

Black lists, a tool for biological invasion control

Picture : Jeroen Mentens

Brussels, 9th March 2006

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Belgian Biodiversity Platform - CRNFB



Biodiversity.be

1. INTRODUCTION



i nvasive species : colonization ability vs impact

- **The scientific definition**

Non native organisms able to produce reproductive offspring in areas distant from sites of introduction and to colonize new habitat patches.

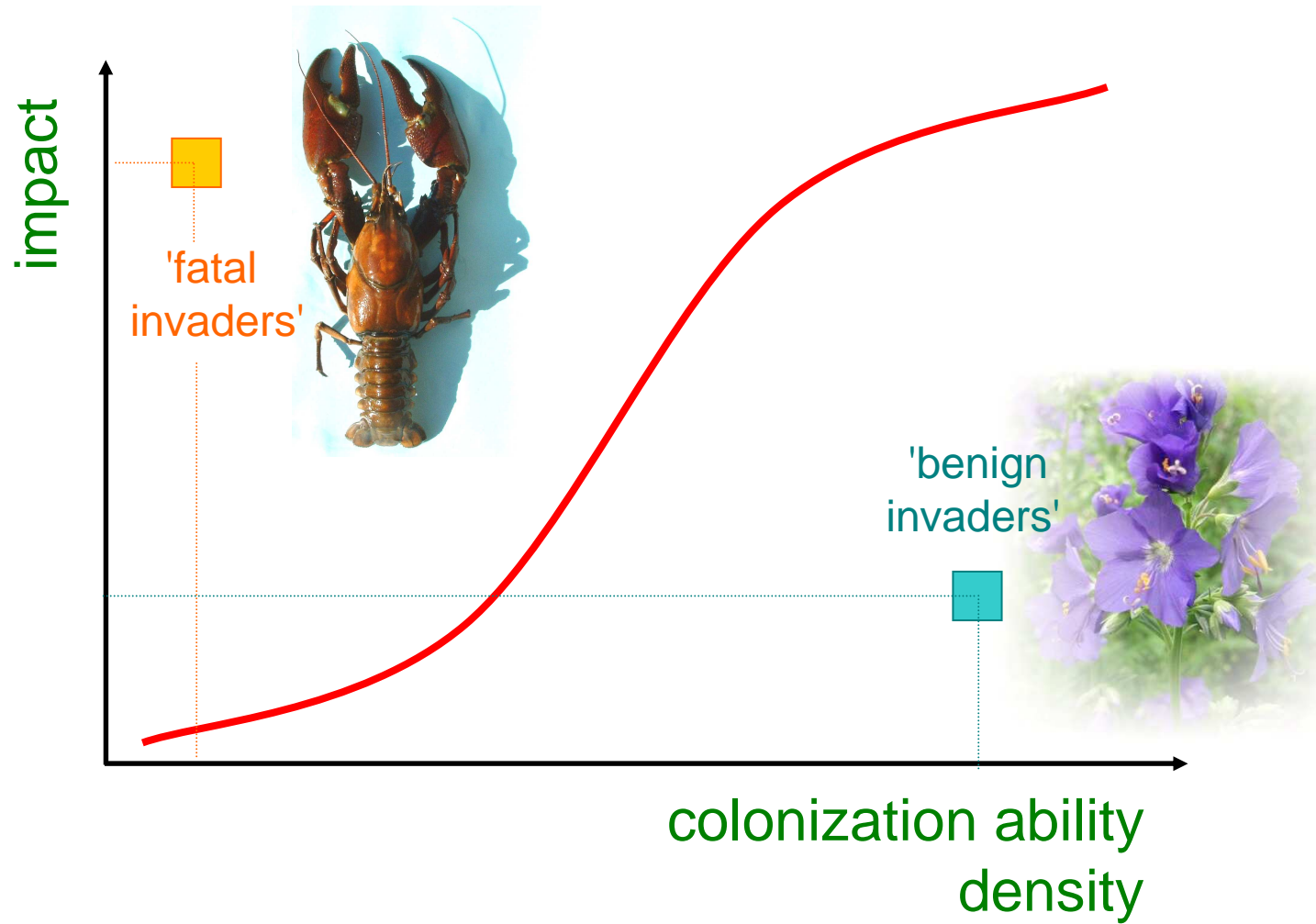
(Richardson et al. 2000)

- **The decision maker definition**

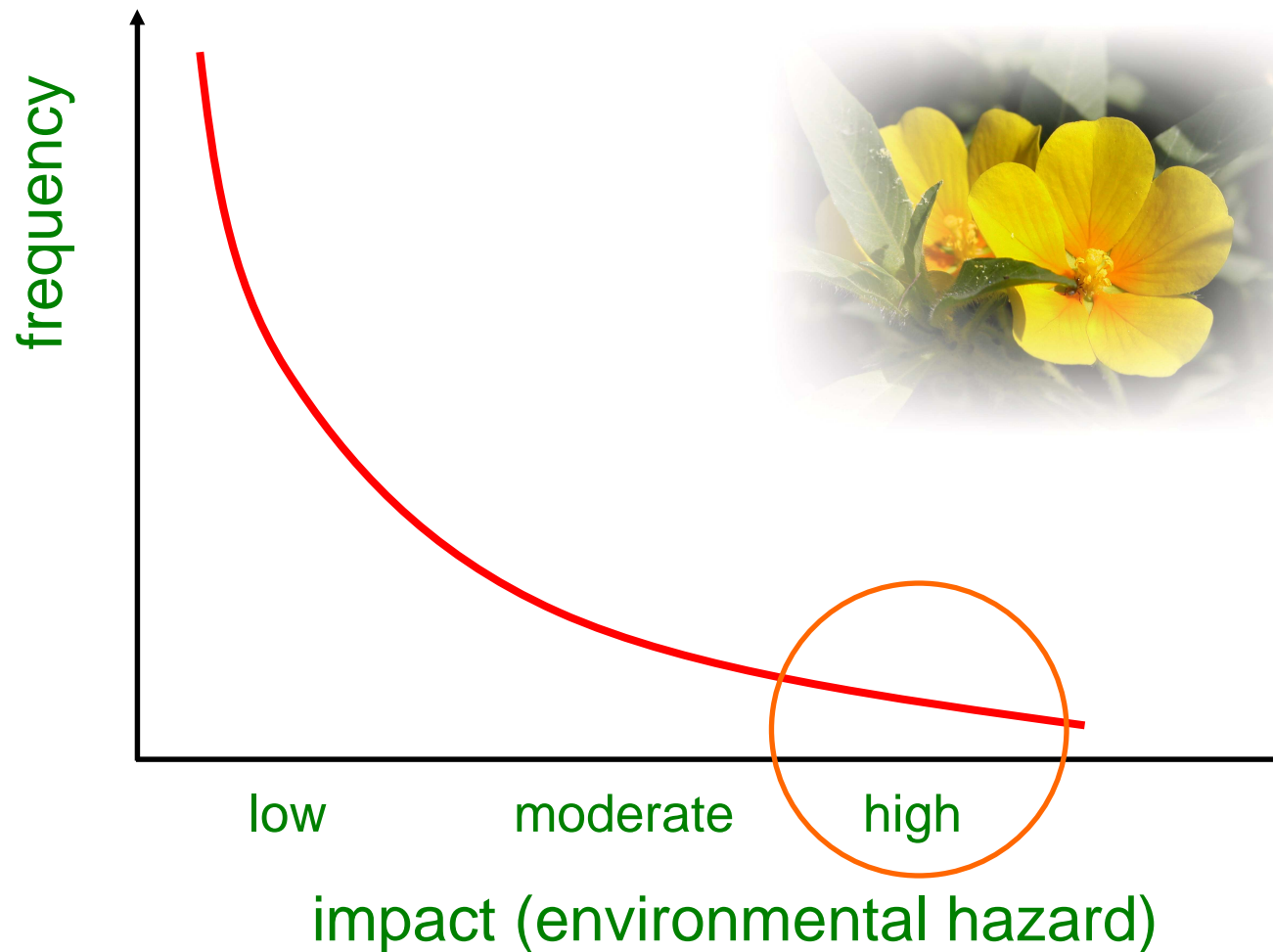
Non native organisms whose introduction is likely to cause environmental, economic or human health damages.

(CBD-IUCN)

i nvasive species : colonization ability vs impact



Only a few harmful species...



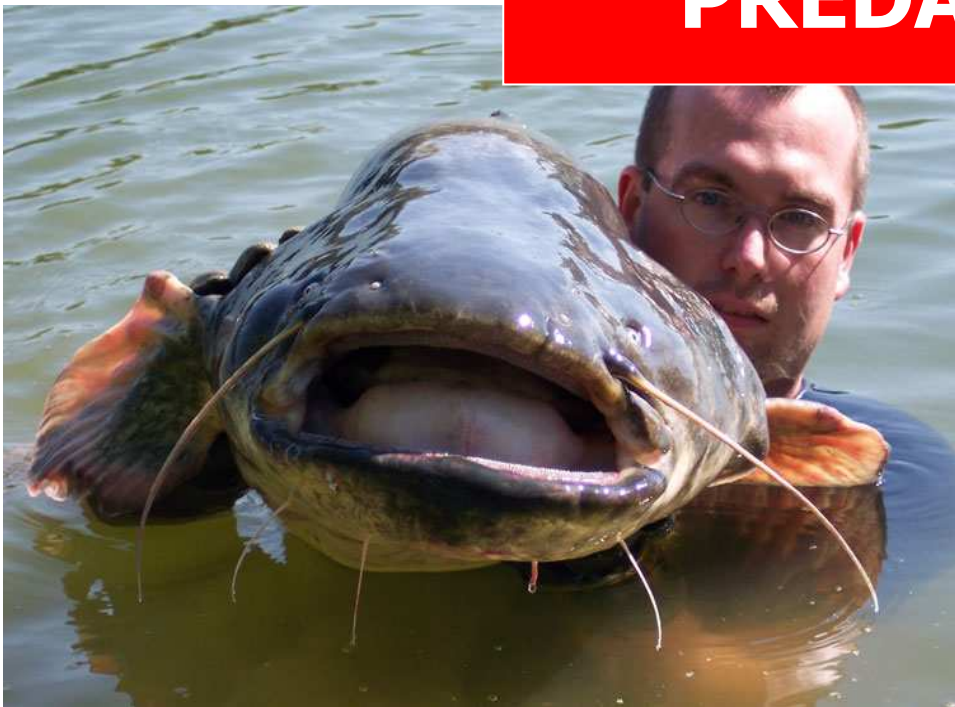


COMPETITION





PREDATION





DISEASE TRANSMISSION





HYBRIDIZATION



Foto: K. Rozínek

jozef hlasek

Introductions pathways of harmful species

- **Harmfull invasive plants in Switzerland**
75 % were deliberately introduced, principally as ornamentals
- **Harmfull vertebrates in Switzerland**
95 % were deliberately introduced (aquaculture, pets, etc.).



(Wittenberger 2005)



Le professionnel du reptile

2. DEVELOPMENT OF LIST SYSTEMS





- About EPPO
- Meetings
- Plant quarantine
- Plant protection products
- Standards
- Publications
- Worldwide activities

What's New

- ▶ Panel Report : Technical requirements for laboratories, Paris
- ▶ Workshop on mutual recognition and minor uses, Berlin. [Register now!](#)
- ▶ New datasheet on invasive plants: Senecio inaequidens
- ▶ Update 2005 of EPPO Standards on Efficacy Evaluation is available
- ▶ Workshop on Solanum elaeagnifolium, Tunisia. [Pre-register now!](#)
- ▶ Panel Report: Harmonization of data on PPPs, Paris
- ▶ Report and presentations: Workshop on Synchytrium endobioticum, Paris
- ▶ Conference on Phytophthora ramorum and other forest pests, Falmouth
- ▶ **Monthly Phytosanitary Regulations Service:** texts sent in 2005-08

Quick links

Choose one ▼

EPPO Events

- Mr N. van Opstal elected as new EPPO Director-General
- Special celebrations in honour of Dr Smith
- Other staff changes at the EPPO Secretariat

EPPO is an intergovernmental organization responsible for European cooperation in plant health. Founded in 1951 by 15 European countries, EPPO now has 47 members, covering almost all countries of the European and Mediterranean region. Its objectives are to protect plants, to develop international strategies against the introduction and spread of dangerous pests and to promote safe and effective control methods. As a Regional Plant Protection Organization, EPPO also participates in global discussions on plant health organized by FAO and the IPPC Secretariat. Finally, EPPO has produced a large number of standards and publications on plant pests, phytosanitary regulations, and plant protection products. [more information >](#)



EPPO Headquarters in Paris

f rom plant protection...

- **European Plant Protection Organization (1970)**
List of pests regulated as quarantine pests
- **Belgian law on the control of pest organisms (1971)**
List of organisms harmful to plants or plant products
- **Council Directive 77/93/EEC (1976)**
List of organisms harmful to plants or plant products

...to biodiversity conservation

- **Swiss Commission for Wild Plant Conservation (2002)**
Black and watch lists of neophytes in Switzerland
- **Austrian Action Plan on Invasive Alien Species (2004)**
List of invasive, economically problematic and health affecting sp.
- **European Plant Protection Organization (2005)**
EPPO list of invasive alien plants
- **Streamlining European 2010 Biodiversity indicators (2006)**
List of worst invasive alien species threatening biodiversity in EU

>>>> recommendations of CBD, IUCN & Bern Convention <<<<

A risk assessment protocol for freshwater fishes

Copp, Gordon H. — CEFAS, Lowestoft, England

Garthwaite, Rachel — CEFAS, Lowestoft, England &
Dept. of Conservation, Wellington, NZ

Gozlan, Rodolphe E. — CEH - Dorset, England

eMail: g.h.copp@cefas.co.uk

PFRA - Pest Fish Risk Assessment

Impact Assessment — Economic, Environmental & Social

- Assumes risk of **social** impact in recipient area determined by:
 - 1) A previous history of impact:
 - Impact score is weighted by an estimate of severity using a 3 point scale
 - Severity of loss is assumed to be a function of duration and spatial scale (local, regional, national)
 - 2) presence of vulnerable sectors in the recipient area
 - 3) Likelihood of impact is assumed to be a function of:
 - Economic Risk Scores
 - Environmental risk scores



3. A LIST SYSTEM FOR BELGIUM





- Thematic forums
- Invasive Species
- Terminology
- List of invasive species**
- Forum's meetings
- Resources
- Mailing list
- Freshwater Ecosystems



- [Archives](#)
- [Plan du site](#)
- [Information de contact](#)

 The Belgian Biodiversity Platform is an initiative of the Belgian Science Policy.

Links to other Belgian biodiversity-related initiatives:

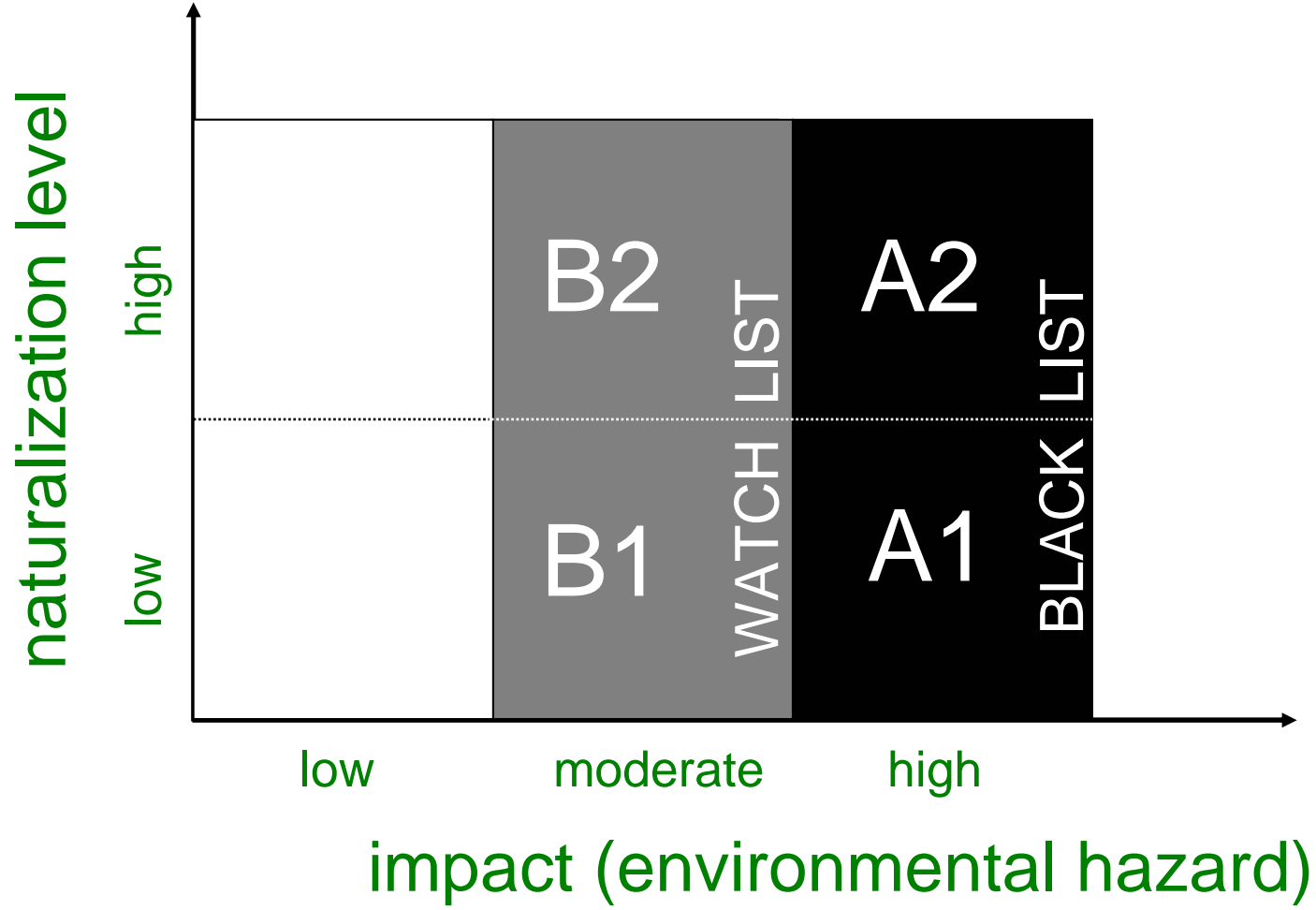


List of invasive species

The table hereafter lists invasive alien species which were recorded in Belgium. Those species are either in strong geographical expansion or are known to produce detrimental impacts on environment sensu lato. This list is under the responsibility of members of the Belgian Forum on Invasive Species. It is not exhaustive and will be progressively completed. Species profiles including description, habitat preferences, detrimental impact and management information are currently in development.

Species	Origin	Introduction	Habitat	Range	Progression	Impact type
Mosses and ferns						
Azolla filiculoides	Am		FREW			COMP, MNR
Campylopus introflexus	SAfr	1966	TERR			COMP
Lophocolea semiteres						
Orthodontium lineare	SAfr	1945	TERR			
Higher plants						
Ailanthus altissima	Asia		TERR			
Ambrosia artemisiifolia	NAM		TERR	*	EXP	HEALTH
Amelanchier lamarckii			TERR			
Buddleja davidii			TERR			
Cotoneaster horizontalis			TERR			
Crassula helmsii	Aust	1983	FREW		EXP	
Egeria densa						
Elodea spp.	NAM	< 1900	FREW	***		
Fallopia japonica	Asia		TERR	**	EXP	COMP, MNC, MNR
Fallopia sachalinensis	Asia		TERR			COMP, MNC, MNR
Helianthus tuberosus	NAM		TERR			
Heracleum mantegazzianum	Asia	1938	TERR	*	EXP	COMP, HEALTH, MNC
Hydrocotyle ranunculoides	NAM		FREW			
Impatiens parviflora	Asia		TERR			COMP, MNC
Impatiens glandulifera	Asia		TERR			COMP, MNC, PHYS
Lemna minuta			FREW			
Lemna turionifera						
Lindernia dubia			TERR			

a two-dimensions template



assessment of environmental hazard

- **High environmental risk (> black list)**

Species that have the potential to colonise semi-natural habitats in Belgium or neighbour areas, where they are known to make a threat to native biodiversity, and possibly ecosystem functioning.

>>> eradication or control recommended

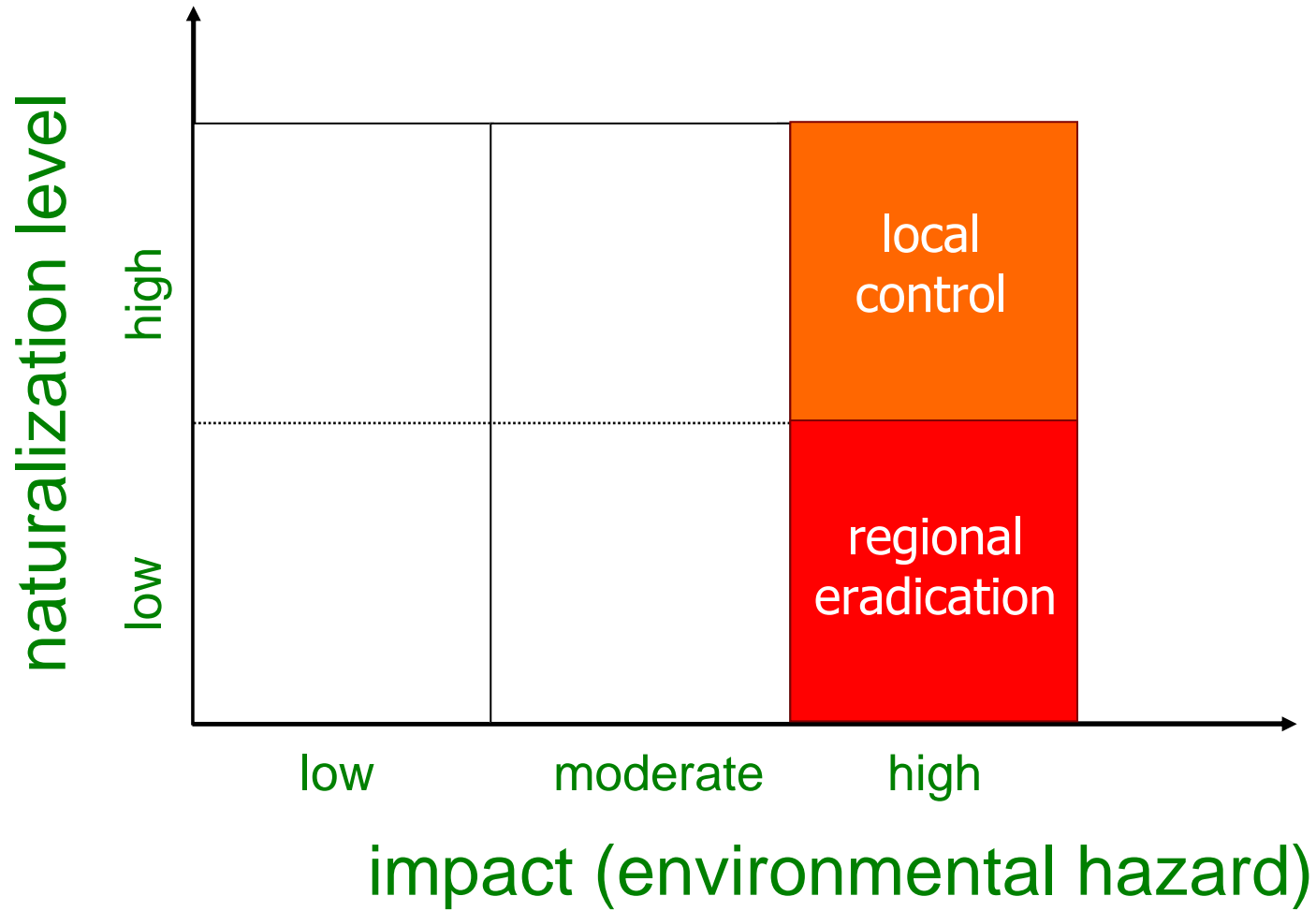
- **Moderate environmental risk (> watch list)**

Species for which detrimental impact is only assumed (e.g. species that are restricted to man-made habitats and do not seem to invade high conservation value ecosystems)

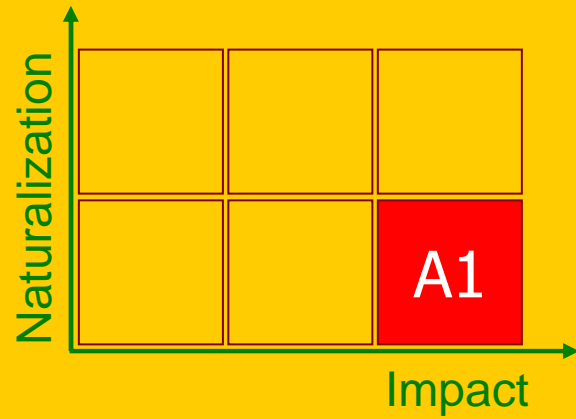
>>> careful monitoring

Risk assessment based on scientific literature
and best expert judgement !

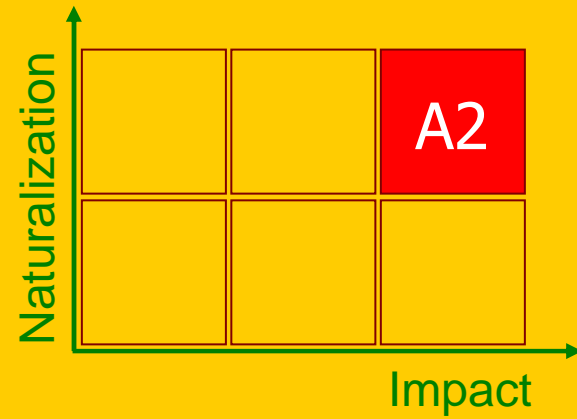
black lists as a tool to prioritize actions



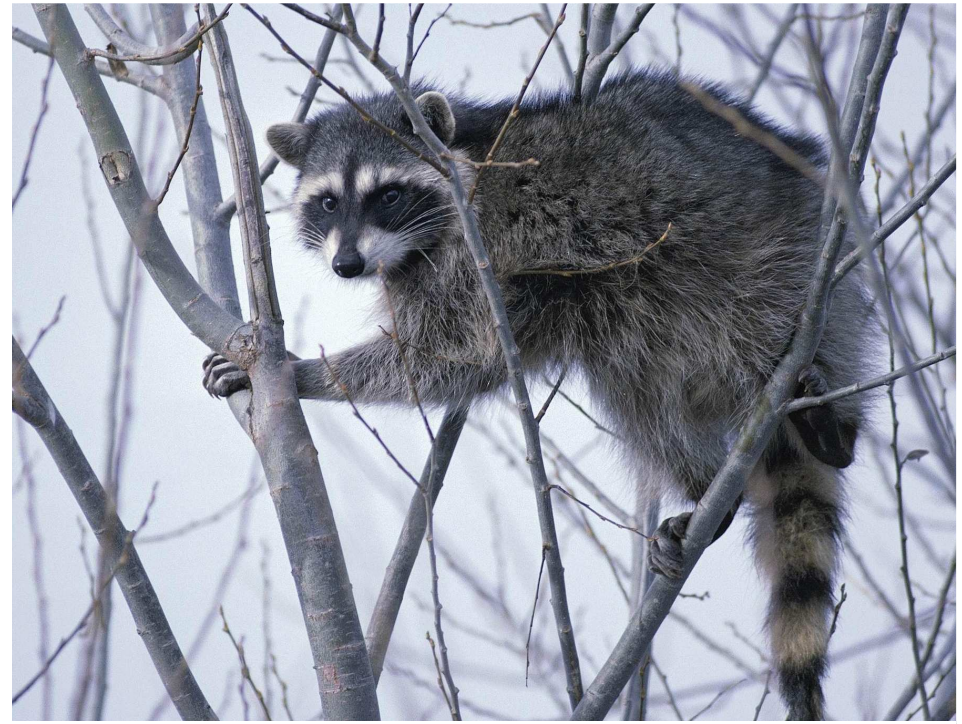
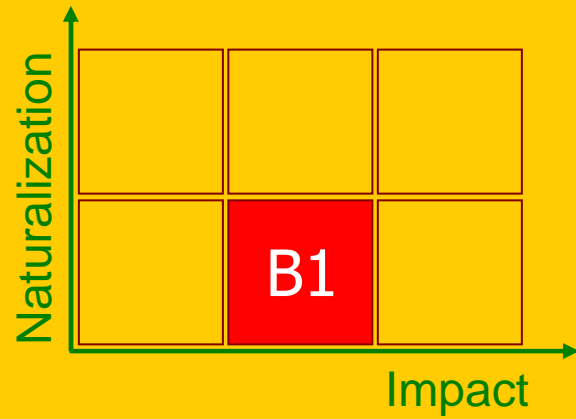
Black list /A1



Black list /A2



Watch list /B1



Watch list /B2

