

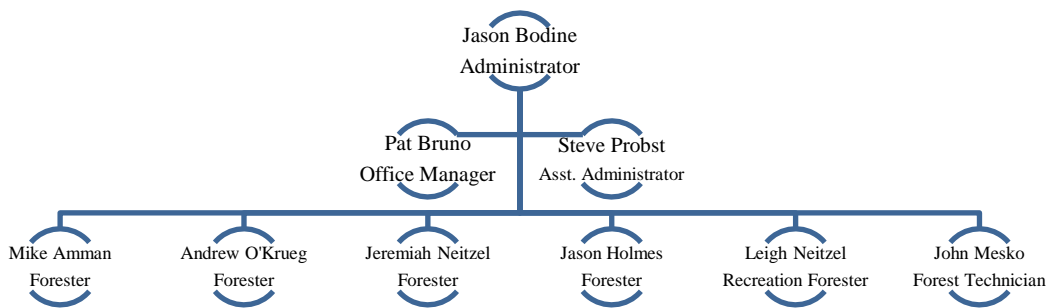
# BAYFIELD COUNTY FORESTRY AND PARKS DEPARTMENT ANNUAL ACCOMPLISHMENT REPORT FOR THE CALENDAR YEAR 2015

## FORESTRY AND PARKS COMMITTEE

Shawn Miller, Chair  
Marco Bichanich, Vice-Chair  
Harold Maki

Fred Strand  
John Bennett

## DEPARTMENT STAFF



## LAND AREA

The present County Forest acreage is as follows:

Barnes	39,317.36	Cable	5,556.33	Oriente	4,720.00
Bayfield	32,792.56	Clover	5,386.57	Port Wing	8,876.18
Bayview	12,951.47	Hughes	24,056.56	Russell	8,570.82
Bell	14,585.03	Iron River	6,042.22	Tripp	6,539.52

Official County Forest Acreage: 169,394.62

There are approximately 3,300 acres of County tax title lands, not including lots and small parcels, in addition to the above listed County Forests Lands. On occasion, the Forestry and Parks Department will monitor these parcels for land and/or timber sales, monitor for potential trespass issues, and negotiate road/utility easements and sand and gravel permits.

## COMPREHENSIVE LAND USE PLAN

A comprehensive land use plan that will guide the management of the County Forest for the next 15 years was developed in 2005 and approved by the County Board in January 2006. This plan will be periodically reviewed and amended, as necessary. Amendments must be approved by the County Board of Supervisors.

There were no to the Land Use Plan amendments in 2015.

Previous amendments include: revisions to Chapter 700 (Access Management) were approved by the County Board in 2013. Revisions to the County Forest Blocking Boundary map were approved by the County Board in 2014 (the map is located in Chapter 900 of the Land Use Plan).

## FOREST MANAGEMENT

The forest management program is one of the most significant responsibilities of the Department and one of the largest (and in many years, the largest) of any County Forest program in the state. There are three major facets of the program: 1) forest management (primarily timber sale establishment), 2) reforestation, and 3) forest reconnaissance. The quality and quantity of goal accomplishments, as well as the sold value of timber sales, are some of the best indicators used to evaluate performance. Below are summaries of the major forest management priorities.

- 1) Sustainable Timber Harvest Goals: sustainable timber harvest goals for every major forest type are calculated based upon sound silvicultural guidelines and principles.

Table 1 displays the sustainable harvest goals and accomplishments of the timber sale program by major forest type since 2009.

**Table 1: Bayfield County Forest Sustainable Harvest Goals and Accomplishments (acres)**

Species	2009		2010		2011		2012		2013		2014		2015		Average	
	Goal	Accomp.	Goal	Accomp.	Goal	Accomp.	Goal	Accomp.	Goal	Accomp.	Goal	Accomp.	Goal	Accomp.	Goal	Accomp.
Aspen <sup>1</sup>	850	928	870	853	1,189	1,191	1,005	1,230	1,170	1,151	1,265	1,314	1,300	1,292	1,093	1,137
Nor. Hdwd	900	721	900	418	914	973	1,321	1,349	970	1,069	900	857	835	804	963	884
Red Oak	670	554	670	607	808	798	763	577	795	680	700	981	820	823	747	717
Paper Birch	200	16	200	156	200	38	100	132	50	15	90	131	40	53	126	77
Scrub Oak	85	15	85	167	85	188	140	142	215	254	205	275	250	247	152	184
Red Pine	749	572	870	743	978	987	991	917	900	952	880	811	855	1,041	889	860
Jack Pine	405	413	540	518	516	480	504	493	275	274	190	182	165	194	371	365
White Pine	50	76	50	15	50	35	100	93	120	169	120	127	100	97	84	87
Fir/Spruce	100	33	100	180	100	140	60	25	130	119	40	36	40	44	81	82
Swamp Conifer <sup>2</sup>	0	0	0	0	142	160	130	138	140	141	120	54	130	98	95	84
Swamp Hdwd. <sup>2</sup>	0	0	0	0	126	0	120	87	50	41	110	74	110	88	74	41
<b>Total</b>	<b>4,009</b>	<b>3,328</b>	<b>4,285</b>	<b>3,657</b>	<b>5,108</b>	<b>4,990</b>	<b>5,234</b>	<b>5,183</b>	<b>4,815</b>	<b>4,865</b>	<b>4,620</b>	<b>4,842</b>	<b>4,645</b>	<b>4,781</b>	<b>4,674</b>	<b>4,521</b>

<sup>1</sup> Greater accomplishments are a result of managing some of the backlog

<sup>2</sup> Timber types included in goals starting in 2011

A total of 4,781 acres of County Forest was managed in 2015. This represents an increase of roughly 35% when compared to the average accomplishments prior to 2012. The significant increase in accomplishment is a direct result of adding a new forester position in 2011.

On occasion, the Department also manages County owned land that is not part of the County Forest. In 2015, a total of 43 acres were managed on County owned, non-County Forest lands.

In general, most of the harvest goal is in the form of a timber sale, however, there are occasions when a stand is updated and managed at a later date. Updates typically occur when a stand has not attained the predicted amount of growth in between harvests, when the data describing the stand is incorrect, or when the stand is removed from management due to a restrictive feature i.e. riparian buffers or inoperable slopes.

On average, approximately 90% of total accomplishments are in the form of a timber sale. In 2015, roughly 90% of the total accomplishment acres were timber sales.

Table 2 displays a summary of the accomplishments for the sustainable timber harvest program.

**Table 2: Bayfield County Forest Sustainable Harvest Summary (acres)**

Year	Management Goal	Timber Sale Establishment	Stand Update <sup>1</sup>	Total Accomplishments
2008	3,511	2,736	573	3,309
2009	4,009	3,157	243	3,400
2010	4,285	3,331	326	3,657
2011	5,108	4,491	499	4,990
2012	5,234	4,588	595	5,183
2013	4,815	4,348	517	4,865
2014	4,620	4,331	511	4,842
2015	4,645	4,289	492	4,781
Average	4,528	3,909	470	4,378

<sup>1</sup> Stands are updated, in part, due to inaccuracies in the data or insufficient growth for management.

- 2) Timber Sale Program: Bayfield County offers two timber sale lettings per year, one in the spring and one in the fall.

Table 3 displays the summary of timber sale offerings since 2008, including the total number of sales sold per year, total acres, the total value of the winning high bids, the average bid value per acre and total revenues received from the sale of timber during each calendar year.

**Table 3: Bayfield County Forest Timber Sale Summary**

Calendar Year	Sales Offered	Acres Offered	Sales Sold	Acres Sold	Acres Not Sold	Timber Sale Bid Values	Bid Value per Acre	Timber Revenues
2008	58	3,546	55	3,507	39	\$2,381,513	\$679	\$2,621,308
2009	45	3,297	42	3,100	197	\$2,510,601	\$810	\$2,305,259
2010	40	3,218	40	3,218	0	\$2,404,178	\$747	\$2,047,663
2011	54	4,156	54	4,156	0	\$3,629,330	\$873	\$2,477,066
2012	53	4,782	53	4,782	0	\$4,900,194	\$1,025	\$2,696,756
2013	54	4,275	53	4,177	98	\$3,614,091	\$865	\$3,904,104
2014	61	4,388	61	4,388	0	\$5,252,530	\$1,197	\$4,537,661
2015*	57	5,215	54	4,958	257	\$6,507,887	\$1,313	\$5,006,565
Average	53	4,110	52	4,036	74	\$3,900,041	\$939	\$3,199,548

\* timber revenues includes receipts from 249 acres of timber harvested on county owned land not part of the county forest.

Timber revenues were at an all-time high in 2015. The total revenue from harvested timber on County Forest Land was \$5,006,565 (the most of any County Forest program in Wisconsin). This was an increase of over 10% when compared to 2014 (which was the previous record for revenues), an increase of over 28% from 2013 and over double (112%) when compared to the average stumpage revenues received prior to 2012. Total revenues for 2015 also include \$13,506 in stumpage on County land not part of the County Forest.

In 2015, the Department awarded 54 new timber sale contracts, covering 4,958 acres with an estimated value of \$6,507,887 (also the most of any County Forest program in Wisconsin). Of the total acres sold in 2015, 249 were located on County land not part of the County Forest. The total acres sold increased by approximately 13% when compared to 2014 and 19% when compared to 2013. The average winning bid values per acre were nearly 140% higher when compared to the average prior to 2012.

Table 4 displays the total volume of timber harvested from Bayfield County Forest timber sales from 2009 through 2015. Pulp (cords) and logs (Mbf – thousand board feet) are displayed for each primary timber type. For the sake of comparison, all tonnage sales (chips) were converted to cords (approximately 20% off all timber sales are sold by the ton). The table also displays the total amount of timber sale revenue received each year.

**Table 4: Bayfield County Forest Timber Harvest Volume Summary (pulp in cords and logs in thousand board feet)**

Species	2009		2010		2011		2012		2013		2014		2015		Average	
	Pulp	Logs	Pulp	Logs	Pulp	Logs	Pulp	Logs	Pulp	Logs	Pulp	Logs	Pulp	Logs	Pulp	Logs
Aspen	15,048	0	15,041	3	14,570	0	14,647	1	20,288	0	26,154	0	23,486	0	18,462	1
Mx. Hardwood <sup>1</sup>	19,487	182	18,465	261	19,061	212	13,316	129	17,960	377	25,238	506	23,705	561	19,604	318
Oak	6,678	516	9,807	782	11,334	1,221	7,916	1,127	10,796	1,293	18,162	2,439	14,004	2,103	11,242	1,354
Paper Birch	901	7	736	43	766	13	1,083	22	1,169	17	562	9	383	6	800	17
Basswood	1,204	525	1,439	116	1,197	135	1,022	62	1,801	252	1,538	130	2,012	372	1,459	228
Red Pine	6,692	0	4,554	0	8,873	16	10,694	0	14,637	0	13,266	0	10,637	0	9,907	2
Jack Pine	8,410	0	6,572	0	4,533	0	5,352	0	11,211	0	5,715	0	5,633	0	6,775	0
White Pine	715	0	651	0	137	0	48	0	2,083	0	460	0	630	0	675	0
Other Conifer <sup>2</sup>	500	0	302	0	669	0	465	0	1,079	0	2,227	0	2,533	0	1,111	0
Total	59,633	1,230	57,566	1,205	61,139	1,597	54,543	1,341	81,024	1,939	93,321	3,084	83,023	3,042	70,036	1,920
Revenue	\$2,305,259		\$2,047,663		\$2,477,066		\$2,696,756		\$3,904,104		\$4,534,831		\$5,006,565		\$3,281,749	

<sup>1</sup> Maple, yellow birch, ash

<sup>2</sup> Spruce, Fir, Tamarack

In summary, 2015 was another exceptional year for timber harvested on the County Forest. Roughly 83,000 cords and 3,000 MBF were harvested. Logs removed were nearly identical to the previous year, but pulp was down by around 9%. However, revenues were 10% greater in 2015. Aspen prices were at an all-time high in late 2014 and early 2015. Many of these sales were harvested in early 2015, which accounts for much of the differences in revenues.

The total volume harvested in 2015 was approximately 44% greater than the average total volume harvested prior to 2012. Harvested cordwood volumes for basswood and other conifers were at all-time highs. Log volumes (and revenues) continue to be driven primarily by red oak.

- 3) **Reforestation Program:** reforestation, be it natural or artificial, is a core building block of forest sustainability and a fundamental component of any forest management program. A successful reforestation program provides numerous benefits, some of which include: the restoration of forest productivity, fertility and environmental function; the assurance of a perpetual, sustainable supply of forest resources and amenities for future generations; the protection of soil and water quality; and the establishment and development of quality wildlife habitat. Newly regenerating stands are monitored 3 to 4 times over a 10 year period to determine success.

Table 5 displays the summary of the reforestation program.

**Table 5: Bayfield County Forest Reforestation Program Summary 2008 - 2015 (acres)**

Year	Planting				Seeding	Site Preparation				Maintenance				Monitoring
	Red Pine	Jack Pine	White Pine	Other <sup>1</sup>	Jack Pine	Trench	Fire Plow	Scarify	Spray	Fire	Spray	TSP <sup>2</sup>	Bud Cap	Regen
2008	378	207	24	0	0	796	88	0	442	0	0	0	0	1,683
2009	487	415	0	0	0	726	72	0	348	40	0	0	0	2,652
2010	367	196	0	0	0	363	118	0	420	42	305	0	0	2,183
2011	319	153	35	68	0	900	88	0	186	21	324	0	0	1,424
2012	295	107	274	0	0	0	177	120	727	32	609	0	0	2,736
2013	281	174	92	0	558	264	0	40	0	0	449	0	239	2,522
2014	0	0	0	0	0	503	20	115	264	0	273	0	239	2,929
2015	62	0	129	0	202	717	0	99	634	0	0	1	239	2,337
Avg.	266	143	62	8	128	524	63	53	378	15	243	5	103	2,330

<sup>1</sup> In 2011, tamarack and white spruce.

<sup>2</sup> Timber Stand Improvement - Hand release of established regeneration

- a) **Planting and Seeding:** planting resumed in 2015 after a temporary lull in 2014. In total, 62 acres were planted with red pine and 129 acres were underplanted with white pine. Red pine was planted at a rate of about 750 seedlings per acre, while white pine was planted at about 450 seedlings per acre. All seedlings were 2-0 containerized stock and planted by contracted crews.

A total of 202 acres were seeded with jack pine in 2015. Seeding occurs at a rate of about 4 ounces per acre (with local seed purchased from the WDNR nursery). Application is done aurally via a contract with the DNR. All seeded acres were previously trenched and sprayed to provide the best possible site for germination and recruitment. Roughly half of the seeded sites were double trenched in an attempt to expose a larger amount of bare mineral soil and increase rates of germination. These sites will be monitored to determine effectiveness.

- b) **Site Preparation:** to get sites ready for future planting or seeding, 717 acres were power trenched and 99 acres were scarified with a dozer and straight blade. Most of the scarification was accomplished with assistance from the DNR. Scarification occurred underneath an existing canopy of mature red oak to facilitate natural oak regeneration.
- c) **Maintenance:** in 2015, 0 acres were released from undesirable competition. Currently, most plantations are treated with herbicide prior to planting, which, in combination with mechanical preparation, creates an exceptional site for young seedlings to develop. In some instances, release may still be required. However, the goal is to significantly reduce the need for release by treating future plantations prior

to planting. Releasing young seedlings increases the risk of damage from herbicide, something we hope to eliminate by treating sites prior to planting.

Also, 239 acres of young jack pine plantations were treated with terminal bud caps to deter browsing from white tailed deer. Assuming browsing pressure remains high in these stands, bud capping may be necessary every year for the next three or four years (or until trees have developed beyond the reach of white tailed deer).

One acre of a previously planted white pine site was treated with hand power tools to reduce undesirable competition (termed TSI). TSI may become a more prevalent means of controlling undesirable saplings, especially in regenerating red oak and northern hardwood stands where competition from ironwood can be a limiting factor.

- d) Monitoring: nearly 2,500 acres of previous regeneration attempts were monitored in 2015. This includes both artificial (planted or seeded) and natural regeneration. Most of the monitoring in stands regenerating naturally occurs in red oak and northern hardwood types. These types typically require additional inputs to improve regeneration success or have specific treatments (or greater odds competing undesirable saplings) that require more thorough monitoring. Two deer exclusions fences are also maintained to monitor the effects of deer browsing on regenerating red oak, paper birch and white pine.

- 4) Forest Reconnaissance Program: forest reconnaissance, or updating stand information, is also a vital component of the forest management program. Accurate, up-to-date stand information is essential in the development of viable short and long term sustainable harvest goals. The accuracy of any sustainable harvest goal is only as good as the data from which it was derived. Therefore, it is important to update a certain level of stand information on an annual basis.

Table 6 displays the summary of compartment/stand updates from 2009 through 2015.

**Table 6: Bayfield County Forest Inventory (acres)**

Year	Goal	Accomplishment
2008	17,000	9,807
2009	10,000	2,872
2010	10,000	4,079
2011	10,000	9,728
2012	10,000	8,135
2013	10,000	9,316
2014	10,000	8,552
2015	12,500	16,868
Average	11,188	8,670

Prior to 2014, the primary goal was to update stand information on a compartment level basis. The target has traditionally been 10,000 acres per year, with the goal of completing the inventory process every 15 to 16 years.

Starting in 2014, the decision was made to focus some of the inventory goal on specific forest types. The goal of stand specific inventory is to help in the development of more accurate short and long term management strategies on forest types that are, in general, mature or over mature, or where management philosophies or plans for a particular forest type have changed. Stands of jack pine and red oak were targets in 2014. Red oak and northern hardwood were targeted in 2015. In total, 5,320 acres of compartments, 9,361 acres of mature red oak and 2,187 acres of mature northern hardwood were re-inventoried in 2015. All of the mature jack pine and red oak stands have now been re-inventoried. Stand information will be evaluated to determine if any short or long term management adjustments (or direction) will be required.

Through 2015, approximately 87% of the forest (over 145,000 acres) has been updated (via compartments).

In addition to compartment and targeted stand updates, 492 acres of individual stands were updated during the timber sale establishment process. Most updates were needed to correct inaccurate data or to remove a stand from the harvest schedule (i.e. riparian buffer or sensitive site).

### Invasive Species

Over the past few years, the Department has become more involved in the treatment of invasive species on the County Forest. Invasive species have the potential to alter the ecological relationships among native species, negatively affect the natural functions and structure of forested ecosystems, and can negatively impact the economic value of the forest.

Non-native invasive species like spotted knapweed and common buckthorn and native invasive species like black locust are the most common plants treated on the Forest.

In 2015, approximately 10 acres were treated to manage common buckthorn and approximately 3.5 acres were treated to manage black locust. Most of the treatments involved foliar applications, but stump treatments occurred on stems that were too large to be treated with foliar spray.

Also in 2015, the Department received a \$37,500 Sustainable Forestry Grant for the treatment of spotted knapweed on 48.5 miles of forest roads in the Barnes Barrens Management Area. Herbicide was used to treat spotted knapweed in the first attempt to reduce (hopefully eradicate) further spread into the barrens. The project focuses on roads that are the most heavily infested, but more still needs to be done. This grant will help kick start the program, which will require additional inputs in order to keep the problem in check. Work on the project will continue in 2016.

### Land Acquisition

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

In December 2014, the Department received preliminarily approval for two Knowles-Nelson

Stewardship Land Acquisition Grants. The grants were officially awarded in June 2015. As a result, Bayfield County purchased 1,392 acres from Meteor Timber and 463 acres from Lyme Timber. Additionally, the county provided a match of 747 acres of county owned, non-county forest land. In total, 2,602 acres of land will be added to the County Forest.

By using the appraised value of county owned land as the required match, the Department can tailor projects that significantly reduce (or eliminate) out of pocket expenses. The Meteor Timber and Lyme Timber acquisition projects totaled roughly \$2.616 million (including the cost of land, appraisals and other associated fees). The county received approximately \$2.265 million from the Stewardship grant (primarily from the appraised value of matched lands). As a result, the county spent roughly \$350,000, out of pocket, to purchase over \$2.6 million in productive forest land.

## **ROADS AND TRAILS**

The Forestry and Parks Department maintains approximately 1,200 miles of roads and trails on the Forest. These roads and trails provide a plethora of recreational opportunities. Some of the more popular pursuits include: hiking, hunting, mountain biking, snowmobiling, ATVing, cross country skiing, dog sledding, horseback riding, wildlife viewing, firewood gathering and more. See Table 8 below for a summary of designated and non-designated road and trail mileage on the County Forest.

### Primary Roads

Approximately 38 miles are classified as primary gas tax roads, which receive maintenance funds from the Wisconsin DOT. These roads serve as primary access routes into portions of the county forest. A few of these roads located in the Towns of Barnes and Hughes also play an integral role in the wildfire protection plan that was developed in 2006.

The Department performs routine annual inspections on every mile of primary road to monitor for both road quality and invasive species. The Department also performs annual routine maintenance on the rights of way for each primary road. Maintenance usually is in the form of mowing, but can also include herbicide if encroaching vegetation is unable to be mowed. Numerous roads were maintained in 2015.

### Recreational Use

Trails on the County Forest are used for a variety of recreational purposes. Non-motorized uses such as cross country skiing, mountain biking, hiking, nature watching and dog sledding are extremely popular. Motorized uses such as snowmobiling and ATVing are also very popular. The demand for recreational use on public land is increasing every year.

In addition to daily general recreational use, trails on the County Forest also play an integral role in numerous popular organized events. Such events include, but are not limited to, the American Birkebeiner, Apostle Islands Sled Dog Race, Chequamegon Fat Tire Festival and the Cable Area Off-Road Classic mountain bike race.

Table 7 displays the number of recreational use permits per recreation type that were approved in 2015. All approved permits were for events that utilized a portion of the Bayfield County Forest.



**Table 7: Summary of Approved Events**

Type of Event	Number of Events per Year	
	2014	2015
Mountain Biking	8	7
Cross Country Skiing	6	6
Running	5	3
Dog Sledding	1	1
Orienteering	0	1
Sledding	1	0
Total	21	18

The Forestry and Parks Committee approved 18 organized events on County Forest land in 2015, a slight decrease from the previous year. Mountain biking and cross country skiing were the largest event types. The number of requests for mountain bike events has increased steadily over the past decade.

Table 8 displays the approximate miles of designated trails currently located on County Forest land.

**Table 8: Summary of Designated Recreational Trails on Bayfield County Forest Land (miles)**

Snowmobile	Walking	Dog Sled	ATV	Cross-Country Ski	Mountain Bike
105	15	44	52	31	25

In addition to designated trails, the County Forest offers an abundance of recreational opportunities on roads and trails that are not designated (i.e. signed and maintained by friends or use groups). For example, of the approximate 1,200 miles of roads and trails on the County Forest, 42% can be traveled with a licensed highway vehicle, 72% with an off-highway vehicle (i.e. ATV,UTV) and 91% with a snowmobile. In addition, all are open to hiking and virtually all are open to mountain biking, horseback riding and cross-country skiing.

The Department staff works closely with all recreational user groups on the establishment and/or maintenance of trail systems. Recreational use agreements with organized clubs continue to be pursued at every opportunity.

### Town Road Aids

In 2010, Bayfield County developed the Town Road Aid Fund. This fund was created to help improve problem areas on Town Roads that provide critical access to the County Forest. Town Road Aids were initially funded at 1% of total annual timber sale revenues (enacted once actual revenues exceed the budgeted amount). All projects are selected and administered by the Department.

Starting in 2013, Bayfield County increased the funding level to 2% (with a cap of \$80,000). As a result, there was a little over \$80,000 awarded to Towns in 2014, based on the amount of stumpage received in CY 2014 (the slight overage was due to some money not being spent in the prior year). Of the 29 County Forests in the State of Wisconsin, Bayfield County is the only one to offer this additional source of funding.

Once again, all Towns submitted good projects. Most projects revolve around the purchase of material i.e. gravel, but some include culverts and equipment rentals. Awards varied from \$10,000 apiece to Barnes and Bayfield to around \$2,400 to the Town of Clover. The average award amount was around \$6,000. The program has been very well received, with many Town Roads seeing significant improvements and providing much better access to County Forest lands.

## PERMITTED USES

Permits are issued by the Forestry and Parks Department for events, right-of-ways, timber storage, private property access, firewood, miscellaneous forest products, and other recreational activities. Table 9 displays a summary of permits issued on the forest from 2008 through 2015 (a summary of permitted events can be found in Table 7).

**Table 9: Bayfield County Forest Summary of Issued Permits and Approvals**

Year	Fire Wood	Balsam Boughs	Cones*	Christmas Trees	Birch Stems	Access	Events	Disabled Hunting	Storage
2008	360	8	0	1	0	2	9	3	1
2009	423	5	1	1	0	0	10	3	1
2010	436	5	1	1	0	3	10	3	2
2011	503	7	1	6	0	9	10	10	2
2012	441	6	1	7	0	8	12	7	2
2013	406	16	13	3	2	6	17	6	2
2014	486	9	6	4	1	7	21	5	2
2015	394	8	5	5	0	10	18	9	1
Avg.	431	8	4	4	0	6	13	6	2

\* specifically advertised for jack pine cones in 2013

Firewood permits comprise the vast majority of the total permits issued on an annual basis. In 2015, 394 firewood permits were issued, down roughly 20% from 2014.

## Sand and Gravel

Sand and gravel is extracted and sold from county managed pits, to be used on approved municipal projects. Table 10 displays the total amount of sand and gravel and revenues received from 2008 through 2015.

**Table 10: Sand and Gravel Summary**

Year	Yards	Value
2008	6,120	\$3,060.00
2009	300	\$150.00
2010	12,589	\$9,441.75
2011	751	\$563.25
2012*	13,029	\$19,544.00
2013	0	\$0.00
2014	11,000	\$16,500.00
2015	0	\$0.00
Avg.	5,474	\$6,157.38

\* Highway 13 Re-Paving Project

Most revenues received from the sale of sand and gravel are deposited in a non-lapsing account for eventual site reclamation. A total of \$0.00 was generated from sand and gravel in 2015, as all pits were inactive.

## WILDLIFE HABITAT IMPROVEMENT/MONITORING

Forest openings, dominated by forbs and grasses, are important habitat for a great diversity of wildlife species. Since the mid 1970's, numerous, small forest openings have been maintained on the forest to encourage this diversity of habitat. The openings are relatively small in size (average about 1 acre) and are spread throughout the county forest (although they are more numerous in the Bayfield peninsula). Each opening is treated about every five years to discourage encroaching woody vegetation.

Table 11 displays a summary of the wildlife opening maintenance program from 2008 through 2015.

**Table 11: Bayfield County Forest Summary of Maintained Wildlife Openings by Treatment**

Year	Mowed Number	Mowed Acres	Hand Treated <sup>1</sup> Number	Hand Treated <sup>1</sup> Acres	Total Number	Total Acres
2008	44	50	77	60	121	110
2009	62	70	53	24	115	94
2010	45	44	50	57	95	102
2011	46	53	52	24	98	77
2012	0	0	76	68	76	68
2013	59	52	63	53	122	105
2014	34	40	48	25	82	65
2015	24	32	50	55	74	87
Average	39	43	59	46	98	88

<sup>1</sup> using a mix of herbicide and hand cutting

In 2015, 50 wildlife openings, totaling 55 acres were maintained by hand, using a mix of herbicide and cutting. Openings are also scheduled for mowing four out of every five years. There were 24 openings mowed in 2015 for a total of 32 acres. In total, 74 openings, covering 87 acres were treated in 2015.

In 2008, a breeding bird monitoring project was developed for the County Forest. In 2008 and again in 2009, 350 permanent diurnal and 40 nightjar points were completed. An additional 297 diurnal and 17 nightjar points were taken in 2010. The remaining portion of the forest was completed in the spring of 2011. In total, 1,200 diurnal and 200 nightjar points have been taken. The collection of field data is now complete. The results will be used to measure bird/habitat associations, anticipate how forest management may influence these relationships and predict general species occurrence.

We are still periodically working with the DNR and other resource professionals to analyze the data and/or assist in other bird monitoring projects. One project involves the use of conspecific attraction to help in the monitoring for the presence of Kirtland's Warblers in the Barnes Barrens

Management Area. Conspecific playback literally involves the broadcasting of the primary songs of a species, with the aid of sound equipment, to encourage individuals to settle in an area. In 2014, the DNR detected one male Kirtland’s Warbler, with no females or nesting being located. In 2015, three males were detected, with no females or nesting being located. The Barnes Barrens Area provides exceptional habitat for the endangered Kirtland’s Warbler. When breeding populations do occur (which is only a matter of time), this area will be a prime example of how intensive, sustainable forest management can provide critical habitat for a variety of rare species.

**FINANCIAL ASSISTANCE – GRANTS AND AIDS**

Financial assistance plays a major role in helping to achieve annual and long term objectives.

Table 12 outlines some of the major grants and aids awarded to the Department from 2008 through 2015. Every award listed in the table, with the exception of the Arbor Day grant, has come from the State of Wisconsin.

**Table 12: Bayfield County Forestry and Parks Department Summary of Major Grants and Aids**

Year	County Forest Administrator	Wildlife Habitat Improvement	County Forest Road Aid	Sustainable Forestry	County Conservation	Arbor Day	Total
2008	\$31,933	\$16,929	\$10,440	\$39,720	\$4,125	\$0	\$103,146
2009	\$35,762	\$16,945	\$12,126	\$33,000	\$2,289	\$0	\$100,122
2010	\$44,039	\$8,472	\$11,390	\$6,205	\$3,807	\$20,400	\$94,313
2011	\$44,039	\$8,472	\$11,347	\$0	\$0	\$46,202	\$110,060
2012	\$46,877	\$8,472	\$11,330	\$0	\$6,500	\$18,450	\$91,629
2013	\$47,814	\$8,416	\$11,896	\$46,329	\$0	\$12,450	\$126,904
2014	\$52,885	\$8,015	\$11,917	\$0	\$4,183	\$0	\$77,000
2015	\$51,210	\$7,991	\$11,918	\$37,718	\$0	\$13,260	\$122,097
Average	\$44,320	\$10,464	\$11,545	\$20,371	\$2,613	\$13,845	\$103,159

In addition to the grants outlined in Table 12, as previously stated, the County was awarded two Knowles-Nelson Stewardship grants in 2015. Combined, these grants totaled \$2.265 million and were used to add 2,602 acres of forest land to the County Forest program. Once all of the stands are enrolled under County Forest Law, County Forest land will increase from 169,395 acres to 171,997.

**PARKS & CAMPGROUNDS**

In September 2010, the management of all county owned parks and campgrounds were assigned to the Forestry and Parks Department. This includes the management of three campgrounds (Twin Bear Lake, Delta Lake and Big Rock) and one day use park (Atkins Lake). Below is a summary of all major accomplishments since the transition.

1. Twin Bear Campground
  - a. Complete electrical rebuild and upgrade throughout the entire campground.
  - b. Repair of all major outbuildings and store.
  - c. Reconstruction of the beach area.
  - d. New fishing pier near the beach area.
  - e. New ADA access ramp to the beach area.

- f. Creation of new tent camping site.
  - g. Re-grade of the parking area to control runoff and improve drainage.
  - h. New gas hot water heaters, for each shower, in the shower building.
  - i. Installed highspeed wireless internet service throughout the entire campground.
  - j. Installed new playground equipment near the beach area.
  - k. Re-established and re-surfaced the walking path near Puig's Point.
  - l. Improved an old dock and added a new access point to the lake.
  - m. Partnered with Brule River Canoe to provide canoe and kayak rentals.
  - n. Numerous other minor improvements throughout the campground.
2. Delta Lake Campground
- a. Complete camping pad re-grade on nearly all campsites.
  - b. New playground equipment near beach area.
  - c. New fishing pier.
  - d. Repair of all major outbuildings.
  - e. New electric added to last four remaining powerless campsites.
  - f. A small timber sale was established to remove all dead and dying hazard trees. Mostly over mature white birch and aspen.
  - g. Installed highspeed wireless internet service throughout the entire campground.
  - h. Added another mooring dock/fishing pier and small picnic area.
  - i. Partnered with Brule River Canoe to provide canoe and kayak rentals.
  - j. Minor maintenance on the wooden access ramp.
  - k. Numerous other minor improvements throughout the campground.

In addition to the physical improvements to the parks and campsites, many logistical improvements have also been made. At both Twin Bear and Delta Lake, seasonal sites have been re-structured in a way to better capture the value potential in each campground. The reservation system for each was also adjusted to give all interested an equal chance at reserving a site.

## **TRAILS AND RECREATION**

Recreation, whether motorized and part of the state funded system, or non-motorized and part of a designated trail network, is an integral and important component of any forest management program. Over the past few years, the Department has emphasized the importance of recreation and making a concerted effort to maximize, or better capture, the recreational potential of the Forest. At over 170,000 acres and spread out over the length of Bayfield County, the Bayfield County Forest provides, or has the potential to provide, a plethora of recreational opportunities.

Incorporating recreation in typical forest management strategies can be a challenge. Individuals recreating on the County Forest will encounter forest management. Existing designated trails are often located within or adjacent to active timber sales. However, this interaction provides excellent opportunities to educate and explain general forest management practices.

Management practices are rarely altered due to the presence of a recreational trail. The Department prefers to work closely with use/friends groups to explain the upcoming harvest, as well as identify any potential issues that could arise. Combining education, direct collaboration with various user groups and occasional slight timber sale modifications, the Department can capture the sustainable management potential of the Forest and provide exceptional recreational opportunities, on the same piece of ground.

Motorized Recreation

In July 2013, the management of the Bayfield County Trails program was assigned to the Forestry and Parks Department. The primary responsibilities revolve around the administration, oversight, coordination and grant/aid management of the state funded snowmobile and ATV trails located on County and private lands.

Table 13 lists the total miles per motorized trails type, as well as the amount of state maintenance aids received.

**Table 13: Mileage and Funding For Trails Managed by Bayfield County**

Trail Type	Miles	Rate/Mile	Total
Snowmobile	437	\$250	\$109,250
ATV Summer	86.75	\$600	\$52,050
ATV Winter	168.15	\$100	\$16,815
UTV Summer	86.75	\$100	\$8,675
Total	778.65		\$186,790

The State of Wisconsin provides annual aids for the maintenance of existing motorized trails (see Table 13) and also offers some additional funding opportunities for individual trail rehabilitation and new trail development projects.

Below are some of the more noteworthy accomplishments on the state funded motorized trails systems in 2015:

- ✓ Completed the rehabilitation of approximately four miles of trail on the Wally Polk Trail in Port Wing. Trail was re-graded, shaped and material delivered. A size-limiting bridge was uninstalled and replaced with a 48-inch culvert to accommodate logging traffic and create better access into this remote area of the County Forest.
- ✓ Installed an 80-foot pre-fabricated steel bridge (Andersen Bridges) over a tributary to the Flag River on Trail 3 south of Port Wing. The bridge will better protect the natural resource and provide better access for both the ATV and snowmobile trail.
- ✓ Repaired and re-established a snowmobile bridge on Trail 1 between Echo Valley and Henkens Road. The bridge had been compromised by beaver activity. Approaches were re-established. Improvements to the trail were also made during the project as part of a timber sale road project.
- ✓ Re-routed snowmobile Trail 18 off of Halfway Road and onto County forest roads. Also established a new trail through one of the parcels acquired with Stewardship funding. The trail was constructed with the assistance from Wisconsin DNR staff and the finishing work

was completed by the local snowmobile club. The re-route has been very well received and is a beautiful trail through the Forest.

- ✓ Repaired a serious erosion problem adjacent to State Highway 13 on snowmobile Trail 13. Collaborated with the Highway Department and local utility companies to find a feasible solution that was cost effective. Repair work will be monitored after spring run off to evaluate next steps in remediating the issue.
- ✓ Resurfacing of ATV trails in Cable. Establishment of new trail miles (Blue Moon Road and Island Lake Connectors).
- ✓ Temporarily installed timber mats on a potential erosion issue on Trail 13 south of Washburn. The site will be monitored to determine future direction. If (or when) the trail fails (it's on a steep portion of the old railroad grade), the cost of repair will be significant.
- ✓ Some minor grading and resurfacing of the Washburn Business Trail (ATV trail).

Bayfield County works with local clubs and Alliances to ensure that all trails are in a safe and enjoyable riding condition. All routine or minor maintenance activities are typically accomplished by the clubs, while most major rehabilitation projects are administered by the Department.

Routine maintenance can include the posting/maintenance of signs, brushing, removal of debris, mowing, grooming, minor washout or rutting repair, etc. Major rehabilitation can include significant culvert washouts, bridge repair, significant damage occurring as a result of flooding or other major storm event, etc.

In addition to the state funded trails, the Forest provides numerous opportunities to recreate with a motorized vehicle. Currently, there is a total of just over 1,200 miles of inventoried roads and trails on the County Forest. Of that total, approximately 72% are accessible with an ATV/UTV and 42% accessible with a highway vehicle. The County monitors the condition of roads and trails and performs routine maintenance on a case by case basis.

### Non-Motorized Trails

Numerous recreational opportunities exist on the County Forest. As stated above, over 1,200 miles of roads and trails have been inventoried on the County Forest. Nearly all of these trails are available for hiking, biking, cross country skiing, snowshoeing and horseback riding.

Most trails open for non-motorized use are undesignated and not maintained for a specific form of recreation. As a result, trail conditions can also be highly variable. However, some trails are maintained and designated/signed for certain uses. Most are managed through partnerships/agreements with non-profit organizations, but some are maintained directly by the Department.

Currently, there are two major areas of the County Forest where non-motorized recreation is more organized and intensive. These areas are the non-motorized block in Cable and the low-motorized area near Mt. Ashwabay. In these areas, the Department has developed strong partnerships with numerous non-profit organizations on the designation and maintenance of the trails.

In the Cable block, the Chequamegon Area Mountain Bike Association (CAMBA) maintains miles of mountain bike trails on the County Forest. The network includes a combination of single track trails, sustainably built specifically for mountain bike use, and existing logging roads. These trails

connect to those located on the Chequamegon Nicolet National Forest and Sawyer County Forest to form one of the most extensive mountain bike networks in the nation. CAMBA maintains a recreational use permit with the Department that describes the partnership and how trails are maintained or developed on the Forest.

Numerous mountain bike related events are hosted on trails located within the County Forest in the Cable area. Some of the most popular include: CAMBA hosts the Festival of Trails; the Cable Area Chamber of Commerce hosts the Cable Area Off-Road Classic; Life Time Fitness hosts the Chequamegon Fat Tire Festival; and the American Birkebeiner Association hosts the Fat Tire Birkie (in the winter). All of these events are extremely popular and bring thousands of riders and spectators into the area.

Also in the Cable block, the North End Ski Club and American Birkebeiner Association (ABA) maintain cross country ski and snowshoe trails on the County Forest. Some of the ski trails utilize the same portion of ground as the bike trails. Snowshoe trails are also maintained on most of the single track trails. Both organizations maintain recreational use permits with the Department.

The North End Ski Club also maintains a warming cabin, outhouse and storage building on County Forest land. The cabin and outhouse are open for public use. The storage building is used to house much of the gear and grooming equipment required to maintain the trails. They also host numerous cross country ski events including their flagship North End Classic race.

The American Birkebeiner Association maintains roughly three miles of the famed Birkie trail on County Forest land. They also maintain a newly constructed warming/storage building and privy. The world famous American Birkebeiner cross country ski race, as well as the Kortelopet, Prince Haakon and Birkie tour ski events are all held on County Forest land. The ABA also hosts running events and the Fat Tire Birkie (see above).

In the northern portion of the Forest, the Ashwabay Outdoor Recreation Foundation (AOEF) maintains an extensive network of cross country ski and snowshoe trails, in part, on County Forest land (also on County land not part of the County Forest i.e. Jolly Trails). Trails are groomed for classic or skate skiing. AOEF hosts numerous events (both summer and winter events) on the trails including: the Peel Out 5k Run; WinterDASH running event; and a Fat Tire Expo/Time Trial. In addition, numerous other groups host events on these same trails, including CANSKI's Summit Cross Country Ski Race. The Bayfield and Washburn school districts have also used portions of the trails for various ski and running meets.

Recently, a branch of CAMBA (CAMBA North) was formed to develop a mountain bike trail network in the same general area near Mt. Ashwabay. In 2011, the Department approved CAMBA's proposal to construct up to 30 miles of new single track mountain bike trails on County Forest land. As of the end of 2015, nearly XX miles of sustainably built, single track mountain bike trails have been constructed. Many of these trails are also being maintained in the winter by the North Coast Cycling Association (NCCA) for fat tire mountain bike use.

Non-motorized recreational opportunities abound on County Forest land. In addition to those previously mentioned, some of the more popular designated trails include the North Country Trail. Approximately 8 miles of the North Country Trail travels within the county forest. These trails are maintained by local chapters of the Association. Regarding events, the Bayfield Chamber hosts the



popular Apostle Islands Sled Dog Race, which, in part, utilizes trails on county forest land located in the Town of Bayfield (with a small portion in the Town of Bayview).

Every year, the Department works closely with all user groups on the maintenance of and/or improvements to existing trails. Periodically, new trails or re-routes are also addressed. All are treated on a case by case basis, with larger projects needing Committee approval.

The Department is in the process of developing a new recreation strategy that will, in part, better identify existing infrastructure and future potential, as well as define future direction. Non-motorized and motorized recreation, throughout the County, will be explored as part of the process. In the meantime, the Department recently made improvements to the Lost Creek Falls trail, located just south of Cornucopia, which provides access to the only waterfalls on County Forest Land. Improvements include the construction of boardwalks over the more prominent wet areas, the construction of new trail surface, and enhancements to existing trail. Improvements will continue in early 2016 and will include additional trail and trail head enhancements, improved signage and the installation of an informational kiosk.

Also in 2015, the Department began the process of constructing two rustic yurts on County Forest land. Both yurts would be located on land currently identified as high use recreational areas (Cable and Ashwabay, as described above). Direct access to designated and well maintained 4-season recreational trails will be one of the attractions. Access to the yurts will vary from  $\frac{1}{4}$  to  $\frac{1}{2}$  mile from designated parking areas. Renters can either hike, bike, ski or snowshoe to the yurts (no public vehicular access). Each yurt will be equipped with a wood stove (for winter use), with firewood provided by the County. The yurts will sleep 6 people, will have a privy, fire ring, picnic tables, expansive wood deck, metal outdoor storage locker (to protect from bear or other unwanted animals), no power, no access to water, no garbage receptacles. Pack out what you pack in ethics will be strictly enforced. The yurts will provide the public a unique and different way to enjoy the expansive natural resources of Bayfield County. Reservations will be made online. The expectation is to have both yurts constructed and ready to rent around the middle of 2016.