Rewilding as a new paradigm for nature conservation?

Tobias Kuemmerle
Henrik Smith

Programme for today

Welcome!

09:20 Rewilding – concepts, scientific background, and current state of the science (Jens-Christian Svenning)

09:40 Rewilding in Sweden – history and practice (Carl-Gustaf Thulin)

10:00 Rewilding in cultural landscapes – conflict or opportunity? (Regina Lindborg)

Coffee break

Programme for today

10:50 Growing wildlife populations and trophic rewilding in Sweden (Joris Cromsigt)

11:10 Rewilding taking place – reflections from European experiences for a Swedish outlook (Linnéa Falk)

11:30 Joint discussion: Moving forward – which role should rewilding play in Swedish conservation policy and practice?

12:30 End of seminar

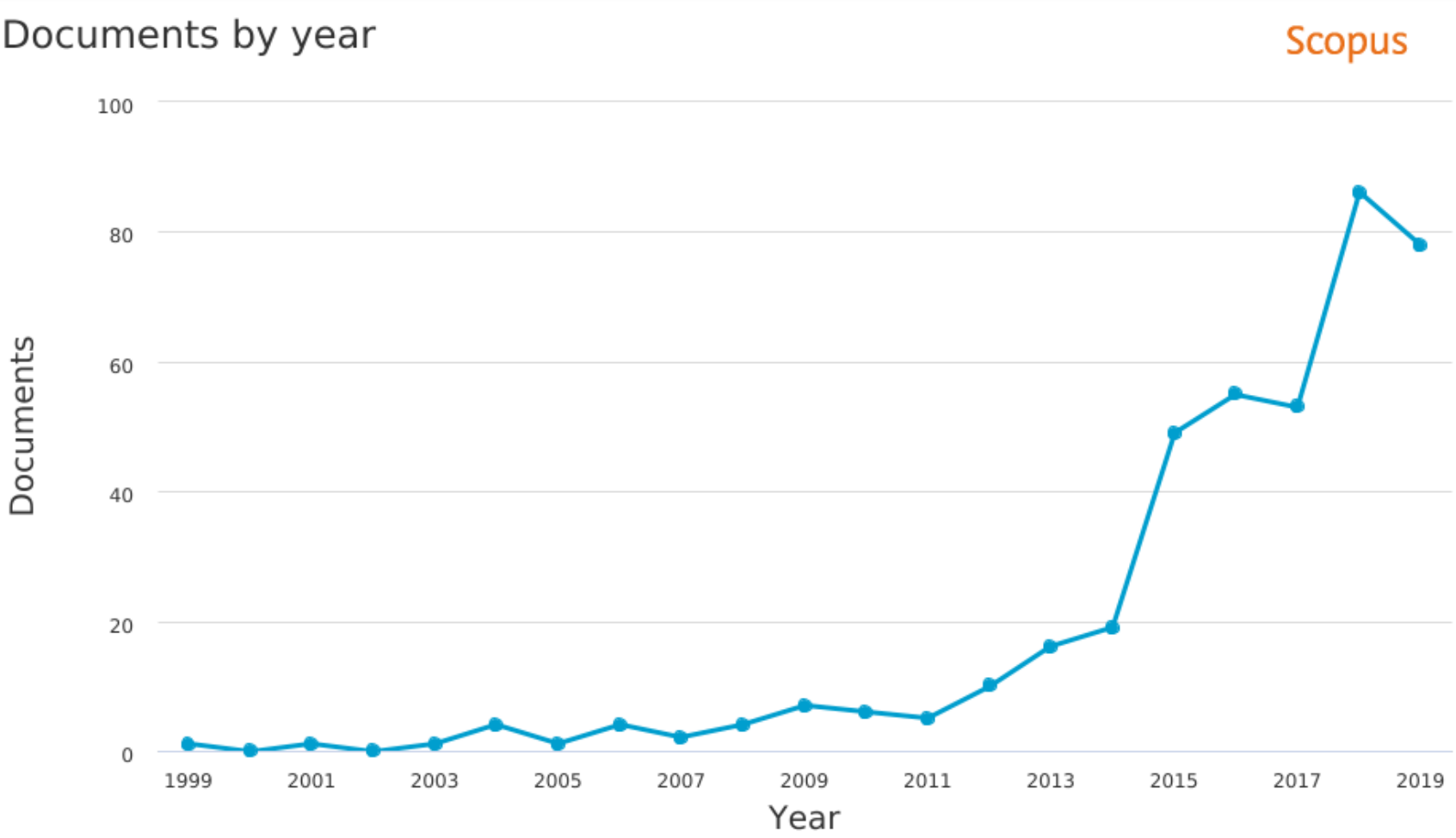
Joined lunch (and continued discussion)

Rewilding – a new idea?

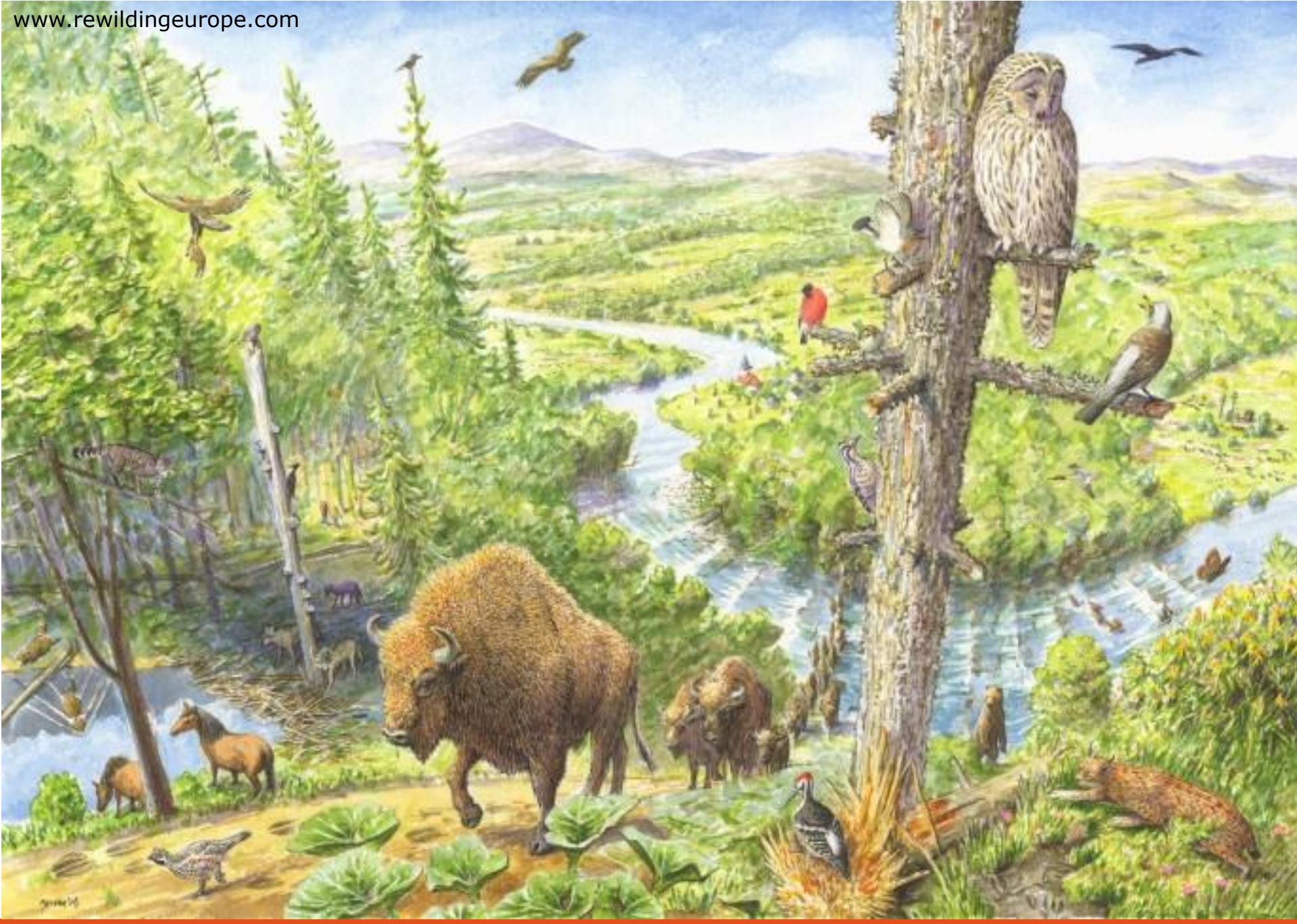
Photo: Wald und Holz NRW

Rewilding – a new idea?

Rewilding – a new idea?



www.rewildingeurope.com



Rewilding – more than fauna restoration!

- Originally: strong focus on bringing back large mammals
- Today: broader focus on restoring ecosystem complexity

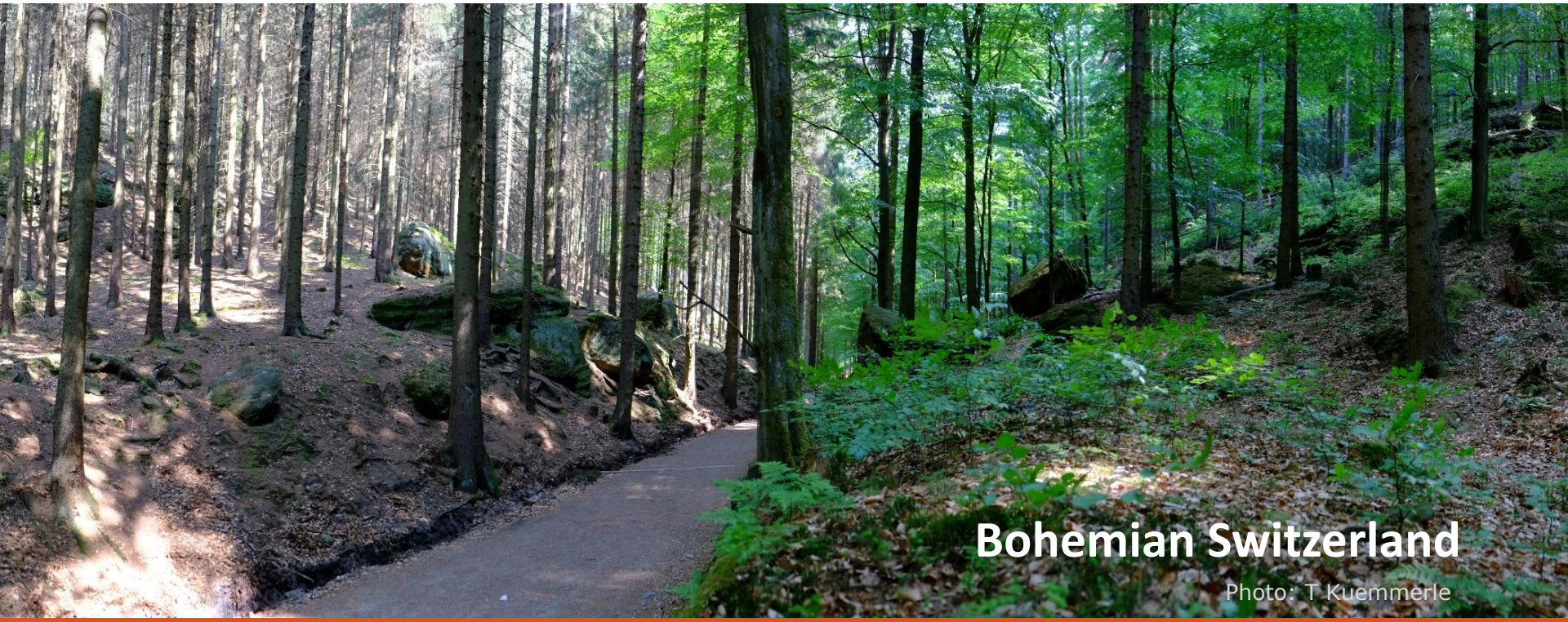
Source: Pachyornis (DeviantArt)

Rewilding – more than large wilderness areas!

Source: RewildingEurope

Rewilding – more than large wilderness areas!

- Originally: focus on large, wild places
- Today: rewilding approaches thought to be useful to address many spatial scales

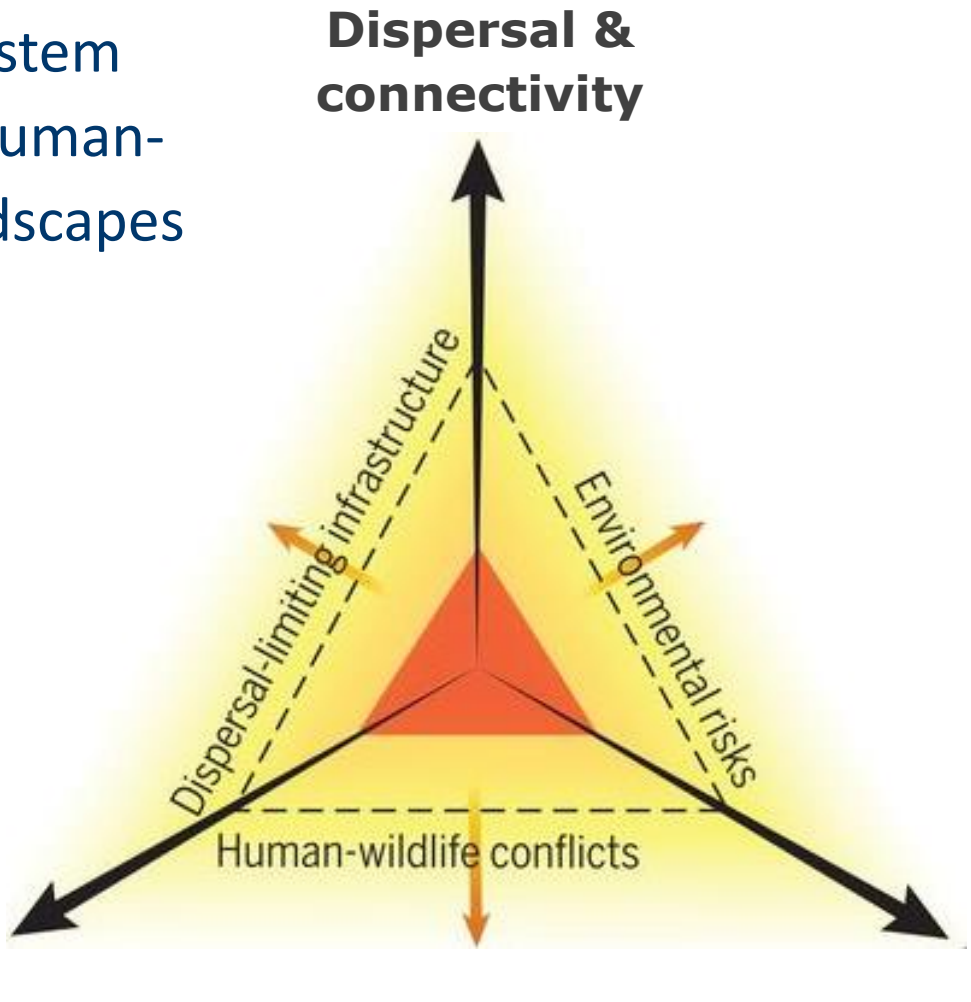


Bohemian Switzerland

Photo: T Kuemmerle

Returning ‘wildness’ to our landscapes

- Increasingly focus on restoring ecosystem complexity in human-dominated landscapes



Source: Perino et al. 2019 Science

Rewilding – rising criticism?


Trends in Ecology & Evolution

CellPress

Review

Restoration, Reintroduction, and Rewilding in a Changing World

Richard T. Corlett[1,*]

The increasing abandonment of marginal land creates new opportunities for restoration, reintroduction, and rewilding, but what do these terms mean in a rapidly and irreversibly changing world? The 're' prefix means 'back', but it is becoming clear that the traditional use of past ecosystems as targets and criteria for success must be replaced by an orientation towards an uncertain future. Current opinions in restoration and reintroduction biology range from a defense of traditional definitions, with some modifications, to acceptance of more radical responses, including assisted migration, taxon substitution, de-extinction, and genetic modification. Rewilding attempts to minimize sustained intervention, but this hands-off approach is also threatened by rapid environ-

Trends

Abandonment of agricultural land provides an opportunity for creating new ecosystems, but the traditional use of past ecosystems as targets is likely to be inappropriate in a time of rapid environmental change.

There is no agreement among conservationists about how to replace the historically based reference frame, with opinions ranging from minor modification to the acceptance of increasingly

Sign in Search

Gu

More


Current Biology

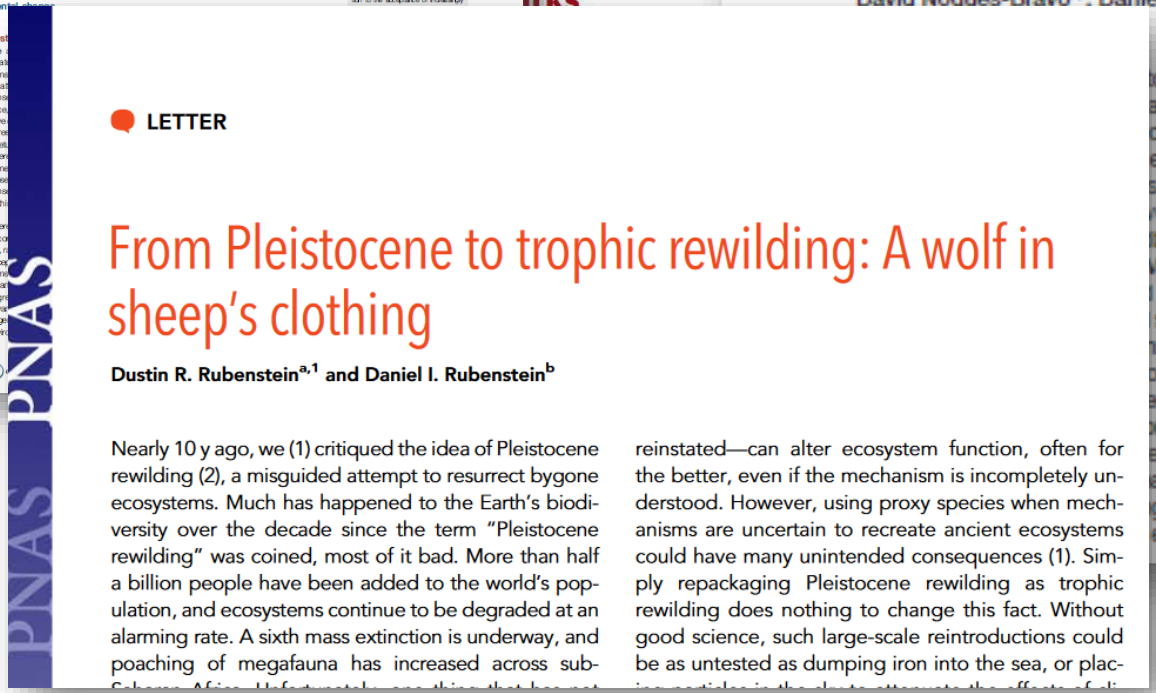
Magazine

Essay

Rewilding is the new Pandora's box in conservation

David Nogués-Bravo[1,*], Daniel Simberloff[2], Carsten Rahbek[1,3],

toration of ecosystems through the (re-)introduction
as a way to stem the loss of biodiversity and the
diversity provides to humanity. In addition, rewilding
engagement and enthusiasm for biodiversity. But
s it based on sound ecological understanding?
worrying lack of consensus about what rewilding is
tizes a clearer account of rewilding's aims, benefits
We also point out that scientific support for the main
rewilding, such as top-down control of ecosystems,
systems are dynamic and ever-evolving, which makes
nsequences of introducing novel species. We also
ons or re-introductions that have failed, provoking
ences, and highlight that the control and extirpation of
ns has been shown to be extremely challenging and
ewilding's loudest proponents might argue that we are
ad, but we are not; we are only advocating caution
g and awareness of what is unknown about rewilding,
especially ecological consequences, might be.


PNAS

LETTER

From Pleistocene to trophic rewilding: A wolf in sheep's clothing

Dustin R. Rubenstein[a,1] and Daniel I. Rubenstein[b]

Nearly 10 y ago, we (1) critiqued the idea of Pleistocene rewilding (2), a misguided attempt to resurrect bygone ecosystems. Much has happened to the Earth's biodiversity over the decade since the term "Pleistocene rewilding" was coined, most of it bad. More than half a billion people have been added to the world's population, and ecosystems continue to be degraded at an alarming rate. A sixth mass extinction is underway, and poaching of megafauna has increased across sub-

reinstated—can alter ecosystem function, often for the better, even if the mechanism is incompletely understood. However, using proxy species when mechanisms are uncertain to recreate ancient ecosystems could have many unintended consequences (1). Simply repackaging Pleistocene rewilding as trophic rewilding does nothing to change this fact. Without good science, such large-scale reintroductions could be as untested as dumping iron into the sea, or plac-

Rewilding – so what is it?

- **Definition of rewilding?**
  - Increasingly less clear what is meant by rewilding?
- **Relationship to other fields quite unclear**
  - Including: restoration ecology, landscape ecology, agroecology, ecosystem ecology, …
- **Links to 'classic' conservation science and practice?**
  - Including: protecting wilderness areas, reintroductions
- **Risk of rewilding?**
  - E.g. unintended consequences of introductions
- **Targets and endpoints for rewilding?**
  - For example: what is wild and wilderness?

Polish/Czech borderland around 1820

Caspar David Friedrich

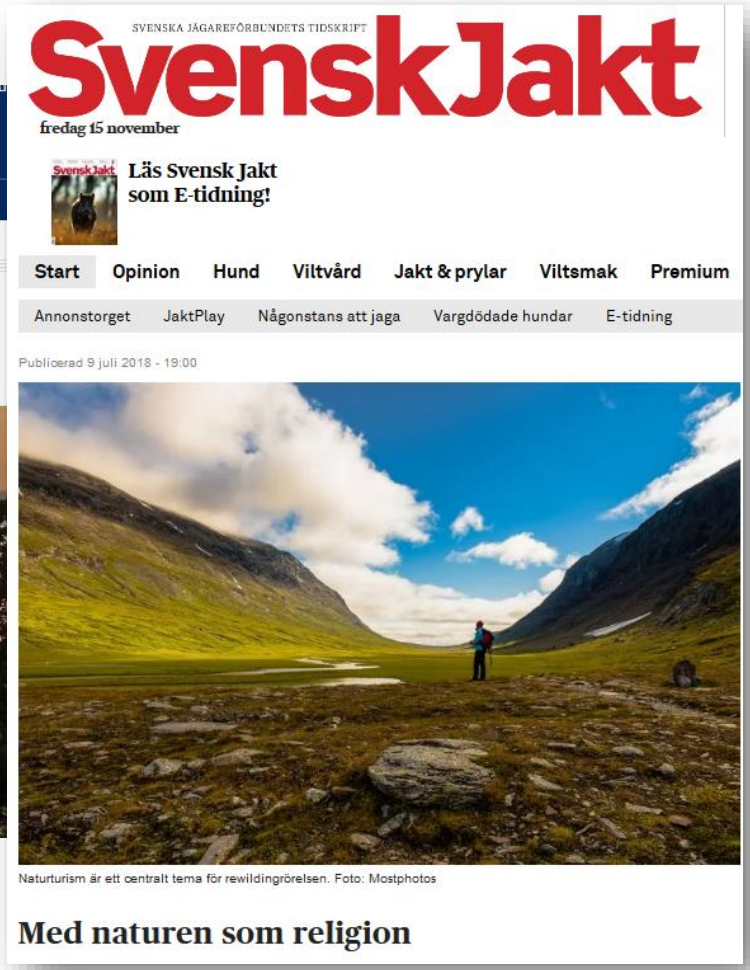
What is wild?

Kompas >... > Inspiration > Inmitten der skandinavischen Wildnis: Wandern in ...

Inmitten der skandinavischen Wildnis: Wandern in Schweden

Rewilding – public perception?

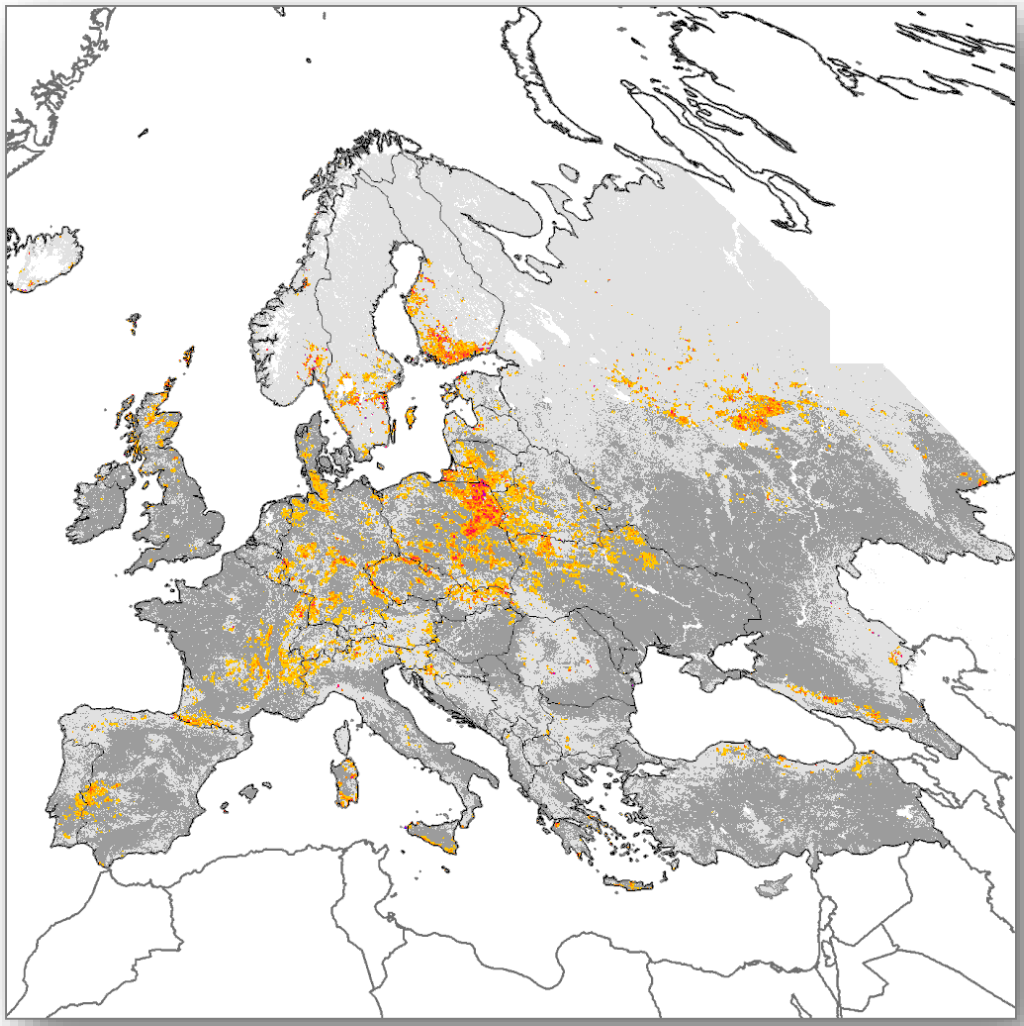
- Public perception of rewilding?



Conflicts with other forms of conservation?

Photo: T Kümmerle

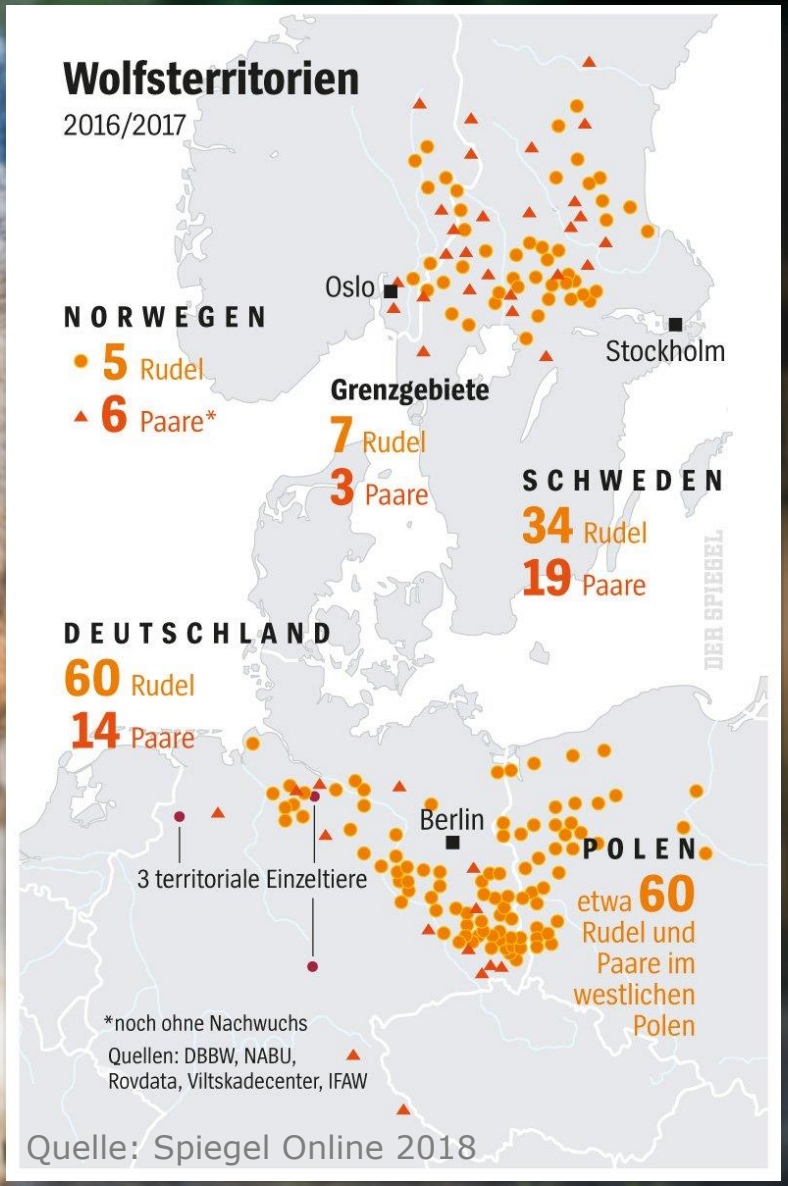
Opportunities for rewilding!



- Declining agricultural areas across Europe
- Since 2006 alone: >20,000 km²

Estel et al. (2015), Remote Sensing of Environment

Rewilding is happening!



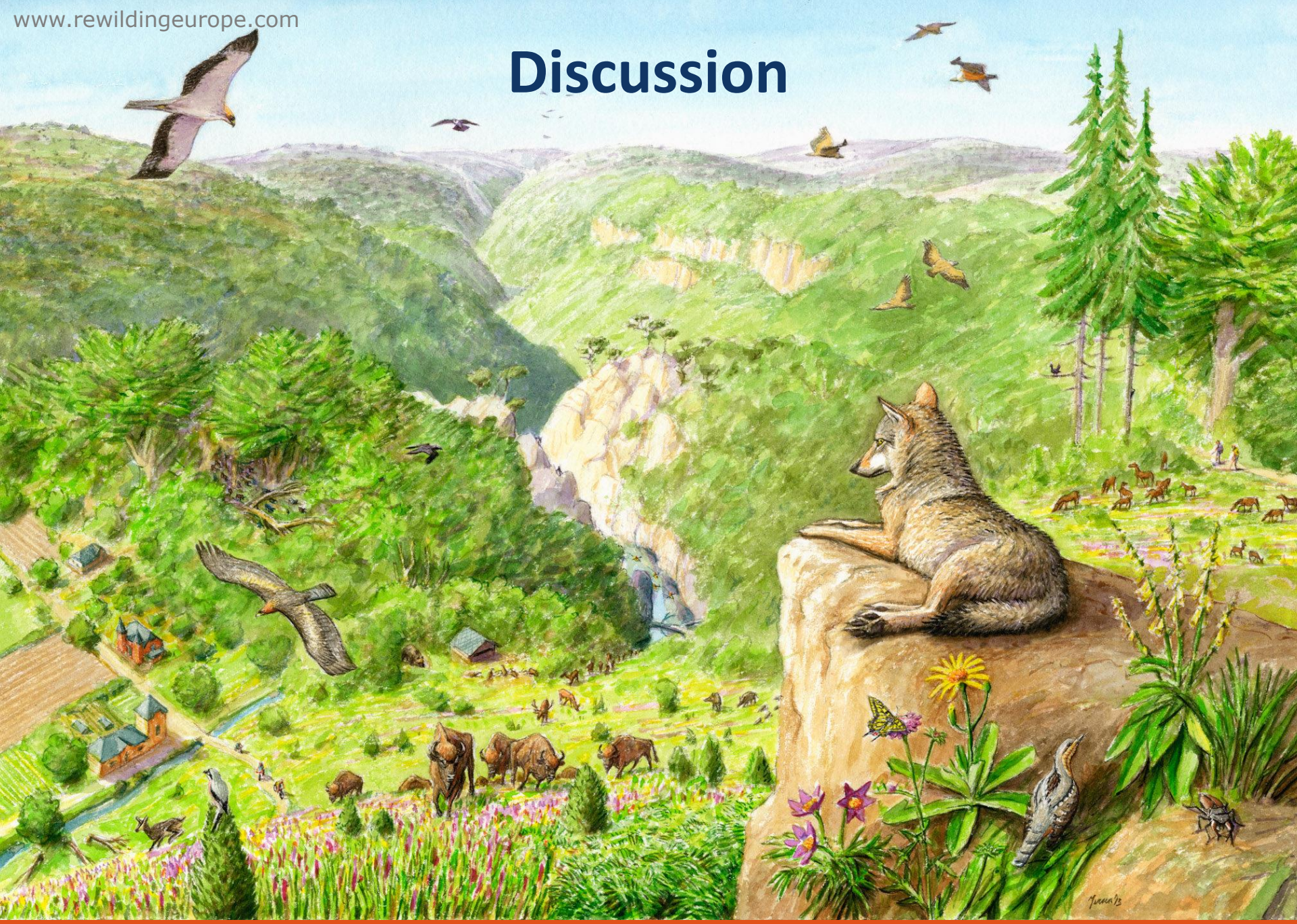
Quelle: Spiegel Online 2018

Photo: dpa

Some guiding questions

- **Relevance for Sweden?**
  - Where? How?
  - Which scales should be targeted?
- **What is rewilding?**
  - Do we need a clear definition?
  - Distinction from other conservation approaches?
  - General principals applicable across scales?
- **What are appropriate baselines?**
  - Appropriate baselines?
  - Goals and endpoints?
  - Risks and unwanted outcomes?

Discussion



Moving forward – which role should rewilding play in Swedish conservation policy and practice?

Photo: Kuemmerle / Dorresteijn

Some guiding questions

- **Relevance for Sweden?**
  - Where? How?
  - Which scales should be targeted?
- **What is rewilding?**
  - Do we need a clear definition?
  - Distinction from other conservation approaches?
  - General principals applicable across scales?
- **What are appropriate baselines?**
  - Appropriate baselines?
  - Goals and endpoints?
  - Risks and unwanted outcomes?


Thank you for joining us today!
@BiogeoBerlin
tobias.kuemmerle@hu-berlin.de