



Canal Shores Golf Course

Action Plan for Implementing the Ecological
Restoration Master Plan of 2017



Canal Shores Golf Course Ecological Subcommittee

| | |
|-------------------|----------------------------------|
| Steve Neumann | Committee Chair |
| Chris Carey | Canal Shores Board Member |
| Mike O'Connor | Canal Shores Board Member |
| Rudy Van Loon | Canal Shores Board Member |
| Matt Rooney | Canal Shores Board Member |
| Brad Drake | Canal Shores Board Member |
| Tony Frandria | Superintendent / General Manager |
| Matt Bukovac | Assistant Superintendent |
| Eleanor Revelle | Alderman, 7th Ward |
| Judy Pollock | Community Member |
| Karen Glennemeier | Community Member |
| Richard Miller | Community Member |
| Nancy Pavkovic | Community Member |



Prepared by the Canal Shores Golf Course Ecological Subcommittee.



Technical Assistance provided by the National Park Service Rivers, Trails & Conservation Assistance Program.

Published by the Canal Shores Golf Course Ecological Subcommittee on July 21, 2020.

Cover Page Photo: Patrick Hughes Jr.



(Image Credits: Jason Way and Patrick Hughes Jr.)

Executive Summary

In 2015 the Evanston-Wilmette Golf Course Association received external funding to conduct an Ecological Master Planning Process. This plan sought to identify a strategy for integrating ecological restoration and environmental protection of local natural areas into the recreation mission of Canal Shores Golf Course. The result was a master plan that surveyed existing environmental conditions and land use patterns to develop recommendations for how to incorporate natural resource and recreation goals into the long-term strategic design of the golf course. This Action Plan builds off of the Ecological Restoration Master Plan by identifying and prioritizing implementation recommendations for five distinct sections of the course.



Action Plan for Implementation

The goal of this document is to categorize and prioritize conceptual recommendations from the Ecological Restoration Master Plan and identify resources, stakeholders, and planning requirements that will facilitate their implementation. To accomplish this, members of the Canal Shores Ecological Committee focused their efforts on two broad categories: Ecological & Habitat Restoration and Passive Recreation.



Ecological & Habitat Restoration

1. Ecological Restoration of Wetlands Areas
2. Habitat Enhancement



Passive Recreation

3. Recreation Amenities
4. Opportunities and Access

Site-specific objectives that correspond to these overarching goals were also categorized and prioritized as either High Priority, Medium Priority, or Low Priority depending on the feasibility of future funding and practicality of implementation. However, the three priorities are not associated with a particular timeframe. For example, a High Priority objective could be vital to the ecological vision of the golf course, but may take several years to complete; whereas a Low Priority objective may not be as essential, but could easily be completed in the near future.

High Priority - A planning component that is essential to the vision of the Canal Shores Golf Course and contains unique environmental characteristics or infrastructure developments that are immediate concerns to the community.

Medium Priority - A planning component that is important to the long term vision of the golf course and the community but not essential for immediate implementation.

Low Priority - An objective that can be planned and implemented as funding becomes available. These objectives may occur in conjunction with the redesign of the golf course or as they become feasible.



High Priority



Medium Priority



Low Priority

Section 1: Green Bay Rd. to Lincoln St.



Section 1: Green Bay Rd. to Lincoln St.



Objective 1.1– Restore Wetland #1 and #2



Objective 1.2– Expand two Wetlands Areas



Objective 2.1– Enhance existing canalbank habitat



Objective 3.1– Create a canoe/kayak launch



Objective 3.2– Maintain existing open space



Objective 4.1– Improve wayfinding/signage and gateway identification



Objective 4.2– Establish local boardwalk path for passive recreation



Work session to install native plants.
(Image Credit: Canal Shores Golf Course)

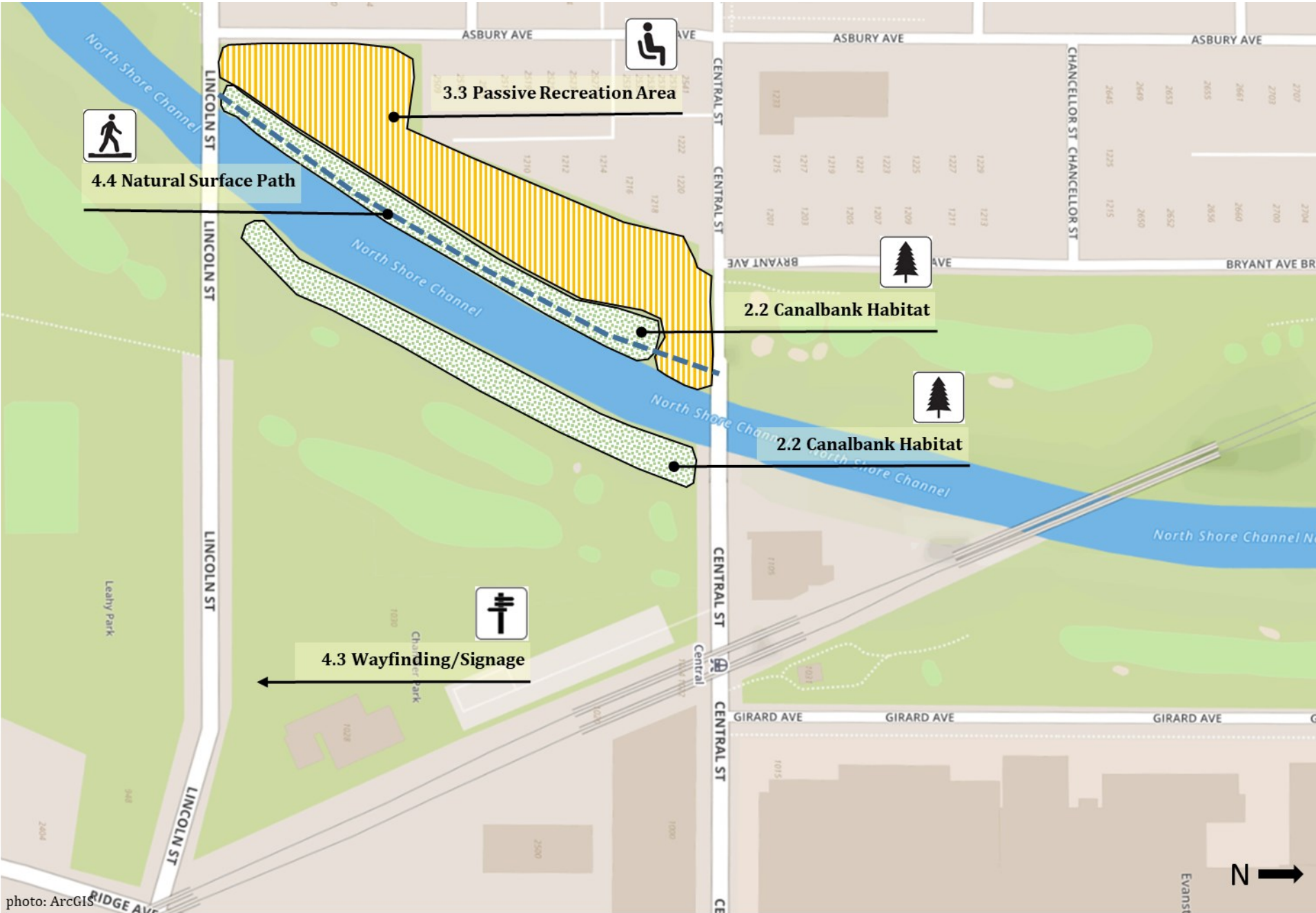
What makes this section important?

Green Bay Rd. serves as the southern gateway to the course and sees high pedestrian traffic due to the Central St. Metra Station. This section includes the South Birding Loop between Lincoln St. and the train tracks. Ecological features include two wetlands (with potential for expansion) that blend into wet prairie areas. Restoration along the sloped canalbanks could be a mix of grasses, prairie flowers, shrubs, and dotted single specimen trees, or small groupings with a focus on pollinator and bird habitat. A local Boy Scout troop is currently planning to build a natural surface trail on the west side of the canal near the proposed canoe/kayak site.

Planning Needs and Considerations

- The landscaping priority for this section should be improvements to the wetlands areas. Additionally, using green infrastructure to capture rainwater in the immediate area could potentially mitigate drainage issues.
- The Action Plan needs to consider the future impact of the Lincoln St. bridge replacement that is scheduled for 2023-2024.
- Natural resource interpretation focused on native plants and local wildlife should be incorporated into the wayfinding and signage improvements, especially near the birding loop.

Section 2: Lincoln St. to Central St.



Section 2: Lincoln St. to Central St.



M

Objective 2.2– Enhance existing canalbank habitat



L

Objective 3.3– Consider possible passive recreation area between Lincoln St. and Central St.



L

Objective 4.3– Improve wayfinding/signage and gateway identification



M

Objective 4.4– Establish local natural surface path for passive recreation



Canal Shores Golf Course signage and branding
(Image Credit: Canal Shores Golf Course)

What makes this section important?

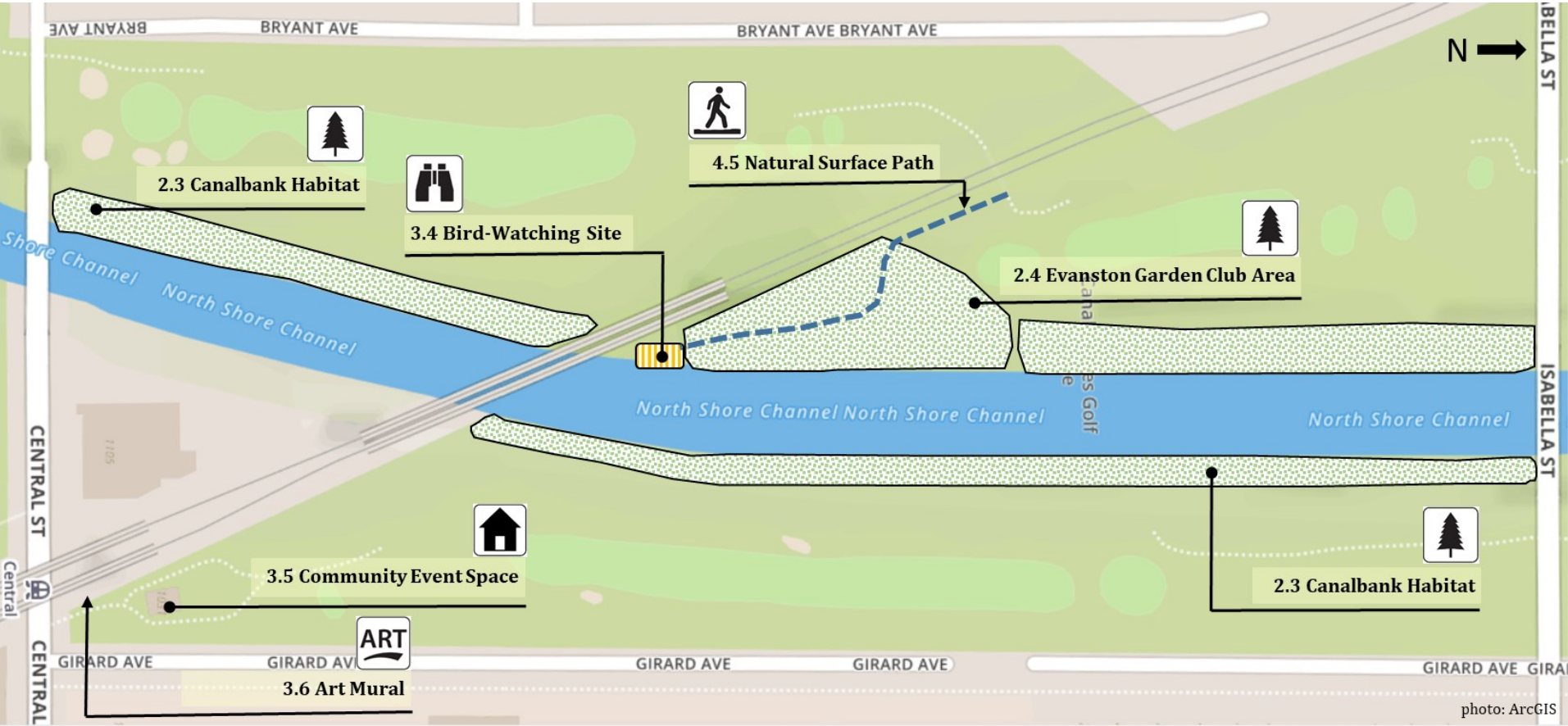
This section serves as the eastern gateway to Canal Shores and the location of the Clubhouse. This area is also home to youth golf camps and many community events such as outdoor concerts.

This section could pay homage to the Big Woods, a remnant of which is on the 10th hole. There is also a possibility for restoring oak meadows as long as it doesn't negatively impact turf conditions.

Planning Needs and Considerations

- Maintain open space to provide maximum flexibility for golf activities, but also expose youth to a landscape that is healthy and educational.
- Construction activity at the Central St. bridge during the spring of 2021 will impact nearby plants. The golf course should receive replacements for disturbed plants though and will need to develop a plan for landscaping.
- Coordinate with City of Evanston and MWRD to discuss the possible removal of the chain-link fence that runs along the channel in sections one and two.

Section 3: Central St. to Isabella St.



Art Murals Along the Chicago Area River System

Over the past two years the Chicago Community Trust has funded several public art projects to highlight local connections to the Chicago, Calumet, and Des Plaines Rivers as part of the “Our Great Rivers” initiative.

Left: a photo of a new mural in Ping Tom Park along the South Branch of the Chicago River. (photo credit: Chloe Gurin-Sands, Metropolitan Planning Council)

Far Left: Potential space for a mural at Canal Shores Golf Course. (photo credit: Canal Shores Golf Course)

Section 3: Central St. to Isabella St.



Objective 2.3– Enhance Existing Canalbank Habitat



Objective 2.4– Maintain partnership with Evanston Garden Club for habitat restoration



Objective 3.4– Build Bird-Watching Site in open space near CTA Tracks



Objective 3.5– Establish Community Event Space at Former Starter Shack



Objective 3.6– Create Public Art Mural on CTA Tracks Wall Near Hole #3 Shed



Objective 4.5– Establish local natural surface path for passive recreation



Kayaking on the North Shore Channel.
(Image Credit: Canal Shores Golf Course)

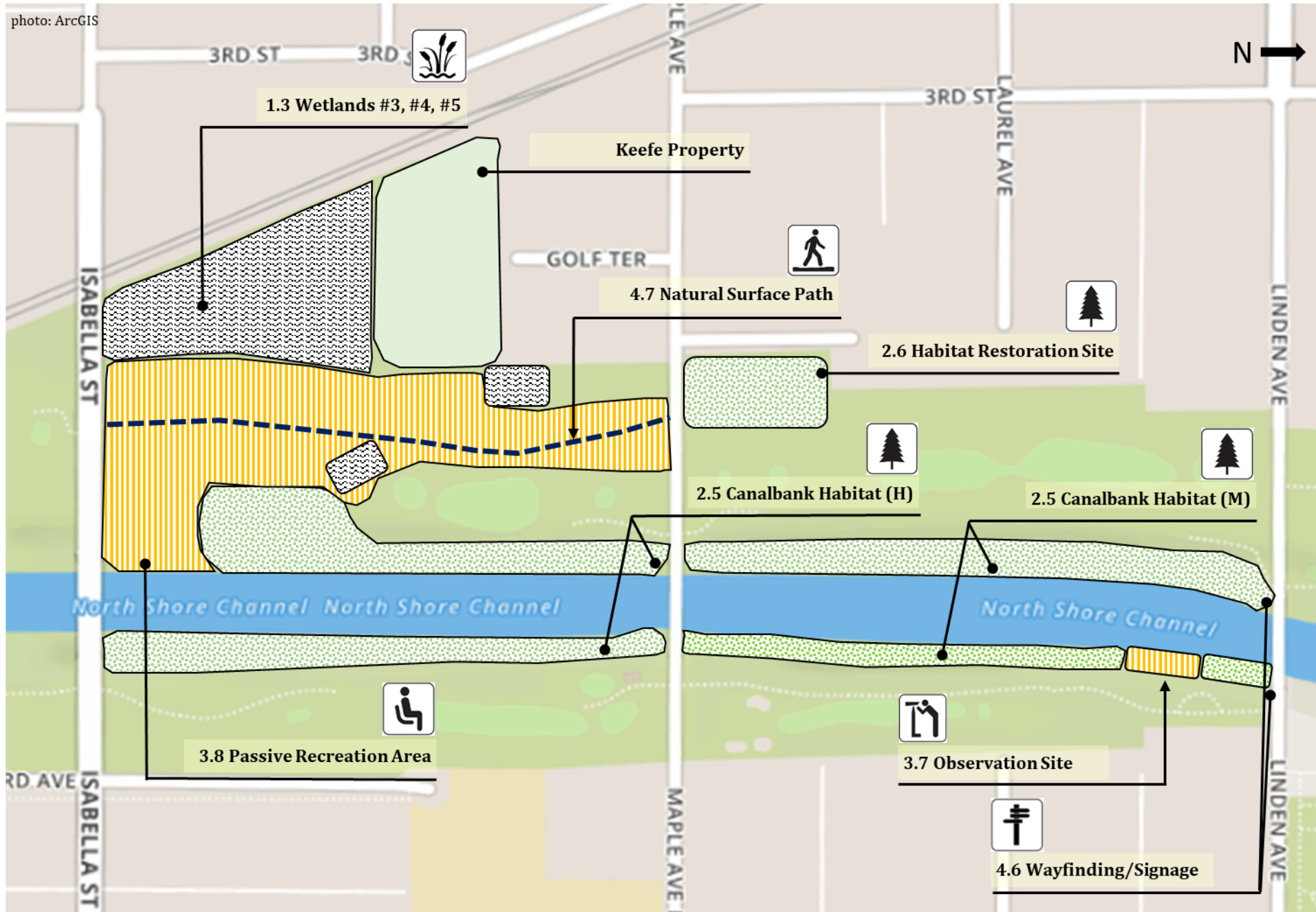
What makes this section important?

This section has the only tunnel on the property, going underneath the Chicago Transit Authority (CTA) train tracks. There are beautiful views of the CTA bridge that can be seen from this section of the course. A path to the most wooded area was recently restored by volunteer high school students. Parts of this section could also pay homage to the Big Woods. Further opening and enhancing sightlines from 3 green to 11 green would create additional viewsheds that allow visitors and golfers to see the channel and restored habitat on the opposite side.

Planning Needs and Considerations

- Explore funding opportunities through the Evanston Community Foundation's Root2Fruit grant.
- The Evanston Mural Program could be a potential resource for Objective 3.6.
- Coordinate with City of Evanston and MWRD to discuss the possible removal of the chain-link fence that runs along the channel.
- Develop strategies to highlight the CTA bridge running through the course.

Section 4: Isabella St. to Linden Ave.



Section 4: Isabella St. to Linden Ave.



Objective 1.3– Restore Wetland #3, #4, and #5



Objective 2.5– Enhance existing canalbank habitat



Objective 2.6– Habitat Restoration Site



Objective 3.7– Build observation site next to Linden Ave.



Objective 3.8– Consider possible passive recreation area between Isabella St. and Maple Ave.



Objective 4.6– Improve wayfinding/signage and gateway identification



Objective 4.7– Establish local natural surface path for passive recreation



Canal Shores Golf Course Natural Surface Path
(Image Credit: Jason Way)

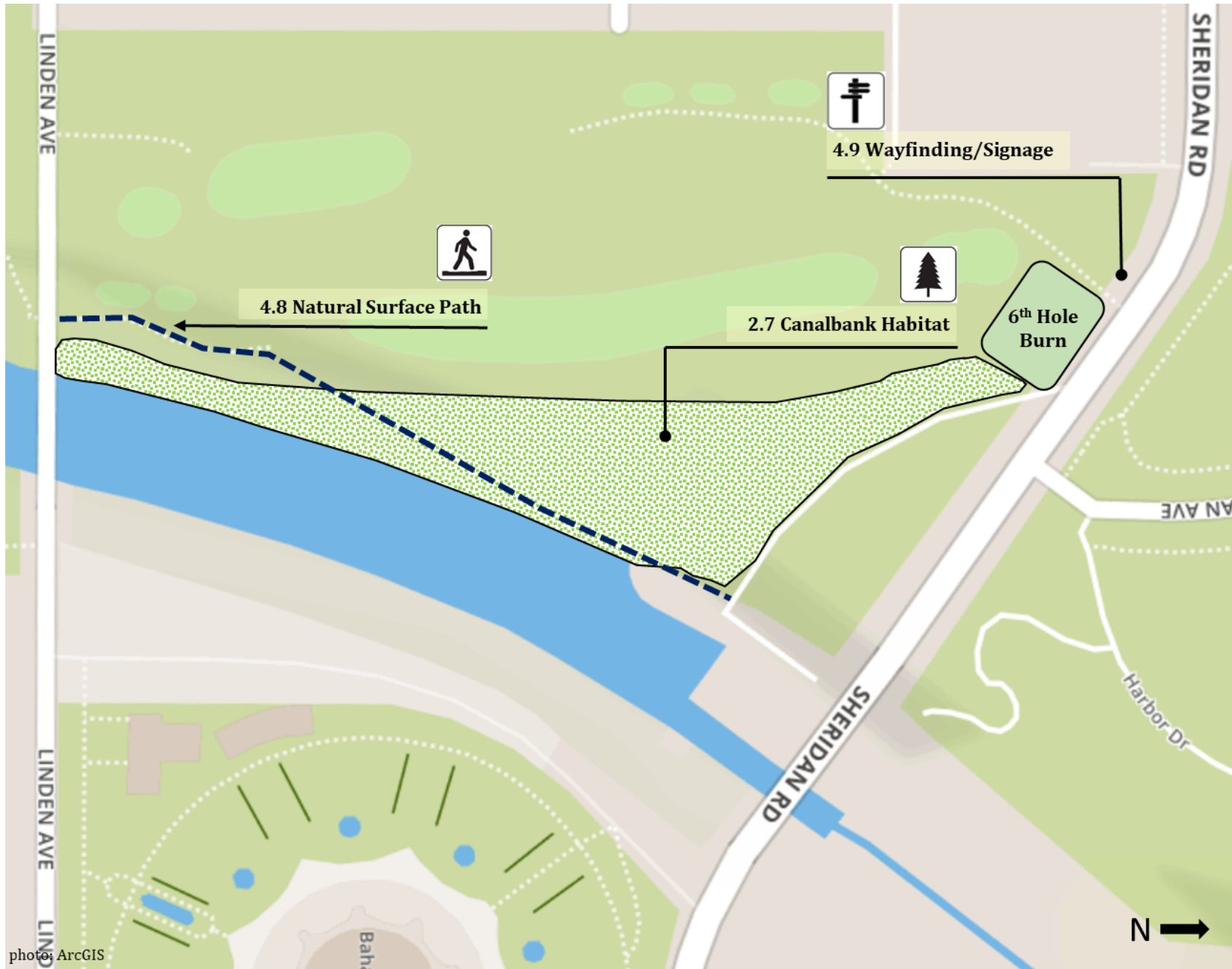
What makes this section important?

This section has the most ecologically significant part of Canal Shores Golf Course. It is home to three wetlands, several 200-year old trees, and features the only swamp white oak woods on the course. It is also a popular area for viewing wildlife due to the North Birding Loop.

Planning Needs and Considerations

- Canal Shores is still determining where future greens and tees will be located, which could complicate long-term planning.
- Improving the existing wetlands should be a significant priority for this section of the course.
- Coordinate with City of Evanston and MWRD to discuss the possible removal of the chain-link fence that runs along the channel.
- The highest point on the property is also in this section and is currently home to the course dump. There could be an opportunity to make better use of that space.

Section 5: Linden Ave. to Sheridan Rd.



Section 5: Linden Ave. to Sheridan Rd.



Objective 2.7– Enhance existing canalbank habitat



Objective 4.8– Establish local natural surface path for passive recreation



Objective 4.9– Improve wayfinding/signage and gateway identification



Canal Shores Golf Course and Baha'i Temple
(Image Credit: Canal Shores Golf Course)

What makes this section important?

This area serves as the northern gateway to Canal Shores. Beautiful views of the Baha'i Temple can be seen from this section of the course. Improving sightlines to the lake to give the area a duneland feel could pay homage to the course's proximity to Lake Michigan and could be done with very few trees and more grasses, dune flowers, and groundcover. Sections of the North Birding Loop also go through this section of the course.

Planning Needs and Considerations

- The Baha'i Temple is one of the great man-made wonders of the world and the view of it is currently obscured. Giving access to the course from the lakeside path and sidewalks surrounding this area should be a priority, but without encouraging people to walk into lines of play.
- Canal Shores recently completed the 6th Hole Burn project and this will require ongoing stewardship initiatives to sustain recent accomplishments.

Strategic Vision and Goals

The Ecological Subcommittee's Vision

A community destination to enjoy multi-use outdoor recreation amenities in an aesthetic landscape that supports native plant and wildlife habitat along the North Shore Channel.

Habitat Restoration

Enhance existing wetlands and green space and restore additional areas to a healthier native biological palette to increase the diversity of flora and fauna. Improve habitat connectivity for a variety of birds, pollinators, and terrestrial wildlife species within the North Shore Channel.

Passive Recreation

Provide safe and enjoyable opportunities for people of all ages to walk, observe and enjoy open space, and appreciate the beauty of Canal Shores without interfering or conflicting with golf activities.

User Experience

Encourage the shared use of open space and recreation amenities through proper etiquette and wayfinding/signage that directs the movement of visitors throughout the course. Provide environmental education opportunities through organized youth programming and birding walks. Make the course and its amenities safe and accessible for all visitors.

Organizational Capacity

Sustain the efforts of golf course members and neighbors to create an active and involved committee that oversees the maintenance of habitat restoration projects, wildlife monitoring, and stewardship initiatives. Communicate regularly with the Canal Shores Board of Trustees to discuss progress and advocate for continued support.

Green Infrastructure

Use landscaping techniques such as bioswales and rain gardens and the installation of native plants to retain rainwater on site and reduce the flow of stormwater to sewer systems and surface waters. Collaborate with the Metropolitan Water Reclamation District and other partners to identify best practices that could be implemented at the course.

Partnership & Funding Opportunities



Stakeholders and Potential Partners

- Illinois Dept. of Natural Resources - Coastal Management Program
- Active Transportation Alliance
- Evanston Ecology Center
- Friends of the Chicago River
- City of Evanston
- Village of Wilmette
- Wilmette Park District
- Metropolitan Water Reclamation District
- Openlands
- Evanston Environmental Association
- Evanston and Wilmette Garden Club
- Audubon Great Lakes
- Shedd Aquarium Riparian Plants Project



Funding Sources

- Chi-Cal Rivers Fund (NFWF)
- U.S. Army Corps of Engineers Planning Assistance to States Program
- Monarch Butterfly and Pollinators Conservation Fund
- Monarchs in the Rough (Audubon International)
- Chicago Community Trust - Our Great Rivers
- Chicago Metropolitan Agency for Planning-Local Technical Assistance Program
- Openlands ComEd Grant
- Union Pacific Community Grants
- Private Foundations



Highlighted Grant Opportunity - Chi-Cal Rivers Fund

The National Fish & Wildlife Foundation oversees the Chi-Cal Rivers Fund, an annual grant opportunity that provides funding from multiple partner organizations for projects that:

- Increase stormwater storage capacity through green infrastructure
- Enhance fish and wildlife habitat
- Improve public-use opportunities

Natural Resources Inventory

The Canal Shores Golf Course is approximately 82 acres of green space along the North Shore Channel which stems from the North Branch of the Chicago River. This river system plays an important role for habitat connectivity and ecosystem services. In November, 2016 Planning Resources Inc. coordinated a tree survey of the property that prioritized “high-quality” or “high-value” specimens. Trees throughout the site were inventoried, numerically tagged, and assessed by species, size, and condition. This inventory can be found in the Ecological Master Plan.

Canal Shores Bird Survey

In 2019 stewardship volunteers from the Ecological Subcommittee conducted a bird survey of the wooded areas and green space at Canal Shores. During spring months of that year approximately 166 species of birds were observed. These include 32 Species of Concern with sightings of federal endangered Black-Crowned Night-Heron and Osprey and federally threatened Black-Billed Cuckoo and Cerulean Warbler.



Black-Crowned Night Heron
(Image Credit: U.S. Geological Survey)

The Chicago River as a Wildlife Corridor

The non-profit Friends of the Chicago River has identified 70 different fish species that live in the Chicago River and notes that the river corridor provides habitat for a wide variety of mammals, birds, reptiles, amphibians, invertebrates, and insects. Visitors to Canal Shores sometimes use citizen science applications such as eBird or iNaturalist to photograph and document the diverse wildlife present at Canal Shores. Some of these are below.



Common Snapping Turtle
(Image Credit: revelle, iNaturalist)



Salt Marsh Moth
(Image Credit: gofthejungle, iNaturalist)

Future Conservation and Habitat Restoration Opportunities

Wetland restoration and habitat enhancement will create opportunities for new ecological projects and environmental programming at Canal Shores. Below are examples of best practices and current case studies that are beyond the scope of this Action Plan, but could serve as models for future stewardship and conservation initiatives.

Fauna

- **Wildlife Surveys** - These could offer fun and educational opportunities for students to learn about the mammals, birds, fish, amphibians, reptiles, and insects present at Canal Shores.
- **Aquatic and Riparian Habitat** - Seeding and plugs for aquatic plants near the channel will create habitat for species that are preyed upon by Black-Crowned Night Herons, reptiles, fish, and other animals.
- **Nesting Boxes** - Handmade structures such as birdhouses, bat boxes, and “insect motels” provide shelter for various types of wildlife. Avian nesting boxes may reduce competition and increase habitat for Saw-Whet Owls and Northern Flicker Woodpeckers. Mounting bat boxes on buildings or other large infrastructure such as bridges may help mitigate habitat loss for the various species of bats found in Illinois; bats play an important role in various ecosystem services, particularly insect control.
- **Pollinator Gardens** - Small groupings of native plants can provide habitat and food sources to many pollinator species (both insects and birds) and can also be used to increase biodiversity and promote lesser known native plant species. Rattlesnake Master (*Eryngium yuccifolium*) is specifically eaten by the Rattlesnake Master-Borer Moth which is a candidate for the Endangered Species List.
- **Multi-Season Plant Species** - Intentionally diversifying the plants within the course that provide food sources throughout the year (such as fall and winter berries) may benefit various bird species.



Osprey Nesting Platform
(Image Credit: Friends of the Chicago River)



Bat House
(Image Credit: Friends of the Chicago River)

Flora

- **Plant Monitoring** - Survey and monitor plant species with a small presence in the golf course (e.g. one of the tree surveys identified 26 species with fewer than five trees present on the course and 12 species with only one tree).
- **Support At-Risk Plant Species** - Commit to planting more Threatened or Endangered Species such as Eastern Prairie Fringed Orchid, Leafy-Prairie Clover, Milkweed, Prairie Bush Clover, etc. These can be obtained as seeds/plugs from local growers to ensure that the genetics and species of the plant palette match the native biodiversity.
- **Protect the Location of Rare or Threatened Species** - Encourage course stewards or citizen-scientists to confidentially catalogue the location of threatened or at-risk plant species. For example, ask iNaturalist users to put the entire golf course as location of species and not to pinpoint, this deters the efforts of people that would cut or pull out an entire plant to steal it. This can also be applied to wildlife nesting locations.
- **Phased Removal of Invasive Species** - Purchase already grown bushes/shrubs or raise them prior to buckthorn clearing to immediately replace buckthorn through a “phasing” concept which provides habitat to wildlife while lowering the risk of buckthorn regrowth.
- **Replacing Artificial Barriers** - Evaluate options for replacing the chain link fence along the channel with a more natural/aesthetic looking option that could also provide vertical plant growing space or wildlife habitat.

Aquatic

- **Water Testing** - Collaborate with MWRD and other non-profit partners to acquire water-testing data for the North Shore Channel.
- **Biological Water Filtration** - Plant seedlings of aquatic plant species at the water edge that provide natural filtration of contaminants to improve water quality.



Pollinator Plants
(Image Credit: Meredith Hom/USFWS)



Butterfly Weed
(Image Credit: NPS)



Paddle and Plants Volunteer Event
(Image Credit: Friends of the Chicago River)

Land & Soil

- **Soil Testing** - Conduct a Soil Quality Assessment to understand the current state of the soil that makes up the golf course. Utilize the Midwest Regional Supplement from the Army Corps of Engineers Delineation Manual to apply more specific information about soil hydrology in wetlands areas.
- **Ecosystem Restoration** - Different sections of the course may be restored to a healthier state by removal of invasive species and replacement with native species aligned with a deliberate plant palette.

Along the bank: Wetland species– wet, shaded/partial sun plants for the bottom of the sloped bank. Woodland species– wet-mesic, shaded plants & bushes for the slope itself. Savannah species– dry-mesic, full/partial sun plants for the top of the bank.

Along the course: Prairie species- Varying hydrology, height, and light can be used between golf lines and as gardens and patch habitat.

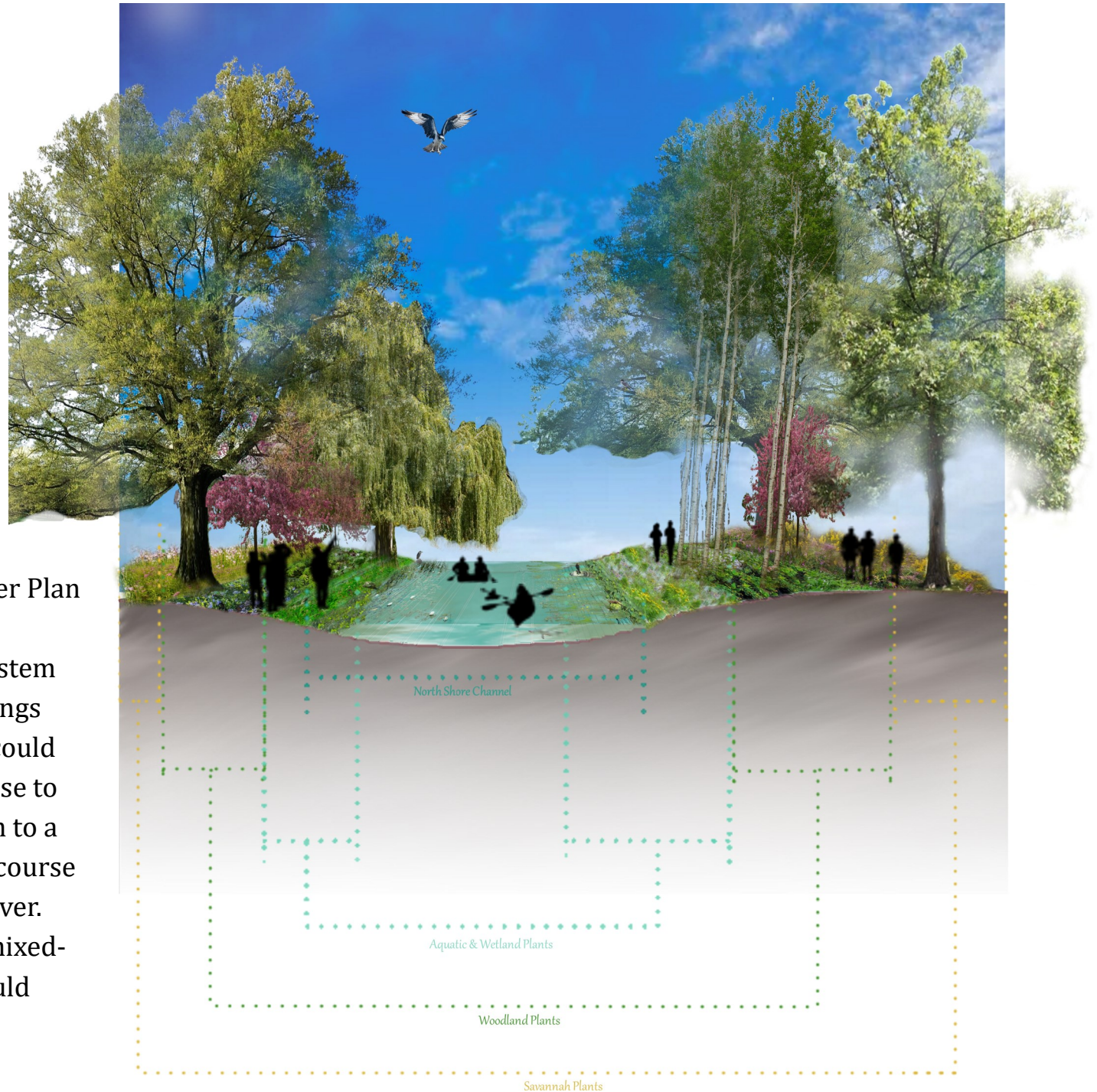
- **Green Infrastructure** - Develop strategies for incorporating green infrastructure into the course as a way of improving stormwater retention. These could include rain gardens and bio-swales near parking lots, green roofs on buildings, permeable pavers for parking areas and paths, rainwater harvesting barrels, roof downspout redirection away from paved areas, or xeriscaping.

Stewardship

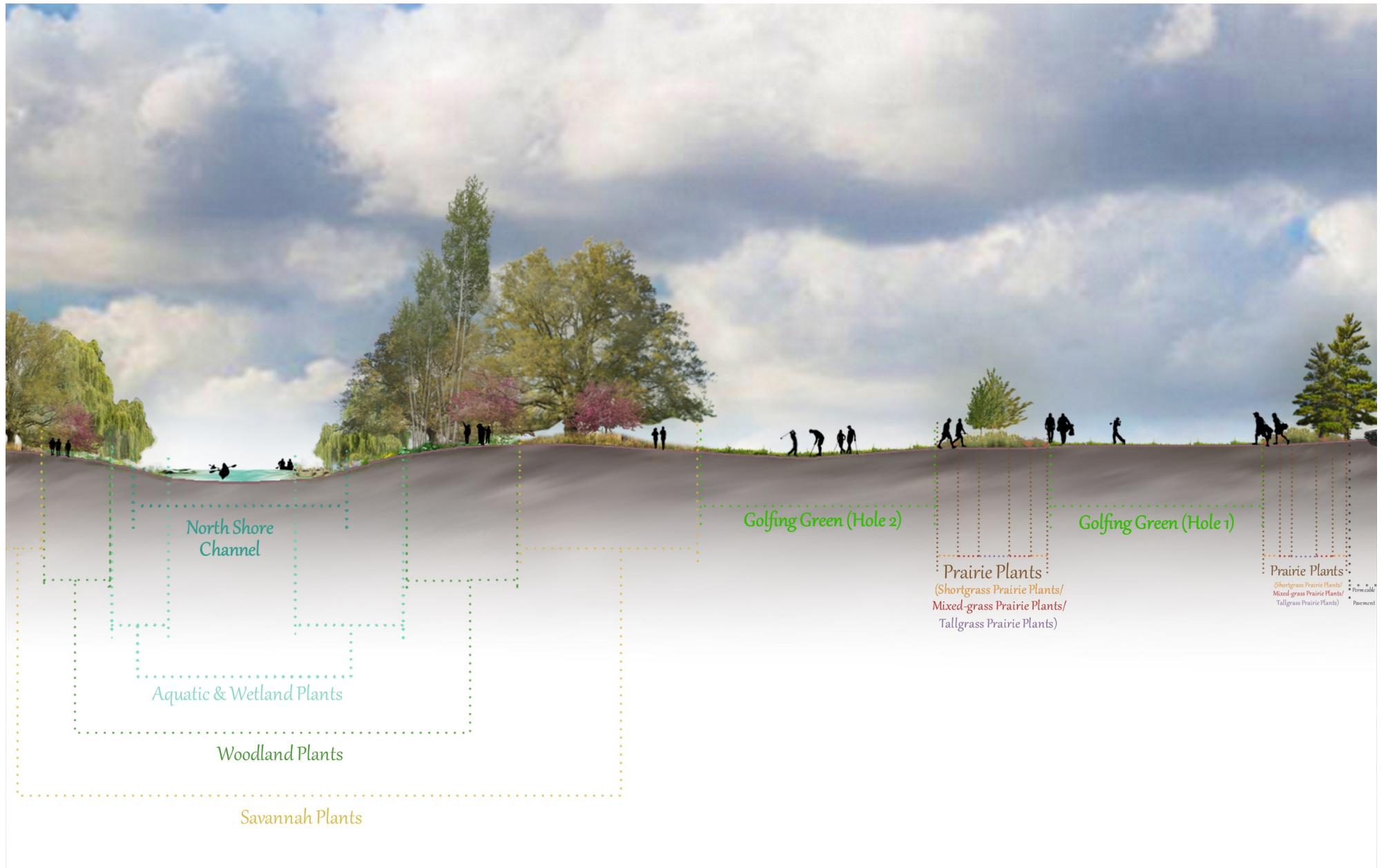
- **Community Clean-Up Days** - Partner with volunteer groups or organizations such as Friends of the Chicago River or the Shedd Aquarium for canoe clean-ups or river action days to remove litter from water and riparian areas.
- **Interactive Tree Identification** - Use identification tags to encourage visitors to learn about tree species on the course. Specific trees may need to be selected for this activity to keep visitors on a designated paths in appropriate sections and to prevent trampling of seedlings.
- **Volunteer Wildlife Monitoring** - Encourage visitors to use citizen-science applications such as eBird and iNaturalist to catalogue plants and wildlife throughout the course. Establish a Volunteer Wildlife Team led by the Ecological Subcommittee as recommended in the Ecological Restoration Master Plan.

Cross-Section Concept Rendering for North Shore Channel Habitat Restoration

The Ecological Restoration Master Plan identified habitat restoration opportunities for multiple ecosystem types. These conceptual renderings demonstrate how Canal Shores could plant aquatic/wetland plants close to the waterline and then transition to a savannah plant palette near the course rough where there is less tree cover. Prairie plants from shortgrass, mixed-grass, and tallgrass varieties would create habitat in the open space between fairways.



Cross-Section Concept Rendering: Channel and Course



Additional Long-Range Planning Discussions

As the Evanston-Wilmette Golf Course Association plans for the future of the Canal Shores Golf Course, other organizations are concurrently looking to the future of the region as well. How the Canal Shores Golf Course will integrate into the City of Evanston's Multi-Modal Transportation Plan, align with the vision of Active Transportation Alliance's Chicago River Trail Action Plan, or meet the preferences of local stakeholder organizations for continuous trail connections in the community are still to be determined. However, opportunities for inclusively discussing additional long-range planning goals with stakeholder groups and neighbors can inform policy-makers and help guide equitable decision-making. This Action Plan can serve as a first step towards implementation of identified objectives while additional planning discussions continue to frame visions for the future of the broader community.



Concept Rendering for a bridge over the North Shore Channel in Chicago
(Image Credit: Chicago Department of Transportation)



Concept Rendering for the 312 River Run in Chicago
(Image Credit: Chicago Department of Transportation)

Appendix 1 - Prioritization of Action Items



High Priority - A planning component that is essential to the vision of the Canal Shores Golf Course and contains unique environmental characteristics or infrastructure developments that are immediate concerns to the community.

Ecological & Habitat Restoration



1.1 Wetlands #1 and #2
(section 1)



2.1 Canalbank Habitat
(section 1)



1.2 Expand Wetlands
Area (section 1)



2.4 Evanston Garden
Club Partnership
(section 3)



1.3 Wetlands #3, #4,
and #5 (section 4)



2.5 Canalbank Habitat
(section 4)



2.6 Habitat Restoration
(section 4)



2.7 Canalbank Habitat
(section 5)

Passive Recreation



3.4 Bird-Watching Site
(section 3)



3.6 Art Mural
(section 3)



4.8 Natural Surface
Path (section 5)

Appendix 1 - Prioritization of Action Items

M

Medium Priority - A planning component that is important to the long term vision of the golf course and the community but not essential for immediate implementation.

Ecological & Habitat Restoration



2.1 Canalbank Habitat
(section 1)



2.2 Canalbank Habitat
(section 2)



2.3 Canalbank Habitat
(section 3)



2.5 Canalbank Habitat
(section 4)

Passive Recreation



3.2 Maintain Open Space
(section 1)



3.8 Passive Recreation Area
(section 4)



4.2 Local Boardwalk Path
(section 1)



4.4 Natural Surface Path
(section 2)

Appendix 1 - Prioritization of Action Items

L

Low Priority - An objective that can be planned and implemented as funding becomes available. These objectives may occur in conjunction with the redesign of the golf course or as they become feasible.

Ecological & Habitat Restoration



3.1 Canoe / Kayak Launch
(section 1)



3.2 Maintain Open Space
(section 1)



3.3 Passive Recreation Area
(section 2)



3.5 Community Event Space
(section 3)



3.7 Observation Site
(section 4)

Passive Recreation



4.1 Wayfinding / Signage
(section 1)



4.3 Wayfinding / Signage
(section 2)



4.5 Natural Surface Path
(section 3)



4.6 Wayfinding / Signage
(section 4)



4.7 Natural Surface Path
(section 4)



4.9 Wayfinding / Signage
(section 5)

Appendix 2 - Plant Palette for Aquatic Species

- Lotus
- White Water Lily
- Yellow Pond Lily
- American Bur Reed
- Arrow Arum
- Bristly Sedge
- Common Arrowhead
- Common Bur-Reed
- Marsh Marigold
- Spotted Joe Pye Weed
- Turtlehead
- Water Shield
- Common Waterweed
- Eel Grass
- Long-Leaved Pondweed
- Sago Pondweed
- Common Lake Sedge
- Common Tussock Sedge
- Hardstem Bulrush
- Pickerel Weed
- River Bulrush
- Swamp Loosestrife
- Water Knotweed
- Halbred-Leaved Rose Mallow



Yellow Pond Lily
(Image Credit: NPS)



Spotted Joe Pye Weed
(Image Credit: Idaho Dept. of Fish and Game)



Pickerel Weed
(Image Credit: Illinois Natural History Survey)

Appendix 3 - Plant Palette for Wetland Species

- Fringed Brome
- Rice Cut Grass
- Sweet Grass
- Blue Vervain
- Boneset
- Meadowsweet
- Red Osier Dogwood
- Awl Fruited Sedge
- Cord Grass
- Rose Milkweed
- Shining Aster
- Willow Aster
- Nodding Bur Marigold
- Sweet Flag
- Bunch Flower
- Dense Blazing Star
- Flat-Topped Aster
- Garden Phlox
- Marsh Blue Violet



Red Osier Dogwood
(Image Credit: Steve Hegji)



Rose Milkweed
(Image Credit: Illinois Dept. of Natural Resources)



Marsh Blue Violet
(Image Credit: Illinois Natural History Survey)

Appendix 4 - Plant Palette for Woodland Species

- American Hazelnut
- Crowfoot Fox Sedge
- Riverbank Wild Rye
- Jack in the Pulpit
- Bellwort
- Bishop's Cap
- Bloodroot
- Poke Milkweed
- Doll's Eyes
- Hairy Beardtongue
- Wild Blue Phlox
- Wild Leek
- Wild Strawberry
- Yellow Pimpernel
- Zig Zag Goldenrod
- Large-Flowered Trillium
- Lion's Foot
- Mullein-Foxglove
- Celandine Poppy
- Red-Berried Elderberry
- Rue Anemone
- Solomon's Seal
- Swamp Goldenrod
- Virginia Bluebells
- White Trout Lily



Jack in the Pulpit
(Image Credit: Scott Teodorski)



Wild Leek
(Image Credit: University of Illinois)



Celandine Poppy
(Image Credit: Illinois Natural History Survey)

Appendix 5 - Plant Palette for Savannah Species

- Oak Sedge
- Blue Joint Grass
- Scribner's Panic Grass
- Prairie Cinquefoil
- Cardinal Flower
- Bottlebrush Grass
- Little Bluestem
- Common Ironweed
- Royal Catchfly
- Wild Bergamot
- Common Milkweed
- Illinois Rose
- Lead Plant
- New Jersey Tea
- Elderberry
- Culver's Root
- Great Blue Lobelia
- Christmas Fern
- Cinnamon Fern
- Jacob's Ladder
- Mayapple
- Wild Columbine
- Plains Oval Sedge
- Purple Coneflower
- Wild Cream Indigo



Cardinal Flower
(Image Credit: NPS)



Illinois Rose
(Image Credit: Prairie Moon Nursery)



Purple Coneflower
(Image Credit: NPS/Jeff Zylland)

Appendix 6 - Plant Palette for Prairie Species

- Compass Plant
- Prairie Cinquefoil
- Long-Bracted (Prairie) Spiderwort
- Wild Columbine
- Silky Wild Rye
- Pennsylvania Sedge
- Rattlesnake Master
- Foxglove Beardtogue
- Sawtooth Sunflower
- Round-Headed Bush Clover
- Wild Quinine
- Prairie Dock
- Prairie Coreopsis
- Big Bluestem
- Brown Fox Sedge
- Stiff Goldenrod
- Rough Blazingstar
- Prairie Onion
- Queen of the Prairie
- Marsh Blazingstar
- Rosinweed
- Prairie Sundrops
- Pale Purple Coneflower
- Prairie Milkweed
- Butterflyweed



Rattlesnake Master
(Image Credit: Missouri Dept. of Conservation)



Big Bluestem
(Image Credit: NPS/Gordon Dietzman)



Butterfly Weed
(Image Credit: NPS/Gordon Dietzman)

Appendix 7 - Additional Resources

Wetlands Information

<https://www.nan.usace.army.mil/Missions/Regulatory/Wetlands-Identification>

<https://usace.contentdm.oclc.org/utils/getfile/collection/p266001coll1/id/7630>

https://www.nrcs.usda.gov/wps/portal/nrcs/detailfull/national/water/wetlands/tr/?cid=nrcsdev11_015394

Ecosystem Plant and Flower Information (Includes Invasive Species)

<https://www.illinoiswildflowers.info/>

<https://www2.illinois.gov/dnr/education/Pages/PlantLists.aspx>

Websites with Calculators & Ecosystem Planting Guidance

<http://www.genesisnurseryinc.com/calculators.html>

<http://www.spencenursery.com/Index/home.php>

Green Infrastructure

<https://www.epa.gov/green-infrastructure/what-green-infrastructure>

External Organizations

Monarchs in the Rough - A partnership between Audubon International and Environmental Defense Fund. The program connects and supports superintendents and other golf course staff as they plan, install, and manage habitat projects for the monarch butterfly on their courses. <https://monarchsinthetrough.org/>

National Fish & Wildlife Foundation - A conservation organization that awards competitive grants for programs to protect and conserve fish, wildlife, plants and habitats. The Foundation works with public and private partners in all 50 states and U.S. territories to address conservation problems. <https://www.nfwf.org/>