

Search for Excellence in Forestry and Natural Resources

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Educational Objectives

The educational objective of the Rutgers Environmental Stewards (RES) Program are to educate the public about the science behind pressing environmental issues in New Jersey (NJ), which empowers participants to create positive change in their communities. This program achieves its learning objectives through classroom lectures, field trips, and project-based internships.

The lectures provide a breadth of knowledge about many facets of the environment with sufficient scientific depth to allow Stewards to be educated volunteers in their community and state. The objective of the internship is to provide Stewards with a project that excites them, enabling them to delve deeply into one specific area of the curriculum of the Rutgers Environmental Stewards Program, while providing a community benefit.

Program Activities

The RES Program is a certification program offered since 2005 that includes 20 weeks of 3-hour lectures, field trips and a 60-hour internship. It is held in multiple counties and has several coordinators.

Optional fieldtrips to environmentally-significant sites in NJ are included as part of the educational program. Field trips include trips to the Pinelands with a field biologist who discusses research on the endemic Northern Pine Snake (http://saalem.njaes.rutgers.edu/greenknight/documents/green_knight_2014_05.pdf), sewage treatment plants, Bowman's Hill Wildflower preserve (http://saalem.njaes.rutgers.edu/greenknight/documents/green_knight_2013_05.pdf) and wildlife preserves.

We hold an annual commencement, highlighting internships and University speakers help strengthen the Rutgers connection. There is also an annual full-day meeting held at the New Jersey Department of Environmental Protection (NJDEP) for all RES Alumni with a line-up of NJDEP speakers discussing current topics of interest.

Teaching Methods

The RES Program provides approximately 140 hours of training to participants. A breakout of the activities is:

- Lecture = 42%
- Internship = 42%
- Field trips = 14%

Each lecture is a 3-hour class on a specific environmental topic. Leading authorities from academia are joined by colleagues from government and the non-profit sector to share understanding and insights with the Stewards. Stewards attend class once a week on topics such as; climate change, soil health, energy conservation, water resource protection, invasive species management, habitat conservation, and environmental law and policy. Classes also include conflict resolution and the limits of science to prepare Stewards for engagement in the environmental arena. Classes include hands-on opportunities for macroinvertebrate sampling and stream visual assessments, as well. We developed written curriculum in 2015.

In 2014, we made a dramatic change with the introduction of evening classes at three of our locations, enabling us to reach clientele who were interested in the class but unable to attend during the day, increasing our diversity. We now have high school students, college students, recent college graduates, people employed in fields such as; lawyers, engineers, publishing, entrepreneurs, retired people, retail, environmental groups, land trusts, homemakers, large corporations, education and more.

Internships provide a hands-on, in-depth, focused learning opportunity that allows Stewards to devote approximately 60-hours to one project. The internships allow for a mentoring/mentee relationship with a host agency and provide contacts in the field of interest. Internships are project driven, not hour-

driven, and may exceed the 60-hour suggested time frame; most participants that complete their internships spend about 80 hours on their projects.

To increase our success rate with internships, based on results from an evaluation of how the program is implemented, we instituted upgrades to the internship process. Since 2015, we help our participants walk through the planning of an internship project. We spend one class on planning and evaluation for internships, providing Stewards with valuable planning experience for future endeavors, including grant writing. Previously internships were self-directed and could begin at any time, even several years after the class. The planning process now begins during class, encouraging participants to have their project in the works prior to the end of class. We have begun to have “ready-made” internships available that students may choose from if they do not have a project in mind.

Results

Since its inception in 2005, the RES taught 569 participants. In 2014, additional faculty joined the program and there was a change to evening lectures. A comparison of the four years prior (2010-2014) with the 2014-the current 2017 class showed that the program increased from an average of 34 participants/year for all locations in the earlier years to an average of 49 participants/year for all locations for the years 2014-2017.

From 2005 to 2014, a total of 9,960 hours of volunteer service was provided to New Jersey communities. Based on responses from our evaluations of the program, we have begun to make changes to the internship component. In 2015 and 2016 combined, the volunteer program has provided New Jersey with 6,543 volunteer hours valued at \$154,153.

Interns conducted 37 projects from 2014-2016, partnering with Master Gardener Programs, New Jersey State Parks and Forestry, Sustainable Jersey, Northeast Organic Farmers Association, various counties, municipalities and environmental commissions.

Ninety-five percent of Steward exit interviews stated the lecture series was “very successful” as a means to increase their environmental knowledge. The lecturers were rated as very good across all years and all locations.

Impact Statement

Our internships do not always lend themselves to typical impact statements. We provide a sample from the great variety of internships that were conducted over the past three years (2014, 2015 and 2016).

- Recycling of 2,919 tons of food waste
- Stream clean-up of 9.6 tons of trash and tires
- Creation of a “Roots and Shoots” NJ program that as of 2015 has educated 111 children
- Researching and writing 12% of the total actions for the Sustainable Jersey for Schools program that is now in 70% of NJ municipalities
- Leadership for Urban Community farm stand bringing distribution from 1,478 lbs. of vegetables in 2013 to 5,600 lbs. in 2015
- Using Streetwyze, a local resident powered database, to identify buildings and areas in Newark for air quality monitoring

The latest annual report is provided for additional information on impacts.

Evaluation

A Qualtrics survey of past and current RES participants was conducted in 2014 and analyzed in conjunction with historical data from exit interviews and evaluations of lecturers since 2005. Separate Qualtrics surveys were sent to lecturers and hosts to gather their experience of the program. Some of the evaluation results included;

- Respondents felt that the program exceeded (61%) or met (37%) their expectations (n=112)
- They would recommend the program to their friends or colleagues (98%) (n=112)
- Lecturers were rated 4.5 for clearly explaining material and 4.4 for overall presentation (scale 1-5; 5= excellent) (n=249)
- Hosts felt interns exceeded expectations (64%) or met expectations (29%)

The time spent on the evaluation was productive for the program. We were able to identify methods of implementation that were performing well. More importantly, when we identified an area where better implementation might lead to better impacts, the evaluation method provided an understanding of how the implementation might be improved. We maintain exit evaluations and lecturer evaluations after each class and plan another full evaluation in the future.