

**RESTORING NATURE
in
MIAMI WOODS and PRAIRIE
2006
&
1975-2006**

8,500 Hours of Volunteer Effort

**A Report on Ecological Conditions and Restoration Work Conducted Or Led By
The North Branch Restoration Project in The Miami Woods Forest Preserve**



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Miami Woods

Land Management Site #1206

Site Extent: 106 Acres Designated Management Units



Note: Volunteer work is focused primarily in areas including and north of Prairie 01 (PR01). It is the mission of the Forest Preserve District to manage all of its remnant natural areas county-wide, including areas outside of volunteer work units.

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I SUMMARY

During 2006 important progress was made in Miami Woods as the result of work by volunteers from multiple organizations. The North Branch Restoration Project (NBRP) stewards planned and arranged for 31 events which included more than 1,000 volunteers visits. Volunteers from NBRP, Friends of Morton Grove Forest Preserves, 6 schools, and a major corporation provided more than 2,400 hours of hands-on work to restore habitat. Also, more than 600 hours of river related educational activity took place. Since restoration resumed in 2001 more than 8,500 hours of volunteer work has resulted in major progress in restoring Miami Woods to good health.

During the past year 2,485 hours of volunteer work were provided by volunteers during 31 work events organized by the site stewards. Valued at \$20.00 per hour, this amounted to a contribution of approximately \$50,000. In addition to organized workdays, the Wednesday volunteer seed gatherers harvested seed, and seasonal interns helped to control invasive species. Also during 2006 there was 637 hours of educational activity.

Restoration in Miami Woods and Prairie began in 30 years ago when prairie plants were observed growing in meadows along the recently constructed bike path through The Forest Preserve. This led to the creation of the North Branch Prairie Project and beginnings of ecological restoration in the Chicago Region. Work stopped in 1996 and conditions deteriorated for 5 years during a moratorium imposed by the President of the Forest Preserve District of Cook County. During that time the Prairie Project reorganized as the North Branch Restoration Project in recognition that its focus had grown beyond prairies to include all ecosystems, especially woodlands.

Early work by the North Branch Prairie Project provided an important foundation in terms of organization, public awareness and preservation of seed sources. After 30 years, the ecological health of Miami Woods far exceeds most of the FPD, and stands as an example of successful volunteer efforts. Since resumption of work in December of 2001, the more than 8,500 hours of volunteer work has brought renewed life to Miami Woods.

II INTRODUCTION and HIGHLIGHTS

The Preserve

The Miami Woods Forest Preserve includes 112 acres of land stretching about a mile along the west side of the North Branch of the Chicago River between Oakton and Dempster Streets and is bounded on the west side by Caldwell Avenue and Waukegan Road. The preserve includes all of the land within this area except for the Prairie View shopping center and adjacent business properties. The North Branch bike trail follows the river near its west bank through the Preserve. The land on the east side of the river is within the Saint Paul Woods Forest Preserve.

Restoration activities are concentrated in five areas described in chapter IV “Restoration Places”. Maps of the location of Miami Woods and its ecological units are provided following this page.

Goals and Strategy

The preserve contains important remnants of the original prairie and woodlands that formed the natural heritage of the greater Chicago area.. (See the [Chicago Wilderness Atlas of Biodiversity and Biodiversity Recovery Plan](#) at www.chicagowilderness.org) The ultimate goal within Miami Woods and Prairie (except the turf grass picnic areas) is to achieve restoration to the highest ecological condition possible using a minimum amount of management intervention. Our intent is to restore natural processes so that the area will become as self sustaining as possible.

Management and Restoration

The Forest Preserve District of Cook County was formed in Illinois in 1924 with a mandate for “protecting and preserving the flora, fauna and scenic beauties”. By 1975 the District had acquired more than 10% of all land in the County. Some of the land was developed for picnicking and active sports, but most of it was left to a policy of “let nature take its course”. The belief at the time was that a “hands-off” policy would result in an acceptable state of nature. Later it became clear that after disruption caused by farming and urbanization, nature was in no condition to “take its course” and that management is essential to balance human disruption of natural processes such as fire, water movement, predation, and seed dispersal. It also became clear that introduction of invasive species requires management. Members of the North Branch project were among the first to recognize the problems and champion restoration of natural processes.

Restoration is a complex process in both scientific and social aspects, but in simplified terms it comes down to providing adequate habitat for the rich diversity of plants and animals that existed in our area before the arrival of farming and urbanization. The highest measure of success is the presence of healthy communities of living resources native to our region. A good indication of this is the presence of diverse and self sustaining populations of plants and animals, especially those that are sensitive to disruption by human activity.

There are many forces impacting habitat, but in Miami Woods, providing adequate habitat comes down to three main things: controlling invasive species; providing the natural influence of fire which controls some plants and stimulates others; and managing animal populations, primarily white tailed deer that are out of balance due to the absence of large predators. Animal populations are beyond control by volunteers, so our efforts are concentrated on the first two.

Invasive species are those that actively displace or destroy native species and upset balances that normally exist within natural communities. They are often from other parts of world, but can also include native species that are out of balance due to some shift in forces that otherwise would keep them in control. In the Miami Woods Prairie, gray dogwood is an example of a native plant that is behaving as an invasive. Other native woody plants are a threat to the prairie due to the absence of fire which would normally keep them out. Non-native plants that threaten the prairie are primarily honeysuckle and reed canary grass. It should be noted that islands of native brush are being retained in the prairie as natural habitat for birds that need them for nesting.

Historically, most of the woods in Miami Woods were an oak-hickory community which was comparatively open with dappled shade supporting a rich mix of grasses and wild flowers. In the absence of natural fires, buckthorn and native species from the river edges have invaded and made the woods much darker places. As a result many of the woodland grasses and flowers have been almost or completely eliminated. A major restoration goal is to restore the diversity of woodland plants by returning dappled sunlight. The invasives causing the most problems are common buckthorn, Tartarian honeysuckle, and garlic mustard. Other troublesome species include Japanese hedge parsley, multiflora rose, barberry, and Canada thistle.

Invasive species displace others by competition for light and water, but also through poorly understood changes in soil chemistry. The most obvious impact is shade from buckthorn and honeysuckle. Removal of buckthorn and honeysuckle began 30 years ago in the Prairie and its edges and progressed to limited woodland areas. During the moratorium much of that progress was lost. Since brush cutting resumed in 2002, thousands of hours of volunteer efforts have been devoted to brush removal. The result is that the remnant islands of natural communities are recovering and becoming connected, while the sea of brush is becoming reduced to islands.

Early restoration activities concentrated on saving high quality natural area remnants and places retaining at least some conservative native vegetation. The continuing strategy is to strengthen, expand, and connect those areas. With respect to location, we work on four general levels of priority: 1.) High quality areas that are maintained by preventing invasion by exotic species; 2.) Areas cleared since 2001 where recovery is underway, but aggressive control of invasive species is still needed together with supplemental seeding; 3.) Areas needing brush removal and seeding to expand or connect existing restoration areas; 4.) Areas of little ecological value and/or left as dense visual barriers, that will not be worked on for the foreseeable future.

Public Involvement

Public involvement is a major emphasis of the North Branch Restoration Project. While the primary objective is to restore the biological health of the Preserves along the North Branch, a major component is welcoming and educating people about restoration. An important aspect of this is the experience provided to students who actively participate in hands-on work and various educational activities. The best developed educational program is being conducted by the Chicago City Day School which has integrated hands-on work and onsite education into its curriculum for 4th, 6th, 7th and 8th grades..

Public perceptions and support

The lack of signs explaining restoration continues to be a problem. However, a temporary North Branch Restoration Project sign is placed along the bike trail during work events and North Branch pamphlets are provided. The stewards also make it a point to greet passers-by to indicate a willingness to talk. The physical recovery of the restoration sites is also helping to tell the story.

Places where the earth was bare after removal of dense buckthorn are now greening up with herbaceous plants, and the newly visible landscape including the river is drawing many favorable comments. When restoration resumed in 2001 the river could not be seen from the bike path because of masses of buckthorn and it was not unusual for passers-by to express concern over cutting the buckthorn until it was explained. Passers-by during 2006 often stopped to offer thanks for the change in appearance or call out encouragement as they rode by on their bicycles.

2006 Gains and Losses

Public support for restoration in Miami Woods remains very strong and volunteer participation remained very high during 2006. Massive quantities of buckthorn were removed from the river woods areas, both north and south. Clearing began in the 5 acre former farm field now identified as the Tunnel Access Area, south of the existing open prairie. The name refers to the access drive which leads a drop shaft into the deep tunnel owned by the Metropolitan Wastewater Reclamation District. Large amounts of brush were also removed from woodland portions of the Cathedral Oaks and Indigo Opening areas. Large amounts of garlic mustard and hedge parsley were pulled. Good progress was made in controlling other invasive species by spot spraying. Seed gathering was successful as substantial quantities were gathered, primarily from the Indigo Opening and Prairie areas. These seeds together with seeds from other North Branch sites were combined into seed mixtures which are used following removal of invasive species as part of the restoration process.

However, while the poor quality areas are getting better, and the intermediate areas are holding on, the highest quality areas are continuing to deteriorate. The cause of deterioration is the absence of controlled fire needed to stimulate native plants and control invasive species; and to browsing by the unmanaged deer herd.

Throughout much of the area cleared of brush since 2001, tens of thousands of buckthorn seedlings are springing up, threatening to negate the thousands of hours contributed by volunteers. Mechanical control is impossible and chemical control is impractical because of collateral damage to desired plants. The only practical long term management practice is to use controlled burns which are effective and affordable.

The good news is that late in 2006, the Interim President of the Forest Preserve District repealed the ban on using fire as a management practice. This bodes well for ecological recovery in 2007. It will also allow burning of brush piles which will relieve volunteers of the burdensome work of hauling brush to the bike path and relieve FPD staff of the time consuming labor of chipping the brush. Resumed use of controlled burns as a management practice will also reduce the quantity of herbicide currently needed to control invasive species.

During 2006, the quantity of garlic mustard in areas cleared within the past 5 years remained abundant, but experience elsewhere gives hope that continued pulling will be effective. On the other hand, Japanese Hedge Parsley (*Torilis Japonica*) continues to spread even in good quality areas.

Great progress has been made in removing brush to return sunlight, but other challenges continue. Further information on management is provided in section V.

The following sections of this report provide information on workdays based on sponsoring groups, locations, management activities, and plans for 2007.

III EARLY RESTORATION: THE FIRST 21 YEARS 1975-1996

1975 - 1996: Early Stages

From 1975 to Fall 1996 volunteer work began on a small scale and grew as methods and acceptance of the need for restoration developed. Early efforts concentrated on the prairie, clearing invasive vegetation and gathering and distributing seed. During this time the FPD assisted on several occasions by mowing brush in the Prairie. By 1996 restoration had expanded to include several small sites in the woodlands where brush was cleared and seeds gathered from healthier locations were sown. The *North Branch Prairie Project 16th Year Report* provides further insight into this period.

1996 to 2002: Total Moratorium

In 1996 the President of the Forest Preserve District of Cook County unilaterally declared a moratorium on all restoration activities throughout the County. The moratorium was gradually lifted from place to place, and one by one, management practices were again permitted. The key practices of brush removal and use of herbicide in Miami Woods and Prairie continued to be prohibited until December of 2001. Although the Interim President of the District declared an end to the moratorium on October 3rd of 2006, the prohibition on the use of controlled fire was continued into 2007 by District administrators.

During the moratorium period between 1996 and 2002, the quality of Miami Woods and Prairie deteriorated badly. Invasive brush returned to cleared areas and killed or severely stressed native plant populations that had been protected and restored by volunteers. During this time no ecological management activities were conducted within Miami Woods by the District.

2002 to 2006: Eight Thousand Hours of Donated Work

After the ban on brush cutting and use of herbicides was lifted at the close of 2001, major efforts were made to repair the damage done by the ban and to restore additional areas. Restoration within specific areas is discussed below in the section titled Restoration by Zone.

From 2002 through 2006 the continuing ban on the use of controlled fire limited the effectiveness of restoration activities, but considerable progress was made in removing invasive species. The continuing absence of any deer management allowed the herd to grow without control, reducing or elimination preferred plants.

Resumption of brush removal has allowed volunteers to reclaim Miami Woods and Prairie as a place where health is being restored to the Forest Preserve. More than 8,500 hours of volunteer work has been contributed by volunteers cutting brush and removing invasive plants. Hundreds more hours have been devoted to gathering and spreading seeds. In addition, hundreds of hours have been devoted to education. During this time the District mowed brush in the prairie twice, and has cut stumps resulting from brush removal by the volunteers. Volunteers are grateful for this help. Because volunteers have not been allowed to use fire to dispose of cut brush, they have been required to haul it to the bike path to be chipped by the District crew. Volunteers appreciate the support from the crews, but find it to be ironic that the work is caused by District policy and that District crews could be doing much more productive work than chipping and hauling brush that could easily be burned.

Major assistance has been contributed by volunteers from many backgrounds. One important category has been schools. During 2006 organized participation was received from three elementary schools, one high school and three colleges. Four schools have adopted specific areas; Baker Demonstration School, Chicago City Day School, Shurz High School, and Wright College. Three more have actively participate in one or more workdays: The Noble Street Charter School, Truman College, and Northwestern University. The most highly developed program is that of the Chicago City Day School which has integrated river study and ecological restoration into their curriculum for their 4th, 6th, 7th and 8th grades, each of which participate twice a year.

During the 5 years from 2002 to the present, resumption of brush removal has allowed volunteers to reclaim all of the lost areas and to expand restoration into new areas as well. Unfortunately, the prohibition on use of fire has resulted in continuing deterioration of native plant populations. These plant populations are being further destroyed by excessive deer populations. Hopefully, ending the moratorium on the use of controlled burning will help reduce deterioration. However, a return to full ecological health will not occur until the deer herd is managed to bring it into reasonable balance.

The basic strategy of brush removal is succeeding as volunteers have expanded the remnant natural areas to the extent that non-native brush is being reduced to islands rather than the sterile sea of brush that existed in 2001.

IV. WORKDAY GROUPS

Seven different organizations participated in work efforts in Miami Woods during 2006 as described below.

North Branch Restoration Project

The North Branch Restoration Project is the parent group that works with the Forest Preserve District to establish the management plan and management schedules for the Preserve. Regular North Branch workdays are scheduled on weekend days and advertised by newsletter and website. Other workdays are conducted on weekdays in cooperation with schools and corporations.

North Branch Stewards and volunteer crew leaders lead all work events. Official supervision is by stewards who are certified by the Forest Preserve District as Master Stewards. Many North Branch volunteers assisted as crew leaders and mentors during school and corporate events. Herbicides are applied by North Branch volunteers who are State certified herbicide applicators and operators. Participants varied from 20 year volunteers to first time participants who heard from friends or who had visited the North Branch web site.

During 2006 North Branch weekend work days produced 450 hours of work by 166 volunteers. In addition to regular North Branch volunteers, those participating included a groups from the Noble Street Charter School, Truman College and Northwestern University.

Friends of the Morton Grove Forest Preserves

The Friends group continued to play an essential role in building support for restoration work and in bringing out volunteers during Miami Woods workdays. The focus of Friends is within Morton Grove but it supports other North Branch sites as well. Most members of Friends are members of North Branch and participation by members of Friends is included within the totals reported for North Branch workdays

Chicago City Day School

The Chicago City Day School has woven ecological study and restoration into their curriculum in cooperation with the Friends of the Chicago River and the North Branch Restoration Project. Students from 4th, 6th, 7th and 8th grade visit Miami twice a year to observe nature, sample the river, and work on restoration. All grades join in hands-on participation in restoration, with the 7th and 8th graders having cleared buckthorn from more than a quarter mile of the northern river corridor during the past four years.

During 2006: 8 workdays, 251 volunteer visits, 412 hours of restoration work and 412 hours of educational activity.

Baker Demonstration School

Students from the Baker school visit twice a year to participate in clearing buckthorn and pulling garlic mustard from the Cathedral Oaks area rescuing grandfather oaks and making way for native grasses and flowering plants.

During 2006: 2 workdays, 131 volunteer visits, 240 hours of restoration work and 61 hours of educational activity.

Carl Shurz High School

Students from the Carl Shurz high school participated in three one day education and brush cutting events in the north river woods. Students spent half of their time cutting brush with North Branch stewards and crew leaders while the other half was studying the river with staff of Friends of the Chicago River.

During 2006: 3 workdays, 176 volunteers visits, 349 hours of restoration work and 150 hours of educational activity.

Wright College

Students from Wright College participated in a series of work days as an extension of their ecology class led by their instructor. They first assisted in the River North area and then adopted the area immediately south of the main prairie to the tunnel access drive where they are clearing massive amounts of brush and other unassociated woody growth.

During 2006: 231 volunteers visits, 690 hours of restoration work.

Goldman Sachs Company

Volunteers from the Goldman Sachs Company participated in two workdays clearing massive amounts of buckthorn from the south river woods. The work effort was assisted by North Branch volunteers who helped guide the work effort and provide information. We are grateful to Goldman Sachs for their generous support in both employee time and funds contributed to buy tools for the work.

During 2006: 2 workdays, 58 volunteers, 344 hours

Grand Total for 2006 Workdays

In all, 31 work day events were held during 2006 involving 1,013 volunteer visits which resulted in 2,485 hours of contributed hands-on work to restore the preserve and 637 hours of educational activity. This all adds up to 3,122 hours of participation by volunteers during organized workday events.

Other Contributed Work

In addition to organized workday events, a great deal of other volunteer work goes into restoring Miami Woods. Some of that effort not reported above is:

- Weekday seed gathering by the North Branch Seed Team
- Volunteers processing seeds for storage and planting
- Sowing of seeds by stewards
- Stewards working independently in addition to scheduled events
- Stewards preparing tools and herbicides
- Chainsaw certified volunteers cutting stumps

**BAKER
SCHOOL
AT
WORK**





A CARL SHURZ CREW



CHICAGO CITY DAY SCHOOL 4th GRADERS GATHER SEED





Chicago City Day School Presenting to the Cook County Board



With President John Stroger

- Volunteers dealing with organizational issues and outreach activities
- Volunteers participating in training and gaining various certifications
- Summer interns applying herbicide to invasive species

Support by the Forest Preserve District of Cook County

We appreciate the work done by members of the District's Natural Resource Management crew who cut stumps with chainsaws and chipped the vast quantities of buckthorn brush cut and piled along the bike path.

Special thanks to Volunteer Coordinator Bill Koenig who supports volunteers by providing tools and guiding us through bureaucratic minefields.

MIAMI WOODS WORKDAY SUMMARY by GROUP 2006

Group	Hours Education	Hours Restoration	Volunteers
North Branch		450	166
Baker Demo	61	240	131
CCDS	426	412	251
Carl Shurz	150	349	176
Wright Col		690	231
Goldman Sachs Co.		344	58
Total	637	2485	1013

V RESTORATION AREAS

Restoration work is underway in five zones within the Miami Woods Forest Preserve which can be characterized by their position relative to the bike path and by the ecological management units shown on the aerial photograph.

- Cathedral Oaks (north) extends south from Dempster and is bounded by the bike path and the shopping center parking lot.
(Includes map units SA-01 and WO-01 & 02)
- Indigo Opening (northwest) is on the west side of the bike path and extends from the shopping center south to the prairie.
(Includes map units SA-02 and WO-6,& 8)
- The Prairie (central) extends from Caldwell Avenue to the river.
(Includes map units PR-01 & 02, SA-03, and WO-10, 11 & 12)

- River Woods North (northeast) lies between the bike path and river from Dempster to the prairie.
(Includes map units WO-03, 04, 05, 07, & 9, and FO-01 & 02)
- River Woods South (southeast) lies between the bike path and the river from the prairie to Oakton Street
(Includes ecological units FO-03, 04, & 05, SA-04, WO-13, 14, & 17 and UW-03)

Cathedral oaks:

By 1996 volunteers had cleared brush from under the ancient oaks in the western portion of unit SA01 and cleared brush from a small area along the eastern edge of unit WO01 along the banks of the storm water channel. In about 1995 FPD crews cleared a thick patch of unassociated woody growth in the middle of SA01. During the ban on brush cutting, substantial portions of these cleared areas grew back with buckthorn up to a height of 8-10 feet.

From 2002 through 2006 the previously cleared areas were cleared again and re-seeded. Additional areas in unit WO01 have been cleared of brush, much of it by students of the Baker School who also pull garlic mustard in the area. In map unit WO02 which extends to Dempster Street along the bike path, buckthorn has been removed and saplings thinned from under the ancient oaks by North Branch volunteers and Students from Wright College.

Indigo Opening

By 1996 volunteers had cleared most of the brush from the opening in unit SA02 and from a band around its edges. During the ban on brush cutting, a great deal of the brush grew back. Volunteers have again cleared those areas and also cleared out to the edges of the unit. Unfortunately the wild indigo for which the opening had been named has now been consumed by excessive browsing by the unmanaged deer herd and was not found during 2006. Brush clearing has also occurred in units WO06 & 08. Various work days have been committed to this area, but most of the clearing has been done during regular North Branch work days and by the Chicago City Day School 6th graders

The Prairie

Much of the early North Branch restoration effort was devoted to the prairie, and by 1996 brush had been removed from the northern 60-70% of the open portion of units PR01 & 02. The southern 30 - 40% had been mowed (brush-hogged) by the District. During the 5 year ban on brush cutting, much of southern portion had grown up with honeysuckle re-sprouts and large amounts of gray dogwood also grew back in the northern portions. The District again mowed large portions of the brushy areas. Unfortunately, the absence of controlled fire has resulted in overall degradation of the prairie.

Prairie associated units WO10, 11 & 12, SA03 and PR03 have all been cleared of brush since 2002. Also, the heavy unassociated woody growth between the southern edge of the open prairie and the deep tunnel access drive is being cleared by students from Wright College. Brush was also cleared in the southern portion of PR01 along the bike path by volunteers from the Goldman Sachs Company

River Woods North

Little if any work was done in this zone before 1994 or 1995 when buckthorn removal was begun at its southern edge by the stone bridge. Substantial regrowth of buckthorn occurred in that area during the moratorium. Work resumed in 1992 when North Branch volunteers removed the regrowth and an inter-religious group began its expansion.

In 2003 The Chicago City Day school began the restoration component of its river study program and its 7th and 8th graders began clearing northward between the river and the bike trail. By the end of 2006 they have cleared buckthorn from the woods for a distance of about a quarter mile to the Prairie View Shopping Center parking lot. (map units WO07 & 09)

In 2005 Students from Carl Shurz High School began clearing brush from between the bike path and the river starting near the Shopping enter parking lot and working to the east (map units WO04 & 05). Other brush removal in this zone has been done by students from the Sauganash Elementary School, the Noble Street Charter School, and Wright College. The overall result is that only islands of buckthorn remain in the zone.

River Woods South

Early work in this zone was limited to the narrow areas between the bike path and the river banks from the Caldwell Avenue parking lot north toward the Prairie in map units WO13 and 14. Early thinning of buckthorn appears to have been a major factor in preserving populations of spring wild flowers and sedges. During the moratorium, change was not obvious in this area, but the concentration of buckthorn increased. Since 2002 the entire area between the bike path and the river and a strip along the west side of the path has been cleared of buckthorn for a distance of more than a quarter mile. (Map units SA03 & 04, PR02, WO12, 13,14,15,16,&17 and UW03). This has been accomplished primarily by 8 very large workdays: National Public Lands Day in 2003 & 2004, a workday sponsored by Commissioner Larry Suffredin for Sen High School, and 5 workdays by the Goldman Sachs Company volunteers.

MIAMI WOODS WORKDAY SUMMARY by PLACE and ACTIVITY 2006

	Cut Brush (Hours)	Garlic M (Hours)	Combined Restoration	Education (Hours)	Seed Gathering	Volunteers (Visits)
Cathedral Oaks, Etc.	174	263	437	61		186
Indigo Opening	164	162	326	117	78	194
Prairie	550		550		72	192
River Woods N	616	138	754	459		391
River Woods S	165	103	268			50
Totals	1,669	666	2,335	637	150	1013

VI. MANAGEMENT PRACTICES

When Miami Woods and its prairie were acquired it was believed that nature would take its course and restore itself. Unfortunately this did not prove to be the case as invasive species gradually took over, choking the woods and prairie with brush and weeds. In addition to invasive species, major problems were caused by major disruption of the natural processes of fire, water movement, predation, and seed dispersal which were impeded or entirely displaced by human activity. Additionally invasive species were imported from other parts of the world. Now we are in the process of restoring natural processes or compensating for their loss through management practices including removal of invasive species.

Of the big three threats to Miami Woods: 1. Volunteers are making good progress in cutting invasive woody species, and the promised return of controlled fire in 2007 bodes well for continued control; 2. Control of non-woody invasive species remains in question although volunteers are holding their own against garlic mustard and showing progress in places where it has been pulled for many years; and 3. management of the excessive deer herd remains an uncontrolled problem. The preserve can not reach its long term high quality potential without a program to manage the excessive number of deer. In fact, without management of the deer herd, additional loss of quality and species of concern is quite likely. This is obviously not something that volunteers can implement, but it is of great importance

Brush Cutting

Invasive brush, especially Eurasian buckthorn but including Tartarian honey suckle and fire sensitive native tree species, continues to be a severe problem in Miami Woods and a great deal of our volunteer effort is devoted to their removal. Management practices include cutting with hand tools and applying basal bark herbicide composed of Garlon and mineral oil to the stumps using hand held wands. Large stumps are cut using a chainsaw after the workdays. During 2006 one of the stewards became certified for chainsaw operation so stump cutting is now a volunteer function. Re-sprouts are treated with herbicide wands, and seedlings are treated with either the same technique or with a lower concentration of Garlon in water as a foliar spray. All herbicide is applied by State certified applicators and operators. The most effective long term method of brush control is the use of controlled burns.

During 2006 1,669 hours were devoted to brush cutting.

Weed Pulling

Garlic mustard is highly invasive within woodland sites, and Japanese hedge parsley appears to be following a similar pattern. Both plants are pulled by hand wherever they appear throughout the woods and savannas. This activity extends across multiple areas during workdays. Experience has shown that careful pulling can result in substantial control of garlic mustard, especially as native plants become established. Unfortunately there are large quantities of garlic mustard in nearby unmanaged areas which provide a continuing seed source, so pulling will be necessary for many years.

During 2006, 666 hours were spent pulling weeds, primarily garlic mustard.

Seed Gathering and Dispersal

Seed gathering and dispersal is conducted in selected areas within Miami Woods and Prairie during the spring, summer and fall seasons. A specialty group of North Branch volunteers gathers seeds throughout North Branch sites on Wednesday mornings. Some seed is gathered during weekend workdays and at least one workday per year is devoted entirely to gathering seeds. Seeds are processed and combined into mixes based on the moisture and sunlight needs of the plants. In a typical year about 200 species are gathered and redistributed within restoration sites. Seeds are sown into recently cleared and other recovering areas. When possible they are sown following a controlled burn to maximize soil contact and seedling survival. Records of seed mix composition and distribution among sites are maintained by the North Branch Restoration Project.

During 2006, 150 hours were devoted to seed gathering in Miami Woods during weekend workdays.

Herbicide

The use of herbicide is an essential management practice which is described in part in the above section on brush cutting where it is dabbed on stumps using had held wands. It is also applied as a foliar spray from back pack sprayers to control several weed species including reed canary grass, thistles, and teasel. All application is by state certified operators.

Burning

In most of Cook County fire is used as a management practice to dispose of brush, control invasive plants, and to stimulate native vegetation. It is very effective in three major ways: ecological benefits, minimizing use of herbicides, and minimizing dollar costs. It is by far the most cost effective management practice available. Its use continued to be prohibited in Miami Woods during 2006, but has been authorized for 2007.

Deer Control

The “browse line” in Miami Woods has become clearer in each of the last few years as the excessive number of deer have consumed virtually all twigs within their reach of four and one half feet from the ground. (Except Tartarian honeysuckle and barberry which they will not eat.) Deer have also browsed many native plant species so intensively that they are unable to produce seed and are dying out. For example, the wild indigo for which the indigo openings are named, has been eliminated from that area and almost entirely eliminated from the prairie. Management of the deer herd is essential if Cook County’s forest preserves are to return to a natural condition with healthy populations of high quality, threatened, and endangered species.

Instruction

Instruction in Miami Woods occurs primarily during school workdays when students conduct river monitoring or conduct various exercises such as observing or drawing. This is the time in hours reported here. However, there is an element of education in all workday activity in the form of informal explanations by experienced volunteers and by personal observation.

During 2006, 637 hours were devoted to river related education. Additional time was spent on informal education during work activities.

See page 12 for a tabular summary of hours and visits by volunteers devoted to various management activities.

VII. PLANS FOR 2007

Work needs and work plans are best described in terms of the five work sites described in Section V, Restoration Places, and are listed below.

Cathedral Oaks Savanna and Woodlands

Volunteer Activities:

1. Students from the Baker Demonstration School will continue to remove buckthorn east of the open savanna in units SA-01 and WO-01 .
2. Students from the Baker Demonstration School will continue to remove garlic mustard from the cathedral oaks woodlands.
3. North Branch Volunteers will remove selected saplings to increase sun reaching the ground to increase herbaceous diversity and survival of oak and hickory seedlings.
4. Certified North Branch volunteers will apply herbicide to cut stumps, re-sprouts and seedlings of invasive woody species and also to invasive herbaceous species.
5. North Branch volunteers will plant shrubs to form a visual screen against the shopping center parking lot if the requested shrubs are provided by the FPD.
6. North Branch volunteers will burn brush piles when the prohibition on that management practice is removed.

Help needed from seasonal interns:

1. Herbicide thistles and cut or herbicide tall goldenrod

Help Needed From Forest Preserve District Crew:

1. Conduct a controlled burn of both open and wooded portions as a number two priority..
2. Provide shrubs and small trees requested for planting along the shopping center parking lot

Indigo Opening Savanna and Woodlands

Volunteer Activities:

1. Students from the Chicago City Day School 6th grade will continue to remove buckthorn, working from south to north in units SA-02, and WO-06&07.
2. Students from CCDS 6th grade will pull garlic mustard from the previously cleared portions of WO-06&08.
3. North Branch volunteers will remove selected saplings to increase the amount of sun reaching the ground to improve herbaceous diversity and survival of oak and hickory seedlings..
4. Certified North Branch volunteers will apply herbicide to cut stumps, re-sprouts and seedlings of invasive woody species and also to invasive herbaceous species.
5. North Branch volunteers will plant shrubs to form a visual screen against the shopping center parking lot if the requested shrubs are provided by the FPD.
6. North Branch volunteers will burn brush piles when the prohibition on that management practice is removed.

Help Needed From Forest Preserve District crew:

1. Provide shrubs and small trees requested for planting along the shopping center parking lot.

The Prairie

Volunteer Activities:

1. Certified North Branch volunteers will apply herbicide to invasive herbaceous species. Volunteers will also apply herbicide to gray dogwood in selected areas to complement controlled burning.
2. Students from Wright College and others as available will clear unassociated woody growth from the tunnel access drive area south of the main prairie.
3. North Branch Volunteers will assist in clearing unassociated woody growth.
4. North Branch volunteers will construct a deer exclosure to demonstrate the impact of deer browsing and the potential for restoration of impacted high quality species.

Help Needed From Seasonal Interns:

1. Herbicide brush, primarily gray dogwood, using wands and basal bark formulation
2. Cut pole sized unassociated woody growth in tunnel access area

Help Needed From the Forest Preserve District

1. Conduct a controlled burn of the prairie west of the bike path (unit PR 01) as a top priority.
2. Clear brush from northeast corner of the prairie using the “Forest Ax”
3. Authorize construction of the proposed deer exclosure.

Special Projects

Possible Grant Funded Projects

1. Delineation of farm tiles within the prairie
2. Blocking or removing drain tiles

South River Corridor

Volunteer Activities

1. Certified North Branch volunteers will apply herbicide to re-sprouts and seedlings of invasive woody species and also to invasive herbaceous species.
2. North Branch volunteers will remove selected saplings to provide dappled sunlight to encourage herbaceous diversity and oak reproduction.
3. North Branch volunteers will pull garlic mustard

Help Needed From FPD Crew

Conduct a controlled burn of the area as a number 3 priority.

North River Corridor

Volunteer Activities

1. Seventh and eighth grade students from the Chicago City Day School will continue to clear brush from between the bike path and the river east from the Prairie View Shopping Center parking lot access point.
2. Seventh and eighth grade students from CCDS will continue to remove garlic mustard from between the bike path and the river from the stone bridge to the shopping center parking lot (WO09 & WO07)
3. Students from Carl Shurz High School will continue to remove brush from WO-04 and WO05 across the bike path from SA-01
4. Students from Carl Shurz High School will continue to remove garlic mustard from WO04 & WO05.
5. Certified North Branch volunteers will apply herbicide to re-sprouts and seedlings of invasive woody species and also to invasive herbaceous species.

Help Needed From FPD Crew

None

Work Activities Planned for Multiple Areas

Volunteer Activities

1. Seed gathering will be conducted during late spring, summer and fall on weekdays by a small group of volunteers, by some volunteers during regular weekend workdays, and during at least one weekend workday fully devoted to seed gathering.
2. Seed planting will be concentrated in areas freshly cleared of brush or burned.
3. Pulling of invasive herbaceous plants will be conducted in the savanna and woodland areas to control garlic mustard, and Japanese hedge parsley.

Help Needed From Seasonal Interns

1. Pull garlic mustard and hedge parsley.
2. Apply herbicide to thistles and other invasive species

Help needed from FPD Crew

Conduct controlled burns of the Prairie, Cathedral Oaks, and the South River Corridor

Provide signs explaining restoration

Recap of Requests for FPD and Intern Assistance

Forest Preserve District

1. Conduct Controlled Burns in all managed areas with the Prairie receiving highest priority.
2. Provide shrubs and small trees to establish a visual screen between the preserve, and streets and parking lots.
3. Manage the deer herd
4. Authorize construction of the deer exclosure
5. Provide interpretive signs

Interns:

1. Herbicide brush on the prairie.
2. Pull garlic mustard and hedge parsley.
3. Herbicide thistles and cut or herbicide tall goldenrod in Cathedral Oaks
4. Herbicide re-sprouts in all areas
5. Cut brush and pole trees in the tunnel access area of the prairie.

Recap of Potential Special Projects

Possible Grant Funded Projects in the Prairie

1. Delineation of farm tiles within the prairie
2. Blocking or removing drain tiles

Prepared by: Kent Fuller 1/15/2007

Appendix

2002 - 2006 SUMMARY

Year	#Events	Vol Participants	Hours Work	Hours Ed	Total Hours
2002	1	40	120		120
2002	13	345	957	not reported	957
2003	17	497	1,078	450	1,528
2004	20	735	1,925	560	2,485
2005	24	736	1,984	542	2,526
2006	31	1,013	2,485	637	3,122
Total	106	3,366	8,549	2,189	10,738

Appendix

MIAMI WOODS 2006 WORKDAY SUMMARY BY DATE

	<u>Group</u>	<u>Activity</u>	<u>Hours</u>	<u># Volunteers</u>
2/19/06	NBRP Indigo Etc.	Cut Brush SA 02	8	29
3/03/06	Wright College KL River Woods N.	Cut Brush WO 03& Saplings	75	34
3/26/06	NBRP & Students Indigo Etc.	Cut Brush & Saplings SA 02	111	34
4/02/06	Wright College KL Cathedral Oaks, etc.	Cut Brush WO 02& Saplings	102	32
5/06/06	NBRP & Noble St. Sch Cathedral O. & River N.	SA01 WO04	Garlic M. Cut Brush & Sap	95 40
5/11/06	Baker School Cathedral Oaks	SA01 & WO 01	Garlic M	168
5/12/06	CCDS 6 th Indigo Etc.	Education WO 07	Garlic M.	36
5/14/06	NBRP River South	WO13 & 14	Garlic M	23
5/15/06	CCDS 4 th Indigo Etc	WO 06&08	Garlic M	71
5/22/06	Carl Shurz HS River Woods N	WO 04	Garlic M Cut Brush & Sap Education	41 48 75
5/23/06	CCDS 7 th River Woods N	WO 07	Garlic M Education	52
5/24/06	Carl Shurz River Woods N	WO 04	Cut Brush & Sap Education	96
5/26/06	CCDS 8 TH River Woods N	WO 07	Garlic M Education	45
6/04/06	NBRP River Woods S	WO 13 PR 01	Garlic M Apply Herbicide	11 3

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6/09/06	Goldman Sachs River Woods S	WO 15,16,17 UW 03Cut Brush & Sap	Garlic M 162	43	33
6/13/06	Wright College River North	WO 03	Cut Brush & Sap	102	32
6/23/06	Goldman Sachs Prairie	UW 03 & PR 01	Cut Brush & Sap	139	25
7/02/06	NBRP Indigo Etc	WO 06	Garlic M	55	17
9/11/06	Wright College JM Prairie	PR 01	Cut Brush & Sap	38	20
9/29/06	Carl Shurz River Woods North	WO 04	Cut Brush & Sap	164	47
10/06/06	Wright College Prairie	PR 01	Cut Brush & Sap	107	33
10/07/06	Wright College Prairie	PR 01	Cut Brush & Sap	65	19
10/08/06	NBRP Indigo & Prairie	SA02 & PR01	Seed Gathering	78	24
10/18/06	CCDS 4 th Prairie	PR 01	Seed Gathering	72	34
10/19/06	CCDS 8 th River Woods N	WO 05Education	Cut Brush & Sap 73	46	29
10/25/06	CCDS 7 th River Woods N	WO 05Education	Cut Brush & Sap 90	45	33
10/26/06	Baker School Cathedral Oaks Etc	WO 01Education	Cut Brush & Sap 61	72	65
10/28/06	Wright College Prairie	PR 01	Cut Brush & Sap	82	24
11/03/06	CCDS 6 th Indigo Etc	SA 02	Cut Brush & Sap Education	45 63	26

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11/04/06	Wright College Prairie	PR 01	Cut Brush & Sap	54	17
12/02/03	Wright College Prairie	PR 01	Cut Brush & Sap	65	20

Appendix

MIAMI WOODS 2006 WORKDAY SUMMARY BY GROUP

	<u>Group</u>		<u>Activity</u>	<u>Hours</u>	<u># Volunteers</u>
North Branch Restoration Project					
2/19/06	NBRP Indigo Etc.	SA 02	Cut Brush	8	29
3/26/06	NBRP & Students Indigo Etc.	SA 02	Cut Brush & Saplings	111	34
5/06/06	NBRP & Noble St. Sch Cathedral O. & River N.	SA01 WO04	Garlic M. Cut Brush & Sap	95 40	45
5/14/06	NBRP River South	WO13 & 14	Garlic M	23	6
6/04/06	NBRP River Woods S	WO 13 PR 01	Garlic M Apply Herbicide	37 3	11
7/02/06	NBRP Indigo Etc	WO 06	Garlic M	55	17
10/08/06	NBRP Indigo & Prairie	SA02 & PR01	Seed Gathering	78	24
Baker Demonstration School					
5/11/06	Baker School Cathedral Oaks	SA01 & WO 01	Garlic M	168	66
10/26/06	Baker School Cathedral Oaks Etc	WO 01	Cut Brush & Sap Education	72 61	65
Chicago City Day School					
5/15/06	CCDS 4 th Indigo Etc	WO 06&08	Garlic M	71	34
10/18/06	CCDS 4 th Prairie	PR 01	Seed Gathering	72	34
5/12/06	CCDS 6 th Indigo Etc.	WO 07	Garlic M. Education	36 54	30
11/03/06	CCDS 6 th Indigo Etc	SA 02	Cut Brush & Sap Education	45 63	26
5/23/06	CCDS 7 th River Woods N	WO 07	Garlic M Education	52 90	37
10/25/06	CCDS 7 th River Woods N	WO 05	Cut Brush & Sap Education	45 90	33

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5/26/06	CCDS 8 TH River Woods N	Garlic M WO 07 Education	45 56	28
10/19/06	CCDS 8 th River Woods N	Cut Brush & Sap WO 05 Education	46 73	29
Carl Shurz High School				
5/22/06	Carl Shurz HS River Woods N	Garlic M WO 04 Cut Brush & Sap	41 48	63
5/24/06	Carl Shurz River Woods N	Education Cut Brush & Sap WO 04 Education	75 96 75	66
9/29/06	Carl Shurz River Woods North	WO 04	Cut Brush & Sap	164
Wright College				
3/03/06	Wright College KL River Woods N.	Cut Brush WO 03 & Saplings	75	24
4/02/06	Wright College KL Cathedral Oaks, etc.	Cut Brush WO 02 & Saplings	102	32
6/13/06	Wright College KL River North	WO 03	Cut Brush & Sap	102
9/11/06	Wright College JM Prairie	PR 01	Cut Brush & Sap	38
10/06/06	Wright College KL Prairie	PR 01	Cut Brush & Sap	107
10/07/06	Wright College KL Prairie	PR 01	Cut Brush & Sap	65
10/28/06	Wright College KL Prairie	PR 01	Cut Brush & Sap	82
11/04/06	Wright College Prairie	PR 01	Cut Brush & Sap	54
12/02/03	Wright College KL Prairie	PR 01	Cut Brush & Sap	65
				20

Appendix

Goldman Sachs Company Community Team Works

6/09/06	Goldman Sachs River Woods S	WO 15,16,17 UW 03Cut Brush & Sap	Garlic M 162	43	33
6/23/06	Goldman Sachs Prairie	UW 03 & PR 01	Cut Brush & Sap	139	25

MIAMI WOODS WORKDAY SUMMARY by GROUP 2006

Group	Hours Education	Hours Restoration	Volunteers
North Branch		450	166
Baker Demo	61	240	131
CCDS	426	412	251
Carl Shurz	150	349	176
Wright Col		690	231
Goldman Sachs Co.		344	58
Total	637	2485	1013

Appendix

MIAMI WOODS 2006 WORKDAY SUMMARY BY PLACE

	<u>Group</u>	<u>Activity</u>	<u>Hours</u>	<u># Volunteers</u>
Cathedral Oaks, Etc.				
4/02/06	Wright College KL	Cut Brush	102	32
	Cathedral Oaks, etc. WO 02& Saplings			
5/06/06	NBRP & Noble St. Sch SA01	Garlic M.	95	23
	Cathedral O. (& River N. WO04	Cut Brush & Sap 40)		
5/11/06	Baker School	Garlic M	168	66
	Cathedral Oaks SA01 & WO 01			
10/26/06	Baker School	Cut Brush & Sap	72	65
	Cathedral Oaks Etc WO 01 Education		61	
Totals	Cut 174, GM 263, Comb. Stwd 437, Ed 61			Vols 186
Indigo Etc.				
2/19/06	NBRP	Cut Brush	8	29
	Indigo Etc. SA 02			
3/26/06	NBRP & Students	Cut Brush	111	34
	Indigo Etc. SA 02	& Saplings		
5/12/06	CCDS 6 th	Garlic M.	36	30
	Indigo Etc. WO 07 Education		54	
5/15/06	CCDS 4 th	Garlic M	71	34
	Indigo Etc WO 06&08			
7/02/06	NBRP	Garlic M	55	17
	Indigo Etc WO 06			
10/08/06	NBRP	Seed Gathering	78	24
	Indigo & Prairie SA02 & PR01			
11/03/06	CCDS 6 th	Cut Brush & Sap	45	26
	Indigo Etc SA 02	Education	63	
Totals	Cut 164, GM 162, Comb Stwd 326, Ed 117, Seeds 78			Vols 194
Prairie				
6/23/06	Goldman Sachs	Cut Brush & Sap	139	25
	Prairie UW 03 & PR 01			
9/11/06	Wright College JM	Cut Brush & Sap	38	20
	Prairie PR 01			
10/06/06	Wright College	Cut Brush & Sap	107	33
	Prairie PR 01			
10/07/06	Wright College	Cut Brush & Sap	65	19
	Prairie PR 01			
10/18/06	CCDS 4 th	Seed Gathering	72	34
	Prairie PR 01			
10/28/06	Wright College	Cut Brush & Sap	82	24
	Prairie PR 01			

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11/04/06	Wright College Prairie	PR 01	Cut Brush & Sap	54	17
12/02/03	Wright College Prairie	PR 01	Cut Brush & Sap	65	20
Totals*	Cut 550, Seed 72			Vols	192

River Woods North

3/03/06	Wright College KL River Woods N.	Cut Brush WO 03 & Saplings	75	34	
5/06/06	Noble Street School	WO 04	Cut Brush & Sap	40	22
5/22/06	Carl Shurz HS	Garlic M	41	63	
	River Woods N	WO 04	Cut Brush & Sap	48	
	CCDS 7 th	Education	75		
5/23/06	River Woods N	Garlic M	52	37	
5/24/06	Carl Shurz	WO 07	Cut Brush & Sap	90	66
	River Woods N	Education	75		
5/26/06	CCDS 8 TH	Garlic M	45	28	
	River Woods N	WO 07	Cut Brush & Sap	56	
6/13/06	Wright College River North	WO 03	Cut Brush & Sap	102	32
9/29/06	Carl Shurz		Cut Brush & Sap	164	47
	River Woods North	WO 04			
10/19/06	CCDS 8 th		Cut Brush & Sap	46	29
	River Woods N	WO 05	Cut Brush & Sap	73	
10/25/06	CCDS 7 th		Cut Brush & Sap	45	33
	River Woods N	WO 05	Cut Brush & Sap	90	
Totals	Cut 616, GM 138, Comb Stwd 754 Ed 459			Vols	391

River Woods South

5/14/06	NBRP River South	Garlic M WO13 & 14	23	6	
6/04/06	NBRP	WO 13 Garlic M	37	11	
6/09/06	River Woods S Goldman Sachs	PR 01 Apply Herbicide WO 15,16,17 Garlic M UW-03 Cut Bruh & Sap	3 43 162	33	
Totals	Cut 165, GM 103, Comb Stwd 268			Vols	50

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MIAMI WOODS WORKDAY SUMMARY by PLACE

	Cut Brush	Garlic M	Combined Restoration	Education	Seed Gathering	Volunteers
Cathedral Oaks, Etc.	174	263	437	61		186
Indigo Opening	164	162	326	117	78	194
Prairie	550		550		72	192
River Woods N	616	138	754	459		391
River Woods S	165	103	268			50
Totals	1,669	666	2,335	637	150	1013