

BEAVER ISLAND DEER MANAGEMENT PLAN

Herd Numbers

The goal of Beaver Island's management plan is to maintain the herd numbers at a range of 50-70% of carrying capacity.

- Beaver Island size 56 sq miles
- Estimated Carrying Capacity=15-17 deer per sq mile (Overwinter-post hunting season) based on current state of habitat.
- 56 sq. miles x 15 deer per sq mile= 840 to 942 deer at 100% capacity
- Initial Management goal of 450-550 deer herd

Deer Density Adjustments -Deer density goals will be adjusted based a yearly assessment of Deer impact on vegetation. Future numbers will be derived with an agreement between local biologists and designated Beaver Island representatives. With the proper habitat improvements outlined in this document it is likely that the overall Carry Capacity will adjust upward in subsequent years until environmental equilibrium is established. See Monitoring / Evaluation section for detailed description of methods to be used in order to establish deer impacts on Vegetation.

Sex Structure - Beaver Island will seek to insure a pre-hunting season buck to doe ratio of no greater than 1:2. Sex structure will be improved by placing an emphasis on adequate doe harvest in conjunction with harvest of only mature bucks. The protection of Bucks will be achieved through Antler Restrictions. The adequate harvest of Does will be achieved through the reduction of the two buck harvest, and the implementation of a Winter Doe Cull. The need and extend of a winter Doe Cull will be based on deer sex ratio data and deer harvest data. See the monitoring section for information regarding sex ratio camera surveys.

Age Structure - Beaver Island will seek to improve the number of mature bucks within our herd. Goals will be achieved with the assistance of one or more of the following regulatory changes.

- 1 Buck per hunter per year
- Minimum 3 points on one side

Harvest Goals

In order to maintain the above deer density we will recommend the following initial harvest goals.

- No more than 25% of the antlered male segment should be harvested per year.
- 20-35% of the female population should be harvested annually.

These percentages should be reviewed annually by professional biologists. Yearly harvest goals will be based on the previous year harvest data and survey results.

Hunter Management

In order to reach the islands harvest goals we will seek to implement one or more of the following based on scientific study data and yearly recommendations by qualified deer management specialists.

- Buck harvest restrictions (antler spread, point minimums, or a combination)
- Total / Additional post rut doe harvest
- Early season youth doe hunt with antler exception

In realizing the importance of young hunter recruitment there will be a waiver on the above buck harvest rules for youth hunter's first deer.

Monitoring / Data Collection

The following monitoring/data collection will be used to support the ability to evaluate accomplishments toward the desired condition.

- Driving Surveys
- Mandatory Deer Checks
- Trail camera surveys

Current Habitat Composition

Beaver Island has a relatively diverse ecosystem consisting of coastal dunes and marshes, interior wetlands, large stands of cedar, and large stands of birch / maple forest. Additionally, multiple expanses of northern meadow / field conditions exist. For the purposes of deer management we will exclude all coast / shorelines areas. The areas have the highest concentration of protected flora and fauna and have the least value to deer management. As a precaution to those protected species we will exclude these areas from any game species management plan. The remaining areas are largely mature, and no plan (nor natural event such as fire) is anticipated to regenerate the forests in a controlled and sustained manner.

Desired Future Habitat

A habitat capable of sustaining the deer population throughout all seasons. This means having forage and cover available all year, including severe winter conditions. Limiting habitat factors include lack of young forest stands. Younger forests provide nutritious browse, and as they age, continue to provide cover. DNRE forest survey shows 80 + percent of all state forest is 80 to 100 years old. This equates to only 200 lbs of forage per acre, as opposed to over 2000 lbs per acre in young forest stands. Subsequent to the ratification of this document a detailed forest management plan will be recommended to the DNRE. The plan will have several elements including: preservation of true old growth stands, regeneration of maple / beach forest and mast bearing species, regeneration of young forest species such as Aspen through appropriate logging methods. Most importantly, this process will occur on a sustainable timeline designed to regenerate the forest over multiple decades, and ensuring all forest ages are adequately represented on the island. Private landowners will be encouraged to manage their lands in the same manner.

The Beaver Island Conservation Club will provide funding, education, and an advisory role in helping private land owners achieve these objectives.

Habitat Needs

Winter Forage and Cover-due to browsing pressure on the White Cedar (a preferred winter browse), the Beaver Island deer herd faces shortfalls in winter forage. However, because the White Cedar stands are mature, they do provide good thermal protection, and should be protected in most scenarios. Areas that could be improved include: 1) areas of blow downs, to increase both aesthetics and functionality of the land, increasing the area of habitat for bedding, cover and forage, by letting fresh browse grow in the areas of blow downs 2) Timber Stand Improvements of mature hardwoods to ensure different aged timber stands, which will provide forage, bedding and cover for deer and other wildlife during periods of nutritional distress 3) Food Plots that help fulfill the nutritional needs of deer which include species such as: Turnips, Rape, Grain Cereals, Mast Producers (oaks and apple trees), Corn and Sugar Beets. Additional plantings of Native grasses in open area will provide additional winter browse in non-forested areas. Please see separate Native Grass Proposal submitted by the Beaver Island Conservation Club for detailed plans to rehabilitate native grasslands.

Spring/Summer Forage and Cover-due to the maturation and succession of some forests, spring and summer forage sources have diminished. Solutions include: rehabilitating old agricultural fields and timber stand improvement(native grass plantings, prescribed burns, and food plots) This can be supplemented by both public and private Food Plots that would include species such as: clover, chicory, alfalfa, small burnett, birdsfoot trefoil, soybeans, and buckwheat.

Fall Forage and Cover-The fall food situation on Beaver Island is relatively good, however, some significant improvements can be made to ensure the herd is entering the winter stress period in a more healthy state. Threats to the herd's fall food needs include: the continued harvest of the Red Oak (major hard mast producer in the form of acorns), the White Beech disease that is infesting the island's stand (another mast producer in form of Beech Nuts), and the decline of many of the island's, domestic and wild apple trees, due to neglect (lack of pruning, etc), and natural pests and funguses. Solutions include: increase oak plantings, apple, crab apple plantings, and food plot plantings. Fall Food Plot plantings would include the same species as Winter Food Plot species, with also the inclusion of perennials such as clovers, trefoils, alfalfa, and chicory.

Fawning Cover - Currently, there is adequate fawning habitat in much of the northern half of the island, and inadequate cover in the southern portion of the island. The addition of young forests through proper management, and the restoration of Native Grasses will dramatically improve overall fawning habitat.

Monitoring / Evaluation - As Beaver Island is largely devoid of commercial agriculture crop damage surveys can not be used to monitor habitat improvements. However, a large number of land owners have extensive food plots underway and additional landowners are adding them

each year. The Beaver Island Conservation Club will provide an annual assessment of Food Plot usage. Furthermore, as young forest is regenerated we will conduct annual browse surveys of those areas to track habitat usage. Other methods will be implemented as they become available.

Other Wildlife Benefits/impact - In totality, we expect the implementation of these regulations and the associated Habitat Management to benefit the ecosystem as a whole. Mi DNRE has published data that shows the majority (80%) of Beaver Island's state forest is in the 80 to 100 year age. By encouraging a diversification of forest and ensuring an adequate amount of young successional forest we will increase the overall biodiversity of the habitat and increase the aggregate number of species who will have habitat suitable to their needs.

Game Species – Game species such as Whitetail Deer, turkey, and Ruffed Grouse will clearly benefit from young successional forest, native grass plantings, additional food plots, and regulations designed to maximize a quality hunting experience.

Non-game species – Non game species such as song birds, moles, rodents, and other small mammals, will also benefit from this program. The majority of these animals either nest or feed in transitional forest areas, which will be increased under this plan. Studies show that young successional forest carries an average of 15-25% more species diversity than mature forest. By ensuring adequate amounts of each forest stage the overall biodiversity will increase.

Endangered or threatened plants and animals. – The bulk of endangered or threatened plants and animals on Beaver Island reside on the lake shore and dunes ecosystem. Those areas will not be affected by this plan which focuses on the interior of the island, and provides for no modification of dune ecosystems. For instance, the Piping Plover and Monkeyflower, would be in no way affected by this proposal.

Communications and public relations - The media relations component of this plan has already begun. Three major news outlets serve the Beaver Island population: The Northern Islander, The Beaver Beacon, and News on the Net. A fourth interactive internet forum also serves as a medium for public discussion. Each major outlet has printed multiple articles on the concept of Quality Deer Management and has published both quantitative and qualitative assessments of its success in various locations around the state such as Leelanau County. Furthermore, a web based survey was published by the Beaver Island Wildlife Club which found over 80% of respondents were in favor of QDM style regulations for the island including 86% of respondents favoring a 3 pt on a side minimum antler restriction. See appendix A for survey results.

- 1) The Beaver Island Chamber of Commerce which represents all business interests on the island and has over 120 members represented by a 9 person board passed a resolution in favor of QDM. See appendix B for copy of Chamber Resolution.
- 2) The Island consists of two townships and one of them, Peaine, has already passed a resolution supporting science based active management of our deer herd. See appendix C for copy of resolution.

- 3) This proposal will be routed through multiple avenues to inform and gain consent from the community. The proposal will be posted on the Beaver Island Conservation Club website at www.beaverislandconservation.org. Furthermore, key opinion leaders on the island have been involved in the drafting on this proposal and will be relied up to disseminate its' contents. Lastly, the proposal will be submitted to the Township Boards for review and approval. The township boards are the duly elected governing bodies for Beaver Island.
- 4) Subsequent updates to this plan will be published by the Beaver Island Conservation Club, and will be routed through the townships in the same manner as described in paragraph 4 above.

Monitoring of Plan Activities on Area Habitat and Animals

- 1) Herd Monitoring will be conducted in two manners. First, the Beaver Island Wildlife Club has traditionally conducted "deer drives" over various routes at various times of years to gauge the increase or decrease of herd numbers and rought sex composition. Those efforts will continue/ To that, the Beaver Island Conservation Club will add a detailed annual camera survey done in conjunction with Unv of Tennessee Guidelines. See Appendix D for detailed description of Survey Guilders.
- 2) Hunter Monitoring will occur through mandatory deer check. As Beaver Island is an isolated location, with only two methods (air and boat) of removing a harvested animal from the island, it will be possible to have mandatory deer check. Coordination is under way to establish location and times. Information gathered will include, age, sex, weight, age, antler size & circumference, location, & general health status. Additionally, we will provide write in and email in options for hunter to allow for easier / more data collection.
- 3) Alternative Species Monitoring will be conducted to establish the effect of this program on other game and non-game species such as Grouse, Woodcock, Rabbit, etc.. This will be accomplished through hunter interviews at the mandatory deer check, survey of BICC members, and collection of anecdotal information for both hunters and non-hunters on the island.
- 4) Habitat Monitoring will be conducted to establish the effects of the deer Herd on Beaver Island's flora. This will be accomplished from anecdotal hunter information regarding browse lines, food plot usage, and overall consumption of forest resources.