively managed to protect their habitat characteristics.

G2.7 Non-game, Rare, & Invasive Species Management

G2.7.1 Sharp-tailed Grouse

Sharp-tailed grouse are openland birds that prefer a mix of grassland and shrubland. Although this type of habitat is limited on the island, some larger forest openings and related habitat do support birds. Sharptails were introduced on Drummond in 1941 when 37 birds were released on the island (Ammann, 1957). Since then, they have been observed in various locations including near the Big Burn and Sheep Ranch opening areas as well as the Maxton Plains (Figure 11).

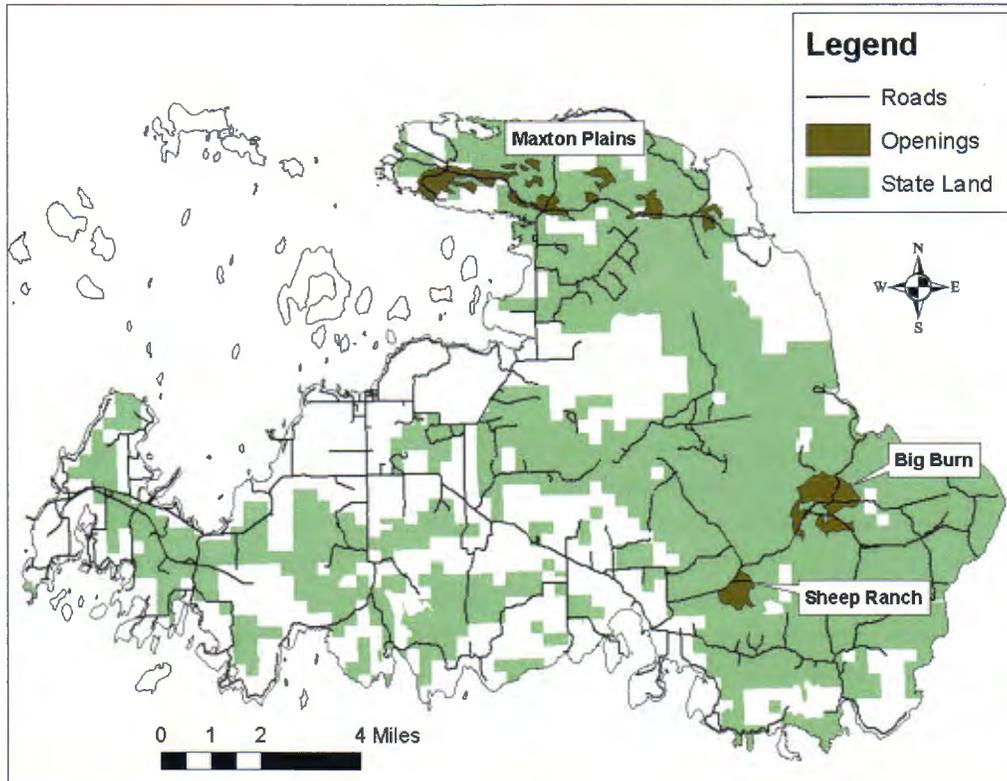


Figure 11. Locations of Big Burn, Sheep Ranch, and Maxton Plains on Drummond Island.

The Department seeks to maintain a viable breeding population of sharp-tailed grouse on Drummond at a level that supports recreational opportunities. Management for sharp-tailed grouse on Drummond will primarily involve maintaining the open or semi-open habitat they prefer. Forest openings located at Sheep Ranch and Big Burn will become stocked with brush and trees following the process of succession. Periodic activities, such as mechanical removal of woody vegetation or prescribed burning, are necessary to maintain the open habitat. A burn was conducted over part of the Big Burn opening in 2006. In 2010, the DISC sponsored mechanical management on a portion of the same opening in partnership with the Department and the Ruffed Grouse Society. Continued efforts to manage Big Burn and Sheep Ranch openings will help to support sharptails on the island. The Department will continue to seek opportunities to partner with stakeholders to conduct openland habitat maintenance activities where warranted that supports sharp-tailed grouse on the island.

Management on the Maxton Plains will differ given the differences in that system. The alvar's shallow soils or lack of soil limits woody growth. Management here will be focused on limiting vehicle access to established roads, discouraging the introduction and spread of invasive plant species, and protecting rare species.

G2.7.2 Rare Plant Species and Features

The unique landscape on Drummond supports a number of rare plant species that contribute to the habitats on the island. A full list of species is located in the Drummond Island and Maxton MA portions of the Regional State Forest Management Plan

(www.michigan.gov/regionalforestplans). One of the most unique natural features on Drummond is alvar, which supports a diverse plant community including a number of threatened and endangered species. Some of the best remaining alvar, globally, is found on the northern Maxton Plains of Drummond (Albert, 1995).

Primary threats to rare species, features, and habitats on the island include activities that cause changes to the ground surface and those that encourage the spread of invasive plant species. Alvar is a fragile system where minor changes to the thin soil surface can cause large changes to soils, hydrology, and resultant habitat conditions. Examples of this can be seen where vehicles have ventured off of the road. Old tracks remain where soils have been impacted through rutting or compaction. The impacts cause vegetation changes ranging from sparsely vegetated to reduction or elimination of rare species from those sites. Soil changes also provide favorable conditions for invasive species to take hold. Invasive species can out compete native ones, including threatened and endangered species, and change habitats. Invasive species management is important to protect the unique and rare features on island. Survey and identification of invasive species as well as special concern and rare species are ongoing on the island. An extensive survey of the Maxton Plains has taken place in the past couple of years through a federal grant. After the plant survey was evaluated, invasive species across multiple ownerships on the Maxton Plains was treated using herbicide treatments and pulling. Funding secured through a federal grant allowed these treatments to take place. Continued surveys must be completed to evaluate the effectiveness of the treatment. Surveys should continue across the island as funding is available to monitor invasive species and treatment of the identified invasive species where possible, including working with partners (DIWT Recommendation – pg.22).

Additional actions have been taken to reduce these threats to the alvar. Informational signs are posted at the entrance to the Maxton Plains, identifying the unique community type and warning drivers to remain on established roads. Little active forest management has been conducted in the alvar area due, in part, to the sensitivity of the site.

The Department will continue to protect the alvar community on state land and discourage the spread of invasive species in this community type. State forest land in the Maxton MA as well as that portion of the Drummond MA north of First and Second Lake (Appendix E) will be closed to wheeled motorized vehicles outside of existing established roads (DIWT Recommendation – pg. 13). Roads will be limited to those existing unless the need for a new road can be clearly demonstrated and the resource impacts resulting are shown to be minimal. Any new roads across state forest land require Department approval.

Other unique and sensitive features on the island include Marble Head, coastal access areas such as Glen Cove, and the fossil ledges. Protection of these geological features is also important. Most of these sites are habitat for threatened and endangered plants and land snails. Physical barriers and signage have been placed at some locations to restrict vehicular access and resulting impacts to the features. Additional barriers and signage may be necessary at other locations, such as the fossil ledges, to further discourage impacts from illegal vehicular use. Monitoring and maintenance of these barriers and signage is necessary (DIWT Recommendation – pg. 21). The Department seeks opportunities to partner with stakeholders to develop, maintain, and

monitor signs and barriers to protect unique and sensitive features. Island stakeholders must play a role in monitoring and regulating signs and barriers for effective implementation.

G2.7.3 Feral Swine

Feral Swine pose a significant threat to domestic stock, wildlife, the environment and people. Once established, their populations are very difficult and expensive to control, and damage caused by the swine can be costly. In northern portions of their range, active sows are estimated to produce two litters per year of four to eight piglets. Feral swine have not been reported on Drummond to date, but are present in other parts of the state.

The Department has declared *Sus scrofa*, one species of swine, an invasive species in Michigan. As such, possession of this species of swine is now prohibited in Michigan.

The DIWT sought to prevent the introduction of feral swine to Drummond Island in order to avoid the impacts they would likely have on Drummond Island's people, wildlife, and natural features. One of the group's recommendations specifically supported and encouraged the efforts of the Department to prevent the introduction of feral swine to Drummond Island ([DIWT Recommendation – pg. 10](#)).

G2.7.4 Cormorants

The double-crested cormorant has been present in the Great Lakes region since at least the early 1900s. Population increases between the late 1970s and today have been accompanied by concern and controversy about the effects the birds may be having on stocks of recreational and commercial fish species, and island nesting habitat. The DIWT recommended that cormorant control efforts continue, and encouraged agencies and officials to allow for additional control efforts.

Since 2004, the U.S. Department of Agriculture's Wildlife Services Division has been oiling eggs at nesting sites and removing adults from the population to meet Department goals. Additional management activities have also been performed by Tribal natural resource agencies to address concerns related to cormorant impacts to commercial and sport fisheries, as well as alleviating potential conflicts with other species of nesting birds and reduce damage to native plants. The Departments' management goal seeks to balance the desires of stakeholders with the Department's responsibility to manage for healthy populations of fish and wildlife ([DIWT Recommendations – pgs. 9-10](#)).

Goal 3. Manage for sustainable fish populations in balance with their habitat while maximizing recreational fishing opportunity.

This plan is intended primarily to be a land management plan for Drummond; as such, many fisheries issues are out of scope. Relative to land management, the primary concern of forest operations from a fisheries and water quality perspective is to ensure the integrity of streams and lakes. This is generally accomplished by observing best management practices (BMPs). Fisheries Division will review proposed forest management activities during the compartment review process, and recommendations will be made on a case-by-case basis by management unit

biologists using Fisheries Division and Department guidance documents including, but not limited to: Fisheries Division Policy and Procedures 02.01.002 (Dams and Barriers), 02.01.007 (Stream Crossings (Bridges, Culverts, and Pipelines)), 02.02.005 (Fish Passage), and 02.02.011 (Riparian Vegetation Protection); Fisheries Orders 200.11 (Statewide Trout, Salmon, Whitefish and Lake Herring Regulations- lake section) and 210.10 (Designated Trout Streams for Michigan); and the Valley Segment Ecological Classification.

Fisheries Division will manage the fisheries resources in the Drummond area in a scientifically sound manner, with regulations based on individual species' biology and the waters they inhabit. Statewide regulations are preferred for simplification purposes. Management will be based on ongoing consultation with users through the established regulations change procedures.

Fisheries Division will also work with the DISC and Wildlife Division to remove or discourage beavers at the Potagannissing flooding spillway, and to remove beaver dams from that location where the beaver dams block fish passage to quality spawning and nursery habitat, when and if control is warranted.

G3.1 Yellow Perch Management

The DIWT made recommendations for yellow perch management in Potagannissing Bay. Specifically, these recommendations were for the Department to manage the Drummond perch fisheries to increase the quantity and size of perch in a manner that may include the following: habitat management, increasing the minimum take size to 8", and reducing the creel limits to 30. Chippewa County waters of Lake Huron, including Potagannissing Bay have a 7-inch minimum size limit for yellow perch, one of the most restrictive perch regulations in the state. Determination of the value of minimum size limits for perch for the Drummond area will help inform regulation decisions. Fisheries Division believes that habitat conditions, cormorant control, and fish predator populations will have the most influence on the yellow perch population in this area.

The other yellow perch recommendation made by the DIWT concerned the daily possession limit, which is 50 fish (a statewide yellow perch regulation). Fisheries Division is examining the potential for a reduction in the yellow perch bag limit on a statewide basis. The division will be soliciting public input on this potential change, and will be doing a biological review to determine what effect a reduced bag limit would have on the yellow perch populations. At this point, Fisheries Division is not pursuing changes in the yellow perch bag limit on a location specific basis, but public input will be considered, including the DIWT recommendations (DIWT Recommendations – pg.11).

G 3.2 Northern Pike Management

The DIWT made recommendations for northern pike management. Specifically, the group recommended that the Department "reinstate pike season dates such that pike spearing not go beyond the end of February" and that the Department "manage for trophy pike by incorporating protected slots." Regarding the spearing season, the change was made on a statewide basis to provide more fishing opportunity while at the same time being consistent with the season for

hook and line fishing for this species. The minimum size limit (24") and daily possession limit (2) for northern pike are still in place, and are protective of the species.

In 2011, Fisheries Division completed a management plan for northern pike in Michigan, and a review of Michigan's northern pike regulations. An option available under the revised regulation framework is a 24-34 inch protected slot limit, similar to what was proposed by the DIWT. This regulation, however, is designed to help improve size structure in an imbalanced population with abundant small fish, but fewer large individuals. Fisheries Division doesn't believe this is an appropriate regulation for the Drummond area at this time because there is an overall decline in the northern pike population throughout the St. Mary's River, including Potagannissing Bay. As new criteria are developed for selecting this regulation for a waterbody, Potagannissing Bay will be considered.

Fisheries Division's Northern Lake Huron Management Unit plans to have northern pike reared in a production pond in years when that pond is not being used for walleye (see below). Those northern pike fingerlings will be stocked into Potagannissing Bay ([DIWT Recommendations – pg. 11](#)).

G3.3 Walleye Management

Walleye are an important component of the fish community in Potagannissing Bay, and provide a popular sport fish for anglers. Fisheries Division has an ongoing partnership with the DISC and Chippewa-Ottawa Resource Authority (CORA) to rear walleye fingerlings in a pond on Drummond. These walleye are used to stock Potagannissing Bay and other locations in the St. Marys River, pursuant to the St. Marys River Walleye Stocking and Evaluation Plan (Godby et al., 2009). The plan includes several planned non-stocked years for Potagannissing Bay; for those non-stocked years, we plan to have northern pike fingerlings reared in the pond, again in cooperation with DISC and CORA.

G3.4 General Fishing Regulations

Fisheries Division has a process in place for changing fishing regulations. This process is based on a biological review of regulations, and provides for public input. Although the recommendations made by the DIWT did not follow this Fisheries Division process, some of those recommendations are consistent with regulation discussions currently underway. The DIWT recommendations will be considered as part of the review process.

It should be noted that typically not all regulations can be changed in any year, so immediate changes should not be expected. The fact that the waters surrounding Drummond are Great Lakes waters or Great Lakes connecting channels complicates some changes to management. Changes to stocking levels or some regulations require review by the Lake Huron Technical Committee, the Lake Huron Committee, the St. Mary's River Fisheries Task Group, and/or the Technical Fisheries Committee. These groups are comprised of membership from agencies such as the Department, CORA, FWS, Ontario Ministry of Natural Resources, Department of Fisheries and Oceans Canada, and United States Geological Survey.

Goal 4. Provide Public Recreational Opportunities

The public land base supports numerous opportunities for public hunting, fishing, and other compatible outdoor recreation enjoyed by residents and visitors alike. The miles of shoreline and Great Lakes waters surrounding Drummond add to the recreational opportunities available.

G4.1 Hunting, Trapping, Fishing, and Wildlife Viewing

Hunting, trapping, and fishing are popular activities on and around Drummond. Other outdoor recreational activities including hiking, boating, kayaking are also popular. All of these outdoor activities are important to the local economy.

State-owned land on Drummond is open to the public for hunting, trapping, wildlife viewing, hiking, and other related recreation. There are approximately 47,800 acres, or almost 75 square miles, of state forest land available to the public on Drummond (Fig. 1). Much of this acreage is now accessible via roads or trails (Fig. 1, Appendix F).

Hunting and trapping have evolved as technologies improve and harvest methods change. Access to remote lands has generally increased with more roads and vehicles such as all-terrain vehicles becoming more popular. These improvements are appreciated by many, but also come at a cost. Costs include increasing pressure on wildlife, fewer remote areas, and limiting the ability to practice traditional methods of hunting, trapping, and wildlife viewing.

The north end of the island is well-suited to developing a non-motorized access area (primarily walk-in access). No official off-road vehicle trails exist on state land north of the Potagannissing River, First Lake, and Second Lake. The Maxton Plains containing the rare alvar community is located here. Off-road vehicle use poses a threat to the alvar community. Management supported by the Deer Range Improvement Program has been conducted between First Lake and the Maxton Plains to improve the habitat for deer as well as other game species. The area is conducive to restricting wheeled motorized vehicles off of existing roads, and few other locations on the island provide a similar opportunity.

The GEMS will be managed as a non-motorized destination for hunters pursuing ruffed grouse and other game species. Refer to section G2.5, *Ruffed Grouse and American Woodcock*, for more information about the GEMS. The GEMS will be non-motorized with the exception of snowmobiles during the winter months; a snowmobile trail is located on the west side of GEMS. Although hunting will be a focus here, the GEMS will also be available for other walk-in recreation, such as hiking and snowshoeing ([DIWT Recommendation – pg. 13](#)).

G4.2 Non-Motorized Recreational Access

G4.2.1 Non-Motorized Trails

There are numerous public recreational trails on Drummond, but few are designated for non-motorized traffic. According to the Drummond Island Five Year Recreation Plan, 2011-2015, prepared for the Drummond Island Township and Drummond Island Tourism Association,

walking and multi-purpose (i.e. snowshoeing, cross country skiing) trails were identified as important public interests for the island.

Establishment of additional trails on state land must be balanced with maintaining remote areas on the island. Numerous roads and trails already exist on the island, including 44 miles of designated ATV trail as well as 46 miles of designated ORV routes.

An unofficial trail system exists on state land west of the Maxton Cut Across Road and east of Spring Pond. It is used for cross-country skiing by taking advantage of existing logging trails. This existing system can easily be identified and designated as a multi-use non-motorized trail available for hunting, hiking, snowshoeing, and related non-motorized access. Hunting will be maintained as a primary activity along this trail as funding from deer hunter license fees made it possible for this land to be publicly accessible. Conflicts between deer hunters and other users will be minimized by posting the trail as closed during the firearm deer season except to hunter foot traffic. Additional non-motorized trail access will be available in the Drummond GEMS (see section *G4.1* above) outside of the firearm deer season. The existing system of closed roads in the Area provides miles of trail that can be used for hiking, snowshoeing, and skiing (DIWT Recommendation – pg. 12).

Although trails exist inland, few trails are available that facilitate access for hunting, wildlife viewing, or hiking in remote areas near the Great Lakes shoreline. The Drummond Island Tourism Association (DITA) has requested that a Niagara Escarpment Trail be developed along the southwest shore of Drummond. The trail would extend from Sitgreaves Bay to Shale Beach, with the majority of the trail located near the shoreline edge. An associated wildlife viewing and birding trail is proposed on the north side of Pilot Harbor Marsh. The marsh offers opportunities for hunting and wildlife viewing. The proposal was made due to public interest for such a trail. The trail would provide focused and low-impact walking access to remote areas of the island that otherwise require use of 4-wheel drive vehicles or ATVs. The trail will also promote better maintenance and enforcement in the area for such acts as littering. Partners will have an important role in fostering the development and maintenance of the Niagara Escarpment Trail. The trail will be developed in a location near the shoreline that encourages walk-in access for hunting, hiking, wildlife viewing, and similar recreation during appropriate times of the year while avoiding or minimizing ecological impact as well as mis-use of the area (DIWT Recommendation – pg. 13).

The limestone bedrock and uneven terrain make remote temporary tent camping difficult in many locations. Hunters and hikers desiring camping opportunities literally off of the beaten track can be challenged to find suitable ground to set up a tent in some locations. DITA has requested camping platforms be constructed in three locations on Drummond. Platforms would simply provide an even, level surface on which to set up a tent while also focusing camping impacts to a given area that mitigates ecological impact. The platforms would encourage use of areas by hunters seeking more traditional forms of access. DITA will be responsible for construction and maintenance of the platforms. No roads or trails will be developed into the platform locations. The platforms will be available to hikers, kayakers, and other recreationalists outside of hunting and trapping seasons, and when not being used by hunters (DIWT Recommendation – pg. 12).

G4.2.2 Non-Motorized Water Access

The paddling sports have become popular on and around Drummond with the current water trails available to the recreational paddler. Drummond has become a destination for paddlers to enjoy their sport. The Department's Maxton Bay water access site is currently used by paddlers because of the popularity of Potagannissing Bay and River for trips. Advancement in equipment has allowed for greater access for people of all physical capabilities to enjoy the paddling sports. Launch assist devices, such as the EZ launch system, have been developed to provide all paddlers better access to canoeing and kayaking opportunities

The DIWT has recommended that an Americans with Disabilities Act (ADA) compliant paddling launch site be installed at the Department's Maxton Bay water access site if funding can be provided through DITA or another partner. Installation of such infrastructure will provide greater access to the water and natural resources for all recreational paddlers on Drummond. The Department would work with DITA and stakeholders on the possible site and requirements for an ADA compliant paddling launch at the Maxton Bay water access site (*DIWT Recommendation – pg. 17*).

G4.3 Access for Motorized Recreation

Motorized recreation is very popular on Drummond. Local tourism is supported, in part, by the motorized recreation on and around the island. Motorized recreation ranges from standard motor vehicle use to off-road vehicle (ORV), ATV, snowmobile, and boat use.

G4.3.1 ATV and ORV

ORV and ATV access on state land is managed according to the Off-Road Vehicle (ORV) Management Plan (2008) and Off-Road Vehicle Route Standards Committee Final Report (2009). The only designated high clearance four wheel drive ORV route on state forest land in Michigan is located on Drummond. The route is 46 miles long, and was established with the support of the Drummond Island Off-Road Club and other organizations. Additionally, there are 44 miles of dedicated ATV trail (i.e. 50 inch wide). The route and trail are generally located from the center to the southeast side of the island (Appendix F).

The Department's priority for ORV trails is to maintain the existing trail, route and use-area infrastructure up to established trail maintenance standards. It is imperative to manage the current designated system to meet the Department's mission of resource conservation and protection, meet outdoor recreation needs, and safeguard riders. Management of routes and trails is accomplished, in part, through partnerships. ORV clubs complete trail maintenance through a grant program with the Department. The Department will identify and correct the initial cause of the problem at environmentally damaged sites. Roads and designated routes and trails on state forest land will be maintained to meet *Best Management Practices Work Instruction 3.1: Forest Operations* as well as applicable state and federal requirements for land acquired using hunting license revenue. Relocation of designated routes and trails will be considered in certain cases where relocation will better meet the Department's mission (*DIWT Recommendation – pg. 16*).

The ORV route provides motorized recreational opportunities ranging from individual riders to organized riding events. Two or more organized riding events have been held annually since 2010. The route is not passable with conventional vehicles, including unmodified 4-wheel drive vehicles, in numerous locations; an ORV license is required for motorized access along portions of the route impassible via conventional vehicle.

The route provides the only motorized access to some parts of the island. Most of the ORV route is located on lands that were acquired using revenues from deer hunting license fees. Alternate routes were considered to provide hunters access to areas impassable via conventional vehicles. In 2010, an improved road was constructed parallel to the snowmobile trail and ORV route to provide conventional vehicle access to the same area. Additional phases were planned to enable conventional vehicle access to areas near Marble Head. During the planning process, however, an alternative was identified that is more compatible with a non-motorized trail desired by the DIWT. The road from Glen Cove to Sitgreves Bay requires improvement to be used by a conventional vehicle during most of the year. However, improvement of this road is desirable for access to the proposed Niagara Escarpment Trail. The Department will seek to partner with stakeholders to provide conventional vehicle access to areas near Marble Head that are consistent with other recreational plans. Any management on lands acquired using hunting license fees or matching federal funds for game and fish activities must be conducted in accordance with applicable state and federal regulations (*DIWT Recommendations – pgs. 15-16*).

Some sections of the ORV route have become challenging to the point that riders bypass the section by creating a short new trail adjacent to the ORV route. Some bypasses become challenging in time to where additional bypasses are created. This activity creates environmental damage in areas adjacent to the route, and will require correction. Bypasses will be blocked or repaired around a challenging area as outlined in the Michigan Department of Natural Resources Off-Road Vehicle Route Standards Committee Final Report (October 2009) such that the trail becomes usable once again. Off road vehicle trail improvement program grants administered by the Department have been used in the past and continue to be used for trail maintenance and restoration of natural resource damage by ORV use. If not addressed directly through the ORV program, these sites may be maintained through forest management activities.

G4.3.2 Motorized Water Recreation

Drummond's setting in northern Lake Huron subjects itself to weather and related water conditions common to Great Lakes waters. Although Drummond has many bays on the Great Lakes, the only state-owned boat launch is located on Potagannissing Bay. This launch best provides access to waters around the bay as well as the western and northern shores of Drummond. A public boat launch does not exist on the eastern shore of Drummond, and boating to this area from existing public or commercial launches poses a safety hazard for many boats, particularly smaller vessels used for hunting or fishing.

The DIWT recommended that additional public boat launches be developed in remote sections of the island to expand the hunting, fishing, and boating access. Development of an additional boat launch will be considered with stakeholder input. The Department will work with partners to identify potential locations that are consistent with its mission, management of state forest land, and other components of this plan to develop one boat launch that accommodates smaller vessels

and provides access via water to the eastern shore of the island. Potential locations include, but are not limited to Glen Cove, Bass Cove, and Warner's Cove (DIWT Recommendation – pg. 17).

Goal 5. Stakeholder and Public Partnership in Management on Drummond Island

Stakeholders will be an important part of successfully implementing any changes to natural resource management on Drummond. Changes to wildlife or fisheries licensing or harvest requirements on Drummond will require participants to abide by the regulations. Protection of unique features, maintaining non-motorized opportunities, and restricting traffic to appropriate areas will require support from stakeholders to be effective. Many of the management recommendations made by the DIWT are dependent upon stakeholders being active partners with the Department for implementation.

G5.1 Promoting Public Awareness about Drummond Island's Natural Resources

Informing the public about the natural resources on Drummond as well as their management, particularly when changes will impact the way people can use and enjoy the resources, is necessary for effective management. Changes to the license structure and/or harvest limits must be communicated to the public for implementation. Communicating the reasons for such change can foster greater public acceptance of changes and compliance to regulations.

The Department's Public Outreach and Engagement Unit (POE) within the Wildlife Division is a key resource in assisting in the development of a strategy to communicate the goals and management direction established in this plan to the public. Various forms of communication to consider include broadcast media, news articles, postings on the internet including use of social media, brochures or postings for local businesses, signs, common key messages for stakeholders that interact with the public, and programs and recreational events that promote the recreational opportunities on the island (DIWT Recommendation – pg. 25).

Information about many of the items included in this plan will need to be presented to the public. Any regulatory changes involving hunting or fishing will need to be posted in the appropriate hunting and fishing guides and/or on the Department's internet sites designated for those issues. Special management areas, walk-in areas, or other new or unique access sites or features will require posting and other forms of notification such as identification on the Department's web site. The Department will need the support of partners for various aspects of these projects, including signage (DIWT Recommendation – pg. 25).

Stakeholders have an important role in the strategy to help inform the public and be partners in the process of plan implementation. Stakeholders have key opportunities to interact with the public through organizational and business interactions, routes for promoting the importance of the island's natural resources and their management as well as the wise use and enjoyment of these resources. The Department, especially POE, will be relying upon the members of the DIWT and organizations represented thereby, as well as other island stakeholders, to develop and implement the communication strategy (DIWT Recommendation – pg. 25).

G5.2 Partner's Role in Management

Many stakeholders have a vested interest in the resources as well as the recreational opportunities they offer to residents and visitors alike. Partners and other stakeholders have important roles in management as advocates for the resources. The recommendations developed by the DIWT were based on stakeholder interests. A number of recommendations reflected a desire to have increased enforcement of regulations on the island. Several challenges were identified to enforcement, including the remoteness and method of travel to the island ([DIWT Recommendations – pgs. 18-19](#)).

Effective implementation of management actions and enforcement of regulations will require stakeholders to partner with the Department. Limited resources are currently available to the Department to carry out actions identified in this plan. A number of opportunities have been identified in previous sections for stakeholders to partner with the Department for implementing specific management items, such as sign placement. Partnerships are desired to implement management activities and assist with public outreach and education.

Stakeholders also have a role in encouraging compliance with regulations. Enforcement will be best achieved by stakeholders advocating for compliance to regulations and providing information to law enforcement if regulations are violated. For example, the DIWT recommended partnership to improve patrol of the island's ORV and snowmobile trails and also discouraging illegal use of unique natural and sensitive areas. Partnership will include stakeholder involvement to advocate for compliance to regulations and provide information when they are aware of violations.

5. CONCLUSION

Drummond has unique natural resources that support industry and public recreational opportunities, both of which are integral parts of the island's economy. The Department is committed to the conservation, protection, management, use and enjoyment of the state's natural and cultural resources for current and future generations. This plan is intended to provide management direction for Department-managed resources on Drummond. The plan has been developed with stakeholder input through a formal recommendation process, and has been subject to public review and comment.

Most of the recommendations made by the DIWT have been addressed in this plan; remaining recommendations were outside of the plan's scope. Recommendations and management direction follow five subject themes: forest management, wildlife management, fisheries management, recreation, and partnerships for management, which includes public outreach. The management direction identified for each addresses recommendations while remaining consistent with Department plans and guidance. Outcomes are intended to conserve, protect, or enhance the island's natural resources for public use and enjoyment.

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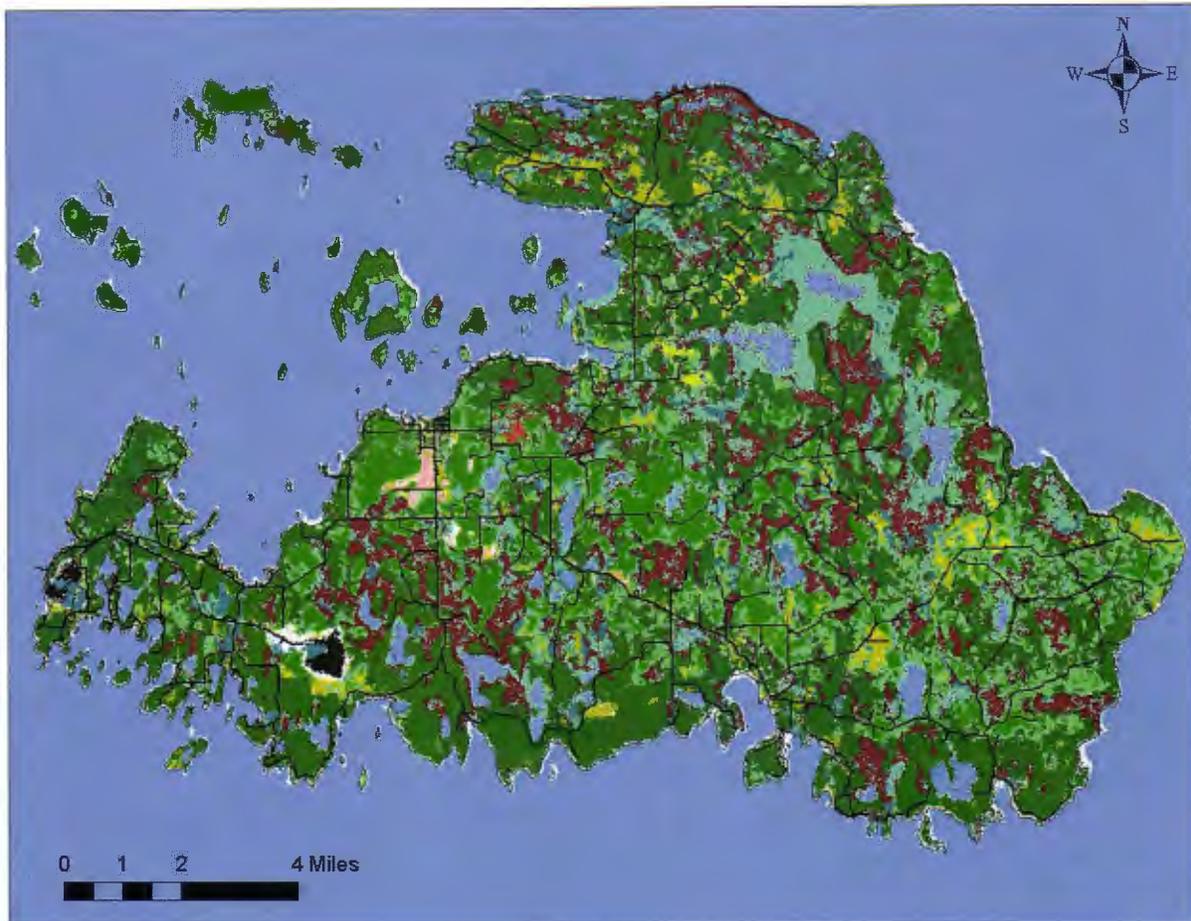
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Appendix A: Drummond Island Writing Team Recommendations for Drummond Island
Comprehensive Resource Management Plan

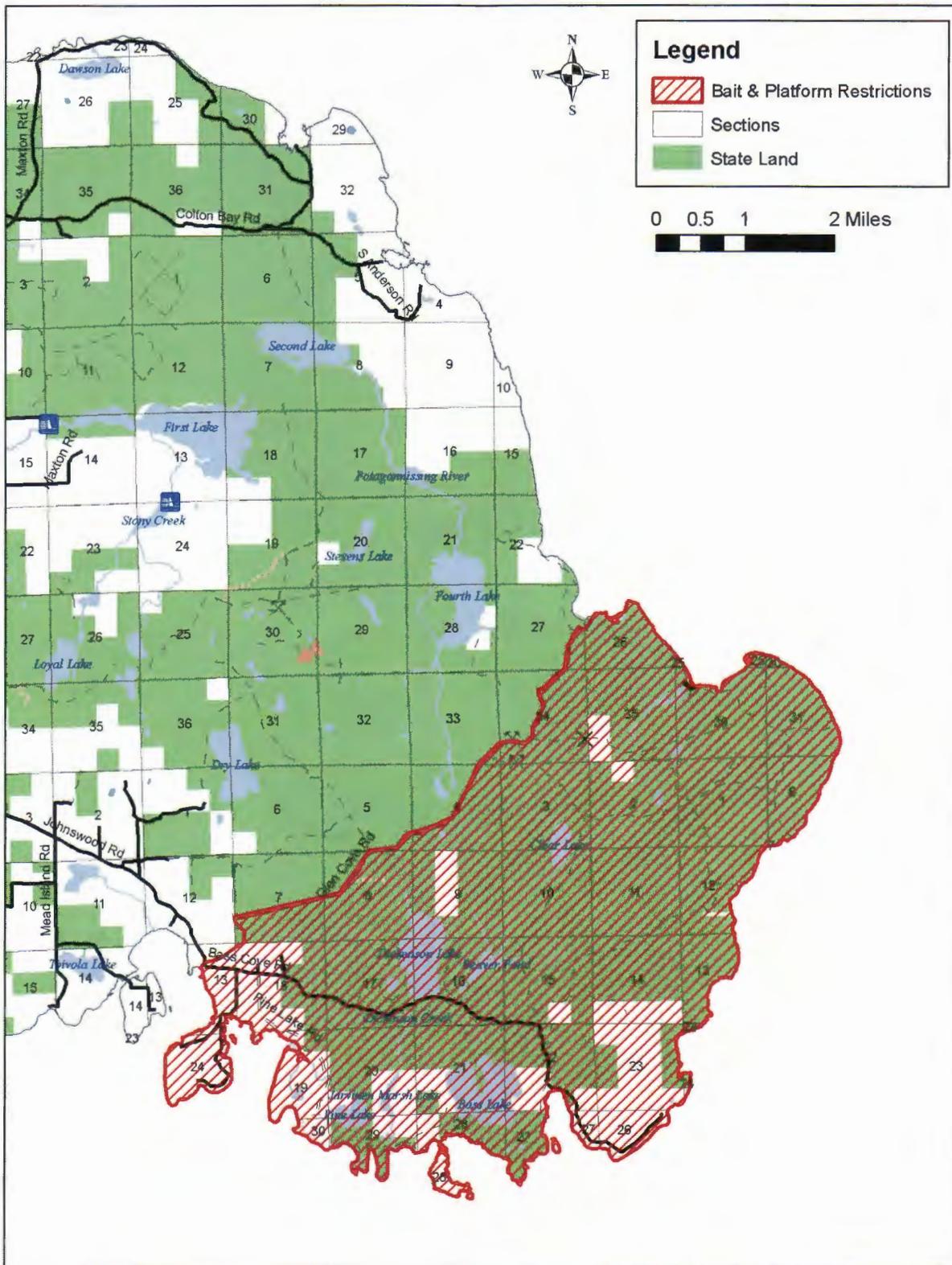
Click to view the [document](#).

Appendix B: Land use/cover types on Drummond Island derived from classification of Landsat Thematic Mapper (TM) imagery dating between 1997-2001.

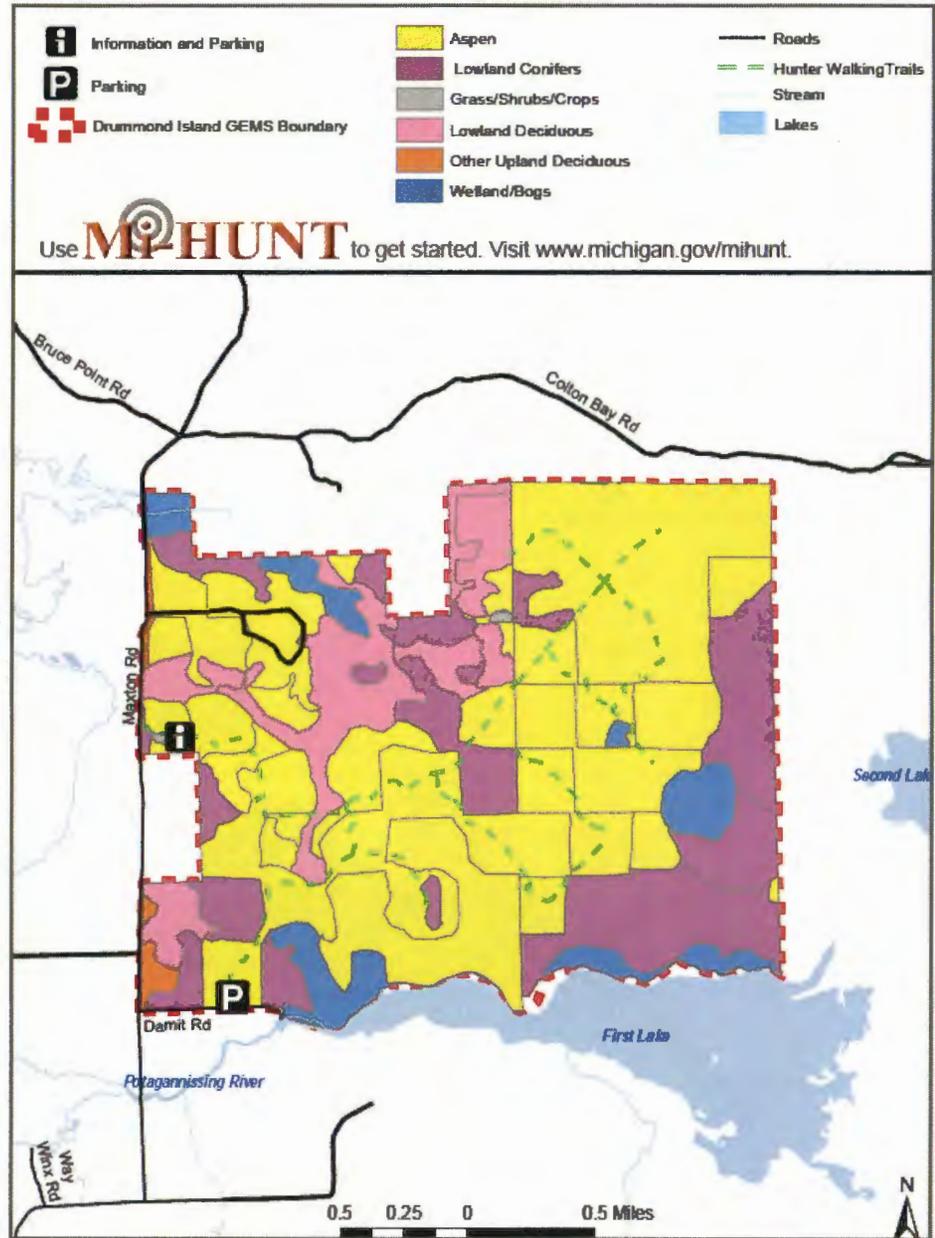
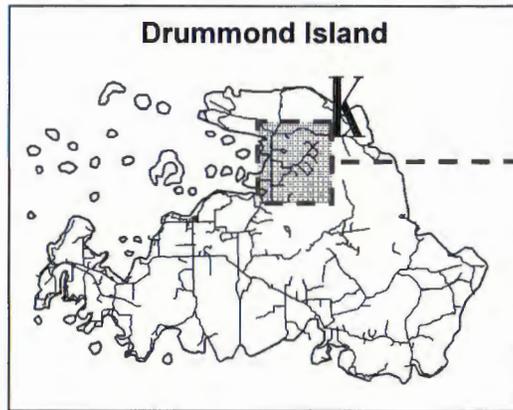


Land Use/Cover Types		
Airports	Lowland Mixed Forest	Other Upland Conifers
Aspen Association	Lowland Shrub	Parks / Golf Courses
Emergent Wetland	Mixed Non-Forest Wetland	Pines
Exposed Rock	Mixed Upland Conifers	Roads / Paved
Floating Aquatic	Mixed Upland Deciduous	Row Crops
Forage Crops / Non-tilled herb.	Mud Flats	Sand / Soil
Herbaceous Openland	Non-vegetated Farmland	Upland Mixed Forest
High Intensity Urban	Northern Hardwood Association	Upland Shrub / Low-density trees
Low Intensity Urban	Oak Association	Water
Lowland Coniferous Forest	Orchards / Vineyards / Nursery	
Lowland Deciduous Forest	Other Bare / Sparsely Vegetated	

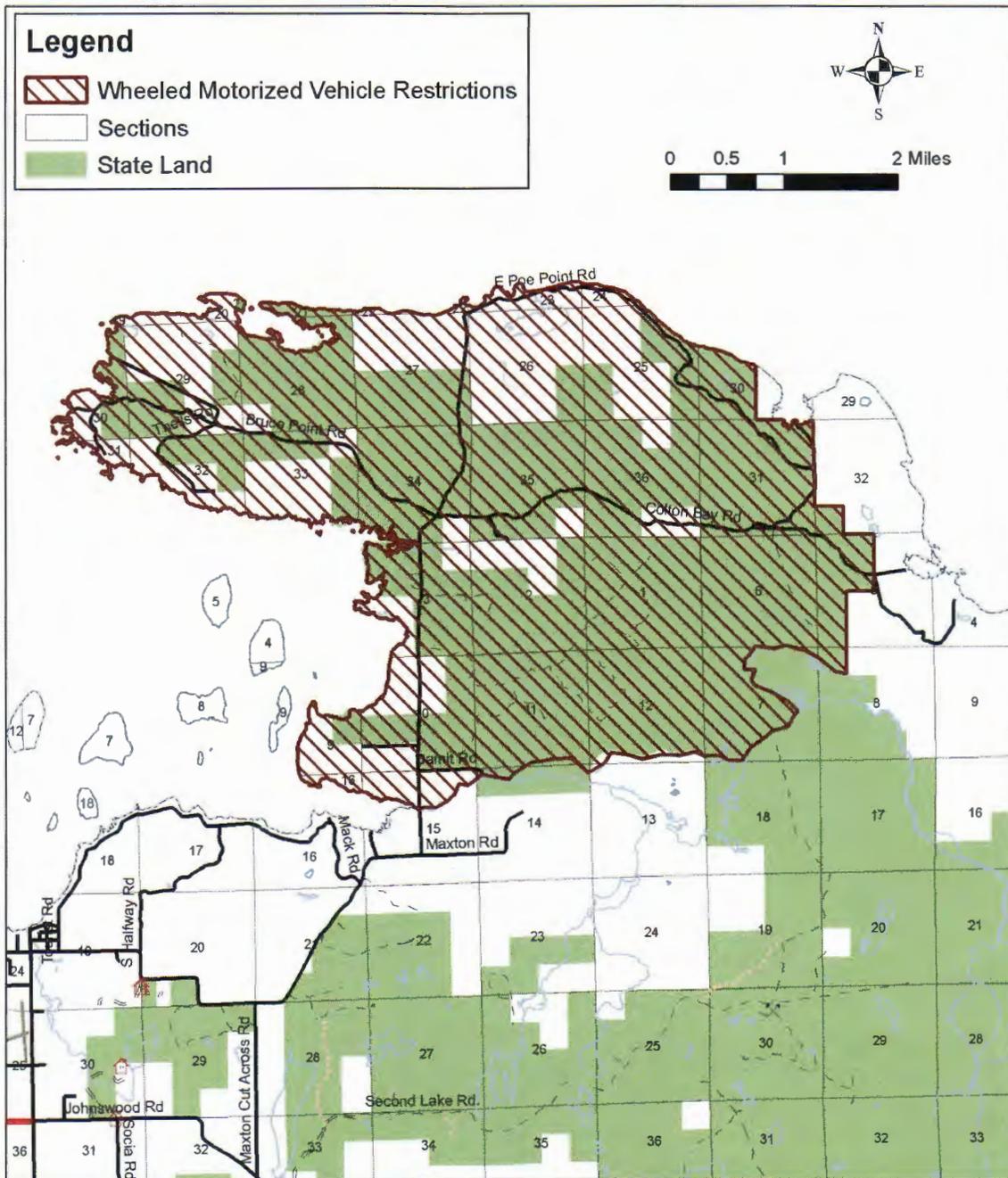
Appendix C: Area identified for prohibiting the use of bait and elevated platforms for deer hunting from November 5 – 30 of each year.



Appendix D: Drummond Island Grouse Enhanced Management System Map



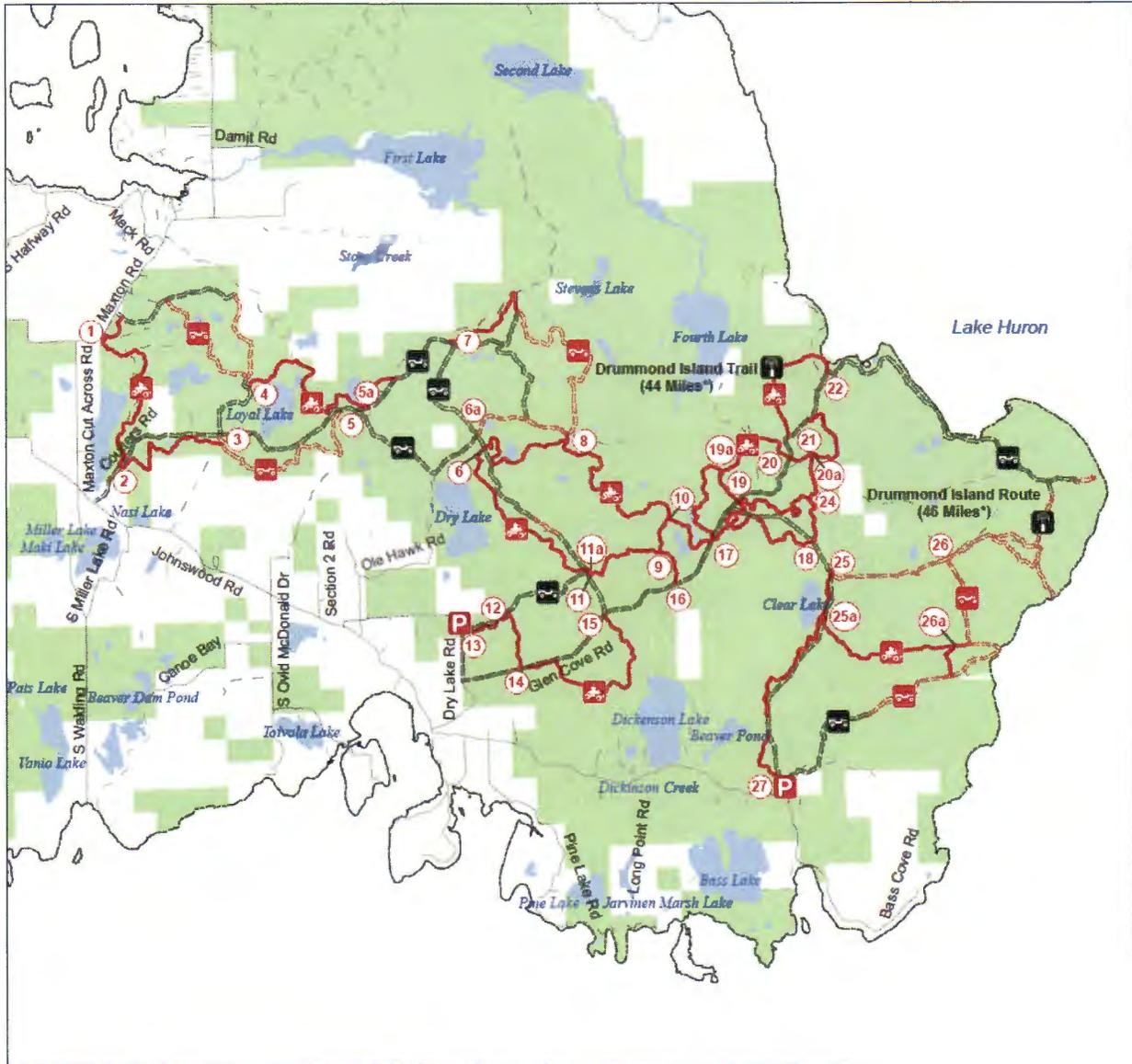
Appendix E: Area proposed to restrict wheeled motorized vehicle use on state land to existing established roads. Wheeled motorized vehicle use of existing roads would be prohibited on state land.



Appendix F:

Drummond Island Trail & Route Chippewa County, Michigan

GPS Data Disclaimer: Locational accuracy +/- 300 feet. Please use the GPS coordinate data as a general guide for trail location. It is not to be used as an exact location reference.



- ATV Trail – ORV's less than 50" in width including off-road motorcycles. (DNR license (ORV sticker) required)
- ORV Route – ORV's of all sizes including off-road motorcycles. (DNR license (ORV sticker) and high clearance 4wd required.)
- ORV Route – ORV's of all sizes including off-road motorcycles. (DNR license (ORV sticker) required unless licensed by the Secretary of State)

* Mileage shown is actual ground miles.

Advisory: Trails and Routes have two-way traffic.

Disclaimer: Trails shown on this map are an approximate representation of the trail system at the time of publication and may not reflect current ground conditions. **STAY ON SIGNED TRAILS ONLY!**

- Link to Download GPS file
- Trailhead Parking
- Intersection Number
- Highway
- Paved or Gravel Road
- Poor Dirt Road
- Lakes and Rivers
- State Land
- County Boundaries



Updated 6/28/2011

Appendix G: Drummond Island Comprehensive Resource Management Plan Public Comments

Items Supported within the Plan

- Recommendations that complement the unique and rare nature of Drummond Island
- Suggestions related to hunting and fisheries management as well as upland bird habitat improvement.
- Continuing the cormorant control program.
- The plan is impressive in its goals and its detail. It presents a broad view of goals and steps to improve the islands appeal to residents and tourists.
- Regulations concerning the Aquatic Invasive Species; and completely agree with the restoration of the level of Lake Huron and the deer hunting recommendations, except the 3 points on one antler recommendation.
- The management and making the Maxton Plains a protected area but in actuality, that is done because of The Nature Conservancy, not the DNR.
- Programs in place for fingerling growth and release of pike and walleye are very positive for the island.
- The recent improvements at the Maxton Bay boat launch site are heartening.
- The installation of an ADA compliant lift for disabled kayak and canoe users would be wonderful.
- The informational signage at the Maxton Plains is not only educational it does a good job of keeping the alvar safe from foot and vehicle traffic. It would be of great value to other ecologically sensitive areas, Marblehead and the Fossil Ledges, to have similar protection as mentioned in the recommendations.
- The sharp-tail grouse and ruffed grouse programs have been successful to date and we are happy they will continue. The establishment of the Grouse Management Area (GEMS).
- Applaud DNR for the extraordinary efforts that were made to obtain recommendations from Drummond Island residents and organizations in the creation of the draft management plan.
- The wheeled motorized vehicle access restriction to the north of the river are positive actions in response to the Team recommendations.
- Deer hunting - agree with all recommended items - one deer per year/ three-point per side APRs/restricted baiting/having a wilderness access only area for hunting/mandatory deer check.
- FRD timber management plan – it protects wintering habitat and improves habitat for the remaining seasons.
- Fisheries - agree with all recommended items.

Areas of Improvement or Concern

The Plan or Planning Process

- Recommend that the comment period be extended beyond October 16, 2015.

- Opposed to the five year plan. Need more time to discuss with the public, and understand if there is research and published findings on how such a proposal would impact the island.
- Does not feel this proposal was looked at by a concerned group for Drummond Island. Felt this group was created by, and hand selected by a group of people who have something to gain, and have no concern for all Islanders.
- The make-up of the writing team was skewed and had too many personal interests.
- The draft report does not reflect the essence of the Drummond Island Writing Team.
- The DNR draft report establishes forest management as a first priority and particularly logging.
- Of the 45 recommendations by the Team only two recommendations addressed forest management. It would be better for the report to first address the Team recommendations and then address the actions or changes that will be taken in forest management to support those recommendations.
- Plan lacks commitment. It is more a statement of facts. It is replete with words such as “would require”, “would need”, “would likely”, and “should be in place”. Commitment to the forty five recommendations such as “DNR will” or “DNR has” is lacking.
- Plan ignores the writing team law enforcement recommendations, aquatic invasive species recommendations, Great Lakes lake level recommendation, and funding recommendations to support the plan.
- Plan needs to address storm water run-off.
- Communication Plan should be written by Public Outreach and Engagement Unit and included in this plan.
- The plan needs to identify timeframes and funding for each goal.

Funding

- Specific funding levels should be identified as well as new funding opportunities so all pieces of plan can be implemented.

Aquatic Invasive Species

- Need stronger emphasis on educating residents and visitors on prevention, identification, early detection, and rapid response.

Fishing

- Pike spearing should be banned.
- Slots lengths should be implemented for walleyes and northern pike.

Wildlife

- Include pheasants with grouse and woodcock.

Deer Regulations

- Any hunting rule changes for Drummond should include the entire island

- Buck harvest limitation of one buck, regardless of method, should be applied to the entirety of Drummond Island, if not the entire State of Michigan. This buck harvest regulation should extend the length of all deer hunting seasons and extend to both native and non-native American hunters.
- Increase antler point restriction (APR) to four points per side with exception of true spike horned bucks. This APR stance should extend the length of all deer hunting seasons and extend to both native and non-native American hunters.
- Tree stand hunting should be permitted.
- Use of bait as a deer attractant should not be allowed with scope either Drummond Island wide or State of Michigan wide.
- This “no baiting” stance should extend the length of all deer hunting seasons and extend to both native and non-native American hunters.
- The regulations should apply to all hunters, whether native or non-native Americans. This is especially important IF the implementation area is limited in scope to the defined area in the recommendation report.
- Support three points on one antler recommendation.
- Implement no baiting from Nov.5 through Nov.30 for the entire island

Law Enforcement

- Need law enforcement on the Island.

Motorized Trails

- Something must be done to curtail the removal of top soil that happens regularly as visitors take mud-caked Jeeps and ORVs off the island.
- Need to identify and correct initial cause at environmentally damaged sites. This pertains to trail damage that is current and not repaired. By-passes are created by users when the trail proves too challenging.
- The high rise vehicles and jeeps add no value to the island. They have permanently damaged many miles of trails to the point that ordinary ORV's cannot ride safely. The trails that jeeps and high rise trucks tear up are the same trails that snowmobiles use. The effort and expense to repair these trails for snowmobile use continues to grow. We are seeing more and more jeeps and trucks with large knobby tires arrive and damage the trails.
- The reality of the current situation with regard to off road vehicle operations as described in G43.1 needs to be addressed and a plan implemented with ORV stakeholder participation before any additional accesses are added to the island infrastructure.
- Wheeled vehicles should be banned on all snowmobile trails from December 1 until March 31 statewide. Mixing wheeled vehicles and snowmobiles on the same trail is dangerous. The exception would be for emergency vehicles and approved logging.
- The plan recommends cutting more roads for large wheeled recreational vehicles that benefit the ‘stakeholders’ to the detriment of the environment and ecosystems (pg. 42).

It's not necessary to the economic stability of our area to encourage this kind of recreation.

- Concerned about the degradation of Drummond by jeepers, ORV and snowmobilers who are encouraged to come to Drummond strictly for monetary profit by certain businesses.
- No clear mention of who was going to be responsible to determine when repairs on trails are necessary, bear the expense of it, and who would make repairs, or indeed how many bypasses would be made before action would be taken.
- The proposed road between Sitgreaves Bay and Glen Cove being suitable for a two-wheel drive vehicle looks good on paper. So do the hiking trails and camping platforms. Who is responsible for road upkeep and litter?
- There is not a mention under Motorized Recreation about the Snowmobile Trail Network. I would suggest that it is not very comprehensive if a major winter recreation has been left out.
- By opening the Sitgreaves Bay, Pilot Harbor, Marblehead and Shale Beach area to 2-wheel drive vehicles raises multiple, serious questions.

Non-motorized Trails and other platforms

- Opposed to the raised platform restriction (proposed in one portion of the island).
- Drummond needs more non-motorized trails for hiking, biking and cross country skiing.
- Oppose Niagara Escarpment Trail project.

Forest Treatments and/or Logging

- Loggers should be required to leave enough snow on trails for snowmobiles to safely ride on during logging operations.
- Forestry division should not have come in and logged deer yarding areas.
- Opposed to removing diseased trees or to "thin" the forests for "forest health"
- The writing team recommendation to preserve old Forests (e.g. close to "old growth" was made in 2012. Disappointed that DNR will not consider this until the 2017 cutting at the earliest. By then FRD will have cut down all the beautiful old stands.

