

# **CHICHAQUA BOTTOMS GREENBELT**

## **Comprehensive Conservation Plan**

**2004**

**Prepared by  
Polk County Conservation Board  
Chichaqua Bottoms Greenbelt  
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## ***I. Purpose of and Need for Plan***

The purpose of developing the Comprehensive Conservation Plan (CCP) is to provide natural resource managers and the public with a 15 year management plan for the conservation of wildlife and plant resources and their related habitats, while providing opportunities for compatible wildlife dependent recreational uses. The CCP, when fully implemented, should achieve the purposes and mission of the Chichaqua Bottoms Greenbelt; maintain and where appropriate, restore the ecological integrity of local resources; and meet other mandates.

### **Chichaqua Mission, Goals, and Guiding Principles**

The **mission** of the Chichaqua Bottoms Greenbelt is “*to restore vegetation and the hydrology to pre-settlement conditions, to manage for biodiversity, and to provide recreation that is compatible with the natural resources of the area.*”

**Goals** of the Chichaqua Bottoms Greenbelt are:

- a. *To fulfill the statutory duty to achieve its purposes and further the mission.*
- b. *Conserve, restore where appropriate, and enhance all species of fish, wildlife, and plants that are endangered, threatened with becoming endangered, or under special concerns, either federally or by the State of Iowa.*
- c. *Perpetuate migratory bird populations.*
- d. *Conserve a diversity of fish, wildlife, and plant species.*
- e. *Conserve and restore, where appropriate, representative ecosystems of Iowa, including the ecological processes characteristic of those ecosystems.*
- f. *To foster understanding and instill appreciation of fish, wildlife, and plants, and their conservation, by providing the public with safe, high-quality, and compatible wildlife and other natural resource-dependent public use.*

Four guiding **principles** for management and general public use are:

- **Public Use.** Chichaqua provides important opportunities for compatible wildlife-dependent recreational activities involving hunting, fishing, wildlife observation and photography, and environmental education and interpretation. The Polk County Conservation Board, in its management of Chichaqua, will continue to provide a high level of accessibility to include people of all abilities, that is practical and consistent with the users expectations in coordination with the constraints and opportunities presented by the natural environment.
- **Habitat.** Fish and wildlife will not prosper without high-quality habitat, and without these resources, traditional uses of the Chichaqua Bottoms Greenbelt cannot be sustained. The Greenbelt will continue to conserve and enhance the quality and diversity of fish and wildlife habitat within its boundaries.
- **Partnerships.** Conservation partnerships with federal agencies, state agencies, organizations, and the general public can make significant contributions to the growth and management of Chichaqua.

- **Public Involvement.** The public should be given a full and open opportunity to comment on and be informed of decisions regarding management of the Chichaqua Bottoms Greenbelt.

## Purposes

The main purposes of the Chichaqua Bottoms Greenbelt are:

- a. **Natural Resource Conservation/Management.** To restore, preserve and manage native plant communities and to plant developed areas in a manner attractive to users, yet maintain a sense of continuity and integrity with adjoining natural areas. Restore and maintain diversity of wildlife in balance with available habitat, while providing the opportunity to understand and appreciate these wildlife resources.
- b. **Outdoor Recreation.** To develop and provide public conservation and recreation services so citizens will have the opportunity to experience a variety of outdoor recreational activities. Provide high quality areas, facilities, and programs designed in response to public need and interest that enable and encourage the public to participate, on a self-directed basis, in wholesome outdoor recreational activities.
- c. **Conservation Education.** To provide conservation education activities to promote awareness and to focus on a meaningful conservation ethic. Provide learning opportunities for people of all ages that will increase their understanding of the significance of Chichaqua and its natural resources.

The purpose of lands acquired through the Natural Resource and Conservation Service's Wetland Reserve Program and Emergency Wetland Reserve Program is to provide habitat for migratory species, especially water dependent species such as waterfowl and shorebirds. This includes providing wetland habitat for those species passing through the area on spring and fall migrations as well as wetland habitat for migratory species nesting in the region. Emphasis on water and vegetation management is given to resident, wetland dependent species of birds, mammals, reptiles and invertebrates. Other resident, non-wetland species are to be given consideration, but management for their needs is secondary to the migratory and wetland dependent species.

## ***II. Management Direction***

### **A. Management Direction: Goals, Objectives, and Strategies**

This section outlines the objectives for each goal defined for this Comprehensive Conservation Plan. Strategies will then be used to achieve those objectives of each goal. Goals for both habitat management and public use are included. It was determined by management to develop habitat-based goals versus wildlife populations. Five major habitat types were identified for the Chichaqua Bottoms Greenbelt. In order to set habitat goals and objectives, it is necessary to understand the linkage between life requisites of wildlife species and habitat dynamics. A comprehensive suite of information, such as nutritional and cover requirements for all species using Chichaqua, is not available. However, staff will use field and research experience to identify major life-history events and uses of various habitat types and the chronology of those uses for management purposes.

These goals will guide Chichaqua management and decision-making over the next 15 years

### **1) Habitat Goals and Objectives**

#### **Goal 1:**

*Provide a wide range of wetland habitat types. Restore historic hydrology and vegetation where possible and create a large diversity of habitat types for migratory and resident wildlife.*

**Rationale:** Dense native vegetation provides high quality nesting, foraging, and wintering cover for wildlife. Significant areas of high quality native habitat are rare in Iowa. The decline in migratory and resident wildlife is correlated with the loss of suitable habitat.

#### **Objectives:**

- **1.1** Excavate post-settlement silt from former historic wetlands. Excavating sediment from these areas to the depth of the underlying hydric soil will create shallow ephemeral to semi-permanent wetland for spring and fall migratory fowl as well as resident wildlife.
- **1.2** Recreate semi-permanent to permanent wetlands by blocking interior drainage systems that are no longer needed for agronomic purposes. Semi to permanently flooded wetlands will in the average year support plant, invertebrate and vertebrate food sources for migrating wildlife and quality permanent habitat for breeding ducks, shorebirds, waders, and other wildlife.
- **1.3** Redirect water resources from active drainage systems to restore wetlands on Chichaqua while maintaining the functionality of any system still required for agricultural purposes. Many miles of old river channels were drained and

remain dysfunctional as the result of past drainage efforts. Restoring a modest flow to those old channel areas within the project will restore the dynamics of the old riverine system and extend the hydrocycle of wetlands adjacent to the old channel.

**Strategies:**

- Retard or retain water within Chichaqua to lengthen the hydrocycle of upland wetlands and drainages. Slowing the movement of water resources through Chichaqua to existing drainage will extend the time wetlands, especially shallow wetlands, remain active.
- Increase the time water is retained in restored wetlands which will provide additional resources for breeding, loafing, and feeding wildlife.
- Improve water management infrastructure.
- Develop protocol to quantify amount and type of wetlands to assist with management decisions.

**Goal 2:**

*Restore a base flow to the abandoned Skunk River Channel to provide habitat for river, riparian-dependent and other wetland species.*

**Rationale:** Since European settlement in the Skunk River Valley, the main river, small tributary streams, even the historically high water table has been drastically altered. The alteration of the historic hydrology, made possible the use of many sections of the valley for agricultural purposes. The same alterations to water resources also degraded or negatively affected riparian vegetation and associated wetlands. The current path of the Skunk River is an entrenched drainage banked by levees. This conveyance is often overtaxed by springtime flows; however, in years of low precipitation, it is capable of lowering the water table to such an extent that all wetlands dry up.

Riparian habitat at Chichaqua was historically dominated by cottonwood, willow, swamp white oak, sycamore, walnut, and maple. These woodlands supported a wide array of nesting, resting, and foraging birds and resident wildlife. The General Land Survey of 1848 recorded that vegetation along the braided channels of the Skunk River was open woodland with scattered trees and wetland grasses. Photographs taken as recently as 1952 show an open architecture dominated by oak and sycamore. Meandered riverine habitat with associated grassland has become a degraded and limited habitat type in Iowa. Restoration of a base flow to the old meandered channel and promotion of the “open” savanna type structure would provide quality habitat and offer visitors an opportunity to experience a wetland system created by ancient river flows and activity. These wetlands can be restored and maintained through the modification of existing drainage systems without adverse effects to the functionality of those drainage systems.

**Objectives:**

- 2.1 Provide quality riparian habitat for migratory and resident wildlife.

- **2.2** Protect and improve the wetland resource at Chichaqua by designing and maintaining infrastructure to return lost water resources to historic sites.
- **2.3** Compensate for the loss of floodplain wetlands by designing and constructing off-channel wetland basins.

**Strategies:**

- Continue to evaluate riparian habitat within and outside of Chichaqua boundaries. Evaluate and address species needs through research, partnering, and planning.
- Gather and interpret biological, hydrological, botanical, geological data to be used in determining how, if, and when to potentially restore and implement restoration activities.
- Investigate feasibility and methodology for restoring riparian wetland areas that were once maintained by overbank flooding of the Skunk River.
- Monitor invasive weed populations in riparian areas and if necessary implement control measures.

**Goal 3:**

*Maintain and enhance existing and establish new mid and tall grass communities for the benefit of nesting, roosting, migrating, and wintering wildlife species dependent upon this habitat type.*

**Rationale:** Native grassland is remarkably diverse. Habitat types ranging from wetland to sand substrates provide ecotonal habitats required by many species of wildlife. Some of these grasslands are rare and most are restricted in distribution. Certain animal species require the architecture or structure provided by a certain type or size of grassland. The enhancement and maintenance of biological diversity is necessary to restore appropriate wildlife species composition to all grasslands that will reflect the edaphic (physiographic) conditions of the Chichaqua landscape. Neotropical migratory grassland birds are under extreme stress caused by loss of habitat and are in decline across North America. Restoration should reflect that special concern and attempt to recreate appropriate habitat for these habitat-restricted species.

**Objectives:**

- **3.1** Evaluate the use of restored communities by vertebrate and invertebrate wildlife, with an emphasis on migratory birds.
- **3.2** Maintain the areas of grassland communities that are free of invasive weeds. Actively address invasive weed problems using fire, chemical, and mechanical means.
- **3.3** Maintain large blocks of unfragmented prairie habitat to manage for area-sensitive species.

**Strategies:**

- Implement biological monitoring to assess the presence or absence of grassland species. Specifically monitor the use of grassland communities by wildlife noting the age and structure of those communities.
- Map the location and vegetation composition of remnant natural areas and the differences in species use between remnant and restored areas.
- Special attention will be directed toward areas containing Federal or State threatened, endangered, and special concern species.
- Map and monitor the distribution of invasive species within grassland communities.
- Prohibit development of public access trails or other facilities in larger prairie areas that would entice major use during reproduction seasons.

**Goal 4**

*Provide unharvested grains in adequate amounts during winter months for wildlife food and cover.*

**Rationale:** Even though many upland wildlife species have declined with the loss of grasslands and the dominance of row crops, some species have readily adapted and depend on annual grains and human practices. Introduced species such as the Ringneck Pheasant have become dominant because of their dependence and adaptation to both native weed seed and agricultural grains. Pheasant hens often congregate in plots during late winter and early spring allowing for healthier birds and more successful reproduction in adjacent habitat types. Plots of unharvested grain crops such as corn, grain sorghum, and soybeans provide food and cover through the fall and harsh winter months. Additional annual food sources include millet, sunflowers, and buckwheat. Annual food crops help provide better wildlife diversity due to additional food types and they act as major high-protein food sources during winter as most other natural foods don't meet requirements for some species. They provide foods known to be preferred by certain species (pheasants, white tail deer, squirrels, etc) and alleviate nutritional deficiencies. Changes in agricultural practices in the past 10 to 15 years have reduced the amount of waste grain available to wildlife after harvest on both private and public lands. Larger stands of unharvested corn or sorghum reduce predation due to the difficulty of predators covering stands without prey being able to escape.

**Objectives:**

- **4.1** Produce adequate agricultural grains for late fall through winter wildlife use.
- **4.2** Strategically locate food plots to assure maximum wildlife use.
- **4.3** Create additional plots in large grassland areas or adjacent to other winter cover where no crops presently exist.

**Strategies:**

- Evaluate the utilization of current crops by different wildlife species.
- Evaluate the utilization of existing food plots for wildlife use.

- Plant future plots with mixtures that will be utilized by the largest diversity and numbers of wildlife.

### **Goal 5**

*Manage woodlands to increase the diversity of native plants and animals by incorporating sound forestry management principles with sustainable wildlife management programs.*

#### **Rationale:**

Natural systems such as woodlands are not static and change is inevitable. With sound forestry management, we can manipulate our woodland resources to meet our desired goals. We can optimize habitat diversity by keeping or maintaining woodlands that are uneven aged, species diverse and healthy. Most woodland areas at Chichaqua are typical bottomland hardwood forest communities. Species favored are silver maple, cottonwood, green ash, hackberry and walnut. Other large mast producing trees that are characteristic of this community but seldom occur in large quantities are the Kentucky coffee tree, swamp white oak, shellbark hickory, and pin oak. Scattered stands of these species occur throughout Chichaqua. These unique stands can provide an essential food source for many species of wildlife.

#### **Objectives:**

- **5.1** Actively work towards completing a comprehensive woodland inventory at Chichaqua.

Rationale: An inventory will give management a systematic approach to allocating limited resources that will provide the most benefit for costs incurred.

#### **Strategies:**

- Assist in and/or utilize IDNR staff to complete a limited inventory identifying areas that have the best restoration potential.
  - Budget money to conduct a complete floristic inventory.
  - Assign staff and volunteers to identify levels of management classification (areas may be classified as active, low or no management).
  - Utilize staff and volunteers to determine the presence of invasive species utilizing the Woodland Invasive Species Survey developed by Iowa State University.
- **5.2** Increase and perpetuate mast production and other wildlife benefits in selected woodland communities.

#### **Strategies:**

- Initiate proven forestry management principles to increase and perpetuate mast production in appropriate sites.

- Identify possible planting sites and implement a reforestation policy that encourages the establishment of mast producing trees where site conditions and soil conditions favor their growth.
  - Restore savanna communities (swamp white oak) where possible.
  - Retain large diameter trees for roosting and nesting.
  - Thin areas to promote understory food and cover.
  - Retain active den trees as long as possible.
  - Maintain wooded riparian corridors to provide travel routes for wildlife and to control soil erosion.
- **5.3** Control indigenous and invasive species that interfere with management goals through integrated pest control methods.

Rationale: Invasive species have recently become the largest threat to diversified woodlands in Iowa because they change the natural composition of the forest structure. These species also act as a seed source that negatively impact adjacent habitat types and areas down stream.

**Strategies:**

- Utilize staff and volunteers to locate and map invasive species utilizing the Woodland Invasive Species Survey.
- Reduce the amount of areas infected by invasive species on Chichaqua through integrated pest control methods including mowing, herbicide application, mechanical removal, prescribed fire, and other treatments.
- Monitor effectiveness of control efforts.
- Monitor for new invasive species not presently occurring at Chichaqua or neighboring watersheds.

**Goal 6**

*Control invasive and noxious plant species in all habitat types to improve the quality of that habitat and to reduce the spread of these species to other habitats.*

**Rationale:** Part of the mission of Chichaqua is to restore vegetation to pre-settlement conditions and to manage for biodiversity. Once they become established, invasive species such as European Buckthorn, Multiflora Rose, Canada Thistle, Honeysuckle, and Reed Canary Grass soon crowd out and replace native species, reducing diversity. All are found in sections of Chichaqua with some being more of a problem than others.

**Objectives:**

- **6.1** Reduce the amount of areas infected by invasive species on Chichaqua through integrated pest control methods including mowing, herbicide application, mechanical removal, prescribed fire, and other treatments.

- **6.2** Prevent the spread of invasive species through integrated pest control methods.

**Strategies:**

- Inventory habitat types and map distribution and severity of infested areas for each pest species.
- Conduct a monitoring review of the vegetative conditions of restoration areas after flood events. Grasslands may be re-seeded to as close to the original seeding mixture as feasible or the best adapted mixture to meet the physical and hydrological conditions of the site.
- Continue to investigate and experiment with integrated pest control methods.
- Monitor effectiveness of control efforts.
- Monitor for new invasive species not presently occurring at Chichaqua or neighboring watersheds.

**Goal 7**

*Restore landscape patterns that reflect both historic and environmental considerations.*

**Rationale:** Chichaqua Bottoms Greenbelt has been markedly altered. Drainage ditches, drainage tile systems, fences and the resulting fence-line effects, roads, terraces, etc. artificially divide landscapes and change the dynamics of plant and animal interactions. These artificial constructs can have negative influences on our success in restoring woodland, wetland and grassland systems. Many of our declining species, particularly grassland birds are “habitat sensitive” and need large areas of undivided habitat to prosper. Larger units are more stable and productive for wildlife. Managing larger units has the added benefit of reducing labor i.e. less fence line to mow, larger fence units, less signage and parking, etc.

**Objectives:**

- **7.1** Remove manmade infrastructure and boundaries from interior locations i.e. fences, drainage ditches, drainage tile, terraces, linear plantings, etc.
- **7.2** Develop restoration plans based on edaphic and hydrological features regardless of agronomic infrastructure modifications.
- **7.3** Design restoration efforts to encompass the largest possible “block” of contiguous habitat using natural divisions as boundaries.

**Strategies:**

- Remove all interior fences whenever possible and remove all barbed wire regardless of location.
- Remove ditches, terraces, and other drainage modifications.
- Design restorations that recognize natural not legal and artificial boundaries.

- Maximize unit size when planning restorations and management efforts i.e. prescribed fire, chemical application directed toward invasive species.

## 2) **Public Use Goals and Objectives**

Note: Additional rationales are given for each objective. Staff feels this is necessary since they address different uses of Chichaqua, not direct natural resource stewardship mandates.

### **Goal 8**

*Actively partner in the protection of the Chichaqua Bottoms Greenbelt natural areas through coordination of local, state and Federal partners.*

**Rationale:** The Chichaqua Bottoms Greenbelt is part of the larger Skunk River ecosystem and interacts with the biotic and abiotic processes occurring on other lands and across ownership boundaries. It is important to consider the potential and actual processes that may occur or are occurring beyond the boundaries of Chichaqua. It is, therefore, important to work at a larger scale than the current project to achieve and to protect the restoration process for the future. Only through cooperation and partnering can the long-term goal of restoration and preservation be met; no one agency has the resources to do it all.

#### **Objectives:**

- **8.1** Seek cooperative funding to support privately-owned habitat as identified in special concern areas.
- **8.2** Support habitat restoration and preservation of remnant areas in the areas of special concern, promoting and maintaining existing habitat linkages.
- **8.3** Participate in and/or lead local conservation efforts, especially wetland and water quality efforts.

#### **Strategies:**

- Protect habitat through fee-title and easements and by participating in partnerships, both public and private.
- Seek partners to assist in the funding of conservation efforts and to aid landowners in areas of special concern.
- Work with neighboring landowners to help preserve the rural nature of the immediate park neighborhood.

### **Goal 9**

*Foster understanding, appreciation, and stewardship of all natural resources of the Chichaqua Bottoms Greenbelt and neighboring lands, including all native flora and fauna.*

**Rationale:** This effort will include providing increased and/or improved opportunities for environmental education and interpretation, wildlife viewing, hunting, etc., all of which are priority wildlife-dependent activities allowed and encouraged.

**Objectives:**

- **9.1** Provide quality environmental education opportunities for people of all ages that promote the conservation of all natural resources at Chichaqua and their importance to its users.
- **9.2** Provide safe sustainable waterfowl, deer, and small game hunting opportunities at Chichaqua.

Rationale: Hunting is extremely popular due to the large number of waterfowl, deer, pheasants, and other small game that use Chichaqua and fosters an appreciation for different habitat types and associated wildlife.

**Strategies:**

- Continue monitoring harvests of game species.
  - Provide consistent law enforcement.
  - Evaluate the existing Controlled Waterfowl Hunting Program and investigate new opportunities to increase bird use, harvest, and improve safety and sustainability of the program.
  - Conduct periodic hunter surveys.
  - Promote hunter education programs.
- **9.3** Provide a wide variety of opportunities to view wildlife, while minimizing wildlife disturbance.

Rationale: Compatible wildlife-dependent recreation, such as wildlife viewing, is a legitimate and appropriate general public use directly related to the mission of Chichaqua.

**Strategies:**

- Systematically monitor current and future public use.
  - Improve/develop wildlife related public use opportunities where compatible (special events, wildlife viewing events.)
  - Investigate new opportunities to provide compatible wildlife viewing.
- **9.4** Continue to support partner/sponsor groups to advocate Chichaqua purposes and programs, raise funds, increase stakeholder involvement, and coordinate special events.

Rationale: Supporting partner/sponsor groups are critical to the success of programs and can be advocates for the Polk County Conservation Board and the Iowa Department of Natural Resources. Groups can raise moneys for acquisition and development through grants, endowments, and other such gifts.

**Strategies:**

- Continue Chichaqua staff support (provide updates and guidance) to partner/sponsor groups.

- **9.5** Increase visitation and enhance the quality of the visitor’s experience by improving interpretive services and facilities.

**Rationale:**

Interpretive services and facilities are limited at the present time. Additional signage and displays would provide a worthwhile experience for users and if strategically located, could actually provide interpretation of natural resources that an educational facility could not.

Strategies:

- Continue to implement outreach efforts (websites, brochures, attendance at special events, partnerships with tourism or special interest groups).
- Outline interpretive themes for Chichaqua/
- Outline best usage of current interpretive facilities.
- Provide adequate access, interpretive resources and reasonable comfort to the visiting public.

- **9.6** Educate people of all ages of humans’ (prehistoric/historic/present) dependence upon natural resources by demonstrating:
  - 1) How animals and plants were used by humans at Chichaqua.
  - 2) what the prehistoric and historic environment was like; and
  - 3) Although humans are farther removed from the environment, they are no less a part of it than their prehistoric ancestors.

Rationale: The Chichaqua Bottoms Greenbelt has an abundance of historical sites, and cultural resources are extensive. This resource should be tapped to ensure that the historic and prehistoric stories are not lost. Cultural resources should be interpreted in generalities only, and not disclose actual locations.

**B. Chichaqua Management Policies and Guidelines**

Management is designed to allow a more proactive approach through better management planning, monitoring of actions, and more consistent outreach and service to the public. This is necessary if Chichaqua’s operations continue to participate in the large array of resource issues currently facing wildlife in Iowa.

**1) Water Management**

The majority of the South Skunk River wetlands in Polk County have been converted to agricultural lands since settlement. Chichaqua is all or partially within drainage districts No’s 4, 25, 38, and 52. In addition, there are many miles of private drainage ditches within the project. These ditches direct water through or around former areas of cropground that are now being restored to native grasslands and wetlands. Drainage Ditch No. 25 is the current channel of the Skunk River after it was straightened and channelized in the early 1800’s. It drains through the valley from Story County southeasterly through Polk County into Jasper County. The new channel

flows parallel to the west of the old channel and is bordered by levees. Flowage elevations in the channel dictate the water table throughout the entire valley.

The goals of wetland restoration are hampered by the free flow of water through the above drainage conveyances and the flow from Chichaqua into the larger DD No.25 (channelized Skunk River). An example that illustrates the problem is water flowing from DD No.4 into the old channel through Chichaqua and out through DD No. 52. It drains approximately 7,000 acres of cropland upslope and to the north of the park. If the average runoff is six inches per year per acre of farm ground (NRCS per comm.), then 3,500 acre feet of water flows from DD No. 4 into the old meandered river channels and exits to DD No. 25 through DD No. 52. This arrangement prevents water from flowing through the old channels south of 118<sup>th</sup> Ave. In addition to DD No. 4, approximately 4,000 acres of additional uplands bordering the northeast side of the project drain through Chichaqua in a series of side drainages. Capturing a portion of those 5,500 acre feet of water (11,000 acres x six inches of water) is critical to the wetland restoration at Chichaqua. Capturing and retarding water within Chichaqua will rehydrate wetlands between the toe slope of the river valley and DD No.25. The water will not be permanently held but slowed in its progress long enough to hopefully produce the desired wetland effects within the project. The past and ongoing study of the existing drainage systems has produced a growing understanding of hystorical processes, subsurface and surface interactions, and the role of groundwater in maintaining wetland functions in the Skunk River valley. Additional efforts by the PCCB, IDNR, NRCS, and other partners to design wetland restoration are ongoing. The restoration of the meandered river channel and adjoining wetlands through the recapture of the 5,500 acre feet is currently being explored. Restoration of natural flows will be the model on the project while continuing to recognize the need to protect the livelihood of our neighboring operations. The NRCS has been requested to assist staff in the analysis of the hydrology within the park and within the watersheds that flow into and through Chichaqua.

## **2) Prescribed Burning**

Prescribed fire has been used as a management practice for nearly the entire time that Chichaqua has been in existence. Fire is an effective tool used to set back woody plant succession and to establish and restore native vegetation in wetland, grassland, and woodland systems. Fire can provide the mosaic of vegetation composition and structure required by a diverse wildlife population having a wide range of reproductive and feeding requirements. Areas are periodically burned to remove excess fuel loads, promote native warm and cool season flora, enhance nutrient recycling, control weeds, control woody species, and to reduce vegetative cover so other management tools can be used.

Prescribed burning is the careful and planned use of fire as a management tool. The majority of Chichaqua is grassland of one type or another. The ecotones range from wet to dry, but all contain a significant grass component. Prescribed fire is used for all of the above reasons and most of the project is designed for a fire frequency of once every three to five years, depending upon need.

### **3) Cultural Resources**

Humans have used the area that is called Chichaqua for at least 8,000 years and as likely as much as 10 to 12,000 years. Thirty-three documented cultural sites exist at Chichaqua. The majority of the project has not been extensively surveyed and the potential for additional sites is probable.

Further archeological inventories and any interpretive activities are unfunded and no specific plans exist for these efforts. Staff, however, will continue to actively seek opportunities to partner with agencies and educational institutions to record and preserve the cultural wealth of the area.

The potential for disturbing a cultural site exists with all projects involving subsurface disturbance. The Office of the State Archeologist (OSA) has produced a map indicating which geomorphic elements indicate a probability for archeological significance. Any project within the areas designated as having moderate, moderately-high, or high probability by the OSA, will be surveyed prior to any construction.

Any interpretation of cultural resources will not deal in specifics but rather in generalities to protect the resource.

### **4) Public Use**

All present and future public use allowed at the Chichaqua Bottoms Greenbelt must adhere to the mission statement by being compatible with the natural resources of the area. This section will not deal with uses normally associated with park settings (campgrounds, picnic areas, etc.) but those associated with natural resources.

#### **a) Environmental Education**

The purpose is to provide conservation education activities to promote awareness and to focus on a meaningful conservation ethic. Learning opportunities for people of all ages will increase their understanding of the natural world through high quality, enjoyable, interpretive programming. Education will also interpret the significance of Chichaqua and its natural resources.

School Programs-Polk County naturalists will continue to lead environmental education field trips to Chichaqua. Engeldinger Marsh and the old river channels and trails near the park facilities are currently used for nature exploration with school children. The majority of students are fifth and sixth graders with some junior and senior high groups. These field trips emphasize the importance of wetland to wildlife and humans. They also feature other natural and reconstructed habitats of the area including prairies, woodlands and the old Skunk River oxbows. Other field trips incorporate outdoor skill education such as teaching basic canoeing techniques.

Public programming- Chichaqua is also a favorite location for public programs. The flat scenic trails make the area an ideal location for teaching cross country

skiing and the river oxbows are perfect for teaching canoe basics. Area wetlands are annually used for popular programs on frogs and toads. Prairies, wetlands, and woodlands are frequently used to teach about habitat losses and reconstruction efforts.

Passive forms of interpretation such as signs or kiosks educate the casual visitor without the need for staff.

## **b) Hunting**

Current deer, waterfowl, and small game hunting will continue to be supported at Chichaqua. To the extent feasible, periodic questioning by staff and other public input will monitor hunting experiences (harvest, hunting pressure, etc.).

Three areas at Chichaqua prohibit hunting year-round or prohibit or restrict public use during certain periods of the fall to minimize user conflicts or to provide security for waterfowl:

- An area north of N.E. 126<sup>th</sup> Ave. east and west of the Chichaqua office is closed to hunting year-round due to conflicts with park facilities, the Longhouse, park residence, and the shop/office complex.
- The Controlled Waterfowl Hunting Area has been designated to prevent the public from disturbing waterfowl and hunters that have reserved hunting blinds. The public is prohibited from entering this area during the period beginning September 1 through the end of duck hunting season each year. Exceptions are hunting parties with paid blind reservations and archery deer hunters that have been issued special-use permits by Chichaqua Staff. This area opens up to public use, including public hunting, after the end of the closed period.
- An inviolate refuge has been designated to provide security for waterfowl during fall migrations that will entice large numbers of birds to the area and allow them to stay longer periods of time. Greater numbers of birds not only create better hunting at Chichaqua, but they also provide opportunities for excellent wildlife viewing. This refuge designation prohibits anyone from entering this area during the period beginning September 1 through the end of duck hunting season each year. This area opens up to public use, including public hunting, after the end of the closed period.

## **c) Universal Access and Design**

The Chichaqua Bottoms Greenbelt is a restoration project and the majority of acquisitions have one or more easements in effect that restricts the land to certain conservation related purposes. These easements restrict management options, particularly those that focus on development of hard infrastructure.

The Polk County Conservation Board and Iowa Department of Natural Resources are dedicated to the principles of the Americans with Disabilities Act. They will endeavor to provide a range of opportunities that reflect the varied recreation opportunities in the diverse habitat types that occur at Chichaqua.

These agencies will continue to provide a high level of accessibility that is practical and consistent with the user's expectations in coordination with the constraints and opportunities presented by the natural environment. **Wherever full accessibility is not feasible, efforts will be made to provide an equivalent experience.** Current ADA guidelines, in regard to recreational facilities and outdoor-developed areas, specify only minimum requirements to achieve accessibility and have not been formalized. Management has already made the commitment to go beyond the "letter" of the law and implement the "spirit" of the law.

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