Broad Control Method Categories

New Jersey Invasive Species Strike Team

Control Method	Description	Pros	Cons	Notes
Biological	Introduction of a biocontrol agent (e.g., insect, pathogen) from the invasive species' native range	Dramatic reduction in abundance with minimal costs; Minimal site accessibility issues	Limited number of invasive species have agents; Limited potential for unintended consequences if the biocontrol agent 'switches' to non-target species	Requires extensive time and effort to provide effective host-specific agents; Numerous federal regulations provide significantly reduced risk of impacts to non-targets species
Mechanical	Physical removal of all or portions of an invasive species	No requirement for specialized training; Can be performed by volunteers	Very labor intensive; May require specialized equipment; Site accessibility issues, impractical for large infestations; Re-sprouting or further invasive species dissemination may occur	Common techniques include mowing, cutting, pulling and girdling
Chemical	Application of herbicide to all or portions of a plant	Most effective and efficient method in most cases; Staff can be assisted by volunteers	Labor intensive; Site accessibility issues; Requires specialized training/license and equipment; May require repeated applications for more difficult species	Common applications include foliar, cut stump, basal bark and injection; Mechanical and chemical controls may be combined for cut stump and hack-and-squirt methods
Cultural	Removal of invasive species through broad land use activities	Very cost effective	Does not apply well to forest habitats	Primarily applies to agricultural systems, but may apply to the maintenance of early successional natural systems including grasslands; Techniques include prescribed fire and prescribed grazing
Ecological	Allowing natural ecological processes (e.g., competition for light and soil resources) to reduce invasive species over time	Very cost effective; Utilizes natural processes	May not occur in many systems due to persistent or continuing human impacts (e.g., overabundant deer, continual physical disturbance, habitat fragmentation, etc.)	Primarily applies to forest systems; As an example, very strong anecdotal evidence suggests that overabundant deer facilitate infestations by Japanese stiltgrass and other invasive species in forests.