



MICHIGAN DEPARTMENT OF NATURAL RESOURCES

INTEROFFICE COMMUNICATION

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TO: Field Staff of Wildlife and Forest Resources Divisions

FROM: Russ Mason, Chief, Wildlife Division
Bill O'Neill, Chief, Forest Resources Division

SUBJECT: Deer Winter Range Guidelines

Over the past two years, Wildlife and Forest Resource Divisions have undergone significant change structurally. As important, we have explicitly recognized what has always been implicitly true: *both divisions share the common goal of managing for the sustainable and wise use of Michigan's forest resources - particularly timber, minerals, and wildlife.* Because of this common goal and because natural resources are key to the economic restoration of our state, we have, and will continue to, work hand-in-glove to optimize every joint management opportunity. We both believe in and will continue to advocate for solutions that promote wise use, resource protection, recreational use and local economies.

To this end, our two management teams produced a joint vision statement early last spring. While the statement was distributed at the time, we have attached it to this e-mail as well. Please take a few moments to read it. More recently, through the good work of foresters, wildlife biologists, and members of our management teams, Forest Resources and Wildlife Divisions have produced guidelines for Deer Winter Range. These guidelines are attached and we ask that you read them and incorporate the guidance into your everyday management.

Trust that we (Russ, Bill, Scott, and Doug) will take every opportunity to blur the lines between our divisions. No doubt, this deliberate and explicitly cooperative approach might represent significant change to some. Yet, consider, that it is the only logical path to achieve the multiple goals that the Department and the people of Michigan expect.

Deer Winter Range Guidelines

Project Background

Deer Winter Range (DWR) comprises landscapes in which forested stands are present in sufficient quantity, quality and spatial arrangement to provide food and shelter to mitigate the effects of winter weather conditions and are occupied by deer in winter. This guidance provides field biologists and foresters with a set of specific criteria in which to manage these areas for sustainable use into the future.

The project was initiated when the Wildlife Division Special Projects Biologist was charged with revising and updating the historical deeryard maps and the Deer Range Improvement Program (DRIP) Manual. The effort involved Wildlife Division (WD), Forest Resources Division (FRD), to a limited degree other governmental agencies (USFWS, USFS) and some industry. Mapping will be reevaluated every 10 years as part of the compartment review process by biologists and foresters, and guidelines updated as appropriate.

DWR Project Deliverables/Metrics

- Creation of an updated deer winter range boundary layer
 - Polygon mapping of DWCs (Deer Wintering Complexes) and conditional winter range with biologists and foresters.
 - Modeled shelter to identify areas that might have been missed in polygon mapping exercise.
 - Verification/update of DWC polygons and conditional/obligate line which were initially developed using 2013 observations, historic data and modeled shelter.
 - Development of management guidelines that align with the mapping efforts.

DWR Guideline Goals

- Maintain or improve the capacity of the landscape to support wintering deer with a specific emphasis on functional shelter, particularly hemlock and cedar, while maintaining sustainability of the forest resource.
- Conformance with Department of Natural Resources (DNR) policy #32.22-07 (specifically sections 2 and 4) and DNR memorandum "Co-Management of State Forest Lands" April 22, 2013 by Mason and O'Neill.

DWR Definitions

The spatial distribution of Michigan deer winter range is determined by winter severity and is reflected in the primary migratory history of the deer in an area. Statewide, deer fall into one of three categories:

- Obligatory migrators - deer are obligated to vacate their summer range and migrate to suitable winter shelter. This occurs in the Northern Upper Peninsula (NUP) where winters are consistently severe.
- Conditional migrators - deer migrate smaller distances and/or migrate infrequently. This occurs primarily in the Southern Upper Peninsula (SUP) and Northern Lower Peninsula (NLP) where the winters are typically mild but severe winters also occur in some years.
- Resident or non-migratory - deer that stay within their summer range during the winter. This can occur anywhere in the state but the majority of deer in the SLP fall into this category.

There are four types of DWR and a key component within these DWRs is what type of functional shelter and food is provided.

- Obligate winter range (20.5% of the UP state forest acres) - landscapes where obligate migrating deer concentrate in winter. These are called Deer Wintering Complexes or DWC.
- Conditional winter range (11% of the UP state forest acres) - landscapes of the state where the majority of deer are considered conditional migrators.
- Resident winter range - landscapes in the state where the majority of the deer are considered non-migratory.
- Non winter range (68.5% of the UP state forest acres) - landscape that obligate migratory deer vacate in the winter.

DWR Guiding Principles

A key component of a successful deer wintering complex (DWC) is functional shelter.

Functional shelter - Functional winter shelter is composed primarily of cedar and hemlock and secondarily white spruce, balsam fir, white pine and occasionally red pine trees growing in dense stands, patches or clumps of sufficient size and density to intercept snow and reduce exposure to wind, typically with greater than 75% conifer canopy closure. Cedar and hemlock are disproportionately important, as these types typically support more deer and are occupied during the most severe winters. Deer wintering in secondary shelter will move to primarily cedar and hemlock as winter weather severity increases. Functional shelter may be a subset within a stand.

The following principles should be kept in mind when developing management recommendations for compartments/stands, particularly with historical DWCs.

- Ensure cedar remains well-distributed on the landscape, particularly on lands within the DWC.
- Functional shelter is the priority on obligate winter range.
- Food and shelter are equally important on conditional winter range.
- In obligate and conditional range, cedar and hemlock stands may be harvested only when there is a high probability of successful regeneration and recruitment. In non-winter range or non-resident range, harvesting of cedar and hemlock is allowable provided there is not conversion of type.
- Deer use of shelter varies from year to year; data collection and evaluation will occur in years per the recommendation section.
- In general, obligate winter range, conditional winter range and non-winter range areas have a decreasing risk for cedar and hemlock regeneration and recruitment.
- The individual DWC is the unit used for evaluating forest condition and making related management recommendations. Management directions are determined collaboratively by WD and FRD.
- Monitor and evaluate the impact of the DWR management guidelines and silvicultural techniques used, share information with staff for future use and reference, and implement improvements as appropriate.
- Scale, landscape compositions, and proximity to other stands must also be considered when developing recommendations. For example, harvest of cedar as a component of another cover type located within a large cedar complex might be considered; however, timber sales in close proximity to stands are predisposed to browsing.

- Pilot projects (field trials) to experiment with new management techniques and to verify regeneration and recruitment issues may occur and successful past treatment plans may continue as determined collaboratively by WD and FRD.
- In DWCs where there is mostly state ownership; the vision is to develop an overall plan for the complex that will guide compartment review decisions.

Obligate Winter Range (DWC areas of the UP)

- Unless as otherwise agreed to between the Divisions, no harvest of cedar or hemlock except as necessary for the harvest of other species. Cedar and hemlock can be cut when there is a high probability of regeneration and recruitment.
- Management will aim to achieve a minimum of 50% functional shelter in the complex.
- Enhance availability and accessibility to winter browse by managing for mixed hardwood-conifer stands on a sustainable basis.
- Unless otherwise agreed to between the Divisions, harvest will occur between December 1 and March 31 to enhance deer foraging opportunities.
- In DWCs where the priority is stand regeneration or increasing the conifer component, summer harvesting may be considered. Harvesting during the snow free period has the potential to optimize conifer regeneration using silvicultural practices (scarification, shelterwood, etc.) in conifer mixed stands.
- Unless otherwise agreed to between the Divisions, the upper limit of the Biomass Guidelines will apply.

Conditional Winter Range (southern UP)

- No harvest of hemlock trees except as incidental for limited operational purposes if agreed upon by WD and FRD. (Pilot projects/Field trials may be considered.)
- Harvest cedar from forest stands based on cedar canopy species % cover from IFMAP stage 1 attributes.
 - In areas of demonstrated cedar regeneration/recruitment, manage to provide future functional shelter for deer.
 - In areas where it has been demonstrated that cedar is not being regenerated and recruited:
 - 2-15% - harvests of lowland cedar allowed but retain patches where cedar represents functional shelter.
 - 16-45% - harvest the stand but leave cedar, except for that cedar that must be cut for operational purposes (defined as the minimum take necessary to harvest the sale). Avoid harvesting patches where cedar is heavy (greater than 50% cedar canopy cover). Cedar in mixed stands or in portions of a mixed stand may be considered for harvest by mutual agreement between the Divisions in order to allow and encourage the growth of more productive species and/or improved functional shelter.
 - 46-100% - no harvest of any species unless by mutual agreement between the Divisions.

Conditional Winter Range (NLP)

- Manage cedar and hemlock with the main objectives of regenerating the resource and providing future functional shelter for deer through the normal compartment review process.
- Promote hemlock across the region on appropriate sites using silviculture to increase in-stand hemlock component because of the low occurrence rate of the type on the landscape.

Non-Winter Range

Landscapes that obligate migratory deer vacate in winter. Some areas may have been historically occupied winter range. The following criteria are outlined to explore treating cedar and hemlock stands using an adaptive management approach.

- Manage cedar and hemlock where there is a high probability of regeneration; maintaining and producing functional shelter is important to consider for deer.
- Manage to improve food and shelter condition for migrating deer.
- Promote hemlock including plantings on appropriate Kotar/basal area sites.
- Where appropriate, use silviculture to increase in-stand hemlock component.

Recommendations:

The following materials are suggestions for future endeavors as related to deer winter ranges and deer wintering complexes and their sustainable management.

1. Continuing tasks for implementation and adaptive management.
 - Polygon mapping of DWCs which should be reevaluated every 10 years as part of the compartment review process by biologists and foresters.
 - Deer observation reporting should be part of the annual inventory process.
 - Review deer winter range guidelines every five or ten years or as needed.
2. Add wintering deer observation information as an Opportunistic Field Survey (OFS) record as appropriate.
3. Review and revise boundaries, as appropriate, as part of the compartment review process (discussions during normal pre-review meetings, etc. not full-scale revisions every single year).
4. Verification priorities for the future.
 - Areas removed during the current process;
 - Observations outside of polygons but not included in boundary updates;
 - Conditional-Obligate line, specifically Iron County;
 - Obligate polygons in Iron and Dickinson Counties;
 - Assess impact of guidelines on timber resources and forest industry; and
 - Assess impact of guidelines on deer hunting opportunities
5. Monitor and adapt to ensure we meet project goals and objectives.

Deer Wintering Complex Guidelines Appendix

Mapping guidance for field staff:

When delineating stand boundaries ensure stand mapping rules are adhered to. When developing treatment proposals, stand examiners should refine boundaries to portray the most accurate representation of the area expected to be harvested.

Using on the ground and imagery sources (BING, 1998 DOQQ, NAIP CIR, dominate beg, etc.) may make this task relatively straightforward and easy. Investing time in this more detailed treatment proposal mapping will help convey proposals more accurately for both internal co-manager discussions and communications with our public, as well as aid in developing our work plans and budgets.