Moving plants and animals for conservation when the historic range loses legitimacy: adaptation of translocations to cope with climate change.

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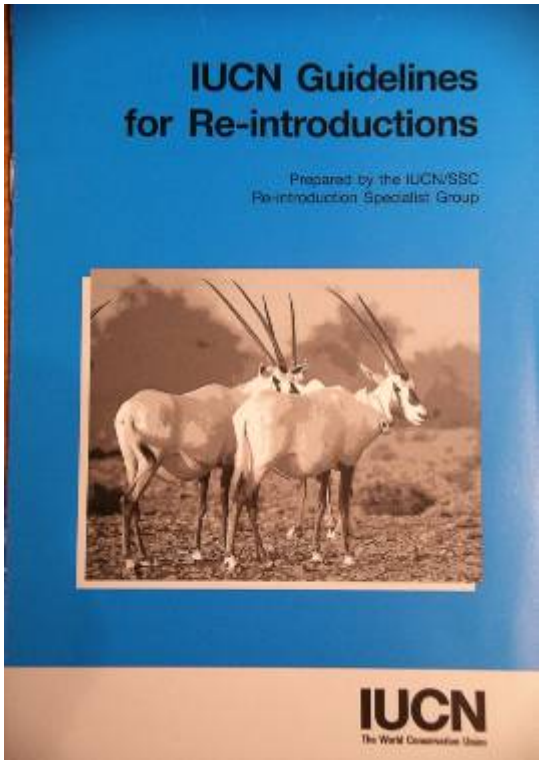
IUCN SSC RSG-ISSG Task Force on Moving Plants & Animals for Conservation Purposes

Reintroductions & IUCN guidelines

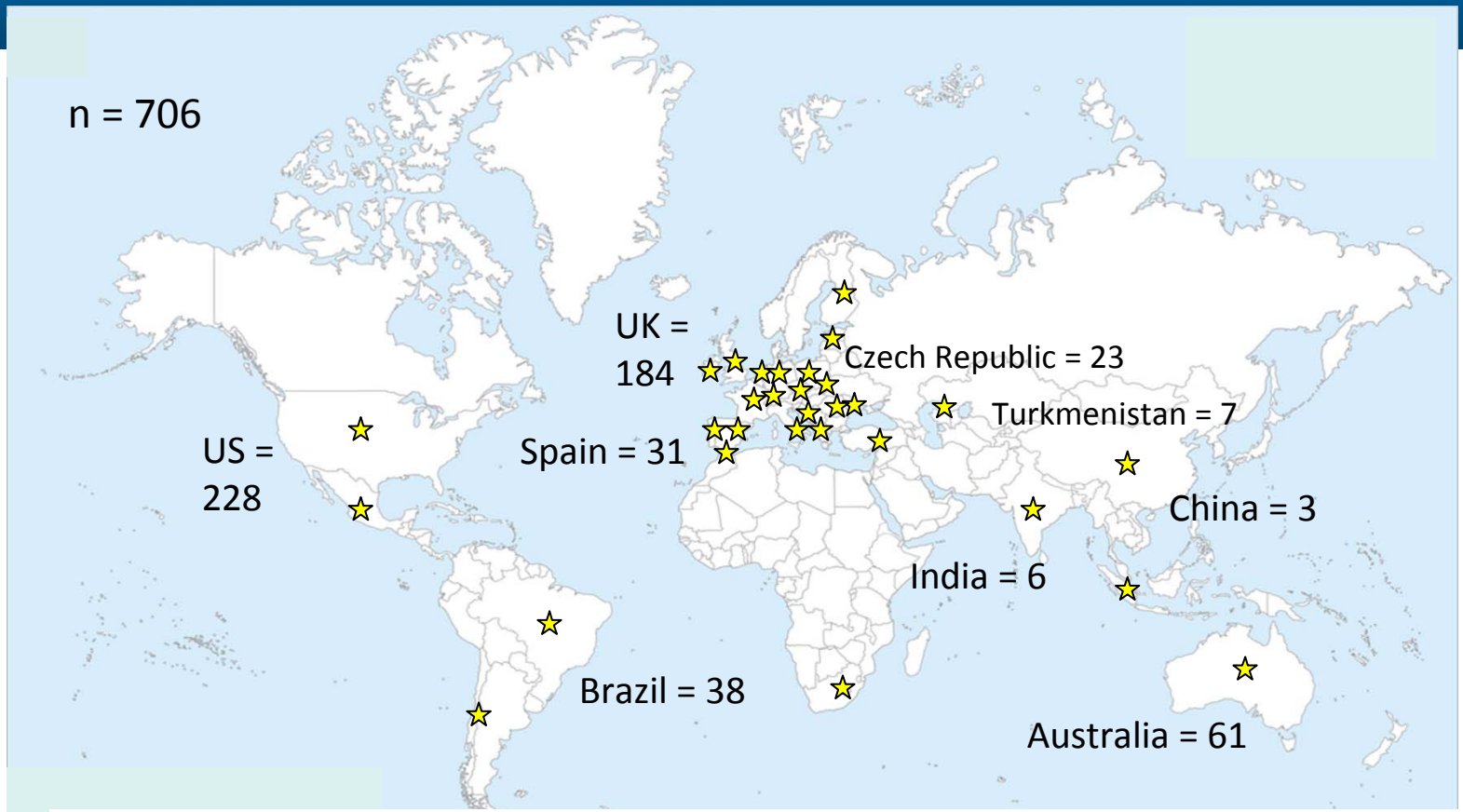
- not (too) controversial
- standard tool for threatened species management

Affirm the convention that organisms should only be released inside historic range, in appropriate habitats.



- published 1995
- 7 languages
- concise
- adapted for taxon-specific guidelines
- incorporated into national protocols

Systematic review of plant reintroductions



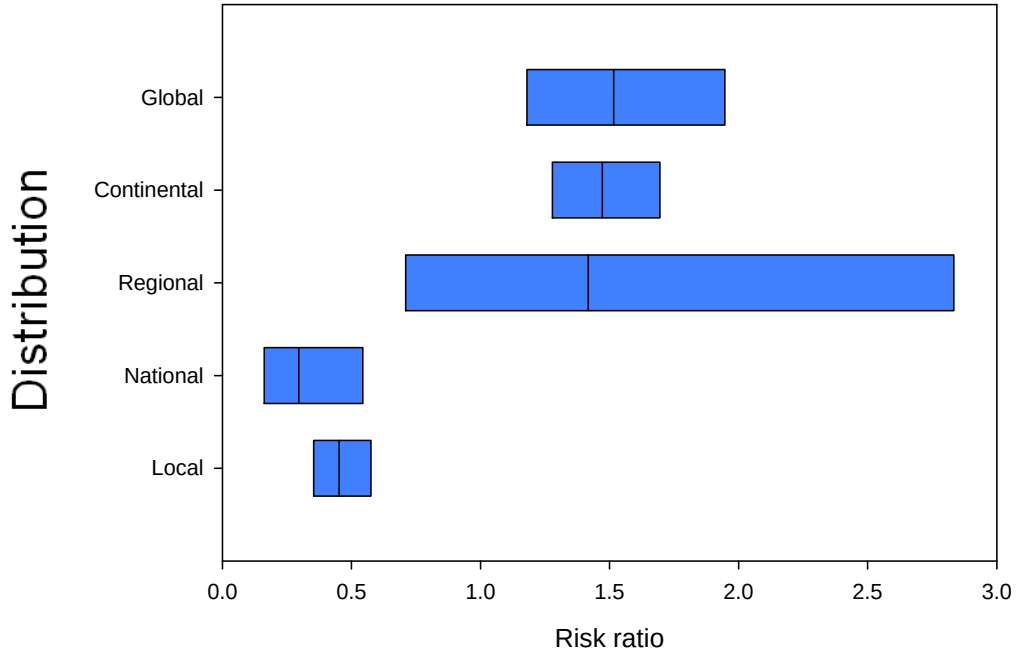
Dalrymple, S.E., Banks, E., Stewart, G.B. & Pullin, A.S. The effectiveness of re-introductions as a tool for mitigating plant declines: a meta-analysis of threatened plant re-introductions from across the globe. **Managing Eden: Plant Reintroduction's Promises, Perils, and Uses in a Changing Climate** *Under final review.*

Systematic review: summary statistics

Summary parameters	Seeds	Juveniles	Adults
	n = 47	n = 134	n = 115
Mean monitoring period (months ± 1 s.e.)			
Monitoring period range from point of reintroduction (months)			
Mean number of surveys (range in parentheses)			
Mean number of propagules (± 1 s.e.)			
Mean percentage propagule survival (± 1 s.e.)			
Number of attempts to reintroduce annuals			
Number of attempts to reintroduce biennials			
Number of attempts to reintroduce perennials			
Percentage of 'successful' attempts (extant at last survey)			
Percentage achieved reproductive maturity			
Percentage of attempts where offspring recruited			

Are endemics difficult to reintroduce?

H = reintroductions of narrow endemics associated with higher risk



Pooled risk ratios (central vertical line in each box) and 95% confidence intervals for each attempted reintroduction using juvenile plants as propagules.

Global n = 8, continental n = 10, regional n = 4, national n = 16, local n = 94.

Are we better at identifying habitat tolerances in restricted species? Or, do rare species get more attention?

What about out of range translocations?

H = attempts to establish a population outside the historic range would incur higher mortality of propagules

Site status relative to historic range	n	Pooled risk ratio	Confidence intervals
Previously extant	23	0.827	0.646 - 1.059
Within historic range	99	0.665	0.578 - 0.763
Outside historic range	7	0.177	0.053 - 0.588

- C.I.s of subgroups overlap
- n very unbalanced

Lessons learnt?

1) improved evaluation of wild population demographics to identify regions of decline and growth,

2) discern the specific causes of declines in wild populations,

3) identify conditions supporting population growth at recipient reintroduction sites,

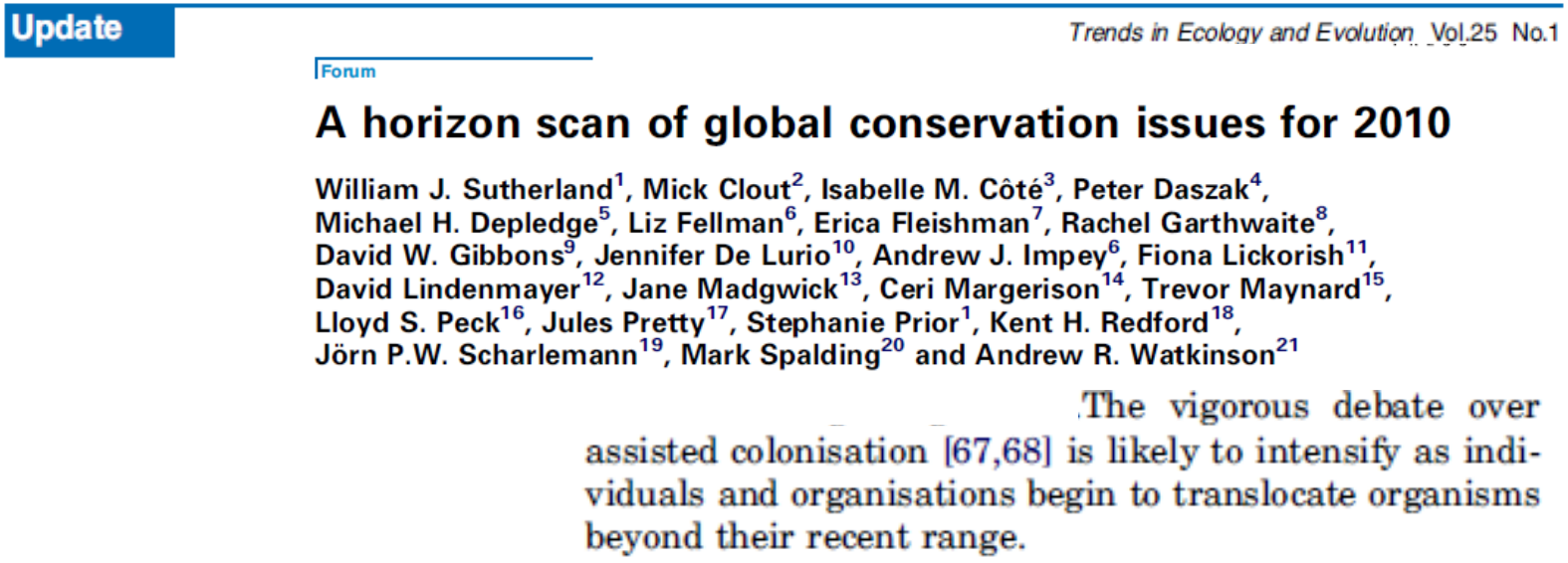
4) more detailed monitoring for > 10 years after the introduction of propagules.

Historic range cannot be used as a shorthand for suitable habitat.

Out of range introductions may not carry any more risk than 'true' reintroductions.

Need for update

RSG Re-introduction Guidelines:
"Conservation / benign introductions: an attempt to establish a species, for the purposes of conservation, outside its recorded distribution but within an appropriate habitat and eco-geographical area. **This is a feasible conservation tool only when there is no remaining area left within a species' historic range".**



Update

Trends in Ecology and Evolution Vol.25 No.1

Forum

A horizon scan of global conservation issues for 2010

William J. Sutherland[1], Mick Clout[2], Isabelle M. Côté[3], Peter Daszak[4], Michael H. Depledge[5], Liz Fellman[6], Erica Fleishman[7], Rachel Garthwaite[8], David W. Gibbons[9], Jennifer De Lurio[10], Andrew J. Impey[6], Fiona Lickorish[11], David Lindenmayer[12], Jane Madgwick[13], Ceri Margerison[14], Trevor Maynard[15], Lloyd S. Peck[16], Jules Pretty[17], Stephanie Prior[1], Kent H. Redford[18], Jörn P.W. Scharlemann[19], Mark Spalding[20] and Andrew R. Watkinson[21]

The vigorous debate over assisted colonisation [67,68] is likely to intensify as individuals and organisations begin to translocate organisms beyond their recent range.

IUCN SSC RSG-ISSG Task Force

- Mark Stanley Price, Chair
- Mike Maunder
- Frederic Launay
- Mike Jordon
- Phil Seddon
- Doug Armstrong
- Sanjay Molur
- Pritpal Soorae
- Piero Genovesi
- Pete Hollingsworth
- Wendy Foden
- Ben Minteer
- Alex Moehrenschlager
- Sarah Dalrymple

Assisted Colonization: Move Ahead with Models

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www.sciencemag.org SCIENCE VOL 330 3 DECEMBER 2010

Conservation Biology

IUCN Species Survival Commission: the Reintroduction and Invasive Species Specialist Groups' Task Force for Moving Species for Conservation Purposes

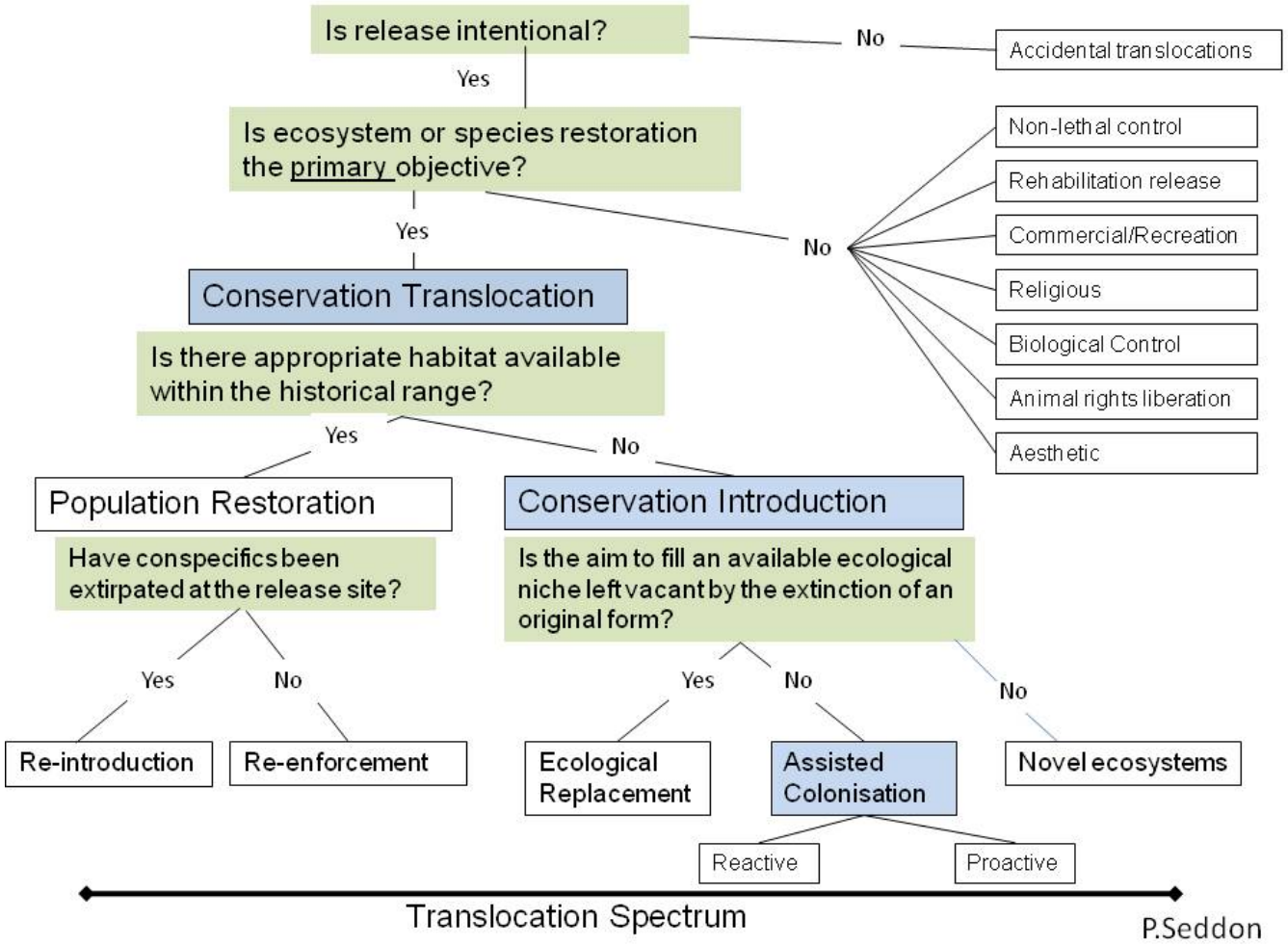
SERNews

The Newsletter of the Society for Ecological Restoration
Volume 24 No. 2 ISSN 1535-9859

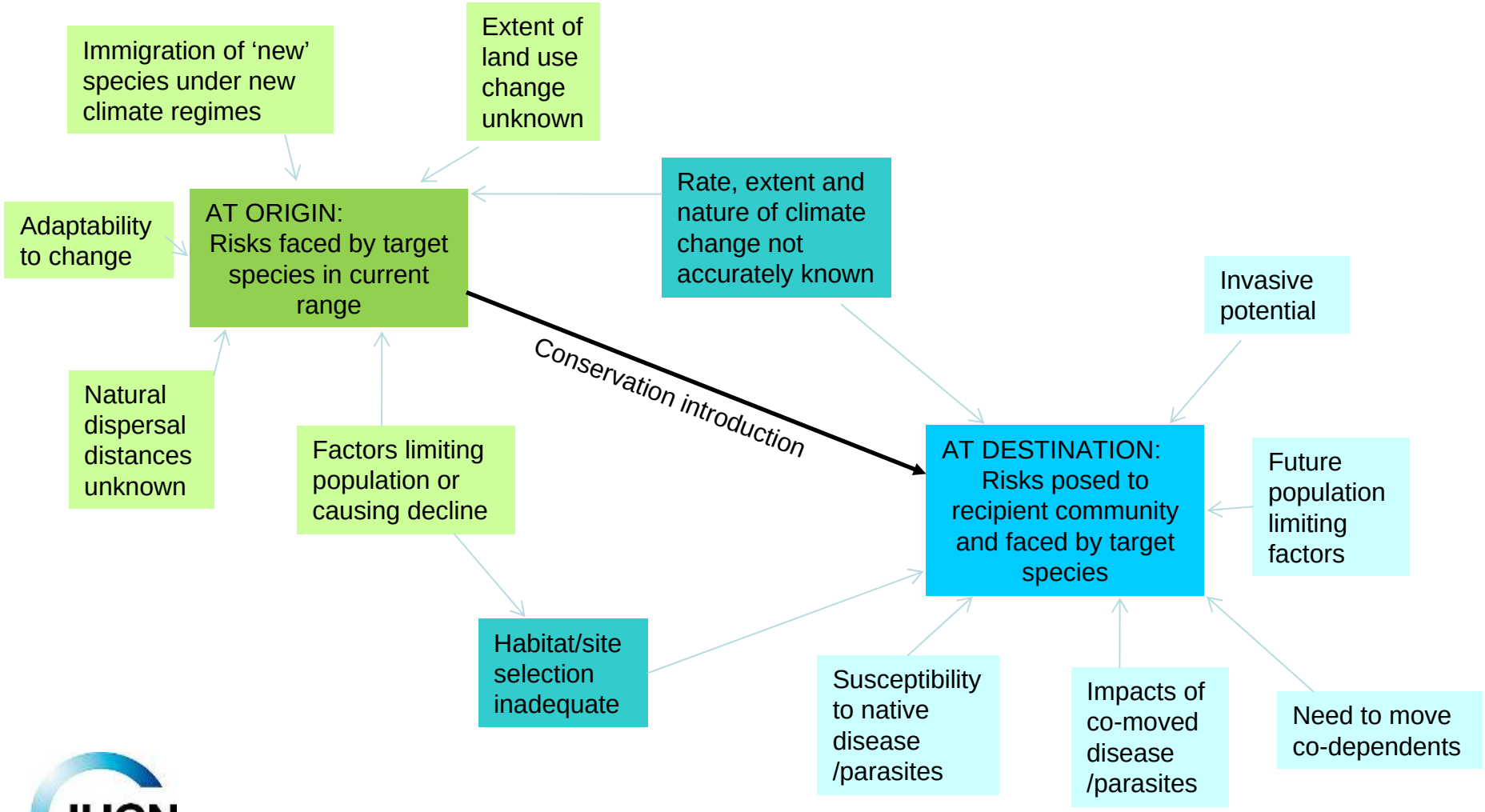
New IUCN initiative aims to revise guidelines on moving plants and animals for conservation purposes

by Sarah Dalrymple, Aberdeen Centre for Environmental Sustainability and School of Biological Sciences - University of Aberdeen

Typology of translocations



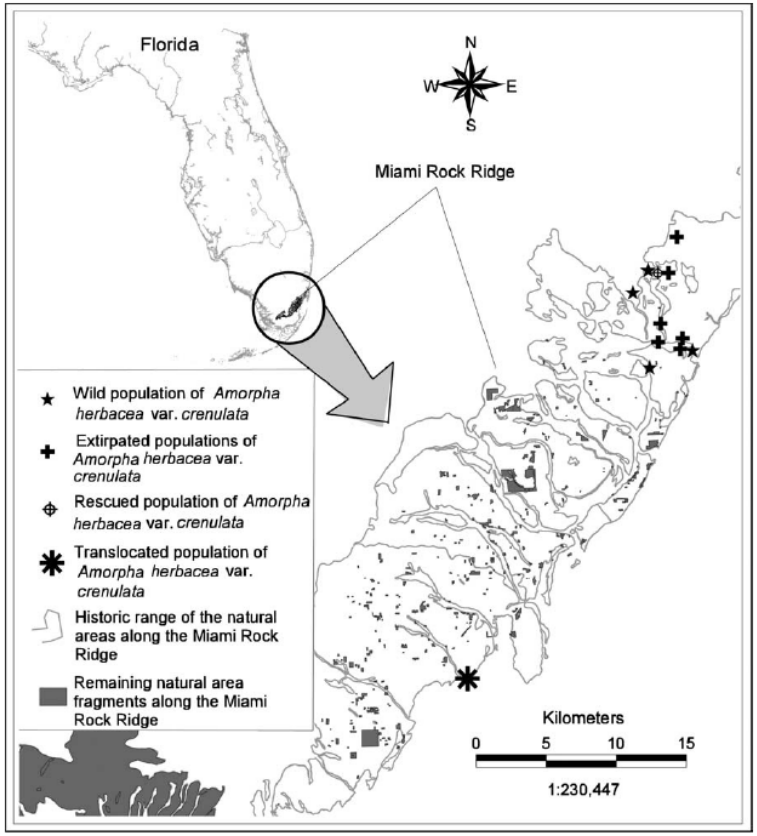
Identifying risk in conservation introductions



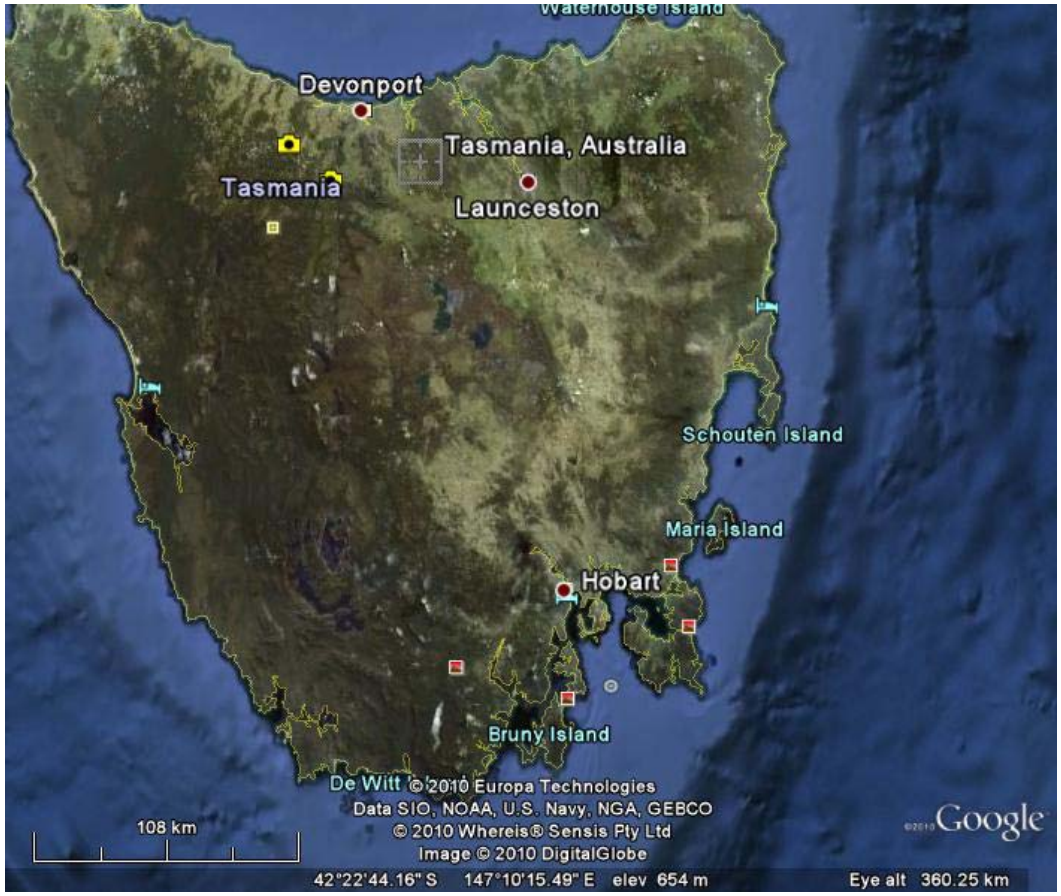
Amorpha herbacea

Rescue and Restoration: Experimental Translocation of *Amorpha herbacea* Walter var. *crenulata* (Rybd.) Isley into a Novel Urban Habitat

Kristie S. Wendelberger,[1,2] Meghan Q. N. Fellows,[2,3] and Joyce Maschinski[2]



Tasmanian devil



Torreya taxifolia

http://www.torreyaguardians.org/

Thanks to…

Systematic review:

- BES Ecology into Policy Grant

- BSBI – data sharing and intellectual input

- Colleagues at UoAbdn, CEBC and the CEE

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