

# Natural Resources Management on Fort Drum



## Invasive Species Management 2008 - 2009

Invasive species management on Fort Drum focuses on those species that may adversely impact the military mission and natural resources within the 107,000+ acre installation.

Fort Drum has identified 21 invasive species of concern (*below*). Although not all of these species have been documented on Fort Drum (e.g., giant hogweed, mute swan), all are known to occur in the area and would be a priority for surveillance and control if they were found. To assist in the overall management of invasive species, Fort Drum became a cooperating member of the St. Lawrence-Eastern Lake Ontario Partnership for Regional Invasive Species Management (SLELO-PRISM) in 2006 ([www.sleloinvasives.org](http://www.sleloinvasives.org)).



Common Name	Scientific Name
Garlic mustard	<i>Alliaria petiolata</i>
Spotted knapweed	<i>Centaurea maculosa</i>
Black & Pale swallowwort	<i>Cynanchum louiseae</i> and <i>C. rossicum</i>
Leafy spurge	<i>Euphorbia esula</i>
Giant hogweed	<i>Heracleum mantegazzianum</i>
European frog-bit	<i>Hydrocharis morsus-ranae</i>
Purple or Himalayan balsam	<i>Impatiens glandulifera</i>
Honeysuckles	<i>Lonicera morrowii</i> , <i>L. tartarica</i> , and <i>L. x bella</i>
Purple loosestrife	<i>Lythrum salicaria</i>
Eurasian water milfoil	<i>Myriophyllum spicatum</i>
Reed canary grass	<i>Phalaris arundinacea</i>
Common reed	<i>Phragmites australis</i>
Japanese knotweed	<i>Polygonum cuspidatum</i>
Buckthorn	<i>Rhamnus cathartica</i> and <i>R. frangula</i>
Black locust	<i>Robinia pseudoacacia</i>
Sirex wood wasp	<i>Sirex noctilia</i>
Mute swan	<i>Cygnus olor</i>

The most active invasive species management on Fort Drum has been attempting to eradicate black swallow-wort. Since 2006, chemical control (*far lower left*) has been used to eradicate small isolated patches of swallow-wort in various parts of the installation. As of 2009, 6.12-acres of swallow-wort have been mapped across the installation and almost all of it has been treated with herbicide at least once. Treated sites were re-visited later in the season to monitor herbicide effectiveness (*left*) and seeds pods that were present on any plants were hand-picked and disposed. To prevent the spread of new populations, Fort Drum educates military units and other personnel about swallow-wort as well as giant hogweed.



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Fort Drum has worked with the Plant Protection Quarantine Service, a part of U.S. Department of Agriculture's Animal-Plant Health Inspection Service, since 2006 to release approved biocontrol agents to manage certain invasive species. In 2006, the first release of *Aphthona* spp. (flea beetles) occurred to begin control of leafy spurge (*right*). As of 2009, flea beetles have been released at four separate sites on the installation and the beetles are flourishing.



Beginning in 2008 and continuing in 2009, root boring weevils (*Cyphocleonus achates*; *left*) have been released at two different sites to begin control of spotted knapweed.

In 2008 and 2009, *Hylobius* root-boring weevils and *Galerucella* beetles obtained through the Plant Protection Quarantine Service were released to control purple loosestrife at two wetland mitigation sites.

Also in wetland mitigation sites in 2008, a 10-15 m<sup>2</sup> patch of Common Reed was dug out and removed by hand. (*right*). In the past, purple loosestrife has also been physically removed from wetland mitigation sites. At yet another mitigation site, reed canary grass has been spot sprayed with herbicide the past two years, but this effort has not been successful.



In another cooperative effort with the Plant Protection Quarantine Service, Fort Drum deployed 16 adhesive traps (*left*) in 2009 to survey for the invasive Emerald Ash Borer (EAB). These traps were placed across the installation in forested areas that had an abundance of ash trees and monitored from June - September. This trapping effort did not find any positive evidence of the presence of EAB on Fort Drum. In 2010, Fort Drum is planning to be involved in a new survey method for EAB by monitoring *Cerceris* wasp colonies which feed on the EAB.