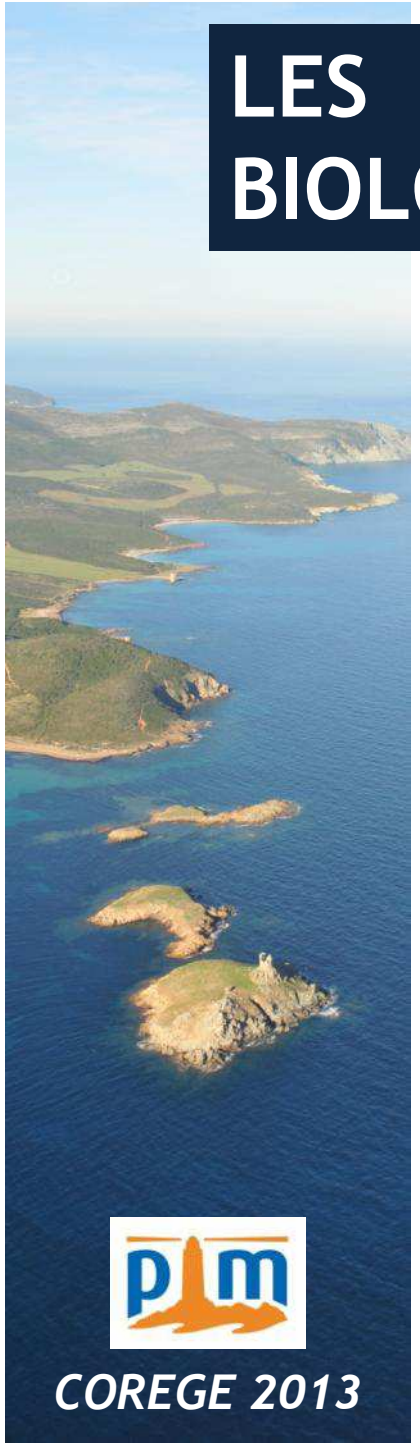


# LES INVASIONS BIOLOGIQUES/ BIOLOGICAL INVASIONS

DANS LES ILES

- Agir?
- Pourquoi?
- Comment?

ON ISLANDS

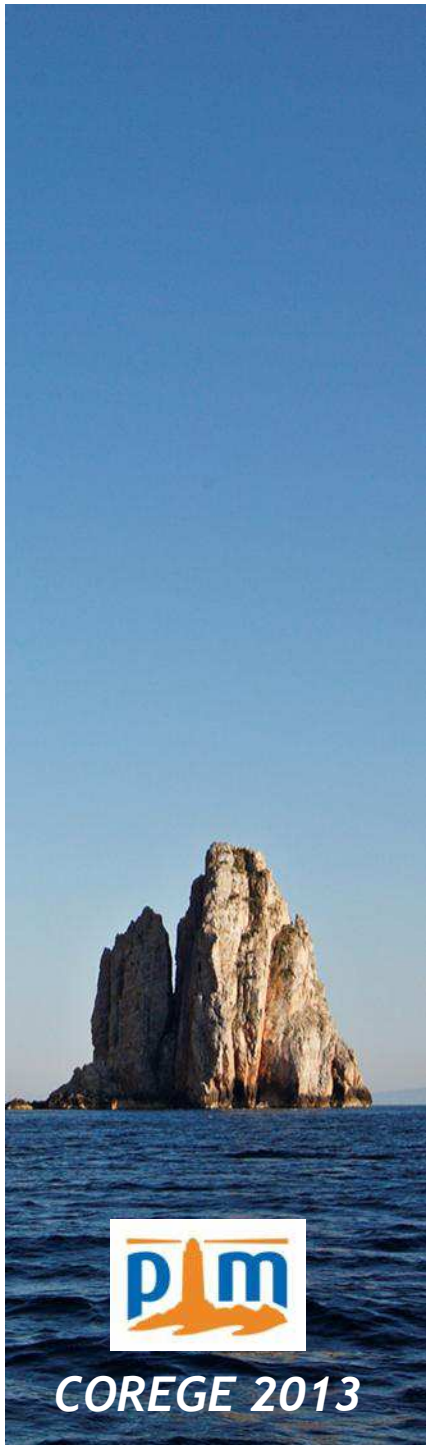
- Enact?
- Why?
- How?

RAPPEL

de quelques notions
et avancées récentes

COREGE 2013

Michel Delaugerre- Conservatoire du littoral




Muséum national d'Histoire naturelle

Direction de la Recherche, de l'Expertise et de la Valorisation

Direction Déléguée au Développement Durable, à la Conservation de la Nature et à l'Expertise

Service du Patrimoine Naturel

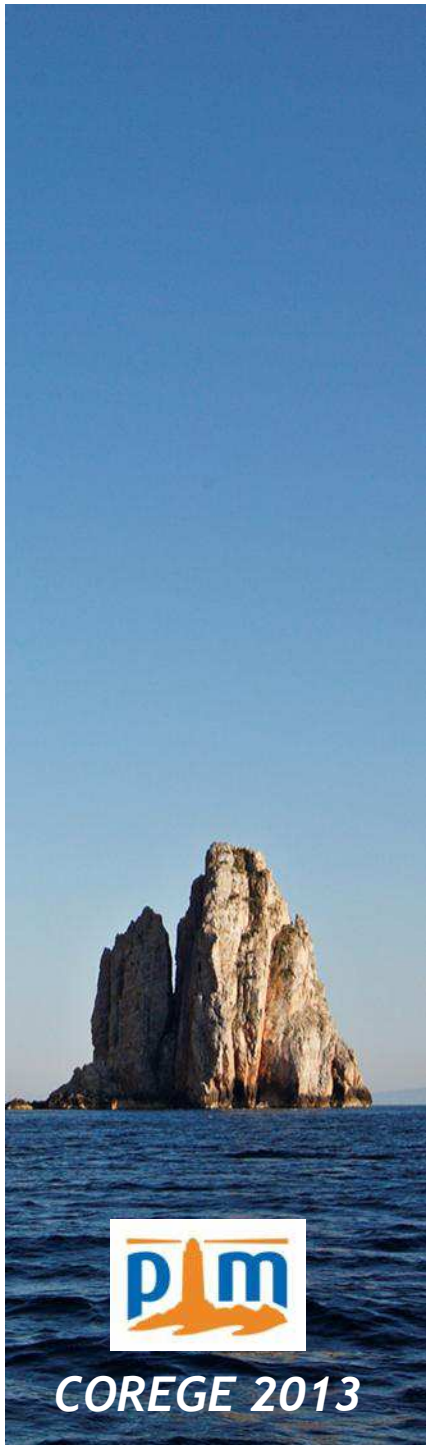
Jessica Thévenot & (coords)


# Synthèse et réflexions sur des définitions relatives aux invasions biologiques.

*Préambule aux actions de la stratégie nationale sur les espèces exotiques envahissantes (EEE) ayant un impact négatif sur la biodiversité.*

Rapport SPN & Code rapport

Avril 2013

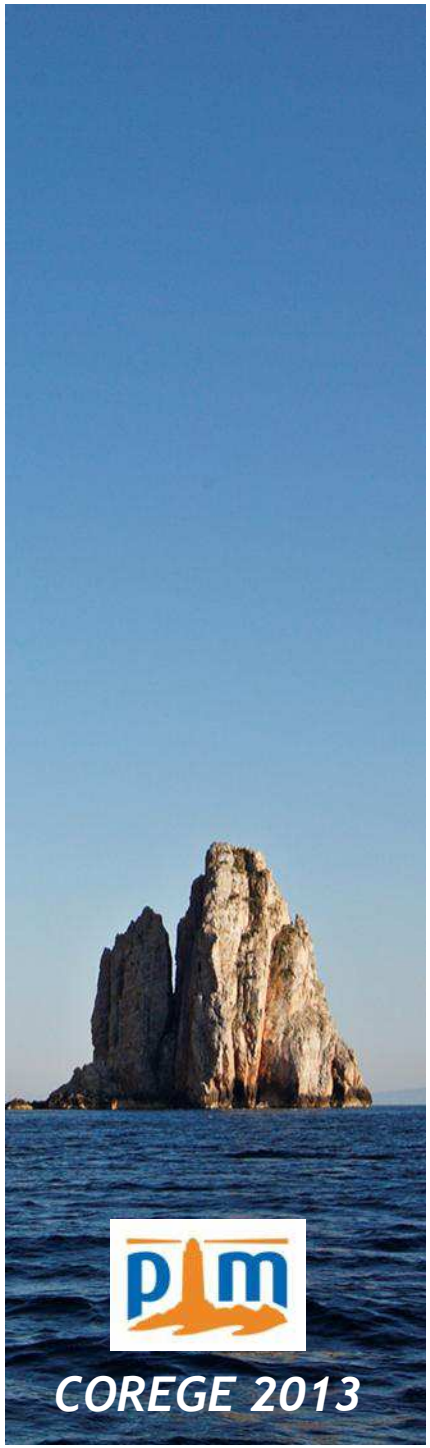


COREGE 2013

# Les invasions biologiques, une question de natures et de sociétés

R. Barbault, M. Atramentowicz, coordinateurs

éditions Quæ




Review

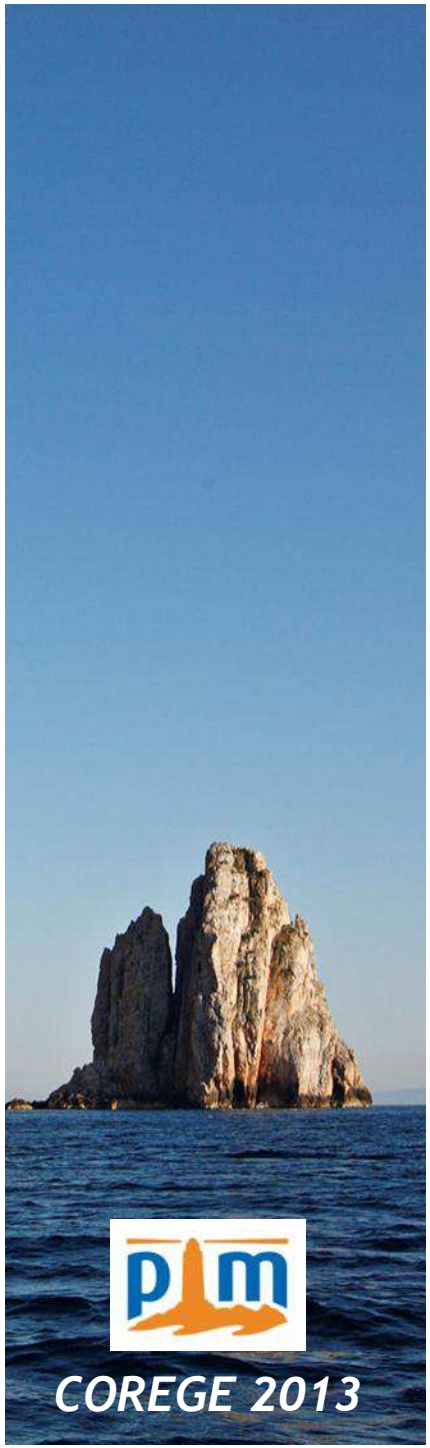
Cell PRESS

# Impacts of biological invasions: what's what and the way forward

Daniel Simberloff[1], Jean-Louis Martin[2], Piero Genovesi[3], Virginie Maris[2], David A. Wardle[4], James Aronson[2,5], Franck Courchamp[6], Bella Galil[7], Emili García-Berthou[8], Michel Pascal[9], Petr Pyšek[10,11], Ronaldo Sousa[12,13], Eric Tabacchi[14], and Montserrat Vilà[15*]

**Table 1. Examples of ecosystem and community transformations by invasive consumer populations**

| Species | Transformation | Refs |
|---|---|---|
| **Introduced herbivores** | | |
| Gypsy moth (*Lymantria dispar*) | Nutrient pulses to forest floor, altering soil organic matter dynamics | [83] |
| Hemlock woolly adelgid (*Adelges tsugae*) | Hemlock replacement by species producing higher quality litter that stimulates nutrient cycling | [83] |
| Black-tailed deer (*Odocoileus hemionus columbianus* and red deer (*Cervus elaphus*) | Replacement of understory plants by plants producing poor-quality litter, altering nutrient cycling and the soil food web | [84] |
| | Decline in understory vegetation dramatically reducing arthropods and songbirds | [64] |
| North American beaver (*Castor canadensis*) | Change in watershed hydrology and nutrient cycling, transforming forests into meadows | [85] |
| Rabbitfish (*Siganus* spp.) | Reduction of habitat complexity and species richness, and alteration of food webs | [86] |
| **Introduced predators** | | |
| Yellow crazy ant (*Anoplolepis gracilipes*) | Dramatic reduction of red crab population, increasing tree seedling density, and reduction of litter decomposition | [87] |
| Ship rat (*Rattus rattus*), Norway rat (*Rattus norvegicus*), and Arctic fox (*Vulpes lagopus*) | Predation on seabirds thwarting nutrient transfer from ocean to land. Rats change belowground community, nutrient cycling, and decomposition | [88] |
| | Foxes change soil fertility and transform grasslands to shrub- and forb-dominated ecosystems | [89] |
| Rainbow trout (*Oncorhynchus mykiss*) | Usurping terrestrial insects falling into streams, causing native char to shift to foraging for insects feeding on bottom algae, increasing algal biomass, decreasing insect emergence and spider populations | [90] |
| Nile perch (*Lates niloticus*) | Driving over 150 native fish species to extinction, including many phytoplanktivores and detritivores, favoring increased algal blooms and submersed vegetation, and massively increased prawn populations; perch fisheries attracted more humans, further exacerbating eutrophication | [91] |
| **Belowground invasions** | | |
| Root pathogenic fungi and oomycetes (notably *Armillaria* and *Phytophthora* spp.) | Causing massive tree death in Australia and California with wide-ranging impacts above- and belowground | [92] |
| Earthworms | In deglaciated parts of North America lacking native worms, causing loss of organic matter, nutrient mineralization, enhanced plant invasion, loss of rare native species, and altered soil invertebrate communities | [65] |
| Predatory flatworm (*Arthurdendyus triangulatus*) | In British islands and Faroe islands, depleting lumbricid earthworm populations, reducing soil porosity and drainage, increasing waterlogging, increasing domination by *Juncus*, and reducing mole density | [93] |
| Invasive bivalves | Providing shelter and substrate, altering sediment chemistry, grain size, and organic matter content by sediment reworking, and increasing light penetration by filter feeding | [94] |
| *Sphaeroma quoyanum* (isopod) | In California, creating galleries that reduce sediment stability and increase erosion, ultimately converting saltmarshes to mudflats | [95] |




COMMISSION
EUROPÉENNE

Bruxelles, le 9.9.2013
COM(2013) 620 final

2013/0307 (COD)

Proposition de

# RÈGLEMENT DU PARLEMENT EUROPÉEN ET DU CONSEIL

**relatif à la prévention et à la gestion de l'introduction et de la propagation des espèces exotiques envahissantes**

{SWD(2013) 321 final}
{SWD(2013) 322 final}
{SWD(2013) 323 final}