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**DIVISION OF FORESTRY**  
***STRATEGIC DIRECTION, VERSION 1***

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***WORKING DRAFT***

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**DEPARTMENT OF NATURAL RESOURCES**

September 3, 2010

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## Introduction

### ***Division of Forestry's Strategic Direction***

*The Strategic Direction states what the DNR's Division of Forestry's niche, role, and actions will be to address major issues and priority topics over the next 5 years.*

The DNR's Division of Forestry (Division) has reviewed each strategy and possible action in the Statewide Forest Strategy and assessed which actions the Division could play a role in and what the Division's niche should be. In addition, the Division received feedback from several partners in response to our request at the time we distributed the completed Statewide Forest Strategy.

This first draft of the Division of Forestry's Strategic Direction is a list of possible actions the Division could take to address the goals and strategies in the Statewide Forest Strategy. This first draft of the Division of Forestry's Strategic Direction does not state exactly what the Division will do, and at what level, over the next five years; it is not a statement of commitment. It does, however, describe where we think the Division has a role.

Partner and public input on this initial draft will help inform the Division's decisions about how to best invest resources to protect and sustainably manage Wisconsin's forests for the next five or more years. The final version of the Strategic Direction might include actions requiring administrative rule revisions, policy changes, and potentially even new legislation. The final Strategic Direction will not automatically make these changes and, as a result, the ability to implement portions of the final document will likely require one or more other processes, administrative and/or legislative. Furthermore, budgets both current and future will constrain what the Division can accomplish.

The Division is requesting partners, the public, and our staff to review this first draft and share what actions they think the Division has a role in and the relative importance of the Department investing resources in the identified actions.

Following our review of internal and external feedback on version 1, a second version will be prepared in which we will propose how to allocate limited resources to implement specific actions designed to achieve priority outcomes. That version, which we intend to send out for public review in December, will propose making the difficult choices regarding how to invest our limited personnel and funding to maximize the value the Division delivers.

The Division's Strategic Direction is an outgrowth of Wisconsin's recently completed Statewide Forest Strategy ("Strategy"). The Strategy is a statement of intent by those most involved in the protection and sustainable management of Wisconsin's forests regarding how to address the trends and issues that have the potential to significantly impact Wisconsin's forests over the next decade. It provides a long-term, comprehensive, coordinated approach for investing resources to address the

management and landscape priorities identified in the Statewide Forest Assessment\* (“Assessment”). The “Strategy” can be found on the Division’s website at: <http://dnr.wi.gov/forestry/assessment/strategy/comment.asp>

The strategies developed to address the goals found in the Statewide Forest Strategy are not all new ideas. Nor is it suggested they all be implemented. The strategies and actions reflect both new ideas and existing actions or programs that are recognized as successful practices. In their entirety, the strategies represent a very large investment of resources. There are not enough resources to implement all of the suggestions and more importantly, different groups will have different perspectives on how the strategies should be implemented. Recognizing the current economic constraints at all levels of government and in the private sector, it is necessary to determine which strategies and actions are the most important to focus on.

The Division’s Strategic Direction is the process by which the DNR will state how we believe we can most effectively and efficiently achieve the desired outcomes expressed in the Strategy. The result will describe the choices we will make about how to invest our limited resources among the many value-added actions we are well positioned to address.

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\* The Statewide Forest “Assessment” analyzed the current condition of forests (both public and private), looked for trends, and identified issues and threats to our forests for the next 10 years. The data and analysis can be found on the Division’s website at: <http://dnr.wi.gov/forestry/assessment/strategy/data.asp>

## Public Comment Process

### How to comment

The Division requests partners, the public, and DNR staff review the first draft of the Strategic Direction and provide us feedback. Individuals and groups can provide written comments or request meetings to discuss the Strategic Direction with Division staff.

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Comments are due Friday, **October 1, 2010**. When providing comments, please reference which strategy/action you are commenting on by number/letter. Provided on our webpage is a worksheet for you to organize your comments that you may find helpful (<http://dnr.wi.gov/forestry/assessment/strategy/strategicDir.htm>).

Either send comments or email to:

Rebecca Gass (FR/4)  
PO BOX 7921                      OR                      rebecca.gass@wisconsin.gov  
Madison, WI 53707

If you have questions, please contact Rebecca Gass at 608-266-9261.

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### Questions to consider while reviewing the Strategic Direction

As we develop our Strategic Direction, the Division wants to know what actions other groups and agencies are considering taking over the next five years to address the recently completed Statewide Forest Strategy. The Division does not want to duplicate efforts but rather find complementary actions or possible partnerships. We also want to hear what others think is the Division's niche and what state government is in the best position to provide. With limited resources, the Division also wants to know what others think is most important for the Division to do.

While reviewing, please consider the following questions.<sup>†</sup>

**The actions in the first draft of the Strategic Direction are ones that the Division and/or one or more partners feel we have a role in. Not all of these will be implemented, and others may be implemented only to a limited degree.**

1. Do you agree these are actions the Division has a role in? Are there actions not included in this version that you think the Division has a role in?

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<sup>†</sup> Not all of the above questions are in the comment worksheet. Feel free to format the worksheet to fit your comments or share longer comments in an email or letter.

2. Recognizing limited resources, what is the relative priority (high/medium/low) of each action? Further, please consider whether the Division should implement an action extensively or be limited in some way. If limited, based on what criteria (e.g., geography, size, ownership, etc)?

3. Which strategies and more specifically what actions will you (or an organization/agency you are a part of) work on over the next five years?

## **Development & Implementation**

### **Developing the Strategic Direction**

The Division of Forestry's leadership team reviewed each strategy and possible action from the Statewide Forest Strategy ("Strategy"). The team's discussion was structured around several guiding questions: What roles is state government best suited to play?; What is the Division's expertise?; What does the Division currently do to address the goals?; Could the Division's current roles be improved?; and What roles do partners have in addressing this goal? The discussions resulted in a list of possible actions the Division either could or does have a role in.

Currently, Division staff are working in teams to draft descriptions of how our programs could implement these actions. The teams are utilizing several resources to help determine the most important actions Division programs can take. First, comments and input from partners, the public, and Department staff are helping the teams understand what others think are priority actions. Second, there are several program reviews and studies such as the recent Fire Program Assessment (2010), Private Forestry Study (1999 and 2004) and Private Forest Summit (2009), Urban Forestry Study (2003), Forest Health Study (2009), and a number of others that contain recommendations for improving how the Division accomplishes program goals.

By December 2010, the Division will have a second draft of the Strategic Direction ready for partner, public, and staff review. This version of the document will contain more detailed descriptions of what the Division's actions will be for the next five years and will address the resource constraints we operate within. We intend to finalize the Strategic Direction early in 2011.

### **Partnerships**

Just as the Division is reviewing the Statewide Forest Strategy and determining what actions we will take to implement the strategies, we hope partners will do the same. There are many opportunities for partnership with the Division and between other partners. This is the time for partners to connect and form new partnerships, evaluate current ones or rekindle previous partnerships that achieved their desired outcomes.

## Strategic Direction Components

The Strategic Direction, like the “Strategy”, is organized by themes, goals, strategies and actions. Goals are grouped by five themes:

- A. Fragmentation & Parcelization
- B. Forest Composition & Structure
- C. Energy & Climate Change
- D. Forests as an Economic Contributor
- E. Protection of Life & Property in Forested Areas

The following describes each of these elements. Generally, actions are the most specific; strategies are more broad and applicable to different forest ownerships and management objectives. Actions and strategies achieve goals.

### Goals

Goals describe a desired future with respect to the issues and opportunities identified in the Statewide Forest Assessment. Each strategy or action should work towards accomplishing the goal. Some actions may have greater outcomes and achieve the goal more efficiently and effectively than others.

### Strategies

Strategies seek to slow or reverse negative trends and continue current programs and activities that are strong and achieving desired objectives. The strategies and actions reflect both new ideas and existing actions or programs that are recognized as successful practices. We do not assume all of the strategies will be implemented. There are not enough resources to implement all of the suggestions and more importantly, different groups will have different perspectives on whether and how certain strategies should be implemented.

The Division believes it has some role in every strategy in the Statewide Forest Strategy. This does not mean that the Division is responsible for every aspect of a strategy; in some cases the Division’s niche may be very specific and require only minor actions to address a particular strategy.

### Possible actions the Division of Forestry can take.

Actions are specific ways the strategies could be implemented. There are many possible actions that could achieve the desired outcomes. The actions identified in the Division’s Strategic Direction are ones that the Division has a possible role in. They do not purport to represent the only ways to implement a strategy.

It is important to remember that many of these actions, even if selected as a priority, will not automatically be implemented. Many require other public processes and decisions

by other entities before they could be implemented (e.g., zoning changes at the local level).

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## Theme A: Fragmentation & Parcelization

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### GOAL

**FOREST LAND: The amount of forest land increases and is focused in desired landscapes.**

### DESCRIPTION OF GOAL

The amount of forest land in Wisconsin has increased but the landscape patterns have changed due to fragmentation of forest patches, parcelization of forest ownerships, and urbanization.

The growth in forests is not constant across the state – forests in eight counties have not increased. Increasing the amount of forest land can help ameliorate the negative effects of disrupted landscapes. Trees are not ecologically desirable in all ecological landscapes and strategies should be focused accordingly. (See DNR's Ecological Landscapes [webpage](#)).

### STRATEGY

1. Encourage planting to enhance, protect, and connect larger tracts of forested land in appropriate locations consistent with ecological landscapes.

Due to fragmentation and forestland conversion, the connections between forests may be broken. This has effects on issues like wildlife movement and seed dispersal. Not all areas are ecologically desirable for forests, though on private lands this is a landowner's decision. The DNR's ecological landscapes help define where afforestation or reforestation is most desirable ecologically. Other criteria to prioritize reforestation could be areas that can connect or buffer existing high-quality forests.

Possible Division of Forestry Actions:

- Coordinate and provide local tree planting expertise, training and develop tree planting plans. Cooperating consulting foresters also write plans and DNR foresters review these.
- Administer and approve cost sharing practices (e.g., Wisconsin Forest Landowner Grant Program).
- Advocate for more federal funds for tree planting.
- Identify tax credit systems that reward landowners who conduct forest reclamation. (Reclamation refers to changing land in uses such as abandoned brownfields, mines or borrow pits and restoring them to forests.)
- Encourage the afforestation of abandoned and marginal agricultural lands with the use of cost sharing programs to expand the benefits from forests and enhance, protect, and connect larger tracts of forested land. Advocate for the right species on the right ecotypes.
- Identify and promote forested landscapes that occur in USDA, State Areas for wildlife Enhancement (SAFE) program on private lands.

- Coordinate landscape-scale planting projects in targeted areas.
- Increase cost-share for tree planting and seeding in areas identified as priority for enhancing and protecting larger tracts of forested land in cases where natural regeneration methods have been found to be insufficient.

### **STRATEGY**

2. Reduce the rate of conversion of forestland to alternative uses.

Urbanization, population growth, and development in the wildland urban interface put conversion pressure on forestland. As forests are converting to different land uses, public values are lost, and the ability to return it to forests is difficult. There are different ways to maximize values for communities and landowners yet retain the benefits of working forests.

Possible Division of Forestry Actions:

- Prevent conversion to non-forest by developing a communication plan that would include a statewide education and outreach plan. Provide information on habitat fragmentation - identify outcomes such as public values that could be compromised.
- Provide web based information for land use planning efforts that identifies landscape level opportunities for municipalities, towns, etc. who also plan at larger scales.
- Increase the number of working forest easements and land trusts through programs like Forest Legacy and Stewardship programs.
- Consider regulations, incentives and easements to discourage deforestation of all types of forests.

### **GOAL**

<b>PARCEL SIZE: The rate of forest land parcelization is reduced.</b>
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#### *DESCRIPTION OF GOAL*

Parcelization is the subdivision of a single forest ownership into two or more ownerships. The forest land itself may not change immediately when broken up into separate tracts, but it becomes more susceptible to fragmentation (e.g., some tracts may be sold for development). Increases in the number of small ownership holdings increase the difficulty in providing sustainable forest management plans. As parcel size decreases, the economies of scale to conduct forest management decrease. Furthermore, a higher percentage of landowners may not be willing to harvest if they have small properties, adversely affecting the forest-based economy.

### **STRATEGY**

3. Reduce the rate of ownership parcelization of large forest blocks (i.e. greater than 500 acres).

500 acres was chosen to describe large forests because this is a common minimum acreage required by cost-share programs and grant opportunities. Many of these large blocks provide important ecological and economic benefits that are compromised when land is parcelized. Some large forest blocks may provide critical linkages between

existing public properties or may provide essential habitat for rare species. Others may be prone to increasing the potential for catastrophic fire if they are divided and developed.

Possible Division of Forestry Actions:

- Purchase priority lands and easements in priority landscapes with Federal Legacy and State Stewardship funds. Encourage and monitor investment in working forests utilizing Land Legacy dollars.
- Link financial incentive programs to the quality of conservation and recreation benefits provided. Prioritize the expenditure of WFLGP funds.

### **STRATEGY**

4. Reduce the rate of ownership parcelization of small forest blocks (i.e. less than 500 acres).

Forestland is changing hands at an increasing rate. As forest changes hands, it tends to be sold in smaller parcel sizes. For the small private forests, different factors influence parcelization (e.g., economic incentives, family dynamics, local land use, property values and taxes).

Possible Division of Forestry Actions:

- Work with regional planning commissions and local land use and zoning offices to inform these partners on parcelization impacts within the landscape. Provide web based information for land use planning efforts that identifies landscape level opportunities for regional planning commissions, municipalities, towns, etc.
- Increase enrollment in sustainable forest management incentive programs.
- Develop and advocate a tax credit system that rewards the landowners who do not convert their forest to other land uses or reclaim land to forests. Advocate policies that do not penalize landowners converting land from agriculture to forest.
- Provide guidance on Ecological Landscapes in Wisconsin (to include parcelization impacts within the landscape) for large landowners and the general public.
- Promote, support and encourage retention of large landowner MFL accounts.
- Increase incentives for longer incentive program plan lengths.
- Identify and seek to acquire easements (including development rights) or fee title on forests that provide the highest conservation and recreation benefits and are most at risk of parcelization.
- Draft new legislation that addresses fragmentation and parcelization similar to the Working Lands Initiative for agriculture.
- Develop educational and outreach materials, tools, and resources on succession planning (e.g. Ties to the Land).
- Advocate creation of tax categories for forested land that adequately reflect their cost to the local government(s) providing services.
- Partner with research institutions to evaluate the true impact of tax burden on the decision of landowners to sell/develop forest land.

**GOAL****LARGE BLOCKS OF FORESTS: Large blocks of forest are maintained/increase.****DESCRIPTION OF GOAL**

Large expanses of working forests free of development pressure are decreasing. Anthropogenic factors such as housing and road development alter habitat, fragment landscapes and threaten biodiversity. The majority of forests either contains or is near housing (Radeloff 2005). Fragmentation of forests creates smaller forest blocks. Fragmentation is a term used to describe certain kinds of landscape structures. Common measures of fragmentation are patch size, isolation (distance between patches), and edge (cumulative length of patch edges). “Permanent fragmentation” refers to long-term conversion of forest to urban, residential, agricultural, or other non-forest uses.

“Habitat fragmentation” is defined as a disruption of habitat continuity caused by human or natural disturbance, which creates a mosaic of successional and developmental stages within a forested tract. At a landscape scale, aggregated human disturbance may result in relatively high levels of habitat fragmentation with negative impacts.

**STRATEGY**

5. Pursue the conservation and protection of large, unfragmented blocks of forest lands.

The terms conservation and protection in this strategy include both active and restricted management. Sustainable forest management conserves forests, and protection measures are meant to keep forests as forests, not necessarily to restrict management.

Possible Division of Forestry Actions:

- Identify remote forests with minimal adjacent development and infrastructure. Establish an inventory of these large blocks of forest land. Invest in various inventories such as the Federal Inventory Analysis (FIA) and the Continuous Forest Inventory on state forest lands to locate remote forests.
- Increase the amount of reserved forest on state lands that is either passively managed or managed to feature rare communities and/or stand conditions.
- Continue to identify opportunities to purchase easements and encourage investment in working forests through the Forest Legacy program State Stewardship and pursue existing Forest Legacy projects.
- Continue to acquire land within planned public property boundaries.
- Evaluate State Legacy Report for partnership opportunities to conserve additional large blocks of forests.
- Manage road density in large blocks of forests in the north on state forests. Integrate road plans into the master planning process for state forests, including inventory of existing lands, identification of land classifications that include criteria on roads, and limiting, or enhancing roads on certain areas.
- Promote, support and encourage retention of large landowner MFL accounts

- Invest in research that describes certain values of large blocks and remote forests. Provide education and outreach to landowners and the public on the benefits of large blocks of forests.

### **STRATEGY**

6. Strengthen collaborative and large scale planning at the town, county, state and federal levels.

When considering large blocks of forest it is critical to think into the future. To begin to achieve a desired future condition such as increased canopy cover, partnerships in the planning effort need to be initiated no matter the jurisdictional boundaries. This strategy does not insinuate regulation; rather it encourages all levels of government to consider their plans in the context of a larger landscape with neighboring governments.

If the necessary steps are taken today in planning cooperatively, it is possible to think about the landscape at a larger level. In the end, this will allow Wisconsin to have a variety of options available to assist in maintaining a diversity of successional and developmental stages.

Possible Division of Forestry Actions:

- Provide technical assistance for other levels of government and collaborate on forest issues with municipalities.
- Increase local aid payments for those units of government that have completed landscape level planning and implemented conservation strategies.
- Provide information on the public values that could be realized by zoning that favors forest conservation.

### **GOAL**

**LANDSCAPE SCALE MANAGEMENT: An increasing amount of land management at small scales is in alignment with landscape scale plans. Small forest parcels will be effectively managed forests at a landscape scale that accounts for multiple benefits such as ecosystem services and risks such as wildfire.**

### *DESCRIPTION OF GOAL*

The goal of landscape scale management has many components. This section focuses on the issue of maintaining the functional size of forest blocks as a means of applying larger landscape scale opportunities at smaller scales. To achieve landscape scale management on small parcels, landowners could coordinate management practices such as sharing road access for harvests or work together to reduce invasive species on properties that border one another. The issues related to connecting appropriate landscape-scale goals and objectives down to property level actions are addressed in Theme B. (Ecosystem services are functions performed by natural ecosystems that benefit human society, such as hydrological services, protection of the soil, biomass, carbon sequestration, habitat for wild species, and recreation opportunities.)

**STRATEGY**

7. Increase the functional size of forest blocks by encouraging coordination of management of clusters of forest ownerships.

There are many barriers to groups of individual landowners agreeing to both develop collaborative management plans and to implement various management actions in a coordinated fashion over time. However, by planning and managing collaboratively, the functional size of forest blocks could increase and achieve significant results from conservation, forest health, ecosystem service and economic perspectives.

Private forest plans could be influenced by the management goals and actions prescribed on adjacent and nearby lands, as well as those on nearby public or other protected lands, consistent with the interest and desires of the affected landowners. Further, management plans for lands within Wildlife Action Plan Conservation Opportunity Areas could be influenced by the opportunities to address species and natural communities of particular concern.

Forestry professionals (both public and private) can facilitate developing management plans that meet a property owner's needs and goals in a manner that also incorporates larger ecological goals. Similarly, foresters and loggers can bring adjacent or nearby landowners together to coordinate harvest and management actions thereby potentially improving efficiency and outcomes.

Not all forested areas are good fits for trying to maintain large functional blocks. For example, some areas are simply too fragmented in their ownership while other forests are too disjunctive, small, or fragmented to realistically achieve meaningful, larger-scale management goals.

Possible Division of Forestry Actions:

- Establish criteria that identify where blocks of forest in fragmented ownership could feasibly be managed to achieve broader landscape-scale goals, particularly related to ecosystem services and wildfire.
- Assess fire risk across the state.
- Encourage investment in working forests utilizing state and federal stewardship funds.
- Develop databases that account for forest inventory for large and small land ownerships. Use this data to identify where blocks of fragmented ownership could be managed at landscape level.
- Identify priority landscapes and focus outreach on family forest landowners in those landscapes.
- Develop policies on cost sharing and prioritizing multiple landowners' management plans and activities. (e.g., provide bonus payments or reduce costs to landowners that manage their forest land as a larger block).
- Encourage that plans for private and public lands consider 1) the management plans of adjacent and nearby public lands and lands enrolled in conservation programs

and 2) appropriate ecological opportunities as described in the ecosystem management handbook and the Wildlife Action Plan.

- Educate landowners on the benefits of landscape scale management and how this can be done in a manner that respects landowner rights.

### GOAL

**SUSTAINABLY MANAGED FOREST: The percentage of sustainably managed forest land will steadily increase.**

### DESCRIPTION OF GOAL

In order to increase the amount of forest land that is sustainably managed either more private landowners could sustainably manage their forests (ones who are not already) and/or more public forest land could be purchased and sustainably managed. Seventy percent of timberland is owned by private individuals or corporations.

Challenges to reach this goal include smaller ownership size, more forest owners, limited capacity to deliver professional forestry assistance, and increasing forest land values. The average private forest parcel size decreased from 37 acres in 1997 to 28 acres in 2007. In the same time period, the number of private non-industrial forest owners grew by 37%.

### STRATEGY

8. Encourage a tax structure that favors well managed forests.

Every five years, property taxes increase on average 10 percent. It is becoming increasingly difficult for landowners to carry that cost when at times revenue derived from the land is intermittent. Wisconsin has what is widely considered one of the best tax incentive programs for forest land owners in the country; however, one program does not meet the needs or desires of all landowners. (See Indicator 16.6 in the "Assessment" for a discussion on forest land in property tax incentive programs.)

Possible Division of Forestry Actions:

- Provide information on values and the participation in existing forest management programs.
- Efficiently administer Wisconsin's forest tax programs.
- Work with partners and the Legislature to assess alternative approaches to taxing land that is sustainably managed.

### STRATEGY

9. Increase acreage of privately owned forests managed based on generally accepted forest management practices.

Possible Division of Forestry Actions:

- Provide information and develop policies on MFL implementation consistent with statutes and Administrative Rules.
- Provide oversight to the certification program for the land management activities and provide a chain of custody and awareness of raw material availability.
- Develop programs with the forest certification systems that target forest landowners not interested in joining programs such as the MFL.
- Coordinate third party certification for MFL lands.
- Provide expertise in standards and education and outreach on ecosystem services.
- Administer and approve cost sharing (e.g., WFLGP) practices to promote sustainable forestry.
- Explore opportunities for incentive programs for ecosystem services. Provide expertise in standards and education and outreach on ecosystem services.
- Educate landowners on how to manage based on accepted forest management practices.
- Provide regional strategies that can refine sustainable forestry messages that make sense to the region.

### **STRATEGY**

10. Increase acreage of publicly owned forests managed based on generally accepted forest management practices.

Public property plans outline project boundaries and areas for future purchase. By continuing to purchase land from willing sellers, the amount of sustainably managed lands under certification standards will increase.

Possible Division of Forestry Actions:

- Purchase land within identified state forest boundaries.
- Assist other bureaus in the Department to sustainably manage forested state lands.
- Facilitate a statewide conversation on forest certification and monitor compliance.
- Invest in the management of public lands to produce the desired values and goals the public has outlined in property plans.
- Administer and support the County Forest Program. Provide guidance and staff time, interest free loans, and other forms of assistance.
- Administer a state forest program and administer forest management on all state lands to accomplish master plan objectives.

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## Theme B: Forest Composition & Structure

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### GOAL

**IMPROVING FORESTED COMMUNITIES: Improve all forest communities and increase in quality and extent forest communities that are under-represented.**

### DESCRIPTION OF GOAL

To improve our forests, there are three concepts that are important to consider. First, allow succession to take place in some of Wisconsin's forests. This will allow more of our forests to develop structure and late successional stage forest. Second, encourage disturbance. This will allow our forests to maintain a patch work of early, mid, and late successional stages. A patch work of different aged forest will harbor the most biodiversity. Forests rich in biodiversity will better weather the storm of invasive species, climate change, and large scale disturbances. Prescribed fire could be used more frequently in forest communities where fire was a natural occurrence. Finally, identify where forest communities are under-represented and define what actions are needed to improve these communities. (Under-represented is defined in Strategy 11.)

### STRATEGY

11. Encourage the management of under-represented forest communities.

An under-represented community is determined by comparing the current amount to a previous time. There is not one point in time that is desirable for all comparisons – values drive what are desired forest communities.

The Statewide Forest Assessment specifically mentions five forest communities that are “under-represented”. Each is considered under-represented based on certain variables described in the “Assessment”:

<http://dnr.wi.gov/forestry/assessment/strategy/data.asp?d=02>.

1. Reduction in acres of the aspen-birch community.
2. Reduction in acres of the jack pine cover type.
3. Lack of regeneration of yellow birch, hemlock, and cedar in our northern forests.
4. Oak forests shifting towards more shade-tolerant species such as sugar maple, red maple, and “central hardwood” species in our southern forests.
5. A lack of older forests in general in Wisconsin.

### Possible Division of Forestry Actions:

- Facilitate process of writing and implementing State Lands Master Plans, County Forest 15 year plans and MFL plans to increase the quality and extent of under-represented forest communities and conditions.
- Assist in identifying Natural Heritage Inventory (NHI) sites and species, and manage to improve and increase the extent of under-represented forest communities.
- Locate under represented forest communities by ecological landscape and develop a process to define the viable level of under represented communities.

- Provide incentives to landowners who manage under represented forest communities in appropriate areas identified in the Wildlife Action Plan's Conservation Opportunity Areas.
- Provide cost share funding to ensure forest management work is accomplished on private lands. Approve the practices and their completion for payment.

### **STRATEGY**

12. Improve all forested communities with a landscape management approach that considers the representation of all successional stages.

A landscape management approach that accounts for all characteristic successional and developmental stages with forest stands ranging from small to large will facilitate biodiversity conservation. These characteristics will be different depending on the ecological landscape and landowner objectives and what they define as appropriate.

Possible Division of Forestry Actions:

- Encourage use of Ecological Landscapes Handbook.
- Utilize Forest Inventory & Analysis (FIA) data to quantify successional stages.
- Model actions taken on state lands to determine whether management is improving communities.
- At the ecological landscape scale, identify, develop guidelines, and manage appropriate blend of early, mid, and late successional stages.

### **STRATEGY**

13. Increase forest structure and diversity.

Adaptive silvicultural methods that develop and maintain biological legacies in managed stands can facilitate the promotion of stand level diversity, compositional and structural complexity, and the conservation of biological diversity. Guidance on the management of coarse woody debris (CWD), large trees, and snags / cavity trees was recently added to the DNR Silviculture Handbook. The goal of increased forest structure and diversity at the landscape level may have different goals than at the stand level and require different methods. Appropriate regeneration techniques for timber types that require uneven aged management result in increased forest structure.

Possible Division of Forestry Actions:

- Encourage landowners and forest managers to include management for coarse woody debris, large trees, snags / cavity trees, and, where appropriate, the restoration and protection of ephemeral ponds.
- Develop science based guidance on forest structural components.
- Prepare, maintain and share technical documents that explain how to improve quality and extent of under-represented forest communities (e.g., Silviculture Handbooks, BMP guides, and Forest Management Guidelines).

- Monitor the results of increased forest structure with inventory systems such as FIA, state lands continuous forest inventory, and WISFIRS.
- Encourage landowners and forest managers to follow appropriate regeneration techniques for timber types that require un-even aged management.

### **STRATEGY**

14. Encourage the use of disturbance mechanisms to maintain diverse forest communities.

Certain forest communities depend on fire for regeneration and forest community maintenance. Fire dependent forest communities are shrinking with the lack of fire on the landscape. The lack of fire has a significant impact on stand structure and successional processes.

Possible Division of Forestry Actions:

- Encourage a multi-agency and landowner prescribed burn team that promotes burning where appropriate across ownerships.
- Provide incentives to landowners that allow disturbance for regeneration and forest community maintenance in appropriate areas identified in the Wildlife Action Plan's Conservation Opportunity Areas.
- Promote under represented forest communities on public lands.
- Encourage others to continue research and modeling using the Natural Range of Variation models for Wisconsin forest types.
- Encourage the training and participation of local fire departments in prescribed burning.
- Provide cost share funding to ensure forest management work is accomplished on private lands.

### **GOAL**

**LANDSCAPE SCALE PLANNING: More forest land is being managed and protected under landscape scale plans, or consistent with landscape scale considerations. Management on the ground is increasingly being made within the landscape scale context.**

Landscape scale planning is important because forest communities flow and blend together across the landscape - they don't stop at property boundaries. Landowners have varying management objectives and therefore can decide whether or not to plan at the landscape scale.

### **STRATEGY**

15. Maintain the appropriate forest types for the ecological landscape while protecting forest health and function.

Broad forest management guidelines at the landscape level could be the skeleton that specific recommendations are built on for application at the forest stand level. The

Wildlife Action Plan and Ecological Landscapes Handbook are useful tools to help create forest management guidelines for the ecological landscapes.

Possible Division of Forestry Actions:

- Help research and develop the Ecological Landscapes of Wisconsin Handbook and then educate others on each landscape, focusing on the forest types best suited for each landscape.
- Evaluate forest health threats at the landscape level including native and exotic species.
- Encourage land owners to maintain forest types appropriate for the ecological landscape.
- Manage for appropriate forest types on state lands and county forests through property master plans.
- Develop forest management guidelines at the landscape level that incorporate the Wildlife Action Plan and Ecological Landscapes Handbook (and others as appropriate).
- Utilize programs like Firewise in priority landscape areas to mitigate fire risk.
- Develop incentives for forest owners to manage based on ecological landscape goals.
- Communicate ecological landscape goals to audiences ranging from the public to professional foresters.

## **STRATEGY**

16. Encourage multi-state landscape scale planning.

The number of multi-state/region/landscape scale planning efforts has greatly increased over the last decade. Landscape scale planning can provide beneficial economies-of-scale.

Possible Division of Forestry Actions:

- Participate in conversations and provide information for regional forest management guidelines between regional forest stakeholders (e.g., Driftless Area Initiative).
- Partner with other states to seek funding for projects.
- Participate in multi-state organizations that deal with issues in the region (e.g., Great Lakes Forest Alliance, Great Lakes Forest Fire Compact, and Upper Mississippi Watershed Project).

## **GOAL**

**DEER: Deer populations are managed to protect and enhance forest ecosystem functions while considering the full balance of potential impacts.**

### *DESCRIPTION OF GOAL*

Deer management is only one part of the equation when managing the impacts of deer herbivory. The impact of deer herbivory on a forest ecosystem is also affected by land management practices and how society sets environmental, economic and recreation

priorities. Depending on the area of the state and the amount of deer, the impacts to the forest ecosystem vary.

### **STRATEGY**

17. Increase scientific knowledge needed to understand the economic, ecological and social impacts of various deer populations (and associated deer herbivory) on forests.

There are several efforts underway within the state that will result in much needed data on which to base herbivory related decisions.

Possible Division of Forestry Actions:

- Conduct reforestation trials.
- Encourage reforestation research (i.e. evaluating impact of deer densities on forest communities) and provide funding, land base, and ideas for projects.
- Communicate applicable science to stakeholder groups regarding the impact of deer herbivory.
- Provide local input into deer herd management discussions.

### **STRATEGY**

18. Encourage the forestry community to be engaged in deer management issues with an understanding of the long term significance of deer impacts on sustainable forestry.

There is a very large spectrum of opinions and beliefs regarding deer populations and their effects. The forestry community's voice has not been clearly represented in all forums on this topic. In order to enhance forest ecosystem functions, concerns over forest regeneration must be shared more broadly.

Possible Division of Forestry Actions:

- Partner with multi-stakeholder, forestry advisory groups that advise the Natural Resource Board, legislature and various publics focused on understanding and providing a forest-based perspective on deer populations.

### **STRATEGY**

19. Adapt forest management practices to sustainably manage forests with locally high deer populations.

In order to achieve short term forest management in high deer populations, applied forest management techniques and land use practices are necessary. These tend to be expensive practices or culturally important activities that can be expensive and difficult to implement.

Possible Division of Forestry Actions:

- Identify applied forest management alternatives at the stand level in light of high deer populations (fencing, deer repellents, etc.).

- Alter management plans based on deer impacts on public owned lands and in review of MFL plans.
- Improve incentives (e.g., cost-sharing) for landowners to use deer abatement measures (e.g., fencing).
- Decrease practices that enhance deer habitat where necessary and appropriate (e.g., edge, food plots, baiting, feeding).
- Develop practices that will tolerate or prevent damage from deer.
- Regenerate under-represented species affected by deer herbivory.
- Develop options for landowners with forests damaged by deer to obtain permits to shoot deer similar to permits for damage to agricultural crops from wildlife.

## **GOAL**

**URBAN: Urban forests are more species diverse with greater tree canopy.**

### *DESCRIPTION OF GOAL*

Urban forests provide a wide range of ecological, economic and social benefits for 80% of Wisconsin's population that lives in an urban area. Urban forests face two main ecological issues. First, our current tree canopy cover is only 14%, well below the recommended 40% canopy cover, and second, it lacks species diversity. Tree species distribution (evenness) is very poor, with 43% of all trees being either maple or ash. This leads to a high level of instability (e.g. high susceptibility to catastrophic loss from a genus-specific pest such as Emerald Ash Borer (EAB) or Asian Long Horned Beetle (ALB)).

### **STRATEGY**

20. Characterize and assess urban and community forests.

There have been small and infrequent inventories of Wisconsin's urban forests. Without knowing the extent, type, and health of the forest, it is difficult to make appropriate management decisions.

Possible Division of Forestry Actions:

- Assist in conducting statewide FIA in urban areas.
- Evaluate urban forestry inventory data to identify and prioritize management strategies to address priority outcomes.
- Assist in establishing inventory and assessment tools for local municipalities that direct and prioritize urban tree management decisions.

### **STRATEGY**

21. Expand and manage a diverse urban tree canopy cover to provide multiple public benefits.

Maintaining the health and safety of existing trees will increase their benefits, Wisconsin could nearly triple the services provided by its urban trees if communities reached the 40% canopy goal, helping the state address greenhouse gas emissions and energy independence. Planting a diverse population is essential to a sustainable resource.

**Possible Division of Forestry Actions:**

- Advise communities on how to plant a wide diversity of appropriate tree species in urban areas that will increase the social, ecological, and economic benefits from urban forests.
- Provide grants to communities that require certain species be planted.
- Advise communities on how to develop a wide variety of age and size class structures in the urban forest.
- Encourage communities to initiate management of their urban forests.
- Develop guidelines and support tools to help public and private land owner's plant and maintain their urban tree canopy. Coordinate "train the trainer" type courses.
- Communicate with businesses (nurseries and retail) and agencies on species composition and availability.

**GOAL**

**INVASIVES: The spectrum of native and exotic invasive species is being addressed to minimize loss of forested ecosystem function.**

**DESCRIPTION OF GOAL**

Invasive species (both native and exotic) are having a catastrophic impact on our ability to tend and regenerate Wisconsin's forests.

**STRATEGY**

22. Strive to prevent infestations of invasive species before they arrive.

**Possible Division of Forestry Actions:**

- Recommend and help develop legislation for invasive species control.
- Work in public/private partnerships to conduct species risk assessments and identify priority invasive species for regulatory action consistent with NR40.
- Coordinate with other groups and agencies to educate and build awareness of invasive species and their threat at all levels and jurisdictions.
- Working with partners, develop a statewide data base and inventory of the locations of invasive species in Wisconsin.
- Reduce susceptibility to invasive species in native and urban forests by increasing species diversity and managing to reduce other stressors to improve resilience against infestation.
- Develop, publish and implement BMPs for invasive species. Promote utilization by land managers of the BMPs for Invasive Species.
- Enforce laws related to the transport and introduction of invasive species.
- Based on risk assessment, implement Best Management Practices for preventing infestation with prohibited species and protecting priority areas.

**STRATEGY**

23. Work to detect new infestations early and respond rapidly to minimize impacts to forests.

**Possible Division of Forestry Actions:**

- Establish guidelines and criteria for responding to new introductions of invasive species and applying the best and most current information toward preventing their spread.
- Follow BMPs for Invasive Species and maintain and update NR40.
- Work with incident teams such as Cooperative Weed Management Areas that cross jurisdictional lines and respond to invasive species outbreaks.

**STRATEGY****24. Control and management of existing infestations.****Possible Division of Forestry Actions:**

- Partner with DATCP, local communities, private landowners, UW and other federal agencies when outbreaks occur, and provide incident management team expertise and staff time in delineation surveys and monitoring.
- Work with UW and other state agencies in identifying species
- Focus resources on priority species control, in priority areas, as identified through risk assessments.
- Provide funding for invasive plant inventory, monitoring and control on state lands.
- Work with federal and state partners to spray and monitor gypsy moth populations.
- Facilitate partnerships with agencies and landowner invasive species control teams that promote the use of proven tools to control invasives.
- Provide technical and/or financial assistance to landowners who work to control and manage invasive species on their property and who rehabilitate and restore their forests.
- Develop action plans to address invasive species in conjunction with our partners.
- Write management prescriptions and plans for state and private lands.
- Implement forest management guidelines that minimize the impact of invasives to the ecological landscape. Management activities should focus on reducing the forest's susceptibility to mortality.
- Track information on invasive species through existing inventories such as FIA and state lands inventories.

**STRATEGY****25. Rehabilitate, restore, or adapt native forest habitats and ecosystems.****Possible Division of Forestry Actions:**

- Develop plans for state, county, and MFL that rehabilitate, restore, and adapt after infestations.
- Learn from past success and failure: Compile, highlight and share information about existing restoration and rehabilitation successes about invasive species through training sessions, workshops, field days, technical transfer by ecologists and silvicultural trials.
- Encourage and develop sources for native tree seed (based on ecological zone) for use in restoration projects.

- Tie incentive programs and cost-share to areas with the greatest threat or environmentally important areas such as Conservation Opportunity Areas identified in the Wildlife Action Plan.

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## Theme C: Energy & Climate Change

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### **GOAL**

**BIOMASS: Forests provide raw materials for energy and traditional forest products at a level that sustains forest ecosystems and the productive capacity of the land. Use of woody biomass for energy is done in a way that produces a high energy return on biomass input.**

### *DESCRIPTION OF GOAL*

Using wood for energy provides significant opportunities for the state in terms of reducing greenhouse gas emissions, reducing our reliance on fossil fuels, producing more of our energy here at home, creating new bioenergy industries and providing associated economic benefits. For these reasons, encouragement of new renewable energy industries is appropriate. This new demand also benefits sustainable forest management since along with the demand created by traditional wood products, it helps ensure that there is the need and incentive to sustainably manage our forests and keep them forested. However, care must be exercised since the sharp increase in demand could create significant pressure on the forest resource above existing demand from traditional wood products.

### **STRATEGY**

26. Collect information and develop policy to ensure efficient and sustainable use of our forest resources in regards to energy production.

The state of biomass research and knowledge grows daily. In order to ensure best and sustainable use of our forest resources in regards to energy production, the first step is to collect and synthesize information that can be used for policy development.

Possible Division of Forestry Actions:

- Help fund life cycle analysis of wood products to determine value provided in terms of energy efficiency, environmental impacts and reduction in greenhouse gases.
- Use life cycle research to inform policy decisions.
- Provide technical assistance to increase sustainable use of biomass.
- Develop, monitor, evaluate and revise Biomass Harvest Guidelines. Provide guidance on sustainably harvesting biomass.
- Educate landowners to enhance awareness of the biomass market and the importance of guidelines.
- Analyze the various policies for agroforestry produced biomass and subsequent policy implications. Advise and influence policy relative to MFL and state lands.

### **STRATEGY**

27. Encourage establishment of sustainable renewable energy industries (or use of renewable energy by industries) which use woody biomass while improving or maintaining the health of the existing forest products industry.

Wisconsin has a goal of generating 25% of its electric power and transportation fuels from renewable resources by 2025, capturing 10% of the emerging bioindustry and renewable energy market by 2030. It is also leading the nation in groundbreaking research that will make clean energy more affordable and will create good paying Wisconsin jobs. In order for forestry to contribute to this goal, biomass must be available for industry (either new or current) to use. These are new markets and new technologies that businesses must learn and policy makers must understand in order to make the process sustainable.

#### Possible Division of Forestry Actions:

- Explore possible new markets and provide awareness to buyer groups and technical support to those new industries looking to locate in state.
- Partner with Office of Energy Independence to develop a coalition of partners that would create a Forest BioEconomy Strategic Map that provides clarity and direction to ensure timely and sound development of the forest biomass resource.
- Promote an increase in the amount of readily available biomass from non-industrial private forests, plantations, reforestation, under-utilized species, commercial thinning, urban/waste sources and hazardous mitigation projects in WUI areas.
- Establish sustainable timber sales on state lands when appropriate.
- Support start-up businesses and existing industry by providing information and analysis of biomass supply.
- Monitor & influence State and Federal legislation for impacts to sustainable management.
- Develop biomass policy.

### **GOAL**

ADAPTATION: Forests are established and managed in a manner that increases their resilience and ability to facilitate adaptation of associated species and communities to changing climatic conditions.

#### *DESCRIPTION OF GOAL*

Because of the uncertainty of future climate conditions, different approaches to forest management will be needed to adapt to new and changing conditions (Swanston and Janowiak, 2009). Whether the forests change as a result of climate change, they will be stressed and need to adapt. Adaptation actions can moderate the vulnerability of forests to climate change and position forests to become healthier, resistant, and resilient (Spittlehouse and Stewart, 2003).

### **STRATEGY**

28. Seek to understand the probability and severity of future climate change impacts.

Climate change has the possibility of increasing forest productivity (e.g. longer growing seasons, increased precipitation, and CO<sub>2</sub> fertilization) but also stressing forests (e.g. acclimation to CO<sub>2</sub> fertilization, extreme weather events, longer growing seasons,

species range shifts, expanded pest and disease ranges, decreased snow pack and early thaw).

Possible Division of Forestry Actions:

- Support, advise, and peer review research on function of resilience and adaptability in forested ecosystems.
- Monitor sensitive sites on state lands, MFL lands, or as part of forest health monitoring for early climate change impacts.
- Partner on regional collaboration, sharing of information, and recommendations for adaptation strategies for climate change.
- Integrate state actions with regional and national adaptation activities (e.g., Shared Landscapes Initiative with Chequamegon-Nicolet National Forest).
- As knowledge is gained regarding the impacts of climate change, communicate with the public and educate them on adaptation measures and appropriate responses.

### **STRATEGY**

29. Attempt to improve the defenses of the forest and increase the resilience of natural systems to future climate change impacts

Just as our current best defense against climate issues such as drought, or insect infestations is to improve the resilience of the forest against effects of change (Millar et al. 2007, 2008), so to should our future strategies.

Possible Division of Forestry Actions:

- Provide sites on state land for researchers to evaluate the resilience of high conservation value forests and their ability to persist in climate change.
- Promote the use of existing forest management best practices that improve the current vigor of forests (e.g., Forest Management Guidelines, BMPs, silvicultural guidelines).
- Increase diversity (age, species) in urban and rural forests.
- Facilitate rapid regeneration for appropriate forest types following disturbance or harvest on both rural and urban forests.
- Administer and fund grant programs which support rapid regeneration of disturbed forests.

### **STRATEGY**

30. Intentionally accommodate change and enable forest ecosystems to adaptively respond.

A more aggressive approach to climate change is to intentionally accommodate change. Adaptation management tools can be an important tool in making management decisions with incomplete information and high levels of uncertainty under climate change. The flexibility of adaptive management allows landowners and managers to continually acquire new information for decision-making without indefinitely postponing needed actions (Association of Fish & Wildlife Agencies, 2009).

**Possible Division of Forestry Actions:**

- Evaluate whether the various actions, policies or laws regarding managing forests for adaptation and mitigation, biomass, energy, etc conflict with one another.
- Monitor tree seedling survival.
- Nurseries respond to best available science and demand for resilient species by ensuring supply of appropriate stock.
- Encourage a re-evaluation of site management goals to accommodate species diversity and adaptation to a changing climate.
- Adapt practices as science becomes available.

**STRATEGY**

31. Realign forest ecosystems to new conditions caused by climate change.

For severely changed or disturbed systems, it may be necessary to allow for readjustment to new conditions instead of returning it to its previous condition. For example, a raised water table in a lowland forest may render it too wet to support tree cover, whereas a lowered water table may result in succession to a different forest ecosystem.

**Possible Division of Forestry Actions:**

- Support research to develop protocols for managing areas that can no longer sustain forest cover types due to climate change (e.g. tamarack swamp).
- Help researchers identify geographic areas where problems maintaining cover types exist.
- Update management guidance and practices based on results of research.

**GOAL**

**MITIGATION: Forests will increasingly be used as a tool to mitigate climate change.**

**DESCRIPTION OF GOAL**

US forests annually sequester the equivalent of 10% of US carbon dioxide emissions from burning fossil fuels (Swanston, 2009). Carbon and methane stored in soils, forests, wetlands and solid wood products have the potential to rival large scale industrial emissions if released through large scale fire, disease or land use conversion events. Promoting the use of solid wood products from harvesting, and planning for rapid regeneration following disturbances will conserve forest carbon pools.

**STRATEGY**

32. Manage forest ecosystems (rural and urban) to sequester additional carbon while retaining the abundance of other benefits forest provide.

Increasing stand stocking and productivity has the potential to add to the 8 million tons of net CO<sub>2</sub> reduction benefits provided by Wisconsin forests.

Possible Division of Forestry Actions:

- Increase the amount of sustainably managed forested land in the state.
- Facilitate the increase and diversity of urban tree canopies.
- Facilitate partnerships between public and private sectors that foster initiatives for increasing carbon sequestration while supporting other sustainable forest management goals.
- Connect landowners with incentive programs for forest management that include ecosystem services and support or increase sustainable forest management.
- Utilize modeling done to quantify storm water mitigation from urban forests.

### **STRATEGY**

33. Reduce green house gas emissions by substituting wood for products that have a more energy intensive carbon footprint (i.e. non-wood building materials such as steel and concrete).

Much of the public is unaware of the benefits of using forest products over alternative products. While it is important to recognize these benefits, there also are opportunities to minimize carbon output in forest operations and product development.

Possible Division of Forestry Actions:

- Facilitate the sustainable use of wood for energy where appropriate.
- Support Office of Energy Independence's by working to connect organizations and business with appropriate information and funding opportunities.
- Support industry opportunities that produce long-lived, durable wood products, while minimizing the carbon output it takes to get raw products to mills.
- Encourage new industry to evaluate location in proximity to where the resource exists to minimize carbon emissions from transportation.
- Promote the use of wood materials in green building standards or LEED and encourage purchasing long-lived products.

### **STRATEGY**

34. Utilize best management practices to minimize emissions from forest-based activities and production.

Forest management often requires the use of fossil fuels for harvesting, transport and timber stand improvements. Reducing these inputs to forest management reduces fossil fuel emissions and increases the net benefit of wood based biomass fuel.

Possible Division of Forestry Actions:

- Reduce the carbon footprint of state based forest operations through improved efficiencies in operations and actions such as biofuel alternatives to carbon based fuels and lubricants in equipment. Develop guidance and implementation strategies.

- Share information with other partners (such as counties) regarding lessons learned.
- Implement a smoke management plan.
- Aggressively suppress wildfires to protect life, property and the forest resource, thereby minimizing carbon emissions.

### **STRATEGY**

35. Increase the awareness of carbon markets by private forest landowners and facilitate their participation in established carbon markets.

Carbon credit programs have the potential to provide benefits to Wisconsin forestland owners (new income stream) and all Wisconsin citizens (clean water and air, etc.). The sequestration of carbon is one of the many ecosystem services which forests have the capacity to provide to the public. However, the forests' ability to provide ecosystem services is influenced by decisions landowners make regarding their land's management and use.

Possible Division of Forestry Actions:

- Facilitate partnerships between public and private sectors that foster initiatives for increasing carbon sequestration while supporting other sustainable forest management goals.
- Facilitate the ability of non-industrial private forest owner's accessibility to third party certification systems if it increases the amount of sustainably managed land.
- Promote sustainable management including afforestation and planting as a way to participate in carbon markets or reduce GHG impact.
- Examine MFL plan template to see if it provides information necessary for the more detailed inventories needed to participate in carbon markets.
- Inform landowners and train foresters on carbon markets and the role of forests.

### **STRATEGY**

36. Ensure that climate policy reflects the potential positive contributions that forest conservation and sustainable management can make to achieving substantial net reductions in greenhouse gas emissions.

At this time there is not a federal, regional or state carbon offset policy or mandate. However, several of the emerging greenhouse gas reduction programs in the United States have developed or will be developing protocols under which forest carbon credits can be counted as an offset to industrial carbon dioxide emissions.

Possible Division of Forestry Actions:

- Monitor and influence legislation to ensure that the role of forests is included in mitigating climate change
- In order to make the most informed decisions, increase the understanding of forestry organizations and landowners on the items being debated for participation in carbon markets (e.g. additionality, permanence).

- Partner with regional forestry interests (government, partners, and industry) in order to provide recommendations and comments on proposed federal legislation and policies from a regional perspective (i.e. a unified regional voice).

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## Theme D: Forests as Economic Contributors

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**GOAL**

**FOREST VALUE: Forest ecosystem services have economic values that are realized and managed to maximize the benefits to society and improve quality of life. (Ecosystem services are functions performed by natural ecosystems that benefit human society, such as hydrological services, protection of the soil, biomass, carbon sequestration, habitat for wild species, and recreation opportunities.)**

*DESCRIPTION OF GOAL*

Ecological services provide value to people in both an intrinsic and economic context. While realizing the economic values can be the basis of more tangible goals, there are also opportunities to develop public understanding of the value of investing in forests, especially if based upon the values that the public already holds.

There are emerging systems being used to value ecosystem services from a traditional forestry perspective as well as for urban and community forests.

**STRATEGY**

37. Invest in forest conservation to contribute to a strong economy and provide clean water and air, wildlife, and other ecosystem services.

Forest conservation means that forests are kept as forests and continue to provide an array of benefits – ecological, economic and social. Long-term sustainable forest management conserves forests and the benefits they provide.

Possible Division of Forestry Actions:

- Provide funding for others to develop data sets to characterize and estimate potential benefits/forest values (e.g. water and wildlife) by ecological landscape, watershed, or other common unit of measure.
- Assess and monitor forest resource (e.g., FIA, Continuous Forest Inventory on state lands, master plan implementation monitoring, certification).
- Participate in the development of regional long-term plans to provide for conservation (i.e. maintenance, development, and enhancement) of forest benefits (e.g., Wildlife Action Plan and Ecological Landscapes Handbook)
- Support efforts of local municipalities to address forest conservation.
- Assess how best to conserve the identified key source water protection opportunities that can be protected through forest conservation.
- Advocate for water policy (at both federal and state levels) as it relates to forests being able to provide a full range of benefits.
- Protect and sustainably manage forest lands to produce the benefits of ecosystem services and advise partners, legislators and stakeholders to manage for forest ecosystem services.
- Develop, monitor, evaluate and revise water quality BMPs.

- Provide cost-share and technical assistance for forested riparian areas.

### **STRATEGY**

38. Encourage communities to invest in their urban forest canopy as part of a long-term plan for a community's quality of life.

Connecting community investments in planning, planting, and tree maintenance to the benefits derived from the community forest can show the value in real dollar terms of energy savings, storm water management, public safety, etc. Informing urban residents, public officials, businesses and organizations of the value and services urban trees provide may increase the number of people who are committed to insuring that urban forests are managed.

Possible Division of Forestry Actions:

- Develop policy and facilitate partnerships in the urban forest community.
- Assess statewide urban forest management. Survey communities for information on their management and other components such as funding levels, city council engagement, and inventory information.
- Seek funding from federal sources.
- Provide expertise and guidance to communities. Coordinate "train the trainer" courses.
- Provide incentives for communities to develop urban forest plans and to implement tree maintenance programs.
- Encourage collaboration and participation among governments, businesses, nonprofit organizations, citizens, and communities to plant and manage local urban trees and the tree canopy.
- Provide grants for communities to sustainably manage their urban forests, deal with storm damage, inventory and planting projects.
- Encourage communities to create and enact aggressive tree preservation/protection.
- Encourage communities and the state to change "generally accepted accounting principles" to allow designation of their trees as a capital asset.

### **STRATEGY**

39. Build public understanding about the benefits provided from investing in forest conservation.

Building public interest and understanding about the benefits from forests can help people value the need to invest in both rural and urban forest management. Long-term investments in forestry education as well as focused efforts to build upon values that the public already holds are necessary. Forest conservation includes maintaining and sustainably managing working forests, as well as protecting passively managed forests.

Possible Division of Forestry Actions:

- Educate the public and landowners about the value of forests in providing ecosystem services.
- Promote general awareness of forestry-related contributions in Wisconsin, including development of the Forest Exploration Center in Milwaukee.
- Connect forest investments to the broad range of benefits such as improved health, protection of water quality, sustainable timber products, and energy conservation.
- Raise awareness and provide incentives (grants) to increase the number of municipalities that promote the benefits of their urban forestry programs.

## **GOAL**

**MARKETS: Wisconsin is a hub of green forest product markets, producing a diversity of value added solid wood, fiber, energy and ecosystem services.**

### *DESCRIPTION OF GOAL*

Wisconsin needs to maintain existing forest products businesses while actively working to attract new businesses and markets. Existing companies need support for constant improvement of business practices, adoption of new technology, and expansion into international markets.

Future success will depend on maintaining the economic viability of 'green' markets and developing new markets that can be integrated with existing markets to use an expanded sustainable wood supply rather than just competing for existing supplies. The large volume of 3<sup>rd</sup> party certified forests is an opportunity to differentiate forest products grown in the Great Lakes states.

### **STRATEGY**

40. Support existing forest products companies so that they are competitive domestically and internationally.

Businesses need comprehensive business services and support for international market development and process improvements. These can require long-term investments. Industries benefit from current and reliable data that helps companies compete in rapidly changing markets.

Possible Division of Forestry Actions:

- Develop and promote policy that supports a diverse forest industry.
- Develop a more efficient annual reporting method to provide reliable Timber Product Output data.
- Regularly produce data to characterize the potential supply of primary and secondary forest product raw materials.
- Provide a diverse array of sustainably managed forest products from state and lands to add value to the marketplace.
- Support the provision of sustainably managed forest products from other public and private lands.

**STRATEGY**

41. Encourage the development of new markets and companies that leverage sustainable (e.g. third-party certified) products and services in emerging markets.

There is a broad range of opportunities and challenges for new markets in biomass, energy, ecosystem services, composites, chemical feedstocks, etc. The development of partnerships, associations, coordinated research efforts, and business models can help companies lessen the risk of entry into new markets.

## Possible Division of Forestry Actions:

- Advocate, manage and support forest certification. Work with neighboring states to consult on how to implement certification. Ensure certification standards work effectively and efficiently for Wisconsin.
- Participate in development of Great Lakes regional branding to market sustainably produced products.
- Develop a state agency strategy (Dept of Administration, Dept of Commerce, Dept of Agriculture, Trade, and Consumer Protection, DNR) to support new forestry business development and a positive business climate.
- Evaluate and monitor energy policies and ecosystem service markets.
- Promote non-traditional forest products, including ecosystem services and alternative products (e.g., boughs, mushrooms, etc)
- Adopt policies that encourage communities and institutions to use sustainable wood supply for construction, heat, and power.
- Help facilitate the development of new markets for urban wood including potential uses in biomass and bioenergy.

**GOAL**

**CAPACITY:** Forest management/protection providers, business, and other organizations in the forestry community have increased capacity to protect and sustainably manage forests.

*DESCRIPTION OF GOAL*

Public and private agencies, organizations and individuals are likely to be enthusiastic in meeting forest resource needs if they have the funding, knowledge and resources available to do their job. With adequate support more agencies and business will be successful, thus increasing the capacity for existing personnel to do more or for businesses to increase their size and/or services.

**STRATEGY**

42. Develop collaborations and partnerships to engage all forestry stakeholders

It is rare for one organization or agency to have all of the resources needed to meet the needs of its customers. Partnerships between all types of organizations are needed to meet the needs of society. This strategy recognizes existing partnerships in rural and

urban settings and hopes to strengthen them, as well as establish new partnerships. The actions for this strategy do not cover all current partnerships that exist. It highlights those that are considered critical at this time.

#### Possible Division of Forestry Actions:

- Increase understanding and support of DNR's Forestry mission by local units of government, and increase DNR understanding of local government's needs and challenges with respect to forests.
- Support and expand the role of the Wisconsin Urban Forestry Council in representing the voice of urban forests in the state.
- Support and coordinate statewide forest advisory organizations such as the Forest Stewardship Committee, Fire Department Advisory Council, and Governor's Council on Forestry.
- Advocate landowner participation in forest landowner organizations.
- Establish research priorities for forestry and mechanisms to implement those priorities.
- Continue providing fire departments with needed resources so that they remain a strong partner for wildfire initial attack.
- Enhance capacity of local fire departments to suppress wildfires through MOUs and agreements.
- Develop partnerships to more efficiently and effectively deliver and expand public forest land management and outreach programs.
- Collaborate with counties to plan and manage lands within the County Forest Program.
- Develop citizen-based monitoring program(s).
- Continue to provide training and tools for public agencies and partners to administer programs efficiently and effectively.
- Continue to improve consultation with Native American tribes and better understand the values they place on forests. Ensure their ability to exercise their treaty rights where applicable.
- Partner and be involved with others in a communication strategy to inform public officials, businesses, nonprofits, and residents of the value and services trees provide them.
- Provide information and consultation to organizations, agencies and landowners working in partnerships to fight invasive species.

### **STRATEGY**

43. Increase the number of students who enter forestry related studies or a forestry profession in order to recruit and hire high quality and diverse individuals.

The potential workforce for forestry related jobs is decreasing except for in the urban forestry related fields. The workforce reduction includes field foresters, loggers, tree planters, timber stand improvement contractors, and other resource management specialists.

**Possible Division of Forestry Actions:**

- Collaborate with other organizations to provide information on careers at high schools, job fairs, etc. to encourage people to enter the forestry and forestry-related professions.
- Support other organizations to promote Wisconsin as being a great place to be a forester or other forestry-related professional.
- Provide more opportunities for students to gain field forestry skills (e.g., through internships with professional foresters or field courses).
- Promote job shadowing/swapping within the DNR and with partners to promote better understanding of roles.
- Assist educational institutions in promoting forestry as a green career.

**STRATEGY**

44. Increase the number of private businesses (loggers, cooperating forester firms, tree planters, arborists, timber stand improvement contractors, etc.) that provide high quality goods and services to effectively and efficiently reach more forest landowners and sustainably manage more forest.

Providing high quality goods and services is necessary for businesses to succeed. Successful businesses increase the capacity of the forestry community to service the needs of the public and private individuals. Successful businesses are able to hire more people, complete high quality work in less time, purchase tools and equipment easier, and ultimately service a large clientele.

**Possible Division of Forestry Actions:**

- Provide training for cooperating foresters to work on the large number of practices that public foresters are not able to take on due to workload and often are not implemented because of their low commercial value.
- Provide information from land management databases (e.g., WisFIRS) that facilitates cooperating foresters' work.
- Provide incentives or grants for foresters, arborists, loggers and other forestry-related professionals to attend high quality, certified training courses.
- Promote private foresters practicing sustainable forestry through programs such as the Cooperating Forester Program.
- Provide incentives to landowners to hire private consulting foresters.
- Develop programs to maintain and strengthen the professional logging industry.
- Increase the number of professional loggers by providing grants to enter the Master Logger Program or related certification.
- Educate the public and landowners on the benefits of professional resource managers (rural and urban).

**GOAL**

**RECREATION: Diverse recreational opportunities are available and have minimal impacts on forest ecosystems.**

### *DESCRIPTION OF GOAL*

The baby boom population is reaching retirement age and will increase demand for outdoor recreation facilities for the growing aged population. In addition, recreation participation tends to cycle through peaks and valleys which will account for upward or downward demands for a particular activity (SCORP, 2006). Preference of recreation activities change and each has different effects on the forest ecosystem. The overall recommendation for this goal is to first plan for activities statewide considering where the most sustainable location for specific activities could be and then discuss where to provide for those activities.

### **STRATEGY**

45. Plan for a range of recreation opportunities at a statewide level suitable to the capability of the land and with minimal long term impacts.

Public lands and private enterprises have different experiences to offer. Each has a niche and expertise that can provide a wide spectrum of opportunities.

The diverse recreational activities now and in the future will likely make user conflicts intense, especially if the perception is that recreational uses are not compatible.

Not all recreation is appropriate in every forest ecosystem. Sites must be evaluated for activities that can be sustained environmentally and economically.

Possible Division of Forestry Actions:

- Determine the types of individual or group recreational activities and where additional facilities should be located on state lands and manage them to provide a diverse array of recreation opportunities.
- Using data and analysis from the State Comprehensive Outdoor Recreation Plan (SCORP) and partners, determine which recreational areas and activities are best provided by the public sector versus private entities.
- Develop master plans for state properties in a manner that fosters communication amongst recreational user groups to accommodate a variety of forest recreational activities and educates users on why not all activities should be provided everywhere.
- Provide educational materials and outreach to inform recreationists what impacts the resource and how to reduce it.
- Support communities where there are state lands in developing forest recreation opportunities to increase local economic diversity.

### **STRATEGY**

46. Provide sustainable recreation opportunities on forested public lands.

Public lands are held in perpetuity and provide many recreational opportunities for the public. Master plans on state owned properties provide opportunities for the public to

share views on appropriate activities and how they think recreation should be managed on the property.

Possible Division of Forestry Actions:

- Continue to purchase (either fee or easement) forest lands that provide recreational opportunities not readily available for the public elsewhere on public or private lands.
- Complete and keep up to date master plans on public forests.
- Design, construct, and maintain trails and other recreational facilities using funding sources that adequately meet the financial and personnel needs of the facility.
- Develop and disseminate sustainable recreation design, construction, and maintenance practices.
- Increase capacity for friends groups to build, maintain, and manage facilities and trails by providing training and equipment.

### **STRATEGY**

47. Increase acreage of lands open to public recreation in areas where public land is not abundant.

As the population grows and communities expand, land is an important resource to provide recreation opportunities. Significant sectors of the state economy are dependent on growing recreation markets, and readily available lands are essential for that growth. There are parts of Wisconsin that do not have a lot of public land and it is difficult for citizens to access outdoor recreation areas.

Possible Division of Forestry Actions:

- Manage a private land incentive program to open land to public recreation use (including trails) (e.g., MFL)
- Develop programs to encourage private landowners to open their forest land to public recreation.

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**Theme E: Protection of Life and Property in Forested Areas**

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**GOAL**

<b>FIRE, SAFETY AND LAW ENFORCEMENT: Human life, property, and forest resources are at reduced risk of harm or loss.</b>
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**STRATEGY**

48. Improve safety for the forest-based workforce and forest users.

Many occupations in the field of forestry and law enforcement can be dangerous and require appropriate training. Fires not only put the fire fighter in dangerous situations but people and their homes. Visitors to public forests must have a safe experience. Urban forests can have hazard trees that are dangerous for the public and the resources are needed to monitor these trees. Although not all accidents can be prevented, education, training, and actions to mitigate hazards make visiting and working in a forest setting safer.

Possible Division of Forestry Actions:

- Make firefighter and public safety the number one priority in protecting life and property from wildland fire.
- Conduct fire reviews and share lessons learned.
- Ensure safety training opportunities are available to all occupations within the forest workforce (e.g. fire, logging, industry, and arborists).
- Ensure use of risk management processes prior to all activities (both fire operations and forest management) to identify and assess hazards, establish controls, make decisions and evaluate success.
- Investigate, report, and mitigate accidents and fatalities. Develop lessons learned products to share situational awareness messages.
- Support training opportunities for communities to manage urban hazard trees to reduce risk to citizens.
- Ensure visitors' safety and protection on forested lands with public access..

**STRATEGY**

49. Provide for early detection and rapid initial attack for all forest fires within the state.

Detecting, managing and suppressing all forest fires within the state is possible by using an interagency approach in a coordinated, efficient and effective manner. The most cost effective approach to support general suppression capabilities in areas of lower wildland fire risk and exposure is to enhance the capacity of agencies such as local fire departments. The areas with a high risk of large, destructive wildland fires, from an ecological, social and/or historical perspective, should have the greatest wildland fire-specific capabilities. The Division of Forestry has highly specialized wildland fire equipment and is uniquely qualified to meet important aspects of wildland fire needs.

Possible Division of Forestry Actions:

- Employ an efficient and effective fire preparedness process that meets fire readiness standards. Train staff and provide appropriate equipment and infrastructure for suppression and detection.
- Share resources as needed with other states, the federal government, and Canadian partners.
- Enhance statewide forest fire suppression coordination and capabilities by utilizing partnerships between state and federal agencies and local volunteer fire departments to provide wildland fire suppression assistance.
- Administer fire department grant programs
- Ensure that wildland fires and natural resource disasters are managed with the Incident Command System (ICS), through trained and qualified Incident Management Teams (IMT).
- Focus wildland-specific suppression capabilities in areas identified as having the greatest risk/exposure to wildland fire. Determine fire risk through statewide fire assessments.
- Establish a mechanism to track and monitor wildland fire occurrence information statewide, to enable continuous assessment of changes in wildland fire risk/exposure.

### **STRATEGY**

50. Reduce wildland fire ignitions and minimize loss from fire.

Educating the public on wildland fire risks and applying fire prevention and mitigation measures reduces wildland fire ignitions and minimizes the loss from fire. Enhancing the public's understanding of the causes of wildland fires, the conditions that enhance the likelihood of their starting and the extent of the damage that can result, will contribute to a reduction in activities by the public that historically result in damaging wildland fires.

The Wildland Urban Interface (WUI) presents greater exposure of life and property to a wildland fire. Educating property owners on ways to lessen WUI associated risks will decrease the danger, both to the public and to suppression personnel. Partnerships with the towns and counties can address the dangers of WUI situations before they occur.

Possible Division of Forestry Actions:

- Educate landowners about wildland fire and effectively mitigate the dangers of wildfire on their property.
- Provide technical assistance and expertise to communities to develop wildland urban interface-preventative local zoning ordinances that direct development away from fire prone areas.
- Advocate for owners/builders to conduct hazard reduction before selling or constructing.
- Increase the number of Community Wildfire Protection Plans.

- Encourage the inclusion of wildland urban interface objectives in incentive programs to make the area adjacent to the home Firewise (e.g. limited stocking, branches pruned, ground fuels cleared, etc.)
- Develop and conduct fire prevention messages and education programs targeted at the highest human caused fire problems.
- Develop and implement a standardized methodology for analysis of fire occurrence statewide.
- Lead the development of voluntary fire best management practices to reduce risk and losses from fires. Work in partnership with impacted and concerned stakeholders.
- Develop burning permit systems that are easily available to people.

### **STRATEGY**

51. Protect the public and natural resource from unlawful practices.

Public land managers are required to provide safe visits to public forests. Higher profile presence of and actions by fire suppression/law enforcement personnel stimulates communication with citizens and citizens thinking about safety and compliance with laws. Educating the public on practices they can take to prevent illegal harvesting, like harvesting contracts, is a proactive step. Specialized law enforcement personnel are needed to investigate and enforce timber theft cases.

Possible Division of Forestry Actions:

- Provide law enforcement (investigation and enforcement of violations) for recreation on state forest properties.
- Investigate and enforce laws for illegal fire activity.
- Take a proactive approach to preventing illegal harvesting through contracts and other mechanisms.
- Investigate illegal harvesting and other unlawful business practices to protect landowners and the forest resource.
- Develop materials that educate the public on forest based laws and administrative rules while also encouraging voluntary compliance.
- Support organizations that educate K-12 students on the value and importance of urban and rural forests, and laws governing these forests.