

**WHY INVASIVE SPECIES WILL
BE NATURE'S SALVATION**

FRED PEARCE





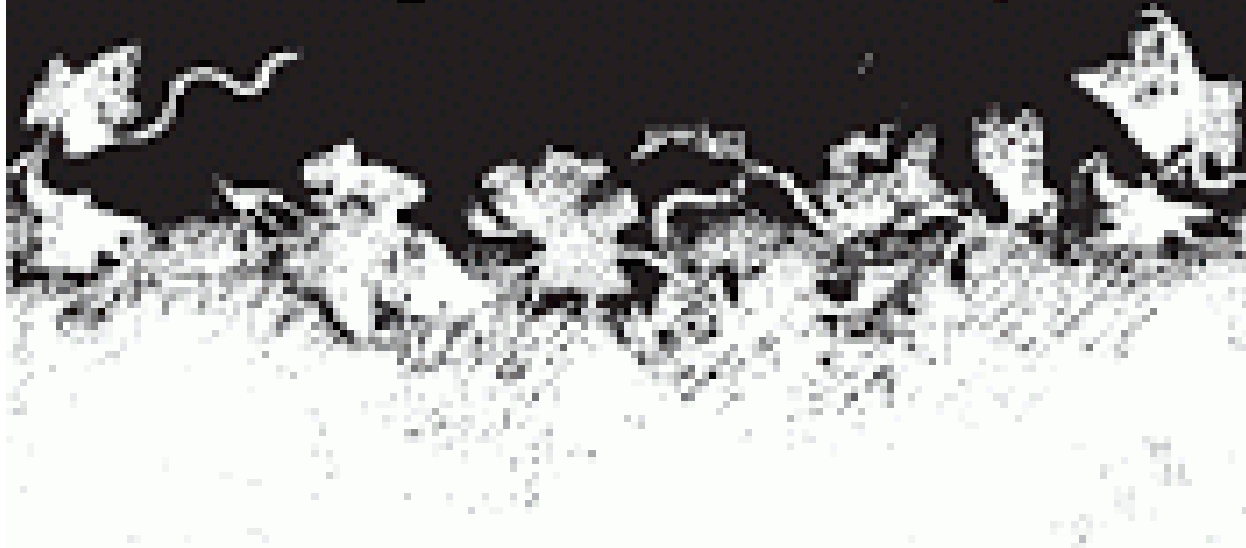




STOP

the invasion

Protect Oregon from Invasive Species





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**“Nature, left
undisturbed, so
fashions her territory
as to give it almost
unchanging
permanence of form,
outline and
proportion”**



“Wherever we seek to find constancy, we discover change. Nature undisturbed is not constant in form, structure or proportion, but changes at every scale of time and space.”





Invasive Species Across America



Statistics and facts

Global

The total loss to the world economy as a result of invasive non-native species has been estimated at 5% of annual production (Pimentel *et al.* 2002).

Globally, INNS have contributed to 40% of the animal extinctions that have occurred in the last 400 years (CBD, 2006).

Over 80% of the world's islands have been invaded by rodents (Atkinson, 1985).

20-30% of all introduced species worldwide cause a problem (Pimentel *et al.* 2001).

10 billion tonnes of ballast water is transported around the world every year (IMO, 1997).

84% of the world's 232 marine ecoregions reported the presence of invasive non-native species (Molnar *et al.* 2008).

Introduction rates have been reported as high as two to three new species per year for Port Phillip Bay, Melbourne, Australia and up to one species per year for San Francisco Bay, California, USA (Molnar *et al.* 2008).

Quantifying Threats to Imperiled Species in the United States

Assessing the relative importance of habitat destruction, alien species, pollution, overexploitation, and disease

David S. Wilcove, David Rothstein, Jason Dubow, Ali Phillips, and Elizabeth Losos

B iologists are nearly unanimous in their belief that humanity is in the process of extirpating a significant portion of the earth's species. The ways in which we are doing so reflect the magnitude and scale of human enterprise. Everything from highway construction to cattle ranching to leaky bait buckets has been implicated in the demise or endangerment of particular species. According to Wilson (1992), most of these activities fall into four major categories, which he terms "the mindless horsemen of the environmental apocalypse": overexploitation, habitat destruction, the introduction of non-native (alien) species, and the

Habitat loss is the single greatest threat to biodiversity, followed by the spread of alien species

passed by them—is responsible for endangering species. In general, scientists agree that habitat destruction is currently the primary lethal agent (Ehrlich 1988, Wilson 1992), followed by the spread of alien species

fine-scale analysis of the types of habitat destruction affecting US plants and animals protected under the federal Endangered Species Act (ESA). We also speculate on how these threats have changed over time and are likely to change in the future. We conclude with a brief discussion of the implications of our findings for the long-term protection of imperiled species in the United States.

An overview of the threats

To obtain an overview of the threats to biodiversity in the United States, we tabulated the number of species threatened by five categories of







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Invasive Species Alert

These waters are designated as
INFESTED WATERS and contain

Zebra Mussels
(common size: 1/4 to 1-1/2 inch)





















American Muskrats Plague Bohemia

THE American muskrat is becoming a dangerous pest in Bohemia. The animal was introduced on the estates of Prince Colloredo-Mannsfeld in 1905, and since that time has distributed itself over the area within 100 miles of Dobruška, near Prague, where it was first liberated. It has followed the course of the Elbe and Moldau rivers and their tributaries, and it is reported that it has even reached some of the tributaries of the Danube.

Like the rabbit in Australia and the English sparrow in America, the muskrat has developed a long list of evil traits of which it is apparently innocent in its native habitat. The streams in this region are controlled by dams and grassed banks, and fish culture in the ponds formed by the dams is a leading industry. The carp raised in these ponds form a very important part of the food supply of the country. But the muskrat undermines both the dams and banks so that they cave in, allowing the water to escape and with it the fish.

It is also stated that it works havoc among the river crabs and mussels, the former

nests obligatory. Trapping and poisoning are among the means of extermination mentioned, and a special muskrat trap is recommended by the Council.





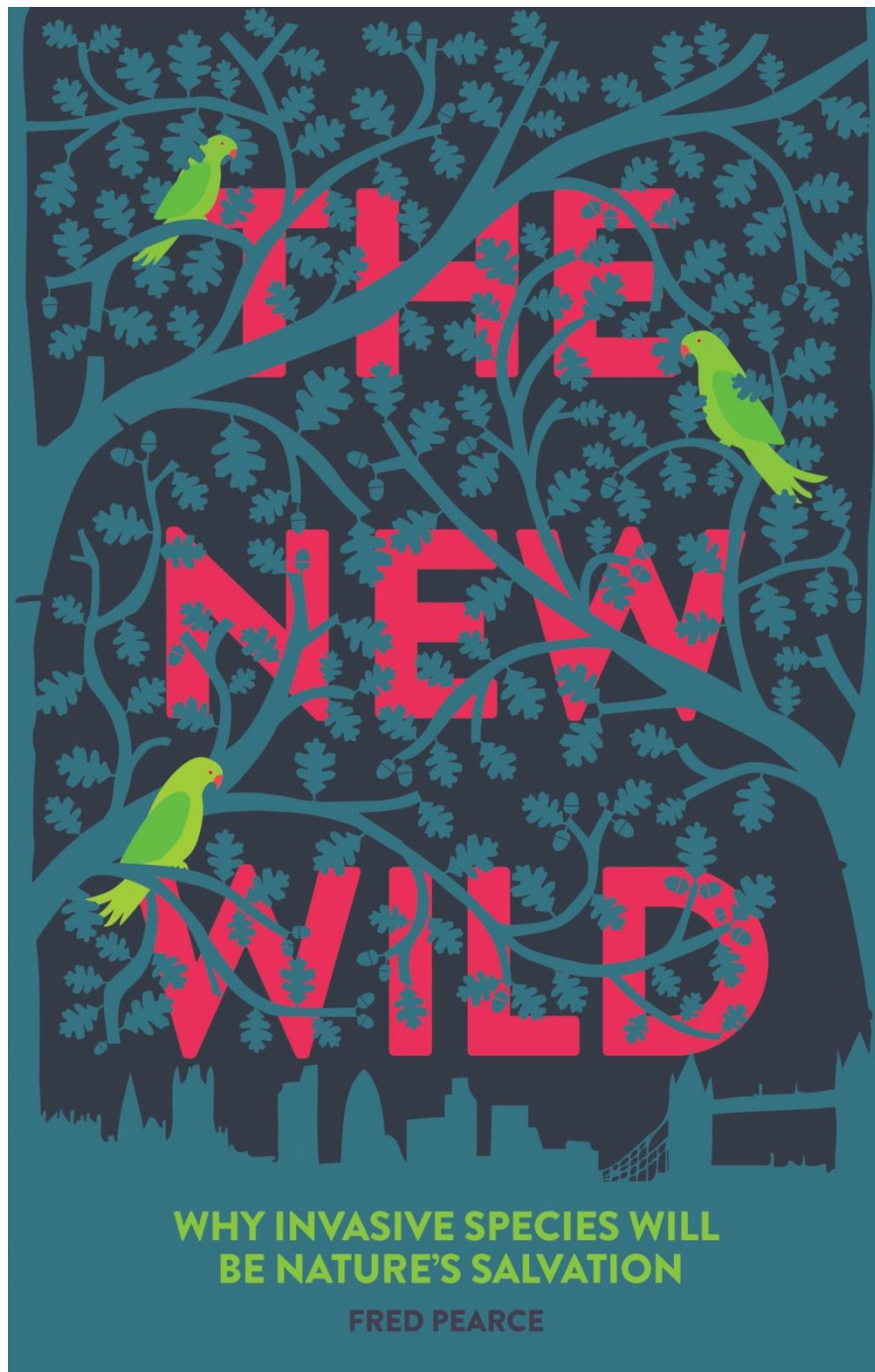




Schimming







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