

Pollinator Habitat Restoration Project— SUMMARY

Habitat Restoration of Upland Meadows to Improve Ecological Capacity for Keystone Pollinator Species at Manassas National Battlefield Park, many accomplishments and objectives were successfully completed. National Park Service (NPS) staff identified 18 acres of upland meadow habitat that are not reaching their full ecological capacity due to exotic plant infestations that have created monocultures. NPS staff completed Habitat Vegetation Surveys in these areas to assess current conditions prior to site treatment and habitat restoration. NPS volunteers and Smithsonian Institute specialists completed Species Surveys of Birds, Plants and Pollinators for monitoring populations and trends. NPS staff, including the National Capital Region's Exotic Plant Management Crew, prepared 18 acres of ecologically compromised meadows for the habitat restoration site treatment. Site preparations included vegetation surveys, fall and spring exotic plant management, and collecting photographs for visual comparison in future years. Interpretive materials were developed for communicating the importance this grant project, pollinators, and the National Park Service's role in conservation with the public. NPS staff and volunteers created and distributed an informative video and tri-fold brochure to educate the public on these matters. The video is now available online, and via Quick Response codes printed on Pollinator brochures that are distributed throughout the park. Seed plantings of Xerces Society Mid-Atlantic Pollinator Seed Mix occurred in early spring. The park held two volunteer seed planting days in May that engaged with local communities about pollinators, habitat restoration, and the National Park Service. The areas that were not seeded during the volunteer events were seeded with a no-till seed drill. The 144 pounds of seed mix planted in this habitat restoration included 17 different species of native annual and perennial warm season grasses and forbs that are expected to keep the habitat and food source blooming from spring through fall. It is with great excitement, that we have completed this habitat restoration project, and we are anticipating a very successful habitat restoration as the growing season continues. Following the completion of this project, NPS staff will continue to monitor and treat the restoration sites for invasive plants to reduce unwanted vegetation competition. Photo documentation and habitat vegetation surveys will be completed each year to document the success of this restoration project. Interpretive brochures and the educational video will continue to be distributed throughout the park to visitors to promote conservation and the importance of pollinators.

Tangible Results:

Tangible results that have been achieved to date include 18 acres of habitat surveyed, prepared and planted with the Xerces Society Mid-Atlantic Seed Mix for habitat restoration. During site preparation, these 18 acres of upland meadow have been treated for exotic plant infestations by means of mechanical and chemical treatments by NPS staff and volunteers. The different sites were treated to eliminate non-native competition and to promote sufficient seed to soil contact necessary for a high seed germination rate. The 18 acres had vegetative competition removed and soil exposed prior to

volunteer hand broadcast seeding and no-till drill seeding. The Species Survey of Birds, Plants and Pollinators identified 7 species of butterflies and over 48 species of bees in the Battlefield. The survey also identified the 20 most invasive plant infestations in the Battlefield's meadow habitats. NPS staff has created and distributed a short, 5 minute educational video about Pollinators titled, "The Buzz on Pollinators." This video was designed to address the important role that pollinators play in our lives, what is threatening their populations, and how people can help pollinators in their own backyards. The video has reached over 11,000 people and has been viewed approximately 3,230 times. Approximately 7,200 Pollinator brochures were designed and printed for distribution to park visitors at Manassas National Battlefield Park.

Learn more:

NPS staff has created and distributed a short, 5 minute educational video about Pollinators titled, "The Buzz on Pollinators." This video was designed to address the important role that pollinators play in our lives, what is threatening their populations, and how people can help pollinators in their own backyards. To date, the video has reached over 11,000 people and has been viewed approximately 3,230 times via the Park's Facebook and YouTube accounts. A pollinator brochure was designed, printed and distributed to the public. The brochure will include a Quick Response code link to the educational video. Roughly 40 volunteers have been involved in the Species surveys, project site preparations, and habitat restoration seed plantings performed at the park. Fifteen youths contributed to the habitat vegetation surveys and restoration site preparation and plant seeding.

Partners: Xerces Society, George Washington Memorial Parkways VIP's, Smithsonian Institute, Boy Scouts and Girl Scouts of America

Additional Information:

Following the completion of the site preparations and seed planting, NPS staff will continue to monitor and treat the restoration sites for invasive plants to reduce unwanted vegetation competition. Photo documentation and habitat vegetation surveys will be completed each year to document the success of this restoration project. The seed mix planted in this habitat restoration included 17 different species of native annual and perennial warm season grasses and forbs that are expected to keep the habitat and food source blooming from spring through fall. Many of the species planted are perennials, and will take one to two years to mature to the flowering life stage. Interpretive brochures and the educational video will continue to be distributed throughout the park to visitors to promote conservation and the importance of pollinators.

The habitat restoration project planted 144 pounds of a native seed mix containing 17 different native plant species to create a biodiverse habitat that keeps blooming throughout the seasons for a consistent source of foraging materials and habitat. The plant species include: warm season grasses such as Little bluestem, Purple coneflower, Anise hyssop, Lanceleaf coreopsis, Partridge pea, Common milkweed, Marsh blazing star, Ohio spiderwort, Giant sunflower, Blue false indigo, Tall white beardtongue, Wild bergamot, New England aster, Showy goldenrod, Slender mountainmint, mistflower, and boneset. This

variety of native species will replace monocultures of invasive plant species such as japanese honeysuckle, musk thistle, common mullein, and autumn olive to benefit monarch butterflies, bees, song birds, and ground nesting bird species. A sample of primary benefiting species includes: monarchs, variegated fritillary, carolina satyr, common buckeye, sulphurs, swallowtails, hummingbird moths, twin spotted sphinx, and many more species of Lepidoptera. Benefiting birds would include, but not limited to: Ruby-throated hummingbirds, kill deer, american woodcock, northern bobwhite, wild turkey, grasshopper sparrow, dark-eyed junco, savannah sparrow, vesper sparrow, eastern meadowlark, and prairie warblers.

The battlefield held two volunteer events in which a variety of volunteers came to implement their passion for conservation. The volunteers were so eager to learn more about the project and help in whatever way they could. They also helped to make the educational video because they wanted to educate and motivate others to become involved in conservation. It is so inspiring to see people from all backgrounds and ages interested in helping to protect and restore the nation's natural resources. These people come on their day off to work very hard for the benefit of our environment, and they keep a smile on their faces the whole time. It was a great experience to be involved with this program.