

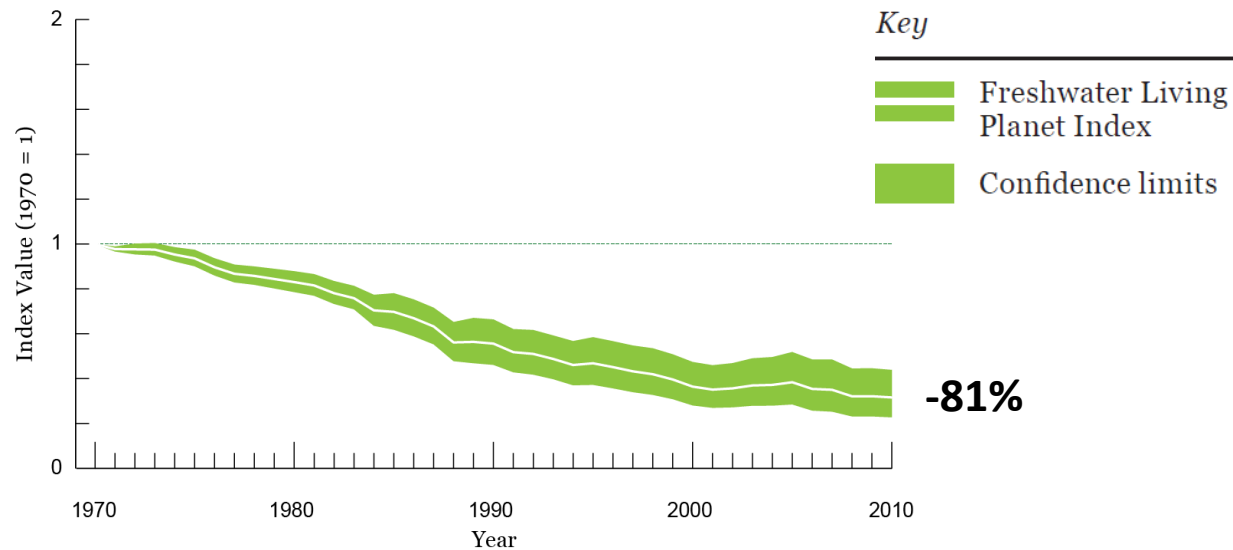


# Dam Removal Europe

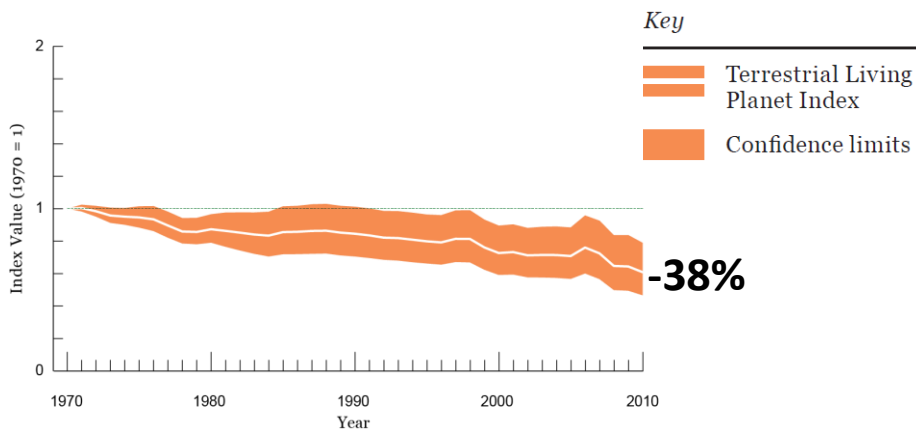
*Inspiring a movement*



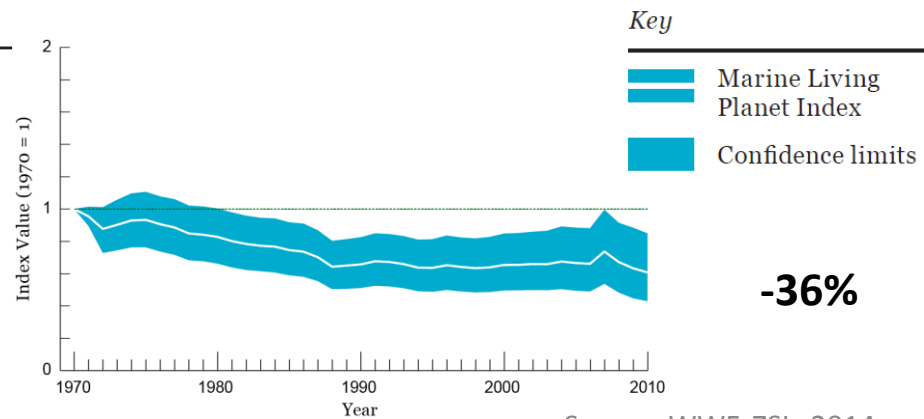
## The freshwater Living Planet Index



## The terrestrial Living Planet Index



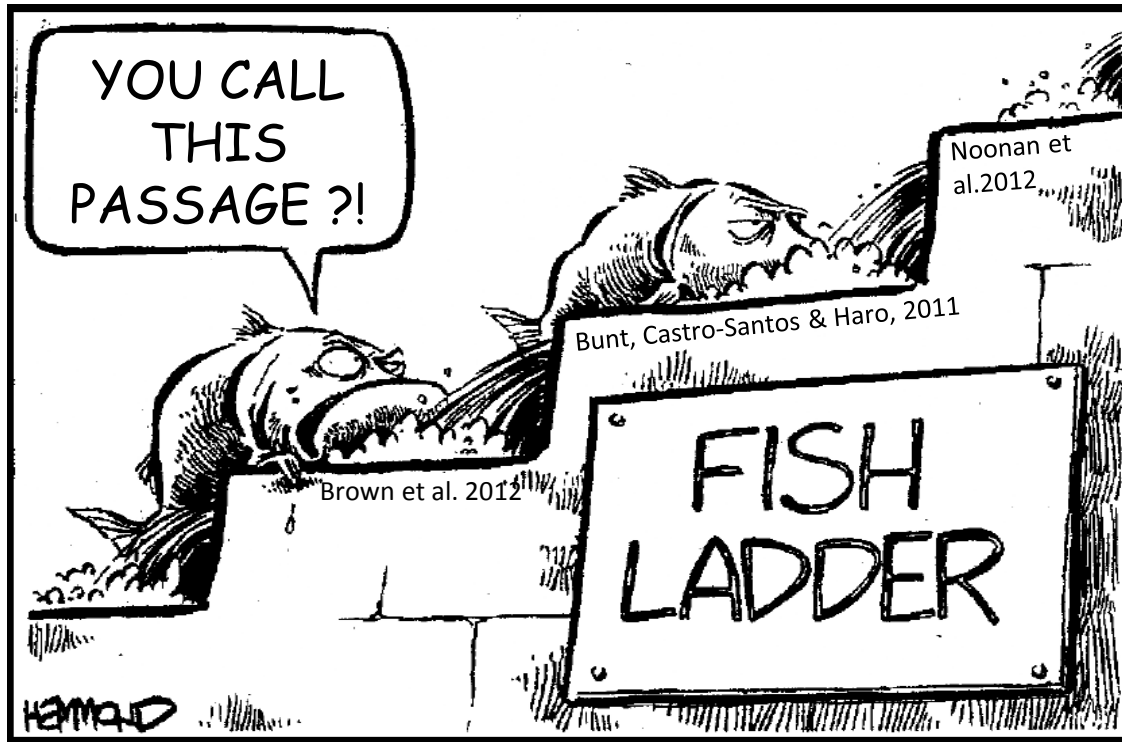
## The marine Living Planet Index



Source: WWF, ZSL, 2014



# Question fishways effectiveness



**Noonan et al. 2012:** "Low overall efficiency of passage indicated that most facilities need to be improved to mitigate habitat fragmentation..."

**Brown et al. 2012:** "It may be time to admit failure of fish passage and hatchery-based restoration programs and acknowledge that significant diadromous species restoration is not possible without dam removals."

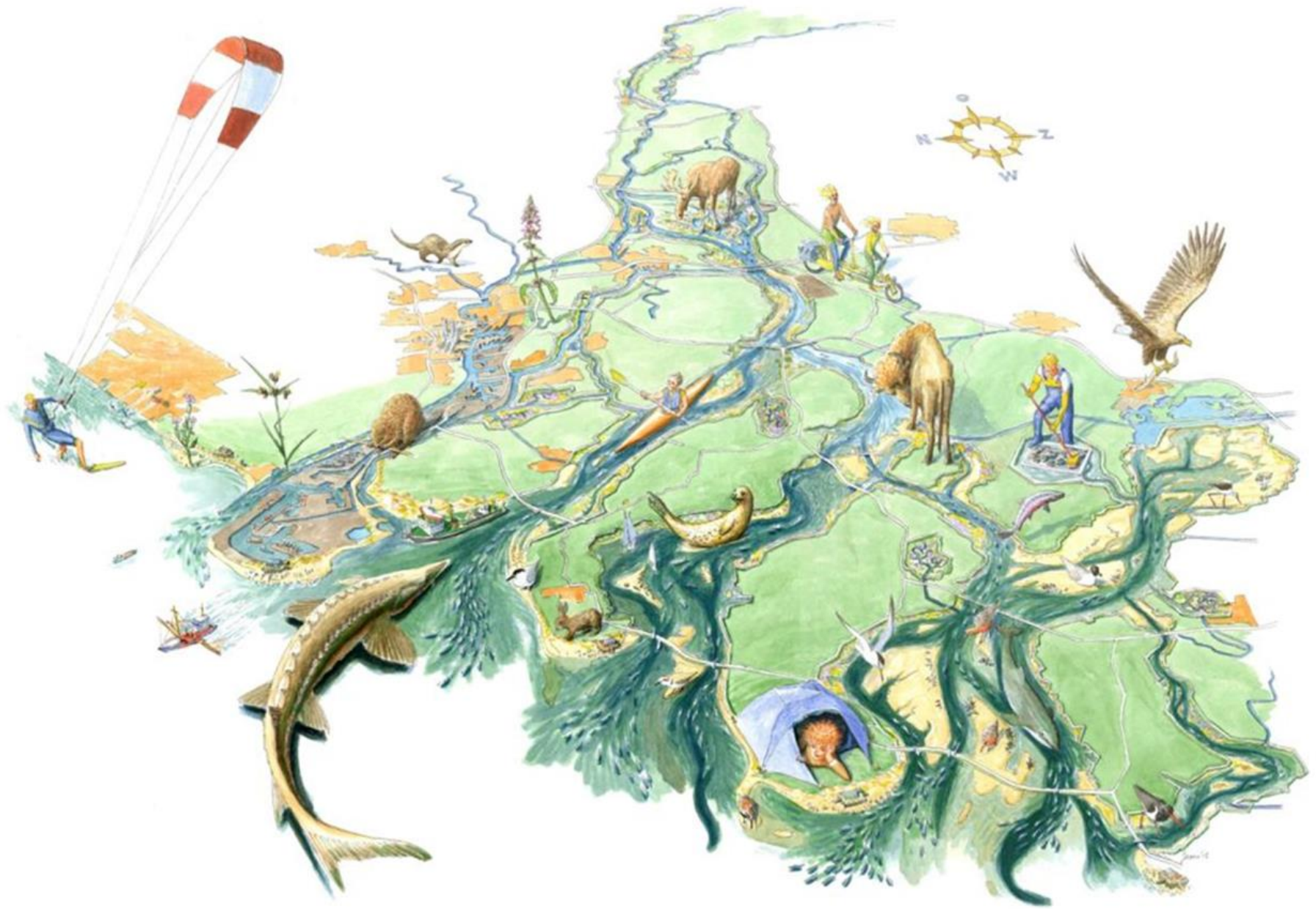










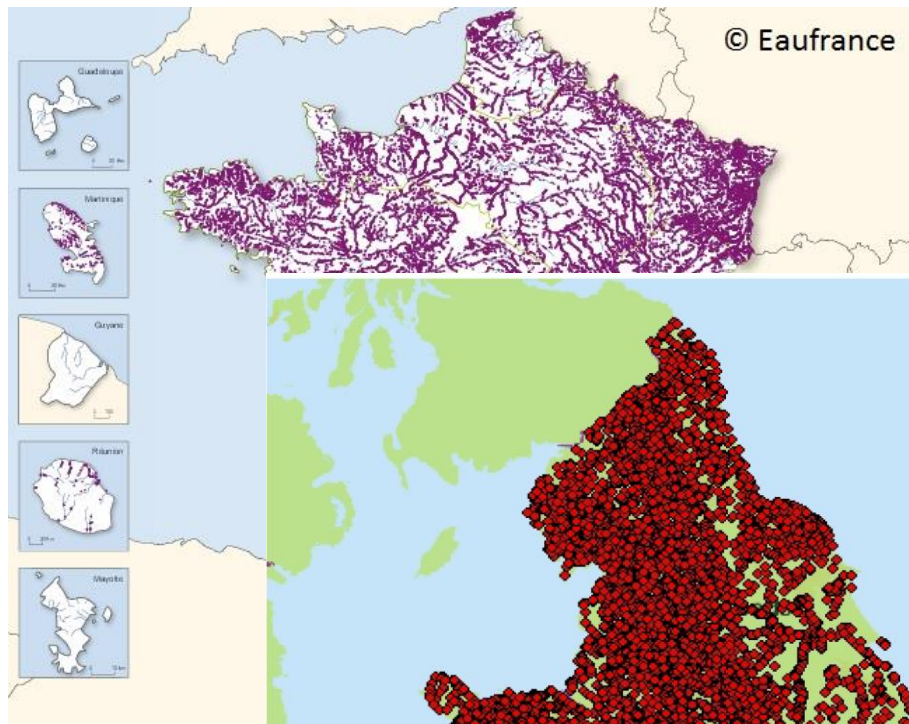


**Working with Nature**

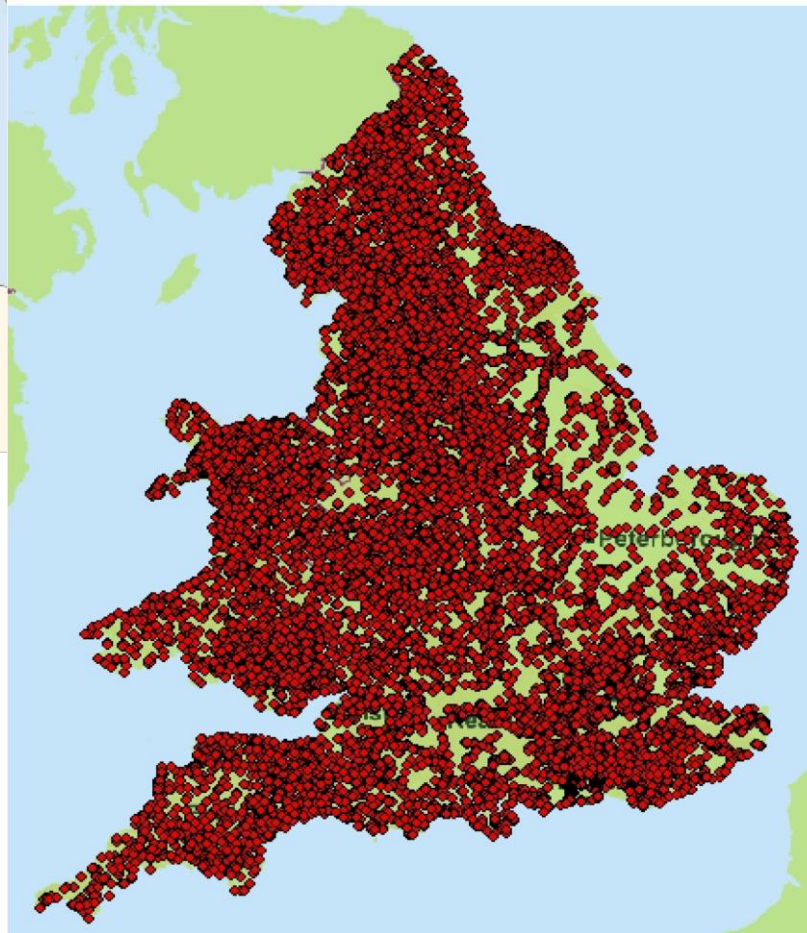




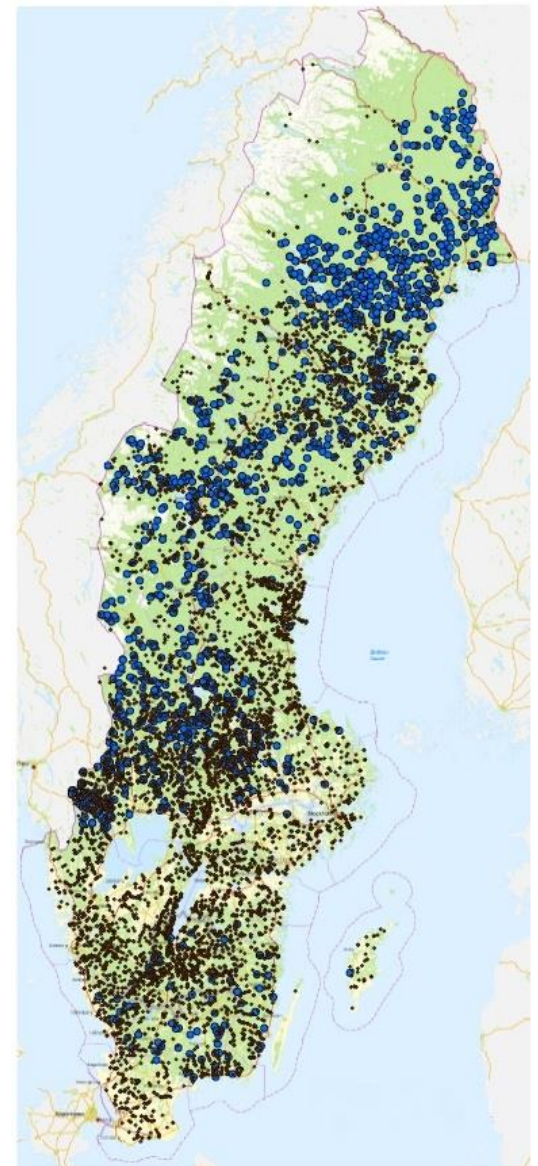




**France:**



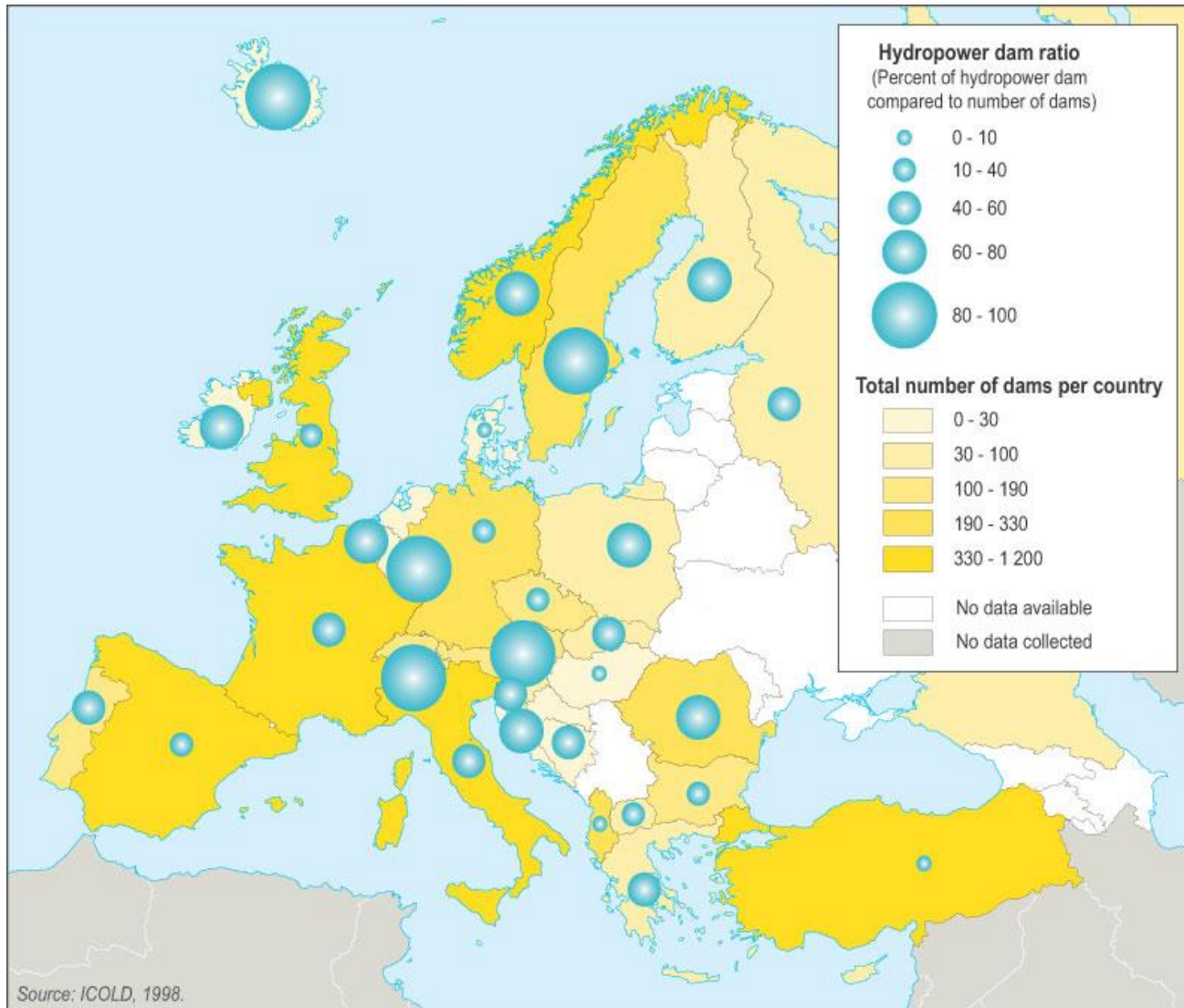
**UK:** 22,000 man-made obstacles



**SWEDEN:** 9,298 barriers



# Present situation Europe



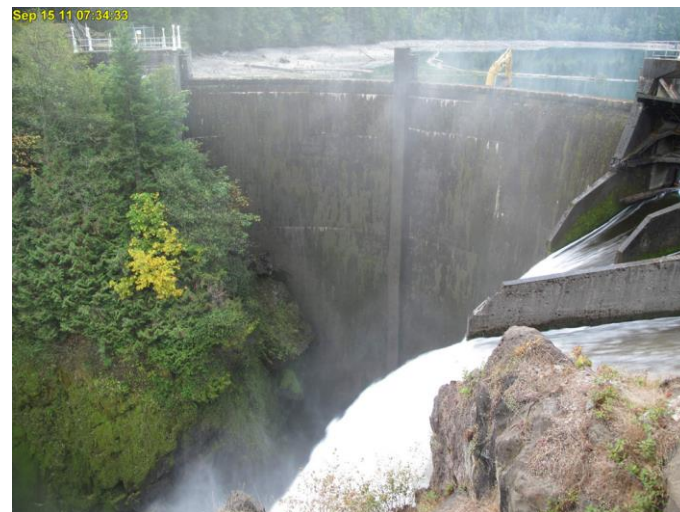
- 7000 large dams (>15 m)
- Unknown number of small dams & weirs (<15m)







# Dams removed in USA

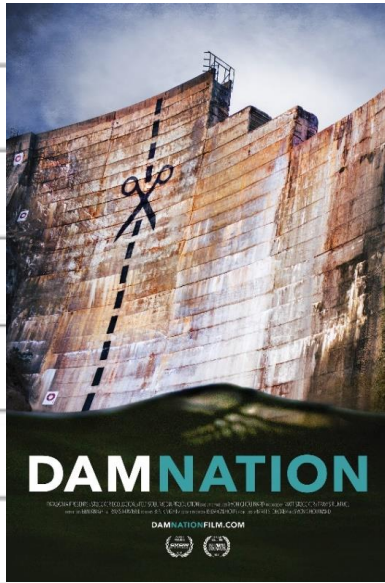
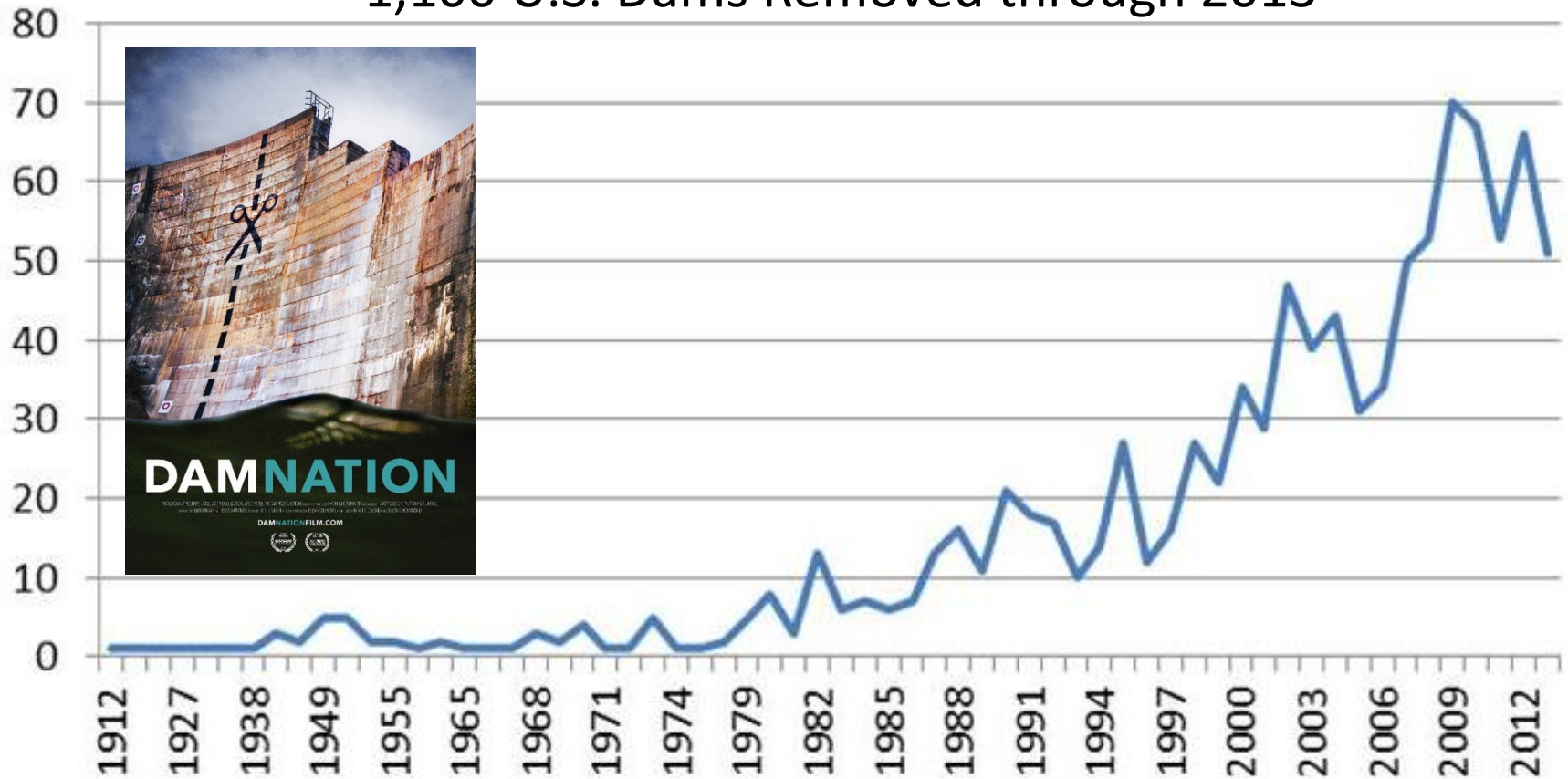


**Elwha Dam Removal on the Elwha River in WA, USA**  
**Photo Source: US National Park Service**



# # of Dams Removed

1,100 U.S. Dams Removed through 2013



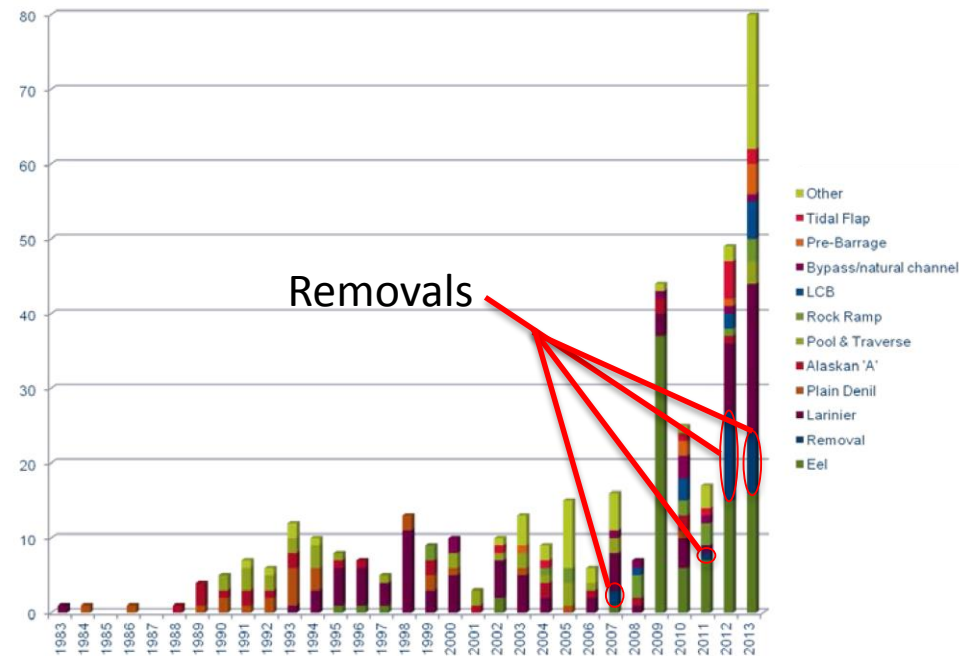




# Present situation Europe

*Dam removals (based on expert judgement)*

- **FRANCE:** 1,842
- **SWEDEN:** 1,404
- **SPAIN:** >200
- **UK:** ≈100
- **FINLAND:** ?
- **NETHERLANDS** 30-50
- **BELGIUM:** ?
- **GERMANY:** ?
- **SWITZERLAND:** ?



Fish passage improvement schemes across England & Wales 1983-2013, Environmental Agency, England



# Inspiring examples from Wales

**Before**



**After**



**Kentchurch Weir, Wales**  
**Photo before: P. Gough**  
**Photo after: P.Gough**





# Inspiring examples from France





# Inspiring examples from Spain

**Before**



**After**



**Aravalle Dam, Avila Spain**

**Photo before: Confederación Hidrográfica del Duero. Photo after: C.H. Duero**



# The “Niche” for Dam Removal Europe

- Create awareness in Europe about natural rivers and benefits of dam removal
- Work together on dam removal in Europe
  - European dam removal network
  - Cooperation between Europe - USA
  - Getting dam removal on EU agenda
- Inspire each other with demonstration projects
- Generate and share knowledge & experiences



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WORLD FISH MIGRATION  
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# Dam Removal Europe



**Removing Retuerta Dam in Aravalle River (Ávila, Spain)**



# AMBER



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## Adaptive Management of Barriers in European Rivers

AMBER will apply adaptive barrier management to help reconnect Europe's rivers, the smart way.



<http://amber.international/>



Funded by the Horizon 2020  
Framework Programme of the  
European Union

# AMBER

Some of the goals:

- European **atlas** with all existing barriers
- Citizen science: smart phone app

<http://amber.international/>



Funded by the Horizon 2020  
Framework Programme of the  
European Union





# Dam Removal Europe

## GOALS:

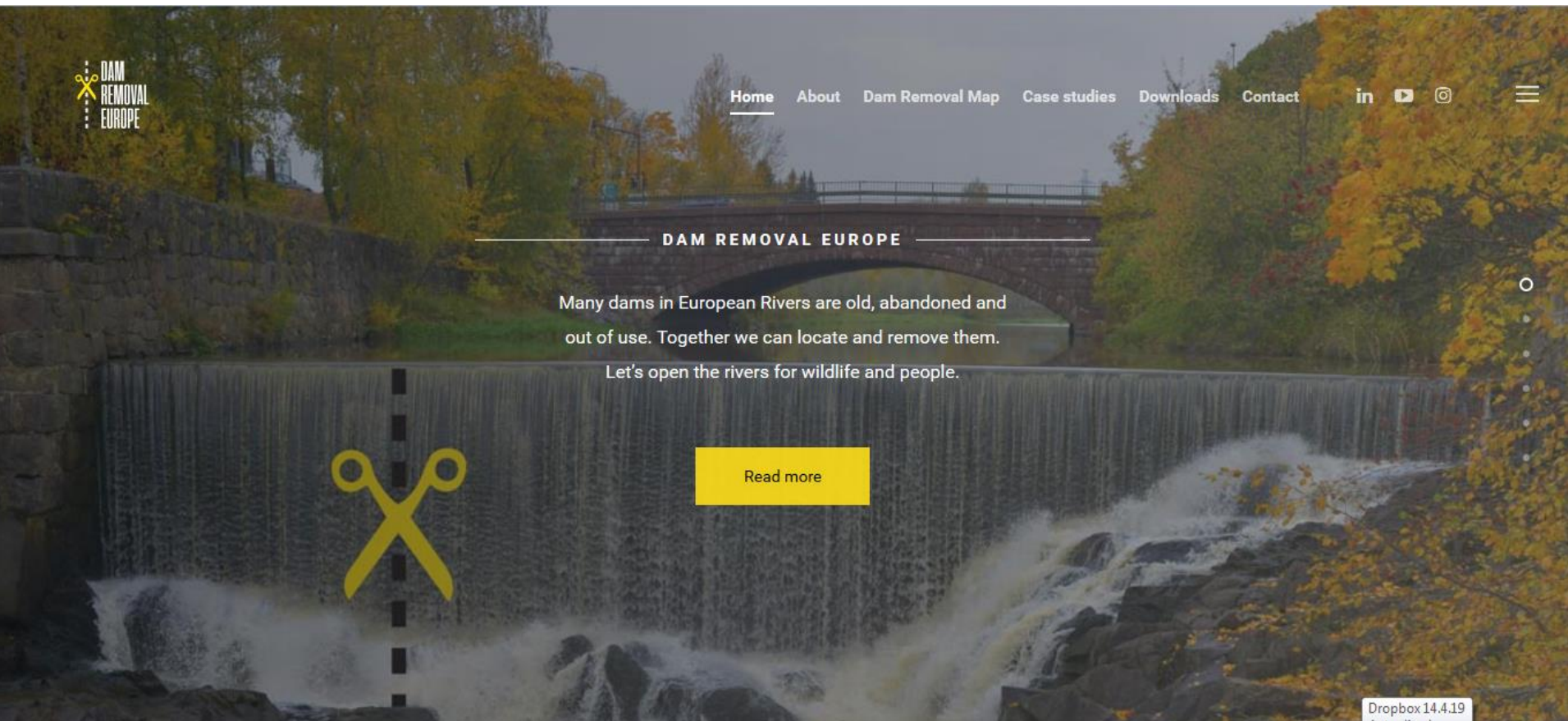
- Create solid network
- Improve cooperation between Europe and USA
- Generate and share knowledge and experience.
- Inspire and encourage other
- Create awareness

## HOW:

- Workshops and conferences
- Collect dam removal case studies
- Interactive map showing all dams removed in Europe
- Create a guide with dam removal best practice
- Documentary/movie



# Dam Removal Europe



[www.damremoval.eu](http://www.damremoval.eu)