

UPHW/DWC Meeting

August 30, 2016

River Rock Lanes and Banquette Center
Ishpeming, Michigan

Attendees: Jim Hammill, Tim Baker, John Matonich, J.R. Richardson, Tony Demboski, Eric Stier, Bernie Hubbard, Steve Carson, Matt Watkeys, George Lindquist, Jeff Joseph, Gary Willis, Terry Minzey, Warren Suchovsky, Gary Roloff, Jim VanderPloeg, Jordan Janowiak, Lowell Larson, Dave Johnson, Bob Doepker, and Christopher Hoving

Introductions and opening comments

Mr. Lindquist made a suggestion on the recommended plan option of no cutting of the thermal cover types. Would it be beneficial to go into some non-commercially feasible areas and work with sportsmen groups to remove the non-productive maple/aspen trees in hemlock areas? We would work with the local biologist to select certain trees to provide food on the ground and open up the canopy in February or March.

Mr. Minzey cautioned that the removal of trees might disrupt the canopy. The East UP Citizen's Advisory Council recommended Winter Severity Triggers and if met, we would do cuttings right away. It is a good concept, but hard to do. In our Compartment Reviews we could say we would do this if the trigger has been met. Commercial loggers would not do individual tree cutting. We would need to work with Human Resources regarding volunteers, being careful not to take jobs away from classified positions. There is potential.

Mr. Hubbard advised that in the past, the DNR did volunteer work such as this. Volunteers were paid and trees removed. This was before pre-certification of the State forest and the Compartment Review process.

Mr. Baker said that the Forest Service used do to that in the past as well.

Mr. Doepker suggested that this concept be 'hobby projects' on private landownership and not on State land.

Mr. Richardson said to not let the rules get in the way of doing the right thing. Clubs have the money to work on projects like this. Select a few areas as pilot projects and track the success.

Mr. Lindquist said the Marquette White Tails could adopt a yard and cut a few trees every winter. Either Hinge cut or girdle. We could involve the clubs with other projects than just supplemental feeding.

Mr. Suchovsky said it sounds good, but considering it would only feed a few deer. What would we do several years down the road if we have cut all the available trees earlier?

Mr. Carson said there could be a section in the overarching plan to address non-commercial harvests. This is our opportunity to create some guidance.

Mr. Willis said that the NRCS practice is to fence in areas to promote regeneration.

Mr. Hammill said we should get a rough plan on how to approach this issue and let the Workgroup review and comment.

Mr. Demboski noted that the UPSA is well received and having more input at the Compartment Reviews. We also need to get in on the initial stages of planning of the featured species on the landscape.

Mr. Minzey said the wildlife biologists are reviewing all lands in DWC and purchased lands in the Compartment Review entry year. The biologists follow P/R guidelines and Assent Legislation language to create a database of featured species decisions to become more transparent.

[Presentation by Chris Hoving:](#)

Climate Change and Deer Winter Range Considerations

Importance-

In addition to endangered species, third world countries, and polar bears, game species are affected by small changes. Changes, however small have big repercussions for Agencies.

Preliminaries – Climate Change 101

Svante Arrhenius – Nobel Prize winner and father of ‘Modern Chemistry’ had an equation on how much the temperature would change based on the amount of carbon dioxide. Carbon dioxide is up by 40% based on pre-industrial numbers and trending to continue to increase. 1950- 1970 showed carbon dioxide effects in temperature anomalies increased as well.

Michigan predictions –

Hotter, more winter/spring precipitation, snow more/less, drier late summer soils, more cloudy days, and the most probable: greater numbers of larger floods with a 56% increase of damaging precipitation.

Summer changes in season precipitation had no change in most areas; it was seen more in the West UP. It is also predicted to have 1” more snow every year.

Recent winters –

Global levels of land/ocean anomaly temperatures have increased. In Michigan, snow has increased since 1981. Lake Superior is the second fastest warming lake in the world. Lake effect snow is generated from lack of lake ice and wind direction combined with freezing temperatures – this is an increasing trend. This affects habitat but a lot of this trend affects the deer population.

Climate Change impacts to deer –

Three goals of deer: don’t freeze, get eaten, or starve.

DWC offers protection from freezing, protections from predators, and offers low quality food.

DWR and climate change –

Obligate must migrate when snow depth is over 10” for 90 days – DWR is critical

Conditional – during severe winter they will use DWR

The line is shifting from obligate/conditional DWR as our winters are overwhelmingly snowier and longer.

Impact to forests –

Three teams using different methods to evaluate climate changes to the forests. Where do they agree/disagree?

One model, the Tree Atlas, evaluates how the warmest and coolest models affect spruce/fir and aspen/birch types.

Another model, Landis II incorporates forestry management. Both warm and cool models show a decrease in the conifer and aspen-birch components.

The third model PNET-CN showing how plants process carbon dioxide. Spruce/fir react less to carbon dioxide and aspen/birch react better.

All agree that the conifers on the landscape are vulnerable. Two of the three agree that aspen and birch are vulnerable.

Next steps –

Risk management context

We are certain there will be more flooding. Birds and mammals are shifting north. There is uncertainty in snowfall and how the forest will react to climate change. There is a degree of uncertainty, but what can we focus on to control? Adaptive management is the best route. The DNR is trying to pilot scenario planning – meeting with UP biologists to discuss what drives the system, describe the features, and plan accordingly.

The trajectory of climate changes have negative impacts to deer, it will either plateau or become better.

Mr. Hammill wanted to ensure decisions should be based on the best science decisions. Will the department utilize this and make management decisions – i.e., the moose population is not doing well so we have to do something now. However, there are local warmings and this population is on the southern end of their range. Again, Isle Royale we have to intervene now because the lake will not freeze over, yet the next two years – the lake froze.

Mr. Hoving said that climate change models are mid-century predictions. We need to stop managing now for aspen, yet they are doing well now – why not manage for climate change? The models predict changes out 100 – 150 years out, so it is wise to manage the aspen now to create healthy forests.

On the other hand, a person experienced one cold winter, so climate change is not occurring. We need to address each scenario on its own accord. One issue regards dams and flooding. In the past 30 years flooding has increase and predicted to increase. Do we over react or under react – based on our personal biases? Climate change predictions say we are not going to have as much snow and another model shows we are going to see an increase in the next 40 years – we should then plan for the higher snowfall scenario.

Mr. Matonich – agreed that the UP is experiencing increased snow. The snow fall pattern is different than in the past. We are seeing amounts greater than 100” at the end of November. Winters are ending sooner. Greater snow amounts over a shorter period of time.

With the changes in growing seasons, we may see some areas converting to agricultural lands and eliminate the food source for deer.

Mr. Willis said that it is suggested that third world pollution is increasing the carbon dioxide, depleting the ozone layer, and decreasing the magnetosphere. These have an effect on warming, creating 100 year flooding, and other issues.

Mr. Richardson pointed out that we just experienced a short drought period causing difficulties in Northern hardwood regeneration with the tops dying back. With the recent rains, the soils are moister and we are seeing better regeneration occurring. During this short period was deer browse the cause? This illustrates we need to hold onto solid science to drive the decisions. These climate changes are good, but unpredictable models. A need based on projection, rather than good science principles.

Mr. Hoving said the climate science context versus specific models is wide ranging. With the uncertainty, we should look outside the box as what is likely to happen, try different approaches, see what works. It seems people bring their own biases when it comes to climate science. Adaptive management is viable to consider a wider range of outcomes.

Mr. Minzey said the Moose delisting petition is based on climate change. The effects aren't seen as much in Michigan as it is in the Northwest. There is apprehension on making timber management recommendations within the DNR based on climate change. Jack pine was planted for the last 60 years. Although some climate change models say it won't do so well, we will still plant Jack pine because the model is so uncertain. There is, however, a trend to mix Burr oak in some of the oak under plantings.

Mr. Charles said that climate science shows that hemlock will decrease with climate change. Overall, in a 50 year period, temperatures have increased. A temperature increase of 0.4 degrees affects the grasses and sedges growing under the hemlock. These grasses and sedges provide the correct acidity to the soil in order for hemlock to grow. When we lose these, it will strongly impact long-term sustainability of hemlock. We need to keep a diversity of species in the area, hedging our bets against the models.

Presentation by Dr. Gary Roloff:

Silvicultural Approaches for Promoting Diversity and Sustainability of Michigan Northern Hardwoods

Selection silviculture –

Hardwood stands near DWC – not all problems are due to deer in terms of Sugar maple regeneration and tree diversity. Diseases, insects, seed availability, historic management practices, and climate change all impact Northern hardwood regeneration.

The Arbogast method – we know what the forest inventory is now and with selective harvesting, we know what it will look like in the future. Past management targeted 24" as a guideline. We were recruiting trees to even out the young age classes and not regenerating types of tree species in the stands.

We want to try larger gaps, 347 gaps in 59 stands. Currently, there are no Sugar maple saplings in 50% of these stands, the smaller gaps resulted in domination of Ironwood and some showed no regeneration. We want to try to increase diversity and include other species.

Causes of low overall diversity –

Too little variation in harvest gap sizes. Try to expand the sizes and increase the seed source, seed substrates and the climate in these larger gaps.

The standard way of doing business is selective harvesting. The current gaps are about 0.25 acres leaving 6-8 seed trees. Shelterwood cuts have about 40% of canopy and about 60% in about 10 years.

We have a 10 year project with the DNR and are going to compare the four overstory systems, evaluate environmental gradients, control competing vegetation, and evaluate how deer respond to treatments.

How deer respond to physical barriers to encourage regeneration also the effects on other wildlife species.

Overstory treatments – single tree, shelterwood, seed tree, and large group or patch cuts

Site class using Kotar – low, medium, and high

Deer density – low/high

Understory treatments – tree tops used as a physical barrier. Leave tops 8” or less to add volume on the landscape. Deer don’t like being ‘penned in’ and this might work in the UP as there are wolves in the Northern hardwoods. We also selective cut and use scarification and herbicide. If left on their own, Beech and Ironwood will always dominate the regeneration in the stand.

We are conducting Hardwood regeneration research – 11 sites in East UP working with Hancock and Weyerhaeuser providing 11 sites in the West UP.

Lessons learned –

Scale to managed stand levels

Seed –

Diverse seed sources in stands seem to be rare. Deer like both Sugar maple and Basswood.

Yellow birch, Ash, and Red oak have a seed deficit.

A seed trap study was done on 20 sites. How do trees put seed in to the area – trees need to be close to the point where you want regeneration to occur – the “sweet spot”. It was shown light seed, Yellow birch targets further out and heavier seed, oak seed closer. Bigger trees hopefully produce more seed.

Substrate –

There is a decline in coarse woody debris in the stands. These provide germination sites for some species. Winter logging decreases the severity of soil disturbance and scarification. Single tree cuts do not open the canopy enough.

Gap sizes –

Increase the gap sizes to larger gaps at 0.5 acres openings. Bigger openings let in more light which helps establish Hemlock, Paper and Yellow birch regeneration. Depending on the species, it is shown that there is success in the regeneration 1, 2, and 3 years after cutting larger gaps.

Herbivory –

Deer density 30 per sq. mile has a larger impact than 17 deer per sq. mile.

What is the tipping point of deer density and tree diversity in a hardwood production?

What are the effects of tree completion with deer browse? Open areas have more browse. If the seedling gets above 6 foot – browse by deer is not much of a problem. Larger gaps accelerate seedling growth.

Generalizations –

Browse acts as a shield against deer. Larger gaps protect fast growing seedlings from deer.

Shade tolerance is not protection from competing vegetation – grow seedlings the fastest way to 6 feet.

Questions – Please contact mwalters@msu.edu or groloff@msu.edu

Mr. Hammill suggested the east/west boundaries on the map be moved to be more ecologically based. Kotar was used to determine the lines the PowerPoint is based on.

Mr. Watkeys said it takes years to get a sampling size for 6 foot seedlings. The Conservation District used smaller gaps to get a uniform size on trees.

Mr. Stier said in their 1 acre landings, there is dramatic regeneration. Near the edges it is less thick and a drop off in height, the seedlings are training each other.

Large gaps self-thin.

Lack of diversity discriminates toward hard maple, no Yellow birch or soft maple we put ourselves in this situation.

Mr. Suchovsky discussed the use and importance of slash; we want it to look nice by flattening the area or chipping the tops. Regeneration occurs after large fires. **Mr. Roloff** said we have not helped oak regeneration; we should go back and try to understand what the stands originated from.

DWC Updates

46 total DWC plans with 32 completed and 4 in draft. 10 little ones some are questionable as to whether they even hold deer.

A successful meeting was held July 20th for Houghton and Keweenaw County landowners. Meetings will be held late October in the far eastern UP with other east UP meetings planned.

Mr. Watkeys would be able to help with meetings in the central UP.

Mr. Minzey said one of Chief Mason's metrics was to have 20% of private landowners in a DWC to have a management plan. Currently, only 2% of private landowners Statewide have a plan.

Mr. Matonich said the benefit of these meetings is education to inform people of what is available and how to obtain more information to start doing things on the land.

Mr. Carson said a numbers analysis could be done to see what percentage of the landowners are in a DWC and structure meetings near those areas.

DWC Plan Status

Continue land owner meetings

Complete the winter range prioritizing process

Complete the UP DWR Document including recommendations for conditional range and non-winter range, risks – such as forest health and climate change. This is a catch-all over arching document.

Assist in landowner planning efforts

2017 Objectives

Verify and investigate status of remaining 10 DWC with plans

Work with the DNR to develop an interactive winter range map with links to plan documents.

This could be a grant or continuing education credit project. Would there be a possibility of a click or visitor counter on the map or page?

Continue to help landowners and professionals in planning efforts

Map/report landowner participation in winter range planning and implementation efforts

Assist in developing a Cedar/Hemlock silvicultural, planting and monitoring grants.

Look into browse survey monitoring protocol, simplify across the landscape and consult with Mr. Roloff.

Other species/habitat recommendations; early successional – woodcock and grouse, Golden-wing warbler.

Future of the Habitat Workgroup

Focus on management of aspen resources for wildlife and the timber industry. Aspen is a critical component for over 70 species in Michigan. Clear-cuts, how to harvest and what size and configuration of the block we should use to benefit Ruffed grouse, White-tailed deer, Woodcock, neo-tropical migrants, and to bridge deer winter and summer ranges.

We could tweak the habitat models in existence and put it out there as a BMP and bring others keenly interested in aspen to the table. The east UP has Large-toothed aspen and the west has Quaking aspen. Management of aspen on private landowner properties is not done well, poor quality stands are coming back. Aspen is also economically important. We can move into a new mission statement.

Mr. Suchovsky asked if anyone would like to help or have input on a 50 acre parcel that they are trying out new things to encourage Golden-wing warbler habitat. Offer ideas or implementation.

Mr. Minzey said these aspen management ideas compliment efforts that the State and Forest Service are already working on. GEMS highlight and are open lands providing a hunting value.

Mr. Lindquist said we could showcase a DWC with what we have done. It seems that SGA downstate are funded more than projects in the UP.

Mr. Matonich said we are better at promoting the use of SGA. People want to know where the money is going, what is being done with it, and how is it helping me. Depending on what areas have more use, is where the bigger dollars are going, waterfalls in particular. Money is used to maintain areas for a larger population group that impacts a smaller area.

Mr. Hammill said State land is a small percentage of ownership in DWC areas.

Mr. Minzey informed the group that a database is being created to show what is occurring on hunter purchased and DWC State land. It will also show the accomplishments, recommendations, wildlife featured species, prescriptions, winter cuttings. The database will show that we are maintaining shelter.

Mr. Charles said the Ottawa NF is working with the DNR and Wild Turkey Federation on 30K acres of aspen that needs treatment throughout the landscape. The Good Neighbor Authority (GNA) has about 5K acres of timber sales in the Lake Gogebic DWC.

Mr. Baker said in the west zone of the Hiawatha NF a Red pine/aspen assessment is occurring with proposed action in 6 months. Public comment is currently open. We have opportunities to work with the DNR on the eastern border through the GNA. Keep an eye on the FS website for further information.

Mr. Suchovsky asked if it would be wise to develop a sustainable forestry training program for loggers harvesting private lands as it applies to vegetative and deer winter habitat management. This could satisfy the required SFE/SFI credits.

Mr. Minzey asked would the workgroup's next step of evolution be toward aspen BMP. If so, we could suggest Al Stewart and Dave Lukkonen might help in this process. Aspen BMP would also spill down into the NLP as well.

Mr. Stier's only reservation is the scope getting too big with too many cooks in the kitchen. We would have to revise the mission statement to include Aspen and Ruffed grouse management and have the NRC approve and weigh in on the changes. If we move toward Aspen BMP, we should invite Al Stewart and Dave Lukkonen. We definitely want to have the Hiawatha NF represented as well.

It was asked what is the status of the large Cedar areas with MTU? MTU is ready and we will have to coordinate with them to get things started.

Next meeting – Thursday October 27th at River Rock Lanes and Banquet Center