

# Amassing Efforts against Alien Invasive Species in Europe

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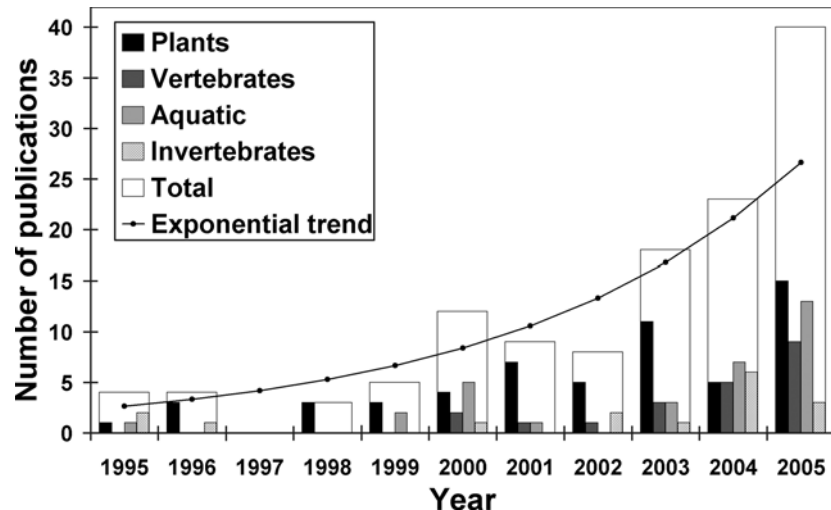
Almost daily, we can read newspaper articles voicing concerns about alien species and their impacts on native biodiversity, economic resources, and human health. Alien or non-native species introductions by humans rank as one of the two top factors (after habitat loss) leading to declines in biological diversity [1]. Their synergistic effects with changes in land-use and climate may lead to even more severe declines in the future [2]. Globally, there is a sense of urgency for practical steps to be taken to strictly identify and control the introduction of alien species and manage species that have already become invasive [3,4].

Although scientists and policymakers are becoming increasingly aware that introductions of alien species impose serious impacts [3,5], there are large differences in how nations deal with the issue. While some countries have detailed lists of alien species and well-established protocols for their trade and control, information in other countries is almost non-existent. Once established in a small area, species can enlarge their range across wide geographical areas, sometimes rapidly, so tackling the problem requires a strategic approach involving cooperation of many countries. Efforts to come to grips with this problem led to The Global Invasive Species Programme (GISP) [6].

## Integrating Information across Europe

In Europe there has been increasing interest in alien species (Figure 1), but, except for marine systems [7], little effort has been made to integrate information across countries. In 2005, a new European Union consortium called DAISIE (Delivering Alien Invasive Inventories for Europe);

The Community Page is a forum for organizations and societies to highlight their efforts to enhance the dissemination and value of scientific knowledge.



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**Figure 1.** Change in the Number of Publications on Alien Species in Europe That Appeared in Eight Major Ecology and Conservation Biology Journals from 1995–2005

An increase with year was found for the plant, vertebrate, and aquatic taxonomic groups ( $R^2 = 0.81$  for all four groups combined; plants: linear  $R^2 = 0.67$ ,  $p = 0.002$ ; vertebrates: linear  $R^2 = 0.67$ ,  $p = 0.002$ ; aquatic: linear  $R^2 = 0.51$ ,  $p = 0.014$ ; invertebrates: linear  $R^2 = 0.28$ ,  $p = 0.091$ ). The journals include *Biological Conservation*, *Biological Invasions*, *Conservation Biology*, *Ecology*, *Journal of Animal Ecology*, *Journal of Applied Ecology*, *Journal of Ecology*, and *Oikos*. We included all papers that dealt with aliens in any European country. Papers were searched from ISI Web of Knowledge on 22 May 2006 using the words "aliens," "exotic," "invasion," "naturalized," "non-indigenous," "nonindigenous," "non-native," and "nonnative." Global papers and models were not included. While other journals include papers on alien species (especially aquatic species), this figure shows an increase in interest in the area based on the ecological and conservation journals examined.

<http://www.europe-aliens.org>) was initiated to address this need across Europe and the Mediterranean Basin for terrestrial, marine, and freshwater environments. DAISIE aims to integrate information on current invasions across Europe through the development of an online, peer-reviewed database of alien species. Linking information on the species' status at both country- and Europe-wide levels should improve understanding and prediction of invasion dynamics [8] and help prevent their spread into new areas.

The research teams in DAISIE were drawn from more than 15 countries in the region by Phil Hulme, who also coordinates this large effort, at National Environment Research Council's Centre for Ecology and Hydrology, in the UK. Representing many of the leading scientists in the field of biological invasions, the

group brings together a variety of expertise from academia, government,

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**Abbreviations:** DAISIE, Delivering Alien Invasive Inventories for Europe; IUCN, International Union for the Conservation of Nature and Natural Resources (The World Conservation Union)

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A long-term commitment to the maintenance and expansion of this program will be an important challenge to undertake, ensuring the future benefits of information sharing for the preservation of native biodiversity and for society. ■

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