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INVASIVE SPECIES MANAGEMENT AND BUFFER OUTREACH ON GOSS FARM, RYE, NH



A Final Report to
Piscataqua Region Estuaries Partnership

Submitted by
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December, 2011

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Abstract

The Goss Farm was permanently protected in November of 2010 with assistance from the USDA, Natural Resources Conservation Service Farm and Ranch Lands Protection Program (FRPP) and is located directly adjacent to the Awcomin Salt Marsh, in Rye, New Hampshire. The Town of Rye Conservation Commission owns the land, and the RCCD holds the conservation easement on the property. The Piscataqua Region Estuaries Partnership (PREP) provided \$9,930 in funding assistance to support the Rockingham County Conservation District in its partnership capacity with the Rye Conservation Commission and other natural resource agencies to complete outreach, to plan and complete integrated pest management control practices, and to establish a 100 foot shoreland buffer at the Goss Farm. All objectives originally proposed through the PREP funding request have been met and conservation practices and outreach efforts have exceeded initial expectations. This is in part due to the community commitment as well as supplemental funding sources that are supporting additional conservation practices. Through PREP's assistance a 100 foot wide shoreland buffer was established in which a 2 foot by 3 foot sign is now located. The sign communicates the importance of shoreland buffer functions, and serves as a mechanism to further promote natural resource outreach and educational efforts at the site. During 2011 eight workshops were offered and over 75 people attended, with a significant component occurring on-the-ground at the Goss Farm. Local school groups attended on-site workshops and similar efforts will be offered in the spring of 2012 that will include native shoreland buffer plantings. After receipt of proper permits, invasive species were controlled using a variety of IPM control methods within the established shoreland buffer as well as other areas on the site. An initial *Goss Farm Management Plan, 2011* was prepared and included an invasive species management component, and is expected to be updated annually. Local farmers are currently being interviewed to farm a portion of the site, and community gardens and a school plot are being defined for Goss Farm for the spring of 2012.

Executive Summary

The Piscataqua Region Estuaries Partnership (PREP) provided \$9,930 in funding assistance to support the Rockingham County Conservation District to complete outreach, plan and complete integrated pest management control practices, and to establish a 100 foot shoreland buffer at the Goss Farm. The Goss Farm now has an established 100 foot shoreland buffer adjacent to the Awcomin Salt Marsh where an educational/interpretive sign is now located and where integrated pest management (IPM) control practices were completed to eliminate the invasive plants that have long dominated the site. During 2011, eight workshops were offered that included local school groups and over 75 people attending, and integrated significant on-the-ground efforts to eradicate invasive plants at the Goss Farm. An initial *Goss Farm Management Plan, 2011* was prepared and included an invasive species management component, and is expected to be updated annually. Local farmers are being interviewed to farm a portion of the site, and community gardens and a school plot are being delineated for use in the spring of 2012 at Goss Farm.

Introduction

The Goss Farm anticipates reestablishing farming practices at Goss Farm, which will add to an existing 150 +/- acres of land that continues to be used for farming in Rye, NH. Adjacent to the Goss Farm is the Awcomin Salt Marsh and approximately 350 +/- acres of protected lands. The sustainable management of the Goss Farm will ultimately protect the natural resources on and surrounding it. This project aimed to control invasive species on site, and create a vegetated buffer of native plants adjacent to the Awcomin Salt Marsh. This project engaged residents and municipal officials on invasive species management, buffer functions, and regulatory recommendations for buffers. This project was the initial phase of a multi-year natural resource and farm management plan. Progress on applied conservation practices can be easily reviewed, and outreach objectives surpassed initial expectations. Several future general recommendations have been offered, and additional Integrated Pest Management (IPM) practices and outreach is slated for 2012 and beyond.

Project Goals and Objectives

All of the project goals and objectives have been met as outlined in the PREP funding request and include:

LR-15 Support existing programs, initiatives, and partnerships to limit the introduction and control the spread of terrestrial and freshwater aquatic nuisance species in the Piscataqua Region watersheds.

In a partnership capacity with the Rye Conservation Commission, NH Coastal Watershed Invasive Plant Partnership (CWIPP) members, and a NH certified licensed pesticide applicator RCCD completed an outline on proposed invasive species control practices and develop a site-specific restoration plan based on future desired uses of the site. The 2011 Proposed Invasive Management Control Plan and 2011 Completed Invasive Management Control Plan are attached.

WR-5 Improve management of agricultural lands to minimize nutrients, bacteria and sediment loading.

With assistance from the Natural Resources Conservation Service (NRCS), RCCD completed conservation practices on proposed farmed areas based upon soil samples collected and analyzed by Cornell University (attached), and in conjunction with a Nutrient Management Plan developed by NRCS. A planting plan was prepared that outlines all soil amendments as recommended by NRCS, and is included in the *Goss Farm Management Plan, December 2011*. Additionally a 100' vegetated shoreland buffer was established adjacent to the salt marsh to protect it and to minimize any potential nutrient, bacteria, or sediment loading. Establishing a natural buffer adjacent to proposed farmland has placed the necessary corrective action prior to any anticipated discharges from future agricultural operations.

LR-9 Assess, prioritize and restore shoreland and riparian buffers.

RCCD initiated a plan to reduce the invasive species within the shoreland buffer and expects to restore the native habitat values. The overall 2011 Proposed Invasive Management Control Plan and 2011 Completed Invasive Management Control Plan are attached. Additional native buffer plantings will be planted to further enhance the natural buffer in 2012, and will be maintained with future outreach and hands-on educational opportunities.

WS-3 Develop and implement outreach and education programs on natural resource planning issues to Conservation Commissions, Planning Boards, Zoning Board of Adjustments and municipal staff.

RCCD completed eight on site workshops that included information on invasive species, farm history and sustainable farming practices, and one was offered specifically to municipal boards in Rockingham County regarding shoreland buffers consistent with PREPA recommendations. Well over 20 individuals attended the workshops, and contributed over 158 hours of on-the-ground in-kind match time, with a few volunteers even coming during significant rain events. Two local school groups participated in place-based learning at Goss Farm, and additional school groups will be offered similar experiences in 2012. Planners and municipal officials were invited to a specific workshop, however, a significant rain event took place, and only the speakers were present. In November 2011 a 2' x 3' sign was installed at the edge of the shoreland buffer explaining the importance of shoreland buffer functions and its protection.

Activities/Scope of Work Deliverables

1.4.1 Reclaim and Restore Salt Marsh Buffer and Adjacent Land by Controlling Invasive Species

With assistance from the NH Coastal Watershed Invasive Plant Partnership (CWIPP) partners and in conjunction with the Natural Resources Conservation Service, NH Coastal Program, and a subcontractor that completes invasive species control, a plan was prepared for the entire site. The 2011 Proposed Invasive Management Control Plan and 2011 Completed Invasive Management Control Plan are attached. Control practices were completed in September and December of 2011.

Utilizing funding assistance from PREP, particular attention was placed on control practices within the established 100' shoreland buffer. Permits were prepared by RCCD and submitted to appropriate agencies and include 1) Watershed Special Permit # 181 from the NH Department of Agriculture, Markets & Food which was received on August 12, 2011, and 2) Category IV Fire Permit S11D7 from the NH DRED, Division of Forest and Lands, Forest Protection to allow controlled burns of invasive plant debris (with assistance from the Rye Fire Department) that was issued on May 3, 2011, see attached. A NH DES Land Resources Management, Wetlands Bureau, Wetlands Permit Application for Minimum Impact Agricultural Projects has not yet been applied for due to existing drainage from the Goss Barn in need of further evaluation prior to submittal. It is expected that the above mentioned permit application will be prepared and submitted in 2012.

Within the shoreland buffer three monitoring plots were established to provide baseline data, and to collect data after control practices were completed in 2011. Information regarding the timing of conservation practices, map of monitoring plots, and results of the monitoring for 2011 are found in the attached document *Percent Change in Invasive Species Coverage for Three Shoreland Plots; Goss Farm, 2011*. Generally, it was anticipated that there would be approximately 60% less invasive plants present after control practices. The initial results do show 68% as an average percent change in invasive plant species composition based upon foliar coverage. These numbers are preliminary due to the timeframe of control practices (September 2011), as well as the effects of the August hurricane and October snow-storm. A more reliable reporting on percentage change in invasive species composition based on foliar coverage will take place in the spring of 2012. Control and restoration efforts will continue through 2012, and native shoreland buffer plants will be planted (likely by students) in the spring and/or fall of 2012. It is expected that the restoration of the shoreland buffer (and of the entire site) will be ongoing.

1.4.2 Outreach

There was significant outreach offered during 2011 that included presentations before the Rye Conservation Commission, local schools and on-site workshops. Almost everyone that attended an on-site workshop expressed a desire to further assist with conservation practices as farm and buffer restoration plans progress.

Over eight workshops were held that started in April of 2011 and ended in December of 2011, with over 75 individuals attending. Local school groups were also engaged. The local elementary school groups (second grade) were provided with funds for bus transportation and a presentation from NH Agriculture in the Classroom, and then were transported to Goss Farm to learn about the history of the site and farming plans, invasive plants, and the shoreland buffer. Those students were also given the opportunity to complete the first planting on site within the pilot garden area. Additionally, the sixth grade came to the site to assist a local farmer in planting potatoes in early June, 2011 and then assisted with harvesting some of those potatoes in October, 2011.

Local Second and Fourth Grade students will attend similar workshops in the spring of 2012. Additionally municipal and planning officials within Rockingham County were invited to learn about regulatory protections of shoreland buffers.

The Great Bay Research Reserve, Tool Loan Library was utilized for many of the above mentioned workshops to provide volunteers with information on different control methodologies, and to have people try first hand the loaned Weed Wrenches™. Several volunteer efforts assisted with invasive plant control practices that included cutting and pulling invasive plants, and piling invasive debris for control burns. Additional control work, land preparation, and outreach efforts was supplemented with funding assistance from the NH State Conservation Committee and NH Department of Agriculture, Markets and Foods, Integrated Pest Management (IPM) program.

With assistance from PREP, RCCD developed a 2' x 3' sign on the importance and value of shoreland buffers and installed the sign in November 2011 and can be seen in the attached photographs.

1.4.3 Issue Media/Press Release

A press release was prepared and submitted to a variety of local newspapers in December, 2011 and is attached.

1.5 Reporting

RCCD completed an interim report and included in the final report is the *Goss Farm Management Plan, December 2011* which is attached and expected to be updated annually.

Outcomes:

Generally, stemming from this initial project the overall outcome and future recommendations are listed within the *Goss Farm Management Plan, December 2011*. This plan includes short and longer-term recommendations for the Goss Farm. A couple of local farmers are being interviewed for the farmer plot for 2012, and the NH State Conservation Committee (NH SCC) recently funded the Rye Conservation Commission to promote community engagement at Goss by advancing community gardens and a plot dedicated to the Rye Junior High School.

Project objectives of that request are: to more formally establish a community garden plot for residents and to initiate a plot for the Rye Junior High (RJH) students. The plot will be used for place-based learning at RJH. Planning a garden through to harvest will be incorporated into existing curriculum. A secondary goal of this project will be to offer community service by 1) distributing produce to two local groups with little access to fresh vegetables, and 2) developing a relationship with a local farmer and offering assistance on the farm. A third goal is to bring the NH Farm to School program in and initiate using produce from Goss Farm and other local farms in the school lunch program. The Rye Conservation Commission and the Rockingham County Conservation District (RCCD) will coordinate with the NH Agriculture in the Classroom to support agricultural and natural resource education, and to promote sustainable agriculture in Rye with an on-site field day farm demonstration at Goss Farm.

The initial PREP funding assistance has been the catalyst for many of the conservation and natural resource based initiatives now planned for the Goss Farm. Without this original investment the impressive community engagement and collaborative partnership efforts would not have been made possible. It is anticipated that these collaborative efforts will continue to cultivate an enthusiastic commitment to protect the natural resources on and near the Goss Farm. It is important to recognize that through appropriate and sustainable agriculture practices the Goss Farm will once again be able to produce safe, good-tasting, fresh and wholesome food, and that effort is now underway!

Appendices

Maps/Plans

2009 Aerial, outlining 100' shoreland buffer (staked in field)
2011 Monitoring Plots, Goss Farm
2011 Proposed Invasive Management Control Plan
2011 Completed Invasive Management Control Plan

Permits/Reports

Watershed Special Permit # 181 from the NH Department of Agriculture, Markets & Food
Category IV Fire Permit S11D7 from the NH DRED, Division of Forest and Lands, Forest Protection
Soil Analysis Report, 2011
Percent Change in Invasive Species Coverage for Three Shoreland Plots; Goss Farm, 2011

Sample Photographs

Other Documents

Press Release, 2011
Goss Farm Management Plan, December 2011