WDNR Timber Sale Program

Actions to Increase Saw Log Availability on WDNR Lands

August 2014

Purpose:

The purpose of this report is to summarize the outcomes of the December 2013 Northern-Highland American Legion State Forest (NHAL) forestry tour, provide additional data requested, and present actions to address many of the issues and opportunities identified.

Summary of NHAL Timber Management Tour

On December 18, 2013 a range of partners met on the Northern-Highland American Legion State Forest (NHAL) to discuss forest management planning, operations, and silviculture including a field review of two timber sales recently advertised on the NHAL. Concerns were expressed about the volume of saw logs not marked for harvest in the advertised sales and general forest management practices for current and future timber sales on the NHAL. The discussion resulted in a number of questions regarding harvest levels, including past and projected in terms of acres and volume, growth and removal ratios, master plan classifications, management objectives and associated marking guidelines. In addition, discussion occurred about the importance of forest management to local and regional wood based markets and economies and the current high demand for raw materials that supply primary wood producing businesses, particularly saw logs. Much of the discussion and interest was much broader in nature than just the NHAL and is applicable to state lands management in general.

The actions to increase forest management, particularly saw log harvest, and additional assessment information in this brief is not specific to the NHAL in most cases. The assessment data and actions are relevant for all Department lands and have a greater impact if considered in that way. In a few instances, the data is summarized specific to the NHAL State Forest but only for those questions directed to the NHAL.

Included in this document is an analysis of past harvest levels on state owned lands, including acres and volumes, and projected annual timber harvest levels by acreage and volume. This analysis responds to interest expressed at the tour and recognizes that forest product companies need timely and predictable information on the annual and long term availability of forest products, including harvest acres and volumes from state lands.

Actions to Increase Saw Log Harvest on WDNR State Land Timber Sales

Outlined below are actions that the Department will pursue to stimulate wood availability, specifically targeting saw log availability and efficiencies for state land timber sales.

Actions proposed to be implemented by September 1st, 2014 (pending result of guidance review process)

- **Place an emphasis on selecting and evaluating backlog timber sale practices that have a higher saw log component in the 2015 harvest planning schedule.** This action prioritizes and expedites the review of backlogged *saw log timber sales* on Department lands. For example, the NHAL and Flambeau River State Forests have a timber sale backlog of 3,700 acres. These acres will be completed in the next two years but emphasis will be placed on selecting stands with saw logs in the first year.
  State Forester to provide guidance to field staff by September 1, 2014.

- **Allow greater discretion in timber sale administration regarding product utilization, with the intent of allowing greater flexibility to contractors to utilize and market log products in the most productive ways.** For example, allowing "butting" of logs or cutting out sections of defect to increase the amount of log quality material that can be removed from timber sales and/or increase the log-grade in order to make it a more valuable log product.
  State Forester to provide guidance to field staff by September 1, 2014.

- **Expedite the re-advertisement and sale of all state lands timber sales that have already been advertised and that failed to sell, particularly if they contain saw log volumes.** Re-advertise past unsold timber sales and utilize direct sale methods for timber sales which have been advertised for sale two or more times previously and remain unsold. Foresters will assess potential reasons why sales failed to sell and adjust sale conditions prior to re-advertisement. This action would potentially increase wood available for markets on up to approximately 1,900 acres.
  State Forester to provide guidance to field staff by September 1, 2014.

- **Place a greater emphasis on providing accurate saw log volume estimates and sharing cruise methods with timber buyers.** Foresters will indicate the volume of saw logs present on the timber sale bid prospectus whenever there are at least 2 MBF of logs designated for harvest and will provide prospective purchasers with timber cruise methods, when requested. These actions will provide saw log buyers and harvest operators a higher level of confidence in saw log volume estimates.
  State Forester to provide guidance to field staff by September 1, 2014.

Actions that will be implemented over a longer term timeframe or that are ongoing

- **Develop field oriented trainings for DNR foresters for considering the economic impacts when implementing timber marking prescriptions.** The training will focus on:
  - To inform forestry staff of the value chain from stump to finished wood products
  - To allow external partners an opportunity to share their operations and procedures in a hands on way with forestry staff
  - To foster meaningful dialogue between forestry staff and external partners regarding desired inputs for optimal effectiveness
  - To see and understand how different log grades impact final lumber values

  Develop and initiation of training by Spring 2015

- **Evaluate the standard order of removal found in the Departments marking guidelines chapter and the Silviculture Handbook.**
  The Silviculture Guidance Team has been asked to evaluate the current order of removal guidelines in consideration of the full suite of forest benefits including ecological, economic, and social benefits. The SGT is made up of a diverse group of stakeholders and works on a number of different issues, consequently this review may take some time. This issue has been referred to the SGT and the team will evaluate during the coming year.

- **Evaluate the development of a public web site to advertise all department timber sales to reach the widest audience in an efficient and transparent manner.** This action will be investigated further, with a goal of implementation by summer of 2016.

- **Implement the State Forest timber sale backlog reduction strategy with a goal of zero backlog by 2016 and evaluate additional timber sale backlog reduction actions for timber sales on non-State Forest lands.** This action will ensure the backlog timber sales are being addressed on Department lands.

- **Continue to expedite the completion of property master plans and interim forest management plans for all properties without master plans or with outdated master plans.** Identify and prioritize completing Interim Forest Management Plans and Tier 3 master plans on properties with significant forested resources by summer of 2016. This ongoing action will help clearly identify management objectives on up to approximately 290,000 additional acres and associated stands available for timber sale establishment to meet management objectives.

- **All partners and customers are encouraged to participate in the process of developing master plans and interim forest management plans for DNR properties so that their interests can be incorporated into property objectives.** Input from all interested stakeholders is vital in informing the development of property plans and can ensure that all costs and benefits associated with various management objectives are fully considered prior to approval by the Natural Resources Board. This action is ongoing as plans continue to be developed and revised for properties.

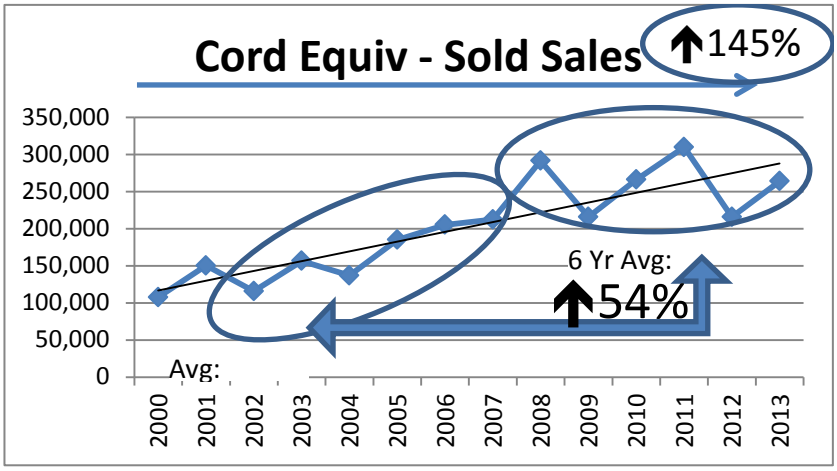
Additional Assessment Data from Discussion

The December 18, 2013 NHAL State Forest timber management tour generated a number of questions and requests for more information. The following is provided to summarize and supplement the discussions that were held during the tour and to provide additional data that was considered while developing the actions to increase saw log harvest presented above.

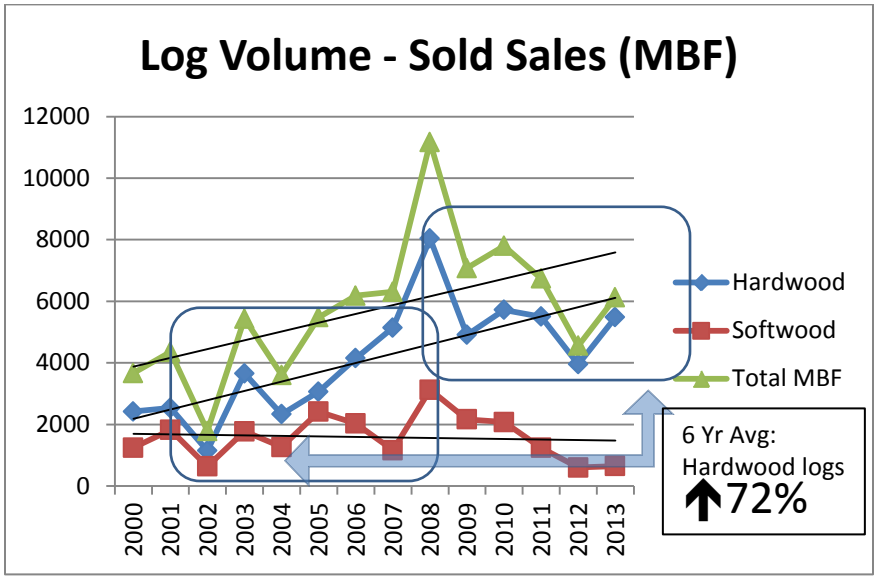
Past Timber Sale Volumes

In the last decade the Department has placed an increased emphasis on managing our state lands. As a result, we have made great strides in eliminating backlogged timber sales while also keeping pace with newly scheduled timber sales. This has enabled us to meet and exceed (due to backlogged sales) our long-term harvest goals, which are calculated based on stand specific prescriptions that reflect current conditions and property master plan objectives.

When the 6-year averages from 2002-07 to 2008-13 for total estimated volumes sold on Department timber sales are compared a significant increase in volume sold is very apparent, as displayed in the graph below, with a 54% increase in the average cord equivalents sold between those time periods.



For material reported as saw logs sold over those same periods, there is an increase of 50% in the average total board foot volume sold between those time periods, and more specifically for hardwood logs, there is an increase of 72% in the average hardwood board foot volume sold between those time periods, as displayed in the graph below.



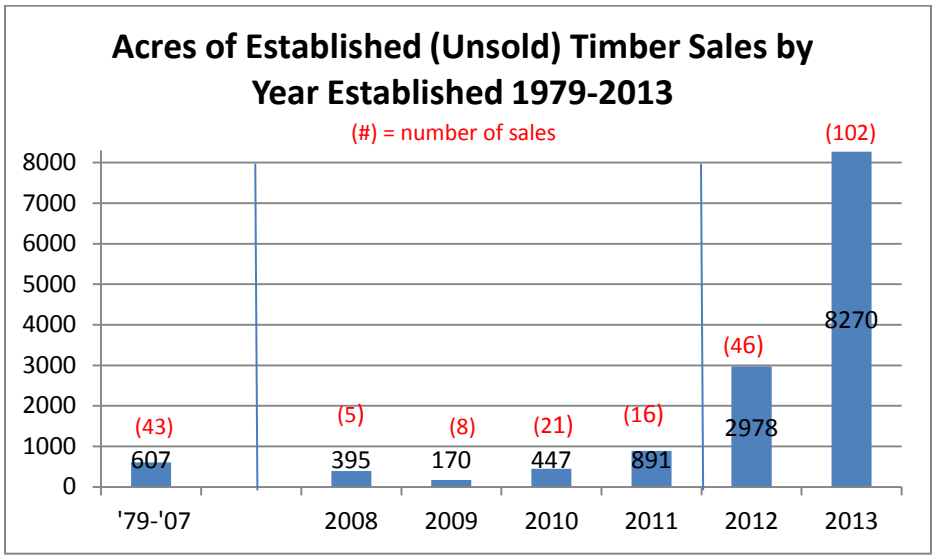
As of January 1, 2014 there were 453 timber sales covering 43,110 acres that have been sold and were under contract to be harvested on DNR lands. These sales represent an estimated 595,000 cords and 14,500 MBF of volume. Some of the volume from a portion of these sales may have already been harvested, but that volume will not be reported until the sale is completed. There were also an additional 185 timber sales on 12,586 acres that have been established for sale between 2010 and 2013 but are not yet sold, which represent approximately 175,000 cords and 4,300 MBF of volume.

Despite the trend indicating an increase in saw log volumes sold between 2000 and 2013 and the 50% increase between the two 6-year periods compared, there is also a noticeable decline over the past several years in softwood logs. One factor that must be considered while looking at the total log volume reported as sold is the way in which products are sold and reported. For instance, lump sum sales only account for estimates not actual volumes. More importantly, whether saw logs are sold and scaled separately or are included as a subset of either pulp product (very common for sales with relatively small amounts of logs) or mixed product codes affects our reported saw log volumes. This is particularly true for softwoods, which are now primarily sold as a mixed pulp and saw log product class that results in all volume being reported in cords. The mixed product code was first used in 2007 and has grown in use over time as evidenced by the graph above. Due to these factors there is certainly more volume of saw logs established, sold, and harvested than is reported, with that volume being incorporated into the pulp volumes.

Despite these increasing saw log volume trends, the Department recognizes that there is concern about the lack of availability of hardwood saw logs in the supply chain. Although the 975,000 acres of forested DNR land represents 5% of Wisconsin's the 16.8 million forested acres, the Department is aware that it has a role in addressing supply concerns, whether it be through harvesting according to state land Master Plans, forest product services assistance, or through assistance in private forest land management.

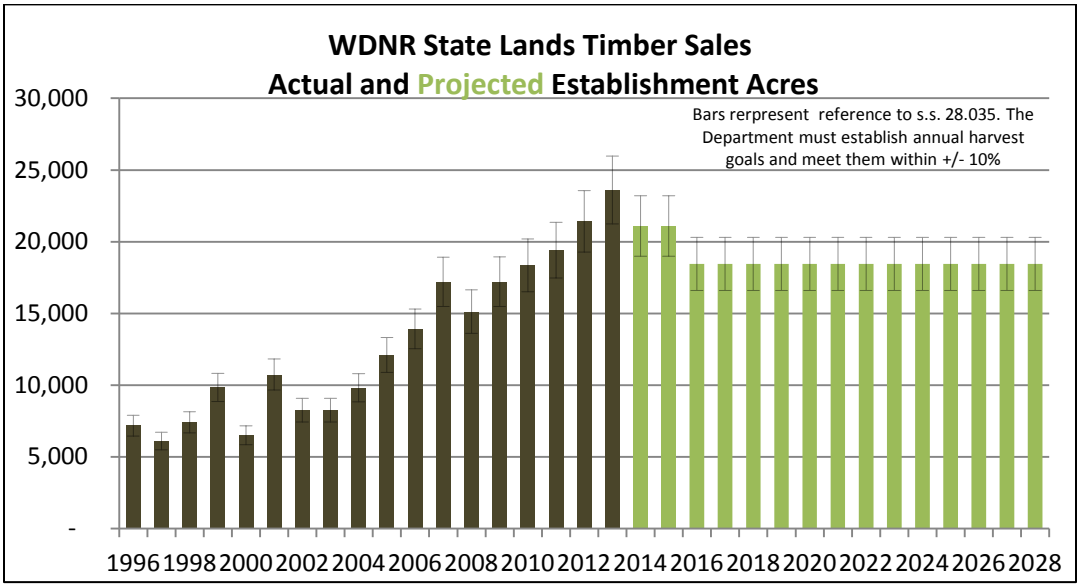
Established Timber Sales Not Yet Sold

There are a number of timber sales on state lands that have been established but remain unsold. These unsold sales fall into three general categories; pre-2007, 2008-2011, and 2012-present. Of those sales established prior to 2007, many are likely no longer legitimate operational timber sales and will be cleaned up in the timber sale database. A small subset of these may still be saleable, but the majority likely has significant operational concerns that have prevented them from being successfully sold when offered for bids. The sales established in 2008, 2009, 2010 and 2011 have most likely been advertised for sale, with many having been advertised more than once, but have not sold. The 2008-2011 sales will either be re-advertised, reviewed and adjusted to make the sale more appealing for re-advertisement, or held until such a time it can be combined with another nearby sale and advertised again. The chart below indicates there may be a potential of ~1,900 acres within the 2008-2011 timeframe that have been established but have not yet successfully sold. Sales established in 2012 and 2013 are in the final stages of preparation for advertisement, with some already having been advertised, and all are planned to be advertised for sale in 2014.



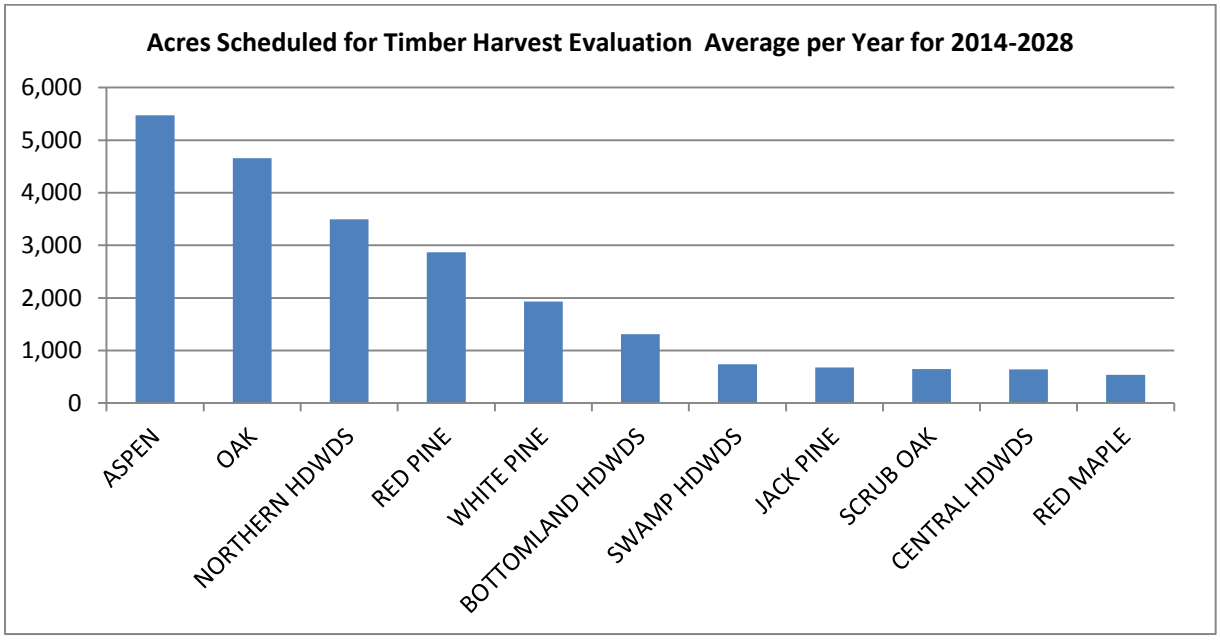
Projected Timber Sale Acres and Volumes

Projecting future harvest levels, both acres and volumes, can be done with relatively high confidence but there are a number of variables that impact harvest projections, including forest recon updates, master planning, management objectives, stand development conditions and markets. Annually, the Department runs harvest schedules that consider practices scheduled by the field foresters and uses constraints and area control calculations to produce a more regulated long term harvest schedule by acreage and timber type for the next 15 years. The constraints and area control calculations attempt to equally distribute harvest levels over the next 15 years on an annual basis for the Department's larger properties. The figure below shows the actual established acres from 1996 to 2013. The projected establishment acres for 2014 and beyond reflect the current 15 year harvest schedule averaged over that period.



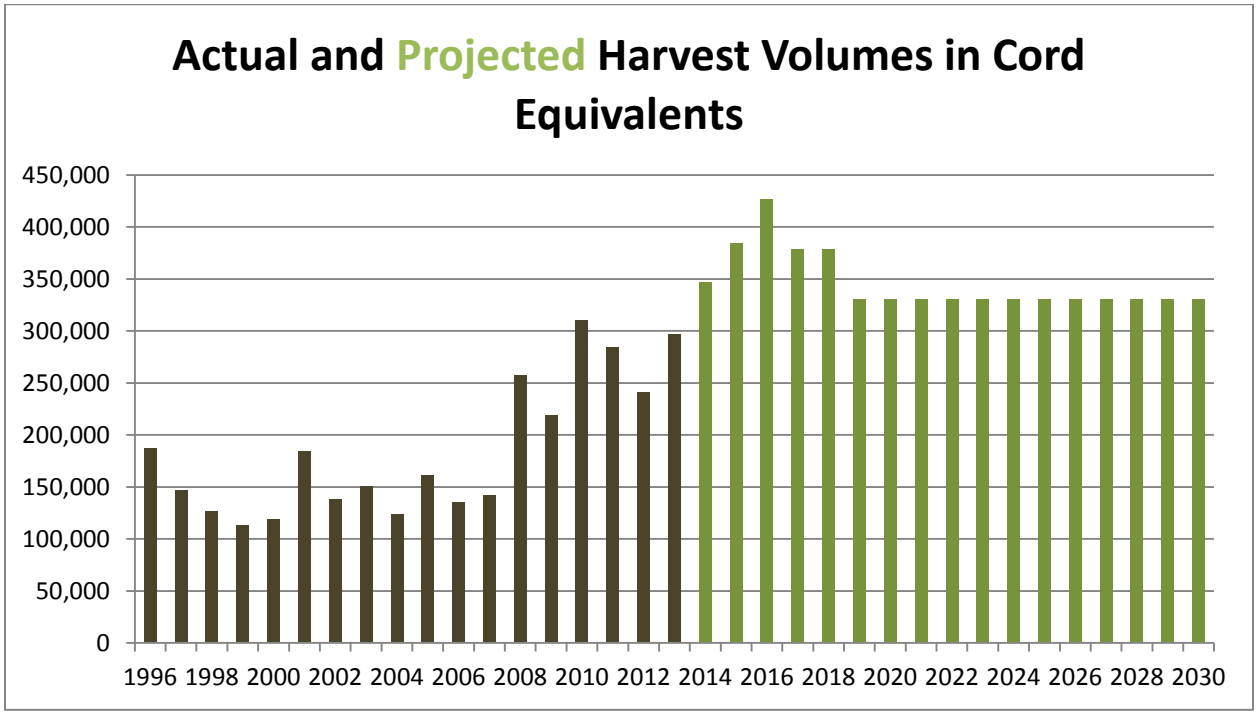
Methods: The data was pulled from the WDNR Wisconsin Forest Inventory and Reporting System (WisFIRS) in Feb, 2014. Acres represent the long term harvest establishment goal for all state owned lands. The long term harvest goal is defined as the annual average harvest evaluation goal for all scheduled practices in the next 15 years. The long term harvest evaluation goal was then adjusted to reflect that not all acres scheduled for harvest are ready for harvest establishment and are instead deferred to a future date. The average rescheduling "deferral rate" over the last three years is 25%, basically meaning 25% of the scheduled timber harvest, when evaluated, are rescheduled to a future year given the stand did not develop as predicted when the harvest date was initially prescribed by the forester. The harvest projection was increased for 2014 and 2015 to reflect the strategy that has been adopted to expedite the timber sale backlog on State Forests. State Forests have approximately 5,500 acres of backlog timber sales remaining which will be evaluated for harvest in 2014 and 2015.

The harvest schedule projects acres by timber type on an annual basis for the next 15 years. The figure below represents the annual average acres by timber type for 2014-2028.



Projecting harvest volume is not as predictable as harvest acres. Volume estimates are not determined until the time the sale is established and is dependent on stand conditions and management objectives. Even at the time of establishment, volume is an estimate, and actual volumes, although close to the estimates, are different.

Harvest volumes projected in this section are in units of total cord equivalents. Cord equivalent volumes presented in the graph below represent the actual completed harvest volumes through 2013 and are projected based on acres scheduled for harvest establishment into the future. There is on average a 2 to 3 year time lag from the time the timber sale is established until the completion of the timber sale. The projected harvest volumes for 2014-2016 are based on the acres actually established in 2011-2013 and for 2017-2028 are based on the acres projected to be established in 2014-2025. The average cord equivalent removal per acre for the past 5 years ('09-'13), which is 17.92 cord equivalents per acre, was used for to estimate future harvest volumes. The current five year average reflects an increase compared to an average of 17.60 cd. eq. /ac. for 2004-2008 and an average of 16.36 cd. eq./ac. for 1999-2003.

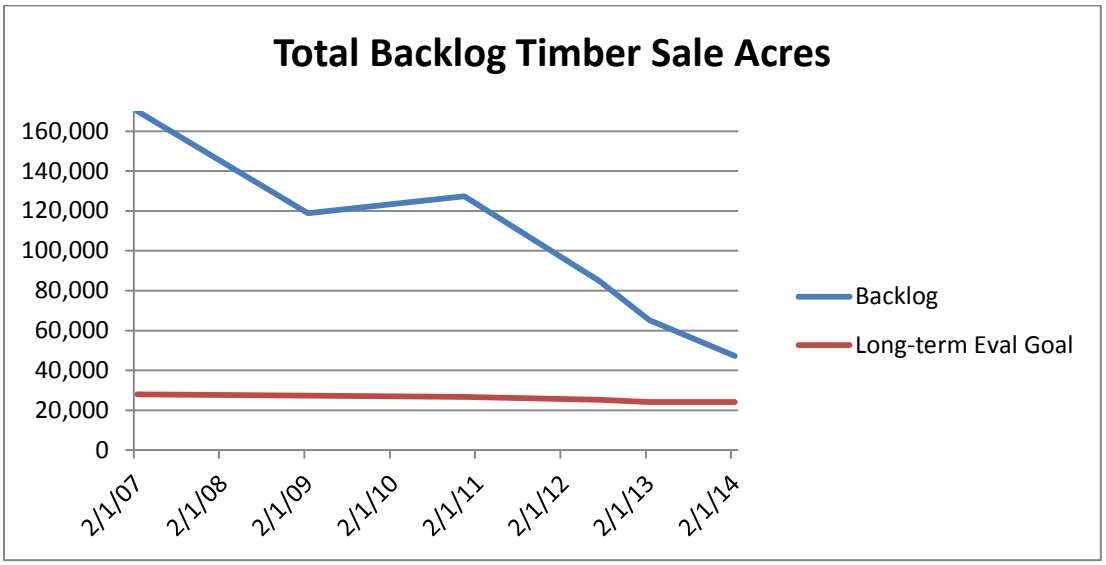


Backlogged Timber Sale Status

In 2011-13 DNR lands achieved 118% of the long term harvest goal statewide, which illustrates the success the department is having reducing the amount of backlogged harvests. There has been continued steady progress on reduction in backlogged timber harvests on both State Forests and non-state forest DNR lands.

Currently, on all DNR lands approximately 45,000 acres remain backlogged for harvest evaluation. This is approximately a 60% reduction since 2011. As a subset of that amount, the backlog on State Forest properties in particular has been reduced by over 80% to 5,500 acres, down from 28,000 acres in 2011. While the backlog has been reduced by nearly 60% since 2011, this continues to be a work in progress.

Collaboration with other DNR Land and Water Division programs (Parks, Natural Heritage Conservation, Fisheries, Wildlife, and Facilities & Lands) continues, in order to better ascertain in what stands timber harvesting is truly feasible and fits with property objectives. It is the purpose of a property which primarily drives the property objectives; for example, the purpose of a State Natural Area is much different from a State Park and as such their property objectives will influence forest management differently. Until those determinations have been finalized (through Master Planning, Interim Forest Management Plans, and Integrated Property Planning Meetings) the current harvest goals on these properties are likely slightly high.



DNR Property Master Plan Classification

The number and type of land management areas designated during master planning does not hinder forest management; rather it makes applying prescriptions more efficient by appropriately targeting management for each specific area. The land classification type does not by itself restrict forest management. The objectives for specific management areas within only a few land classification types routinely restrict forest management in a significant way (e.g. Wild Resource Management Areas). For example, the NHAL State Forest is approximately 230,000 acres in size with 195,000 forested acres; of those forested acres 173,000 acres (~89%) are available for active forest management.

Each Department property is managed according to a Master Plan. The Master Plan process and required elements are defined in Administrative Code NR44. A Land Management Classification system is part of and defined in NR 44. The land management classification system is used to describe the general management objectives for areas. The Department must assign a land management classification to each area, and the classification reflects the objectives and the management prescribed.

Master Planning Administrative code (NR44) includes and defines Seven Land Management Classifications, which include:

1.) Forest Production Management Areas
2.) Habitat Management Areas
3.) Native Community Management Areas
4.) Special Management Areas
5.) Recreation Management Areas
6.) Scenic Management Areas
7.) Wild Resource Management Areas

Dividing a property into different management areas based on management differences provides an orderly way to organize a plan and assign a general label to describe each management area's primary focus. There may be one or many management areas within each Land Management Classification and not all classifications have to be used. The number of areas depends on the size and commonality of the land base and management objectives. The different management areas reflect distinctive areas with differing management objectives. There may be multiple management areas within a property that have the same land management classification, but each area having a somewhat different management focus. For example the NHAL has six management areas classified as Forest Production Classification areas. The general objectives of the six areas are similar, but represent slightly different conditions.

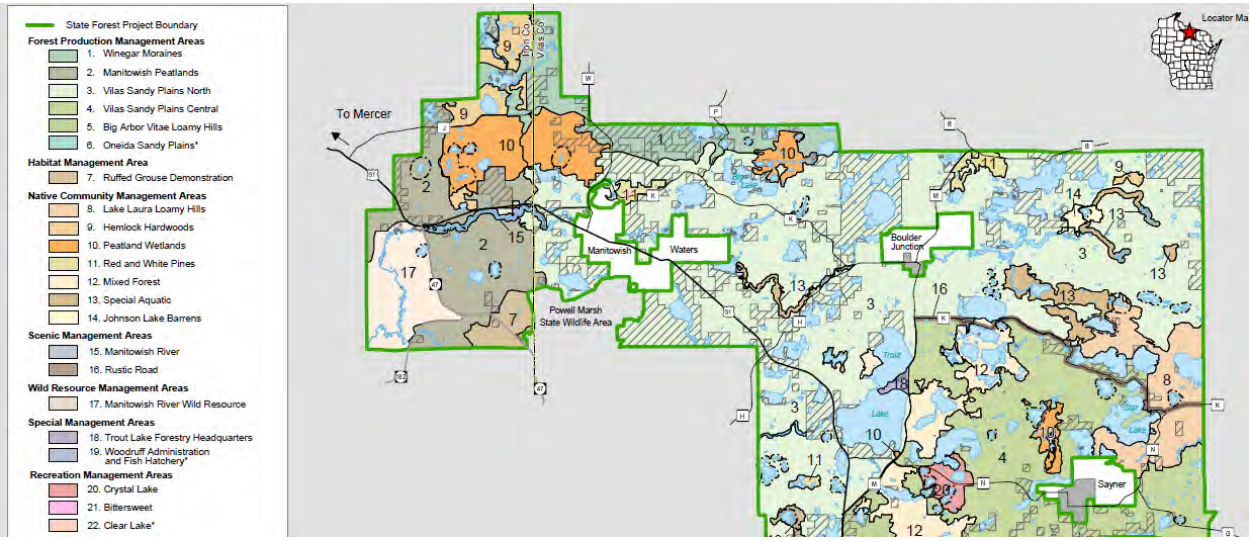
The NHAL, being the Department's largest property, at 230,000 acres, has all seven Land Management Classifications and a total of 22 management areas. Some Land Management Classifications have only 1 management area (e.g. Wild Resource) and others have up to 6 management areas (e.g. Forest Production). Management areas on the NHAL range in size from 100,000 acres (a forest production area) down to 300 acres (Special Management area – an administrative building area).

NHAL State Forest Land Classification Acres

Land Classification	**# of Areas**	**Total Acres**	**Total Forested Acres** (and percent of total)
Forest Production Mgmt	6	165,214	143,736 (87%)
Habitat Mgmt	1	5,278	4,328 (82%)
Native Community Mgmt	7	47,478	36,558 (77%)
Scenic Mgmt	2	560	269 (48%)
Wild Resources Mgmt	1	5,975	3,884 (65%)
Special Mgmt	2	270	251 (93%)
Recreation Mgmt	3	6,132	5,396 (88%)
Total	22	230,900	194,422 (84%)

Includes only acres owned and managed by the Department

NHAL State Forest Management Areas



<u>Status of Property Planning on Department Lands</u>

Property master plans are critical for determining and accomplishing land management objectives, including forest management practices. Master plans provide an assessment of current conditions, including forest cover types, age and size classes, and identify future desired conditions for the forest resources. Master plans facilitate cooperation among partners to address common issues and support the implementation of statewide objectives, while considering economic, ecological and social factors. The master planning process also serves as the primary opportunity for interested members of the public to provide input on the objectives and strategies used to reach those objectives at a property level. The master planning process is defined in Administrative Code NR 44.

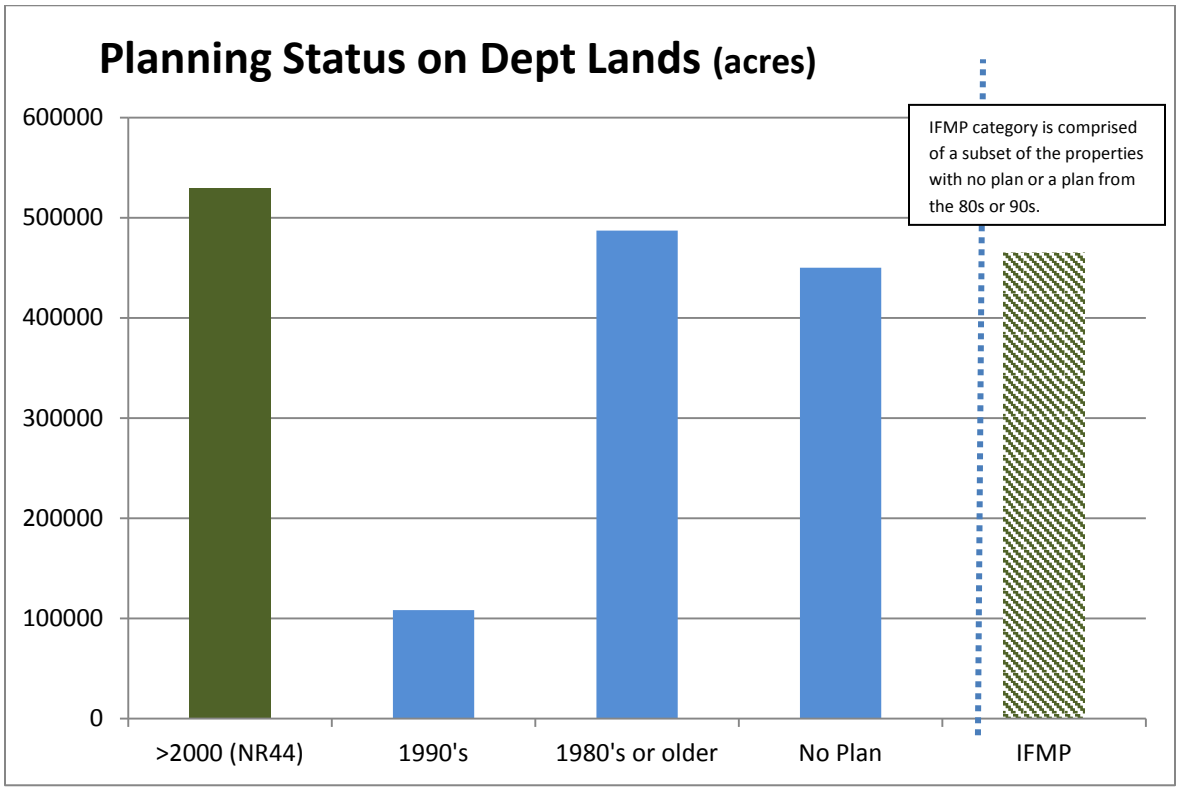
In recognition of the importance of master plans, the Department has developed and implemented a streamlined planning process to complete master plans. In addition, to further expedite planning for heavily forested properties with either no plan, or an outdated plan, a process called Interim Forest Management Planning, was created in 2012 to complete planning on the forested land base of Department properties.

Of the approximately 1.6 million acres the Department owns and manages, approximately 530,000 acres have an NR44 compliant master plan, updated since 1996. Approximately 1,050,000 acres have a plan older than 1996 or do not have a plan. All northern State Forests have a NR44 compliant master plan. Of the total of 1.6 million acres, approximately 980,000 are in a forested condition.

Interim Forest Management Plans have been completed on 465,000 acres of the 1 million acres with no or outdated plans to guide forest management in lieu of an updated master plan. Therefore, lands managed under a NR44 or Interim Forest Management Plan total approximately 1 million acres, approximately 63% of the total acres the Department owns and manages.

It is difficult to determine exactly what the impact of having an old or no plan is on the remaining properties in regards to forest management activities. Approximately 580,000 acres do not have an

NR44 compliant master plan or an IFMP. Updating plans and associated land management objectives for the properties without a NR44 plan or an Interim Forest Management Plan would provide more accurate and predictable harvest prescriptions, but scheduled harvest acres are dependent on a number of factors, including but not limited to; number of forested acres, management objectives, age class and stand conditions. It can be assumed that 50% of the acres without a plan of any kind are forested. That translates to approximately 290,000 acres that are forested but do not have an updated plan. This is the gap where forest management objectives are unknown or outdated on Department lands. Using the department's area control harvest method and average rotation ages would equate to approximately 300- 500 additional acres per year evaluated for management.



All partners and customers are strongly encouraged to participate in the process of developing master plans and interim forest management plans for DNR properties so that their unique interests can be incorporated into property objectives. Input from all interested stakeholders is vital in informing the development of property plans and can help ensure that all economic, social and environmental costs and benefits associated with various management objective options are fully considered prior to approval by the Natural Resources Board.