

Summary Report for the 4 year Audubon Carse Brook Wetland Restoration based on tasks listed in the Cooperative Agreement (CFDA # 15.658)

- 1) **Install Clemson pond levelers at two impoundments within the Miles Wildlife Sanctuary in Sharon, Connecticut and maintain these levelers for the duration of the cooperative agreement.**
 - a. Three pond levelers were installed at two locations within the Miles Wildlife Sanctuary that historically had issues with high water, flooding and the presence of beaver. To date, the levelers have worked in setting water levels in each impoundment equal to the pipe outflow. In both cases, the inflow cage set-up was deep enough to stay submerged even during extended dry spells where evaporation from the impoundments may have exposed the inflow pipe and triggered a response from the beaver. (If there is a continuing dry spell, the inflow pipe eventually may be compromised.) The beaver continue to patrol the outflows of all three pipes, bringing material to the dams, but so far the levelers are working.

- 2) **Construct and install 10 wood duck nest boxes within the Miles Wildlife Sanctuary in Sharon, Connecticut. Once the boxes have been installed, monitor and maintain these boxes for the duration of the Cooperative Agreement.**
 - a. 10 boxes were constructed and installed throughout the Miles Wildlife Sanctuary. Of the 8 that were installed before last spring (2016): 3 boxes with successful hooded mergansers (average clutch size: 8), 2 boxes with successful wood ducks (average clutch size: 6), 3 boxes with starlings with two of those nests laid over wood duck eggs. Removing additional old boxes throughout the wetland and installing replacements where the habitat (always shifting) looks promising continues to be on the agenda.

- 3) **Subcontract with a qualified firm to treat approximately 10 acres of invasive common reed with herbicide within the Miles Wildlife Sanctuary in Sharon, Connecticut. Conduct vegetative and breeding bird surveys of the treatment area before treatment begins and after treatment is completed to determine the efficacy of the treatment.**
 - a. 3 herbicide treatments for common reed were applied, a year apart, in 7 separate patches throughout the Miles Wildlife Sanctuary. A post vegetative survey revealed that although the areas where common reed occurred were effectively killed, the plant was re-sprouting in all patch edges. Some native plants were found to have colonized the patches of common reed that were not present when the area was surveyed before herbicide treatment. In this respect, the treatment of the invasive common reed was somewhat effective. Both pre and post vegetative and bird surveys found that the Carse Brook Wetland supports a high diversity of flora and fauna despite the fact that the area is influenced by several non-native invasive species.





- 4) **Remove encroaching successional hardwoods and invasive shrub species along the margins of a section of the wetland within the Miles Wildlife Sanctuary in Sharon, Connecticut and conduct vegetative and breeding bird surveys of the restoration area before removal begins and after removal is completed to determine the efficacy of the treatment.**
 - a. Approximately 60 small trees (mostly red maple) and some invasive shrubs (mostly multi-flora rose) were removed in a section of the wetland in the Miles Wildlife Sanctuary. More work still needs to be done here but the initial response from the bird surveys was a varied species list with a negligible difference between surveys. Two targeted species, blue-winged warbler and American woodcock, were both recorded but no response was recorded from the call back surveys for wading birds.
- 5) **Design and install interpretive signage on the Miles Wildlife Sanctuary's informational kiosk.**
 - a. See pictures below





Audubon Carse Brook Wetlands Restoration Project

The goal of the project, which was implemented from 2012 through 2016, was to enhance breeding and foraging habitat for waterfowl and visitor access to the Carse Brook Wetland System. Components of the work included:

<p>1) Installation of three pond levelers to help stabilize water levels for waterfowl and wetland plants, restore public access and alleviate area flooding.</p> 	<p>2) Invasive plant management work on approximately 3.5 acres of common reed (phragmites).</p> 
<p>3) Remove encroaching successional hardwoods and invasive shrub species in one section of wetlands.</p> 	<p>4) Build and install 10 wood duck boxes in appropriate habitat.</p> 

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