

UP Habitat Workgroup
Winter Range Prioritization Subcommittee
Winter Range Conservation Scoring System
8/10/15

Background: The UP habitat workgroup formed a subcommittee on 6/27/15 to develop a process for evaluating and recommending future winter deer range purchases to the Michigan DNR. The first meeting occurred on 7/20/15. Below is a summary of the recommendations from that first meeting:

- A simple system for prioritizing DWC's (1-57) does not address unique differences between parcels considered for conservation action, nor does it address conditional range opportunities. A categorical ranking system is more appropriate with 3 DWC categories plus a category for conditional range.
- In addition to a categorical winter range rank, a numerical scoring process was recommended as the most appropriate method to incorporate the landscape scale winter range ranking along with other pertinent parcel level scoring information.
- To build the ranking categories, it was decided to start the first workgroup DWC prioritization effort as this represents both risk to the shelter resources and the amount of deer supported. We did agree to alter the existing prioritization procedure by replacing the % private ownership variable with the % of high value cedar/hemlock 40's in private ownership.
- This process has value beyond just state land purchases and could be used for other land acquisitions, easements or exchanges by the state, federal or other entities. We agreed to create a process that will benefit multiple agencies and multiple conservation actions where the goal is to conserve deer winter range.

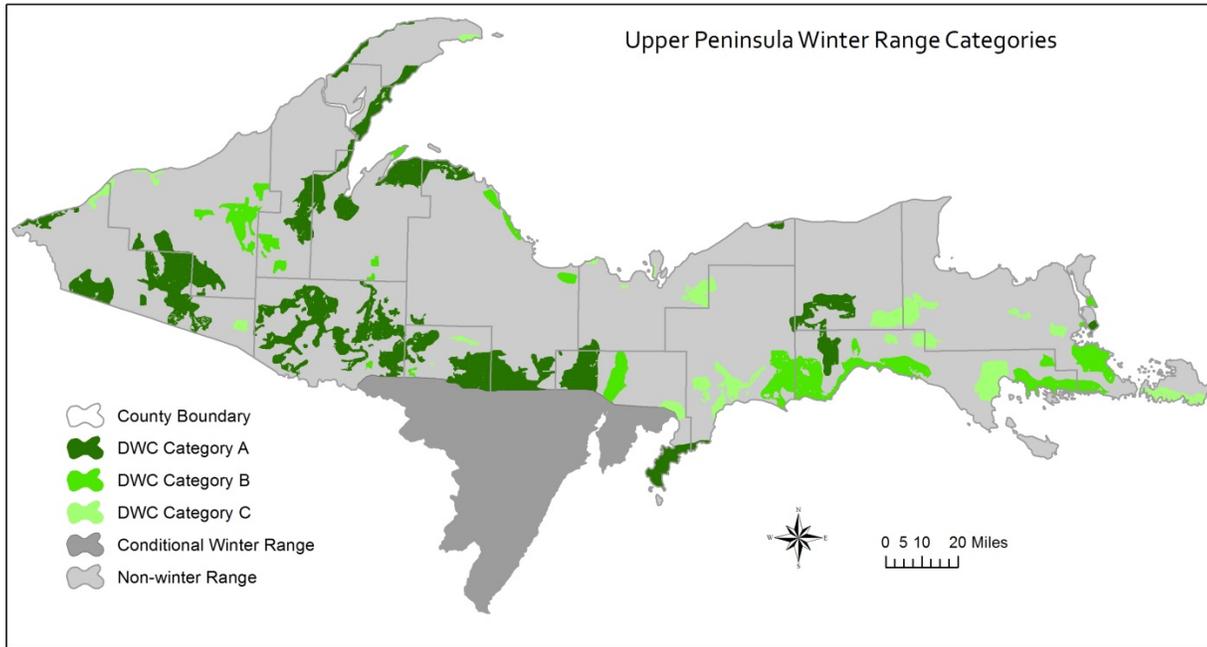
Goal: Create a land parcel scoring process that can be used by public agencies and conservation organizations to compare opportunities to conserve UP deer winter range for conservation actions such as purchases, easements and trades.

Approach:

- Used the Northern Lower Peninsula Deer Private Land Assistance Network scoring process received from Ashley and Bill's Winter Habitat Conservation Initiative Parcel Scoring as examples/starting points. Since we are trying to make a generic deer winter range scoring process I focused on criteria that just scored on the risk/value of winter range being compared. **This does not include criteria that are program specific and likely have different weights depending on the program including costs, access and logistics. The thought here is that specific programs can then incorporate the relative winter range scoring into their scoring programs that includes these other values.**
- Built the scoring system comprising two scales of information: the UP and Parcel scale
 - **UP scale** – the UP winter range landscape, ie the categorical rank. This represents the relative risk and importance to winter deer across the UP deer winter range landscape.
 - This was created by taking the existing UP habitat workgroup draft DWC ranking system and updating it with new information and converting to 3 categories. The new ranked DWC layer is based on:
 - **Risk to shelter** – using two variables below:
 - % of complex in shelter – these attempts to demonstrate how much shelter the complex currently has with the assumption that the lower shelter % the

- higher risk the DWC is to removal of the remaining shelter. Lowest % = rank 1 and Highest %=57
- % of higher value cedar and hemlock shelter in private ownership – this represents the thought that high value existing shelter in private ownership is at higher risk of removal than in public ownership. Highest % in private ownership = rank 1 and lowest % = 57.
 - **Relative number of deer using the complex** – one variable
 - Based on the deer pellet survey counts multiplied by the acreage of the complex. The DWC's were then ranked in descending order where highest relative deer numbers = rank 1 and the lowest relative deer numbers = 57
 - The 3 variables were combined into a new 1-57 ranked DWC's were then converted to a simpler categorical ranking:
 - Category A (1-19)
 - Category B (20-38)
 - Category C (39-57)
 - The rest of the winter range (non-winter range and conditional range is also displayed on the UP scale map and each category is given a rank in the scoring criteria. The concept being a parcels location in winter range gives its landscape ranking as the first scoring criteria.
- **Parcel scale** – this is intended to represent the relative risk and importance of winter range especially shelter within a parcel being considered. These criteria include:
- Size of parcel – the rationale here is bigger is better
 - Composition of winter shelter in parcel – functional shelter is typically a limiting factor and gets higher score
 - Connectivity to existing conserved winter range – parcels that are connected to existing low risk winter range (public land) = higher score
 - Risk to shelter without conservation action – how at risk is the shelter if it is not conserved? Higher risk = higher score, essentially ownership based

The UP scale winter ranking and the 4 parcel scale criteria are then combined into one scoring process.



Summary table of scoring criteria:

Scoring Criteria	Maximum Score
UP Winter Range Category (based on map) of the parcel	20
Parcel size (acres)	5
Parcel's winter shelter composition	5
Parcel's connectivity to low risk winter range	5
Parcel's risk to shelter without conservation action	5
Total Maximum Score	40

Details of each of the scoring criteria and their values:

UP Winter Range Category (based on map) of the parcel	
Parcel located in category A DWC	20
Parcel located in category B DWC	15
Parcel located in category C DWC	10
Parcel located in conditional range < 12 miles of a DWC Rationale: In severe winters, deer occupying DWC's adjacent to conditional range tend to migrate further south seeking suitable shelter conditions. 12 miles represents UP average migration distance.	7
Parcel located in conditional range > 12 miles of a priority 1 DWC	5
Parcel located in non-winter range but in of area of historically occupied DWC	3
Parcel not located in winter range or historically occupied winter range	0

Parcel size (acres)	
Greater than 1,000 acres	5
500- 1,000 acres	4
100-499 acres	3
40-99 acres	2
<40 acres	1

Parcel's winter shelter composition	
> 40% of the parcel consists of combinations of cedar, hemlock, white pine, white spruce and/or balsam fir contributing to winter shelter	5
>25 and < 40% of the parcel consists of combinations of cedar, hemlock, white pine, white spruce and/or balsam fir contributing to winter shelter	4
>10 and <25% of the parcel consists of combinations of cedar, hemlock, white pine, white spruce and/or balsam fir contributing to winter shelter	3
1-10% of the parcel consists of combinations of cedar, hemlock, white pine, white spruce and/or balsam fir contributing to winter shelter	2
<1% of the parcel consists of combinations of cedar, hemlock, white pine, white spruce and/or balsam fir contributing to winter shelter	1

Parcel's connectivity to low risk winter range	
Parcel has one or more boundaries adjacent to other public land in winter range *	5
Parcel boundaries < 2 miles of public land in winter range *	3
Parcel boundaries > 2 miles of public land in winter range *	1

*Public land = state, federal or lands with permanent conservation easements

Parcel's risk to shelter without conservation action	
Known high probability of negative alteration of winter shelter regardless of current ownership of parcel	5
Unknown risk in private ownership	3
Low risk regardless of current ownership	1

Winter Range Conservation Action Parcel Attribute Log/Scoring Form

Parcel Name: _____ County: _____ Township: _____

Range: _____ Section(s): _____ Acres: _____

Reviewing Personnel: _____ Review Date: ___/___/20___

Winter Range Scoring Criteria (not necessarily in order of importance):

1. What is the UP Winter Range Category? (Based on Map, Choose one)

- a. DWC Category A 20
- b. DWC Category B 15
- c. DWC Category C 10
- d. Conditional Range < 12 miles from DWC 7
- e. Conditional Range > 12 miles from DWC 5
- f. Historical DWC currently unoccupied 3
- g. Not in winter range 0

2. What is the size of the parcel? (Choose only one)

- a. Greater than 1,000 acres 5
- b. 500- 1,000 acres 4
- c. 100-499 acres 3
- d. 40-99 acres 2
- e. <40 acres 1

3. Parcel's winter shelter composition? (Choose only one)

- a. > 40% of the parcel consists shelter species contributing to winter shelter 5
- b. >25 and < 40% of the parcel consists of shelter species 4
- c. >10 and <25% of the parcel consists of shelter species 3
- d. 1-10% of the parcel consists of shelter species 2
- e. <1% of the parcel consists of shelter species 1

4. Parcel's connectivity to low risk winter range? (Choose only one)

- a. Parcel has one or more boundaries adjacent to other public land in winter range 5
- b. Parcel boundaries < 2 miles of public land in winter range 3
- c. Parcel boundaries > 2 miles of public land in winter range 1

5. Parcel's risk to shelter without conservation action? (Choose only one)

- a. Known high probability of negative alteration of winter shelter regardless of current ownership of parcel 5
- b. Unknown risk in private ownership 3
- c. Low risk regardless of current ownership 1

Sum of Criteria _____