Small Saint-Gaudens managing exotic invasives

By Betsie Blumberg

Resource Manager Steve Walasewicz releases beetles in a field of invasive, exotic purple loosestrife vegetation. The biological control is one mechanism that is helping the small northeastern park see the results from executing its Exotic Plant Management Plan.

Controlling invasive vegetation is an especially high priority at Saint-Gaudens National Historic Site in Cornish, New Hampshire. Invasive plants have the capacity to quickly overwhelm native vegetation and alter habitats in the small, 150-acre (61-ha) park. Consequently, staff are implementing the park's Exotic Plant Management Plan and making substantial progress.

The park includes the historic home, studios, and 100-year-old formal gardens of its namesake, the American sculptor Augustus Saint-Gaudens. Surrounding these cultural features, forest makes up about 80% of the park. The most troublesome invasives are purple loosestrife (*Lythrum salicaria*), Norway maple (*Acer platanoides*), Japanese barberry (*Berberis thunbergii*), black swallow-wort (*Vincetoxicum nigrum*), yellow iris (*Iris pseudocorus*), and Morrow honeysuckle (*Lonicera morrowii*). Various methods of control are being employed, from cutting down Norway maples and pulling up seedlings to releasing beetles (*Galerucella* sp.) to attack the purple loosestrife. The formal garden itself is a source of exotics; Japanese tree lilac (*Syringia reticulata*) growing in the garden across the road from woodland has produced offspring in the forest.

Inventory and mapping of 17 invasive species were completed in 2003, and information on the location, size, density, and distribution of the populations was stored in GIS format. With these data the control phase of the plan was launched.

To pay for the labor to implement the plan, the park tapped various funding sources. The NPS Public Land Corps supported three interns, hired through the Student Conservation Association, who each spent nine months at the park doing the inventory and mapping, assisting with the preparation of the plan and associated compliance documentation, and undertaking control operations in the field. Local Boy Scouts and other volunteers occasionally lent a hand, too. Removing the invasives will eventually include collaborating with nearby Marsh-Billings-Rockefeller National Historical Park (Vermont) to obtain seasonal field personnel. The park also plans to work closely with the Northeast Region's newly established Exotic Plant Management Team, stationed at Delaware Water Gap National Recreation Area (Pennsylvania and New Jersey).

The small size of the park provides a special opportunity to control invasive plants and restore native species. The remaining exotics, says Natural Resource Manager Steve Walasewicz, will then mimic their presence in their native environments, where they are not invasive. ■

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Implementing the Natural Sounds Program

By Bob Rossman

NATIONAL PARKS may seem to be the perfect place for quiet, solitude, and contemplation, yet managers must also address the needs of recreationists who may want to pursue activities that are loud or intrusive. Noise has the potential to affect wildlife and cultural resources and diminishes wilderness values to the extent that desired visitor experiences and expectations may not be realized. The Natural Sounds Program, initiated in 2000, assists a number of parks in dealing with such issues by collecting acoustic data, providing impact assessments, defining problem areas, and recommending potential solutions.

"Park managers must determine the level to which natural sounds are to be protected, preserved, or restored, as well as the type and amount of human-caused sound that is necessary or desirable in light of park purposes."

In 2003 the Natural Sounds Program developed practical guidance for parks in developing soundscape management and noise prevention plans. Guidelines help park field personnel and managers understand and apply the fundamentals of acoustic science. In a related development, the Natural Sounds Program completed a section of the "Interim Final Guidance on Assessing Impacts and Impairment to Natural Resources" (April 2003) to provide assistance in noise impact analysis.

Zion, Hawaii Volcanoes, Haleakala, and Lassen Volcanoes National Parks are using the guidelines to draft proposals for soundscape management plans. These and other parks initiated planning efforts in response to increased sources of noise that could affect park soundscapes. A soundscape management plan suggests the characteristics and appropriateness of existing noise in relation to the natural condition and purposes for which a park was established, providing the basis for scientific assessment of noise impacts associated with proposed actions by the National Park Service or others.

The study of acoustics, as it relates to preserving natural or culturally important sounds in parks, is an evolving science. Acoustic sampling programs are intended to characterize a national park soundscape that may be viewed as "natural ambient" or "baseline," without the sounds caused by the presence and movement of people. Further data collection efforts are made to measure human-related sounds that are imposed on the natural soundscape. The collection of data can involve methods as simple as listening to sounds over a period of time (audibility) and recording their source and duration. Information about weather, particularly wind, must be collected at the same time in order to interpret measurement results. The collection of acoustic data is a prelude to making determinations about sound or noise in national park units. Park managers must determine the level to which natural