



Photograph by Michael Bohne

INVASIVE SPECIES: A CHALLENGE TO THE ENVIRONMENT, ECONOMY, AND SOCIETY



KEY TOPICS



- Invasive Species and Their Impacts
- Pathways of Introduction
- Management Cycle
- Roles and Responsibilities
- Tools to Deal With Them



INVASIVE SPECIES

- What is an invasive species
 - Ability to grow in many conditions
 - Rapid growth
 - Ability to exploit disturbed ground
 - Ability to thrive in high nutrient environments
 - Reproduce rapidly
 - Ability to survive adverse conditions
 - High photosynthetic rates
 - Lack of natural predators



ECOLOGICAL IMPACTS



- Availability of Water and Nutrients
- Changes light availability
- Toxicity (allelopathic) to other plants
- Disruption to pollination
- Replaces food sources
- Change to natural ecological process
- Genetic dilution

ECONOMIC IMPACTS

- Impacts entire ecosystems
- Reduces productivity
- Causes export and import restrictions
- Reduced property values
- Costs associated with prevention and management
- Impacts recreation and tourism



SOCIETAL IMPACTS

- Human Health
- Food Security



ECONOMIC COSTS

Estimated economic losses due to invasive species across the globe

Country	Estimated losses
Globally	€1 trillion/year
US	€90 billion/year
EU	€12 billion/year
China	€11 billion/year
New Zealand	€2 billion/year
UK	€2 billion/year

Data source: European Commission (2013)

PATHWAYS OF INTRODUCTION

- Transportation
- Recreation
- Gardening
- ATV
- Illegally



GOVERNMENT ROLES



- Management Plans
- Monitoring
- Noxious Weed Laws
- Quarantines
- Education



MANAGEMENT PLAN



- Prevent
- Detect
- Respond and Control
- Manage and Adapt



HOW TO DO WE CONTROL IT

- Mechanical Control
- Biological Control
- Chemical Control



MECHANICAL

- Pulling plants
- Cutting Trees
- Mowing



BIOLOGICAL

- Introducing Predators
- Grazing
- Planting competitive natives



CHEMICAL

- Herbicides
- Pesticides
- Insecticides
- Fungicides



MONITORING TOOLS

- Inventory and Mapping
- Baseline Data
- Control
- Evaluation



INDIVIDUAL ROLES

- Plant Native
- Clean boots
- Don't release pets into the wild
- Volunteer



QUESTIONS????

