SUGGESTIONS FOR A NATURAL RESOURCES MANAGEMENT PLAN

C. G. HILL MEMORIAL PARK

Forsyth Audubon

Contents

1. Executive summary and goals

2. System management objectives

3. Site management inventory data

4. Site action plan

5. Performance measures

6. Costs

7. Supplemental information

Executive summary and goals:

C. G. Memorial Park located in northwestern Forsyth County spans 185 acres of rolling wooded hills, open fields and a small lake. Set in a semi-rural landscape of homes on large lots, open land and agricultural fields it offers active and passive recreation for families and nature lovers. Natural resources of the park include woodlands, meadows, streams, ephemeral creeks and ponds, flood plain and the wonderful animals and plants that enrich and enable our lives. Walking trail systems wind through woods, fields, and along streams allowing visitors to enjoy the beauty and peacefulness of nature. Our parks serve as the outdoor classrooms of our community, a vital function to bring people and nature together for mutual benefit.

This plan is offered to assist in the management of C. G. Hill Memorial park to meet these goals:
1. Protect and enhance the natural resources of C. G. Hill Memorial Park

2. Enhance the experience in nature for visitors to the park
3. Protect and enhance habitat for beneficial animals and plants

In order to meet these goals we propose the following objectives:
1. identify and target critical habitat areas such as meadows, streams, ponds, woodlands, buffers and the plants and animals inhabiting these areas
2. restore and enhance native plant communities
3. protect water quality of Bashavia Creek and its tributaries
4. lower county maintenance costs
5. encourage public engagement and education

The natural resources of C. G. Hill Memorial Park have been altered from their original condition by prior use and development. The park is seen as a combined active and passive recreation green space, to protect this balance, no further development is advised. By enhancing the natural resources of the park, the various habitats, flora and fauna, the land can be returned to a beautiful and more natural state. This can be achieved in a sustainable and cost effective manner by an alteration in current land management practices and fostering the growth of native plants.
Our parks serve as the outdoor education classroom for the community, a vital function to bring people and nature together for mutual benefit.
It is important to recognize not only the physical components of natural resources management but cultural components that influence it as well. Involvement of the public through programming, signage, education and volunteer opportunities is critical for the success of any shift in the management of public spaces.

System Management Objectives:

Forsyth Audubon will identify and map natural resources sites by biological surveys within the park and make specific recommendations.

Existing native plant communities will be enhanced

Native plant communities will attract, nourish and protect beneficial wildlife such as birds and pollinators

Efforts to identify, control, and remove non-native invasive plants will be implemented

Grasslands will be managed with wildlife as a priority

Park maintenance costs will decrease as mowing is decreased and invasive plants are identified and treated in a timely manner

Visitors to the park will be engaged through interpretive signage, presentations, and guided

nature walks allowing them to understand and appreciate the beneficial changes taking place.

Site Management Inventory Data:

C. G. Hill Park will have an inventory completed indicating existing plants and animals, invasive plant species, land types, streams, pools, stormwater drainage, human impact, rare and endangered species, and threats to natural resources. Detailed report will be presented.

Site Action Plan:

The use of herbicides and pesticides should be carefully limited. Sprayed insecticides are discouraged, when necessary, care should be taken so sprayed pesticides do not drift into meadows and pollinator gardens. (Pesticides and insecticides are under the control of Forsyth County Health Department, Environmental Health).

LOWER LOOP TRAILS AND LAKE: Hard surface walking and biking trails circle the area. A thin tree canopy is present with little undergrowth. A pleasant fishing lake is managed by NCWRC with occasional fish stocking and water quality monitoring. Development of invasive aquatic plant growth as well as water contamination should be watched for. Careful addition of flowering native shrubs, small trees and perennials to this area would add structural and floral diversity and beauty. These could be installed under the tree canopy and scattered around the shoreline of the lake to add additional layers to the woodland. This would add considerably to the nutrition and shelter available for birds, butterflies, bees and beautify the landscape.

UPPER LOOP TRAILS AND MEADOWS: An area of about 18 acres, this holds great potential for natural enhancement and wildlife habitat support.

The Sesquicentennial Memorial Grove, circled by a walking trail and trees, has a central meadow of about 1 acre now in grass. This would be a good site to convert to a native plant pollinator meadow with mainly native perennials and a small amount of native grass. It would add a beautiful, somewhat more formal, focal area to the grove with great wildlife benefits for birds and pollinators.
Using natural revegetation from the seedbank and possibly overseeding with a local native perennial seed mix this could be accomplished at low cost and effort. Light disking should be performed this winter to remove thatch and open up the soil to sunshine, a highly selective herbicide targeting cool season grass could be applied early spring when cool season grass begins to grow and warm season grass and forbs are still dormant. Seeding is best done November to February. The first year or two will require more frequent mowing, whenever growth reaches 10 to 12 inches, to keep down unwanted grass and forbs and give desired species opportunity to establish. By year three, the site should be divided into 3 parcels and mowed rotationally every three years at a blade height of 6 to 8 inches. Leaving standing grass

and flowers is important for winter nutrition and shelter for wildlife. Light disking periodically would be helpful. Occasional reseeding may be necessary.

To the west, north, and south of the Memorial Grove is meadowland of about 12 acres. Together with the surrounding park land this could support nesting grassland birds such as Eastern Meadowlark, Bobolink, Killdear, and sparrows. Using vegetative regeneration methods, relying on the existing seedbed, all of this can be converted to warm season native grass and forbs without the expense of heavy herbicide treatment and seeding. This area would benefit most from prescribed burning which would also be the most cost effective. The field should be divided into sections of one-third and each section burned or mowed every three years. It is important to leave un-mowed sections as this gives wildlife winter foraging and protection as well as adding color and structural beauty to the winter landscape. If burning is not an option then the entire 12 acres should be disked this winter to remove thatch, open the seedbed, and allow native grasses and forbs to grow. A highly selective herbicide targeting cool season grasses could be applied early spring while native grass and forbs are still dormant. Mowing to a height of 8 to 10 inches would continue in sections rotating every three years with associated light disking and herbicide use as needed. County parks department is encouraged to procure a suitable disk harrow. Currently there is a central closely mowed strip down the middle of this meadowland, this mowing should be discontinued as grassland birds prefer nesting in the middle of fields and any path would disturb nesting and fledging. No major mowing or other disturbance should occur during nesting fledging season, May to August. Mowing is best done in September, burning in February or March.
To the south of Memorial Grove, between the gravel road and the woodland, is a narrow strip of grass that would be better managed as a transition zone from grass to trees. This zone plus the woodlands extending south to Bashavia creek are rich in wildlife harboring Whip-poor-will, Chuck's poor-will, and even Bob-White Quail. Allowing this border to develop into grass of varying height with a scattering of small shrub and saplings that is bush-hogged every 2 to 3 years would be of great benefit to wildlife.

STREAMS AND POOLS: Bashavia Creek and two tributaties flow through the park and into the Yadkin river. Ensuring the water quality of these streams is most important. At this time these streams appear to have good riparian buffers and show only mild erosion. This should be maintained with water quality monitoring and lack of disturbance. Invasive plants should be identified and quickly controlled. There is one small, natural surface trail that leads to Bashavia Creek allowing visitors a view of the stream and floodplain. This could be lengthened along the creek with minimal disturbance to enhance visitor experience in this more natural region of the park.
Several standing or ephemeral pools with surrounding wetland are present which could harbor amphibians such as salamanders and frogs. These should be identified and protected.

WOODLANDS: Approximately 140 acres of woodlands are present in the park at this time. In 2015 the US Forest Service surveyed these woods and created a forestry management plan which is included under supplementary information. The woodlands have ample dead trees, snags, and down trees that make good habitat for birds and other wildlife. A common tree is the Virginia Pine which does not have much wildlife benefit. Other pines are present with a

scattering of beneficial hardwoods such as oak and beech. Juniperus virginiana (Eastern Red Cedar) is quite common, a native small tree that does have considerable wildlife benefit. Ilex opaca (American Holly is plentiful. Ground cover exists of grasses including invasive Microstegium vimineum, there are scattered Christmas Ferns and beds of Lycopodiopsidia (Clubmoss). The Forest Management Plan called for clear cutting some of the woodland with re-planting beneficial pine, thinning other areas, and preserving some as forest legacy. Selective thinning to allow growth of beneficial hardwoods is advised at this time. As the spread of Microstegium is not extensive at this time treatment should be undertaken with a selective herbicide. Preservation of a natural forest landscape is critical to the beauty and function of C. G. Hill park. We would advise against plantation pine planting or timbering. Several majestic tall old oak and beech trees are present
in the flood plain along Bashavia Creek which along with the 500 year old poplar near the lake speak to the old growth forest that once covered this area.

Performance measures:

Biologic surveys should be conducted periodically to see that the altered management practices are succeeding in enhancing habitat for visitors, plants and wildlife and the stated goals are being met. Visitor surveys may be conducted to ensure that the park is performing as a delightful, nurturing, educational natural resource for the community.

Cost estimate and funding:

Maintenance cost reductions should be realized from decreased mowing, control of invasive plants, and decreased use of fertilizers, herbicides and pesticide.
Interpretive signage estimated at $700 per sign for 5 signs: $3500
Native plant installation estimation: $20,000.
Invasive plant treatment: $3000
Selective forest thinning: $10,000
Funding sources can be sought ot offset these expenses.

Supplemental information:

Conceptual Master Plan C. G. Hill Memorial Park, forsyth.cc, descriptions, maps, forestry plan
“Establishing and Maintaining a Pollinator Meadow” Xerxes Society,
xerxes.org/publications/guidelines/establishing-pollinator-meadow-from-seed
“Changes in Plant Composition Following Disturbance in Restored Native Early Successional Communities” Powell, GeFellers et.al. University of Tennessee, Knoxville.
“Seeding is not Always Necessary to Restore Native Early Successional Plant Communities”

GeFellers, Buehler et.al. University of Tennessee, Knoxville.
“Transforming Fields into Grassland Bird Habitat”, Cornell University Cooperative Extension, cals.cornell.edu
“Best Management Practices for Grassland Birds” Virginia Bird Initiative, vagrasslandbirds.org
“Mowing” Habitat Improvement Program, fw.ky.gov
“Light Disking to Improve Wildlife Habitat in Grasslands and old Fields”, U. of A. Division of Agriculture, uaex.uada.edu
“Using Fire to Improve Wildlife Habitat”, NCSU Extension, content.ces.ncsu.edu
NC Native Plant Society, ncwildflower.org, native plant information, invasive plant listing by threat level.
Curtis Smalling, Audubon NC, personal communication consultation.
Hedgerows, Duke Garden, Blomquest.pdf
Hedgerow, Planting, USDA.pdf