

War-on-Weeds Project 2003

Introduction

The Environmental Surveillance, Education and Research Program (ESER) conducts, manages and coordinates ecological and environmental research, offsite environmental surveillance, and environmental education for the Idaho National Engineering and Environmental Laboratory (INEEL). To further ESER's environmental education objective, the ESER Program created the War-on-Weeds Project to involve local high school students in identifying and mapping noxious weeds on the INEEL and surrounding counties. The ESER Program recruited three teams in 2001 from local high schools (Shelley, Sho-Ban, and Mackay) to participate in the War-on-Weeds Project. One team of students from Butte County High School was recruited in 2002. Two teams of students from Butte County High School and Rigby High School were recruited in 2003.

Noxious Weeds

A weed is designated noxious when it is considered by a governmental agency to be injurious to public health, agriculture, recreation, wildlife, or property. In Idaho, noxious weed regulations are covered by Title 22, Chapter 24 of the Idaho Code.

Noxious weeds, by definition:

- Have the ability to spread rapidly
- Reproduce in high numbers
- Crowd out native plants
- Tend to be very difficult to control

The Noxious Weed Law requires landowners, including the Department of Energy, to eradicate noxious weeds on their land. Of the 35 Idaho weeds that have been defined as noxious, 10 are found on the INEEL.

Detection of noxious weed infestation is an early step in their control. Mapping weed locations helps weed control agents develop effective strategies to eliminate these biological invaders.

Project Description

The War-on-Weeds project encourages students to identify and solve local community problems. In order to provide War-on-Weeds interns with real-life problems and real-life solutions, the ESER Program has developed collaborative agreements with government agencies including Bingham County and Lost River Cooperative Weed Management Areas, the Department of Energy, the Idaho National Engineering and Environmental Laboratory (INEEL), the National Park Service (Craters of the Moon), and the Department of Agriculture.

The War on Weeds Project is a “learn by doing” project that employs students for a six-week period. The students map noxious weeds on the INEEL and surrounding communities using Global Positioning System (GPS) units to establish weed locations and identities for the Idaho State Department of Agriculture (ISDA) and INEEL. The GPS locations are then integrated into Geographic Information System (GIS) technology for map production. The maps identify noxious weed species and their specific locations, enabling efficient treatment or control

Selection of student team members is based on academic achievement and commitment to complete the program.

During the War on Weeds Project interns learned how to:

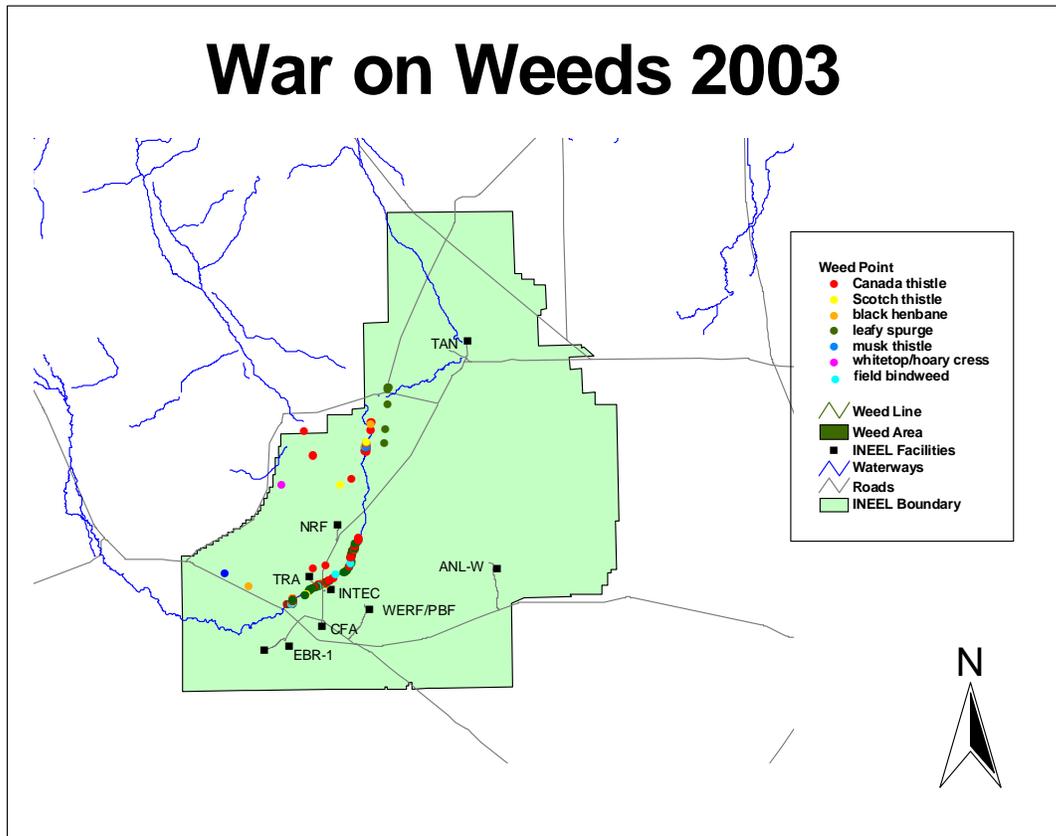
- Understand why noxious weeds are of such great concern.
- Identify noxious weeds found on INEEL and surrounding areas.
- Manipulate Global Positioning System (GPS) units and gather data.
- Use ISDA-established data dictionaries to synchronize data collected by the War-on-Weeds team with other data collection agencies in the State of Idaho.
- Manage data collected for inclusion in Idaho State Department of Agriculture and INEEL noxious weed maps.
- Produce weed maps using GIS.
- Develop marketable job skills (GPS/GIS technology).
- Work together as a team.
- Gather, analyze and present data.
- Perform basic science research techniques.
- Develop critical thinking and problem solving skills.

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Four team members were recruited from Butte County High School and two from Rigby High School. Teachers acting as team leaders were recruited from Mackay High School and Shelley High School. The 2003 War on Weeds program began June 16th and ended June 26th. The program was scheduled to continue through July 17th, but the project was terminated to re-evaluate safety procedures on June 26th after an accident resulted in the damage of a vehicle. No team members were injured.

During the two weeks of the internship that were completed, the teams mapped the western part of the INEEL falling within Butte County for noxious weeds, as shown in the following map. The teams mapped approximately 83.9 square miles of the INEEL.

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Noxious weed data collected by the War-on-Weeds teams is submitted to the ISDA- and INEEL-noxious weed databases. INEEL will follow the student team with chemical and mechanical weed control, using the GPS locations collected by the students.

Lessons Learned

Teams became proficient at GPS/GIS technology, worked well together, and compiled useful data during this project.

WOW teams receive extensive safety training on the first day of the project and teams were told to stay on-road and check for weeds under their vehicles. However, because of this year's accident, in which a car caught fire from weeds trapped beneath the vehicle, these additional safety procedures will be put into place before next year's program.

- Teams will be specifically trained on safe dirt road driving, including checking under vehicle for trapped weeds and staying on-road.
- Teams will be required to have a safety meeting and to sign and turn in a safety checklist daily.
- Vehicles with higher clearance will be used for the WOW project.

Plan for Next Year's Program

- Funding will be sought for additional weed mapping teams.
- Teams will be given opportunity to conduct weed control research projects under the direction of ESER scientists. Students will be encouraged to develop their own research projects.

Conclusion

“Idaho, like many states in the West, has a serious noxious weed problem. Often called a resource issue, it is in reality, like many "issues", mostly a "people" problem. Noxious weeds, like floods and wildfires, respect no ownership or jurisdictional boundaries. The negative impacts of noxious weeds are equally felt on private, state and federal lands. Likewise, the ability to turn the tide on noxious weeds will depend on the ability and willingness of local people of many stripes to work together under the umbrella of common goals, priorities, and genuine commitment. The best known and tested way to do this is through the mechanism of a Cooperative Weed Management Area (CWMA). Following any one of several existing models, the CWMA concept can unleash the creative power and action of local people. Real change rises up. “

Glen Secrist, Idaho State Department of Agriculture

War-on-Weeds 2003, working under the umbrella of the Lost River CWMA, was successful in uniting federal and state agencies to work together for a common goal. The Department of Energy is required by the State of Idaho, as a landowner, to control noxious weeds within the INEEL's boundaries. The War on Weeds Project helps accomplish this obligation, while providing educational opportunities to area students. Data collected for the Idaho State Department of Agriculture from the INEEL, the National Park Service and the Lost River Irrigation System fulfills its obligation to administer the State Noxious Weed Law.

The War-on-Weeds Projects benefits the interns involved in the project, the DOE, ISDA, and the surrounding communities. These benefits include:

1. Public awareness of ecological concerns at INEEL and surrounding communities, specifically noxious weeds.
2. Student involvement in learn-through-doing science projects.
3. Student participation in solving a real-world, local community problem.
4. Collection of scientific data that is useful to government agencies.

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