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BAYFIELD COUNTY FORESTRY & PARKS DEPARTMENT **ANNUAL WORK PLAN**

January 1 through December 31, 2025

The Bayfield County Forestry and Parks Department Work Plan for calendar year 2025 gives direction and meaning to the Forestry and Parks budget, further defines and supplements the Comprehensive Fifteen Year Land Use Plan, and emphasizes current goals and needs of the County Forest, Parks and Trails Programs. This plan also complies with Chapter NR47 Wisconsin Administrative Rules for the administration of the County Forest Administrator Grant Program.

SUSTAINABLE TIMBER HARVEST

One of the primary missions of the Bayfield County Forestry and Parks Department (hereafter “Department”) is to manage, conserve, and protect the natural resources of the county forest. Multiple use and sustainable forest management practices will be utilized to provide a wide variety of forest products and amenities for current and future generations. Sustainable forest management is commonly defined as meeting the forest resource needs and values of the present without compromising the similar necessities of future generations.

Wisconsin’s county forests are governed under County Forest Law (s. 28.11) and were created to become working forests, with an emphasis on optimizing the production of forest products and maximizing public benefits. Below is the purpose statement as found in s. 28.11(1):

The purpose of this section is to provide the basis for a permanent program of county forests and to enable and encourage the planned development and management of the county forests for optimum production of forest products, together with recreational opportunities, wildlife, watershed protection and stabilization of stream flow, giving full recognition to the concept of multiple-use to assure maximum public benefits; to protect the public rights, interests and investments in such lands; and to compensate the counties for the public uses, benefits and privileges these lands provide; all in a manner which will provide a reasonable revenue to the towns in which such lands lie.

Partnership with the DNR

In accordance with s. 28.11 (County Forest Law), the DNR oversees the county forest program. As per that partnership, the DNR provides an abundance of professional, technical and financial assistance to counties having lands entered in the county forest program. As part of the technical assistance, the DNR allocates a total of 46,000 hours, statewide, to counties having lands enrolled in the county forest program.

The amount of technical assistance (termed “time standards”) dedicated to each county is determined through a fairly complex formula. Past, present and future workloads are incorporated into the formula to determine the general scope of a county forest program and, subsequently, the level of assistance required by each county. Timber sale establishment, reforestation, regeneration monitoring, reconnaissance, timber sale administration, road and trail maintenance, as well as time associated with certification, work planning, various meetings, other professional services, and all associated paperwork (and more) are all part of the calculation. If the total request from all counties exceeds the 46,000 hour annual threshold, a general proration is adopted to equally adjust the final figure accordingly.

Time standards were recalculated in 2022. The new time standards are effective July 1, 2022 through June 30, 2027. For this next five year period, Bayfield County requested 4,817 hours of assistance. After all requests from other county forest programs were considered, a prorate of roughly 88% was applied. On the Bayfield County Forest, the annual time commitment allocated by the DNR to the county, after the pro-rate was applied, has been calculated at 4,271 hours.

This is the largest time commitment from the DNR to date. The previous time standard calculation was pro-rated to 3,640 hours/year. The significant increase in hours (when compared to the previous five years) is a direct reflection of the growth in various forest management programs that has occurred over the past five+ years, including, but not limited to: barrens management (primarily as it pertains to prescribed burning), timber sale establishment, timber sale administration, reforestation, regeneration monitoring (including CRS), forest reconnaissance (compartment and stand inventory), invasive species control, etc.

As part of the 4,271 hour time commitment, the DNR provides assistance in a variety of areas, including, but not limited to:

1. Establishment of timber sales. Roughly 20% to 25% of the annual sustainable harvest goal is accomplished by DNR foresters.
2. Forest reconnaissance (both compartment and stand updates).
3. Forest stand data entry (WisFIRS, see below) and maintenance.
4. Continuous Forest Inventory (CFI) plot sampling/data collection.
5. Regeneration monitoring, both artificial and natural.
6. Timber stand improvements (TSI).
7. Timber sale administration.
8. Barrens management, primarily as it pertains to prescribed burning, but could also involve roller chopping or similar mechanical treatments.
9. Mechanical site preparation for natural regeneration.
10. Mechanical site preparation for artificial regeneration.
11. County forest road and trail construction and maintenance.
12. Road right of way and wildlife (game) opening mowing/maintenance.
13. Support from professional forest management specialists, including forest hydrologists, wildlife biologists, forest ecologists, forest health specialists, GIS specialists, etc.
14. Support, manage and administer the county forest group certifications, for both SFI and FSC (both forest certificates are administered by the DNR through a group format).
15. Assistance in the development and maintenance of the comprehensive land use and annual work plans.

16. Function as a catalyst for the transfer of technology and professional or scientific information, as well as providing opportunities for training or enhancement.
17. Financial support through various grants, aids and loans.

Forest Certification

The Bayfield County Forest is dual, third party certified (as part of the Wisconsin County Forest Program group certificates, which are managed by the DNR). For the past decade plus, the Department has maintained forest certificates with both SFI (Sustainable Forestry Initiative) and FSC (Forest Stewardship Council). The DNR maintains all aspects (administratively and financially) of both the SFI and FSC group certificates.

The standards, principles and/or strategic direction of each non-profit, independent forest certifying body are developed by their respective board members and staff, which include representation from conservation organizations, academia, tribal entities, family forest owners, private forest landowners, public forest landowners and the forest products industry. Each certifying organization is further structured into three sectors (SFI) or chambers (FSC), incorporating environmental, social and economic components. This diversity reflects the wide variety of interests in the forest management community.

As part of certification, the county forest management program is audited annually against the standards, guidelines and principles of each independent organization. Maintenance audits are performed annually, with full re-certification audits occurring every five years.

Audits are generally held on a different subset of county forest properties every year. If an opportunity for improvement or corrective action is identified, the Wisconsin County Forests Association (WCFA) works with the DNR to resolve the issue. Re-certification audits are far more intense and in depth than annual compliance audits and, as such, require far more resources to complete. The last certification audit in Bayfield County was held in 2019 and was a full re-certification audit. Bayfield County will likely be selected for another site visit in 2026 or 2027. In the meantime, the Department will work with the DNR, WCFA and certification auditors, per normal, as part of the 2025 audit.

The results of the audit help to solidify and to reaffirm that the county forest is sustainably managed, not only to the standards and expectations of those auditing and overseeing the program, but also to the professional principles and values exhibited and demanded by the Committee and all team members within the Department.

Sustainable Harvest Goals

As of December 1, 2024, the Bayfield County Forest totals 178,387.06 acres, making it the third largest county forest in the state. Of that total, 175,347.06 are classified as county forest lands, while the remaining 3,040 acres are listed as county forest - special use lands. The special use lands are all located within the Bibon Swamp Special Management Area.

Optimizing the production of forest products was the primary reason the county forest program was developed. Timber harvests are important for the economic well-being of Bayfield County, as well as for the health and vigor of the forest.

One of the major objectives of timber management is to produce a perpetual sustained yield of forest products. In part, this is realized through the analysis and scheduling of forest stands for management and, ultimately, the development of sustainable annual and long-term harvest goals. Implementation of sound, professionally recognized forest management and harvesting techniques is an essential part of the process.

Numerous criteria are analyzed when developing short- and long-term sustainable forest management goals. Existing reconnaissance data (as entered and compiled in WisFIRS, short for Wisconsin Forest Inventory and Reporting System, a data management application developed and maintained by the WDNR), along with thorough field inspections conducted by professional Department and DNR foresters, will be used to determine which stands are ready for treatment.

The adoption of an extensive Continuous Forest Inventory (CFI) program will yield additional information on the growth and development of the forest. This information will also be used to assist in the development of short- and long-term goals. See page 37 for more information on the CFI program.

Short- or long-term adjustments to the management approaches or philosophies of specific forest types may also be incorporated in the goal development process. Such modifications may be needed as a means to address numerous challenges that eventually (or inevitably) arise over the course of managing a vast and diverse forested resource. Some of which include: addressing unbalanced age class distributions; the management direction of timber types where a large percentage of the acreage base is either at or approaching maturity; unpredicted or unexpected responses to previous silvicultural treatments; response to insect or disease outbreaks or other natural events (i.e. wind storms, extended drought, Emerald Ash Borer, gypsy moth defoliation); challenges regarding natural or artificial regeneration (i.e. deer browse or other forms of herbivory, invasive species control, competition from undesirable vegetation, etc); incorporation of carbon metrics; and responses to research or other professional recommendations regarding the management approaches of specific forest types or communities.

In addition, the long-term monitoring of stands that have previously received treatment is crucial in determining the success of past management practices. The results of previous management will also aid in the development and implementation of future prescriptions.

- County Forest Sustainable Harvest Goal: the estimated 2025 sustainable timber harvest goal for the Bayfield County Forest is 4,000 acres. This represents an increase of 50 acres (roughly 1%) when compared to the harvest goal for 2024 (3,950 acres).
- Other County Owned Lands: in addition to the sustainable harvest goal for the county forest, other county owned lands (not county forest) are expected to be managed in 2025. Roughly 75 acres of county land in the Town of Iron River will be managed and included as part of the normal spring timber sale offering. These acres are not included in the harvest goal for the county forest and will be administered and accounted for separately.

Sustainable harvest goals are generated for every major timber type on the forest. In general, data is analyzed internally and goals are established, by the Department, for each primary management type/method (i.e. thinning, uneven-aged management and even-aged management).

Below are the harvest goals per primary forest type:

Table 1: Sustainable Timber Harvest Goal (acres)

Timber Type	2021	2022	2023	2024	2025
Aspen	1,600	1,305	1,205	955	1,060
Northern Hardwood	782	765	748	765	660
Red Maple	44	76	25	40	40
Red Oak	681	733	691	660	650
White Birch	0	30	0	30	20
Scrub Oak	214	232	113	100	135
Red Pine	1,071	1,135	1,059	1,175	1,325
Jack Pine	232	144	80	73	90
White Pine	93	123	119	66	20
Swamp Conifer	110	0	0	0	0
Swamp Hardwood	414	0	0	0	0
Fir/Spruce	0	0	0	86	0
Total	5,241	4,543	4,040	3,950	4,000

In addition, whenever possible, each management goal is further summarized by Integrated Resource Management Unit (IRMU). Establishing a goal per IRMU ensures that management is equally distributed throughout the forest (to the extent feasible) and that minor nuances inherently found within each unit are addressed independently, with adjustments made to the goal accordingly, and as needed.

As previously stated, numerous factors have the potential to influence the harvest goal for any given year. Below is a brief summary regarding the 2025 management approaches, issues, philosophies, and/or direction for the major timber types on the forest:

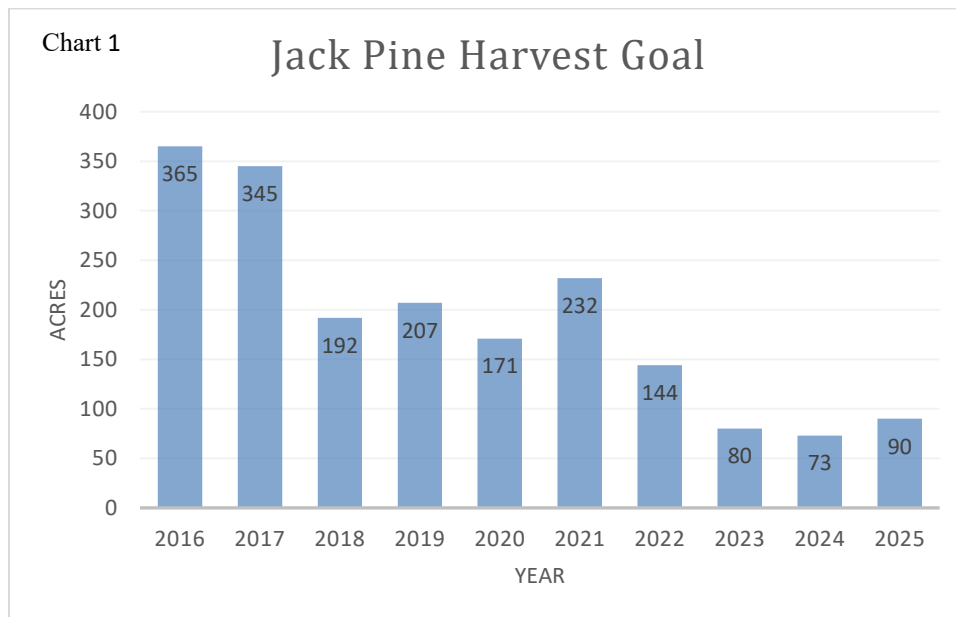
Jack Pine:

At nearly 11,500 acres, jack pine is the fifth largest timber type (by total acreage) on the county forest. It's also a very young type, with over 50% of the acreage base less than 20 years old and nearly 90% less than 35 years old.

Jack pine exists in basically two areas on the forest, all within the Northwest Sands Ecological landscape. Roughly 2,500 acres occurs on sandy soils in the northern parts of the county (mostly east of Valhalla – on the northeastern most fringe of the NW Sands) and roughly 9,000 acres in the barrens areas located between Iron River and Barnes.

Most of the jack pine stands located in the barrens north of Barnes are part of the Barnes Barrens Management Area (BBMA). Currently, roughly 7,000 acres of jack pine is located within the BBMA. This special management area was formally designated in 2012 with the goal of developing and maintaining critically important Pine Barrens habitat through the simultaneous management of jack pine and open/early successional barrens. Among other things, the Barrens Management plan defines operational parameters and guidelines that must be followed to achieve the desired future condition. See the barrens management section below for more information on the BBMA.

Below is the sustainable harvest goal for the jack pine type over the last 10-year period.



For the past decade, the Department has prioritized carrying mature stands of jack pine on the landscape for as long as possible. This was done primarily to provide a relative even flow of annual harvest, as well as to maintain a level of mature jack pine on the forest (i.e. structural diversity and wildlife habitat).

However, many mature stands were experiencing significant mortality, at levels equal to or exceeding 30%. A higher percentage of dead and dying trees also increases the risk of insect and/or disease outbreaks (as well as heavier fuel loads), which would potentially have a negative impact on other stands in the area.

As a result, the short-term objective was to manage all stands experiencing 30% mortality or greater within a three to four year period (or longer, if at all possible). That process started in 2016 and continued through 2022 and is the primary reason for the substantial spikes in harvest goal for 2016 and 2017, and again in 2021.

With the management of the over mature stands mostly completed, it is anticipated that the vast majority of remaining mature jack pine will be managed within the next three to five years (again, with an emphasis on carrying mature stands for as long as possible). Afterwards, it is anticipated that there will be a relatively short window (likely around ten years) with significantly less jack pine on the harvest schedule, which may include years with no harvest goal, until the next wave of age classes begin to reach maturity.

- The 2025 goal for jack pine is 90 acres and divided as follows:
 - All stands are located outside of the BBMA, in IRMU 3.

If the Department determines that other stands are rapidly deteriorating or otherwise need to be managed immediately, the goal for 2024 may be adjusted accordingly.

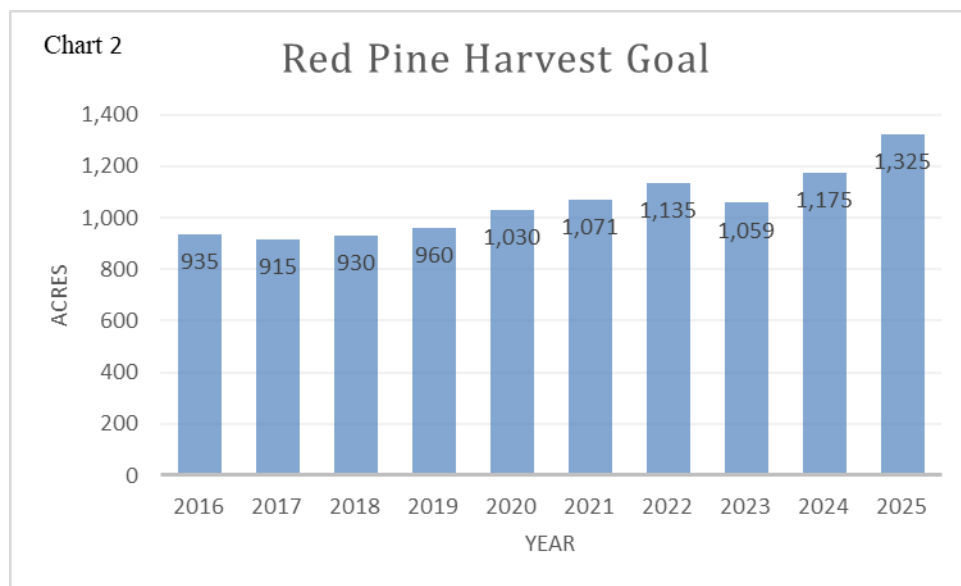
Red Pine:

Red pine is the second largest timber type (by area) on the county forest, comprising nearly 19,000 acres. Most of the acreage base is comprised of plantations, but nearly 1,500 acres of natural stands exist. Natural stands tend to be older (90+ years old), contain a higher percentage of larger trees, much smaller in size (acreage) and widely scattered throughout the forest.

The traditional model for red pine management is fairly simple. Most of the management centers around stands of artificial origin (plantations). In plantations, once stands reach merchantability they are ready for management (typically around 30 years old), and a timber sale is established. The first sale generally includes the harvest of roughly 1/3 of the stand density, often involving the removal of every third row.

Harvest cycles are repeated about once every ten years, with subsequent entries usually involving individual tree removals (rather than entire rows). Once a stand has been thinned about three times, harvest intervals tend to slow a bit, primarily contingent upon the growth response from previous treatments. After the third thinning, future harvest intervals may still be on 10 year entry cycles, but more typically end up closer to every 12 to 15 years.

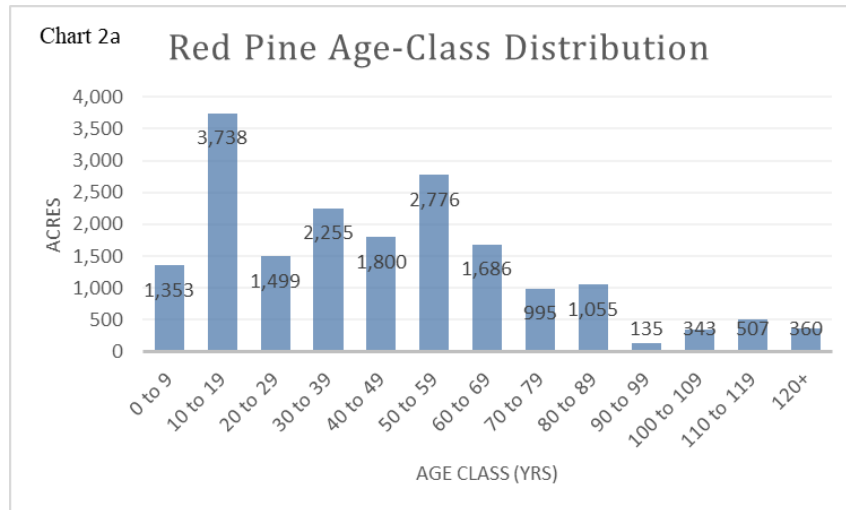
Below is the sustainable harvest goal for the red pine type over the last 10 year period.



As per Chart 2 above, over the last 10 years, the harvest goal for the red pine type has increased by about 45%. This is primarily due to an increase in younger plantations ready for management, actions taken within the BBMA, and the beginning stages of rotating older plantations.

Depending on a variety of factors, including responses to previous treatments, presence of insects and/or disease, general management direction for the timber type, forest product development and markets, etc., the stand (plantation) can be rotated anywhere between 70 and 120 years of age (a little earlier or later depending on the above-mentioned factors).

Below is the current age-class distribution of the red pine type:



Rotation typically involves prescribing a clearcut or similar even-aged treatment, in which all trees are removed. This is especially critical if re-establishing a red pine plantation, as older trees (if retained) can become vectors for future insect or disease infestations. Natural stands are managed as well, with a focus on stands of higher density or those that have enough acreage for a viable commercial harvest. However, over 95% of the harvest goal is typically derived from the management of plantations. And most of the acreage base younger than 90 years old is in the form of a plantation. Additionally, opportunities exist to extend the rotation on natural pine plantations, for the purpose of landscape and ecological diversity, as well as alternative carbon management.

Plans for the BBMA involve the eventual conversion of most existing red pine stands to jack pine. In zones 1-3, existing red pine stands will remain mostly on traditional thinning schedules, until time to begin zone development (starting in zone 1, either in 2035 or 2040). In zone 4, the remaining existing red pine stands will also continue to be treated on traditional thinning schedules. Though an opportunity exists to either rotate the oldest plantations now (currently around 59 years old) or wait until reaching this zone in the future (likely between 2072-2076), at which time the oldest stands would be around 110 years.

- The 2025 goal for red pine is: 1,325 acres (roughly 1,055 acres prescribed for thinning and 270 as regeneration) and is summarized as follows:
 - Outside of the Barrens: 740 acres will be thinned and 270 acres will be regenerated;
 - Inside the Barrens (IRMU 9), not including Zone 4: 215 acres will be thinned and 0 acres will be regenerated;
 - Within IRMU 9, Zone 4: 100 acres will be thinned and 0 acres will be regenerated.

The total goal represents an increase of about 150 acres (or about 13%) when compared to the goal for 2024 (1,174 acres).

Three additional goals will be prioritized for red pine in 2025:

1. Determine the optimal economic rotation age for plantations. This will involve additional data collection (targeted stand updates) and analysis, as well as carbon metrics, with the goal of determining the optimum time to regenerate most stands of artificial origin (plantations).

This may involve rotating some stands early to establish a more even flow of regeneration harvests. This will also involve determining opportunities for extended rotations, to better capture landscape, structural and ecological diversity, as well as maximizing carbon storage.

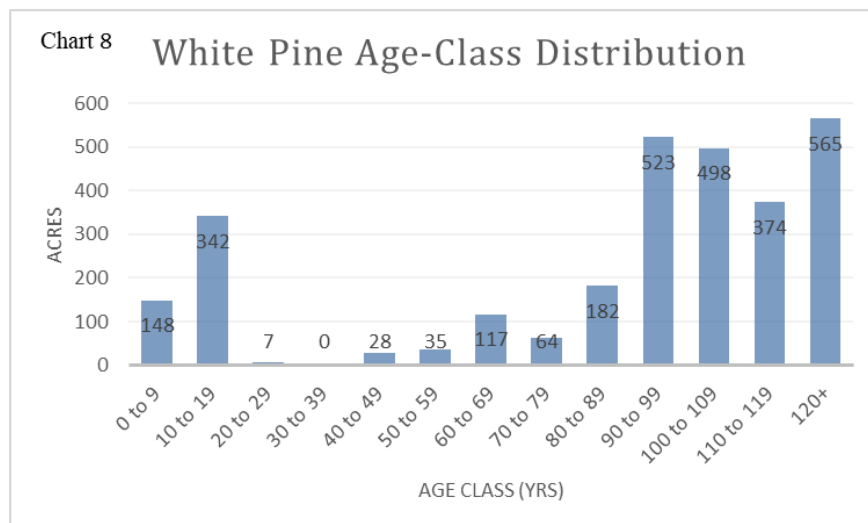
- a. This will involve collecting data on about 25% of plantations currently greater than 59 years old, excluding stands of natural origin. And will amount to about 1,000 acres total.
2. Continue prioritizing the field examination of all older natural origin stands to establish the next treatment. This could include prescribing a thinning or regeneration harvest, as well as an extended rotation or removing from the harvest schedule altogether.
 - a. In total, there are a little over 100 stands and 2,000 acres of red pine 80+ years of age.
3. Determine harvest priorities in zone 4 of the Barnes Barrens Management Area (BBMA). Targeting the oldest plantations. Primarily to determine if it is more feasible to rotate now or keep on a traditional thinning schedule until work on that zone formally commences in 2072 or 2076.
 - a. In total, this would involve 8 stands greater than 50 years of age and total roughly 315 acres.

As per the Barrens Management plan, a core goal is to establish/prioritize a thinning and regeneration schedule for each stand through 2035-2040. During that process, short or long-term adjustments may be necessary to assure compliance with the goals of the Barrens Management plan. Within the BBMA, it is critical that stands are regenerated (or on a feasible path for future rotation) at the designated time periods established for each zone. Every few years it is necessary to re-analyze stand data and determine if modifications are required to achieve optimal results.

White Pine

White pine totals nearly 2,900 acres and is the 9th largest cover type on the county forest. In general, most of the white pine type is considered mature, with roughly 75% of the total acres over 80 years of age.

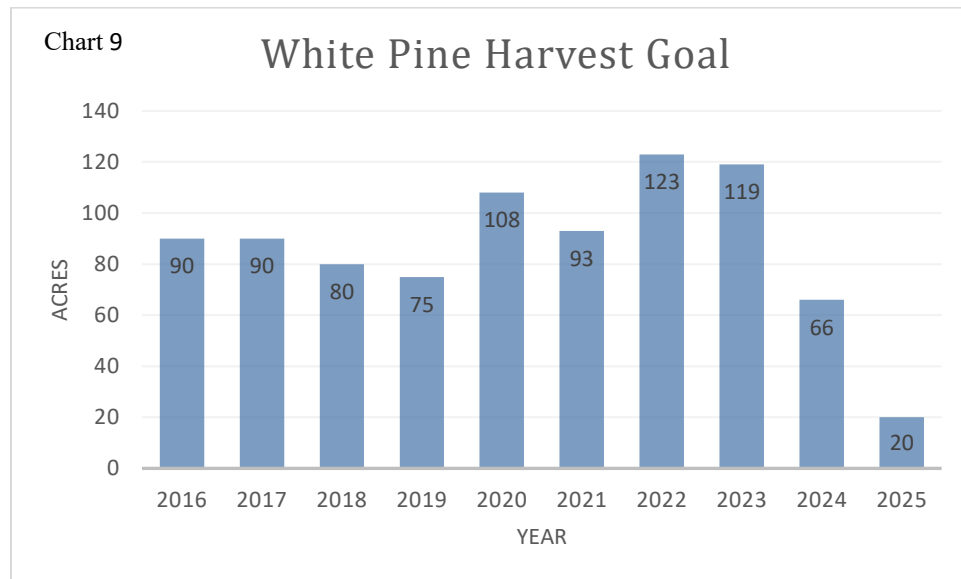
Below is the current age-class distribution of the white pine type:



Roughly 2,200 acres is currently 80 years of age or older. Of that, a little over 1,400 acres is over 100 years of age (so roughly 50% of the total acreage base is over 100 years old).

Management of the white pine type has traditionally been an equal mix of thinning and regeneration in the older types. And a general goal of managing this type is to extend the rotation of stands of natural origin whenever feasible. For the purposes of landscape, structural and ecological diversity, a little over 1,000 acres, mostly stands 90 years of age or older, have been removed from the harvest schedule and are not currently being considered for timber management.

Below is the sustainable harvest goal for the white pine type over the last 10-year period.



- The 2025 goal for White Pine is: 20 acres.

Aspen:

At nearly 82,000 acres, aspen is, by far, the largest cover type on the county forest (roughly 46% of the entire ownership and 50% of the forested acres).

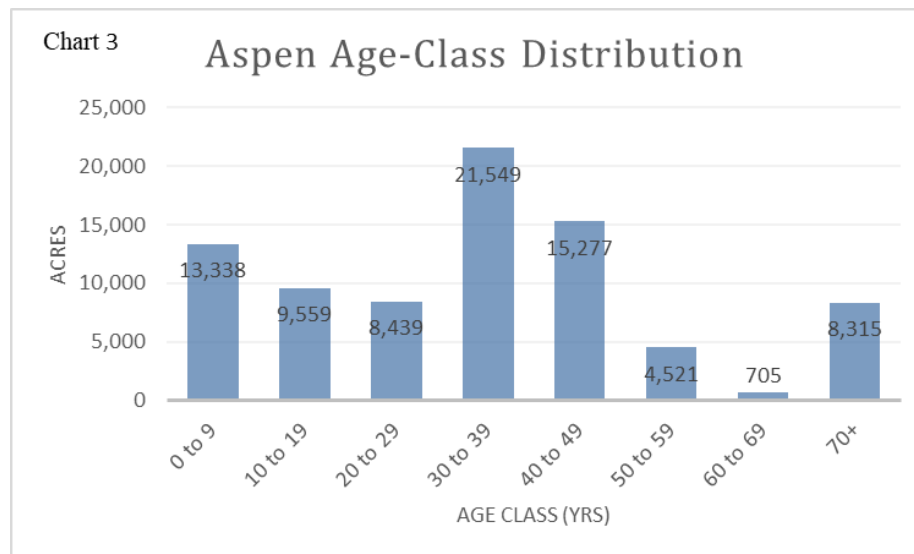
The management and regulation of the aspen type is relatively straight forward. Under ideal conditions, and assuming an equal distribution of age classes, the sustainable harvest goal for aspen is calculated by dividing the total acreage by the rotation age. The rotation for aspen varies, in part, by location and site quality, but generally is 50 years of age (sometimes longer on the highest quality sites or shorter on poorer sites). When considering just the raw numbers, and using an average rotation age of 50 years, the optimal, regulated sustainable harvest goal for aspen would be roughly 1,600 acres per year.

When calculating the long- and short-term sustainable management goals for the aspen type (as is done with all other forest types), all data is analyzed by location (IRMU – Integrated Resource Management Unit). Each IRMU represents a general area of the forest. Each area contains slightly different growing conditions, influences and management history.

Within each IRMU, current age class distributions, site quality, previous management (or stands excluded from management), recommended forester prescriptions, etc., are all weighted and analyzed to determine the harvest goal per unit. Current age class distributions are charted against desired distributions to determine if additional adjustments to the management strategies are needed or feasible.

In some cases, like those we are experiencing now, the Department may need to enter stands a little sooner (i.e. potentially as early as 40 to 45 years old), to better distribute age classes on the landscape and avoid similar problems in the future. However, markets and the locations of each stand can have a significant impact on whether accelerations of the harvest schedule are feasible.

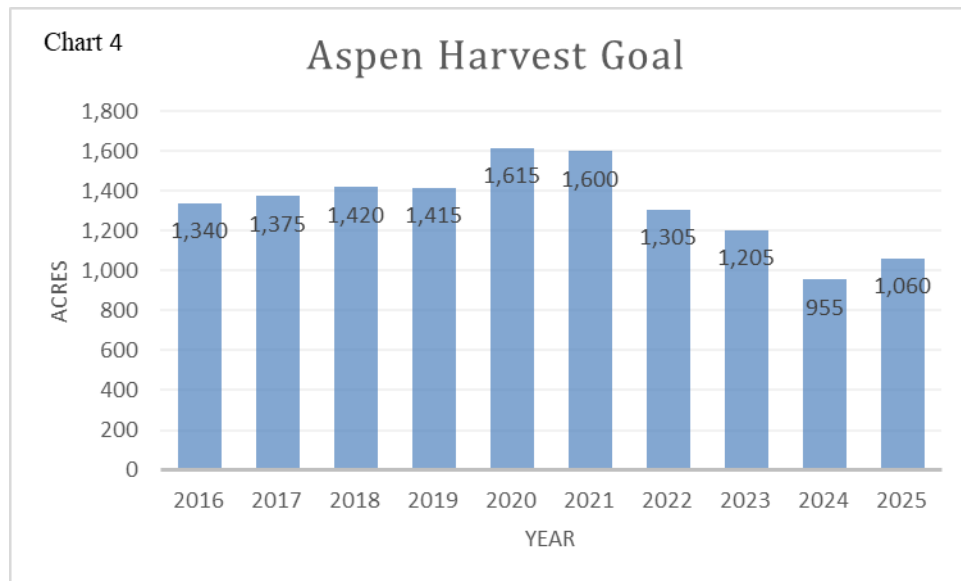
Chart 3 below summarizes the ten-year age classes in the aspen cover type:



Ideally, all things being equal, and if fully regulated, each 10-year age class, from 0 to 50, would contain around 16,000 acres of aspen (using 82,000 acres and a 50 year rotation). As per Chart 3 above, there is a disproportionately larger amount of acreage in the 30-39 and 40-49 year old age classes. When this happens, it's generally referred to as a “wave” or “bubble”. The total amount of aspen between 30 to 49 years of age (nearly 37,000 acres) is over double the total amount in the 10 to 29 year old class (nearly 18,000 acres). Also, of the over 9,000 acres currently found within the 60+ age class, roughly 90% has been removed from the harvest schedule, primarily due to being located within a riparian management zone (RMZ), and is treated as unmanageable. To address the relatively large wave of aspen soon to reach maturity, the Department may need to make minor adjustments to the management approach for this type.

The current age class distributions in each IRMU are slightly different, but, in general, are heavily clustered in 25 to 44 year old categories. For example, in IRMU's 1 and 2, the 25 to 44 year old age class contains roughly 60% of the total aspen acreage in each unit. When the type is closer to being fully regulated, it should be in the 35% to 40% range, each; in IRMU 4, the 45 to 54 year old age classes contains about 42% of the total acreage (should be closer to 20%); and in IRMU 8, the 30 to 49 year old age class contains nearly 60% of the acreage (should be around 40%).

Below is the sustainable harvest goal for the aspen type over the last 10 year period.



In 2020 and 2021, the Department started to actively address the younger age class bubble in the aspen type. In general, assuming a rotation age between 50 and 55 years, each 5 year age class (0 to 4, 5 to 9, 10 to 14, etc) should contain about 9 to 10% of the total acreage for that type (one goal of management is to create an even distribution of age classes over the landscape, whenever practical).

However, treating younger stands can pose numerous challenges. Younger aspen stands naturally contain a higher proportion of smaller diameter trees. Market conditions have a much stronger influence on the demand for smaller diameter aspen sales (when compared to those with a sizeable run of bolts or larger diameter trees). And many of the younger stands occur in areas that require frozen ground to harvest. Over the past few seasons, the Department has seen a much lower demand for the younger, smaller diameter aspen sales (basically stands between 40 to 44 years of age), including a decrease in stumpage values and many no-bid sales. This trend is exacerbated when the sale also occurs on frozen ground.

While the earlier attempts to address the bubble included treating stands as young as 43-45 years of age, a recent ongoing internal analysis of the data suggests that aspen is generally more marketable at age 48 or older (or when QMD reaches roughly 7.5 inches). As a result, the annual harvest goals are currently calculated using 48-49 years as the lowest age class used for harvesting considerations, unless otherwise prescribed for treatment by the forester. Carbon metrics also have the potential to influence future management strategies in the aspen type, primarily as it relates to finding the sweet spot between optimizing the production of timber products with climate related priorities.

These adjustments will produce similar benefits as addressed in the red oak section, including a more regulated distribution of aspen on the landscape. When fully regulated (and when all stands excluded from future management are removed from consideration), the sustainable harvest goal for aspen will be about around 1,500 to 1,600 acres per year.

- The 2025 sustainable harvest goal for aspen is: 1,060 acres. This represents an increase of 105 acres (roughly 11%) when compared to the goal for 2024 (955 acres).
 - The fluctuations in goals over the last five years is generally due to the Department addressing the large wave of relatively narrow age class distributions, as described

above. However, the relatively significant decrease in acres, when compared to 2020 and 2021, is the result of a decision to limit the amount of harvesting that will occur in the younger age classes. In 2020 and 2021, some management was accomplished in the 43 to 45 year old age class in an attempt to better spread out the curve. This was determined to be ineffective, as some stands of aspen were still relatively small (average diameter) and subsequent bid prices were well below average, due to low interest and poor marketability.

It's worth noting that the aspen type, particularly trembling aspen, is predicted to be one of the more negatively impacted forested communities, when modelled against a potentially warming climate. With roughly 50% of the ownership comprised of the aspen type, most of which being trembling aspen, that is a significant concern.

At greatest potential risk would be stands currently developing on sites of poor quality, where nutrients and/or moisture are most limited and trees are inherently stressed. Aspen developing on these habitat fringes or areas that are dry to very dry, as well as those that are overly wet, would be the most at risk. Starting in 2019, the Department established a process to target the re-assessment of aspen stands to help determine susceptibility and, if climate change models are correct, flesh out future management strategies and goals. This will continue in 2025.

Since predicted warming climate related impacts are expected to be decades away, any modifications to management would most likely occur well into the future (when the youngest stands approach maturity). Still, having the discussion now will allow us to be better prepared, especially if predictions hold true.

Recently, as part of routine stand inventory and the establishment of CFI plots, the Department has noted the presence of hypoxylon cankers in numerous stands of aspen. Hypoxylon is a fungus that infects the trunk and branches of aspen. Quaking aspen is most susceptible, but it can infect bigtooth as well. Once a tree is infected, the fungus spreads until the tree is effectively girdled. Once a tree is infected with hypoxylon, it can die within 3 to 8 years. The fungus survives from year to year in the canker on infected trees.

Through the compartment inventory process (and prioritizing compartments heavier to aspen), the Department will continue examining stands that have the potential to be infected with hypoxylon. Using LiDAR, various elevation models, and growth charts for aspen, the Department has developed a model that can isolate stands (digitally) that appear to be underperforming (shorter in height than what is expected). A subset of these stands will be field inspected to determine if hypoxylon is present and, if so, the next course of action. The subset will also help to determine if additional surveys are necessary. If significant levels of hypoxylon are discovered, the harvest goal and/or stands prioritized for treatment, may be adjusted accordingly.

In 2023, the Department implemented a re-inventory of aspen stands located within the 39-45 year old age class to better determine average stand diameter and species composition. The goal of the inventory is to establish a tighter future management date and prescription. The improved information will also be used to more accurately predict stand readiness and estimation of future sustainable harvest goals. The re-inventory process will continue in 2025 and may include a representative sample of the 34-38 year old age class, 45+ year old age class and/or a deeper dive

into each IRMU to better map out anticipated harvest levels over the next five years (until the next big wave of stands are ready for management), as time allows.

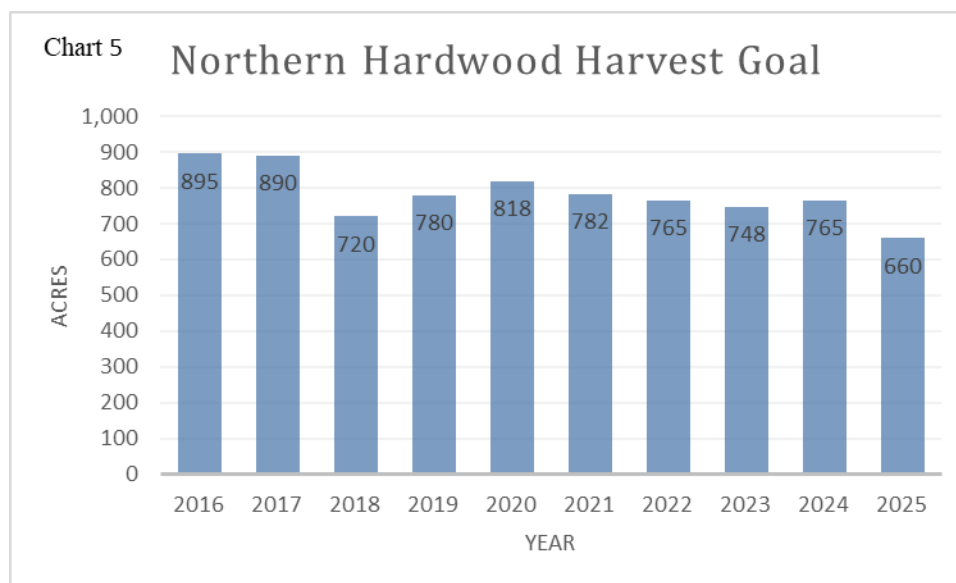
Northern Hardwood:

Northern hardwoods comprise just under 17,000 acres and represent the 3rd largest cover type on the county forest. The Department continues to re-evaluate the management approach on all stands of northern hardwood, especially those developing on medium to medium poor quality sites. In general, the Department is finding that more intensive or less traditional methods of management on these poorer quality sites, utilizing larger canopy gaps, groups or patches, or even aged practices, generally yield better results.

Preliminary results from forest regeneration monitoring efforts have found that northern hardwood stands, developing on drier (or wetter) sites of medium to medium-poor quality, are generally not responding as desired to the traditional methods of management. Growth of residual trees has also been relatively poor, desired regeneration has been sporadic and slow to develop, and competition from undesirable species has been, at times, very aggressive (primarily ironwood).

Through routine and regular regeneration monitoring, the Department is also discovering that regeneration gaps (associated with traditional un-even aged management practices) are oftentimes dominated by ironwood, while the preferred species that do regenerate (i.e. maple, basswood, yellow birch, oak) are lower in number, slower to develop and/or are repeatedly browsed by deer (which allows them to get quickly overtopped by undesirable species). Growth and development on the remaining stems are also largely poor and slow, with stands, in general, just not responding, as desired, to the traditional practices.

Below is the sustainable harvest goal for the northern hardwood type over the last 10 year period.



The northern hardwood type was completely re-inventoried in 2018-2019. Emphasis was placed on examining stand and site quality (both existing and potential), responses to previous management (if applicable), and the development of new prescriptions.

As expected, upon completion of the re-inventory process, there was a general increase in stands that will be managed with more intensive even-aged treatments, especially those developing on poor to medium-poor quality sites. Whenever feasible and/or practical, stands on medium quality or better sites will continue to be managed with more traditional un-even aged prescriptions, though intensity may vary depending on many factors and/or concerns previously listed. More recently, even stands that were previously slated for even-aged management have been re-scheduled to all-aged with larger groups or patches. Approaching lesser quality stands in this manner will improve structural and wildlife diversity, extend rotations, maintain connected landscapes, and help achieve some climate/carbon related goals.

Whether traditional or more intensive, regeneration gaps, patches or groups associated with all uneven-aged treatments will continue to be designed and applied systematically. The systematic approach to gap/group placement ensures that all are of the appropriate size classes are evenly distributed throughout the stand. Systematic application also helps to ensure that prescribed stand level regeneration gap targets are met (i.e. a typical prescription may have a goal of 10% to 20%, sometimes more, of the stand in regeneration gaps or groups).

Knowing the general gap size and total number installed also makes it easier to determine stand level accomplishments. Flexibility is also part of the design, as each regeneration gap can be moved slightly or excluded altogether, depending on the overall goals of the prescription. Systematically installed gaps are also easy to re-locate, which is critical when performing routine monitoring or when needing to address issues/concerns regarding regeneration (i.e. site preparation, competition control, invasive species treatment or supplemental planting).

When utilizing un-even aged management methods on the poorer quality sites, whenever practical, larger gaps (or groups) will be incorporated with lighter thinning to maintain structural integrity within the stand, develop a new age class, increase species diversity and improve quality on the remaining/residual trees. In general, it's understood that growth and development on poorer quality stands will be significantly less than similar treatments on better sites. It is also anticipated that the amount of time between thinnings (or thinning intervals) will also increase in stands developing on poorer quality sites.

Traditional approaches/instructions pertaining to northern hardwoods management indicate that re-entry should be attainable every 10 to 20 years, depending on growth and response to previous treatment. However, as previously stated, northern hardwood growth and development is typically much slower on sites of lower quality. In some situations, re-entry may only be feasible every 20 to 30 years. As with all plans, goals and direction may be modified based, in part, upon measured responses to previous treatments.

- The 2025 goal for northern hardwoods is divided into two categories: un-even aged management (and/or thinning) and even-aged management.
 - The overall northern hardwood management goal for 2025 is: 660 acres. This represents a decrease of 105 acres (roughly 14%) when compared to the goal for 2024 (765 acres).
 - The goal for un-even aged management is: 390 acres.
 - The goal for even aged management is further divided into two categories: even-aged management (i.e. even-aged thinning, shelterwood, seed tree,

clear-cut, etc.) and overstory removals (final phase of a previous shelterwood harvest). Because a shelterwood oftentimes contains two distinct phases/stages (and sometimes more) to complete the regeneration process (within a relatively short period of time - i.e. 5 to 8 years), it is important to develop a goal that will target the final treatment (overstory removal). CY 2019 marked the first time that overstory removals were tracked as a separate goal in the northern hardwood type.

- The goal for even-aged management is: 250 acres.
- The goal for overstory removals is: 20 acres. As previously stated, 2019 was the first year that a goal for overstory removals was adopted. It should be noted that overstory removals are only prescribed if adequate levels of desired regeneration have been achieved in a stand.
 - All stands currently scheduled for an overstory removal will be surveyed for adequate levels of desired regeneration. If the desired level has been achieved, the treatment will be prescribed. If not, the Department will re-analyze the stand and determine the next appropriate course of action.
- Depending on stand conditions, site characteristics and responses to previous treatments, the sustainable harvest goals for all-aged management and even-aged management are targets. Actual accomplishment rates will vary based on the factors stated above, as well as other external factors that have the potential to influence the development of any given stand. For example, after a thorough examination, some stands scheduled for a thinning or all-aged harvest may be regenerated. While some stands scheduled for a regeneration harvest may be determined to benefit from a thinning or all-aged management.

Based on the updated recon information (and readiness of overstory removals), the total harvest goal for northern hardwoods is expected to continue to hover between 650 to 800 acres per year. In general, the total amount of northern hardwood acres thinned (un-even aged management and/or even-aged thinning) have decreased slightly, while the amount of acres regenerated (even-aged management) have increased. However, since more trees per acre are removed during regeneration harvests (when compared to lighter thinnings), the total amount of northern hardwood volume should remain relatively consistent per year.

Red Maple:

Also, starting in 2019, red maple will continue to be accounted for as a separate goal (prior to 2019, it was included as part of the goal for northern hardwoods). Red maple stands are generally poorer in quality than northern hardwoods, but are managed using many of the same silvicultural practices. Higher quality stands of red maple may be thinned and/or treated with patches or larger groups (to encourage and/or develop structural diversity), but most stands are managed with even-aged regeneration techniques.

At nearly 3,100 acres total, red maple is the 8th largest cover type on the forest and occurs on nearly every habitat type across the property. Stand age, quality and species diversity are often highly

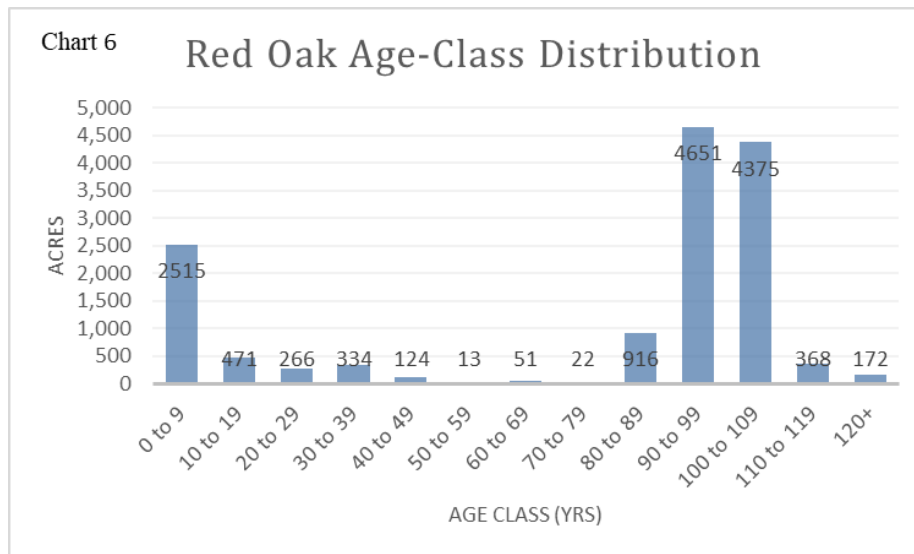
variable. As a result, treatment dates, prescriptions and management objective are also variable. Annual harvest goals are generally established based on the prescribed treatment date, which can result in a significant fluctuation of goals every year.

- The 2025 sustainable harvest goal for red maple will be: 40 acres. The harvest goal for red maple will depend on the readiness of individual stands and, therefore, will generally be highly variable per year.

Red Oak:

At just over 14,000 acres, red oak is the 4th largest cover type on the forest. Similar to the aspen type, red oak is experiencing a disproportionate distribution of age classes. Dissimilar to aspen, the wave is located on the mature side of the spectrum, rather than in the younger age classes.

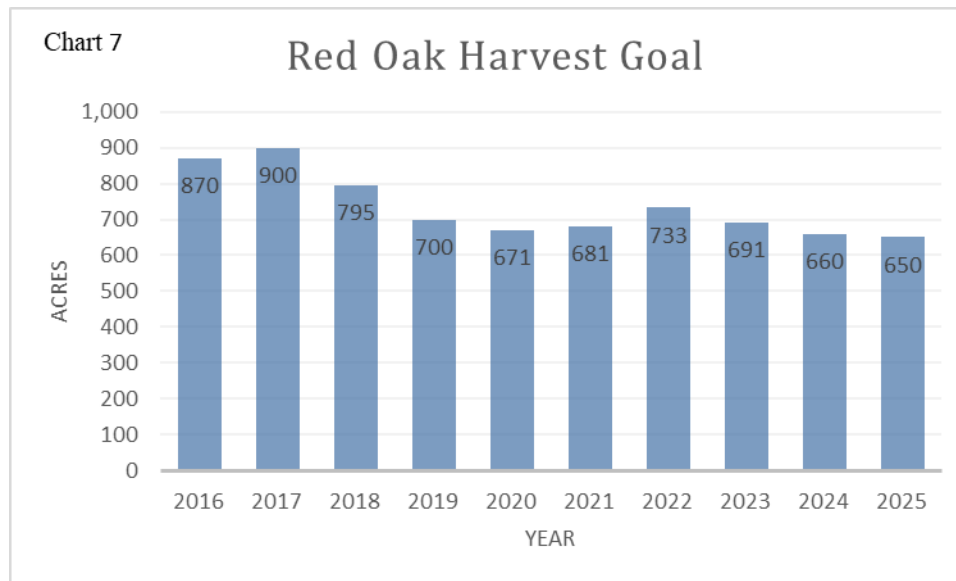
Below is the current age class distribution in the red oak type:



Nearly 75% of the red oak type is currently older than 80 years of age. To drill down further, over two-thirds of the red oak type is 90 years of age or older. In essence, the vast majority of red oak on the forest is either mature, rapidly approaching maturity or overmature.

The rotation age for red oak is generally around 100 years (up to 120 years on higher quality sites and a little lower on poorer quality sites). At current conditions, the Department is faced with the potential task of addressing (regenerating) a large acreage base of mature red oak, basically all at the same time. That's neither practical, nor feasible. This is a prime example of where management goals sometimes need to be adjusted to more effectively manage a resource.

Below is the sustainable harvest goal for the red oak type over the last 10-year period.



The general management direction for red oak is to maintain the type (dominance), where practical, and spread out or evenly distribute the regeneration phase as much as possible. It will vary by location (IRMU), but, generally speaking, and barring any natural disturbances or negative influences i.e. insects, disease, wind, drought, etc., the regeneration phase can be extended fairly equally over the next 15 to 20 years. The process has already begun, as this issue was identified years ago and is one of the primary reasons the decision was made to re-inventory the cover type.

Considering the current condition of red oak on the forest, the average age of mature stands, and the long-term management potential of the type, the overall goal for regeneration will be around 400 to 500 acres per year over the next 15 to 20 years. This will provide better regulation of the red oak resource, yield a more uniform flow of forest products, generate a more even distribution of age classes over the landscape (which will also maintain structural and ecological diversity, maintain connected mature landscapes, and promote a diversity of wildlife habitat), and create a more balanced workload, both short and long term.

For a variety of reasons, red oak can be one of the most challenging timber types to regenerate (further described below). Understanding how these current stands were established (the stands we are managing today) can reveal some of the challenges faced today.

Most of the red oak stands being managed today (on the forest) originated during the period of the last big cutover (early 1900's). Back then, stands were basically clearcut, with little (if any) regard to resource damage, best management practices for water quality or slash control. Soil scarification was extensive, as was logging debris. Then came the fires. The result: extensively scarified sites, exposing a large percentage of bare mineral soil, with little to no competing vegetation, no mature overstory trees, and very little impact from animals that prefer acorns or freshly regenerating seedlings i.e. deer or hare.

Red oak, being a fire tolerant species, is built for this exact scenario. It prefers relatively bare mineral soil, a good amount of sunlight, lower levels of competition from other tree species, and minimal predation or browse pressure. While the intensive fires killed much of the competing vegetation, it only temporarily impacted red oak. Carbs stored in the root system afforded it the

ability to rapidly develop after the fire. Newly germinating acorns were established under ideal growing conditions. Many new red oak seedlings rapidly and aggressively attained dominance, well before other tree species were able to re-establish. And the browse intensity was low. The result: a dense stand of red oak, oftentimes with only minor components of paper birch, aspen, red maple, white pine, red pine and, on better sites, sugar maple.

Fast forward to today. Much emphasis is placed on the suppression of wildfires with the goal of reducing or eliminating its potentially devastating impacts. While prescribed fire is still commonly used today as a management tool to facilitate the regeneration of oak, the scale and intensity of previous (historical) stand initiating fires will never be duplicated (and results of prescribed fires are oftentimes unreliable and difficult to predict).

Deer densities are, by design generally higher today than 100 years ago. On the county forest, stands of oak are predominately the same age (around 100 years of age). Meaning most stands originated during a period when deer densities were lower. As these stands age, future oak sprouting potential and acorn viability (both critically important in the development of new oak stands) will only continue to decrease. To further complicate the process, current harvesting methods and management practices result in a lighter footprint on the landscape, meaning scarification isn't as intensive and mineral soil is less exposed.

Methods of regeneration have also evolved over time. All are geared towards manipulating light and competition. Red oak is classified as intermediate in shade tolerance. In general, this means that the intensity of sunlight is a critical factor influencing initial seedling survival, as well as subsequent annual growth and development. Silvicultural techniques such as shelterwood, seed tree and clearcut are all used in attempts to regenerate new stands, in part, with the goal of manipulating levels of sunlight able to reach the forest floor.

Regardless of the regeneration method, other components required to successfully develop a new stand of red oak still need to be considered i.e. competition control, soil scarification, herbivory control, acorn availability, dispersal and viability, site potential, and sprouting potential, etc. If competing vegetation is a concern, some stands are scarified with a dozer and straight blade to knock back undesirable tree species and expose mineral soil.

Anchor chains, salmon blades or other implements are also used to scarify soil and reduce competing vegetation. Prescribed fire can also be used to control unwanted vegetation. Timing of acorn dispersal and quantity (and quality) of acorn production are also critical, but much more difficult to predict and control.

When determining where to invest additional inputs in the management of red oak, all of the above mentioned factors need to be considered, as does site quality and location. Some stands on higher quality sites will receive intense pressure from red and sugar maple (and ironwood), which, inherently, makes it more difficult to establish a new stand of red oak. They also tend to occur on rugged locales, making it difficult to stage and maneuver heavy equipment or administer a prescribed fire.

Many of these stands may be better suited as moderate quality northern hardwoods, with a minor component of red oak (i.e. more maple and less oak). The general management direction in this

scenario may be to lightly thin, incorporate large gaps or groups and allow the stand to naturally convert to northern hardwood, again, with a lesser component of oak.

On the other end of the spectrum, red oak stands growing on lower quality sites tend to be associated with heavier components of aspen, birch and pine. Competition from red and sugar maple (and ironwood) are also often less intensive, thus providing a more favorable environment for red oak regeneration. However, these sites are generally less productive, resulting in growth and quality development that tends to be on the lower end of the range. Managing these stands with a goal of increasing the component of aspen, birch or pine may be prioritized.

In general, maintaining as much red oak as possible is a priority for the Department. However, regarding oak regeneration activities, a considerable amount of emphasis will be placed on sites of medium quality, where oak production and quality (or potential) is good, competition from other undesirable tree seedlings is lower, and additional inputs from the Department, if needed, are the most effective.

- The goal in 2025 will be divided into three distinct categories: thinning (even-aged and all-aged); even-aged management (i.e. shelterwood, seed tree, clearcut); and overstory removal (to release established regeneration that has developed after a previously prescribed shelterwood):
 - The total management goal for red oak is: 650 acres.
 - The goal for even-aged thinning is: 50 acres.
 - The goal for all-aged thinning is: 150 acres.
 - The goal for even-aged regeneration is: 420 acres. As previously stated, whenever possible (or practical), an emphasis will be placed on maintaining stands as red oak and spreading out regeneration harvests, whenever feasible.
 - The regeneration goal for red oak stands located in IRMU's 1 and 8 has been temporarily reduced. Some stands previously prescribed regeneration harvests will be thinned and carried longer on the landscape. Oak in these units is generally of slightly higher quality, located on better soils and exhibiting lower levels of stress/mortality. Lighter thinnings or management prescriptions that encourage increased levels of diversity (primarily through northern hardwood regeneration) are being considered on many oak stands in this area. These stands are also better suited for extended rotations. However, average stand age (most being 100+ years old) and external stressors (e.g. insects, disease, moisture stress, etc.) may negatively influence these stands. While efforts will be made to maintain older oak stands on the landscape longer in these units, rapidly declining stand conditions will necessitate a regeneration harvest.
 - The goal for overstory removals is: 30 acres.
 - An overstory removal is only prescribed if an adequate amount of desired regeneration has been attained throughout the stand. If the stand has not successfully regenerated with an adequate amount of desirable tree species, the Department will delay harvest, re-analyze the stand and determine the next appropriate course of action. As a result, the actual accomplishment may significantly differ from the

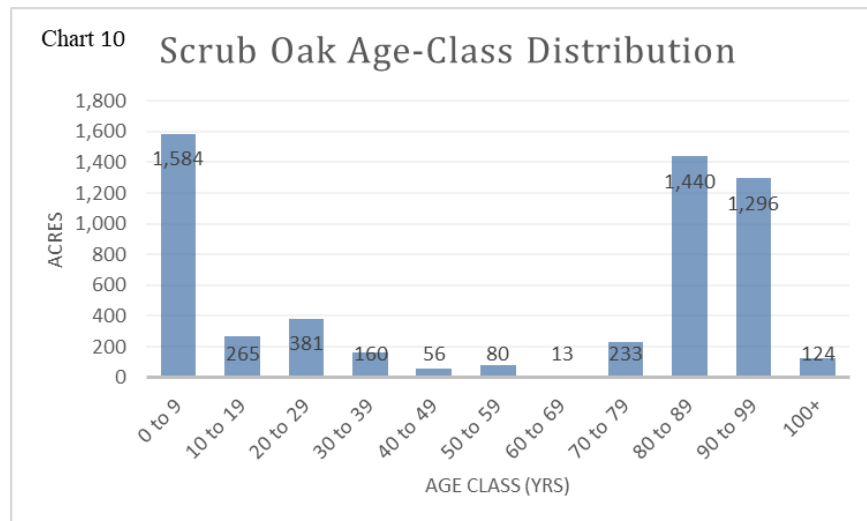
total goal. The overstory removal goal is also established based on the anticipated date of readiness. As a result, the harvest goal is expected to be relatively fluid and variable annually.

- Depending on stand conditions, site characteristics and responses to previous treatments, the sustainable harvest goals for thinning and even-aged management are targets. Actual accomplishment rates will vary based on the factors stated above, as well as other external factors that have the potential to influence the development of any given stand. For example, after a thorough examination, some stands that are prescribed for a thinning may not support that activity and will be regenerated. While it may also be determined that some stands scheduled for a regeneration harvest may first benefit from a thinning.
- In 2023, portions of the Bayfield Peninsula, as well as areas north of Iron River were heavily defoliated by Spongy Moth. In addition, most of Bayfield County experienced significant drought conditions in 2023. Stands of aspen and mature red oak were hit the hardest by the moth. These two events have the potential to introduce high levels of stress on affected stands. Mature or over-mature stands are even more vulnerable to these added stressors. Also, in some instances, secondary invaders, like the two-lined chestnut borer, can take advantage of a trees weakened natural defenses and attack. A surge in population levels of secondary insects (temporary infestation) can cause already weakened trees to die rapidly. Additionally, some areas were defoliated again by Spongy Moth in 2024, though the extent and severity were significantly lower. The Department will work with the DNR to prioritize the monitoring of previously defoliated areas and drought stressed areas. If signs of mortality are observed, salvage treatments may be prescribed that may have the potential to significantly impact the harvest goal for red oak.
 - Additionally, some stands that are prescribed for a thinning may be delayed by up to three years from the last significant stress event. The primary reason for a delay, if needed, is to give the affected stand a little more time to recover from the significant defoliation and drought events. A delay in harvest may also have the potential to impact the harvest goal for red oak.

Scrub Oak

Scrub oak totals nearly 5,500 acres and represents the 6th largest cover type on the county forest. Similar to the red oak type, a significant portion of the scrub oak acreage is considered mature (80 years of age and older). In total, nearly 3,000 acres (or roughly 55%) of the scrub oak type is 80 years of age or older.

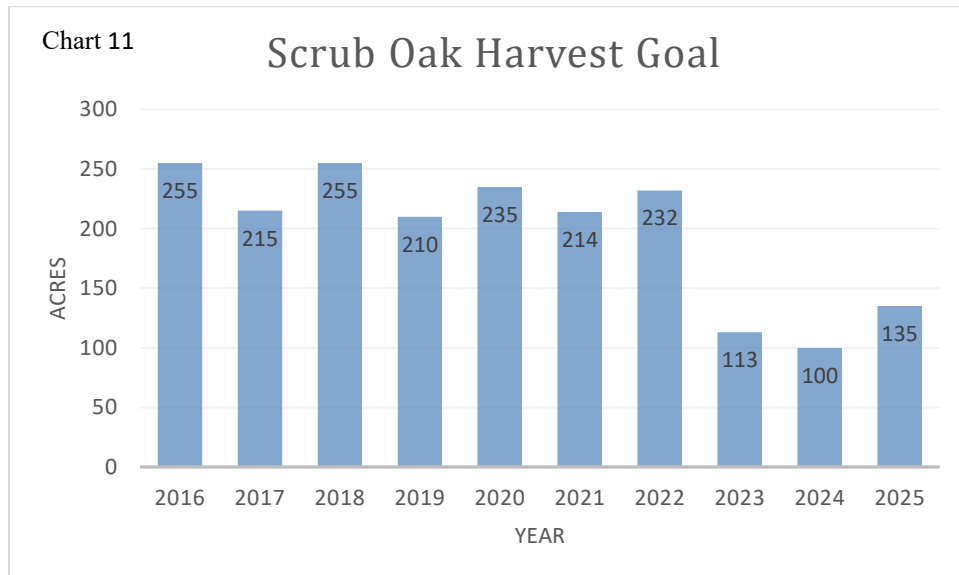
Below is the current age-class distribution of the scrub oak type:



The scrub oak type is either young or mature, with little age diversity in between. A total of nearly 1,600 acres have been regenerated over the last decade and is a reflection of goals to start addressing some of the older stands.

In 2022, a significant portion of the mature scrub oak stands were re-inventoried. One primary goal of the re-inventory was to prioritize treatments and identify stands that could be extended. Also, some scrub oak stands are marginally productive, contain low timber value, and are situated on the landscape in a way that provides significant habitat benefits, as well as structural diversity. Results of the re-inventory had a significant influence on the harvest goals.

Below is the sustainable harvest goal for the scrub oak type over the last 10-year period.



Management of the scrub oak type typically involves a regeneration harvest. Prior to 2023, the average harvest goal for scrub oak was around 235 acres. The average over the last three years is closer to 115 acres. Also, of the stands currently considered mature, nearly 1,000 acres have been

removed from the harvest schedule, primarily to promote landscape, structural and ecological diversity in areas generally dominated by aspen and pine species.

- The 2025 goal for Scrub Oak is: 135 acres.
 - The entire management goal will involve a regeneration harvest.

Swamp Hardwoods and Swamp Conifer (and Fir/Spruce):

The swamp hardwood type is generally dominated by black ash. There is currently a little over 3,100 acres of swamp hardwoods on the county forest, representing the 7th largest cover type. About 2,000 acres of which occurs in the southern Barnes block (IRMU 6), north of the boundary with Sawyer County. Red maple, aspen, balsam fir, black spruce and tamarack are common associates. Aspen and red maple generally increase in density in areas with better drainage (higher and drier), while black spruce and tamarack show up in areas of poorer drainage (low and wet). Yellow birch and sugar maple may also be present, but primarily in locations with better drainage. But, in general, swamp hardwood stands are primarily comprised of black ash (again, densities and quality often vary based upon location and drainage).

The Department established a regular management goal for the swamp types (hardwood and conifer) starting in 2011. Prior to 2011, swamp types were typically only managed as time allowed (a new forester was added in 2011 thus creating more opportunities for regular management) or whenever a sale was established adjacent to a stand.

Because of the location of these stands (i.e. swamps), accessibility is often very poor, making these types more difficult to manage. Marketability is also usually more difficult, as harvesting is most often restricted to periods of frozen ground and timber products derived from the swamp types are typically in lower demand. The combination of difficult access, unpredictable and irregular winters, and poor marketability, make the swamp types some of the most challenging to sell (as timber sales). If the Department has difficulty selling a swamp hardwood timber sale, then long term goals for the type will also be impacted.

The presence of the Emerald Ash Borer (EAB) has forced land managers to adjust the way they traditionally approached the management of ash dominated stands. Once established in an area, EAB has the potential to kill nearly every ash tree in a stand, all within a few short years (once established). In 2018, EAB was confirmed at two locations in northern Douglas County (to our west) and one location in central Sawyer County (to our south). The natural rate of spread is thought to be about ½ mile per year, but human assisted distribution (i.e. firewood, vehicles, etc) will produce a more rapid and unpredictable rate of dispersal. In 2022, it was confirmed in northern Bayfield County, as well as western Ashland County (near the border with Bayfield). Though there are still no significant widespread impacts on county forest land, it has been confirmed in the area and resulting damage will inevitably increase with time.

Depending on the density of ash in a stand and proximity to the closest known confirmed location of EAB, there are some, albeit limited, management options available. The WDNR has developed general guidelines for managing ash dominated stands, where EAB will eventually become a threat (and are in the process of revising those guidelines). Guidelines are generally divided into two categories: if EAB is present (or in close proximity) or if not (as well as the amount of ash located

within a stand/area). In general, the Department will utilize those guidelines when determining the best approach for managing ash dominated stands.

In addition to determining which silvicultural treatment to prescribe on any given ash dominated stand, the Department will need to address short- and long-term management strategies, with an emphasis on the short term. More specifically, how many acres should/can be managed, before the inevitable arrival of EAB and subsequent rapid mortality of all ash trees, to best achieve/salvage longer term, sustainable silvicultural objectives. Accelerating the management of ash dominated stands (pre-salvage – before all of the ash trees are dead) will provide a better foundation for achieving successful regeneration and ensure the perpetuation of a productive stand of desirable tree species.

To help in the decision-making process, the Department re-inventoried all swamp hardwood stands (that had a significant component of ash) across the property. The re-inventory process targeted variables like: percentage of ash, percentage of other tree species, condition and quality of the trees/stand, soil type and topography, accessibility, ability or likelihood of regenerating to other desirable timber types, recommended silvicultural activity, swamping potential, etc.

Other goals of the re-inventory process were to help prioritize the management of stands, with an emphasis on those that can be successfully regenerated to other desirable timber types (i.e. stands with pockets of aspen will be encouraged to regenerate to aspen; stands with more red maple will be encouraged to regenerate to maple; etc.), as well as to better understand the risks associated with swamping (if EAB were to kill mature ash trees in a stand). Ash will also regenerate, but, with EAB, will no longer be a primary component of the stand (nor a secondary component).

As part of the most recent inventory, it has been determined that only a small number of stands are at risk of swamping out due to rapid mortality of mature, overstory ash trees. Of that, only a small percentage in each stand would be susceptible. This is good news, as less than 1% of the total swamp hardwood acreage base appears to be at risk if EAB related mortality arrives before stands can be managed.

In short, wherever practical and feasible, the goal is to locate those stands that can be readily managed and converted to other desired timber types before the onset of EAB. Beginning/accelerating management strategies for EAB sooner, rather than later, will increase treatment and reforestation options, maximize economic value, and reduce future EAB impacts. Once the presence of EAB is confirmed, management options become very limited.

As stated in the draft revision of the WDNR Emerald Ash Borer Silvicultural Guidelines, at a county level, a significant increase in ash mortality can generally be expected to begin around 6 to 7 years after EAB is first detected. Once ash mortality begins in a stand, it will continue until most ash trees are killed. Studies have also found that, at the stand level, more than 99% of all ash trees were killed within six years of the first observed infestation.

Once EAB has been confirmed in an area and becomes established, it can completely ravage a stand of ash within a period of roughly 6 years. Since establishment has not been confirmed on the county forest yet, it is logical to assume we have approximately 8-10 years to complete all management activities. Within the next 10 years, the management of all ash dominated stands located on the

forest should be completed, which includes all harvesting activities (as well as target ash for removal on all future sales where ash is a secondary or minor component).

Timber sale contracts are awarded for a period of two years, with the potential for multiple extensions. Most ash stands are located on wet soils, making harvesting and accessibility very challenging. Contractors often require multiple timber sale extensions to complete sales that contain a significant component of frozen ground only harvesting requirements (like those that contain significant components of black ash).

If a timber sale will require 3 to 4 years (and possibly longer) to complete, and we have a 10 year window of operation before the onset of EAB, then treatment of all ash dominated stands should be completed within the next 5 to 6 years (which started, in earnest, in 2019).

However, market demand for ash, as well as interest in frozen ground only sales, has decreased significantly over the past few years. Demand for pulp and paper products has generally been declining annually over the past decade+. The decline in market conditions was exacerbated by the COVID-19 pandemic and subsequent closure of two significant Verso mills, located in Wisconsin Rapids, WI and Duluth, MN. The Rapids mill, when operating at full capacity, had the ability to consume roughly 25% of all pulpwood produced in Wisconsin. And a significant percentage of ash pulp was shipped to the Rapids mill.

Over the past five+ years, timber sales that contained a significant component of ash pulp, as well as those that required frozen ground conditions to support logging operations, have received little interest, with many remaining unsold.

Due to the lack of demand for ash pulp, combined with the fact that nearly all sales that contain a significant component of ash occur on wetter soil types (that require frozen ground conditions), the management of swamp hardwoods (as well as swamp conifer) will be remain temporarily on hold in 2025 (the goals for 2022-2024 were 0 acres as well). If market conditions improve and demand for ash pulp rebounds, then the Department will consider lifting the hold and resuming the management of the swamp types.

- The 2025 goal for Swamp Hardwoods is: 0 acres.
 - The hold on the management of the swamp types is expected to be temporary. If/when the market for ash pulp improves, then the Department will resume the management the swamp types, as per the direction described above. The goal of management would be to regenerate a fully stocked stand of desirable species in trees other than ash.
- The 2025 goal for Swamp Conifer will also remain at 0 acres. Poor markets and local demand for these products has traditionally been very low. Combined with difficult accessibility and narrow windows of operation, this cover type has been one of the more challenging to manage. However, one priority will be to field check a portion of the stands over the next two years to determine future management objectives. Stands that are determined to be inaccessible or unproductive will be removed from the harvest schedule.
- The 2025 goal for Fir/spruce is 0 acres.

Sustainable Harvest Goal Information:

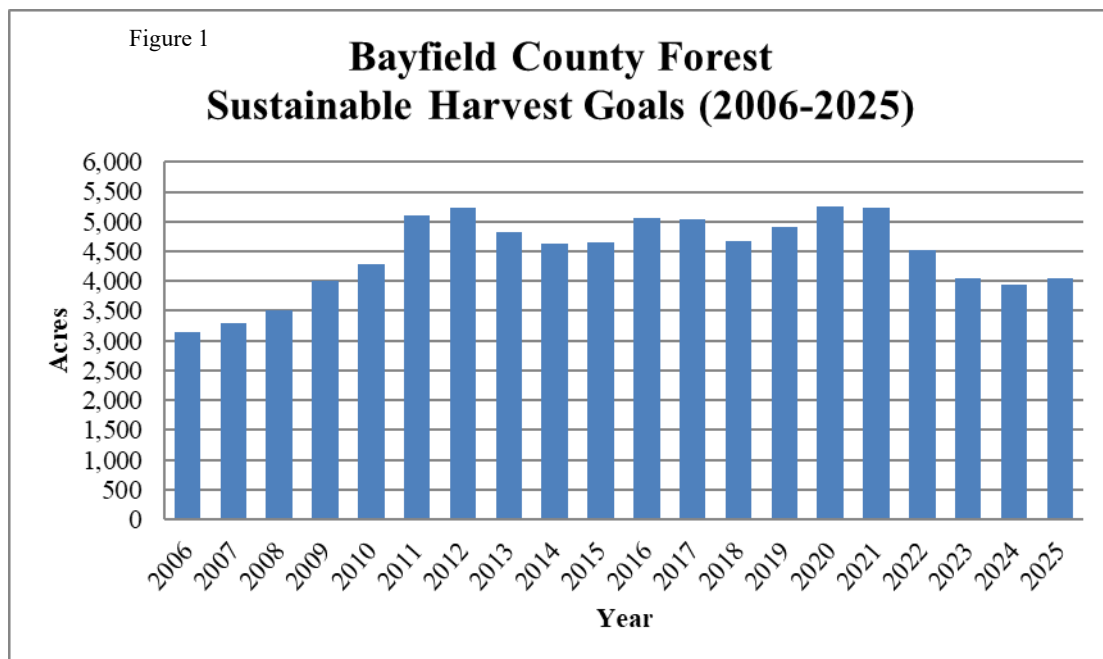
One of the primary objectives in managing the forest is to strive for a more regulated, even flow of harvests, equally distributed over the landscape. However, sustainable harvest goals typically fluctuate slightly from year to year. Most fluctuations are explained by the natural irregularity of age class distributions over the entire forest and, subsequently, when stands are ready for management.

Fluctuations in harvest goals can also be a result of changes in management direction and/or strategies for individual timber types, responses to natural disturbances or other unforeseen natural events, a relatively poor response in growth from previous management activities, modifications in response to accomplishments from the previous year or land acquisition.

Annual harvest goals may be adjusted for many of the same reasons listed above, especially if needing to address a significant natural event (i.e. windstorm, insect/disease, etc); to make adjustments due to significant inaccuracies in recon/stand data; or to modify prescriptions (accelerate or delay) based on the results of previous management.

On the Bayfield County Forest, the primary differences in sustainable harvest goals over time are a result of a variety of factors, some of which include: improved reconnaissance information; a significant increase in the number of stands reaching management age (particularly in the aspen, red oak and red pine types); the inclusion or exclusion of harvest goals for the swamp hardwood, swamp conifer and fir/spruce timber types; adjustments in the management approaches of the aspen, swamp hardwood (EAB response and/or market adjustments), red oak and northern hardwood timber types; implementation of directives in the Barrens Management Areas (Barnes and Bass Lake); adjustments related to certain climate or carbon goals and general modifications as a result of stand level responses to previous treatments.

Figure 1 displays the total sustainable harvest goals over the last 20 years (2006-2025).

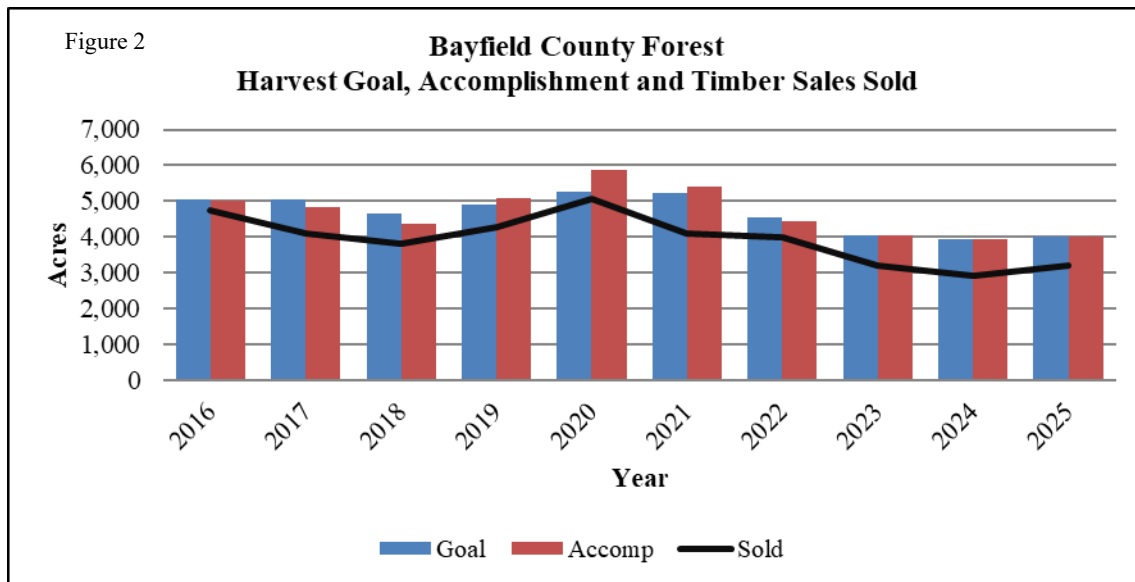


The average sustainable harvest goal from 2023-2025 is at the lowest level since 2009. Primarily due to significant reductions in the aspen goal, as well as the continued removal of the swamp types from the harvest schedule.

Land transactions (acquisition and divestment) can also have an impact on harvest goals, especially when significant acreage is involved. As per Table 7, a net total of over 9,200 acres has been added to the county forest program since 2015. An additional roughly 1,700 acres of land is expected to be added in 2025.

When considering the various factors that can influence the management of the county forest, the annual sustainable harvest goal is expected to hover between roughly 3,800 and 4,800 acres per year. A harvest goal of around 4,000 acres is anticipated over the next few years, until the aspen levels increase again (likely in year 2028 or 2029).

Figure 2 displays the annual sustainable harvest goal, accomplishment and sold timber sales from the past ten years. The values for 2024 and 2025 are estimated:

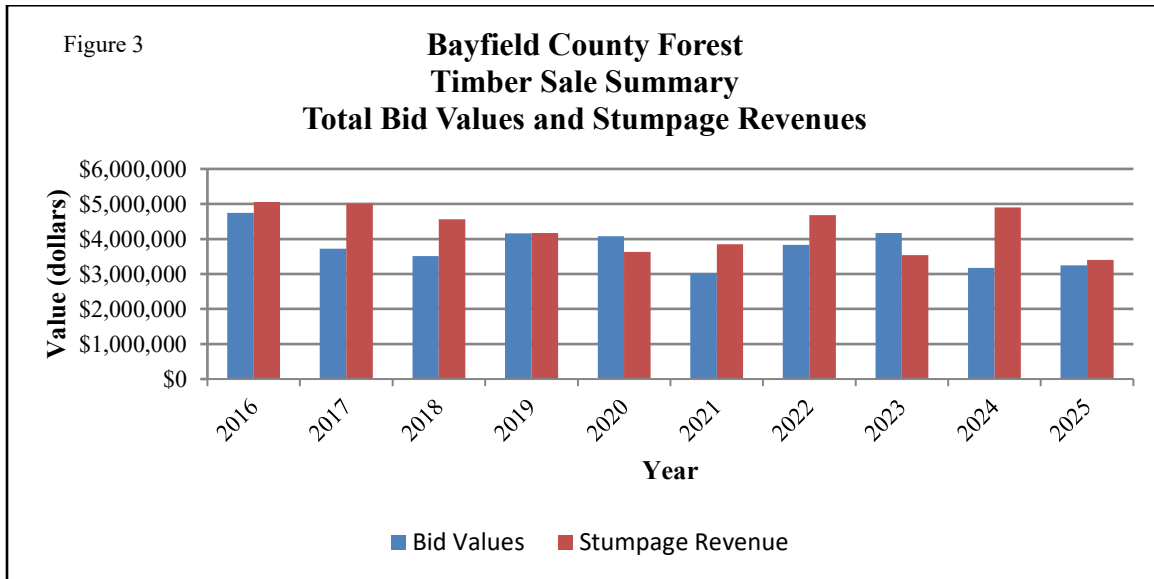


Prior to 2011, the Department averaged 45 timber sales, covering 3,044 acres per year. The average total winning bid value for those sales was approximately \$2.36 million. Since 2015, the Department has averaged 58 sales, covering nearly 4,400 acres.

Since the peak in 2015 (\$6.5 million in new sales sold), the total value of sales sold has decreased significantly, to an average of roughly \$3.8 million.

The sustainable harvest goal for 2025 continues to hover around the lowest level since 2008 (3,511 acres). The reasons for the decrease were described previously, but will also have an impact on future sold values and eventual stumpage returns. If some markets continue to stay strong (e.g. red pine poles), there may not be a significant or noticeable change in future returns. But if those currently strong markets also recede in 2025, then the overall impact on stumpage returns could be significant.

Figure 3 displays the total sold value of timber sales and actual revenues from stumpage (harvested timber) over the past ten years. The values for 2024 and 2025 are estimated:



Bayfield County generated roughly \$5.0 million in total stumpage revenue in 2015, 2016 and 2017, while reaching a little over \$4.5 million in 2014 and 2018. The total amount received in 2019 was just under \$4.2 million. Since 2019, the amount of revenue received has been fairly irregular and difficult to predict. Roughly \$3.626 million was generated in 2020; \$3.852 million in 2021; nearly \$4.68 million in 2022; and roughly \$3.5 million is expected in 2023. The amount generated in 2023 is the lowest since 2012. But total returns rebounded in 2024 and are expected to be in the range of \$4.9 million. The timber sale revenue budget for 2025 is set at \$3.4 million.

Table 1a displays the summary of timber sale offerings since 2016, including the total number of sales sold per year, total acres, the total value of the winning high bids, the average bid value per acre and total revenues received from the sale of timber during each calendar year. The figures for 2024 and 2025 are estimated.

Table 1a: Bayfield County Forest Timber Sale Summary

Calendar Year	Sales Offered	Acres Offered	Sales Sold	Acres Sold	Acres Not Sold	Timber Sale Bid Values	Sold Value per Acre	Timber Revenues
2016	65	4,750	65	4,750	0	\$4,745,850	\$999	\$5,057,393
2017	53	4,272	50	4,101	171	\$3,719,320	\$907	\$5,009,892
2018	56	4,568	49	3,813	755	\$3,509,971	\$921	\$4,562,243
2019	59	5,031	52	4,267	764	\$4,163,432	\$976	\$4,171,667
2020	68	5,553	61	5,052	501	\$4,081,930	\$808	\$3,625,794
2021	56	5,002	48	4,114	888	\$3,028,909	\$736	\$3,852,290
2022	60	4,266	55	3,993	273	\$3,830,889	\$959	\$4,679,087
2023	58	3,524	50	3,196	328	\$4,167,266	\$1,304	\$3,542,059
2024	51	3,106	46	2,906	200	\$3,175,445	\$1,093	\$4,900,000
2025	50	3,400	45	3,200	200	\$3,250,000	\$1,016	\$3,400,000
Average	58	4,347	52	3,939	408	\$3,767,301	\$956	\$4,280,043
Avg 5 yr	55	3,860	49	3,482	378	\$3,490,502	\$1,022	\$4,074,687
Avg 3 yr	53	3,343	47	3,101	243	\$3,530,904	\$1,137	\$3,947,353

The poor/weak market conditions experienced in 2020, have continued through 2024. Some markets improved slightly (e.g. red pine poles), but, collectively, are still well below pre-Covid levels. A relatively weak market is expected to continue through 2025.

The average total value of all new timber sales sold was roughly \$5.5 million between 2014 through 2016. However, the average total sold value from 2020-2024 was approximately \$3.55 million, a decrease of nearly \$2.0 million (or roughly 35%). Sustainable harvest goals decreased significantly starting in 2023 and are expected to remain on the lower side of the range for the next few years, and is one reason for the decrease in new sold values. Markets have also shifted dramatically and are expected to remain volatile in 2025 (which is the other reason). The lower harvest goal combined with unpredictable markets make it even more difficult to accurately forecast timber revenues in 2025 and beyond.

Timber Sale Revenue – General Information

When analyzing timber sale revenues and the results from previous timber sale offerings, general patterns develop that allow the Department to estimate when to expect proceeds from existing contracts.

Contracts are awarded for a period of two years. One-year extensions are often granted to contractors unable to complete the sale within the initial two-year period. Multiple extensions may be required before all terms of the contract are met. It's not uncommon for two to three, one-year extensions to be awarded on a contract, meaning it can take four or five years to fully complete some contracts.

In general, based on historical outputs, roughly 40% of the revenue generated during any calendar year comes from contracts sold during the previous year. Approximately 25% is derived from those sold during the current year, 20% from two years prior, 10% from three years prior and the rest beyond that.

For example, based on the above model, the general expectation is the 25% of the revenue generated in 2025 will come from sales sold in 2025 (which is an unknown); 40% will come from sales that were sold in 2024; 20% from sales sold in 2023; 10% from sales sold in 2022 and the rest from 2021 and earlier. Markets and weather conditions are primary drivers of timber sale activity, both of which are extremely difficult to predict.

Referring to Figure 3 and Table 1a, the banner stumpage revenues received by the Department in calendar years 2015, 2016 and 2017 were, in part, a result of very strong markets from the year's prior (timber sale bid values were at an all-time high in 2015).

CY 2017 was a poor market comparatively, as was 2018. Markets improved slightly in 2019, but were still be considered poor. In 2020 and 2021, markets declined even more, but were significantly impacted by COVID-19 and the subsequent closure of the Verso mills. As a result, the value of new sales sold in 2021 was lowest amount since 2010. Markets for some products improved slightly in 2022-2024 (particularly red pine poles), but are still impacted by regional mill closures and changes in post Covid-19 consumer spending behaviors. The large rebound in stumpage returns received in 2024 is a result of contractors moving around (more than normal) to capture any strong, but erratic market that might be available (by cutting sales that would have

normally been saved to the following year). The result will likely mean a decrease in returns expected in 2025.

Township Payments

As per County Forest Law (ss 28.11), ten percent of the total stumpage revenues generated from the county forest are distributed to Townships that contain county forest land. Distribution is prorated and based solely upon the total amount (percentage) of acres located within each Town.

In 2024, that total amount is predicted to be around \$490,000 (based on a stumpage revenue stream of approximately \$4.9 million). Prior to 2013, towns received an average annual total payment of roughly \$220,000. In addition to the mandated 10% stumpage payment, towns also receive an annual PILT payment (payment in lieu of taxes) from the state, at a rate of \$0.63 per acre. The PILT payment was increased from \$0.30/acre starting in FY23 (July 1, 2022).

For 2025, the budgeted 10% payment to the Town is set at \$340,000 (based on a stumpage revenue budget of \$3.4 million).

- Town Road Aids: In 2010, Bayfield County developed the Town Road Aid Fund. This fund was created to help improve problem areas on Town Roads that provide critical access to the County Forest. Town Road Aids were initially funded at 1% of total annual timber sale revenues (enacted once actual revenues exceed the budgeted amount). Starting in CY 2014, Bayfield County increased the funding level to 2%, with a cap of \$80,000. As a result, \$80,000 has been available for eligible Town Road projects in each of the last five years (2014-2018).

As part of the 2020 budget development process, the Forestry and Parks Committee voted to remove the cap and increase the funding level up to 3% of actual net timber sale revenue. As a result, \$90,000 was made available in 2020 for eligible town road projects. However, with the predicted decrease in timber sale revenue starting in 2021, the total amount budgeted for Town Road Aid projects was reduced to \$60,000. The \$60,000 figure was re-established in 2022 and will remain that amount in 2025.

All projects are submitted to the Department and ultimately approved by the Forestry and Parks Committee. The Department works closely with each Town in the development and administration of each potential project.

Maximizing the sustainable harvest of the forest has numerous benefits. Not only does it have the potential to significantly increase revenues (at both the county and town levels), but it also supports numerous local jobs, fosters new job growth, provides additional recreational opportunities, provides exceptionally well managed products to local wood industries, improves forest health and productivity, protects water quality and creates/maintains a diversity of wildlife habitat.

More Sustainable Harvest Information and Green Tree Retention

During the timber sale establishment process, scheduled stands are examined to determine if they are ready for management. Traditionally, some aren't, leading to approximately 5 to 10% of the sustainable harvest goal being removed from management consideration (for that year).

In general, some stands either aren't ready for management, are typed incorrectly or are removed from future management consideration for another reason i.e. riparian/wetland protection, steep or inoperable slopes, special, rare or unique features, etc. Stands that simply aren't ready for treatment are re-scheduled for future management. Stands that are used to protect wetlands and other riparian, sensitive, unique, or special features are permanently removed from future harvest consideration.

- After removing approximately 5 to 10% from harvest consideration, the long-term net sustainable harvest goal (actual timber sale establishment) will range between roughly 3,400 to 4,500 acres per year. Based on the sustainable harvest goal for 2025 (4,000 acres), the expectation is that approximately 3,600 to 3,800 acres will be considered for management, which equates to about 2% of the forest. Over the long term, when only considering the net sustainable harvest goal, management (in the form of a timber sale) will occur on roughly 1.9% to 2.6% of the forest per year.

Additionally, as part of the timber sale process, a representative portion of most stands are purposely left unmanaged, termed green tree retention (also called legacy tree, reserve tree, etc). This can be accomplished by leaving individual trees or small patches (remnants) of the previous stand or a combination of the two. Green tree retention can also be incorporated as part of other reasons to leave stands unmanaged i.e. BMP's for water quality, unique/special features or aesthetic considerations.

- The goal for green tree retention is to reserve roughly 3 to 10%, of the original stand area, as unmanaged, scattered individual trees or remnant small patches, on each timber sale.

However, due to the nature of some stands or forested communities, green tree retention is not always considered or feasible. For example, jack pine stands/barrens require intensive management to maintain. Remnants of older trees provide vectors for insect or disease outbreaks that can be devastating to newly developing stands. For that reason, green tree retention is not applied wherever threats to young regenerating stands exist (primarily jack or red pine) or when the regeneration of target species would otherwise be compromised.

The retention of reserve trees (or green tree) can provide numerous benefits, all of which ultimately contribute to the conservation of biological diversity. Among other benefits, these structures facilitate the perpetuation of some biota (plant and animal species and genotypes) on site. They can maintain landscape connectivity by enabling the movement of some organisms. Reserve trees also influence reorganization and recovery processes after a timber sale, as well as help to sustain functional roles and modify the post disturbance environment.

Green tree retention in stands that required significant amounts of riparian protection can be substantially greater than the upper threshold of 10%. It's common for retention levels to reach 25% or more in stands with heavy riparian protection measures. In 2025, the Department will also continue to explore opportunities to incorporate carbon metrics into the decision making process, which could influence the targeted level of green tree retention on some sites.

Green tree retention generally only applies to stands that are managed with more intensive even aged practices i.e. clearcutting, seed tree harvesting, etc. Stands that are thinned, already leave behind more trees than those that are harvested. Of the roughly 2.0% of the forest that is managed

per year, roughly 50-55% is treated with more intensive even aged harvests, primarily driven by the harvest goal for the aspen type.

It's worth noting that a substantial portion of the forest has already been removed from future timber management consideration. Nearly 14,000 acres, or about 8% of the forest, has been designated and removed from the scheduling process. An additional 13,000 acres is classified as non-forested and is not considered for active timber management. This includes the roughly 3,000 acre Bibon Swamp Special Management Area.

The reasons for removal are numerous, many of which having been previously mentioned, and primarily include: riparian/wetland protection; conservation of rare or unique landscapes (i.e. Glacial Kettles and Sultz Swamp); and protection of sensitive slopes (primarily in the clay plain).

Timber Sale Administration

Timber sale administration is a critically important facet of any forest management program, as it serves to ensure field operations are in compliance with the contract and accomplishing the goals of the sale. On a routine and regular basis (from the start of the contract to the end), Department staff work directly with timber harvesting contractors on all facets of the sale, including, but not limiting to: timber sale contract review, harvesting parameters and restrictions, goals of the timber sale, road and skid trail layout, recreational concerns (if any present), Best Management Practices for Water Quality, monitoring of sale progress, tracking and scaling of harvested timber, etc. As part of the process, if any issues or concerns arise, they are dealt with promptly, as per the contract.

Table 2 describes annual timber sale activity since 2016 (the figures for 2024 are estimated).

Table 2: Summary of Annual Timber Sale Activity¹

Year	Offered	Sold	Active²	Completed^{3,4}
2016	65	65	93	41
2017	53	50	94	58
2018	56	49	80	56
2019	59	52	88	47
2020	68	61	95	50
2021	56	48	91	49
2022	59	54	84	57
2023	58	50	85	40
2024	51	46	92	56
Average	58	53	89	50
5 Yr. Avg.	58	52	89	50
3 Yr. Avg.	56	50	87	51

¹ Total number per activity per year.

² Includes active harvesting, hauling, scaling, payments, close-out activities, etc.

³ Once all contract obligations have been met, a timber sale is officially closed.

⁴ in late 2009/early 2010, a large backlog of completed sales were all closed-out at once.

Since 2016, the Department has sold an average of 52 new sales annually, covering just under 4,000 acres per year. This number has ranged from a low of 46 sales in 2024 to a high of 68 sales in 2020 (primarily because a total of nine sales were established to address the significant wind storm that

occurred in the Town of Russell). Timber sales are sold on a two-year contract. Extensions may also be granted, which can extend a contract up to a period of four years (and, in some cases, longer).

Depending on the sale restrictions of the contract, markets, seasonal conditions, etc., a contractor can choose to go active on a timber sale at virtually any time throughout a given year. Once a timber sale goes active (actually slightly before), the Department immediately begins the administration process.

A total of 92 timber sales were active in 2024 and 56 timber sale contracts were closed-out, both of which reflect the high level of stumpage returns received. Activity can be highly variable and may include, but is not limited to: timber harvesting, forwarding, scaling, hauling, summarizing mill slips/scales, making stumpage payments or timber sale close-out actions (i.e. road work, final inspections, final payments, site repairs, etc). A slightly lower level of activity is anticipated in 2025.

Timber sale activity can last anywhere from a period of a few weeks to a few months to most of a year, depending on the size of the sale, harvesting restrictions, operating conditions and the general goals of the contractor. And, now more than ever, the unpredictable and irregular market conditions can significantly influence when and how long a contractor will go or stay active on a given timber sale.

Table 2a summarizes the total amount of harvested volumes since 2014 (2024 is an estimate). The table also establishes a cord equivalent value, which is generated by converting the log volume (thousand board feet) to cords.

Table 2a: Total Volume of Wood Harvested

Year	Pulp (cords)	Logs (Mbf)	Cord Equivalents*
2014	93,321	3,084	100,107
2015	83,023	3,042	89,715
2016	82,372	3,796	90,723
2017	85,214	2,838	91,458
2018	87,261	2,900	93,641
2019	77,213	2,875	83,537
2020	67,536	3,551	75,349
2021	79,717	2,622	85,485
2022	83,730	3,333	91,063
2023	74,549	3,338	81,893
2024	95,000	3,500	102,700
Average	82,631	3,171	88,297
5 Yr Avg	76,549	3,144	83,465
3 Yr Avg	79,332	3,098	86,147

** Converting Mbf to cords and combining pulp and log values.*

Over the last three years, an average of just over 86,000 cord equivalents has been harvested annually from the county forest. This includes roughly 79,000 cords of pulpwood and 3.1 million

board feet of logs. The estimated volume harvested in 2024 will be roughly 25% more than what was removed in 2023.

As of the end of CY 2024, the Department has 127 timber sales under contract, with 29 different contractors and a total contract value of nearly \$8.3 million (or roughly \$4.2 million net). During any point in the year, anywhere from around 10 to upwards of 20 or more timber sales can be active at one time.

The amount of wood harvested in 2025 will be highly dependent on how timber markets continue to evolve post COVID-19, especially since both Verso mills will remain closed and other markets remain volatile. Poor and unpredictable markets will also continue to influence bid pricing on new sales, which directly impacts future revenue potential. The unexpectedly higher number of active contracts and subsequent harvested volume will also have an impact on returns in 2025. Likely resulting in much lower harvest levels and increasing the chances of underperforming.

FOREST INVENTORY

Correct, up-to-date stand information is imperative in the development of accurate short- and long-term sustainable harvest goals. There is a direct correlation between the quality and accuracy of the reconnaissance data and the ability for forest managers to confidently develop precise short- and long-term sustainable harvest goals. The accuracy of any sustainable harvest goal is only as good as the data from which it was derived. Therefore, it is important to update a certain level of stand information on an annual basis.

Table 3 summarizes the inventory goal (compartment and stands) and actual accomplishments since 2016. The accomplishments for 2024 and 2025 are estimated:

Table 3: Bayfield County Forest Inventory (acres)

Year	Goal	Accomplishment
2016	12,500	7,370
2017	12,500	8,945
2018	12,500	13,074
2019	13,000	6,167
2020	14,000	13,868
2021	12,000	17,970
2022	12,000	11,312
2023	13,000	15,683
2024	18,000	18,000
2025	20,000	20,000
Average	13,950	13,239
5 Yr. Avg	15,000	16,593
3 Yr. Avg.	17,000	17,894

In 2001, the Department began the process of updating stand information on a compartment level basis. Compartments are a collection of stands contained within more well-defined boundaries.

Compartment boundaries could be roads, trails, section lines, rivers or other prominent natural features that provide a way to better categorize a large and expansive forest.

Compartments can be as small as few hundred acres in size, to as large as a few thousand. The goal of compartment updates was to complete a full re-inventory of the forest over a period of 15 to 20 years.

All 204 compartments were re-inventoried by the end of 2019. Ideally, it is best to keep stand level information as current as possible. The general goal is to minimize the number of stands with data that is 20 years old or older. Maintaining a compartment re-inventory program of 15 to 20 years is one way of ensuring stand level data is accurate and current.

Starting in 2014, the Department also began an emphasis on updating select individual cover types that supplemented compartment level exams. In 2014, the two major cover types targeted for update were mature stands of red oak and mature stands of jack pine. One primary goal of re-inventory was to develop a system to better prioritize the future management of these two types.

In 2015 and 2016, the target species were the remaining stands of mature red oak and developing strategies/plans for northern hardwood, for similar reasons. In 2017 and 2018, the emphasis was placed on mature stands of northern hardwood.

In 2019, the decision was made to take a one-year break from the compartment level re-inventory process. Instead, an emphasis was placed on finishing up the few compartments that remained from the first round of inventory, as well as targeting stand level priorities like aspen (analyzing the potentially higher risk aspen stands, see the hypoxylon discussion in the aspen section, page 13).

In 2020 and 2021, stand level inventory wasn't as intense and primarily involved addressing a few remaining mature stands of jack pine. In 2022, scrub oak was prioritized, as well as a few additional mature stands of swamp hardwoods. In 2023 and 2024, soon to be mature aspen stands were targeted, primarily to establish a tighter harvest projection timeline.

- The inventory goal for 2025 will be divided into two distinct categories/levels: compartment and stand.
 - The compartment inventory goal for 2025 is: 10,000 acres. This will be accomplished by resuming data collection at the compartment level.
 - The stand level inventory goal for 2025 is: 10,000 acres. Two different primary cover types will be targeted as part of the stand level inventory:
 - Natural origin red and white pine: 3,000 acres. In general, these are some of the oldest stands on the county forest (often 100+ years of age), tend to be of smaller size (in acreage) and widely scattered. One goal of re-inventory is to determine future management strategies for this relatively unique type.
 - Aspen: 7,000 acres. The Department adopted an aspen re-inventory process in 2023. The goal was to collect more detailed stand level information in the 39 to 45 year age class to better predict when those stands will be ready for management. This includes using CFI information and FVS modeling to better predict diameter and volume growth. Stands older than 45 years will

- also be targeted to establish a tighter harvest schedule over the next 5 year period (until the next big wave of aspen starts to reach maturity).
- Red pine plantations: more intensive examinations of 60+ year old red pine plantations are also being considered (a continuation of work started in 2024). Primarily to establish tighter regeneration harvest goals (rotations), while considering economic, ecological and climate (carbon) metrics as part of the process. There is no set recon goal, but could total a few thousand acres, as time allows. Depending on the acreage targets, compartment level recon may be reduced accordingly.
- Other timber types may also be included as part of the inventory goal, if necessary. If other stand level priorities are identified, the compartment level goal will be reduced accordingly.
- The total inventory goal for 2025 is: 20,000+ acres.

When updating entire compartments, priorities will be placed on those that contain a larger percentage of old data (≥ 20 years old), as well as those that contain a larger percentage of stands prescribed for management in the near future.

Continuous Forest Inventory (CFI) and Continuous Regeneration Survey (CRS) Programs

In 2018, the Department began the development and implementation of a new long term forest monitoring program, termed continuous forest inventory (CFI). The plots were established throughout all cover types on the forest and conform with Wisconsin DNR CFI protocols. The Wisconsin DNR has provided some assistance in the establishment of the program, particularly in the early stages.

Establishing 682 permanent plots, county forest wide, will provide a sampling error not to exceed 5% across all timber types and 10% within each two-inch size class, up to 17 inches in diameter. Establishing CFI plots at this level of intensity equates to about 1 plot for every 260 acres of forest land.

The primary purpose of implementing a permanent and continuous forest inventory is to collect statistically sound stand information that will be used to report on the growth and development status and trends of the forest.

The multitude of data that will be collected as part of every plot will be used to track variables like, but not limited to: forest extent, forest cover (by type), volume, growth, quality, mortality, removals, regeneration, habitat, health (both at the stand level and forest wide), carbon sequestration, invasive species, soils, down woody debris, biomass, insects and disease, herbivory, and more.

Current reconnaissance (compartment and stand level) and other forest monitoring efforts provide a stable foundation, but information gleaned from CFI will take it to the next level. In addition, CFI will not replace the need to continue monitoring the forest on a stand or compartment level basis.

However, CFI covers a broader depth of forest attributes; provides significantly greater analysis and reporting capabilities; and supplements information obtained through annual and routine

reconnaissance. Roughly two-thirds of the CFI plots (446 plots) are also be used as part of the carbon offset project (see the Carbon section below).

Forest regeneration sub-plots are incorporated as part of the CFI. The Department has implemented a system of forest regeneration monitoring, initially utilizing the WDNR Forest Regeneration Metric (FRM), on all stands that have received management, where regeneration is a primary goal (also in the process of developing a sub-sample for the aspen type). Starting in 2021, the Department established a new method to sample regeneration, termed Competitive Regeneration Survey (CRS), which utilizes some components of FRM. Regeneration data obtained from CFI will be used to supplement the already exhaustive CRS information being collected at the stand level.

CFI will also produce a wealth of information to assist in the planning and decision-making processes (both short and long term). Factors and/or questions like annual volume growth per cover type, product and/or quality development, responses to forest management, extent of invasive species, impacts of insects and/or disease, impacts of climate change, carbon stocks, etc., will all be attainable with the statistically sound information gleaned from CFI.

The establishment phase was completed in fall 2022. A total of 682 CFI plots have been established across the entire ownership. The program is now on a five-year re-measurement schedule, which will involve re-measuring about 140 plots per year.

- The CFI plot establishment and data collection goal will be broken into two categories: establishment and re-measurement.
 - The re-measurement goal for 2025 is: 136 plots.
 - To achieve the desired objectives for the CFI program, 90 re-measurement plots will be contracted out in 2025.
 - The remaining 46 re-measurement plots will be addressed by county staff.

Forest Carbon Assessments and Marketing

The County Forest provides an important ecosystem function in the form of carbon sequestration, or the uptake and storage of carbon in trees, shrubs, vegetation and associated wood products. The carbon sink in forests and wood products helps to offset sources of carbon dioxide released into the atmosphere i.e. as created by activities such as deforestation, forest fires, and fossil fuel emissions. Awareness of, or emphasis on, carbon sequestration has evolved over time, especially as concerns regarding a potentially changing climate and subsequent negative impacts have commanded more attention.

Sustainable forest management practices, such as those currently prescribed by the Department, can increase the ability of the forest to sequester atmospheric carbon, while still producing and/or enhancing other core ecosystem services i.e. timber products; recreational opportunities; wildlife habitat; improved soil and water quality. Harvesting and regenerating forests can also result in improved net carbon sequestration in wood products and new forest growth, especially when compared to other alternative land uses. Interest in forest carbon sequestration projects has also increased, as entities explore options or opportunities for climate change mitigation.

Over the past few decades, carbon markets have emerged as one option to address climate change related concerns. The voluntary retail carbon market continues to evolve, especially as an

increasing number of individuals, governments, companies, and similar entities pledge and/or seek to reduce their carbon footprints or become carbon neutral.

In response to the various (and often significant) commitments to reduce carbon dioxide emissions, carbon is now a priced and valuable environmental commodity in the global marketplace (with offsets available for purchase within the carbon markets). By allowing the broader public to engage in climate protection, the voluntary market has the potential to further advance societal awareness of carbon emissions, the potential impacts of climate change and the significance of consumer action and/or behavior.

Data regarding carbon sequestration is collected as part of the CFI program. Information from the CFI program can be used to develop, assess and analyze carbon stocks and trends on the County Forest (or carbon accounting). Carbon stock and trend information, in conjunction with other similar assessments on forest carbon, can help the Department better understand the correlation between carbon storage, previous management practices and disturbance impacts.

In February 2021, Bayfield County officially approved moving forward with a forest carbon offset/marketing project that would involve most of the county forest (roughly 158,000 acres), but only if it was determined to be a good fit with the current mission of the Department, and it didn't conflict with County Forest Law. After both contingencies were satisfied, in early April 2021, Bayfield County entered into an agreement with Bluesource, LLC (now called ANEW) to help develop, register, verify and administer the project.

ANEW will assist the county in all aspects of the carbon project including, but not limited to: development, listing, inventory (a total of 446 CFI plots and associated data will also be used as carbon inventory plots), growth and yield monitoring, verification, registration, maintenance, administration, and marketing. The agreement with ANEW will be for the first 10 years of the project (with an exclusive option to extend), but the terms of use with ACR will be for a 40 year period.

The results of any forest carbon project could have the potential to influence certain approaches or strategies regarding the sustainable management of the County Forest, as determined by the Forestry and Parks Administrator and/or Committee. It also has the potential to positively impact the budget. Depending on the amount of carbon offsets available to market, as well as the price per unit during the time of sale, Bayfield County is anticipating a significant new source of revenue from the sale of carbon offsets.

The verification audit was completed in July 2022. The first tranche of credits were issued in June 2023. A total of 558,755 credits were issued as part of the first reporting period (RP). To date, a total of nearly 67,000 credits have been sold. Total net return to the county is expected to be approximately \$410,000. Until market conditions improve and sale trends develop, it will be difficult to predict when or if more carbon returns will be received in the future. All expenses associated with the carbon project are addressed in the payment to the county.

Below are the anticipated workloads associated with the carbon project in 2025:

- Project Development and Marketing – Ongoing. Work associated with marketing credits issued as part of the first RP (April 1, 2021-March 31, 2022), as well as those expected to be issued as part of the second (April 1 2022-March 31, 2023), third (April 1, 2023-March 31, 2024) and fourth (April 1, 2024-March 31, 2025) RPs is expected to increase in 2025. The Department will continue working with ANEW on the development of marketing materials and strategies.
 - A total of 159,656 acres of the Bayfield County Forest is participating in the voluntary carbon market under the American Carbon Registry (ACR) Improved Forest Management (IFM) program. The Bayfield County project continues to be one of the largest carbon projects, involving a public forest, in the nation to participate in the voluntary market.
- Carbon Credit Issuance – Ongoing.
 - Credits from the first RP were issued in June 2023. A total of nearly 558,755 credits were included as part of that first issuance.
 - Credits from the second and third RPs are expected to be packaged together and issued in Q1 or Q2 2025. A total of nearly 1.0 million credits are expected to be released as part of the second issuance.
 - Credits from the fourth RP are expected to be audited in 2025 and will likely be issued in early 2026. The total amount associated with the third RP is expected to be around 390,000 credits.
 - When RP2 and RP3 credits are issued, and when combined with those already issued through RP1, it is anticipated that nearly 1.5 million carbon credits will have been registered for the Bayfield County Forest project by the end of 2025.
- Carbon Revenue and the Forest Carbon Reserve Fund (FCOR). Due to the general lack of history with the carbon program, it's unclear when the county can expect to receive a predictable and even flow of returns from the sale of carbon credits. To date, roughly 60,000 credits have been sold, resulting in roughly \$410,000 in net returns to the county.
 - FCOR. The County Offset Reserve Fund (COR) was approved in early 2023. As part of the COR, two distinctly different categories were established: the County Carbon Offset Reserve (CCOR) and the FCOR. If significant levels of carbon returns are realized in 2025, then workloads associated with managing the FCOR will also increase. This would include the development of a recreation grant, as well as plans associated with the Forest Management and Land Acquisition programs. Refer to the COR document for more information regarding plans for the allocation and implementation of carbon proceeds.
- Reporting. The annual reporting period is April 1-March 31. As part of that process, ANEW will request information regarding removals and/or disturbances that occurred during the reporting period. This will involve supplying haul slips (tickets), mill scales, log scales, total volumes removed (harvested), any significant natural event (e.g. windstorm, insect/disease outbreaks, wildfire, etc) that resulted in tree mortality, and more. This is an ongoing workload that will continue in 2025.
- CFI Plot Re-Measurement – Spring 2025. As part of the reporting process, some CFI plots (that have been included as part of the carbon project) will need to be remeasured. All plots that have been disturbed e.g. timber harvest, storm damage, fire, etc, since the last reporting period, need to be remeasured and reported to ACR. Plot remeasurement will now be an annual workload as part of the carbon project.

- The CFI Plot Re-Measurement goal, associated with the carbon project, in 2025 is expected to be around 20 plots.
- Carbon Metrics and Forest Management Strategies. As the carbon project evolves, one goal will be to continue exploring opportunities to incorporate carbon/climate metrics into the routine forest management processes. This may involve working with our carbon contractor (ANew), professional climate change collaboratives/groups e.g. the Northern Institute of Applied Climate Science (NIACS) or other contractors and will likely include the development of a model, database and/or similar system that will help better predict the impacts different management strategies will have on carbon sequestration rates and/or storage capacity.

Work associated with maintaining the carbon project is expected to remain stable in 2025. Though will increase depending on carbon returns and subsequent implementation of the FCOR plan. While the actual workload is still relatively unknown, especially with regards to marketing and addressing carbon credit sales, CFI plot re-measurement and reporting will become an annual occurrence.

REFORESTATION

Reforestation, be it natural or artificial, is a core building block of forest sustainability and a fundamental component of any forest management program.

A successful reforestation program provides numerous benefits, some of which include: the restoration of forest productivity, fertility and environmental function; the assurance of a perpetual, sustainable supply of forest resources and amenities for future generations; the protection of soil and water quality; and the establishment and development of quality wildlife habitat.

Table 4 summarizes the reforestation efforts since 2016 (2024 and 2025 are estimated):

Table 4: Bayfield County Forest Reforestation Program Summary (acres)

Year	Planting			Seeding	Site Preparation				Maintenance		Monitoring
	Red Pine	Jack Pine	White Pine ²	Jack Pine	Trench	Fire Plow	Scarify	Spray	Bud Cap	TSI ¹	Regen
2016	203	39	0	393	570	0	102	492	239	0	2,580
2017	36	2	0	460	279	0	115	585	71	46	2,931
2018	134	0	0	563	257	14	154	296	38	0	5,408
2019	92	0	0	216	305	10	112	323	8	0	5,834
2020	104	0	0	499	355	26	165	505	0	0	4,010
2021	124	0	0	291	363	0	46	848	0	0	3,434
2022	273	0	0	368	278	20	0	252	0	44	2,882
2023	477	0	85	399	0	0	53	860	0	0	2,929
2024	173	0	0	140	329	60	25	235	0	60	3,512
2025	243	0	50	31	250	0	0	290	0	60	3,258
Avg.	186	4	14	336	299	13	77	469	36	21	3,678
5 Yr. Avg.	258	0	27	246	244	16	25	497	0	33	3,203
3 Yr. Avg.	298	0	45	190	193	20	26	462	0	40	3,233

¹ Timber Stand Improvement - Hand release of established regeneration.

² In 2025, includes 40 acres of tamarack and 10 acres of white spruce.

Spring Planting

The planting program has changed significantly over the past decade. Between 2008 and 2013, an average of 350 acres of red pine, 210 acres of jack pine and 70 acres of white pine were planted every year. Since 2016, the average has been 186 acres of red pine, 0 acres of jack pine and 14 acres of white pine. In addition, prior to 2013, 0 acres of jack pine were artificially seeded. Since 2016, an average of roughly 190 acres of jack pine has been seeded per year. Though the amount for 2025 is much lower, due to a pause in jack pine seeding within the Barnes Barrens Management Area (BBMA).

- The 2025 planting goal is: 243 acres and consists of the following:
 - New planting sites: Nine sites will be planted, totaling 168 acres. All sites will be planted with containerized stock at a rate of roughly 800-900 trees per acre. For a total of nearly 143,000 trees.
 - Starting in 2025, the Department will be using a slightly larger planting stock. These seedlings will be a little taller and will have a slightly larger caliper. The goal with the larger stock is to give the seedlings a better advantage, especially when considering a potential shift away from the use of herbicide for site prep activities within the designated barrens areas.
 - Re-planted sites: Three sites will be re-planted, totaling 75 acres and roughly 60,000 trees.
 - Tamarack and White Spruce: A poor quality, 95 acre aspen site was harvested recently, containing significant levels of Hypoxylon canker (roughly 20% of the stand was infected). Of that, 40 acres will be prepped and planted with tamarack; 30 acres with red pine (included in the red pine section above); 10 acres with white spruce; and the rest regenerated naturally (to aspen). Portions of the site are also heavier to clay soils and more poorly drained.
 - Approximately 28,000 tamarack and 7,000 white spruce will be planted at this location (700 trees per acre).
 - White pine underplanting: No sites will be underplanted with white pine in 2025.

In the future, the general expectation is that red pine plantings will hover between 100 and 300 acres or less per year; white pine under plantings will vary, depending on the availability of suitable sites; and jack pine will be planted only when it's determined to be more advantageous to do so (typically on sites of relatively small acreage, where seeding is more difficult, on sites that require more intensive site preparation due to excessive competition, where prior seeding attempts failed or produced only marginal success, or other similar situations).

However, previously seeded sites have been marginally successful. Often resulting in lower than expected stocking levels, as well as a few sites that required supplemental planting (to achieve the desired stocking level). While regenerating jack pine via seed is still the preferred method, particularly in the barrens management areas, a shift to including more jack pine planting will likely increase in the future.

As stated in the Swamp Hardwood section, if/when EAB arrives, nearly all of the ash trees will quickly die. Because black ash will no longer be targeted as a viable tree to regenerate the stand,

the Department must find alternative species capable of establishing and developing in these wetter environments.

The natural regeneration of red maple, aspen, and other northern hardwood species will be a target in many swamp hardwood stands. However, natural regeneration may not always be feasible or result in an acceptable density of desirable growing stock. In these situations, planting may be necessary. The Department will continue collaborate with the DNR to explore/consider various reforestation alternatives in swamp hardwood stands.

The Department was successful in securing two sizeable grants that will be used to help offset some of the costs associated with the planting program. A grant from the Arbor Day Foundation was previously awarded and will be used to offset most of the seedling costs in 2025. A previously awarded American Forests will also be used, in part, to cover some of the costs associated with planting in 2025.

Spring Seeding

The seeding program also changed significantly over the past few years. Before 2013, all reforestation activities were centered around planting. Artificial seeding was seldom used. Starting in 2013, the Department began implementing objectives that were developed as part of the Barnes Barrens Management Plan. Among other things, the plan identifies a preference to regenerate a jack pine dominated landscape (within the Barrens area), with artificial seeding as the preferred reforestation method. Seeding is preferred primarily because of the potential to create a more naturally regenerating landscape (that incorporates higher levels of variability and diversity).

Before a site is seeded it needs to be mechanically prepped and usually sprayed. This provides a better seedbed for the delicate jack pine seed to germinate and develop. Also, adequate acreage needs to be available before local contractors are interested in the work. Many of the acres that were trenched in 2023 were also sprayed in 2024. These sites would then be seeded in 2025.

The timing of timber harvests also has a direct impact on how many acres will be available for reforestation. As previously stated, timber sales are sold under two-year contracts. The contractor can request numerous one-year extensions, meaning it can take up to four+ years to complete a timber sale.

- The 2025 seeding goal is: 31 acres.
 - Jack pine seeding: 31 acres. Two different stands will be seeded at 4 ounces per acre, all via DNR airplane. A total of roughly 8 pounds of locally sourced jack pine seed will be applied aurally.
 - Starting in 2020, all jack pine seeding sites will be seeded twice (in successive years). Instead of seeding a site once at 4 ounces per acre, it will be seeded twice at 3-4 ounces per acre, each time. This will provide better coverage/distribution of seed and significantly reduce the potential for failure.
 - Both sites are being seeded for the first time.
 - The Department is also experimenting with no chemical site preparation prior to seeding (on suitable sites). Currently, the results

are mixed. Because seed can take numerous years to germinate, providing a site that will be competition free for a long period of time (up to seven years) is critical. Different methods of mechanical site prep are being explored as an alternative to chemical e.g. a harrow plow, fire plow or more aggressive power trenching.

- White pine seeding: 0 acres. In 2020, white pine was seeded on 110 acres (1 stand), primarily in an attempt to increase diversity within a stand of scrub oak and aspen. This site was aerially seeded at a rate of 4 ounces per acre, with a total of roughly 28 pounds of white pine seed.
 - While no white pine seeding is planned for 2025, the Department will continue to look for opportunities to increase species diversity within stands. If a suitable stand is located in 2025, seeding may occur, as time and budgets allow. White pine seed is also in short supply from the DNR nursery, which will likely have an impact on similar supplemental seeding activities in the future.
- All seeding will be accomplished with assistance from the WDNR (pilot and airplane). As per routine practice, all sites will be monitored regularly to determine success.

Site Preparation

Nearly all stands that are scheduled to be planted or seeded require some form of site preparation. In general, site preparation reduces competition, exposes mineral soil and provides the optimal environment for the desired tree seedling to become established and develop.

Site preparation methods can vary, the most common forms include (but are not limited to): power/disc trenching; fire plowing (also a form of trenching); blade scarification (primarily applied to pre-sale type site preparation activities); roller chopping; and spraying.

Site preparation goals generally reflect the amount of known sales that have been completed within the previous year (and are in need of site prep). Occasionally, a few more timber sales are completed in time for addition to site prep goals. When that happens, the goal is adjusted accordingly, as budgets allow.

- The 2025 reforestation goal for site preparation is divided into four distinct categories:
 - Power/Disc Trenching: 250 acres. This form will prepare sites for future seeding and planting activities.
 - Pre-Sale Scarification: 0 acres. In the past, straight blade scarification (with a dozer) was conducted prior to a timber harvest (pre-sale) in stands of red oak, paper birch and/or northern hardwoods. In general, the goal of this form of scarification is to help facilitate the natural regeneration of red oak and paper birch, as well as reduce competition from non-desirable species, such as ironwood and, in some stands, red maple. This work is generally accomplished by DNR staff, with DNR equipment.
 - The Department is currently in the process of evaluating the effectiveness of this form of site preparation (with a straight blade). Other forms of scarification e.g. salmon blade, anchor chains, etc will also be considered to

help facilitate the successful natural regeneration of targeted hardwood species. The goal for 2025 is 0 acres, but, if a stand with significant levels of undesirable competition is discovered, the number of acres may be increased, as time and budgets allow.

- Spraying: 290 acres total and divided into two distinct categories.
 - Site Preparation for Reforestation: 290 acres.
 - Inside BBMA: 0 acres.
 - Outside BBMA: 290 acres.
 - Applied a year after trenching to produce a site generally free of initial undesirable tree species. This creates an environment that allows the seedlings to germinate, establish and develop in a relatively free-to-grow condition.
 - Barrens Management – BLBMA and/or BBMA: Over the past few years, a significant effort has been made to begin the establishment of the BLBMA (see chapter 4000 of the Comp Plan for more information on the BLBMA and the Barrens section of this Workplan for more information on barrens related projects). Since aspen was a major component within many of the stands being converted to open barrens, chemical will be used to help establish the area. Afterwards, whenever possible, prescribed fire will be used to maintain the open barrens habitat within this area.
 - BLBMA: 0 acres.
 - BBMA: 0 acres.
 - A significant amount of prescribed fire is anticipated in both barrens management areas in 2024. Nearly 600 acres are slated for treatment in the BLBMA and nearly 400 acres within the core area of the BBMA. Burns will be accomplished by the DNR, as conditions and resources allow. Refer to the Barrens Management section for more detailed information on prescribed burning.
- Fire Plow: 0 acres. Fire plowing is used to prepare sites for planting or seeding and can provide an alternative to trenching. The number of acres being treated via fire plow are generally treated on a case by case basis and may increase if trenching contractors continue to be difficult to find. The Department also continues to explore other effective site prep methods that can help minimize the use of chemical. In general, all fire plow sites are accomplished by the DNR. Also, the potential exists to replace some areas scheduled to be prepped via trenching with fire plowing. The Department will coordinate with the DNR to determine if additional fire plow sites would be feasible in 2025. If so, the trenching acres would be adjusted accordingly.

As previously stated, additional sites, not already planned for as part of the 2025 goals, may be discovered in 2025. If/when previously unplanned stands are found, the goals are adjusted accordingly, as time and budgets allow. However, if newly discovered stands do not need immediate attention, they will be addressed in the following year. Whenever possible, grants and additional similar funding sources will be pursued throughout the year to help defray some costs associated with the reforestation program.

Release

On occasion, young regenerating stands, whether reforested naturally or with artificial means, need a little assistance. During the regeneration process, competition from other trees or vegetation can significantly reduce growth rates, negatively impact species density and diversity, and, in some cases, if not treated, result in partial or complete failure of the reforestation activity.

As part of the routine and regular monitoring program, stands are examined to determine if additional inputs by the Department are needed to help with the development of a stand (if needed, the activity is generally termed release).

In general, the Department has used three different forms of competition control, or release, to help achieve desired stand objectives: spraying (use of chemicals), timber stand improvement (or TSI), which uses handheld power tools (i.e. brush saws, chainsaws, etc.) or prescribed fire.

Spraying is most common when treating plantations, generally red pine, and is prescribed on an as needed basis. Occasionally, young plantations need treatment in order to release seedlings from undesirable vegetative competition. This release can significantly increase seedling growth and improve the rate of survival. Spraying as part of the initial site preparation treatment process (before the site is planted or seeded), generally significantly reduces the need to also release. Spraying to release existing plantations hasn't been necessary since 2014.

The prescribed burn program, for the regeneration and/or maintenance of specific timber types (typically red oak), is still under review to gauge the effectiveness of fire. Prescribed fire, for silvicultural purposes, e.g. red oak management, hasn't been actively employed since 2012, though the DNR still maintains portions of the fuel break via prescribed fire and will be actively managing the barrens management areas. However, silviculture burns as part of the red oak management program will be reinstituted in 2025, with the DNR taking the lead.

In the future, it is anticipated that TSI will become more routine and will be required to improve the growth potential and survival of desired regeneration in many previously managed hardwood stands i.e. northern hardwoods, red oak, birch, etc., as well as some conifer stands (primarily white pine under plantings).

Other forms of mechanical release are also constantly being explored (i.e. mowing, dozer and straight blade, etc.) and may be prescribed if deemed feasible, as budgets allow. CFI and FRM will help to reveal the extent to which TSI will be required, as well as to monitor the impacts/results of previous treatments.

- In 2025, the reforestation release goal will be divided into three distinct sections:
 - Spraying: 0 acres. No stands are scheduled for chemical release in 2025. However, through routine and regular monitoring, a few stands may be determined to require release. If so, these stands will be treated as budgets allow.
 - TSI: 60 acres. Over the past few years, a few stands have been hand treated (mechanically) to release desired regeneration. It is anticipated that the results of regeneration surveys will reveal additional stands in need of treatment. If so, these stands will be treated mechanically, as time and budgets allow. In 2025, newly

regenerating groups/gaps within stands of northern hardwoods will be targeted, as will areas where red oak is the desired species. Ironwood and other undesirable tree species will be targeted for removal, to release the more desirable species, like maple, oak and birch.

- Prescribed Fire (silvicultural burns): 65 acres. Treating/prepping a mature stand of red oak along Big Sand Bay Rd. This work is generally accomplished by the DNR with DNR staff and equipment. Department staff may provide some assistance with prescribed burning.
 - ICO: in addition to the oak burn, the Department is working with DNR research on maintenance/ecological burning in existing mature red pine plantations. As part of that study, one burn, approximately 40-50 acres, is scheduled in 2025. This burn will also be accomplished by the DNR.
 - All burns will be addressed as time, resources, weather windows and budgets allow.
 - The Department will also continue to work with the DNR to determine if future stands would benefit from a prescribed burn to better facilitate the regeneration of desired tree species. If so, these stands will be managed as time and budgets allow.

Seedling Protection

Starting in 2013, the Department used bud caps to protect young jack pine seedlings from browsing by white tailed deer. In total, 239 acres were bud capped. This literally involves stapling a 3"x 3" piece of copy paper over the terminal bud/leader of each planted seedling. The reason: plantation monitoring in this area has shown signs of excessive deer browsing.

Failure to protect the seedlings, during times/years when deer browsing pressure is high, could lead to plantation failure. Bud capping would need to be repeated every year until the seedlings are beyond the reach of the deer, which typically takes 3 or 4 years. Currently, the focus is on stands that are planted with containerized jack pine (as these seedlings are a little more nutrient rich when compared to bare root stock or natural regeneration).

These same stands were capped in 2014-2016. A few stands reached the desired height and were removed from the capping schedule from 2017-2019. No acres were bud capped in 2020-2024.

- The bud capping goal for 2025 is: 0 acres. This will be highly dependent on browse pressure observed over winter and into early spring. Some of this expense (within the BBMA) may be offset by the American Forests grant. Seedling protection may also include some level of deer repellent spray (e.g. Plantskydd) instead of bud capping.

Regeneration is monitored on a routine and regular basis. If plantations of red pine or underplantings of white pine or other similar reforestation attempts are experiencing similar browsing issues/pressures, these stands may also be bud capped, as budgets allow.

The Department also maintains two large scale deer exclusion fences on the forest. Both were constructed with eight foot tall, high tensile woven wire. A 29 acre exclusion is located south of Oulu and was installed during the spring of 2007. While a 50 acre exclusion is located south of

Cable and was installed during the fall of 2008. Both fences were constructed on stands being actively managed for red oak. Both locations are routinely monitored to study the growth and development of regeneration and to better understand the potential influences of browsing by deer.

Both fence locations have also been recently harvested, where the overstory was removed to allow established regeneration to recruit. Each site will continue to be monitored to evaluate the effectiveness of the fence. The fences will also be maintained throughout this process, with the goal of eventual removal once seedlings have established and attained dominance. Another goal for 2025 is to re-visit each fence to determine options for eventual removal.

A few smaller scale fences (less than ¼ acre in size, made from high density plastic) have also been constructed on the forest. These are much smaller in size, but still intended to monitor the impacts of excessive browsing by white tailed deer.

Natural Regeneration

The majority of stands managed by the Department regenerate naturally i.e. they do not require site preparation, planting or seeding in the reforestation process. In 2025, thousands of acres, across a variety of forest types, will be naturally regenerated. The exact amount is solely dependent on the total number of acres previously harvested.

Forest types such as northern hardwoods and aspen regenerate naturally via seed, stump sprouting and/or coppicing (vegetative sprouting from existing root system) and require very little additional input from the Department. However, the natural regeneration of hardwood forest types such as red oak and paper birch often require additional maintenance efforts/inputs by the Department.

Reforestation can be accomplished by either natural or artificial means. Table 4 above tracks annual reforestation accomplishments, but primarily as it pertains to artificial regeneration or when additional inputs are required by the Department (i.e. site preparation, release, bud capping, etc.).

Subsequently, most of the monitoring listed in Table 4 is centered around stands that were reforested artificially, those that also received additional inputs from the Department, or when the establishment of adequate and/or desirable regeneration is a concern i.e. excessive deer browse issues, most oak harvests, most white birch harvests, and some northern hardwood gaps (primarily where site quality is marginal and/or competition from ironwood is excessive).

Examples of additional inputs to aid in the natural regeneration process include: pre or post sale site scarification to prepare a favorable seed bed and reduce competition, pre or post sale burning, TSI to reduce competition from undesirable tree seedlings and/or prepare favorable seedbeds, and deer browse protection i.e. fencing, repellents, etc. to improve the tree seedlings chance of survival. These additional inputs occur when issues or opportunities arise and are treated on a case by case basis, as time and/or budgets allow.

Every stand managed by the Department is ultimately reforested with an adequate stocking of desirable trees. However, not all treatments are regeneration harvests. Some stands are thinned, where a small portion of the trees are removed, typically with the goal of improving development on the higher quality stems left behind. Termed even-aged thinnings (also improvement or intermediate harvests), these treatments generally target the removal of the poorest quality trees;

those that exhibit poor form and/or vigor; and undesirable, diseased or otherwise unhealthy individuals.

Natural regeneration (either from seed or vegetatively via root suckers or stump sprouts) is the preferred method of reforestation in all hardwood types (i.e. aspen, birch, northern hardwood, oak), as well as some stands of conifer (primarily swamp conifer i.e. tamarack and black spruce, as well as some stands of white pine).

Hardwood types such as red oak and paper birch are reforested primarily with even-aged treatments (i.e. shelterwood, seed tree and/or clearcut) and often require additional inputs from the Department to facilitate the natural regeneration process. Site preparation, competition control, the manipulation of light, timing of seed dispersal, etc all need to be addressed when regenerating red oak and white birch. As a result, these stands are monitored more intensively, as regeneration can be highly variable and the Department may need to act quickly if the stand is not responding to the treatment.

Northern hardwoods (typically dominated by sugar maple and basswood, and sometimes with components of yellow birch, red maple and white ash) can be managed with even or un-even aged techniques. Maple isn't as unpredictable as red oak and typically doesn't require additional inputs from the Department to encourage adequate regeneration. However, when implementing un-even aged treatments (i.e. when gaps or small groups are incorporated to initiate a new cohort or age class), the Department has noted some issues with the process of natural regeneration.

On moderate or poorer quality northern hardwood sites, competition from ironwood has become an increasingly growing concern. Deer can exacerbate this problem, as repeated browsing slows growth (and can eventually kill the tree) and allows less desirable or undesirable (i.e. ironwood) species to attain and maintain dominance.

Gaps or groups (for regeneration) comprise a relatively small percentage of the stand (typically 10 to 25%), so it doesn't take a large population of deer to eventually locate and browse the seedlings. All of which can have a negative impact on overall stand growth and development, as well as influence how and when stands are managed in the future.

Poor/slow growth rates on the residual trees, and inadequate recruitment of regeneration into the overstory, are also significant concerns on these lower quality sites. As a result, most northern hardwood stands that are treated with regeneration gaps or groups are monitored intensively. Additional inputs may be required to facilitate the natural regeneration of desirable hardwood seedlings (i.e. site preparation or TSI).

Quaking aspen has been identified as one of many timbers type that could be negatively impacted due to changes in the climate. Stands developing on marginal sites are more inherently stressed and could be most at risk (i.e. sites that are nutrient poor). In addition, the presence of hypoxylon could have a significant impact on stand health and development.

Monitoring in aspen will cover a cross section of habitat types, but will prioritize stands developing on sites classified, by the Department, as marginal or nutrient poor. However, a subset of aspen sites, developing throughout all habitat types (poor to high), will also be part of the regeneration monitoring process.

Table 4a summarizes the general management or reforestation goals for every completed (closed out) sale from 2014 through 2023. An important distinction between Tables 4 and 4a: Table 4 summarizes the actual reforestation activity that was physically accomplished per year; while Table 4a summarizes the planned reforestation activity that will occur in the future, once a timber sale has been closed out.

Table 4a: Summary of Treatments and Reforestation Activities on Completed Timber Sales (acres)

Year	Natural Reforestation ¹	Artificial Reforestation ²	Thinnings ³	Total Completed Sales	Total New Sales Sold
2014	3,032	1,113	1,075	5,219	4,388
2015	3,127	1,053	586	4,766	4,958
2016	1,570	830	492	2,892	4,750
2017	2,176	1,044	872	4,092	4,101
2018	2,493	1,183	571	4,247	3,813
2019	2,144	455	723	3,322	4,267
2020	2,399	567	671	3,637	5,052
2021	1,952	906	974	3,832	4,114
2022	2,386	617	1,289	4,292	3,993
2023	1,978	313	859	3,150	3,196
Average	2,326	808	811	3,945	4,263

¹ Natural reforestation refers to stands that will regenerate via seed located naturally on site, or vegetatively via coppicing or stump sprouts.

² Artificial reforestation refers to stands that will be physically planted or seeded by the Department.

³ Thinnings encompass stands that were treated with even aged prescriptions (or intermediate harvests). These stands are eventually reforested (either naturally or artificially), at a later date, as per the designated rotation age for that particular timber type.

As part of the forest management prescription, reforestation is basically categorized or classified in one of three ways: 1) with natural regeneration as the reforestation goal; 2) with artificial regeneration as the reforestation goal; or 3) as an even aged thinning (or intermediate treatment), where reforestation will come at a later date.

The general breakdown of reforestation goals in 2025 is expected to align closely with the averages summarized in the table above.

Aspen, northern hardwoods and red oak are the three most prominent types that will regenerate naturally (though red oak often requires more input from the Department to foster the regeneration process); red pine and jack pine are most often prescribed to regenerate artificially (planted or seeded); and red pine and red oak are the two most prominent timber types that receive intermediate treatments (thinnings, but no direct regeneration activities).

Seedling Counts (including the Competitive Regeneration Survey/Forest Regeneration Metric)

All planted and seeded sites and many areas that were regenerated naturally require survival or regeneration counts. Monitoring the development of newly regenerating stands is an integral part of the reforestation process.

Data collected from the counts are used to assess the development of the stand in a variety of ways, some of which include: determine stocking levels of desired tree species; survival and quality of

regenerating seedlings; degree/intensity of undesirable competition; existence of insects and/or disease, and, if present, extent of threats/impacts to the stand; impact of herbivory, if present; and anything else of note. All of which provides valuable information when determining the effectiveness of the reforestation activity, if any additional inputs by the Department will be required to achieve the desired future condition and the next management prescription for the stand.

Seedling counts on sites that were reforested artificially (e.g. planted or seeded) are generally administered at one, two, three, five and/or ten years, or some combination thereof, after the regeneration activity on most planted and seeded sites. Seedling counts on naturally regenerating hardwood stands are typically administered five years after harvest (depending on the forest type) and also include one to two additional surveys to determine success. Some stands may receive additional monitoring after 10 years of age, especially if issues are discovered or if stands aren't responding to treatment.

Natural regeneration monitoring was previously accomplished utilizing the protocols outlined in the Forest Regeneration Metrix (FRM). As FRM was developed, the Department slowly incorporated it into the process. The initial priorities were targeting stands of red oak and northern hardwood (the two hardwood types that have been experiencing some issues in the reforestation process), but other timber types were added in 2018. In 2019, FRM was incorporated across all types that are regenerated naturally.

After working with FRM methodology for a few years, the Department concluded that the survey was not providing the results needed to help facilitate future management level decisions for each stand. The Competitive Regeneration Survey (CRS) was established internally using some FRM metrics and methodologies, combined with additional criteria. The goal of CRS is to measure/monitor stands that are being regenerated naturally to determine the likelihood of future success. And, if additional inputs will be required to facilitate the establishment and recruitment of desired tree species. CRS protocols were adopted on naturally regenerating stands starting in 2021.

Table 5 displays the total reforestation/regeneration monitoring goal for 2025. The goal (acres) is summarized by major forest type per reforestation category (natural or artificial) and treatment (planted, seeded, or natural), and also includes the total number of stands.

Table 5: Bayfield County Forest Reforestation (Regeneration) Monitoring Goal (CY 2025)

Species	Artificial Reforestation				Natural Reforestation	
	Planted		Seeded		Natural	
	Acres	# of Stands	Acres	# of Stands	Acres	# of Stands
Red Pine	1,019	21	0	0	13	1
Jack Pine	0	0	168	3	5	1
White Pine	94	2	0	0	16	1
Aspen	0	0	0	0	252	7
Northern Hardwoods	0	0	0	0	509	15
Red Oak	0	0	0	0	1,031	35
Red Maple	0	0	0	0	37	2
Scrub Oak	0	0	0	0	61	2
Swamp Hardwoods	0	0	0	0	22	1
Swamp Conifer	0	0	0	0	31	2
Total	1,113	23	168	3	1,977	67

The Department will continue to collaborate with the DNR regarding the analysis of regeneration data with the goal of finding the most effective way of monitoring reforestation efforts and determining the next prescribed treatment for each stand.

- As per Table 5, the total reforestation monitoring goal for 2025 is divided into two distinct categories: artificial (planting and seeding) and natural.
 - Artificial Reforestation Monitoring: which includes stands that were planted or seeded. A total of 1,281 acres on 26 different stands, summarized as follows:
 - Planted: 1,113 acres, covering 23 different stands, broken out as follows:
 - Red Pine: 1,019 acres on 21 stands;
 - White Pine: 94 acres on 2 stands (underplanted in a poor quality aspen stand);
 - Seeded: 168 acres, covering 3 different stands, all jack pine
 - Natural Regeneration Monitoring: 1,977 acres, covering 67 different stands. Because the natural regeneration monitoring program is still in the process of being re-developed and expanded, utilizing CRS, the goal may fluctuate accordingly.
 - Due to time constraints, the CRS goal for naturally regenerating stands is further divided into three priority categories (high, medium and low).
 - High Priority: all stands of northern hardwoods, swamp hardwoods and red oak.
 - Medium Priority: all stands of red maple, scrub oak, and white pine.
 - Low Priority: all stands of aspen and smaller stands (less than 5 acres in size) of northern hardwoods, red maple, red oak, swamp hardwoods and red pine.
 - A subset of aspen will be developed by selecting approximately 25% of the stands that are ready to be monitored, equally distributed across the ownership. If issues are discovered within the subset, additional stands may be selected for monitoring.
 - Also in 2025, continue working closely with the DNR on the development of a process/program for the analysis and summary of the older FRM data and newer CRS information.
 - The total regeneration monitoring goal for 2025 is: 3,258 acres, covering 93 stands.

Time may very well be a limiting factor this year as the Department strives to accomplish all goals across all programs. If so, it may be necessary to make adjustments to the goal or further prioritize stands that will be monitored in 2025.

All stands of artificial origin, as well as all stands of red oak and northern hardwoods will be of highest priority. While a subset of stands may be selected from forest types that traditionally have had no issues with regeneration, like aspen (see above).

In addition to determining the general success of the reforestation activity, other specific goals of regeneration monitoring will include, but not be limited to: identifying stands that may require additional inputs i.e. mechanical scarification, TSI, prescribed fire, etc.; more intensive observation on cover types that are typically difficult to regenerate i.e. red oak, paper birch, as well as stands where competition from undesirable species has traditionally been more prevalent i.e. ironwood in stands of northern hardwood; and quantifying the presence and intensity/level of deer browse, especially important in cover types that have a history of being over browsed i.e. red oak, paper birch (as well as gaps within northern hardwood stands).

CRS information will be a component of the continuous forest inventory and incorporated as part of that program. Between CRS information and CFI, Bayfield County will have a myriad of stand and landscape level information that will be used in all future forest management planning processes.

Prescribed Fire

Prescribed fire has traditionally been used to maintain portions of the fuel breaks located in the Township of Barnes, as well as to facilitate natural red oak reproduction in stands located throughout the county forest.

In 2025, 0 acres of fuel breaks has scheduled for treatment. However, portions of the existing fuel breaks may be treated with fire, if conditions allow. Fuel break burns are coordinated by the DNR.

See the reforestation section for a summary of scheduled silviculture burns and below for a summary of burns scheduled in the barrens management areas.

Barrens Habitat Development (Barnes and Bass Lake Barrens Management Areas)

Over the past decade+, there has been a significant increase in the level of resources dedicated to the establishment and maintenance of barrens. Starting with the development of the Barnes Barrens Management Area (BBMA) and now including the Bass Lake Barrens Management Area (BLBMA). Specific goals and objectives of the barrens management program can be found in the Barrens Management Plan (see Chapter 4000 of the Bayfield County Forest 15-Year Comprehensive Land Use Plan).

Development of the BBMA will take some time, as the Department is still addressing the management of stands that were established prior to adoption of the barrens management plan (which involves a diversity of species and age classes). However, the core area is on target to be fully established by at least 2035 (and probably much sooner). Once all stands are addressed and ready for management, the Department will likely begin the coordinated harvest of Zone 1, thus marking the beginning of the floating barrens.

The Department will continue to monitor the effectiveness of the barrens management plan. As with any plan, amendments, alterations or modifications are expected. The Department will also continue to work with the DNR regarding the technical aspects of barrens development and maintenance.

Some of the general barrens related goals for 2025 are as follows:

- The Department will continue to prioritize the development of the BLBMA. This will be achieved through a combination of timber sales and other treatments, where necessary, required to establish and maintain the core area, as described in the barrens management plan.
- A combination of prescribed burning, herbicide and mechanical site preparation will be used to establish and/or maintain barrens habitat within each management area.
 - Prescribed Burning:
 - BLBMA: 0 acres. Though acres may be added if determined to be ready.
 - BBMA: 334 acres. Approximately 192 acres in the NW quadrant and 142 acres in the SW quadrant of the core. The DNR will take the lead on all prescribed burn projects.
 - All burns will be addressed as time, resources, weather windows and budgets allow.
 - Herbicide: 0 acres. There are no scheduled treatments in 2025. Sites that were treated previously are now scheduled to be burned. Herbicide use, if needed, is considered a one-time treatment to facilitate the development of the desired habitat. Future maintenance will be performed via prescribed fire and/or mechanical site prep.
 - Mechanical Site Prep (Roller Chopping):
 - BLBMA: approximately 160 acres of roller chopping.
 - BBMA: approximately 60 acres of roller chopping.
 - In both areas, the mechanical treatments will be accomplished with the newly acquired county roller chopper. The unit will be pulled by either county or DNR equipment, likely a dozer. The county may also consider leasing a prime mover (skidder) and/or exploring contract options, especially if additional funds/grants are secured.
 - The core area of the BBMA is being considered for expansion in 2025. If expanded, the number of acres treated with the roller chopper may also be increased in 2025.
 - The county will also continue to consider leasing the roller chopper to other government agencies, performing similar barrens maintenance activities, on public land (e.g. USFS and DNR).
 - Access Roads: the Department will continue to utilize a combination of grant funds, as well as internal and DNR labor to develop access roads around the perimeter of the BBMA and BLBMA. The amount completed will depend on available funds and internal resources.
 - If the core area of the BBMA is modified/expanded in 2025, additional road work will also likely be required.
 - Vegetation Surveys: continue working with a local botanist to complete baseline vegetation inventories in the BBMA. This includes herbaceous surveys in the core area, as well as the floating portions around the core. One goal of surveys in the floating, more intensively managed areas surrounding the core, is to better quantify the potential impacts of herbicide use on the development of temporary barrens habitat. Primarily with regards to the

influence chemical might have on the herbaceous layer. With the caveat that the floating portions are only expected to provide temporary barrens habitat that will complement the core over the short term (until the timber begins to mature and shade out the understory). But with a goal of providing the highest quality habitat possible (and feasible), which includes the presence of specific indicator species that are important for supporting a variety of wildlife species. This will also involve collaborating with the DNR.

- A similar vegetation survey will be conducted in the BLBMA once the initial development phase has been completed. A survey will be one important component that will be used to track habitat development over time.
 - Previous surveys will be evaluated to determine if more are needed in 2025.
 - Lepidoptera Surveys: similar to the vegetation surveys, the Department is working with local scientists to perform a baseline survey of butterflies and moths within the barrens management areas. Work on an initial survey started in 2024 and will continue in 2025. Initially targeting the BBMA, but will also include the BLBMA once that habitat becomes more suitable.
- BBMA Plan Review. Short- and long-term goals for the BBMA will be reviewed in 2025. Including the general boundaries of each zone and core, as well as approaches to timber management within each area. This may include a modification (in size) of each zone (possible reduction), as well as the core (possible expansion), and include a thorough examination of management strategies, philosophies and timelines.
- Signing. A sign plan will be developed and implemented in 2025. This will include a large property sign located along Highway 2 for the BLBMA and likely Halfway Rd for the BBMA. Smaller informational kiosks and other related signs will also be installed at both barrens management areas. The Department will partner with the DNR, USFS and similar agencies or institutions on sign development and design. Small parking areas will also be considered. All of this will occur as time and budgets allow.

WILDLIFE PROJECTS

A number of wildlife projects will again be undertaken in 2025. The majority of wildlife habitat improvement work conducted on county forest land will be accomplished utilizing funding from Wisconsin DNR grant programs, specifically, the County Conservation Aids and Nickel-an-Acre programs.

The Nickel-an-Acre program reflects a change from the previous Dime-an-Acre funding. As indicated in the name, the program funding was cut in half starting in 2010 and will continue to be funded at a nickel an acre into the foreseeable future. The County Conservation Aid grant requires a 50% county match on eligible projects.

The Conservation Aids project for 2025 have yet to be determined. Traditionally, approximately \$3,993 has been available for eligible projects. Additional monies may also be available, as determined by the total amount of unallocated funds. If additional funds are available, the Department may apply for more assistance.

The Nickel-an-Acre grant totals roughly \$8,500. In addition to the annual allotment, Bayfield County is required to spend accumulated wildlife grant dollars. In 2025, the Department will continue to work with the DNR to identify suitable wildlife projects to spend down accumulated funds, if applicable. This grant has been used to fund a variety of County Forest wildlife projects in the past.

Potential projects for 2025 could include, but are not limited to:

- Site prep for and seeding of jack pine in the BBMA.
- Continue the development of the BLBMA (supplemental barrens sites i.e. stepping stones).
- Mechanical and/or chemical treatments for wildlife opening maintenance (typically around 100 acres per year, though this program has been put on hold pending funding for DNR Wildlife staff to continue the activity). Accomplished by the DNR.
- Wildlife habitat development/improvement throughout the forest.
- Mechanical site prep for natural white birch, red oak or northern hardwood regeneration.
- Prescribed burning of wildlife openings and oak regeneration areas.
- Fish habitat projects.
- Habitat projects on old homesteads.
- Breeding bird surveys within other areas of the forest.
- In the BBMA, continue to assist the DNR with the Connecticut Warbler surveys and potential habitat development projects.
- Summary of breeding bird survey data, including the fine-tuning the application and/or program utilizing said data (see Shiny App referenced below), while also exploring other ways to utilize or expand upon existing data.
- Land acquisition.
- Trail development and renovation (primarily for hunting access).
- Trail mowing and/or game opening maintenance.
- Equipment purchase (where the equipment would have a specific benefit wildlife habitat).
- Invasive species control and eradication.
- Deer exclosures for red oak regeneration (fencing).
- Seedling protection (bud capping, spraying, etc.).
- Barrens Wildlife Monitoring: the Department is currently collaborating with the DNR, USFS and the Natural Resources Research Institute (NRRI – University of Minnesota-Duluth) on a wildlife monitoring project within the BBMA. The project is generally comprised of two phases: 1) the banding and monitoring of sharp-tailed grouse within barrens habitats; and 2) the development and maintenance of a breeding bird survey. The goal of the project is to better understand wildlife use patterns of, and movements within (and between), barren landscapes, as well as the importance of habitat corridors (or stepping stones). Results of a monitoring project would be used to help develop new and/or fine-tune existing forest management strategies and objectives within the barrens.
 - Sharp-tailed grouse monitoring started in 2021, continued in 2022, was paused in 2023, resumed again in 2024 and will continue in 2025.
 - A breeding bird survey of the BBMA was completed by NRRI in 2021. A summary of the survey and plans for future work was provided in 2022. Additional work may be planned in 2025.
 - As part of the project development, NRRI will also provide recommendations

and cost estimates associated with maintaining a monitoring project over the long-term. A long-term monitoring project is preferred.

- Automated Recording Units (ARUs) will also be deployed in the BBMA and BLBMA to assist in detection. These units were also used in 2023 to start collecting information on the presence of various bird species within the barrens management areas.
 - Continue working with wildlife experts to fine tune the call lists to increase the accuracy of detections. Also consider other uses of rapidly improving ARU technology, which may include additional bird and/or bat related surveys throughout the county forest.
- Re-visit previous breeding bird surveys and the predictive model developed by NRRI (created using an R Shiny App).
 - The Department has also deployed numerous game cameras (currently 12) at known sharp-tailed grouse lek sites (currently 3 different sites), as well as other areas of interest, with the goal of better understanding use patterns. These cameras will be monitored again throughout 2025.
 - The Department has also made a series of habitat improvements within the BBMA and BLBMA, including lek mowing and roller chopping. These activities will continue in 2025, as time and budgets allow.
 - The Department will also continue to explore additional funding opportunities to assist in the development of habitat within the BBMA and BLBMA.
 - Other surveys. Mammals and insects. Consider establishing a process for collecting baseline data on mammals, insects and other species within both barrens management areas. A lepidoptera survey was conducted in the BBMA in 2024 and may continue in 2025.
 - Similar wildlife projects may be developed in 2025 if additional funding sources become available.
 - Applications for grants or similar funding sources will be treated on a case by case basis and presented to the Committee for approval. Pittman-Robertson, Turkey Stamp, Ruffed Grouse Society and Sharp-tailed Grouse Society are a few examples of grants that have been awarded previously.
- American Forests Grant: In 2022, a sizeable grant from American Forests was secured to assist with a variety of reforestation projects within the barrens. Eligible activities include: site preparation, seeding, planting, stand improvements, seedling protection and regen monitoring. Many of these projects will occur 2025.
- Bat Habitat Conservation Plan (Bat HCP). Not really a wildlife project per se, but in early 2024 the Department entered into an agreement with the DNR to address bat habitat concerns. As part of the agreement, under the oversight of the DNR, landowners would be responsible for complying with the terms of the Lake State Bat HCP and incidental take permit, as it pertains to forest management and recreational activities, under the authority of the Endangered Species Act of 1973. The agreement also requires a certain level of annual reporting, with regards to timber harvests and road/trail construction and/or maintenance activities. As such, annual compliance reporting to the DNR will be a requirement starting in early 2025, for activities that occurred in 2024. Developing a system that tracks reportable activities will be a goal in 2025. This will impact both the Forest Management and Recreation programs.

Beaver management is also a common activity on portions of the county forest, especially in areas

that have traditionally harbored healthy populations of beaver. Aerial imagery and drones are commonly used, along with field observations, to categorize the level of current damage to the forest (created by the expansion of existing or the creation of new beaver ponds), as well as future risk assessments.

Issues associated with beaver activity have increased significantly over the past few years. Beaver activity generally becomes a problem when existing road and/or recreational trail infrastructures (i.e. bridges, crossings, etc) are threatened or compromised. Through an existing agreement with APHIS, many problem areas have been addressed over the past few years. It is anticipated that more problem areas will be discovered and addressed in 2025 as well. Monitoring known problem areas will become more of a routine workload in the future, especially as beaver populations grow and the cost of addressing damage associated with beaver induced flooding continues to increase.

Any of the above listed projects, or those of a similar nature, could be implemented in 2025, generally as conditions and funding allow.

Connecticut Warbler Info

Barrens provide habitat for a variety of wildlife species. While Sharp-tailed grouse and Kirtland's warbler are two of the more well-known species that require barrens habitat throughout various stages of their life cycles, Connecticut warbler has also started to attract attention.

During the most recent statewide breeding bird survey in Wisconsin (Breeding Bird Atlas), Connecticut warbler emerged as one of the biggest species in decline. While the species has been slowly declining over the last half century, the rate of drop over the past decade has been particularly alarming. Northwest Wisconsin, specifically the area in and around the BBMA, is the last known location where the species is known to breed in the state.

Connecticut warblers generally require access to jack pine or black spruce forests throughout the nesting season. The bird targets 20 to 40' tall stands, with variable stocking density, a relatively open mid-canopy layer and dense ground layer, featuring berries, grasses and/or moss. The Department has already been in collaboration with the DNR investigating existing stands on the Bayfield County Forest that may provide suitable habitat. A breeding bird survey in 2021, commissioned by the Department, revealed at least two singing males (though nesting was not confirmed). The DNR conducted a more thorough breeding bird survey in 2022, targeting stands that have been selected as potential suitable habitat. This survey yielded a similar result.

In 2022, the Department collaborated with the DNR to locate existing mature jack pine stands on the county forest that could provide suitable future nesting habitat. Two stands were located, but both contained a fairly well-developed understory, primarily consisting of hazel. In fall 2022, the DNR commissioned a timber stand improvement (TSI) contract to cut the understory brush on 28 acres of one stand. This stand will continue to be monitored (primarily by the DNR) to determine success. If successful, the remaining stand (roughly 47 acres) may be treated in a similar way in 2024. Both stands are located within the BBMA. The Department may also consider installing ARUs in the treated stand as another way to survey for the presence of the Connecticut warbler.

Results of the TSI work were mixed and no birds were detected from recent surveys. Still, the Department will continue to collaborate with the DNR regarding modifications to future

management that may positively impact habitat for the Connecticut warbler and/or minimize habitat loss. Modifications to traditional management of red pine plantations will also be considered, if doing so will increase the potential of providing surrogate habitat, as younger jack pine stands continue to mature.

The Department will also continue to manage stands located within the BBMA as outlined in the barrens management plan. The management of the two mature jack pine stands described above are still being delayed to accommodate the habitat needs of the warbler and allow more time for monitoring. Further modifications to the plan may be necessary, depending on a stands response to treatment, response to unforeseen circumstances (i.e. insect and/or disease outbreaks), results of data analysis, or the development of better direction, and will be addressed on a case by case basis.

ACCESS MANAGEMENT

Work on revamping the road and trail inventory and monitoring system began in 2024. This includes the development of a GIS system/database designed to identify and track current or potential future problem areas as discovered and assign work priorities when needed. A detailed road-stream crossing inventory, utilizing the Great Lakes Stream Crossing Inventory protocols, is also being incorporated as part of the system design.

In 2025, the goal will be to continue the development of the inventory and monitoring system, both for roads and trails, as well as stream crossings. An ambitious goal of assessing all roads, trails and crossings not already addressed in 2024 is the target. Depending on the level of work remaining, it may take an additional year to complete the initial assessments. Once completed, the goal is to maintain the system, by establishing a routine and regular monitoring protocol, with action items, if needed, and a goal of re-inventory every 3-5 years, or more frequently if problems are detected.

The annual level of resources dedicated to a dynamic and robust access management inventory and monitoring program is expected to be significant. Goals and priorities will continue to be assessed and adjusted, in part, based on the results of re-inventory and the resources required to achieve program objectives.

As part of the re-assessment, the Department will monitor existing roads and trails to determine authorized use status and future infrastructure needs, including road closures, if needed, and signing, according to the access management plan. All new roads created as part of a timber sale will also need to be reviewed to determine the future authorized use status. Motorized and non-motorized uses are consistently increasing. The Department will continue to address recreational needs and requests on a case by case basis.

Repair and maintenance of the infrastructure will occur on an as needed basis, as funding allows. Road building projects may also be developed, especially on those that receive high levels of use, are located in more sensitive areas in need of minor attention, and/or provide access into current or future timber sales and have the potential to increase future stumpage prices. Road projects can be performed by Department staff, DNR staff or general contractors, as well as through collaboration with the Highway Department

Some potential road projects in 2025 include:

- The construction of a primary service roads within the BLBMA and BBMA will continue in 2025. Monitoring and maintenance of existing roads within each barrens management area will be an ongoing activity.
- Compile and prioritize a list of known road issues that will need repair work. Pursue as time and funding allow.
- Re-routes or new construction projects are often elevated in priority depending on need and the presence (or lack thereof) of other existing access routes.
 - A re-route off the end of Almstead Road to re-establish the Wally Polk trail was completed in late 2024. Additional work may be required in 2025.
- Work on lake access projects, including Carroll Lake, Richardson Lake, Pine Lake, Jackman Lake and Bismarck Lake. Many of have been completed and will require regular monitoring and maintenance (Perch, Bismarck and Jackman). Projects will likely include new road construction and improvements to existing infrastructure and will be addressed as time and budgets allow.

The Department will continue to maintain roughly 45 miles of Primary Forest roads, for which we receive DOT County Forest Road Aids (currently \$351/mile, though typically pro-rated based on total requests throughout the county forest program). The Department will also continue to identify, plan and/or develop additional forest roads and trails, as the need arises, for later entry into the County Forest Road program. Some potential primary road projects in 2025 include:

- Continue re-grading and brushing Flag Road. With the assistance of the Highway Department.
- South Fuel Break Road re-route, repair and gravel.
- Webster to Moore connector repair and gravel.

The Department also maintains an abundance of private temporary access permits. These permits authorize a landowner the right of ingress and egress to privately owned land, through the county forest. Permits are temporary, generally good for a period of ten years, and must be renewed upon expiration (or sale of the property). If approved, the permitted landowner must maintain the approved access road as outlined in the agreement. Every year, the Department approves anywhere between 6 to 10 temporary access permits. Permitted access roads are generally monitored periodically, primarily for compliance with the access permit.

Another primary goal heading into 2025 will be to continue the development of a more effective plan for monitoring the extensive road and trail infrastructure (much of this is already in motion). More specifically:

- Create and test methods to efficiently collect and compile information on new and existing roads and trails throughout the forest (using tablets and/or data recorders).
- Re-inventory and analyze all existing road closing devices/structures e.g. gates, berms, natural barriers, etc. Establish a regular monitoring and repair process for road closures. Also establish a process to re-evaluate road closure priorities, including the type of device needed to effectively accomplish objectives.
 - This may involve the use of internal resources, as well as DNR labor and/or contractors.

- Rebuild and/or finetune the existing access management database to better facilitate data collection, analysis and reporting.
- Use current aerial imagery to find potential new road construction across the entire forest. Prioritize field examination (ground truthing) and collection of data on all new roads and incorporate into the access management database.
- Develop a realistic and achievable long-term access management monitoring program. Currently, there is a total of roughly 1,400 miles of inventoried roads and trails on the forest. This number increases slightly virtually every year (created as part of the timber management process).
 - Revisit, inspect and collect updated information on roughly 400 miles per year, with the goal of completing re-inventory every 3 to 4 years. Adjustments to the goal may be necessary to balance available resources with the workload.

BAYFIELD COUNTY FOREST COMPREHENSIVE LAND USE PLAN

The Bayfield County Forest Comprehensive Land Use Plan (Plan) was revised and approved in 2021. The new Plan is valid from 2021 through 2035. The Plan is intended to be dynamic and will be reviewed periodically. Potential updates to the Plan will be presented to the Committee and will require approval from the County Board prior to adoption.

RECREATION (on County Forest Lands)

The Department will continue to work with the County Tourism Department and interested user groups regarding recreational activities occurring on the county forest. The demand for recreational use on county forest land has steadily increased over the past decade, a trend that is expected to continue into the foreseeable future.

Over the past few years, the Forestry and Parks Committee has approved numerous re-routes of snowmobile and ATV trails, the construction of new, and re-routes of existing, mountain bike, hiking and cross country ski trail networks, numerous improvements to existing hiking, mountain bike and cross country ski trails and an expansion of the shooting range off North Boundary Road to include a trap component.

Requests to host events on trails located within the forest continues to increase as well. Some of the more notable events that utilize portions of trails located on the forest include: the American Birkebeiner Cross Country Ski Race, the Chequamegon Fat Tire Mountain Bike Race, the Cable Area Off-Road Classic Mountain Bike Race and the Northern Pines Sled Dog Race. Over the past few years, the Department (Committee) approves an average of approximately twenty organized events per year that utilize trails located on the county forest.

The Department also maintains land or recreational use agreements or leases with a variety of organizations, some of which include: the American Birkebeiner Ski Foundation, CAMBA, North Country Trail Association, North End Ski Club, Ashwabay Outdoor Education Foundation, National Fish Hatchery, Town of Barnes, ABC Sportsmen's Club and more.

In general, the use agreements highlight specific areas or trails within the forest and outline management or use requirements expected from each organization. Use requests are treated on a

case by case basis and require approval from the Committee.

Requests for new or improvements to existing motorized and non-motorized trail systems are expected to continue in 2025 and beyond. Requests for additional trails will be treated on a case by case basis, as per Chapter 700 (Access Management) of the Plan.

Trail counters have been installed in a variety of settings to determine actual use of certain trails and/or areas. Data received from these counters will provide the county with valuable information needed to determine future direction. Additional counters have been purchased and will continue to be installed throughout the forest to monitor usage in 2025, which will include installations on non-motorized, as well as motorized trails.

- A goal for 2025 is to continue the development and implementation of a process to more effectively analyze and report trail use information. Also to consider other locations where trail use information (trail counters) would be valuable. Consider the installation of additional trail counters as time and budgets allow.

The Department will also continue to explore additional opportunities to enhance and improve the recreational use of the forest. Existing networks are routinely analyzed, and areas are explored for new or improved recreational potential. Some planned and/or potential projects for 2025 include:

1. Management Plans for all Trails, Areas, and/or Recreational Properties. Recreation related activities, and associated workloads, have increased significantly on the county forest over the past decade. Improvements to trails (i.e. Lost Creek Falls), the acquisition of properties with an emphasis on developing recreational opportunities (i.e. Siskiwit Falls and Fire Hill) and the management of motorized trail programs (i.e. state funded snowmobile and ATV trails) have resulted in a massive increase in Department resources dedicated to recreation. In addition to the relationships the county maintains with the various external entities that manage designated trails on the forest, the Department has developed and enhanced the level of internal resources dedicated to recreation.
 - a. The Department will begin the process of developing dedicated management plans for each recreational trail, area and/or property that the Department is responsible for (including those located on county owned, non-county forest lands). This would include existing trails like Lost Creek Falls and Jerry Jolly/Pike's Creek; opportunity areas like the Glacial Kettles, and non-county forest properties like Siskiwit Falls and Fire Hill. It would also include existing parks and campgrounds like Big Rock, Twin Bear and Delta Lake, as well as day use areas like Atkins Lake. The management plans created for each area/facility will also include a routine maintenance and replacement schedule.
 - b. In addition to existing recreational trails and properties, the plan would include an analysis and recommendations for potential new developments.
2. Lost Creek Falls Trail.
 - a. A concrete vault toilet was installed in the Lost Creek Falls parking area in 2022. The installation work was completed by the Highway Department. Routine maintenance of the privy will be a regular workload.
 - b. The Department collaborated with the Town of Bell on the development of an overflow parking area on/off Trail Drive. The Highway Department also assisted with this project. The Department will continue working with the Town of Bell

- regarding routine maintenance of the property.
 - c. Due to the consistent high volume of use (roughly 10,000 users per year), additional minor repair work will be required to maintain the trail and/or infrastructure.
 - d. Improvements to existing signs and kiosk material will occur in 2025.
 - e. Minor repairs and upgrades of the trails are expected to occur throughout 2025, including an assessment of the existing tread and the potential for trail expansion.
 - f. Continue working with BATS and various volunteers regarding inspections and minor maintenance of the trail and grounds.
3. Yurts. Continue routine maintenance of the three yurts on county forest land. During the summer of 2016, one yurt was constructed in the Cable area and one near Mt. Ashwabay (named Evergreen – it's green in color). In late summer of 2018, a third yurt was constructed, a little north of the first one located near Mt. Ashwabay (named Terra Cotta – reddish clay in color). In addition to the routine maintenance of each structure, some of the more significant projects may include (all as time and budgets allow):
- a. Replace the indoor picnic tables at the Evergreen and Cable yurts (with a separate table and chairs, similar to what was placed in Terra Cotta).
 - b. Assess the condition of the floors at all three locations. Re-paint if necessary.
 - c. Assess the condition of the privys at all three locations. Re-paint or stain if necessary.
 - d. Assess the condition of the decks at both the Cable and Evergreen locations. Repair as necessary.
 - e. Consider improving the under deck seating area at the Terra Cotta location.
 - f. Locate existing or create new trails at the Bayfield locations to provide additional designated hiking opportunities, and reduce the impact to groomed ski trail networks.
 - g. Maintain the grounds immediately surrounding each yurt to address encroaching vegetation.
 - h. Clean-out the stove pipes at all locations and consider treatments to the exterior fabrics (washing the outside of the yurts).
 - i. Update the maps at the trailheads/parking areas of each location. Update the information located within each yurt as well.
 - j. Continue monitoring mice at all three yurts. Address (trap) as necessary.
 - i. There has been an increase in mice related damage to the yurt fabric (both inside and out) over the past few years. Repairs and/or enhancements to the fabric may be required as a result.
 - k. Explore the potential of drilling a well for manual hand pump. The depth to water table may make this cost prohibitive.
 - l. Update the Airbnb listing and reservation process, including new photos.
 - m. Monitor reservations and adjust pricing accordingly.
 - n. Repair the screens in all three yurts, as needed.
 - o. A fourth yurt was previously approved for construction in 2023. However, the project was put on hold to better analyze need and long-term viability. Funding for a fourth yurt (or rustic camping structure) was not pursued in 2025. However, opportunities for other rustic camping options will continue to be explored. If determined to be favorable, a fourth rustic camping structure will be pursued as part of the 2026 budget.
4. Jolly Trail. Continue to re-evaluate the Jolly trail network. As part of the process, determine existing uses and future direction. Also re-explore partnerships with the Ashwabay Outdoor Education Foundation (AOEF), as well as the Town of Bayfield,

regarding future maintenance and/or grooming of the trails. As part of the continued assessment, upgrades to other existing features, including the trail, kiosk and various signs may be required, as time and budgets allow.

- a. As stated above, a specific goal for 2025 will be the development of a management plan for the property. The plan would identify short and long term goals for the property, including timelines.
 - b. Continue to collaborate with AOEF and BATS regarding the potential to install a bridge on a portion of ski trail (on AOEF property). This may also include developing an application for a trail aids grant. Pursue as time and budgets allow.
 - c. Also continue to collaborate with AOEF, CAMBA, Bayfield Area Trails (BATS) and other similar interest groups regarding the development and/or maintenance of trails on county lands located within the Ashwabay block, including the Jolly Trails. Including the development of up to date maps, as well as the design and the installation of signs.
5. Recreational Use Agreements. Recreational Use Agreements are generally required for a third party to develop and/or maintain rec trails or areas on county owned lands. The Agreements are typically for a period of ten years and define the terms of each approved recreational use. In 2025, a number of existing Recreational Use Agreements are expected to be addressed, including, but not limited to:
- a. Chequamegon Area Mountain Bike Association (CAMBA).
 - b. American Birkebeiner Ski Foundation (ABSF).
 - c. North End Ski Club.
 - d. Wolfsong (dogsled).

In addition to the existing Agreements that are set to expire (that need to be renewed), new recreational use requests are treated on a case by case basis.

6. Special Management Area (SMA) Management Plans. As per the Plan, one goal was to establish more detailed forest management plans located within the designated SMA's for Recreation (currently, the Mt. Ashwabay block and low motorized Cable block). Each SMA management plan will provide more detail regarding known and anticipated future timber harvesting activities, as well as additional clarity on considerations to mitigate impacts to existing recreation within each block. Each SMA management plan will be created based on goals and direction established within the Plan, but will include additional layers of information and forecasting.
- a. Mt. Ashwabay SMA: work on the management plan for the Mt. Ashwabay SMA began in late 2021 and was completed in 2022. As part of the process, representatives of the Ashwabay Outdoor Education Foundation (AOEF), CAMBA and Bayfield Area Trails (BATS) Committee were involved in the process. Maintaining this plan and the various partnerships will continue throughout 2025.
 - b. Cable SMA: though not a requirement, work on the management plan for the Cable SMA is expected to begin in late winter/early spring 2025. ABSF, CAMBA and the North End Ski Club will all be part of the plan development. This plan will be very similar to the one created for the Ashwabay block and is expected to be completed by mid-2025.
7. New Recreational Opportunities. Explore the potential of creating new, or improvements to existing, multi-use, non-motorized trails at numerous locations including: the Glacial Kettles area, Spring Creek area, the Menard Road area, the cluster of small lakes located near Pero Rd, and/or other locations throughout the Forest where the potential for increased public use exists. Including working with various rec partners to identify opportunities. If a

potential location is discovered, it would be presented to the Forestry and Parks Committee for approval. If approved, other funding sources may be required to help facilitate development. Pursue as time and funding allows.

8. Lake Access. Continue to explore opportunities to improve public access to water features that exist on county forest lands. Over the past two years, the Department has been awarded County Conservation Aids to assist in the development of public access to lakes on the county forest. The general goal of these lake access improvement projects is to facilitate a more user friendly means of public access. The emphasis will be on low impact, foot access. Direct motorized access (boat launch) to the water is generally not being considered at this time (though improved access would make it easier to portage a canoe or other small water craft from the parking area to the lake, which could include the use of a small motor). Depending on the project, additional funding sources will be pursued, as necessary.
 - a. Perch Lake: a roughly 21 acres lake located in the Town of Bell. An existing access road and small parking area was completed in 2020. Signs and an informational kiosk were installed in 2022. The development of a short access trail (foot path) from the parking area to/along the lake, as well as the development of a small area to place a picnic table or bench, will be considered in 2025, as time and budgets allow.
 - b. Carroll Lake: a roughly 15 acres lake located in the Town of Iron River. A minor amount of new road construction, as well as a small parking area and foot path, would be required to provide better public access to this lake. A small timber sale was completed in 2023 to widen portions of the primary access road to better facilitate improvement work. Work on the Carroll Lake project will commence in 2025, as budgets allow and if determined to still be one of the higher priority projects.
 - c. Richardson Lake: a roughly 27 acre lake in the Town of Hughes. The project would include the construction of an access road and small parking area. A defined carry in access route may also be constructed/signed. The project would include a small kiosk and informational signs. The project would also require a small timber sale to remove trees in the road corridor. The project is expected to start in 2025, pending completion of the initial timber sale.
 - d. Pine Lake: a roughly 15 acre lake in the Town of Iron River. The project would include improvements to existing infrastructure include parking area and approach to the lake. A small kiosk and informational signs would also be included. The project is expected to start in 2025, as time and budgets allow.
 - e. Bismarck Lake: a roughly 59 acre lake in the Town of Iron River. Primary access work (road, parking area and signage) completed in 2023. Routine monitoring and maintenance will be a regular workload and may include mowing and/or brushing, as needed.
 - f. Topside Lake: a roughly 66 acres lake in the Town of Iron River. The Department is in the process of exploring the potential of adding roughly 80 acres of county park and 4-H property to CFL, as part of a future land acquisition project (that will involve a Stewardship grant). The 4-H property was land previously owned by the county where ownership would revert to the county as per a deed contingency. If successful, the potential exists to improve public access to the lake. Including small parking area, walking path to the lake, fishing pier and picnic tables. A covered picnic shelter already exists on the property. Old outhouses exist as well, but will likely require replacement.
 - g. Jackman Lake: (day use park): a roughly 11 acre lake in the Town of Tripp. Work

completed in 2024. Continue working with the Town of Tripp on garbage disposals and porta-potties. Establish a regular maintenance and monitoring schedule. Address other issues on a case by case basis, as time and budgets allow.

- h. Other Lake Access Projects: there are numerous lakes on county forest lands where public access could be improved with minimal inputs from the Department. Or where road development could be incorporated into a timber sale, with minor improvements occurring in conjunction with harvest activities. Lakes such as Spring, Loon, Jones, Jesse and Island all have potential. Other lake access improvement projects will be considered in 2025 as time and budgets allow.
9. Explore the potential of improving or expanding the existing motorized trail networks on public and private lands (both state funded and non-funded). This may require collaborating with other public land managers i.e. USFS, DNR, etc., the Red Cliff Tribe, interested user groups and the general public. It may also require submitting applications to one or more grants, to assist in any requirements related to planning, development or construction. Pursue as time and funding allows.
10. Explore the potential of creating dispersed rustic camping sites on other portions of the county forest. Pursue as time and funding allows.
11. Develop and implement strategies for advertising and/or promoting recreation on the county forest. This may include collaborating with the Tourism Department, as well as other agencies or local businesses where tourism is a primary objective. Pursue as time and funding allows.
12. Create a recreational trail development and maintenance strategy, with an emphasis on identifying critical trail connections and areas for new construction or enhancement. The plan would/could include strategies for both motorized and non-motorized recreation, as well as the development of incentives or other appreciation type programs for private landowners when trails are located on private land. This would likely involve additional communications with known and/or existing rec partners, as well as the general public.
13. Continue working with existing user groups on the management of approved trails located within (or otherwise connected to trails located on) the forest. This could include assistance, both financially and/or physically, associated with the construction, maintenance or development of new or existing trails and trail heads. Also includes consultation and collaboration regarding potential re-routes and/or other issues pertaining to the management of the trails.
 - a. Maintain the CAMBA parking area off Whiting Road.
 - i. A concrete vault toilet was installed at the CAMBA parking area off Whiting Road in 2022. The installation work was accomplished by the Highway Department. Routine maintenance of the privy will now be a regular workload.
 - b. Strengthen relationships with all groups and organizations that have long term recreational use agreements with the Department. This may include, but is not limited to: establishing regular meetings with each club/group; attending/participating in club meetings and/or events; actively participating in approved events, including set up and clean up activities; and organizing joint trail inspection days.
 - c. Establish a system for routine and regular accomplishment reporting from all recognized rec clubs and partners that complete maintenance or development projects on county owned or managed lands. Could be on an annual or quarterly basis.

14. Continue working with the ABC Sportsmen's Club with regards to the newly revised shooting range lease. The Club operates and maintains a shooting range, on county forest land, off North Boundary Road in the Town of Bell. As part of the new lease agreement, the Club will be required to submit annual reports to the Department summarizing range use, soil testing and lead reclamation activities (if any). Also, in 2018, the Club may begin construction of a trap range, assuming all applicable permits have been acquired, located adjacent to the shooting range.
 - a. Construction of the new trap area was to begin in 2019, but the work was delayed due to COVID-19. Completion of the trap expansion project is anticipated in 2024-2025.
15. Update the GIS database to accurately reflect the location and relevant information regarding all currently approved motorized and non-motorized trails, trail heads, recreational structures, access routes and other similar features/uses on the forest.
16. Continue to pursue the development and installation of ownership signs/markers, interpretive signs/maps and/or informational kiosks along popular or well used trails or use areas. The goal of the signs would be to convey information regarding the county forest program, including timber management that did or will occur in the general proximity of the recreational trail or area. The signs would be fairly general in nature and intended to provide baseline information regarding forest management and the county forest program. Pursue as time and funding allows.
 - a. In 2025, the Department will continue exploring the development of an interpretive sign program, with an emphasis within the SMA's for Recreation, as well as other highly used rec trails/areas. A collaboration with NW Regional Planning, Landmark Conservancy, the DNR, USFS, Northland College, WCFA, or similar organizations may be considered. As will the development of signs internally.
17. Continue to fine tune the sap collecting opportunities on the county forest. As previously stated, over the past two seasons the Department has been establishing a permit system to allow for the collection of maple sap on select portions of the county forest. The areas being considered as suitable for sap collection were those that afforded relatively easy public access and were located in stands where log quality and development was a lower priority or concern.
 - a. In addition to the development of a permit system for public use, the Department may also consider the potential of developing a similar opportunity on a commercial scale. This could be another vector to generate a new stream of revenue, but must align well with the overall goals and objectives for each stand. This will be pursued in 2025, as time and budgets allow.
18. U.S. National Grid Signs. Work with other departments and agencies regarding the installation of national grid signs, on a variety of different trails, that will improve response times in cases of emergency. Assess trails managed by the Department and install signs as time and budgets allow.
19. Continue to work with the North American Non-Lead Partnership to help to promote non-lead alternatives when recreating (hunting and fishing) on county forest lands.
20. Explore the potential of developing and maintaining designated winter rec trail networks, including hiking/snowshoeing, fat-tire biking, and cross-country skiing. Targeting existing road or trail networks that would require a minimal amount of construction, but also considering new development. This could include utilizing internal staff and/or resources, as well as partnering with interested local clubs or similar groups.
21. FCOR. The COR was approved in early 2023. As part of the FCOR, once carbon returns

are realized, there will be a significant level of investment in the recreation program. This would include the development of a sizeable annual rec grant (potential \$250,000/yr), as well as investments in internally managed facilities. If a significant level of carbon returns are received in 2025, then the development and administration of the rec grant or rec related activities, as well as planning and administration of internally managed rec would be a substantial workload in 2025 and beyond.

22. New Recreation Position. A second Recreation Specialist position was approved in 2022. That position started in April 2022. However, one of the two rec positions was vacant starting December 2022. Re-filling that position was delayed to better determine future rec needs and priorities, especially when considering the potential future workload impacts associated with the FCOR. In 2024, it was determined that the vacant Rec Specialist position will be converted to a Rec Coordinator, with an emphasis on rec program administration, growth and development. The position is expected to be filled by mid-winter 2025. Once filled, the rec program will consist of two dedicated positions: Recreation Coordinator and Recreation Specialist. It is anticipated that a significant level of time and resources will be dedicated to the development of this new position and direction of the rec program.

OTHER ACTIVITIES

Insects and Disease:

The DNR and Department are continuing to monitor the effects of forest insects and diseases, including, but not limited to: jack pine budworm, two-lined chestnut borer, emerald ash borer (confirmed in Bayfield County, though not currently located on the forest), Spongy moth (fna Gypsy moth), oak wilt (officially located on county forest land in 2018), annosum root rot (now called Heterobasidion root disease or HRD for short) and more. If sites containing a significant amount of insect infestation or disease are discovered, they will be monitored for damage and/or mortality. Depending on the level of damage, prompt management may be required. As new threats are encountered, the Department may need to alter management plans accordingly. Below are updates on a few of the more prominent and destructive insects and diseases:

- Spongy Moth. Spongy moth numbers, and subsequent defoliation, were extremely high in 2023, primarily north of Highway 2 and especially in the Bayfield Peninsula. Red oak and aspen are their preferred primary food sources and are the most susceptible to potential mortality, especially the suppressed and over mature individuals (red oak being of most concern).

As a result of the significant defoliation event, combined with prolonged drought conditions that persisted throughout most of the same area in 2023, some oak management was delayed in 2023. This included the temporary delay of a timber sale (primarily an oak thinning) in the Ashwabay SMA, as well as an oak thinning located in the Peninsula.

In general, thinning activities, where a significant number of trees will be retained after management, or regeneration harvests, where the retained trees are a critical part of the regeneration process, are stressed immediately following any harvest activity. When combined with additional stresses associated with defoliation and/or drought, and especially if all occur within the same year, residual trees can become over stressed. Age and other

inherent site conditions can add to the stress loads, which can leave trees more susceptible to other invading insects, like the two-lined chestnut borer.

Attacks from burrowing insects like the chestnut borer can result in the rapid death of a tree, while significant outbreaks can impact entire stands. When entire stands are impacted, the result can be devastating and often lead to targeted salvage operations to harvest the dead trees.

Defoliation was present in 2024, but much lighter and more sporadic. Nonetheless, oak management in the areas impacted the most by Spongy Moth over the past two seasons will be modified until stands have recovered. It is anticipated that the two red oak thinnings that were already delayed, will be so again until 2026 or 2027. If oak management is further reduced in specific units, the sustainable goal in all other units may also be adjusted accordingly.

In 2025, the Department will continue to work with the DNR regarding Spongy moth monitoring and management recommendations (if significant defoliation is predicted).

- Oak Wilt Disease. In 2017/2018, oak wilt was confirmed outside of Seeley (in Sawyer County), near the Bayfield County line (less than 8 miles away from the county forest block in Cable). In 2018, it was confirmed within the Cable block of the county forest, as well as an isolation location in Drummond. Since then, a small number of new areas have been discovered virtually every year through 2024. Fortunately, these areas have been small and manageable with internal resources.

Additional new oak wilt positive sites were confirmed on federal land in 2023, near Canthook Lake, in the Iron River/Delta area. This will influence timber sale operations within a 6 mile radius of the new findings. Prior to this finding, the only sales impacted by oak wilt were located in the Cable block. It is anticipated that oak wilt will continue to spread and will continue to have an increased impact on future timber management operations.

From a management perspective, the presence of oak wilt will add new restrictions to some timber sales, primarily those with a significant component of red oak (or where red oak management is a primary objective) and located within a six mile radius of the last known infected tree.

If oak is a significant component of the stand and the sale is located within six miles of a known infected tree, then the recommendation is no timber harvesting from around spring break-up through the middle of July. That is when the sap feeding beetle is most active (and a freshly cut stump or damaged branches on adjacent trees are sources for infection). Any cutting of trees during this time period can create a potential point of infection (unless the wound is immediately covered with some sort of dressing, which generally isn't realistic).

Additionally, since it can take multiple years for a timber sale to be completed, we will need to add qualifiers (restrictions) on all future timber sales (with similar oak components) in case oak wilt is discovered in the area after the contract is awarded.

In 2025, the Department will continue collaboration with the DNR (especially the local Forest Health Specialist) with regards to the management of stands with oak wilt and the treatment of infected trees. The Department will also review and apply management recommendations listed within various publications, including the document “Oak Harvesting Guidelines to Reduce the Risk of Introduction and Spread of Oak Wilt” (produced by the DNR).

All oak wilt treatment areas will be tracked using GIS. The database will include, but not be limited to: discovery date, detection status, confirmation date, oak species, soil type, number of infected trees, treatment status, treatment date, disposal type, disposal date, and last follow-up. Potential oak wilt sites will be monitored on an annual basis, by Department and/or DNR staff, using a combination of visual inspections and drone flights. The Department will also continue to collaborate with the DNR to organize annual flights with DNR aircraft (generally in areas deemed to have a high probability of a new oak wilt Infestations).

- It is anticipated that additional oak wilt infected trees will be discovered in 2025. Depending on the number of sites and total amount of trees that require treatment, it may be necessary to contract some or all of the work. If confirmed to be oak wilt, each location will be addressed on a case by case basis, as time and budgets allow. The Department will continue to work with the DNR on the best methods of treatment.
- **Emerald Ash Borer.** In 2022, Emerald ash borer (EAB) was discovered in Bayfield County. It has also been confirmed in all counties surrounding Bayfield County. To date, EAB has not been discovered on the Bayfield County Forest. However, based on current locations, discovery on the forest is inevitable, if not already present. In general, ash contributes less than 0.5% of annual stumpage revenues and is present, as a dominant forest type, on less than 1.0% of the county forest.

The large purple traps often seen along major roadways, intended to help monitor for and locate the presence of EAB, are no longer being placed or maintained by DATCP or APHIS. Since the threat of EAB is looming, it may be feasible to purchase, place and monitor these traps at the Department level.

From 2019-2023, roughly nine purple traps were installed annually by the Department at various locations on the county forest where ash is a significant component. All traps were negative for EAB.

- Since EAB has been confirmed throughout the general area, the Department will no longer install the EAB traps. But will continue to monitor for the presence of EAB. If detected, the Department will work with the DNR to determine the next course of action. See the Swamp Hardwood section for additional information on EAB.

Invasive Species:

The Department routinely inspects roads and timber sales for the presence of invasive species. If located, a plan for treatment is developed. The presence of invasive species (both native and non-

native) is still relatively rare on the forest, though observations and associated treatment efforts have steadily increased over the past decade. The Department typically treats a few small patches of land per year.

The most common non-native invasive species treated on the county forest are buckthorn (in the forest) and spotted knapweed (on roads and trails). Black locust has been the most common native invasive to be treated on the forest, typically occurring in small isolated patches in the vicinity of old, abandoned homesteads.

A one-acre patch of multiflora rose was found on the county forest in 2018. Since then, more patches have been found. To date, multiflora rose has now been found on about 20 acres of county forest land. Treatment of the infected acreage will occur in 2025, as time and budgets allow.

Currently there are over 300 acres of known buckthorn infestations on the county forest. This number has more than tripled over the past few years (primarily from new detections). Infestations are generally small in size and widely scattered across the impacted area (i.e. not 300 acres of solid buckthorn!). All treatments will continue in 2025, as time and budgets allow.

There is roughly 65 acres of known black locust infestations on the county forest. This number has also roughly tripled over the past few years. Similar to buckthorn, these infestations occur primarily in small patches and are widely scattered throughout the impacted area. Black locust treatments will continue in 2025, as time and budgets allow.

The Department will also continue to address spotted knapweed infestations along various road corridors in the barrens management areas. Roughly the same 50+ miles of road were treated in 2016 through 2023. Since much of the infestation is under better control, alternate treatment schedules were adopted in 2024. Some internal roads were added, and previously treated roads were placed on rotating maintenance schedules, based on the remaining level or intensity of infestation. It is anticipated that 2025 will continue with that approach. Thus eventually reducing the number of miles needing treatment during any given year. The long-term goal is to eventually reduce the need for herbicide use and spot treat problem areas as they arise.

To date, the treatment has been a success, as knapweed has already been significantly reduced. In addition, the amount of chemical used to treat the same 50+ miles of road has significantly declined with each treatment. The project primarily targets existing roads that are the most heavily infested, but more access corridors may also require future treatment to limit/reduce the overall rate of spread. More assessments will be completed in 2025 to determine if and/or when additional treatments will be required to control the spread of knapweed in the Barrens.

In summary, below is the expected invasive species workload in 2025:

- Invasive Species Control Treatments:
 - Spotted Knapweed: approximately 40-50 miles. Primarily located within the barrens management areas. Most of the work will be accomplished via contract.
 - Buckthorn: up to 300 acres. Targeting highest priorities first. Multiple locations throughout the forest. Previously, most of this work has been accomplished internally. However, additional assistance from the DNR, Land Conservation and/or

contracting a portion of the workload will also be considered, as time and budgets allow.

- Black Locust: approximately 60 acres. Multiple locations throughout the forest. Similar to buckthorn, most of the work has been accomplished internally, but other options will be considered.
- Multiflora Rose: approximately 15 acres. Multiple locations throughout the forest. Multi-flora rose infestations have also been primarily addressed internally.
- Leafy Spurge: approximately 10 acres. A relative newcomer on the property. The Department is still in the process of determining the best approaches to managing this invasive species. It is anticipated that treatments will be addressed internally in 2025.
- Honeysuckle: up to 5 acres.
- Valarian: another newcomer. Up 1 acre and one known location.
- Invasive Species Monitoring and Mapping:
 - In late 2022, an initial invasive species inventory was completed, including mapping the extent of each infestation to better determine acreage. This baseline inventory will form the foundation of another priority heading into 2025: a more detailed invasive species management plan for the county forest. The breadth and intensity of known infestations will also help to better establish anticipated future workloads. Resources dedicated to invasive species control has steadily increased over the past decade. This trend is expected to continue. Summer interns or similar limited time employees may be considered to help establish the initial baseline, as time and budgets allow. Below are the number of known locations that will continue to be monitored in 2025:
 - Buckthorn: approximately 25 sites located throughout the forest.
 - Spotted Knapweed: roughly 50 miles located within the barrens areas, primarily the BBMA but will include the BLBMA in the future (likely increasing the workload associated with knapweed treatment). Will include monitoring for new locations, as well as summarizing the effectiveness of previous treatments. If necessary, adjustments to the current management practices for knapweed will be considered
 - Black Locust: approximately 12 sites.
 - Wild Parsnip: approximately 15 sites.
 - Honeysuckle: approximately 6 sites.
 - Leafy Spurge: 2 sites.
 - Multiflora Rose: at least 2 known locations.
 - Valarian: at least 1 known location.

In the past, the treatment of invasive species has traditionally been performed by Department staff, usually involving chemicals. However, as the extent of known infestations increases and/or new areas are discovered, it may become necessary to incorporate the use of contractors, on a more routine and regular basis. Assistance from the DNR and/or other county Departments (e.g. Land Conservation) will be considered. Seeking alternative funding sources to assist in the treatment of invasive species will also be a priority in 2025. Generally speaking, all confirmed occurrences are managed on a case by case basis, as time and funding allows.

The Department will also continue to work with the DNR on similar opportunities to incorporate alternate means of invasive species control on the forest (e.g. biological controls) and will pursue as time and funding allow.

Permits and Agreements:

Every year, the Department reviews numerous requests to utilize portions of the Forest. Requests vary, but the most common include: providing access to private lands; providing access to land or trails for hosting organized recreational events; collecting balsam boughs; and collecting firewood. All requests are treated on a case by case basis and are typically addressed with a use permit.

Table 6 summarizes the average number of permits and land use approvals issued by the Department over the past five years (2020-2024):

Table 6: Bayfield County Forest Average Number of Permits Issued (5 Year Average)

Fire Wood	Balsam Boughs	Cones*	Christmas Trees	Access	Events	Disabled Hunting	Storage
250	10	3	8	6	20	5	1

The total number of permits approved on the property has been relatively consistent over the past few years, with one exception: organized events declined significantly during the first few years of COVID-19 (2020 and 2021). Most events were back on schedule in 2023 and basically returned to normal in 2024. In 2025, the requests for permits and events are expected to remain fairly constant (similar to the five year average).

The Department is also still in the process of exploring the potential of establishing a maple sugaring permit system, where low/poor quality hardwood stands could be tapped for maple syrup production. The Department has established a permit for the collection of sap and, over the past few years, has been testing the feasibility of developing a more robust tapping program. This type of use is not restricted as part of County Forest Law, nor is it restricted as part of the current Comprehensive Land Use Plan.

- In 2025, the Department will continue to explore the potential and feasibility of developing a permit system for the collection of sap (for personal use, as well as commercial activities).
- Additionally, many of the permit templates and processes are relatively old and/or outdated. Updating these documents and processes will be considered, as time allows.

Land Transactions (Acquisition and Sale):

The Department will continue efforts to acquire private properties on a willing seller, willing buyer basis, when advantageous to the long term goals of Bayfield County. A priority will be given to land located within the existing county forest blocking.

For reference, Table 7 summarizes the total amount of acquisitions and subtractions from County Forest Law from 2011 through 2024:

Table 7: County Forest Law (CFL) Entries and Withdrawals

Year	Entries¹	Withdrawals²	Net Change
2011	0.00	0.23	-0.23
2012	0.00	0.00	0.00
2013	40.00	4.25	35.75
2014	40.00	0.00	40.00
2015	2,601.80	0.09	2,601.71
2016	0.00	3.36	-3.36
2017	200.00	90.20	109.80
2018	0.00	82.71	-82.71
2019	3,731.25	0.10	3,731.15
2020	30.00	222.78	-192.78
2021	0.00	362.57	-362.57
2022	320.00	706.49	-386.49
2023	3,579.64	0.05	3,579.59
2024	160.00	0.00	160.00
Total	10,702.69	1,472.83	9,229.86

¹ Land added to the county forest, typically via purchase, donation, trade or tax delinquency.

² Land removed from the county forest, typically via sale or trade.

Since 2011, a net total of over 9,200 acres has been added to the Bayfield County Forest. In 2022, Bayfield County completed the final sale of county forest lands to the Red Cliff Band of Lake Superior Chippewa (Red Cliff). The repatriation of county owned lands located within the reservation was identified as a priority in the MOU between Red Cliff and the County. Between 2017 and 2022, the county sold a total of 1,439.27 acres of county forest land to Red Cliff. See Table 7a below for a summary of each sale:

Table 7a: Summary of Land Sales to Red Cliff

Year	Acres	Value
2017	80	\$80,000.00
2018	80	\$80,000.00
2020	222.78	\$315,000.00
2021	350	\$522,000.00
2022	706.49	\$1,000,000.00
Total	1,439.27	\$1,997,000.00

All proceeds received from the sale of county forest parcels are to be re-invested in land that will be enrolled in County Forest Law and managed as part of the county forest.

The primary goals of land acquisition are to further improve the efficiency of county forest management by consolidating (or blocking) lands within established county forest blocking and to provide additional public benefits through the purchase of forest land or special and/or unique areas. County forest blocking boundaries were traditionally arbitrarily placed, based primarily on the current location of county forest lands. If a parcel of interest (to purchase) or match property is

located outside the current boundary, the blocking will be adjusted accordingly.

Other requests to purchase county forest land will also be addressed on a case by case basis. As per County Forest Law, any sale of county forest land would ultimately need to be approved by the Forestry and Parks Committee, County Board and DNR.

Some potential land transactions goals for 2025 include, but are not limited to:

- Knowles-Nelson Stewardship Grant. As of the end of CY 2024, Bayfield County maintained a land acquisition balance of nearly \$1.40 million. The funds were a result of previous land sales to Red Cliff. Investing all proceeds in replacement lands to be enrolled in County Forest Law and managed as part of the Bayfield County Forest was a contingency of the various sales to Red Cliff. Even though numerous large land acquisition projects have been completed since 2022, the Department was successful in receiving numerous grants that covered either all or significant portions of each transaction. This meant that very little cash was required and is still available (roughly \$1.4 million) for future land acquisition projects.
 - In 2025, the Department intends to prioritize the investment of land acquisition funds on future projects. Stewardship and other grants will be targeted in attempts to leverage as much county cash resources as possible. This will likely involve numerous different grant applications, as opportunities arise. As of the start of CY 2025, the Department has either secured offers or is in the process of negotiating offers with 12 different private landowners, covering nearly 1,000 acres. Depending on the outcome of various grant applications, it is likely that a sizeable fund balance will remain. The Department will continue to pursue additional land acquisition projects on a case by case basis, as opportunities arise.
- Landmark Conservancy. At the end of CY 2024, the Department was still collaborating with Landmark Conservancy on two different land acquisition projects. Both projects have been identified as a high priority for Landmark, but, due to the terms of the targeted funding sources, would require a local unit of government for future land management responsibilities. Similar to the process involved with the more recent Siskiwit Falls, Fire Hill and Brownstone transactions. Landmark reached out to Bayfield County regarding interest. Full funding has been secured for both acquisitions. The following properties are expected to be conveyed to Bayfield County in 2025:
 - Iron River Community Forest (Maki): roughly 860 acres located along the Iron River, north of Iron River, in the Town of Orienta. This property abuts DNR Fisheries land and would roughly double the amount of public land in the area.
 - Whittlesey Creek Headwaters (Jauquet): roughly 160 acres located at the headwaters of the North Fork of Whittlesey Creek in the Town of Barksdale.
 - Both properties would be enrolled in County Forest Law and managed as part of the Bayfield County Forest. However, because the area is currently located outside of the county forest blocking boundaries, modifications to that boundary would be a requirement. This would involve an amendment to the Comp Plan and approval of the County Board.

Ordinance Review

Ordinances that pertain to the administration of the various county programs (forest, parks and

recreation) will be reviewed in 2025, as time allows. Many ordinances have been in place for a decade or more and may require updating. In addition, new ordinances may be required to more effectively regulate the various programs. All suggested modifications to existing and/or proposals for new ordinances will first be presented to the Forestry and Parks Committee for review.

Program Review

Another priority for 2025 is a continuation of detailed review and analysis of all primary programs managed by the Department. This includes, but is not limited to: Forest Management; Forest Inventory; Carbon; Reforestation; Recreation (on county forest lands, including yurts, as well as non-county forest properties); State Fund Motorized Trails (snowmobile and ATV trail programs); Parks; and Campgrounds. The review will largely involve identifying the primary goals and workloads of each program, revisiting priorities, and recognizing the resources available to accomplish a diverse set of objectives. Reviews are generally ongoing, but more extensive exams should be accomplished at least once every five years to ensure core objectives and missions are being met as efficiently and effectively as possible.

Forestry and Parks Department Garage and Equipment

Periodic and general maintenance will be required on the newly constructed Forestry and Parks Department garage (construction finished in the fall 2014), including minor work on the grounds and landscaping. Solar panels were added to the south facing side of the building in 2018/2019 and will offset some of the electrical use.

The Department maintains a sizeable fleet of vehicles, implements and equipment, including, but not limited to:

1. Nine (9) 4x4 pickup trucks: 8 gas powered and 1 dual (gas or CNG).
2. One (1) Electric 4x4 pickup truck (2023 Ford Lightning).
3. Seven (7) ATV's.
4. One (1) UTV's.
5. Six (6) snowmobiles.
6. One (1) bat wing field mower and one (1) trail mower.
7. One (1) 120 hp New Holland T5.120 DC Tractor, with end loader and pallet forks (new in 2023).
8. One (1) 2006 John Deere 450J bulldozer.
9. Three (3) light weight trailers.
10. One (1) covered trailer (new in 2022).
11. One (1) heavy equipment trailer (new in 2023).
12. Numerous site prep implements including a Brackee seeder, anchor chains, drawbars, back blades, discs and various plows.
13. One (1) roller chopper, for barrens maintenance (new in 2024).
14. Numerous power tools, saws and trimmers.
15. An F600 or equivalent dump truck will be added in early 2025.

The repair and maintenance on any of the above listed items could occur at any time during CY 2025. All repairs are treated on a case by case basis, as budgets allow. Major repairs (or replacements) may require funding that would exceeded budgeted amounts. If that occurs,

additional requests for funding will be brought to the Committee and full Board.

The Department also manages and maintains multiple sand and gravel pits located on county forest land (located in the Towns of Bayfield and Russell). These pits are primarily used by local municipalities, as well as the Red Cliff Tribe, for the maintenance of local infrastructure. In 2025, these pits will continue to be maintained on an as needed basis, to ensure compliance with state and local laws.

Management of Other Bayfield County Owned Lands:

Currently, Bayfield County owns approximately 1,000 acres of county tax title lands, not including lots and other small parcels, in addition to the above listed county forests lands.

On occasion, the Department will assess these parcels for land and/or timber sales, monitor for potential trespass issues, negotiate road, utility and recreational easements or permits and explore for sand and gravel potential. As new, non-county forest parcels are acquired, typically through tax delinquency, the Department will commonly inspect for timber management potential and/or for potential retention and enrollment into county forest law. As previously stated, roughly 75 acres of county owned, non-county forest lands will be managed in 2025.

- In June 2018, severe storms caused significant damage to numerous sections of motorized recreational trails that are managed and maintained by the Department. All trails were repaired by the end of 2018. In addition to trail impacts, the County sustained significant damage to the old Delta Landfill, with the Department assuming the responsibility of planning for and administering all repair work.
 - In 2019, FEMA approved a project and awarded funds to repair damages to the Delta Landfill. In 2019/2020, the Department collaborated with the Bayfield County Land Conservation Department and DATCP engineers to produce plans for repair. The estimated costs associated with the new preferred alternative are significantly higher than the original funding amount. As a result, the Department submitted a change of project scope request to incorporate the additional work and expenses that will be required to repair the landfill.
 - The change of scope request, with additional funding, was approved in 2021. The repair work will be accomplished by the Highway Department, using repair plans developed by Land Conservation. Most of the repair work was completed by the Highway Department in 2022. Some minor repairs were completed in spring 2023.
 - The final close-out documents were submitted to FEMA in fall 2023.
 - Final review of this project (by FEMA) is still ongoing. Reimbursement is expected in 2025.
 - Routine monitoring and repair will likely be a shared responsibility between the Forestry and Parks and Highway Departments.

Good Neighbor Authority:

In spring 2016, Bayfield County signed an MOU with the DNR to accomplish a variety of forest management activities as part of the Good Neighbor Authority (GNA). As per of the MOU, the county agreed to become a contractor of the state, with the ultimate goal of assisting in the

establishment and administration of timber sales on federal land. Program contracts are established with the state on an annual basis and subject to a mutually agreed upon scope of work. The Department will continue to work with the state on the development of annual GNA program contracts.

The scope of work defines the level of involvement the Department is willing to provide, outlines general goals and expected accomplishments and establishes an estimated budget. All salary, fringe, supplies, services and overhead costs, contributed by the county as per the GNA program contract, are reimbursed by the state.

All work provided by Department staff related to GNA activities will be completed as overtime, and accounted for separately from normal county forest operations. The scope of work is subject to annual revisions and Department involvement will be highly dependent on opportunities located within the Washburn Ranger District.

Table 7a describes the total levels of GNA activity since 2016 (the figures for 2024 and 2025 are estimates):

Table 7a: Summary of GNA Activities

Calendar Year	Fiscal Year	No. of Stands ¹	Total Acres ¹	Total Hours	Expenses	Revenues ²
2016	2016/17	15	381	326	\$21,033.35	\$0.00
2017	2017/18	20	675	358	\$23,960.56	\$39,627.93
2018	2018/19	17	889	365	\$24,164.40	\$9,393.10
2019 ³	2019/20	52	1,685	490	\$38,548.18	\$41,515.62
2020	2020/21	17	520	410	\$30,267.16	\$43,284.28
2021	2021/22	16	478	251	\$18,538.86	\$32,014.38
2022	2022/23	7	357	250	\$15,934.81	\$20,279.85
2023	2023/24	5	298	350	\$23,358.74	\$15,047.61
2024	2024/25	6	325	300	\$19,000.00	\$29,330.25
2025	2025/26	9	336	350	\$17,603.00	\$21,000.00
Total		164	5,944	3,450	\$232,409.06	\$251,493.02
Average		14	531	330	\$23,240.91	\$25,149.30

¹ Total work assigned per calendar year per GNA contract.

² A portion of the revenues are generally received the year after work has been completed.

³ Of the total stands/acres, 17 stands and 634 acres were prescription writing only.

In 2025, goals for the GNA program include, but are not limited to:

- It is estimated that the Department will allocate another 300 to 500 hours of time towards prescription development, timber sale establishment and timber sale administration on the Chequamegon-Nicolet National Forest located within the Washburn Ranger District. Work would be accomplished on stands of red pine and including prescription development, timber sale establishment and administration.
 - As per December 2024, a total of 9 new stands of red pine, covering 336 acres is anticipated for 2025. Also potentially including prescription development on an

additional 6 stands, covering 119 acres. A new contract (FY25/26) will be adopted in January 2025 and will cover work completed over the calendar year (rather than fiscal year).

- For 2025, the total volume of GNA work is expected to include: red pine remaining from the 2024 contract; the new red pine stands for 2025; timber sale administration of sales currently under contract; potential reconnaissance and/or prescription writing, if available.
- As per the program contract, all wages, fringe, equipment use, materials purchased (i.e. marking paint) and overhead would be reimbursed by the DNR. All work allocated by Department staff on anything related to GNA will occur after hours and will not be accomplished as part of the normal 40 hour work week (whenever possible). As a result, all wages would be compensated as overtime (and totally dependent upon interest from Department staff), which would be identified and reimbursed as such under any GNA program contract signed with the DNR.

PARKS

The management of all Bayfield County parks and campgrounds was assigned to the Forestry Department in September 2010. The four parks and campgrounds include:

1. Twin Bear Campground
2. Delta Lake Campground
3. Big Rock Campground
4. Atkins Lake Park

Since 2010, numerous changes, improvements and upgrades have been made to many of the campgrounds. Please refer to the accomplishment report for a detailed listing.

All parks and campgrounds undergo routine cleanup of brush and downed trees on a regular basis. Parks and campgrounds are also regularly inspected for hazard trees and branches, which are removed as needed. The removal of hazard trees or branches typically occurs when camping is inactive, usually in the late fall or early spring. Most of the trees are cut up and left on site to be used as firewood. Every year, there will be some removal of hazard trees and/or branches.

Some anticipated projects or minor repairs needed to the parks and campgrounds in 2025 include:

1. Twin Bear Campground
 - a. Complete the final phase of the retaining wall replacement project. The block and associated materials have been ordered and are already on location. This is expected to be completed before the beginning of the 2025 season, as conditions allow.
 - b. Consider the replacement of some of the older docks throughout the campground. Also potentially re-configuring the placement of the various mooring docks, to more efficiently capture that space.
 - c. Assess potential of expanding the boat launch dock.
 - d. Replace one or possibly two failing doors on the shower building.
 - e. Re-grade on a few existing campsites and road surfaces.
 - f. Explore the need to add gutters on the cabin store to divert water away

from the entrance to the building.

- g. Consider expansion of electricity to sites 41-43.
- h. Explore the potential for two new tent campsites on the hill behind shower building. Clear area and remove hazard trees. Develop as time and funding allows.
- i. Assess condition of concrete structures. Some units have walls that are starting to separate. Address as time and budgets allow.
- j. Assist campground manager in some routine maintenance of the grounds, as time and funding allow.
- k. Continue routine replacement of numerous old picnic tables and fire rings, as needed.
- l. Consider installing another concrete pad at the boat launch to address the constant power loading issues.
- m. Draft and implement a management plan for the property, including vegetation management (i.e. trees, brush, weeds and invasive species control) and an inventory of all infrastructures. This will include a maintenance and replacement plan for all infrastructure.
- n. Continue monitoring existing infrastructure, repair as needed and as budgets allow.
- o. Power wash and potentially treat the wooden boardwalk to the play area.
- p. Improve the recently acquired (free donation) swim raft and prepare for installation near the start of the 2025 season. Will need appropriate caution signs as well.

2. Delta Lake Campground

- a. Install new rules and regulations sign located at the entrance to the campground.
- b. Consider replacing the entrance sign, currently located adjacent to Scenic Drive. Replace as funding allows.
- c. Consider potential fishing dock on the west side of the play area.
- d. Evaluate the condition of all primitive toilets in the campground. Replace as necessary and as budgets allow.
- e. Explore the potential for tent camping on county owned island.
- f. Re-grade a few existing campsites and road surfaces.
- g. Assess potential to improve ventilation in the shower building. Mold and mildew buildup are constant issues and current overhead venting may be inadequate. Proceed as funding allows.
- h. Continue routine replacement of old picnic tables and fire rings, as needed.
- i. Assess condition of concrete structures. Some units have walls that are starting to separate. Address as time and budgets allow.
- j. Consider installation of additional water spigots.
- k. Draft and implement a management plan for the property, including vegetation management (i.e. trees, brush, weeds and invasive species control) and an inventory of all infrastructures. This will include a maintenance and replacement plan for all infrastructure.
- l. Consider installing another concrete pad at the boat launch to address the constant power loading issues.
- m. Continue monitoring existing infrastructure, repair as needed and as

budgets allow.

- n. Evaluate condition of the beach area and consider options for improvement.

3. Big Rock Campground

- a. A new entrance sign was installed in 2019. A new kiosk was installed in 2020. A new rules and regulation was installed in 2024.
- b. Consider installing infrastructure to provide electricity to sites adjacent to the river.
- c. Additional minor repairs on portions of the access roads and the primary parking lot may still be necessary.
- d. Minor repairs to sections of the primary access trails to the river. Some portions may require relocation. These are old fisherman trails that were established by use, over a long period of time. Many are currently unsustainable and in need of maintenance. Pursue as time and funding allows.
- e. Continue to explore the potential for rec trail development and additional rustic camping opportunities (structure) within the 40 acre county owned parcel. Pursue as funding allows. Also collaborate with the DNR regarding the potential to extend rec trails onto adjacent state owned properties.
- f. Replacement of numerous picnic tables and fire rings, if necessary.
- g. Repair and/or replacement of many campsite markers.
- h. Draft and implement a management plan for the property, including vegetation management (i.e. trees, brush, weeds and invasive species control) and an inventory of all infrastructures. This will include a maintenance and replacement plan for all infrastructure.
- i. Continue to collaborate with the DNR on the development of a long term use agreement regarding the strip of state owned land on the eastern most portion of the property.
- j. Replace/add fire extinguisher.
- k. Possible replacement of a door on one of the bathrooms.
- l. Assess condition of trees within the campground. Trim or remove potentially hazardous trees as time and budgets allow.
- m. Replace the existing sign located at the corner of Highway C and Big Rock Rd. With artwork that was selected as part of the sign design contest.

4. Atkins Lake Park

- a. Complete brushing of encroaching trees and vegetation along primary access road into the park (with Highway fecon head).
- b. Draft and implement a management plan for the property, including vegetation management (i.e. trees, brush, weeds and invasive species control) and an inventory of all infrastructures. This will include a maintenance and replacement plan for all infrastructure.
- c. Install new rules and regulations sign.
- d. Assess condition of concrete structures. Some units have walls that are starting to separate. Address as time and budgets allow.
- e. Consider re-establishing the old swimming beach near the picnic area.

In addition to all of the items listed above, the Department will continue to accept alternative forms of payment. Starting in 2022, credit cards were accepted through Govpay and is primarily directed towards Twin Bear and Delta Lake campgrounds. Though the credit card option can be used to pay for other items, like permit fees. This option will again be offered in 2025.

Siskiwit River/Swenson Forest Preserve (Siskiwit Falls)

In 2018, with much assistance from the Bayfield Regional Conservancy (now Landmark Conservancy), Bayfield County acquired roughly 101 acres of land in the Town of Bell, adjacent to the Siskiwit River. The property was purchased with a NOAA CELCP grant (administered by Wisconsin Coastal Management) and matching funds from donations and landowner bargain sales (all secured by the Conservancy).

Bayfield County ultimately agreed to accept ownership of the property (the Siskiwit River Estuary Protection project, as titled in the grant) for primarily two reasons: 1) in recognition of the unique and exceptional natural resource values contained throughout the parcels, including numerous waterfalls on the Siskiwit River, as well as ecologically significant forests and wetlands, and agreed that these values should be protected and conserved; and 2) in recognition of the current public use values and future potential of the property, as individuals and families have enjoyed recreating on these parcels for generations.

As part of the acquisition, the county also agreed to receive and administer the NOAA CELCP grant. The overall goal of the grant was to provide permanent protection and conservation of the ecological, recreational, historical and aesthetic resources of this unique site.

By accepting these funds, the county was mandated, by the terms of the grant, to manage the property in a manner that will preserve the qualities of these values. In addition, eventually a conservation easement with the Conservancy will be recorded on this property. This easement will further require the county to ensure the protection and conservation of these various important resources. The entire property was re-zoned to W Conservancy in 2018. See the accomplishment report for a detailed listing of completed work on the property.

Some of the primary goals for 2025 include:

1. Hiking Trail Improvements.
 - a. West side of the river. This will include a continuation of improvements to the newly constructed trail tread, as well as river trail and series of nested loops.
 - i. Most of this work has already been completed internally and with the assistance of local clubs (CTC and BATS). Additional tread work may also be required, including brushwork and mowing.
 - ii. More scattered old scrap metal left behind from the previous landowner could also be removed.
 - b. East side of river. Continue improvements to the hiking trail located east and north of the old field. Improvements will include some additional tread work, informational signs and collaboration with a local club for grooming.
 - c. A small stub trail exists on the south side of Siskiwit Falls Road and provides direct access to the southern portion of the river. Little improvement is needed on the stub trail. The goal is to angle the crosswalk from the secondary parking area towards a

primary point of access to this portion of the river. However, if some improvement to this stub trail is required and if funds still remain from the previously awarded grants, the Department may complete additional repairs in 2025.

2. Signage.

- a. Type(s): Some signs were installed in 2020. The primary informational sign and kiosk was installed in 2021; the primary property sign and directional signs (on Highway C) were installed in 2023.
 - i. Potential sign work in 2025 may include: a similar (albeit smaller) informational sign and map at the secondary parking area; updated maps throughout; additional rules and regulations signs, if needed, at the primarily and/or secondary parking areas; markers along the trails; and markers indicating private property, if needed. Continue working with the Town of Bell to determine if additional signs are needed along the town road.

3. Work Plan.

- a. Finalize updates to the current work plan for the property, that include all of the existing features added since initial acquisition, including a refresh of short and long term goals and objectives, as well as a schedule for maintenance and replacement. A basic plan was developed as part of the initial process, but still needs some fine tuning.
 - i. The conservation easement with Landmark Conservancy was completed in 2022. Collaboration with Landmark will be an annual and long-term responsibility.

4. Additional Work.

- a. Invasive Species Control: work will continue in each of the next few years to reduce existing populations of buckthorn and honeysuckle. The property will be routinely monitored for invasives and treated as necessary.
- b. Hay Field – Prairie Restoration: continue collaboration with the DNR regarding restoring the old hay field to a native prairie. This will include prescribed burning, additional mechanical site prep (if needed), seeding (with a native pollinator seed mix) and long-term site maintenance. The Department will continue to collaborate with Landmark Conservancy and the DNR regarding viable management options for the old field. Maintaining the mowed walking path through this portion of the property will also be a priority. The Department has secured a County Conservation aid grant which will help offset some of the costs associated with the restoration process.
 - i. Seeding is expected to occur in 2025.
 - ii. In late 2020, a hiking trail (meadow loop) was established through the old field. The Town of Bell has agreed to continue mowing this loop trail throughout the summer months and has continued through 2025.
- c. Additional Trails: Once the upgrades to the west and east trails are completed, use of the property will be monitored to determine if additional trails are necessary. If so, the county will explore options in collaboration with Landmark Conservancy. If additional trails are considered, the target area will likely be on the west side of the river, north of the parking area. A trail connection into town has also been discussed and could also be an option. If a trail into Cornucopia is considered, the Town of Bell will be part of the process. This new trail option will be re-evaluated in 2025.
- d. Additional Parking Areas/Trail Heads: currently, no new parking areas or property access areas are being considered. This includes access off Elm St. While the public

has the right to recreate on the property from Elm St., the county currently has no plans to develop or promote access from this location.

- e. Bathrooms and Trash Bins: In 2022, a concrete vault toilet was installed near the primary parking area on the east side of the river. Routine maintenance of the privy will now be a regular workload. Currently, there are no plans to install garbage bins on the property. The property will continue to be managed on a pack out what you pack in basis. The property will be monitored on a routine and regular basis. Garbage bins may be considered if deemed necessary by the county.
- f. Apple Orchard: an overgrown apple orchard exists in the eastern most portion of the property (along the eastern border with Siskiwit Falls Road). In 2021, two small areas were re-opened by the county (with assistance from the Highway Department). A brushmower/mulcher was used to remove all encroaching vegetation and provide access to approximately 1 acre of orchard (each roughly ½ acre in size). The Department is will continue a partnership with the Town of Bell, CTC and BATS regarding the maintenance of the apple trees in this recently re-opened area. Assessing the condition of the apple trees (including varieties), as well as preliminary maintenance (trimming) is expected to continue through 2025. Assistance from the Highway Department is also an option. Establishing a longer term management plan for the apple trees, which could include the establishment of a community orchard or something similar will be considered in 2025, as time and budgets allow.
- g. Additional Infrastructure: the potential also exists to construct a pavilion or similar structure on the property. This feature is not currently a high priority, but will continue to be considered as a potential future project.
- h. Demonstration Garden. The Department is working with the Wild Ones – Chequamegon Bay Chapter regarding the development and maintenance of a small native plant garden. The garden will be located on the east side of the river, between the parking area and the kiosk, and will feature a variety of native plant species. The garden will include small signs/markers, with descriptions of most plants, a bench, and maintained path. All of which would be maintained via an agreement with Wild Ones.
- i. Bird and Bat Houses: the Siskiwit property is home to a variety of valuable habitats, including fields (meadows), river corridors, wetlands and upland forest. These habitats have the potential to support a diversity of wildlife species. The meadow area provides an excellent opportunity for the installation of a combination of smaller bird nesting boxes (bluebirds, tree swallows) and a few larger ones (for kestrels and potentially owls). The area also provides good potential for the installation of numerous bat houses. In late 2021, the Department reached out to the Chequamegon Audubon Society for help. Both in recommendations for the type and number of boxes, as well as help with construction, installation and maintenance. They responded with a resounded yes and confirmed their desire to help with this project.
 - i. In 2025, we will continue a partnership with Chequamegon Audubon on the monitoring and maintenance of the bird and bat houses (currently roughly six bat houses and around one dozen bird houses).
- j. Property Maintenance: starting in 2020, the Department has been working with the Town of Bell regarding mowing of the grounds and plowing the eastern most (primary) parking lot in the winter. Also includes mowing the hiking trail through

the old field. That relationship will continue in 2024.

Fire Hill Preserve

In October 2018, the Department once again partnered with Landmark Conservancy on another potential land acquisition project. The Fire Hill Preserve Project is located in the Town of Bayfield and contains approximately 104 contiguous acres of forested land. To purchase the property, the Conservancy and Department collaborated on the development and submission of a Wisconsin Coastal Management land acquisition grant application (Landmark also submitted a Stewardship grant application).

In early 2020, ownership of the Fire Hill property was conveyed by Landmark Conservancy to Bayfield County. In general, the property will be managed as part of the county parks program. Most likely as a day use facility, with excellent potential for low-impact, non-motorized recreational opportunities. The property is extensive, is located in an area that is frequented by a lot of people (situated in the middle of orchard/berry farm country within the Bayfield Peninsula) and contains an excellent existing road network for primary accessibility.

New non-motorized trail development and other forms of compatible recreation will be considered as part of plan development. If recreational trail construction or other forms of enhancement are determined to be a priority, the Department will also pursue additional funding sources to assist in the development of the property, as time and budgets allow. With paved primary access through the heart of the property, including direct access to power, there are numerous options to explore.

In 2023, the Department began the process of collecting baseline forest inventory data and some brushing of the existing blacktopped road was completed in 2023 and 2024. Otherwise, no other work has been completed at this property to date.

Some of the primary goals for 2025 include:

1. Signs.
 - a. Entrance Sign. A primary entrance sign was purchased in 2022 and may be installed in 2025, if a favorable location is found. The property will be called Fire Hill Forest Preserve. This primary sign will be installed somewhere near the entrance into the property.
 - b. Other Signs. Other signs indicating parking areas, property boundaries and providing general information will also be considered in 2025.
 - i. A primary kiosk and informational sign(s) will be considered in 2025.
2. Work Plan.
 - a. Finalize a work plan for the property including the development of short and long term goals and objectives, as well as a schedule for maintenance. As part of the work plan, rules and regulations for the property should also be established.
 - i. A general workplan was already established as part of grant application. Significant modifications to that workplan will likely involve collaborations with BATS, the Town of Bayfield and the general public.
 - ii. It will also be important to engage with the Town of Bayfield and adjacent landowners regarding the maintenance of the primary road (off the end of the

town road) leading into the property, especially with regards to winter maintenance (i.e. plowing).

1. Routine annual maintenance of the primary access road will be required moving forward. This could include the portions of the paved from between the property and Fire Tower Rd (which is a town road).
3. Trail/Recreational Development.
 - a. As part of workplan development, the process will include an assessment of the recreational potential of the property, including the development of recreational opportunities. At a minimum, the development of non-motorized hiking trail networks will be considered.
 - i. Yurts, rustic camping and mountain biking are not activities that are supported by the grant sources used to acquire the property. If these recreational activities are determined to be a priority, the various grantors that awarded funds for this project will also need to review and approve.
 - b. Depending on workloads and available resources, it may be necessary to engage with third parties to help develop the workplan and/or specific recreational opportunities for the property.
4. Additional Work.
 - a. Parking Area. One of the first goals will be to identify a primary parking area. Establishment of the parking area may be accomplished internally, with assistance of the Highway Department and/or via a third party, all as time and budgets allow.
 - i. Assess the potential for additional parking areas, as necessary.
 - b. Develop a hazard tree inventory and management schedule.

Brownstone Trail

In 2023, Bayfield County and Landmark Conservancy established an MOU regarding the ownership, management and repairs/improvements to a section of the Brownstone Trail in the Town of Bayfield (just outside the City of Bayfield).

Ownership involves roughly 4 acres of land and would include restoration of the property (currently used as a place of business) and Brownstone Trail. Restoration work would include addressing bank erosion, creating a public trailhead, fostering native habitat and transforming the upslope area into a community park. As part of the MOU, Landmark Conservancy would provide the county with technical assistance to address all of the restoration work.

The restoration work is estimated to cost over \$2.0 million. As such, grants, donations and similar funding sources will be pursued. Landmark Conservancy will also play a lead role in securing all of the funding needed to complete the restoration, as well as overseeing all of the work. Once all of the restoration work is complete, Bayfield County will play a lead role in the long-term management of the property.

Some grant funding was secured in 2023 and 2024. Most of the anticipated work in 2025 will continue revolving around applying for grants and securing the remaining funds. Landmark Conservancy will continue to play a lead role on all grant applications.

Numerous unknown issues or projects will undoubtedly surface throughout 2025, as we become

more familiar with the property. All unknown issues will be addressed based on significance and/or importance, as time and budgets allow.

As previously stated, in 2025, a primary goal for most parks and recreational properties will be the development of short/long term comprehensive management plans. Among other things, the plans would summarize each park, while fleshing out short and long term goals, visioning, objectives, priorities, maintenance and replacement schedules.

MOTORIZED TRAILS AND RECREATION (Emphasis on State Funded Trails)

The management of county recreational trails was assigned to the Forestry and Parks Department in July 2013. Primarily, this involves the management/oversight of all state funded motorized trails located on county and private land (also groom snowmobile trails on federal land). To help accomplish this task, Bayfield County maintains agreements with the Bayfield County Snowmobile Alliance and local ATV clubs (and USFS).

Table 8 displays the total miles and annual maintenance funds received from the State of Wisconsin per trail type:

Table 8: Mileage and Funding For Trails Managed by Bayfield County

Trail Type	Miles	Rate/Mile	Total
Snowmobile	464.20	\$300	\$139,260
ATV Summer	66.00	\$600	\$39,600
ATV Winter	173.70	\$200	\$34,740
UTV Summer	66.00	\$400	\$26,400
Total	769.90		\$240,000

In addition to the routine maintenance performed on these trails by the Alliance and local clubs, below is a listing of anticipated Trails projects or issues that may be addressed in 2025:

1. Continue to pursue the creation of a recreational trail development and maintenance strategy, with an emphasis on identifying critical connections and areas for new construction or enhancement. This will require input from existing partners and user groups, as well as the general public.
2. Bridges.
 - a. Pursue the installation of a new bridge, or improvements to the existing bridge, on Trail 31S. The trail was moved to avoid a traditionally difficult stream crossing. The new crossing is easier to approach and maintain.
 - i. This includes an assessment of the crossing for timber access. As this crossing is also the primary access point into thousands of acres of county forest lands and the current timber bridge supports logging trucks.
 - ii. A state motorized rec trail grant will be pursued in 2025 (snowmobile).
 - b. Continue to evaluate the trail along Highway 13 to the casino in Red Cliff.
 - c. Continue to work with the DOT regarding plans to upgrade the existing Highway 63 bridge at 20-mile creek. Plans could include the development of a dedicated snowmobile lane on the new highway bridge, which would eliminate the need for the existing crossing (box culverts). DOT isn't planning to replace the existing highway

- bridge until 2027 or 2028, but the planning phase started in 2024.
- d. Assess the potential for a stand-alone snowmobile bridge over Bono Creek (next to the existing vehicle bridge on Highway 13).
 - i. Currently, the crossing over the existing box culverts has been closed and the sleds will be routed over the existing bridge on Hwy 13 to cross the creek.
 - e. Continue with a rec bridge inventory (started in 2024). This will establish a maintenance and monitoring schedule for all existing bridges under the jurisdiction of the county.
 - f. Continue developing potential repair plans to the railroad trestle bridge on the snowmobile trail 63 outside of Grand View. Temp repairs were made in late 2023. The goal of the temporary repair was to stop further erosion and stabilize the structure. Future repairs would include determining ownership, developing engineered repair plans, and securing grant funds.
 - i. A state motorized rec trail grant will be pursued in 2025 (snowmobile). Also working with a certified engineer on the repair plans (same engineer performing the inventory of existing rec bridges).
3. New Trails: continue to analyze existing motorized trail networks for new or improved rec opportunities.
- a. Pagac's. Explore the potential of improving existing dual use motorized trail on private land that would provide access to Pagac's Bar. Pursue a state motorized rec grant(s) if an opportunity exists (snowmobile and ORV).
 - b. Northern Pines Golf Course. Explore the potential of improving existing dual use motorized trail on county forest land that would provide access to the Northern Pines Club House. Pursue a state motorized rec grant(s) if an opportunity exists (snowmobile and ORV).
4. Existing Trails:
- a. Trail 1 (snowmobile) near Lost Creek Falls. Improve access from Klemik and/or Kaseno Rd to the Lost Creek Falls hiking trail crossing. Improvements would also provide better emergency access to the trail. Portions of the improvements could be addressed via a state motorized rec trail grant (snowmobile). Application will be made for grant funds in 2025.
 - b. Trail 1 (snowmobile) from Swedlund Rd to Campbell Rd. Much of this portion of trail was part of the recent large Campbell Rd land acquisition project. Portions of this trail are rutted and in need of repair. Pursue a state motorized rec grant(s) if an opportunity exists (snowmobile).
 - c. Wally Polk. The trail was re-established in 2024. Including ATV and snowmobile trail connections. Some minor repairs are still needed on the ATV trail. Pursue as time and funding allows.
 - d. Trail 31S. Continue to assess the condition of this trail, the portion on county forest land, for potential application of a DNR snowmobile trail rehabilitation grant. Much of the trail is very wet and in need rehab, including, but not limited to: beaver mitigation, trail surface improvements, potential trail widening and/or reestablishment in sections, water management, and treatment of encroaching brush. Proceed as need and funding allows.
 - e. Trail 31N. Near Lost Lake. Continue to assess the condition of this trail. If repair efforts are minor, consider addressing with maintenance funds (snowmobile). If significant, a state motorized rec grant (snowmobile) will likely be required.
5. Continue to re-establish roles and responsibilities and foster relationships with the BCSA,

- snowmobile clubs and ATV clubs.
6. Update contracts with the BCSA and other motorized clubs, as necessary.
 7. Continue to address landowner disputes and/or concerns regarding land ownership and/or trail location, on a case by case basis.
 - a. Also securing permissions from private landowners to maintain motorized rec trails on their properties, where necessary.
 8. Continue to work, along with the County Tourism Department, on building a supportive network of local chambers, business owners and community members that will help in the financial and/or logistical support of the Bayfield County trail networks
 9. Continue the maintenance of a database identifying each club and officers, club and Alliance meeting schedules, as well as location and mileage maintained for snowmobile and ATV trails.
 10. Continue to develop and maintain a database identifying the location and condition of all bridges, culverts, gates and outbuildings on snowmobile and ATV trails.
 11. Develop and maintain a database for all existing permits or easements that allow snowmobile and ATV trails to occur on private land.
 12. Develop and maintain a database that categorizes the importance of each trail to the overall network/community i.e. high, medium, low. The database would help ascertain the importance of future repair work. For example, a major repair on a trail designated as low importance might not be a high priority.
 13. Combine #'s 11 and 12 to help determine where to better focus obtaining future easements or access permits.
 14. Continue to pursue the concept of compensation to private landowners who allow recreational trails on their land.
 15. Continue to maintain trail counters at strategic locations throughout both networks (ATV and snowmobile) in an attempt to gain a better of how each system is used (quantify use). Understanding the level of use will provide a wealth of information for both short and long term planning efforts.
 - a. Counter were first installed as part of the 2022/2023 season. Clubs will be consulted to determine best placement.
 16. Develop a process for routine and regular motorized trail inspections (ATV and snowmobile). The inspection should include the condition of trails, signs, and associated infrastructure, as well as identify areas of concern and recommendations for improvement.
 - a. An inventory of existing infrastructure will be included as part of the routine inspections. Update the GIS database as necessary.
 - b. Collecting GPS tracks will also be part of the process to establish/confirm current mileage and establish a baseline. Corrections, if necessary, will be made to the GIS database.
 17. Continue to work with Clubs when the need for temporary or permanent re-routes arise. These generally occur without prior notice and typically require relative quick action. As a result, they are addressed on a case by case basis, as resources allow.
 18. Continue working with the Bayfield Chamber, Alliance and local snowmobile club regarding the re-establishment and maintenance of the snowmobile trail into the City of Bayfield.
 19. Continue coordination with the Snowmobile Alliance and DNR on the implementation of the newly established Snowmobile Electronic Reports System (SNARS), recently developed by the state.
 20. Compile a list of beaver dam issues impacting trail infrastructure. Coordinate with local

trappers and/or the USDA APHIS Animal Control Services to remove the problem animals and destroy associated dam structures.

21. Consider additional ATV trail developments, especially in areas lacking such designations (e.g. Bayfield Peninsula). Pursue as time and budgets allow.

The above listed items are known issues or projects that need attention in 2025. All or most of the projects that will require significant repair work or new construction/installation will be submitted to the State for potential funding.

All unknown issues, not already listed in the workplan, will be addressed based on significance and/or importance, as time and budgets allow.

Meet the Staff

The information listed above describes the general Departmental goals and objectives for CY 2025. Below is a brief background history of Department and DNR staff employed to accomplish those goals.

Administrator: Jason Bodine.

- a. Experience: Forester with Bayfield County from 2000 to 2009. Administrator since 2009.
- b. Highest Level of Education: Master of Science in Forestry from Michigan Technological University.
- c. Primary Role: administers and manages all aspects of the forestry, parks and recreation programs. Directs day to day operations and all planning efforts. Supervises all employees working within the Department.

Assistant Administrator: Steve Probst.

- a. Experience: Forester with Bayfield County from 1999 to 2000. Assistant Administrator since 2000.
- b. Highest Level of Education: Bachelor of Science in Forest Management from UW Stevens Point.
- c. Primary Role: assist the administrator in all facets of the forest management program. Provides lead field role in all aspects of timber sale administration.

Forester: Mike Amman.

- a. Experience: Forester with Bayfield County since 2003.
- b. Highest Level of Education: Bachelor of Science in Natural Resources from UW Madison.
- c. Primary Role(s): timber sale establishment, forest reconnaissance, reforestation and regeneration monitoring and database management (GIS and WisFIRS). Assist in other aspects of the forest management program.

Forester: Andrew O'Krueg.

- a. Experience: Forester with Bayfield County since 2010.
- b. Highest Level of Education: Bachelor of Science in Forest Management from UW Stevens Point.
- c. Primary Roles(s): timber sale establishment, forest reconnaissance, reforestation and regeneration monitoring and database management (GIS and WisFIRS). Assist in other aspects of the forest management program.

Forester: Jeremiah Neitzel.

- a. Experience: Forester with Bayfield County since 2011.
- b. Highest Level of Education: Bachelor of Science in Forest Management from UW Stevens Point.
- c. Primary Roles(s): timber sale establishment, forest reconnaissance, reforestation and regeneration monitoring and database management (GIS and WisFIRS). Assist in other aspects of the forest management program.

Forester: Caleb Brown.

- a. Experience: Forester with Bayfield County since 2018.
- b. Highest Level of Education: Master of Science in Forest Biology from Purdue University.
- c. Primary Role(s): timber sale establishment, forest reconnaissance, reforestation and regeneration monitoring and database management (GIS and WisFIRS). Assist in other aspects of the forest management program.

Inventory and Analysis Forester: Jason Holmes.

- a. Experience: Forester with Bayfield County from 2012 to 2018; Inventory and Analysis Forester since 2018.
- b. Highest Level of Education: Master of Science in Forestry from Michigan Technological University.
- c. Primary Roles(s): develop and manage the CFI and FRM programs, including data analysis and reporting; provide a lead role in the management of the access management program; play a lead role in the management of various GIS databases; assist in other field forestry related tasks including timber sale establishment, inventory, and reforestation.

Recreation Specialist: Lindley Mattson.

- a. Experience: Recreation Specialist with the Forestry and Parks Department starting in 2022; Office manager with the Forestry and Parks Department from 2019-2022.
- b. Highest Level of Education: Bachelor of Science in Business Management from UW River Falls.
- c. Primary Roles(s): assist in the management of state funded ATV and snowmobile programs, all recreation related activities on county forest lands, including all designated non-motorized trails and yurts, and county owned campgrounds and day use parks.

Office Manager: Deanna Regan.

- a. Experience: Office Manager with the Department since 2023.
- b. Highest Level of Education: Bachelor of Science in Chemistry from the University of Michigan.
- c. Primary Role(s): maintains accounts receivable and payable, prepares vouchers for all expenditures, manages all accounts and paperwork associated with the timber sale program, manages and prepares all financial records, statements and reports, provides customer service.

Forest Technician: John Mesko.

- a. Experience: Forest Technician with Bayfield County since 2001.
- b. Highest Level of Education: employed in the general field of forest management for over 40 years.
- c. Primary Roles(s): heavy equipment operation, road and trail maintenance, repair and

construction, parks maintenance, assist in the timber sale program, assist in the reforestation program.

WDNR – County Forest Liaison Forester: Joseph LeBouton.

- a. Experience: WDNR - County Forest Liaison Forester since 2011.
- b. Highest Level of Education: PhD candidate in the Department of Forestry at Michigan State University for five years where he studied links between forest landscape composition, white-tailed deer densities and northern hardwood forests.
- c. Primary Roles(s): coordinating the DNR's contribution to Bayfield County Forest management activities. The DNR provides the county with enough forest management assistance annually to set up 25% of the sustainable harvest, perform roughly 50% of the required forest reconnaissance updates, as well as contribute to road maintenance, forest improvement activities, prescribed fire, and wildlife habitat improvement projects.

Submitted by Jason Bodine, Forestry & Parks Administrator, December 23, 2024.

Approved by the Bayfield County Forestry & Parks Committee, January 13, 2025

Approved by the Bayfield County Board of Supervisors, January 28, 2025