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## Natural Resource Service Learning to Link Students, Communities, and the Land

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## Natural Resource Service Learning to Link Students, Communities, and the Land

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**Abstract:** *University-based Extension specialists often face the dilemma of scheduling time for both teaching and outreach activities. Service learning projects that give hands-on experience in the application of classroom activities while giving back to the community can bridge this gap. A demonstration forest and service learning techniques were used to help 30 undergraduate forestry students lead a forestry field day for 100 elementary school students. Upon completion of the project, undergraduate students were more confident in their forestry knowledge and played an important role in the success of a natural resources Extension demonstration and outreach project.*

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### Introduction

Historically, demonstration areas have been an important part of traditional Extension programs in forestry, wildlife, and natural resource education (Clapp, 1951). Demonstration-based instruction can go beyond forest landowner education to include elementary school students and teachers who benefit from the opportunity to participate in outdoor, experiential learning activities. Similarly, service learning projects show promise in the area of undergraduate forestry, wildlife, and natural resource education, allowing students to work with the public on a professional level. Service learning projects give undergraduate students the opportunity to apply what they have learned while giving back to the community (Horrisberger & Crawford,

2007). The combination of these teaching approaches may benefit Extension specialists who have joint university teaching appointments and face the challenge of developing relevant forestry, wildlife, and natural resource-based Extension programming while managing the time demands of university teaching and limited resources for demonstration-based Extension education.

## Program Description

Auburn University School of Forestry and Wildlife Sciences (SFWS) has been managing a 100-acre forest on its campus since the early 1930's. This site has been used to research various forest management activities such as herbaceous weed control, prescribed burning, and regeneration. Over time the site also became a popular recreational running/biking route for the community and camping and picnic areas for thousands of Auburn University sports fans.

By the early 1990's, most studies were discontinued or abandoned, and the site was overgrown with many invasive plant species. In 1985, a 20-acre portion of the site was planted to loblolly pine (*Pinus taeda* L.) to study competition control. Due to the species being off-site and lack of forest management, the trees were declining in health. The "high profile" status of this location provided an excellent opportunity to develop a demonstration site as well as using it as an active learning laboratory for students.

During the spring of 2010, SFWS students in an advanced forest measurements course (Forest Measurements II) participated in a service learning project that included the development of a longleaf pine (*Pinus palustris* Mill.) ecosystem restoration demonstration area. The intent of this project was to highlight the history of the site, provide educational opportunities for students and the public, promote the use of this area for educational and recreational activities, restore a tree species suited to the site, and improve productivity on a 20-acre portion of the forest. To do this, students were assigned two tasks:

1. Inventory the site, and develop a plan to convert the site to a longleaf pine demonstration forest (Franklin, 2009).
2. Use outreach materials and the forest as a backdrop to organize and lead a 2-hour forestry field day for 100 5th-grade students, teachers, and parents.

## Program Evaluation

Upon completion of the project, SFWS students were asked to evaluate the course

when compared to other learning experiences. These Junior or Senior students were white males ranging in age from 19 to 29 years. Students were asked to provide information on their preferred learning formats, effectiveness of the project, and its impact on their confidence to use or discuss forest measurements techniques. Finally they were asked to give their impressions on the usefulness of the 5th-grade field day in furthering their abilities as foresters.

### Results and Discussion

Of the thirty students sampled, 97% stated their understanding of concepts in forest measurements was "improved" to "much improved" when compared to traditional teaching techniques such as classroom lecture and assigned readings (Table 1). Similarly, 57% found service learning "much improved" their understanding of course concepts.

**Table 1.**

Results Reported by Auburn University School of Forestry and Wildlife Students Regarding the Effectiveness of a Service Learning Project on Their Educational Experience. (n=30)

<b>Evaluation topic</b>	<b>Inferior</b>	<b>Same</b>	<b>Improved</b>	<b>Much Improved</b>
Usefulness of service learning when compared to other learning experiences	3%	3%	57%	37%
Improved understanding of Forest Measurements concepts	3%	0%	40%	57%
Improved understanding of forestry profession	3%	10%	50%	37%
Improved confidence in ability	3%	3%	61%	33%

Many students stated they were apprehensive about the project at first, but upon completion almost 95% of the students stated they were more confident in their abilities because of the assignment (Table 1). Similarly, 95% of the class found the

5th-grade field day to be at least somewhat useful. Those students who did not find the project beneficial stated that it was, "too much for an already busy schedule". However, 90% of the students stated this project should be included in future classes.

Indeed, the benefits of this project reach beyond the Auburn University students. Students, teachers, and parents of Cary Woods Elementary School also benefitted from the Extension program, and this project will be continued in the future. In addition, a new Extension demonstration site has been established that can be used for forestry, wildlife, and natural resources Extension programs.

## **Conclusion**

Although many recommendations for successfully implementing service learning projects have been outlined in prior papers (Fannin & LeBlanc, 2007; Curtis & Mahon, 2010), Extension specialists, especially those in the area of forestry, wildlife, and natural resources, who are considering including experiential learning as part of their Extension programming should also consider the following findings.

- A majority of students reported they prefer outdoor and participative learning. Students sampled stated that "Field work," "Outdoor lecture," and "In-class work" as their most preferred learning choices, respectively.
- Having a project span a semester and culminate with a community outreach project builds confidence. By allowing the students to work on the project throughout the semester, they have a better understanding of the topic and are more comfortable presenting that information to the public.
- Elementary grade school students are a "non-threatening" first audience. For many of the SFWS students, this was their first opportunity to speak professionally about forestry beyond a classroom setting.
- Similarly, elementary grade school students relate well to university students and therefore may be more open to the Extension program message.
- Allowing students to participate in the development of a demonstration area and outreach programming builds ownership and pride. As a result, students also have a better understanding of the benefits of Extension and, as future professionals, may become advocates of the program.

It can be difficult for Extension professionals to obtain funding for implementing demonstration projects; therefore undergraduate students are an excellent resource when Extension activities are woven into traditional course structures.

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