USDA

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**Forest Service**

Chequamegon-Nicolet
National Forests

# Chequamegon-Nicolet National Forests

# Fiscal Year 2007 Monitoring and Evaluation Report

*July 2008*


## Ashland, Bayfield, Florence, Forest, Langlade, Oconto, Oneida, Price, Sawyer, Taylor, and Vilas Counties, Wisconsin

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## APPROVAL AND DECLARATION OF INTENT

I have reviewed the FY2007 Monitoring and Evaluation Report for the Chequamegon-Nicolet National Forests that was prepared by an interdisciplinary team during the winter of 2007-08. I am satisfied with its findings and will consider recommendations made therein as we update our Forest Plan. The Monitoring and Evaluation Report meets the intent of both the Forest Plan (Chapter IV) as well as the regulations contained in 36 CFR 219.

This report is approved:

Jeanne Higgins
Forest Supervisor

July 8, 2008
Date

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# EXECUTIVE SUMMARY

Implementation and monitoring of the 2004 Chequamegon-Nicolet National Forests (CNNF) Land and Resource Management Plan (Forest Plan) began immediately after its approval. The primary purposes of monitoring Forest Plan implementation are to:

1. Evaluate how well the direction in the Forest Plan is being implemented.
2. Determine whether the application of standards and guidelines is achieving objectives, and whether progress towards objectives translates into goals.
3. Determine whether the assumptions and predicted effects used to formulate the goals and objectives are accurate.

This report describes monitoring items by Forest Plan goals and objectives, provides data pertaining to the effects and effectiveness of Forest Plan management direction, and discusses various resource management efforts in which the CNNF engaged in Fiscal Year 2007 (October 2006 – September 30, 2007), hereafter referred to as FY 2007. This report also presents our evaluation of the results of the Forest Plan related monitoring accomplished during FY 2007. There is a significant amount of activities accomplished and reported by the CNNF each year that is not referenced in this report. The contents herein relate only to the implementation of our Forest Plan.

*A processor stands among red pine blown down during the Quad County Tornado.*

The FY 2007 Monitoring and Evaluation Report (Report) documents no significant adverse changes to the Forest resources that occurred in FY 2007. Fiscal Year 2007 was another productive year for the CNNF. The year will be remembered for the Quad County Tornado that ripped through the Lakewood-Laona Ranger District on the afternoon of June 7th, 2007. The tornado left a 40-mile long and one-half mile wide swath of destruction, effecting approximately 14,000 acres of forest, 8,100 of which were on the CNNF. Within hours, CNNF employees were at work to clean up the aftermath, and that work continues today. A rapid response prevented wildfire and is enabling ecologically sensitive salvage of the timber before its commercial value is lost.

FY 2007 will also be remembered as the year that the bald eagle (the symbol of our nation) and the grey wolf (the symbol of the Northwoods) were removed from the endangered species list by the U.S. Fish and Wildlife Service (USFWS). Our contribution to these species' recoveries was significant, and although these efforts will continue, we were able to pause

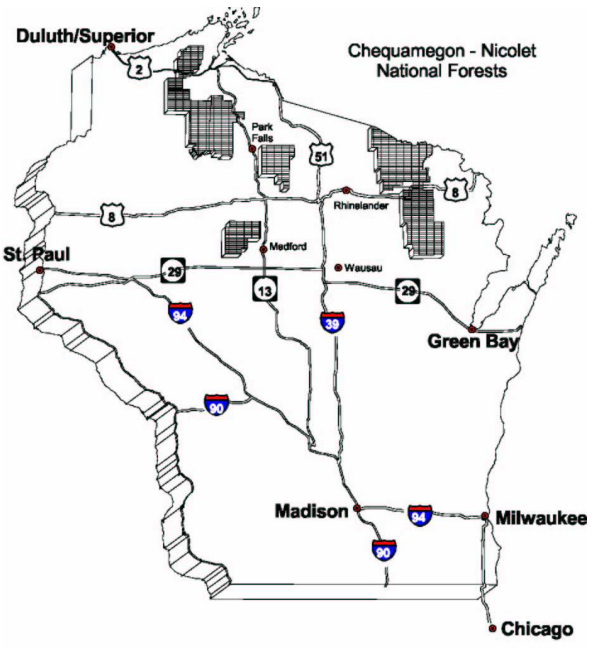
and reflect on the years of cooperation and dedication that led to this encouraging milestone.

During FY 2007 we also continued to operate as a respectful and beneficial entity in the Northwoods of Wisconsin. Following a well established trend, the CNNF stayed on top of non-native invasive species through treatments and the formation of regional weed cooperatives. Likewise, wildfires were extinguished before they threatened local communities, and we continued to abate fuel hazards through removal of fuels within wildland and urban interfaces. Forest diseases and destructive insects are being inventoried and treated as they occur; and as the spruce decline epidemic continued to ravage stressed spruce stands planted by the Civilian Conservation Corps in the 1930's, we salvaged what we could to prevent catastrophic wildfire and replanted stands with tree species better suited to these areas. Revenues paid out to the state of Wisconsin for distribution to local counties during FY 2007 totaled $1,894,925, which is the fifth-highest total in the history of the CNNF.

# I. INTRODUCTION AND FOREST PLAN OVERVIEW

## *Introduction*

The CNNF is located in Wisconsin's Northwoods, covering over a million and a half acres. Both Forests were established by Presidential proclamation in 1933, and in 1993, the two Forests were administratively joined. The CNNF boundaries encompass National Forest System lands within eleven different Wisconsin counties: Ashland, Bayfield, Florence, Forest, Langlade, Oconto, Oneida, Price, Sawyer, Taylor, and Vilas. The Forest has five Ranger Districts: Great Divide, Medford-Park Falls, Washburn, Lakewood-Laona, and Eagle River-Florence. The Argonne Experimental Forest and Oconto Seed Orchard are found on the Nicolet land base as well. Four Ranger Districts maintain offices in the communities with which it shares its names. The Great Divide District has offices in the communities of Glidden and Hayward.




In April 2004, the CNNF released the Land and Resource Management Plan (Forest Plan), which was a revision and combination of the Chequamegon Forest Plan and Nicolet Forest Plan, both released in 1986. The Forest Plan provides guidance for all resource management activities on the CNNF. It establishes: forestwide multiple-use goals and implementing objectives; forestwide management requirements (known as Forestwide Standards and Guidelines); Management Area direction, including area-specific standards and guidelines, desired future conditions and management practices; identification of lands suited/not suited for

timber management; monitoring and evaluation requirements, and recommendations to Congress for additional Wilderness. To determine the efficacy of a Forest Plan, the National Forest Management Act (NFMA) regulations (36 CFR 219) have required regularly scheduled monitoring and evaluation.

### *Forest Plan Overview*

Monitoring and evaluation are divided into three broad categories and are designed to answer the following basic questions:

1. *Implementation Monitoring* - Did we do what we said we were going to do? This question answers how well the direction in the Forest Plan is being implemented. Collected information is compared to objectives, standards, guidelines and management area (MA) direction.

2. *Effectiveness Monitoring* - Did it work how we said it would? This question answers whether the application of standards and guidelines is achieving objectives, and whether objectives are achieving goals.

3. *Validation Monitoring* - Is our understanding and science correct? This question answers whether the assumptions and predicted effects used to formulate the goals and objectives are accurate.

The aim of monitoring is adaptive management – the ability to respond to current conditions or make appropriate changes based on new information or technology. Depending on the answers to the above questions, the Forest Plan may be amended or revised to adapt to new information and changed conditions.

Because fiscal year (FY) 2007 was only the third complete year we operated under the Forest Plan, the type of monitoring most commonly reported herein is implementation monitoring. We must first ensure that we are properly following the objectives, standards and guidelines established in our Forest Plan before we can answer the questions underlying effectiveness and validation monitoring. However, we are now able to begin answering some additional questions as a result of these other forms of monitoring.

## Monitoring Strategy

Monitoring and evaluation are separate activities. Monitoring is the process of collecting data and information. Evaluation is the analysis and interpretation of the information and collected data. A key requirement of a monitoring strategy is that the public be given timely, accurate information about Forest Plan implementation. This is done through the release of an annual monitoring and evaluation report (Report). The monitoring program must be efficient, practical and affordable, and may make use of data that has been or will be collected for other purposes.

Monitoring tasks are scaled to the Forest Plan, program or project to be monitored. Each of these entails different objectives and requirements. Monitoring is not performed on every

single activity, nor is it expected to meet the statistical rigor of formal research. Budgetary constraints affect the level of monitoring that can be done in a particular fiscal year. If budget levels limit the Forest's ability to perform all monitoring tasks, then those items specifically required by law are given the highest priority. The Report provides the summary and, at scheduled intervals, an evaluation of the monitoring results.

### Minimum Legally Required Monitoring

Minimum monitoring and evaluation requirements have been established through the NFMA at 36 CFR 219. Some requirements provide guidance for the development of a monitoring program, while others include specific compliance requirements. The minimum legally required monitoring tasks are identified in Table 4-1 of the Forest Plan and are noted in this report.

### Monitoring Progress of Forestwide Goals and Objectives

Forest goals are broad statements describing conditions the CNNF will strive to achieve. Achievement of goals is not mandatory, there are no specific time frames for achieving them, and they are not amenable to direct measurement. In other words, goals describe the ends desired rather than the means to achieve these ends. The three primary goals are: 1) Ensure sustainable ecosystems; 2) Provide multiple benefits for people; and 3) Ensure organizational effectiveness.

Forest objectives are statements of measurable results intended to promote the achievement of Forest Plan goals. Objectives generally are achieved by implementing projects or activities. The objectives discussed in this report either have a stated timeframe for accomplishment, or they will be accomplished during the life of the Plan (10-15 years).

Although the Report is a stand-alone document, it is also a companion to the Forest Plan. The Report is arranged by the same general outline and headings are identical to enable readers to chart progress on the commitments outlined in the Forest Plan. The Report summarizes the results of completed monitoring and (at predetermined intervals) evaluates the data. The evaluation process determines whether the observed changes are consistent with Forest Plan desired future conditions, goals, and objectives, and identifies what adjustments may be needed.

The Report provides summaries of data collected, and whenever appropriate, evaluation of the data, including conclusions and recommendations. Future monitoring and evaluation reports will be able to compare these data, providing a means to track management effectiveness from year to year and to show the changes that have been made or are still needed.

The Report was accomplished through an interdisciplinary process involving Forest Service resource specialists and a good deal of participation from our partners. We have relied on the efforts of other government agencies, academic researchers, private citizens, and non-profit organizations to complete some of the monitoring. We are grateful to these people

who have donated their time and energy by actively participating in the management of the CNNF.

# II. MINIMUM LEGALLY REQUIRED MONITORING

Minimum monitoring and evaluation requirements have been established through the NFMA at 36 CFR 219. All legally required monitoring tasks were accomplished during FY 2007, including:

### *Lands are adequately restocked (36 CFR 219.12(k)5(i))*

During FY 2007, the CNNF certified the adequate restocking of trees for 4,794 acres of land (Table 1). An additional 142 acres of land did not meet certification standards during this time (Table 2) due to the environmental factors (ex., drought, herbivory) that typically exert a minor influence over stocking success. These acres are planned for restocking during the next three to five years. The success of restocking efforts will be determined through monitoring regeneration during the 3rd and 5th years after planting. If necessary, stands lacking adequate regeneration may receive fill-in planting to ensure adequate reforestation. During FY 2007, 97% of the treated lands were certified as being on schedule. Approximately 3% will require additional treatment beyond the five year period to become certified. All non-certified acreage has additional stocking scheduled to meet certification in the next year or two.

*Table 1. Acres of land certified on the CNNF during FY 2007 by Ranger District: Medford-Park Falls (MPF), Great Divide (GD), Washburn (WASH), Eagle River-Florence (ERFL), and Lakewood-Laona (LKLN).*

| Method | MPF | GD | WASH | ERFL | LKLN | TOTAL |
|---|---|---|---|---|---|---|
| Natural Regeneration w/ Site Preparation | 54 | 219 | 416 | 654 | 1711 | 3,054 |
| Natural Regeneration w/o Site Preparation | 695 | 221 | 86 | 94 | 0 | 1,096 |
| Planted | 43 | 25 | 496 | 80 | 0 | 644 |
| Seeded | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 792 | 465 | 998 | 828 | 1,711 | 4,794 |

*Table 2. Acres of land not certified on the CNNF during 3rd and 5th year surveys in FY 2007.*

| Survey Type | MPF | GD | WASH | ERFL | LKLN | TOTAL |
|---|---|---|---|---|---|---|
| 3rd Year | 0 | 0 | 32 | 17 | 0 | 49 |
| 5th Year | 0 | 0 | 93 | 0 | 0 | 93 |
| Total | 0 | 0 | 125 | 17 | 0 | 142 |

### *Lands not suited for timber production (36 CFR 219.12(k)5(ii))*

To determine if lands are suited for timber production, an assessment is required during each forest planning cycle. A comprehensive analysis of land suitability for the entire CNNF was last formally reported as the baseline condition in the Forest Plan. However, because conditions sometimes change, and assessing those changes is an enormous task, we continually update our baseline so that the next Forest Plan can be based on the most current information possible. During FY 2007, 65,820 acres were assessed for timber production (Table 3).

The most common reasons lands may be considered not suitable for timber production are if they: a) are designated or candidate Research Natural Areas, Wild/Scenic/Recreation River corridors, or Wilderness; b) have soils that are not appropriate for timber production; c) are existing recreation sites; d) are not cost-efficient for timber production; or e) are open lands that do not contain timber.

*Table 3. Acreages of land arranged by land suitability class (LSC) and Ranger District as determined from surveys during FY 2007.*

| LSC* | MPF | GD | WASH | ERFL | LKLN | TOTAL |
|---|---|---|---|---|---|---|
| 100 | 0 | 0 | 40 | 0 | 0 | 40 |
| 200 | 68 | 15 | 419 | 0 | 0 | 502 |
| 500 | 11,639 | 5,124 | 8,045 | 10,285 | 28,741 | 63,834 |
| 710 | 0 | 0 | 0 | 14 | 27 | 41 |
| 720 | 0 | 0 | 0 | 9 | 0 | 9 |
| 801 | 0 | 17 | 0 | 0 | 0 | 17 |
| 807 | 0 | 0 | 0 | 0 | 773 | 773 |
| 820 | 0 | 35 | 28 | 0 | 6 | 69 |
| 830 | 0 | 4 | 0 | 0 | 0 | 4 |
| 840 | 66 | 11 | 65 | 3 | 0 | 145 |
| null | 192 | 9 | 6 | 0 | 179 | 386 |
| **Total** | 11,965 | 5,215 | 8,603 | 10,311 | 29,726 | 65,820 |

*LSC 100 = water
LSC 200 = non-forested land
LSC 500 = suited forestlands
LSC 710/720 = physically unsuitable (slopes, seeps, etc)
LSC 801 = areas set aside for threatened or endangered species habitat
LSC 807 = old growth areas
LSC 820 = not cost efficient
LSC 830 = not appropriate (high transportation costs)
LSC 840 = not appropriate (low site index)
null = not classified

### *Maximum opening from even-aged management (36 CFR 219.12(k)5(iii))*

The NFMA requires Forests to monitor such harvest area size limits to determine whether they should be continued. Because of the productive soils and relative abundance of pioneer species on the landscape, openings caused by even-aged management are quickly reforested. Forest Plan guidelines state that these temporary openings from even-aged management will not exceed 40 acres (exceptions are listed below). The temporary openings are defined in the Forest Plan as stands with an average crown closure less than 20% or regeneration of less than 12 feet tall. Temporary openings may exceed 40 acres:

- within Management Areas 4C and 8C;
- as a result of natural catastrophic occurrences such as fire, insect and disease attack, or wind storm;
- to benefit Connecticut warbler habitat within jack pine areas.

During FY 2007, 539 acres of temporary opening was created from 33 even-aged treatments (not including the exceptions listed above). The average size of the clearcut was 16 acres and ranged from less than an acre to 35 acres.

### *Control of destructive insects and disease (36 CFR 219.12(k)5(iv))*

Efforts to control destructive insects and disease during FY 2007 focused on a variety of threats to forest health, including: gypsy moths, oak wilt, spruce decline, and two-lined chestnut borer. Additionally, an aggressive public awareness campaign continued during FY 2007 to minimize the likelihood of an infestation by the emerald ash borer. This beetle has yet to be found in the state of Wisconsin, but has devastated ash tree populations in the Chicago area and in lower Michigan.

The Gypsy Moth Slow-the-Spread program continued during FY 2007, treating 675 acres on the Washburn and Great Divide districts. The project, which was evaluated in the 2006 Gypsy Moth Control – Slow the Spread Environmental Assessment (EA), broadcasted pheromone flakes over areas infested with gypsy moths. These flakes contain a synthetic pheromone that confuses male gypsy moths so they cannot find females. They eventually die without mating. The pheromone is only detectable by gypsy moths, and no other species are affected.

Oak wilt was discovered at 19 sites within the Lakewood-Laona District during FY 2007. In order to combat this disease, it was necessary to remove and dispose of 1,559 trees. Monitoring stands for oak wilt will continue in FY 2008.

Spruce Decline is the name given to a condition that rapidly kills trees—particularly upland white spruce—and affects thousands of acres on the CNNF. The exact cause of Spruce Decline is not known, though it is probably the combination of several factors that include extended droughts, spruce budworm infestation, fungal spruce needle cast infection, and *Armillaria* root disease. Although it is not known whether removal of infected trees will suppress the spread of Spruce Decline, removing dead and dying trees does reduce wildland fire risk and salvages some economic value from the wood products. The proper

reforestation of these lands will restore a healthier, more sustainable forest, with particular consideration being given to spruce grouse and its habitat requirements. In all of FY 2007, 706 acres of upland white spruce were salvaged on the Medford-Park Falls District, 281 acres were salvaged in the Lakewood-Laona District, and 53 acres were salvaged on the Great Divide District. Of the roughly 18,400 acres of spruce impacted by Spruce Decline thus far, nearly 2,400 acres (13%) have been intentionally left on the landscape to provide habitat for animals like the black-backed woodpecker that rely upon standing dead wood for nesting, foraging and other parts of their life cycle.

Two-lined chestnut borer is a native beetle that opportunistically attacks stressed oak trees. Typically, the two-lined chestnut borer invades naturally low-vigor trees, but when otherwise healthy trees are stressed (by drought, root damage, defoliation, etc.), the beetle can attack. During FY 2007, 259 acres of dead and dying oak that had been infected by two-lined chestnut borer was salvaged on the Washburn District.

The Quad County Tornado that ripped through the Lakewood-Laona District on June 7, 2007 leveled 5,320 acres of forest and created the perfect environment for myriad insects and disease. To address this threat proactively, the CNNF invoked the Healthy Forests Restoration Act to quickly remove the down trees before insects, disease and fires had an opportunity to materialize. Within a few months, salvage efforts had begun, and before the end of FY 2007, 394 acres had been salvaged. These efforts will continue well into FY 2008. When completed, 4,344 of the 5,320 impacted acres will be salvaged; the remaining 974 acres (18%) have been set aside as habitat for animals that rely upon dead trees during various stages of their lives.

### *Population Trends of the seven Management Indicator Species in relation to habitat changes (36 CFR 219.19(a)(6))*

The Forest Plan designated seven species as Management Indicator Species (MIS), whose population trends are theorized to reflect changes in their environment. Therefore, as managers of the forest, our purpose of monitoring MIS is to understand the implications of our management activities on their populations. They are, in a sense, serving the same purpose as the proverbial “canary in the coal mine.” Monitoring shows that the MIS populations range from steady to very robust, with the exception of Canada yew, which appears to be jeopardized by factors unrelated to forest management (see “Canada Yew”, page 16).

*Gray Wolf*

The gray wolf population throughout northern Wisconsin has been increasing steadily since 1993. A minimum count over winter 2006-2007 consisted of 540 to 577 wolves (Figure 1). At least 17 lone wolves were found, and the remainder of 523-560 wolves occurred in 138 packs or groups. A total count of 528 to 564 wolves occurred outside of Indian reservations, and represents the fourth year the wolf population exceeded the state management goal of 350 wolves outside of Indian reservations. As a result, USFWS removed the gray wolf from the endangered species list on March 12, 2007; gray wolf will retain its status as a MIS, however.

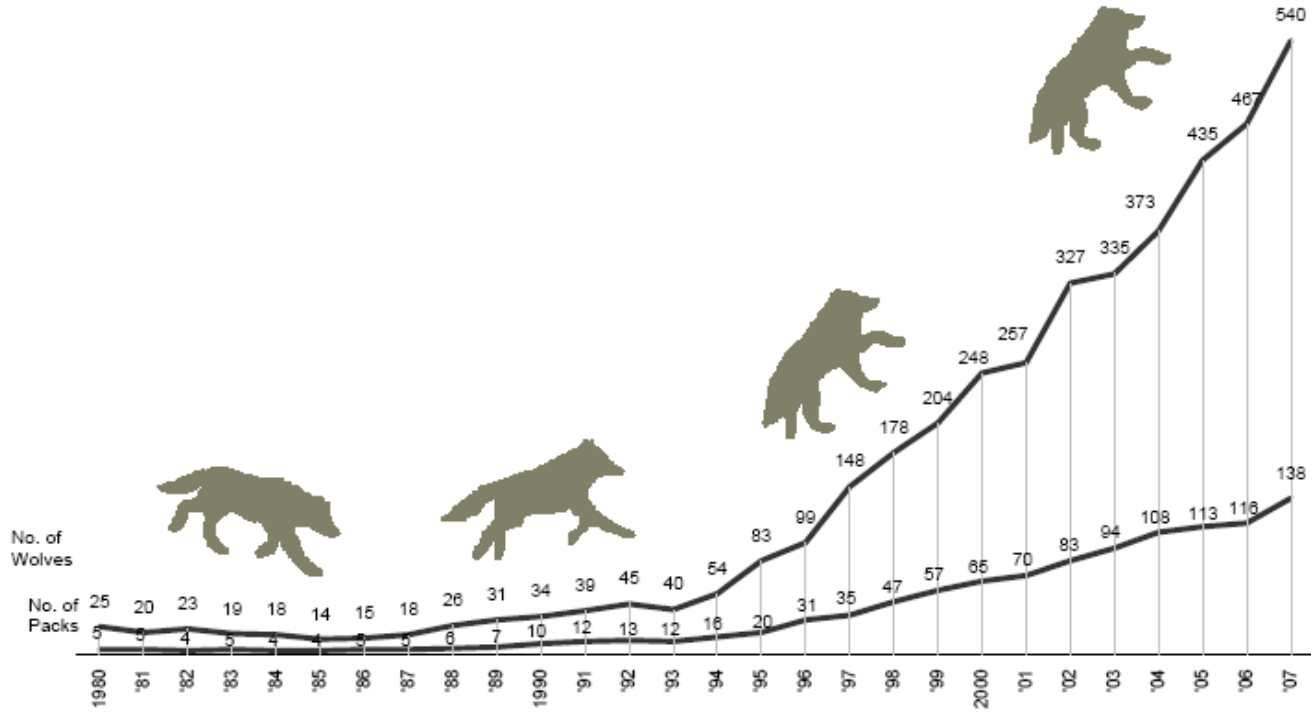



Figure 1. Changes in Wisconsin's gray wolf population: 1980-2007. Courtesy WDNR.

*Bald Eagle*

Like the gray wolf, the bald eagle has recovered in the state of Wisconsin far beyond its recovery goals. In 1978, a goal of 360 nesting pairs was set. That goal was achieved in 1991, and bald eagles have continued to increase since then. In fact, bald eagles became so numerous in Wisconsin that surveys were considered unnecessary for a time. In the most recent surveys of 2006, 1,065 active bald eagle nests were observed in Wisconsin (9,789 pairs in the lower 48 states), prompting the USFWS to de-list the bald eagle on July 9, 2007; bald eagle does retain its status as a MIS, however.

*Northern Goshawk*

Nesting surveys for northern goshawk were conducted in FY 2007 on the Nicolet land base (Figure 2). A total of 63 historic northern goshawk territories were visited, and three new territories that were discovered. There were 9 active nests identified, all of which were successful, fledging a total of 18 offspring (not including two chicks taken by permit for falconry).

Historically, the Chequamegon land base hosts far fewer nesting northern goshawks than the Nicolet land base. As a result, surveys for active territories are formally conducted every other year, and FY 2007 was not one of those years.

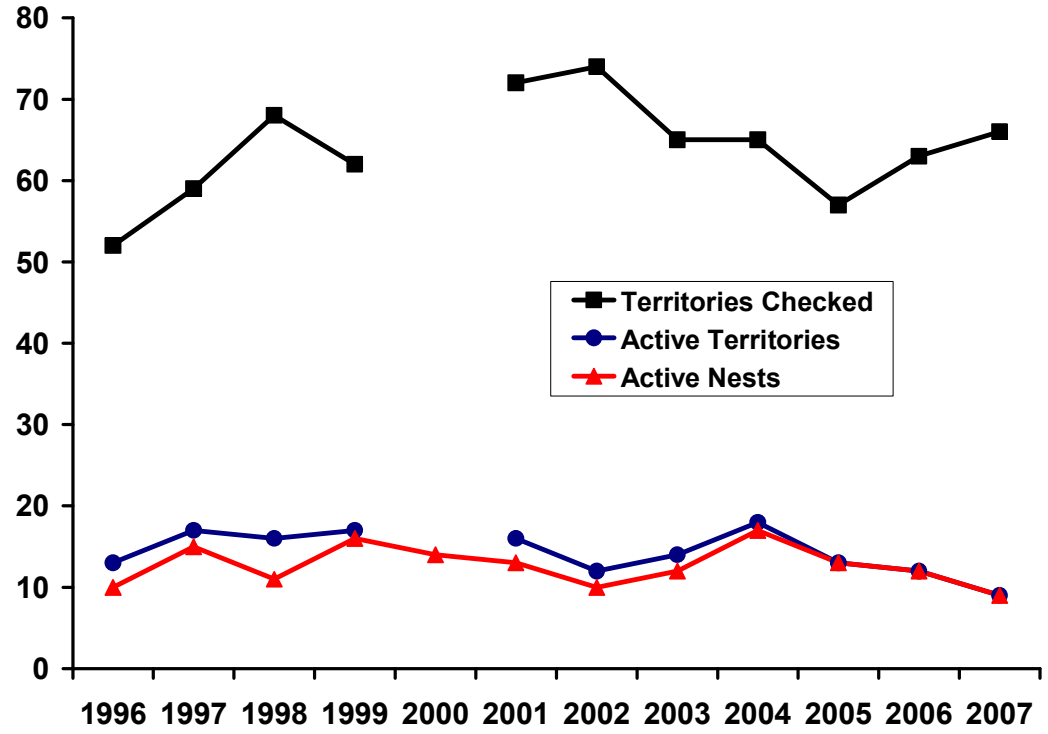



*Figure 2. Number of northern goshawk territories and nests on the Nicolet land base during 1996-2007.*

*Red Shouldered Hawk*

Nesting surveys for red-shouldered hawk were conducted on the Nicolet land base during April and May of 2007 (Table 4). Each of the 88 known red-shouldered hawk nest sites was searched for activity. Of the 22 nests active, four were successful. This success rate (18%) is the lowest observed on the Nicolet land base during the last decade. However, eight young fledged from the four nests, which has been a typical rate during the last decade. The production rates on the Nicolet land base appear to be highly variable, as they are in the rest of the state of Wisconsin (Jacobs 2006).

The reproductive success of active red shouldered hawk nests surveyed on the Nicolet landbase during 2007 was low compared to other portions of the state during 2007. The number of young per active nest was only 0.36, compared to other red shouldered hawk surveys studies conducted during 2007 that showed 0.8 (Marinette County), 1.25 (Oconto, Brown and Door County), and 1.6 in Portage and Wood County (Jacobs 2007). However, over the long term, red shoulder reproduction rates on the Nicolet land base does compare more favorably to other areas of the state (Jacobs 2007). Although two red shouldered nests were lost during the breeding season due to the Quad County Tornado, this does not fully account for the low success rate.

Table 4. Red-shouldered hawk nesting productivity on the Nicolet land base (1997-2007).

| | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | **2007** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Territories Checked | 68 | 64 | 54 | 57 | 53 | 57 | 61 | 58 | 66 | 68 | **80** |
| Previously active sites | 66 | 63 | 52 | 57 | 53 | 57 | 59 | 58 | 57 | 67 | **80** |
| New sites | 2 | 0 | 2 | 0 | 0 | 0 | 2 | 0 | 9 | 1 | **-** |
| Old nests found | 76 | 64 | 58 | 60 | - | - | - | - | - | - | **-** |
| Occupied Sites | 27 | 18 | 26 | 25 | 19 | 20 | 31 | 28 | 40 | 31 | **39** |
| Active Nests | 19 | 14 | 21 | 18 | 14 | 19 | 20 | 19 | 23 | 21 | **22** |
| Successful Nests | 11 | 6 | 10 | 7 | 7 | 8 | 6 | 7 | 5 | 10 | **4** |
| % Successful Nests | 58 | 43 | 48 | 39 | 50 | 42 | 30 | 37 | 22 | 48 | **18** |
| # of young at banding | 24 | 10 | 24 | 13 | 16 | 18 | 12 | 15 | 10 | 20 | **8** |
| yg/active nest | 1.26 | 0.71 | 1.14 | 0.72 | 1.14 | 0.95 | 0.6 | 0.79 | 0.43 | 0.95 | **0.36** |
| yg/successful nest | 2.18 | 1.67 | 2.4 | 1.86 | 2.29 | 2.25 | 2.0 | 2.14 | 2.0 | 2.0 | **2.0** |

*American Marten*

A three year study on the CNNF by Kim Scribner and Jennifer White was completed in FY 2007 that evaluated a new sampling method for American marten (marten). This non-invasive hair-snare genetic snagging technique was employed for three consecutive years to capture genetic samples (i.e., hair) from individual marten. The hair-snare technique was found to be successful at detecting marten presence and providing genetic information on the sampled marten.

Beginning in 2005, a coarse scale marten habitat suitability model evaluation was undertaken on the CNNF based upon the key factors identified in the Forest Plan. Baseline results from this habitat model projected well over 430,000 acres of suitable habitat for this species (occupied and unoccupied) existing on the CNNF as of FY 2007. Because this species was reintroduced in the recent past (1980's-1990) and has limited dispersal outside the original reintroduction area, much of the marten continue to remain in or near the reintroduction areas on the CNNF.

During FY 2007, the CNNF began a partnership with the WDNR, Great Lakes Indian Fish and Wildlife Commission (GLIFWC) and University of Wisconsin-Madison to investigate structural attributes within marten home ranges on the CNNF. By the end of FY 2007, all field data necessary for this analysis had been collected and are being analyzed during FY 2008. These efforts should provide a baseline of important habitat features and their relationship to marten habitat selection.

During the winter of FY 2007, the WDNR conducted rare mammal surveys on 350 miles of the Nicolet land base. A total of seven marten were detected, yielding an average of two marten per 100 miles surveyed. This value is less than the previous survey year of 2004, which resulted in seven marten per 100 miles surveyed.

*Brook Trout*

As a result of the dry summer of 2007, stream levels were low and warm. For brook trout—a coldwater species—these are unfavorable conditions, and their populations responded predictably. Forest Plan standards and guidelines protect trout streams from activities that may adversely effect trout populations, so forest management practices rarely negatively effect brook trout. However, the CNNF does continually engage in stream restoration projects to enhance brook trout habitat. (For more information on these projects, refer to Objective 1.3.) Brook trout populations have been responding favorably to these restoration activities, and are more resilient to adverse habitat conditions like those of 2007 as a result of such restoration activities, and the protection measures of the Forest Plan.

*Canada Yew*

Through our active botany surveying program, new occurrences of Canada yew continue to be documented on the CNNF. However, individual plants are generally small and lack vigor, tend to show evidence of browsing, and rarely produce fruit.

*Table 5. Number of known Canada yew sites on the CNNF per district.*

| DISTRICT | Canada Yew Sites |
|---|---|
| Washburn | 3 |
| Great Divide | 16 |
| Medford-Park Falls | 12 |
| Eagle River-Florence | 116 |
| Lakewood-Laona | 70 |

Twelve new sites were documented on the Great Divide District in 2007 (Table 5). All are isolated sites (sprigs) located in swamp conifer or wet transition zones, and have been highly browsed—likely by deer—with no reproduction or fruiting noted. Populations in the Brunsweiler Gorge and Springbrook Falls and Cliffs were monitored in 2007. Both are isolated populations on talus slopes or cliffs so are not easily accessible to deer. As with previous visits, the sites appeared healthy, were in fruit, and exhibited little if any browsing.

One new site was documented on the Medford portion of the Medford-Park Falls District. It consisted of one heavily browsed stem. A handful of new sites were located on the southeastern portion of the Park Falls unit in 2007.

On the Eagle River-Florence District, there are 116 occurrences of Canada yew in 54 stands on the district. Sixty-four of these occurrences were located in 2007. Three sites are larger clusters of 15, 24, and 30 plants. The other 113 populations are small, consisting of one or two individual stems that remain low to the ground. Browsing by deer is the typical explanation for small individuals, but only a handful of sites showed the stems to be stripped by browsing. The only fruiting yew found was in the Whisker Lake Wilderness Area, where there were 2 plants and 3-4 fruits. The known population at the Alvin Hemlocks old

growth area on the Eagle River-Florence District was monitored in 2007, but no plants were detected.

On the Lakewood-Laona District, Canada yew was recorded at 4 new locations in 2007 along a 0.5 mile stretch of Torpee Creek. About 30 clusters were found at these points and all yew were sterile (i.e., no fruit) and browsed to the snowline. There are now a total of 57 documented Canada yew points (1-2 individuals) and 13 polygons (groups or clusters of individuals) on the Lakewood-Laona district, for a total of 70 occurrences.

### *Effects of off-road vehicles (36 CFR 219.21)*

In May of 2006, off-road vehicles were officially limited to designated roads and trails. Formerly, on the Chequamegon landbase off-road vehicles could travel cross-country (i.e., on or off road) unless specifically prohibited; since that is no longer possible, the CNNF is able to manage effects of off-road vehicles on natural resources and recreation experiences. While this has apparently reduced much of the negative impact on non-motorized recreation experiences, some impacts continue.

At this time, any Forest-wide trends relating to impacts from off-road vehicles are not well understood. In general, impacts caused by illegal off-road activity are addressed and remedied on a case-by-case basis; it is unknown whether the frequency and severity of such impacts is becoming worse, better, or holding steady. However, before a trend can be revealed, a baseline condition must be established. It is recommended that a baseline understanding of the frequency and severity of effects of off-road vehicles be established on the CNNF during summer of 2008 because in 2009, the CNNF will issue its first Wheeled Motorized Vehicle Use Map, which will designate a CNNF-wide transportation system for wheeled motorized vehicles.

### *Effects to lands and communities adjacent to or near national forest and effects to the Forest from land managed by government entities (36 CFR 219.7(f))*

Since 1908, the U.S. Forest Service has had the statutory authority (16 U.S.C. 500) to distribute twenty five percent of gross receipts generated on National Forest lands during the fiscal year. Sometimes referred to as the "Twenty Five Percent Fund," the monies are distributed through the state to the townships within counties where National Forest lands reside.

Sources of funds reported for revenue sharing are: timber, grazing, recreation special uses, power, minerals, recreation user fees and certain local special revenue sources. For the CNNF, timber is the primary revenue source. Revenues paid out to the state of Wisconsin for distribution to local counties during FY 2007 totaled $1,894,925 (Figure 3).

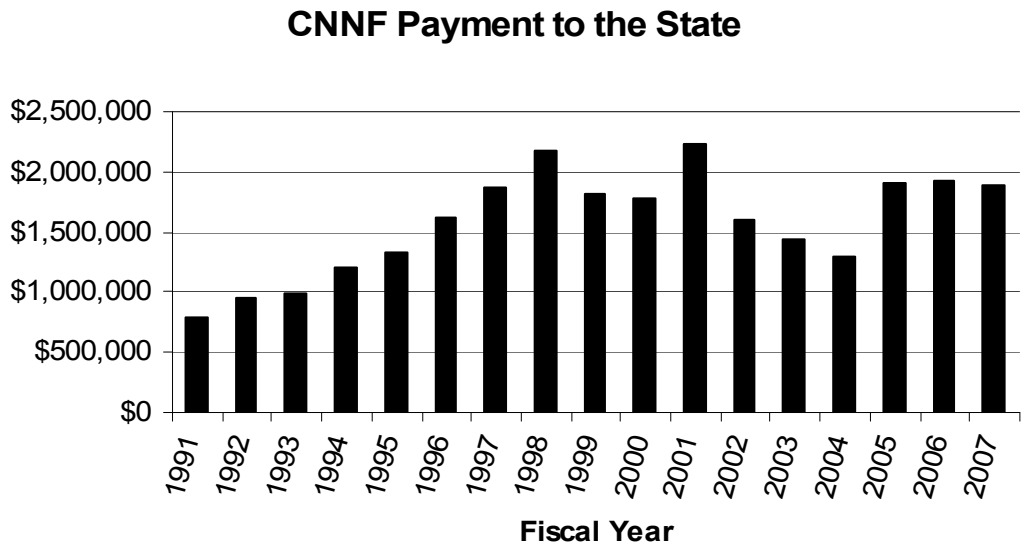



*Figure 3. Annual payments to the State of Wisconsin for distribution to counties since 1991.*

### *Comparison of projected and actual outputs and services (36 CFR 219.12(k)(1))*

In order to move the ecological conditions on the CNNF towards the desired future conditions outlined in the Forest Plan, it is necessary (in most cases) to manage vegetation through the use of appropriate treatments. During the Forest Plan revision, it was estimated which vegetative treatments would be required to achieve the desired species composition, age class distribution, and Forestwide goals and objectives (see Table 3-71a in the FEIS). Below, Table 6 portrays the projected and actual application of the vegetative treatments during FY 2007. Roughly 59% of the annual projection was accomplished during FY 2007, with the greatest shortfall coming in the selection treatment.

*Table 6. Projected annual rate of vegetative treatment during the first decade of Forest Plan implementation and actual acres treated by treatment type during FY 2007.*

| Vegetative Treatment | Annual Rate Projected (Acres) | Acres Treated | Percent of Projection Accomplished |
|---|---|---|---|
| Intermediate Cut | 7,100 | 6,159 | 86.7 |
| Selection | 7,530 | 1,423 | 18.9 |
| Shelterwood | 1,490 | 1,233 | 82.8 |
| Clearcut | 3,980 | 2,250 | 56.5 |
| Site Prep for Planting | 640 | 1,266 | 197.8 |
| Planting/underplanting | 1,250 | 917 | 73.4 |
| Site Prep – natural regen | 4,210 | 1,630 | 38.7 |
| Release | 1,250 | 636 | 50.9 |
| Pruning | 200 | 0 | 0.0 |
| Seedling protection | 200 | 1,040 | 520.0 |
| Total | 27,850 | 16,554 | 59.4 |

The allowable sale quantity (ASQ) is the maximum quantify of timber that may be sold from the area of suitable land covered by the Forest Plan during a given time period. Appendix GG of the Forest Plan displays the projected ASQ for various products for each of the next five decades. In some cases, the CNNF met or exceeded the average annual ASQ projected in the Forest Plan, and in other cases it was far short; however, overall, the ASQ for FY 2007 was 63.4% of the amount projected in the Forest Plan (Table 7).

*Table 7. Decade 1 projected annual allowable sale quantity (ASQ), actual wood harvested, percentage of ASQ harvested, and volume sold for the CNNF during FY 2007. All values are reported in millions of board feet (MMBF) unless noted.*

| Species/Product Group | Average ASQ Projected | Percent of ASQ Sold | Amount Harvested | Volume Sold |
|---|---|---|---|---|
| Hardwood sawtimber | 8 | 38% | 2 | 3 |
| Softwood sawtimber | 9 | 156% | 17 | 14 |
| Hardwood pulpwood | 53 | 32% | 18 | 17 |
| Softwood pulpwood | 30 | 70% | 30 | 21 |
| Aspen pulpwood | 31 | 35% | 16 | 11 |
| Total | 131 | 50% | 83 | 66 |

### *Comparison of actual and estimated costs (36 CFR 219.12(k)(3))*

Table B-8 of the Forest Plan Final Environmental Impact Statement (FEIS) reported projections made during the Forest Planning process for budget requirements of each alternative considered. The projections for the annual cost of the selected alternative (i.e., the current Forest Plan) averaged $18,186,000 over the life of the Forest Plan (10-15 years).

Since the FEIS was completed, the methods of tracking costs have changed such that the FEIS estimate does not necessarily translate to the current budget divisions. Nevertheless, the intention of this legally required monitoring item—to compare the estimated costs with actual costs—can still be fulfilled. Estimated costs are made annually before the fiscal year, and during FY 2006 the CNNF operated at 4.8% below budget projections made at the beginning of FY 2007 (Table 8).

*Table 8. The estimated and actual costs for CNNF program operations during FY 2007. The balance of the two is listed in dollars and percentage.*

| Program Description | Estimated Costs ($) | Actual Costs ($) | Balance ($) | Balance (%) |
|---|---|---|---|---|
| Inventory and Monitoring * | $507,000 | $507,000 | $0 | 100% |
| Land Management | $354,313 | $364,816 | ($10,503) | 103% |
| Minerals & Geology | $243,676 | $217,255 | $26,421 | 89% |
| Planning | $2,778 | $2,950 | ($172) | 106% |
| Recreation | $1,542,068 | $1,536,098 | $5,970 | 100% |
| Timber | $4,929,692 | $5,045,756 | ($116,064) | 102% |

| | | | | |
|---|---|---|---|---|
| Vegetation, Watershed and Air | $793,521 | $779,582 | $13,939 | 98% |
| Wildlife * | $1,533,000 | $1,533,000 | $0 | 100% |
| Reforestation | $219,792 | $203,826 | $15,966 | 93% |
| Salvage Sales | $1,721,059 | $1,667,493 | $53,566 | 97% |
| Timber Pipeline Funds | $380,013 | $374,444 | $5,569 | 99% |
| Roads and Trails for States | $375,293 | $379,170 | ($3,877) | 101% |
| Hazardous Fuels | $310,583 | $359,518 | ($48,935) | 116% |
| Fire Preparation | $1,679,822 | $1,670,958 | $8,864 | 99% |
| Facilities Maintenance - Recreation | $129,123 | $127,739 | $1,384 | 99% |
| Road Maintenance and Construction | $2,365,622 | $2,321,529 | $44,093 | 98% |
| Trail Maintenance | $218,267 | $208,386 | $9,881 | 95% |
| Administrative Facilities Maintenance | $204,000 | $175,356 | $28,644 | 86% |
| Knutsen-Vandenberg Fund | $546,336 | $521,667 | $24,669 | 95% |
| KV Regional Projects | $1,336,319 | $1,244,298 | $92,021 | 93% |
| Funds from Sale of Lands | $42,340 | $42,524 | ($184) | 100% |
| Fee Demo - Recreation Collections | $83,441 | $64,075 | $19,366 | 77% |
| Fee Demo – Rec. Site Maintenance | $483,563 | $423,706 | $59,857 | 88% |
| Land and Water Conservation | $2,711,690 | $2,712,275 | ($585) | 100% |
| Total | $22,713,311 | $22,483,421 | $229,890 | 99% |

* Due to the unification of Inventory and Monitoring and Wildlife funds into one account respectively for all fourteen forests and the Regional Office, expenditure information for the CNNF alone is unavailable. The assumption for the year was that the CNNF planned the work within its estimated costs (budget), and then worked the plan.

# III. GOAL AND OBJECTIVE MONITORING

For a comprehensive list of monitoring objectives to be conducted throughout the life of the Forest Plan, please refer to Table 4-2 of that document. Monitoring accomplishments for FY 2007 will be reported herein by the corresponding Forest Plan goal and objective (when possible). In order to complete an ambitious monitoring schedule during FY 2007, different programs integrated and relied heavily on our cooperators to accomplish activities for selected goals described in the Forest Plan.

## *Goal 1 – Ensure Sustainable Ecosystem*

### 1.1 – Threatened, Endangered & Sensitive Species

Objective 1.1a*: Under the Endangered Species Act (ESA), implement established recovery or conservation strategies.*

The threatened, endangered and sensitive species (TES) of the CNNF are monitored annually. In addition to these monitoring efforts, affects to habitat are evaluated during the process of conducting National Environmental Policy Act (NEPA) analysis of any proposed federal action. During this process proposed actions are evaluated and mitigation measures outlined in federal recovery plans are implemented to ensure continued recovery of the

species.

For two species in particular, grey wolf and bald eagle, FY 2007 was a milestone year. The USFWS determined that both species had achieved sustained population levels in the region and were no longer in need of federal protection under the ESA. As a result, the CNNF will treat these two species as RFSS for at least the next five years, and will continue to implement the conservation measures prescribed in the plan to protect these sensitive species. The Forest Plan will be amended to reflect this change in designation.

### Canada Lynx

Statewide mammal surveys conducted by WDNR focused on Canada lynx detection during FY 2007 (Wydeven et al. 2007). Approximately 2,988 miles of northern Wisconsin were covered, including throughout the CNNF, but no evidence of Canada lynx was observed. Survey effort for Canada lynx was particularly focused on the Nicolet land base where Canada lynx sign had been detected in the 1990's (Wydeven 1998), and in 2004 (Wydeven et al. 2004). However, in spite of covering 350.3 miles of snow, no lynx were detected on the Nicolet land base.

Although no lynx were detected on the snow track surveys, sign of all other medium and large forest carnivores that were active in winter and believed to occur in northern Wisconsin, were detected. At very low numbers and densities, lynx might not be detected by such surveys, but it is believed that if residential populations of lynx establish themselves, they will be detected by these surveys.

### Fassett's Locoweed

This plant exists at two locations on the CNNF—both of which are on the Washburn district. The first is a historic station for the species and continues to be resurveyed annually, in accordance with the item #3 of the Federal Fassett's Locoweed Recovery Plan. No plants have been documented in the last 10 years. However, conditions are maintained in anticipation of repopulation from any dormant seed bed. The second population is monitored annually and displays significant fluctuation in abundance and size from year to year depending on the natural hydrologic cycle of the lake. Monitoring in summer of 2007 found a very robust population that numbered in the thousands of individuals and covered more than one acre. Efforts to remove NNIS (especially Canada thistle) in FY 2006 appeared to be successful as no NNIS were observed in 2007.

Suitable but unoccupied Fassett's locoweed habitat is surveyed by CNNF botanists annually to detect any new populations of this species. During summer of 2007, seven lakes in Bayfield County were extensively surveyed, but no Fassett's locoweed was detected.

*Objective 1.1b: Improve habitat conditions for Regional Forester Sensitive Species (RFSS).*

The Forest Plan states that habitat conditions for RFSS will be monitored and evaluated at least every five years. It is neither feasible nor desirable to conduct this assessment for each RFSS during one year only. As a result, this type of monitoring is conducted each year,

with the goal of addressing each RFSS at least once during that time period. Often, changes to habitat are insignificant or immeasurable and the status of the population is a preferred measure for status of the species on the CNNF.

## ANIMALS

**American Marten** (see discussion under MIS)

**Sharp-tailed grouse**

***Habitat***- The Forest Plan defines sharp-tailed grouse habitat as large areas of open upland or bog with suitable leks (i.e., locations for display and courtship behavior). Currently, two areas on the CNNF contain habitat suitable for this species: Riley Lake Wildlife Management Area and the Moquah Barrens.

The Riley Lake Wildlife Management Area on the Park Falls district consists of approximately 4,000 acres of open habitat that is regularly maintained via roller chopping of brush followed by prescribed fire. Currently there are five fire units within the Riley Lake area; these units are maintained by roller chopping or prescribed fire treatment every 3-6 years, depending on treatment response. Prescribed burning is anticipated for this unit in spring of 2008.

The Moquah Barrens unit is approximately 14,000 acres of open habitat with additional small satellite barrens. Barrens conditions are zero to 50% closed (scattered clumps of trees) and are maintained primarily using prescribed fire. Use of fire attempts to mimic the natural disturbance pattern of a fire adapted barrens landscape. Fire prescriptions are dictated by the response rate of vegetation to treatment.

***Population***- The CNNF sustains two of the last nine remaining sharp-tailed grouse populations in Wisconsin. A review of population conditions across Wisconsin indicates that the Riley Lake population is the 4th largest population within the state. In the spring of 2007, a dancing ground census totaled 34 birds, which is more than the 25 counted last year, and the highest count for this population since 1999 when 35 birds were censused on the management area. The current overall population estimate for the Riley Lake fall population is 100-150 birds.

The Moquah Barrens population is less well-understood than the Riley Lake population. Because the Barrens are large and complex, the birds are able to distribute themselves across this area; this hampers observation and reduces sampling reliability from year to year. Nevertheless, in 2007 six dancing males were observed on the Moquah Barrens, which is the same as 2006, but down from 36 in 2000 and 14 in 2004. Declines similar to that of the Moquah Barrens has been noted in other barrens habitats in Wisconsin during the same period. For instance, the Crex Meadows management area had 112 dancing males in 2000, and declined to 38 in 2006. Although sharp-tailed grouse are known to experience cyclic changes similar to ruffed grouse, the fact that a decline was witnessed on the Moquah Barrens (where management of sharp-tailed grouse habitat is emphasized) remains curious.

### Pugnose Shiner

The pugnose shiner is a species that has not been observed on the CNNF since the 1950's. In fact, very little is known about the pugnose shiner throughout its range, which includes areas between eastern North Dakota and western New York. The pugnose shiner inhabits clear vegetated lakes and vegetated pools and runs of low gradient streams and rivers (Page and Burr 1991). Whenever fish surveys are conducted in bodies of water that contain appropriate habitat for pugnose shiner, efforts are made to document its presence.

### Greater Redhorse

Greater redhorse are found within the west fork Chippewa River watershed. Surveys are not conducted specifically for greater redhorse, but non-specific fish monitoring in lakes in streams with the potential to host greater redhorse is conducted. None of these sampling efforts collected greater redhorse during FY 2007.

### Lake Sturgeon

This species occurs in the east and west fork of the Chippewa River and the south fork of the Flambeau River as they pass through the CNNF. These populations are typically monitored in association with dam re-licensing studies, and no such studies occurred during FY 2007. Monitoring is expected to increase during the next five years as part of the licensing program at the Winter Hydro Dam site on the east fork of the Chippewa River.

### Wood Turtle

Wood turtles are described as preferring forest, but may use any habitat adjacent to 3rd-5th order streams. Shrub communities may be important in spring for basking and security cover. Key factors for this species in the Forest Plan are described as: steep, sandy, or gravely slopes along riverbanks for nesting; and down logs and other woody debris for basking. In 2007, the CNNF contracted to conduct surveys on the southeastern portion of the Lakewood-Laona District that were not evaluated by Gary Casper of the Milwaukee Public Museum (2003 unpublished report), but had the potential for this species' habitat. Over the course of the summer, the Peshtigo, First South Branch Oconto, and North Branch Oconto Rivers, the Waupee and Hay Creek drainages, the Thunder Mountain area, and miscellaneous locations were surveyed to determine habitat suitability and detect the presence of any wood turtles.

Since wood turtles nest in exposed sandy soils, it is possible that the Quad County Tornado created scattered nesting opportunities throughout its path. The blown over trees often carried their roots with them, exposing sandy soils and creating microhabitats suitable for wood turtle nesting. Whether or not this habitat is used by wood turtles will be seen. These sites should be monitored to detect wood turtle use of these "tip ups" and determine whether or not wood turtle nesting habitat could be created through manual tip up creation in the future.

Surveys were also conducted at a communal nest site with a history of wood turtle use. A single wood turtle was observed on two separate occasions, and as expected, many wood turtle nests were found at this communal nesting site. Since mammalian predators like raccoon and fox eagerly dig up and eat wood turtle eggs, high rates of predation are typical during this life stage. To help prevent some wood turtle mortality, wire cages were placed over five of the nests that would keep predators out, but also enable newly hatched turtles to migrate through the wire mesh. When the cages were removed, evidence of attempted predation was apparent, but the arrangement of the shell fragments suggested the turtles hatched successfully.

## 1.3 – Aquatic Ecosystems

*Objective 1.3a: Reduce the number of road and trail stream crossings. Reduce sedimentation and improve fish passage in existing road and trail stream crossings.*

Four stream crossings were replaced during FY 2007 as part of the Ten Percent Roads and Trails Program (Table 9). Preemption Creek at FR 377 is a steep stream with a gravel-cobble bed and native brook trout fishery. The crossing blocked fish passage and was in danger of failing. To restore fish passage, a much larger culvert was installed and a streambed was constructed through the culvert to simulate the stream channel and allow all aquatic species to pass up and downstream. Several undersized culverts were replaced with a bridge where FR 2371 crosses Armstrong Creek, a Class II trout stream. Erosion was reduced by improving road surface drainage and reducing a steep slope to the south. Safety was also improved by increasing the sight distance and improving alignment. This was a cooperative project with the Town of Armstrong Creek and Rural Development. A small perched culvert where FR 2386 crossed Simpson Creek was replaced with a much larger culvert (see photos below) set lower to provide fish passage, restore 0.6 miles of upstream channel and reduce water temperatures in the Class II trout stream. At the Brush Creek tributary, a trail bridge was constructed where an undersized culvert had failed. This project reduced erosion and sedimentation, improved fish passage, reduced maintenance and minimized wetland impacts.

*Simpson Creek culvert before project*

*Simpson Creek culvert after project*

*Table 9. Road and trail stream crossings reconstructed in FY 2007.*

| Stream | Road or Trail | Project Activity |
|---|---|---|
| Preemption Cr | FR 377 | 12'x8.5' SSim Culvert |
| Simpson Cr | FR 2386 | 12'6"x7'11" Culvert |
| Armstrong Cr | FR 2371 | 35' Span Bridge |
| Unt Brush Cr | FT | 12' Trail Bridge, 50' wetland span |
| Unt E Twin Lake | FR 195 | 77"x52" Culvert |
| EF Hay Cr | FR 153 | 87"x63" Culvert |
| Indian Cr | County C (FH 46) | 71"x47" Culvert |
| Pemma Cr | County C (FH 46) | 71"x47" Culvert |
| W Unt Otter Lake | County C (FH 46) | 48" Circ Culvert |
| E Unt Otter Lake | County C (FH 46) | 48" Circ Culvert |
| Unt S Otter Cr | County C (FH 46) | 54" Circ Culvert |

Note: Unt = Unnamed Tributary, Int = Intermittent, SSim = Stream Simulation (construct streambed through culvert)

Two stream crossings were replaced as part of the Roads Program. The projects improved fish passage, restored upstream channel morphology, prevented future failures and reduced maintenance.

Five stream crossings were replaced on County Highway C in cooperation with Forest County as part of the Forest Service Fish Passage Program on Forest Highways. Four of these streams contain native brook trout. The project improved fish passage, restored channel morphology, replaced several deteriorated culverts and reduced maintenance requirement.

No road or trail stream crossings were created or removed in FY 2007.

Objective 1.3e: *Improve or restore habitat in streams and lakes.*

Fish populations were monitored in 30 lakes during FY 2007. Surveys for all fish species were completed on five of the 30 lakes, the remaining 25 lakes were monitored for general trends of the fishery and to determine year class strength. Results from the five full surveys have not been reported yet from our partner, WDNR, and will be available in the next monitoring report. Results from the sport fishery surveys show continued healthy populations throughout the CNNF. The musky-impacted waters continue on the road to recovery showing improvements in reduced musky numbers as well as improved size structure of desirable native fish species.

The Forest is in the third year of a severe drought. Water levels on a majority of the lakes and warmwater streams/rivers reached historic lows during 2007. Low water means less volume and less oxygen holding capacity for a given body of water and, therefore, an increased potential for fish kills over the winter. At the end of FY 2007, there is reason to be concerned about this potential scenario. Monitoring showed that bass thrive during these

drought years, with smallmouth bass achieving higher than average reproduction success. Monitoring also showed largemouth bass and walleye with strong year classes.

The Forest has ten winter aeration systems that annually sustain dissolved oxygen (DO) levels in lakes that might otherwise experience fish kills when DO levels drop too low to sustain fish through the winter. Dissolved oxygen levels were monitored throughout the winter on these lakes, and the aeration systems were able to prevent winterkill conditions. In addition, 25 other lakes were monitored for DO. Winter conditions were considered very mild in 2007—so mild that at least one of the electric aeration systems was never turned on. No major fish kills caused by low DO levels were reported on the CNNF during the winter of 2006-2007.

Potential large woody debris (LWD) habitat projects in lakes are identified when fish surveys in those lakes reveal opportunities. LWD restoration took place in five inland lakes during 2007. Fish cribs were put in two bodies of water (Pine and Pigeon lakes, Bayfield County). Grindle Lake (Oconto County) and Emily Lake (Vilas County) received tree-drops that were placed during the winter on the ice. Traditional tree-drops done during the summer were installed on Ghost Lake. In total, over 130 structures were installed in lakes in 2007.

Instream habitat restoration work occurred on six classified trout waters on the CNNF (Deerskin, 20 Mile, McCaslin, Cherry, Shabadock, Swanson). The goal of the work was to restore habitat by narrowing the stream and improving habitat complexity, and was accomplished by brushing and placing brush bundles and LWD in the streams. All work except on 20 Mile was done in partnership with various chapters of Trout Unlimited. Over three miles of instream habitat were improved in this way for brook trout. An additional 72 miles of instream habitat was improved through the beaver management program.

Instream habitat restoration occurred on the South Fork Flambeau River (SFFR) in 2007. The SFFR supports a diverse warmwater aquatic community which includes species such as the lake sturgeon (an RFSS), smallmouth bass, redhorse sp., numerous darters/minnows, 8 species of mussels and a multitude of invertebrates. The river channel was heavily impacted by the turn of the century log drives. The restoration work accomplished in 2007 is part of a 3-year effort to restore river channel integrity and instream habitat complexity on over 2 miles of river. The same techniques used in trout habitat restoration work (listed above) are being applied to this project, in addition to the use of an excavator to reconstruct the channel and the placement of brush mats to help narrow and deepen the river channel.

The most meaningful evaluation of this project's success will occur years from now, but at this time, the project has met goals. Long-term monitoring and evaluation will continue to verify success and provide learning from the experience. Over the last few years, similar restoration projects have occurred elsewhere on the SFFR and the North Branch of the Oconto River. The CNNF and the WDNR work cooperatively to restore trout stream habitat within the Forest. Some techniques applied by this partnership were experimental at the time, and long-term monitoring efforts were established to determine efficacy of these techniques. Such monitoring occurred in FY 2007, and added to the data set that demonstrates the benefits to fish communities and integrity of the channel improvements.

## 1.4 – Terrestrial Ecosystems

*Objective 1.4d: Maintain or expand existing dwarf bilberry populations.*

The northern blue butterfly (NBB) and its obligate host plant, dwarf bilberry (DBB), are both RFSS on the CNNF. On the CNNF, DBB are known to exist within 13 forest openings and NBB at 2 of these sites. All of these locations are located about 10 miles northeast of Lakewood within the Lakewood - Laona District. These openings are frost pockets or other upland openings where soil, moisture, and light conditions are favorable. Historically, maintenance of these areas in an open condition would have occurred naturally through fire or the inherent tendency for unseasonable frosts in the "frost pockets." In the past 150 years, disturbance regimes that would have maintained habitat for these species have been altered and much of the habitat for these species have been lost or degraded. DBB and NBB populations of have been slow to recolonize on the CNNF. For that reason, the 2004 Forest Plan included this objective to maintain or expand existing DBB populations, and in so doing, increase the amount of habitat available to the NBB.

Opening maintenance for patches of DBB was completed along Jack Camp Road. Encroaching vegetation and bracken fern were cut with hand tools and brush augers to allow sunlight to reach the plants and increase the chance that NBB's would locate the plants. DBB plant populations in this opening and others were monitored by district specialists. Many historical patches of the DBB were located along with several new patches in the area.

This past winter the Thunder timber sale was completed as part of the Red Pine Plantation I project to improve habitat for NBB and DBB. Approximately 3 rows of red pine that surrounded openings containing DBB were removed to expand the opening and DBB habitat. Additional red pine cuts that will expand openings and create connective flyway corridors between openings near Peek Road are schedule to occur over the next couple of years.

Native flowering plant seed was spread in 2007 within the ditch adjacent to Jack Pine Road to provide more opportunity for butterflies to feed on flowering plants nectar. This area was unfortunately mowed in mid summer by an unknown source. This occurred even though there were signs at each end of the seeded area identifying it as such and that it should not be mowed.

The extent to which DBB will benefit from the corridors we're creating is unknown. However, numerous studies of the creation of habitat corridors have shown that such corridors have been effective at facilitating colonization of unoccupied habitat. Following the expansion of DBB, NBB may further expand their local range and abundance, which would benefit the viability of the species on the CNNF and adjacent Marinette County. Furthermore, through the creation of flyways between both occupied and unoccupied (by DBB) openings, NBB may be able to more efficiently disperse through the landscape and locate their host plant, although it is not known if this is a limiting factor for the species.

*Objective 1.4g: Annually treat non-roadside and roadside NNIS sites. Develop an NNIS strategy to guide amounts and locations of treatment.*

There are currently 2,724 non-native invasive plant sites occupying 1,565 infested acres on the CNNF. (Infested acres reflect the area actually infested with NNIS, and is measured by multiplying the gross area of infestation by the percent cover of the NNIS.) In 2007, 225 new acres of infestation were documented at 900 sites. Treatment types included pesticides, mowing, hand-pulling, prescribed fire and biocontrol (Table 10). A total of 637 acres (40% of known NNIS acreage) was treated (Figure 4). Treatment area averaged 1.65 acres (Figure 5), and ranged from a few square feet to 103 acres. Approximately 541 acres of previously treated NNIS sites were monitored for success, and nearly all sites were satisfactory.

*Table 10. A summary of the frequency particular treatment types were employed to combat NNIS during the years 2006-2007.*

| Year | Pesticide | Mowing/mechanical | Manual | Fire | Biocontrol |
|---|---|---|---|---|---|
| 2006 | 103 | 18 | 49 | 0 | 1 |
| 2007 | 160 | 51 | 167 | 2 | 2 |

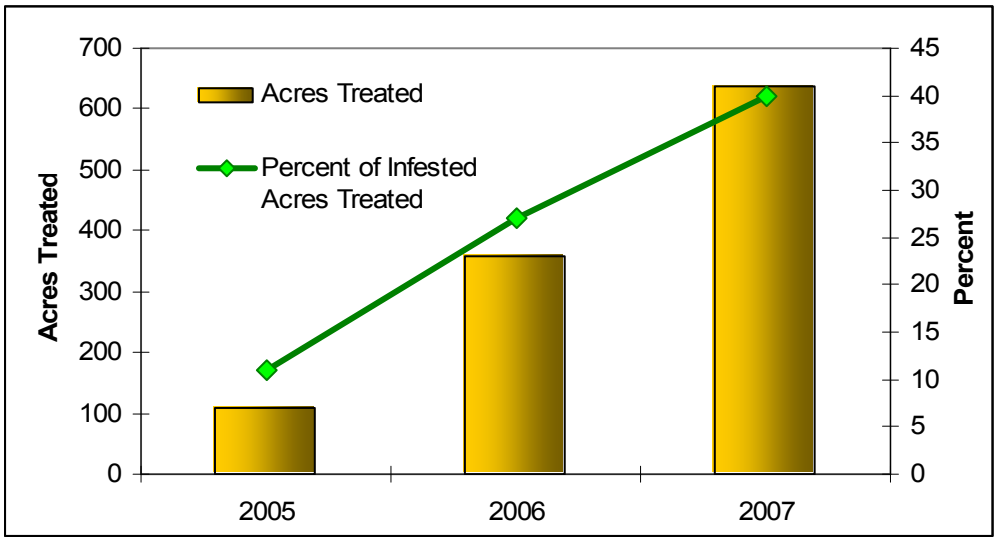



*Figure 4. Total number of acres of NNIS treated from 2005-2007 and the percent of infested acres on the CNNF that total represents.*

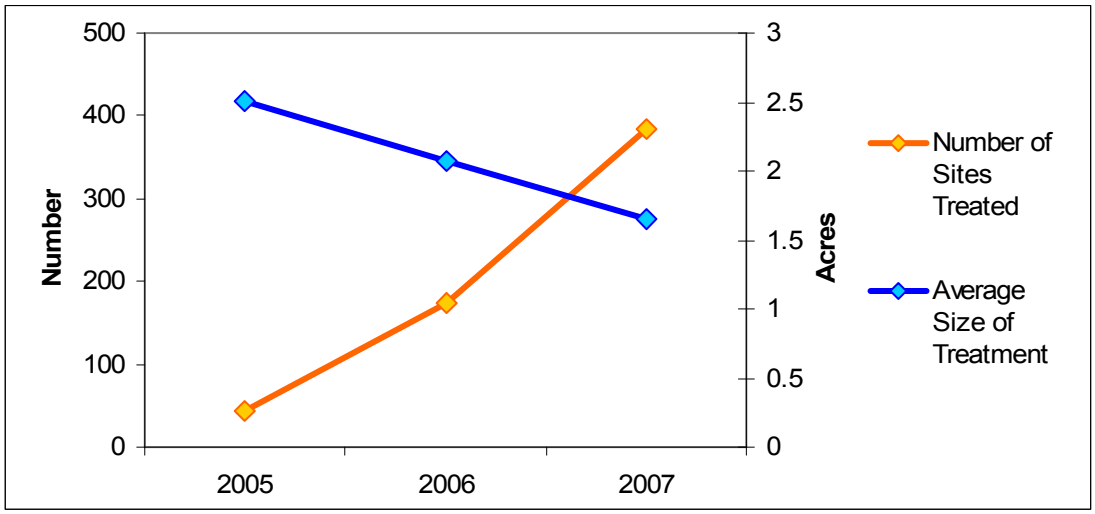



*Figure 5. The number and average size of NNIS treatments on the CNNF during 2005-2007.*

Trends from the last few years indicate efforts to combat NNIS are keeping up with the threat. Clearly, the treated acreage of NNIS is increasing. However, it is important to note that the percentage of NNIS being treated is also increasing. Additionally, as the number of sites being treated increases, the average size of the patch is decreasing. A declining NNIS patch size, in concert with the other data, suggests the largest patches are being controlled and progress is being made on the smaller patches. Since patches of NNIS generally start out small and invade an area in a relatively short period of time, keeping the average size of patches low will increase the odds of success in this continual battle against NNIS.

The CNNF has documented our approach to NNIS management in a document called Chequamegon-Nicolet National Forest NNIS Strategy and Desk Reference. Section C of this strategy describes our strategy for NNIS control and management. This portion of the objective shall be considered implemented.

*Objective 1.4h: Increase use of prescribed fire as a management tool within fire-adapted land-type associations. Reintroduce fire disturbance within RNA's where establishment records allow.*

Prescribed fire was applied as a management tool on 508 acres of fire-adapted land-type associations. There were no prescribed fires in RNA's during FY 2007.

*Objective 1.4i: When large disturbance events (over 100 acres) occur within forested areas, maintain a portion of the damaged vegetation to provide additional site level structure and coarse woody debris.*

During FY 2007 there were three large disturbances events over 100 acres on the CNNF: the continuing Spruce Decline, two-lined chestnut borer infestations, and the Quad County Tornado.

In all of FY 2007, 706 acres of upland white spruce were salvaged on the Medford-Park Falls District, 281 acres were salvaged in the Lakewood-Laona District, and 53 acres were salvaged on the Great Divide District. Of the roughly 18,400 acres of spruce impacted by Spruce Decline thus far, nearly 2,400 acres (13%) have been intentionally left on the landscape to provide coarse woody debris.

A total of 259 acres of oak was salvaged following damage by the two-lined chestnut borer on the Washburn District. Well over 15% of the affected oak was left unsalvaged, exceeding the Forest Plan standard of 5-15%.

*Reserve trees left behind after the Quad County Tornado salvage operations.*

The Quad County Tornado impacted 5,320 acres of forest. By the end of FY 2007, only 394 acres had been salvaged. However, by the time the clean up is complete, there will be at least 974 acres (18%) of damaged vegetation left in place, and will contribute a significant source of food and shelter for organisms that depend on large decaying wood—from mosses to black backed woodpeckers.

## 1.7 – Soils

*Objective 1.7: Provide desired physical, chemical and biological soil processes and functions on the Forest to maintain and/or improve soil productivity.*

Soil quality monitoring is conducted annually by the CNNF soil scientist to ensure soil conservation practices and management prescriptions designed to maintain soil quality have been implemented and are effective. Did they maintain the soil in an acceptable condition? Effectiveness monitoring on the CNNF is primarily done through ocular estimation using indicators and measurement techniques defined by the USDA-Forest Service Eastern Region. Selected harvest units averaging about 25 acres in size are evaluated for detrimental soil conditions such as rutting, compaction or erosion that may result from heavy equipment used in harvest activities. The degree, extent and distribution of soil disturbance is documented and compared to the Regional soil quality standards. Additional quantitative monitoring may be conducted when qualitative assessments of management practices appear to have produced unacceptable results.

During FY 2007 the CNNF soil scientist monitored and recorded soil resource impacts from timber harvest activities on 13 harvest units, from 7 different sales, over 3 Ranger Districts, on 10 different soil types. Each timber sale payment unit was walked with the sale administrator and evaluated individually for soil compaction, rutting, displacement and erosion. Findings for each harvest unit were documented qualitatively and quantitatively, including supportive digital photos. About 8-10% of each area was traveled on by timber

harvesting equipment. Winter (frozen ground) harvests had the least amount of soil disturbance with less than 1% of the area detrimentally compacted, usually at the landings and on main skid trails. All season harvest during dry ground conditions leaves about 2-3% of the area detrimentally compacted at the landings and main skid trails, with minimal soil rutting. Harvest operations on moist to wet soil with fine sandy loam or silt loam surface textures resulted in up to 5% of the area traveled left in a detrimentally compacted condition and 1-2% of the main trails with detrimental rutting. No detrimental soil erosion, displacement or organic matter removal was observed.

All harvested areas monitored were well below soil quality threshold values for detrimental disturbance from harvest activities and were in compliance with Regional soil quality standards and Forest Plan soil guidelines. Soil conservation practices and management prescriptions were successfully implemented on the harvest areas monitored for FY 2007 and were effective in minimizing potential adverse impacts to the soil resource of the CNNF.

## *Goal 2 – Provide Multiple Benefits for People*

### 2.1 – Recreation Opportunities

*Objective 2.1da: Construct up to 85 miles of ATV trail on the Nicolet landbase.*

A total of two miles of trail were constructed on the Nicolet landbase during FY 2007. This total also represents the total miles constructed under the Forest Plan up to this point.

*Objective 2.1ea: Construct up to 100 miles of ATV trail on the Chequamegon landbase.*

No new trails were constructed on the Chequamegon landbase during FY 2007. The total number of trail miles on the Chequamegon landbase is currently 284 miles.

*Objective 2.1i: Provide well-maintained developed campgrounds that meet Forest Service guidelines.*

Forest Service guidelines call for developed campgrounds to be “managed to standard”. During FY 2007 80% of campgrounds met this condition.

*Objective 2.1j: Inventory and manage remote campsites to minimize environmental impacts of recreation use.*

No campsites were identified during FY 2007 as seriously damaged or in need of major repair or closing.

*Objective 2.1l: If maintenance methods prove ineffective and monitoring confirms unsafe conditions or unacceptable resource damage, close and rehabilitate the existing 25-mile 4WD ORV trail. Then construct a replacement trails up to 25 miles long elsewhere on the*

*CNNF providing an agreement with a non-Forest Service entity is developed to maintain and monitor trail conditions.*

The existing ORV trail is an inherent opportunity for unsafe conditions or unacceptable resource damage to occur. However, the CNNF—and particularly the Lakewood-Laona Ranger District—continues to work with partners and internally to improve the ORV trail with a goal of maintaining a safe, environmentally secure trail.

## 2.4 – Heritage Resources

*Objective 2.4a: Promote the scientific study of a selected heritage resource, primarily through public participation and institutional/governmental partnerships.*

In 2007 the Lake Owen Point Site, Bayfield County, was the subject of Forest Service-sponsored archaeological investigation. The work was conducted with the support of volunteers recruited through the Passport in Time (PIT) volunteer program, Commonwealth Cultural Resources Group, Inc. (CCRG), and the Bad River Band Tribal Historic Preservation Office staff. Lake Owen Point is one of 26 locations recorded along the lake where Native peoples once lived. Previous Forest Service-sponsored evaluations of other Lake Owen archaeological sites have documented Archaic Tradition occupation that dates as early as 4,000 years before present, and Terminal Woodland occupation that occurred as recently as the 16th century A.D. Lake Owen Point, previously uninvestigated, was found to be small settlement occupied by Initial Woodland peoples between A.D. 120 and 610 based on radiocarbon assays. Archaeological investigations at Lake Owen began in the 1990's and will continue through 2008. The goal of these efforts is the development of a National Register of Historic Places (NRHP) archaeological district nomination, and Lake Owen Point will be treated as a one of the district's contributing resources.

Through partnership with the Wisconsin Historical Society's (WHS) Office of the State Archaeologist, an archaeological investigation took place in 2007 at the Indian Farms settlement, located in Taylor County. Indian Farms was a Potawatomi and Ojibwe village occupied between 1896 and 1908. Due to its important and tragic history – a smallpox epidemic took the lives of half the residents in 1904 – it was placed on the NRHP in 1985. The remnants of this settlement include a ceremonial dance circle, two cemeteries, house foundations and other features not yet clearly documented or understood. Until 2007 most of Indian Farms had been privately owned, but through the assistance and support of Trust for Public Land, the Forest County Potawatomi and the Lac du Flambeau Band, the entirety of the property came into Forest Service ownership. In the spring of 2007 Forest Service employees, along with the Wisconsin State Archaeologist, mapped and recorded remnant structural features not previously recognized. In 2008 the CNNF and WHS will cooperate in expanding and redefining the NRHP property based on the work accomplished in 2007.

In 2007 twenty archaeological resources situated along the shores of Butternut-Franklin lakes, Forest County, were placed on the NRHP. Though other potential archaeological districts have been recognized elsewhere in the CNNF, this is the first to be placed on the NRHP. The Butternut-Franklin Lakes Archaeological District represents a 4,000 year

continuum of Native settlement, and there is evidence that Native peoples first visited the shores of these lakes district as early as 10,000 years ago. The studies that led to NRHP designation were conducted over a 30 year period, and the variety of partners who participated in these efforts include Beloit College, Great Lakes Archaeological Research Center, University of Wisconsin-Waukesha, Northland College, CCRG, Butternut-Franklin Lakes Foundation, Lac du Flambeau Band, the Lac Vieux Desert Band, and WHS. Additionally, through the years hundreds of PIT volunteers have participated in the evaluations of eight of the District's contributing resources.

In 2007 the historic Fifield Fire Lookout Tower, Price County, was placed on the NRHP. Preparation of the nomination, associated research and development of on-site interpretive media, was done through a broad-based partnership. The nomination included an oral history of early fire lookouts that staffed the tower, funded in part by the Wisconsin Humanities Council. Development of the nomination was done through cooperation with the WHS. Tower interpretation was accomplished through cooperation with the University of Wisconsin-Stevens Point and partially funded by the Fifield Community Action Plan Committee. Standing 100 feet in height, the tower is four sided, made of galvanized steel and set on four concrete piers that define a square 19 feet per side. A seven foot square cab, accessed by ladder, tops the tower. Though the tower is structurally sound other elements of the lookout station, such as the tower lookout's cabin, have been removed. The Wisconsin Conservation Commission, now the Wisconsin Department of Natural Resources, erected the tower in 1932, a year prior to the establishment of the national forest. The Forest Service assumed responsibility for tower operation in 1935 and was used for wildfire observation until 1973. The Fifield Fire Lookout Tower was constructed at a time when wildfires raged across the "cutover" landscape of northern Wisconsin. It served as an observation point, staffed by lookouts, that was part of a broader fire detection and suppression system. There were once 38 such towers located within the national forest, though today only nine remain standing. The Forest Service is committed to its preservation and in 2007 established a trail that leads to the tower, with interpretive panels detailing tower history. As a continued commitment to fire tower preservation, in 2008 the Forest Service will nominate the Mountain Fire Lookout Tower to the NRHP.

Through the course of over 30 years of cultural resource management activities the Forest Service has recorded approximately 2,500 archaeological sites within the CNNF. As a result of these activities the CNNF has amassed a sizable collection of cultural materials. For a variety of reasons the collections have shifted to several repositories through the years. In 2004 the Forest Service began to address its curation problem by teaming with CCRG to assess the condition of the collections and develop a plan for managing the collections. Beginning in 2005 and continuing each year through 2007, PIT volunteers have been recruited to assist CNNF and CCRG staff in repackaging and electronically accessioning the collections. A repository has been developed at the Northern Great Lakes Visitor Center, in Ashland, and it is anticipated that the collections management efforts will be completed in 2009.

The Forest Service continued its partnership with the WHS Division of Library and Archives. Recognizing the alarming loss of the Forest's historic records and documents, Forest staff turned to the WHS's Northern Wisconsin History Center. Through a five year challenge cost

share agreement initiated in 2005, this year WHS archivists conducted condition surveys of Forest historic records. Based on survey results, a long-term plan for conservation and curation of historic records and documents will be developed in 2008.

*Objective 2.4b: Consult with tribal governments, institutions, and other interested parties to ensure the protection and preservation of areas, objects, and records that are culturally important to them.*

In accordance with government to government consultation protocol, the CNNF leadership team actively consults with tribal governments regarding proposed Forest Service undertakings. In those instances where heritage site stewardship is a project's primary purpose, the Heritage Program Manager represents Forest Supervisor in initiating such contacts. In 2007, following notification of heritage project activities, consultation was initiated and conducted with the Lac du Flambeau Band, the Forest County Potawatomi, the Bad River Band, the Menominee and the Lac Vieux Desert Band.

Additionally, in 2007 CNNF staff invited tribal governments to participate in several heritage program activities:

- Six tribal governments were invited to attend the CNNF annual archaeological paraprofessional training, and representatives of the Lac Vieux Desert Band, Forest County Potawatomi and the Keweenaw Bay Indian Community participated.
- Bad River Band Tribal Historic Preservation Office staff participated in the Lake Owen Point Archaeological Study
- Forest County Potawatomi and the Lac du Flambeau Band assisted the Forest Service and Trust for Public Lane in acquiring the entirety of the Indian Farms NRHP Site.

*Objective 2.4c: Conduct scientific studies to further our understanding of human adaptation and influences on the landscape and to provide important information for NEPA analysis.*

Working in cooperation with the CNNF watershed staff, heritage staff is assisting with the development of a comprehensive inventory of historic dams and structures that were built within the Forest's riparian features. The goals of this work are to: (1) better understand the location and function of structures historically placed within riparian features, (2) to better understand how these features affected the contemporary Forest landscape, (3) to develop guidelines for removal of some of these features to enhance watershed restoration, while at the same time selecting others as historically important resources to preserve for future generations, and (4) to connect citizens to the land through development of an interpretive plan that will convey the importance of riparian restoration as well as the preservation of significant historic features.

*Objective 2.4d: Increase awareness and appreciation of cultural heritage through educational programs, university-sponsored archeology field schools or other programs.*

As in previous years, in 2007 raising the public's awareness of the importance and fragility of heritage resources was accomplished through several activities:

- Dozens of volunteers were recruited through PIT to assist in three heritage stewardship projects.
- Interpretive media, focusing on Native history and culture, were installed at the Boulder Lake Campground, a highly-accessible recreation facility. The campground includes a pre-European contact Native settlement listed on the NRHP. The Menominee Tribal Historic Preservation Officer served as a technical advisor assisting CNNF staff and University of Wisconsin-Steven Point students in developing of the interpretive media plan.
- Interpretive media, focusing on the Fifield Fire Lookout Tower and its Depression Era historic context, were placed at the Fifield Fire Lookout Tower. The interpretive media plan was developed through partnership with the University of Wisconsin-Stevens Point, and was implemented through funding provided by the Community of Fifield and the Eastern National Forest Interpretive Association.
- Interpretive media, focusing on Native history and culture, were developed for the Hidden Lakes Trail, a 13 mile hiking trail that encompasses the Butternut-Franklin lakes area. The Lac Vieux Desert Band Tribal Historic Preservation Officer served as technical advisor assisting CNNF staff and University of Wisconsin-Steven Point students in developing the interpretive media plan. Interpretive panels that resulted from this effort will be installed along the trail in 2008, and a dedication ceremony for establishment of the panels and Butternut-Franklin Lakes Archaeological District NRHP nomination, is being jointly planned by the CNNF and Butternut-Franklin Lakes Home Owners Association.
- Four press releases were distributed to media sources that focused on significant heritage resources and CNNF historic preservation activities.
- Six public presentations focused on the archaeology and history of the CNNF, and the importance of managing and protecting these resources.
- A paper that describes recent Forest archaeological research was presented at the Midwest Archaeological Conference.

## 2.5 – Forest Commodities

*Objective 2.5: Ensure that harvest levels of special forest products are within sustainable levels.*

Sheet moss and princess pine are gathered to be sold commercially or to be used by hobbyists. An individual is allowed to harvest up to 400 lbs. of either forest product per year, and a fee is charged based upon the amount they wish to collect. Starting in 2007, permittees were given information about princess pine and sheet moss. This included a species identification guide for princess pine, a sheet on harvesting guidelines, and a voluntary harvest survey to be filled out and mailed back to the USFS. The survey collects information on gathering locations, quantity harvested and number of harvesting trips made. The information collected from permit holders will allow managers to better understand the pressure harvesting has upon the resource, and enable sustainable management. New requirements for gathering sheet moss and princess pine on the CNNF take effect January 1, 2008. Permittees will now be required to return monitoring forms before receiving another permit.

*Table 11. The amount (lbs.) of special forest products permitted for harvest on the CNNF from 2004-2007.*

| Year | Sheet Moss (lbs.) | Princess Pine (lbs.) |
|---|---|---|
| 2004 | 5,500 | 600 |
| 2005 | 4,900 | 200 |
| 2006 | 6,100 | 400 |
| 2007 | 4,800 | 504 |

The number of sheet moss collection permits issued from 2004-2007 have allowed an annual average harvest of up to 5,200 lbs. of sheet moss forest wide (Table 11). Not all permittees were likely to maximize their harvest, so the actual harvest could be lower. With the new monitoring methods, the harvest data will be more accurate.

The number of princess pine permits issued (and the amount harvested) each year has varied considerably (Table 11). The amount harvested and the locations of the harvest will continue to be monitored to determine if the forest can sustain the desire for princess pine.

## 2.6 – Minerals and Energy Resources

*Objective 2.6: Ensure that reclamation provision and environmental protections measures of operating plans and surface use plans of operations are completed to standard in field operations.*

In FY 2007 there was no hardrock mineral or energy prospecting or development activity. The current focus of the hardrock mineral program is the abandonment of prospecting drill holes and the reclamation of drill hole sites. In FY 2007 there were eight drill holes abandoned and the final reclamation certified by the Wisconsin DNR. There are four remaining drill holes that are planned for abandonment work in FY 2008.

The I-web Mineral Materials data base is used for the issuing & monitoring of mineral material permits for external use and internal use of sand and gravel resources. Permit operating plans and permit stipulations along with permit inspection requirements insure compliance with our Wisconsin DNR storm water permit for gravel pit operations. Permit inspections are recorded in the I-web Mineral Materials data base. In FY 2007 there were 12 permits issued for internal and external use of mineral materials for cooperative road maintenance activity, timber sales and recreation facility maintenance.

Pit management plans are written for each gravel pit to insure adequate utilization of the resource, safety, and mitigation of impacts on surface resources. In FY 2007 nine pit management plans were updated or completed to insure adequate resource utilization and environmental protection.

NNIS management and control are addressed in Pit management plans. All active gravel pits are monitored and treated for NNIS. In FY 2007 50 acres were treated. Additionally, tree planting reclamation is used to reduce the potential habitat for NNIS, reduce the need for NNIS treatment activities, and reduce the impacts from OHV activity. In FY 2007 two gravel pit sites, totaling six acres, were reclaimed and planted with jack pine.

## 2.8 – Fire Management

*Objective 2.8a: The safety of employees and the public is the highest priority during any fire or fuels management incident.*

Although large catastrophic fires rarely occur in our region of the country, fires on the CNNF are relatively common and require an immediate and organized response to minimize their severity. There are two general categories of fire that regularly occur on the CNNF: prescribed and wildfire. While combating both types of fire, safety of CNNF employees and of the public is the highest priority.

Prescribed burning: The CNNF extensively promotes and implements safety as it relates to prescribed burning and wildfires. The forest had no prescribed fires escape from control this year. Burn plans are developed that follow Forest, Region and National direction. Prior to and after implementation of the action, each burn is fully reviewed and complete briefings are conducted to assess any possible means for improvement.

Wildfire: Under the Thirty Mile Plan, the U.S. Forest Service requires each unit to review their response to wildfire each year. These reviews are to be conducted by the Line Officer, Forest Fire Staff Officer and/or the Forest Safety Officer. Under this requirement, 10% of the CNNF wildfire responses were reviewed for adequate safety measures during FY 2007. No safety inadequacies were identified during FY 2007.

*Objective 2.8b: Expedite safe extinguishments of wildfires by the use of ground and/or air resources.*

Safety is our highest priority on the forest. The forest Fire Staff Officer received no reports of any safety violations this year, which is typical on the CNNF. A good portion of our strong safety record can be attributed to the repetitive academic training, refreshers, fitness training, and policy and procedures being adhered to. All fire personnel are encouraged to immediately report any and all safety violations.

The forest had 72 fires during FY 2007, totaling 1,215 acres. The size of these fires ranges from 0.1 acre to 1,167 acres, with only three fires over 3 acres. Excluding the large Pioneer Fire (1,167 acres), the average fire size was 0.67 acres. Our wildfires were mostly associated with human activity and development: campfires, debris and brush burning, and power lines.

*Objective 2.8c: Reduce hazardous fuels within communities at risk, in cooperation with local, Federal, and State agencies.*

The list of "Communities at Risk" is a major component of the National Fire Plan that identifies areas where people and their property are most endangered by the threat of wildfire. The State of Wisconsin completed its mapping of townships considered to be at risk. The Forest completed a draft map of its wildland-urban interface areas. These maps will be used in conjunction to identify priority areas for hazardous fuels reduction. During FY

2007, 1,590 acres of hazardous fuels reduction in the wildland-urban interface was accomplished.

*Objective 2.8d: Apply fire management as part of natural ecological disturbance regime.*

Prescribed fire is applied as a land management tool to achieve multiple objectives on the CNNF. One area in which prescribed fire has been used most successfully is in the Moquah Barrens, a fire-adapted ecological community undergoing restoration and maintenance. Prescribed burning was limited to the Washburn District in FY 2007, with the majority in the Moquah Barrens. For ecosystem restoration purposes, coupled with wildlife habitat improvement, the district completed 584 acres of prescribed burning. The district burned 110 acres for site preparation for planting, 49 acres for hazardous fuels reduction, and 1 acre for site maintenance. The Forest continues to identify areas where fire could be used as a means of achieving desired future conditions.

### 2.9 – Treaty Rights

The Forest Service shares in the United States' trust responsibility and treaty obligations to work with federally-recognized Tribes on a government-to-government basis to protect the Tribes' ceded territories on lands administered by the Forest Service. As such, the policies of the Forest Service toward federally recognized tribes are intended to strengthen relationships and further tribal sovereignty though fulfilling mandated responsibilities. The Chequamegon-Nicolet National Forest outlines its policies and responsibilities on tribal relations in a 1999 Memorandum of Understanding (that is, the MOU regarding tribal – USDA Forest Service relations on National Forest Lands within the territories ceded in treaties of 1836, 1837, and 1842) including tribal consultation on proposed forest projects and policies.

Annually in October, Forest Service leadership meets with the MOU tribal signatories to discuss MOU implementation, to facilitate on-going communication, and to discuss issues arising under the MOU. The MOU has been in place for over five years and is running smoothly. Through provisions laid out in the MOU, projects and processes have been put into place without notable instances of complications. Some activities include notification of birch bark gathering opportunities, implementation of camping fee and length of stay waivers for tribal members exercising treaty rights, and implementation of an off-reservation National Forest gathering code.

## *Goal 3 – Ensure Organizational Effectiveness*

### 3.2– Land Ownership

*Objective 3.2: Convey, purchase or exchange lands where needed. High priority areas for acquisition include those lands that: Protect TES or RFSS; Consolidate federal ownership within Wilderness; Increase public ownership on lakes and rivers; Provide unique ecological,*

*scientific, heritage, or recreational qualities; and, Consolidate land ownership for efficient resource management purposes.*

A total of 1,486 acres of land were acquired in four separate land purchases during FY 2007. Each of the land purchases occurred for the specific purposes of meeting the above criteria. No land exchanges occurred.

## 3.3 – Public and Organization Relations

*Objective 3.3a: Consult with Tribes and intertribal agencies during decision-making processes. Consider effects of natural resource management decisions on the ability of tribes to exercise gathering rights. Site-specific project analyses address how project proposals might protect or impact the ability of tribes to exercise gathering rights.*

The Forest Service shares in the United States' trust responsibility and treaty obligations to work with federally-recognized Tribes on a government-to-government basis to protect the tribes' ceded territories on lands administered by the Forest Service. In furtherance of this relationship, Chequamegon-Nicolet National Forest deciding officials lead consultation efforts on all project level decisions. The deciding officials along with interdisciplinary team members made themselves available to tribal elected officials, tribal natural resource staff and Tribal Historic Preservation Officers to discuss project proposals, solicit tribal concerns, and encourage further input on projects. This occurred throughout 2007 at various times and with varied degrees of interest and input from the tribes. A comprehensive Tribal contact list is maintained and updated regularly and includes federally recognized tribes in Wisconsin, Michigan, Minnesota, the Voigt Intertribal Task Force, and the Great Lakes Indian Fish and Wildlife Commission. Tribal consultation was initiated for the Forest-wide Travel Management Plan project.

*Objective 3.3b: Through partnerships, encourage, establish and sustain a diverse and well-balanced range of recreational services and facilities on the CNNF.*

The CNNF continues to provide a wide range of recreation services and facilities ranging from highly developed campgrounds to primitive, remote campsites and from motorized emphasis trails to remote wilderness opportunities

*Objective 3.3c: Cooperatively work with federal, state, and county agencies and other non-governmental organizations to control NNIS.*

The Chequamegon-Nicolet is proud to work along side a variety of partners as we all "pull together" to control invasive plants. Forming partnerships is a necessary process to combat NNIS, which is a problem that transcends administrative boundaries.

One of the partnerships in which the CNNF participates is the Northwoods Cooperative Weed Management Area (NCWMA). This is a collective group of state and federal agencies, Tribes, local towns, community associations, non-profit organizations, lake associations and individuals who have come together to combat invasive species in northern Wisconsin. The

NCWMA serves Ashland, Bayfield, Douglas and Iron Counties of Wisconsin and is open to all interested parties.

The CNNF was also heavily involved in the formation of another Cooperative Weed Management Area. The Upper Chippewa Invasive Species Cooperative involves partners from Price, Sawyer, Taylor, and Rusk Counties. Their mission is to increase awareness of the ecological damage done by some non-native species. It involves citizen groups and public agency employees sharing resources to combat these invaders. The Concrete County Park in Price County is one of the demonstration sites. Work parties and educational events were held there in the fall of 2007.

A number of events took place which provided community education and outreach, and helped combat invasive species in on-the-ground efforts. In May, the National Park Service hosted a buckthorn workday at Northland College. The Great Lakes Indian Fish & Wildlife Commission hosted a purple loosestrife biological control beetle collection and distribution day in late May. The CNNF gathered beetles at this event and released them on the South Fork of the Flambeau River. NCWMA organized a Knotweed Knockout day in Bayfield in July. In August, the Northern Great Lakes Visitor Center hosted a field day for professional land managers in the area to discuss control techniques. In September, the annual leafy spurge control day was held near the Forest Boundary on Maple Hill in the Town of Washburn. Finally, the Northern Great Lakes Visitor Center hosted a National Public Lands Day event to fight invasive buckthorn and honeysuckle.

5th graders from the Medford Area School District banded together to remove glossy buckthorn from the Black River as it runs through Medford's Riverwalk Park.

Other efforts coordinated by the Upper Chippewa Cooperative involved over 100 fifth graders from the Medford School District. As part of a community service project, fifth graders from the Medford Area Middle School have taken up the battle to control a large infestation of glossy buckthorn on the banks of the Black River along the City's Riverwalk Park. Prior to the students' seek-and-destroy mission, they were introduced to the problems caused by invasive species and learned how to identify buckthorn through the leaves, berries and bark. The hunt for buckthorn usually takes place in the fall or early spring, when it's easiest to identify. The students spend about two hours cutting, hauling and picking the

black berries off the buckthorn. The Upper Chippewa Invasive Species Cooperative, the Taylor County Lands Conservation Department, the WDNR, CNNF, and these students have been controlling this buckthorn infestation for the past two years.

Finally, the CNNF is a playing a key role in the development of Best Management Practices for Invasive Species. Forestry and recreation BMP tracts are now well underway.

*Objective 3.3d: Cooperatively work with federal, state, and county agencies and non-governmental organizations to integrate fire prevention programs and suppression resources. Cooperatively work across agencies to develop and implement hazardous fuels reduction projects that will reduce the risk of wildfire.*

The CNNF is heavily involved with other state and federal partners; this includes all aspects of fire management such as prevention, suppression, training, fuels, etc. The fire program has written partnership agreements with the following agencies: National Park Service, Bureau of Indian Affairs, Menominee Tribal Enterprises, Fish and Wildlife Service, Bureau of Land Management, National Weather Service, and the WDNR. These agencies routinely assist with our prescribed burns and readily provided suppression resources during the Pioneer Fire. The CNNF, WDNR and local fire departments commonly share equipment and personnel and support each other on wildfires throughout the year.

Together the Forest Service, WDNR, and Town of Riverview prepared a Community Wildfire Protection Plan for the Town of Riverview. Community wildfire protection was accomplished at the Day Lake recreation area on the Great Divide District and in the wake of the Quad County Tornado on the Lakewood-Laona District.

# IV. ACKNOWLEDGEMENT OF CONTRIBUTORS

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So many CNNF employees are routinely involved in monitoring the activities of the CNNF that each individual could not be listed. The primary author of the Monitoring Report was the CNNF Monitoring Coordinator, Ben Frater. The following CNNF staff directly contributed many of the words, figures, details and expertise necessary for this multi-disciplinary effort:

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