

“Our Native Montana”

Sussex School, 1800 S 2nd West, Missoula MT 59801

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2. Abstract

The Sussex School ECOS team has implemented a long-term schoolyard-based restoration project with the goal of transforming the Sussex School grounds from an area that consists almost entirely of non-native invasive species to one that represents a healthy native Montana habitat. Through inquiry based implementation of this project, students of all ages (including parents) have gained a better understanding of basic ecological principles, their surroundings, and their own responsibilities as part of an ecosystem. The demonstration project year one goals have been exceeded with the planting of a butterfly garden and bird habitat, construction and installation of butterfly boxes, birdhouses and birdfeeders as well as partial completion of permanent greenhouse.

3. Introduction

The “Our Native Montana” demonstration project was designed to be executed over the course of four years. The primary objectives for the 2004-2005 school year were to assist the students in planning the demonstration project, map the schoolyard, conduct

initial plant, animal and microbe surveys, plant a butterfly garden, design a greenhouse and develop grade appropriate curricula that could be repeated yearly to monitor the demonstration project habitat transformation.

4. Demonstration Project Description

- a. Science Theme: The unifying themes of the Sussex School Demonstration Project were “habitat restoration” and “ecosystem health”.
- b. Target Grade Levels: K-8 (entire school)
- c. Materials Purchased:

Item(s)	Quantity
Greenhouse building supplies	N/A
D-frame nets	3
Sweep nets	5
Hip waders	3
Landscaping (shrubs, trees, plants)	N/A
100 ft. measuring tapes	3
Materials for butterfly boxes and birdhouses	N/A

Structures Built: One greenhouse (partially completed), fourteen bird houses, fourteen bird feeders, five butterfly boxes.

c. Demonstration Project Description

The focus of the 2004-2005 phase of the Sussex School ECOS Demonstration Project was the installation a butterfly garden and bird habitat on school grounds. The butterfly garden plot measures twenty feet long by ten feet wide and is situated adjacent to an established courtyard common area. The bird habitat is distributed throughout the schoolyard with several feeders, houses and berry-producing plants that can be easily viewed from the 4/5th grade classroom. The greenhouse planned for construction during the 2005-2006 school year was partially completed ahead of schedule and is situated outside the 6-8th grade science classroom for easy access by students (Fig.1).

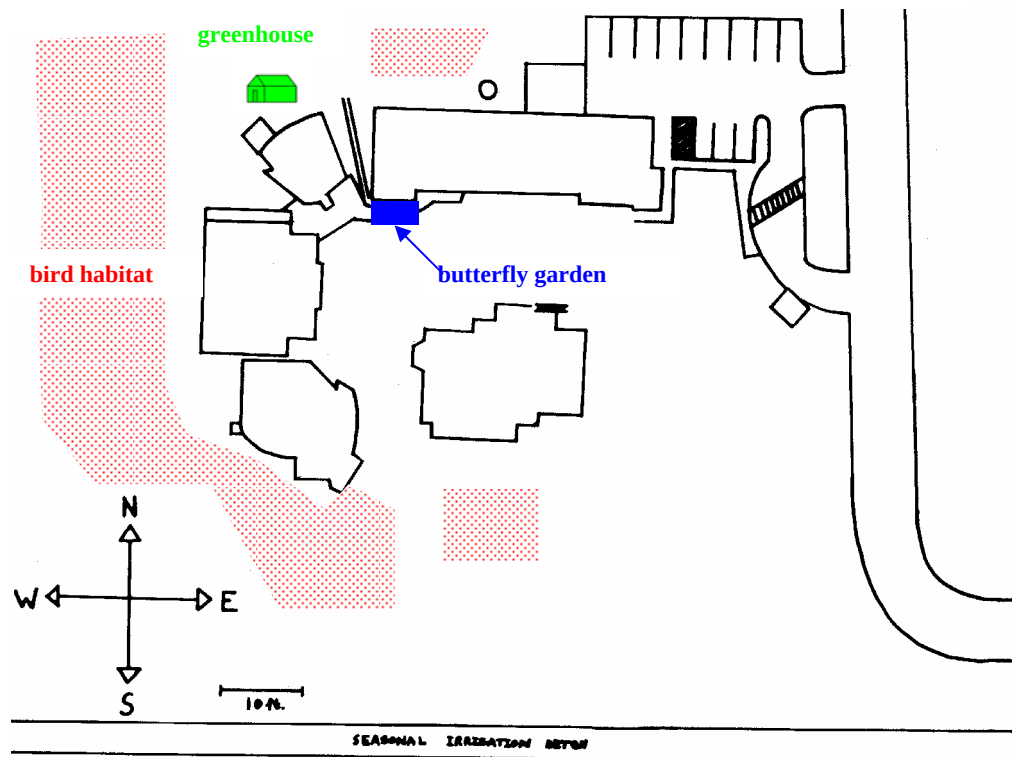


Figure 1. Map of the Sussex schoolyard with locations of ECOS funded improvements shown in color.

The entire school including non-ECOS teachers, volunteer parents and all students participated in some fashion with planning and construction of the demonstration project. Throughout the course of the year, classes involved in the ECOS program have used the butterfly garden site to conduct experiments designed by the teachers and fellows. Design testing and assembly of the greenhouse was done by the 8th grade science class. The 7th graders performed a baseline evaluation of the vegetation and soil composition at the butterfly garden site, completed a systematic exploration of weed treatment efficacy, carried out pot experiments using invasive and native plants and planted their native plants in the butterfly garden at the end of the school year. The 4th/5th grade classes did extensive research on local bird species, constructed several different types of bird feeders and bird houses for the schoolyard, planted shrubbery to attract birds, conducted a series of experiments on compost made from school waste, and evaluated the microbial composition of the butterfly garden soil prior to planting. The 3rd grade classes undertook a schoolyard mammal census using tracking plates, researched butterfly habitat and built butterfly boxes.

d. Current Status of the Demonstration Project

The demonstration project goals for the 2004-2005 school year have been met and the site is ready for next year. Construction of a greenhouse, which was originally planned for the 2005-2006 school year, has been started ahead of schedule.

e. Deviation from proposed plans

None

5. Community members involved in project

Madeline Mazurski, Missoula MT 59802- provided landscaping advice

6. Sustainability

The primary hurdle in completing the final three years of the four-year plan for transforming the Sussex schoolyard will be financing. That being the said, the ideal way in which ECOS fellows in subsequent years could integrate with the demonstration project would be for fellows to maintain regular contact with the ECOS teachers (Maree Mitchell and Lisa Hendricks) and to organize several ECOS days or half-days in which selected classes can devote large blocks of time to the project under the supervision of the teachers and fellows. In light of the fact that Sussex will not be an ECOS school next year despite their desire to continue with the project, ECOS assistance with acquiring donated materials would be helpful in the coming years.

7. Summary

Year one of the Sussex School ECOS demonstration project entitled “Our Native Montana” was completed successfully. Teachers, fellows, students and parents participated in the creation of a butterfly garden, bird habitat and greenhouse on the school property. Over the course of the school year classes affiliated with the ECOS program utilized the demonstration project area to perform plant, animal and

microbiological surveys and conduct experiments regarding native plant/weed competition, weed control, bird food and nesting preferences, soil composition, composting and nutrient requirements for plant growth. In the coming years, support from the ECOS staff and future fellows will be essential to the continued success of the Sussex schoolyard habitat.

Appendix 1 – Curricula- attached

Appendix 2 – Photos



Butterfly garden 7th grade weed treatment experiment, November 2004.



Butterfly garden, Sussex School, June 2005



Sussex School Greenhouse Site, November 2004



8th grade greenhouse under construction, Sussex School
May 2005



8th grade greenhouse-almost complete! June 2005



Bird habitat area prior to planting, Sussex School November 2004



4/5th grade bird habitat- planting day!



4/5th grade bird habitat- making bird boxes May 2005



4/5th grade bird habitat- planting May 2005



Bird habitat, Sussex School, June 2005



2/3rd grade building butterfly boxes, Sussex School, May 2005