Introduced Species

Problems introduced species can cause:

(1)<u>Predation</u> on native wildlife, in some cases wipes out native populations.

i.e.- In eastern forests, losses to **European Gypsy Moths** in 1981 were $764 million

Wooly Adelgid

(2) **<u>Out-competing</u>** native species for food, space, and other natural resources.

i.e.- **European Brown Trout** introduced as a game fish is contributing to the decline of native species such as the golden trout.

Brown Trout

Golden Trout

Purple Loosestrife

(3) **Genetic pollution** through hybridization.

i.e.- The **Red Wolf** hybridized so much with the coyote, a pure red wolf may no longer exist.

(4) Spreading **new diseases and parasites**.

i.e.- The *chestnut blight fungus* arrived in N.Y.C in the late 19th century on a nursery stock from Asia. In less than 50 years it spread over the eastern U.S., destroying virtually all chestnut trees.

•Having no natural predators some introduced species populations can grow at an alarming rate.

Characteristics of Successful Invader Species	Characteristics of Ecosystems Vulnerable to Invader Species
• High reproductive rate, short generation time (r-selected species)	• Similar climate to habitat of invader
• Pioneer species	• Absence of predators on invading species
• Long lived	• Early successional species
• High dispersal rate	• Low diversity of native species
• Release growth-inhibiting chemicals into soil	• Absence of fire
• Generalists	• Disturbed by human activities
• High genetic variability	

Other infamous exotics

Starling

House Sparrow

Cane Toads

Asian Longhorn Beetle

Snakehead Fish

Zebra Mussels

Closeup of zebra mussels on stick.