Swansea University
Prifysgol Abertawe

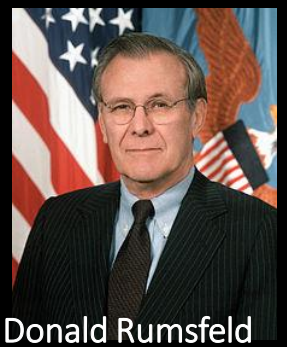
From Broken Rivers to Blue Rivers

Carlos Garcia de Leaniz - Swansea University

www.amber.international

FIThydro | AMBER

The biggest problem is not what we don't know, but what we *don't know we don't know*

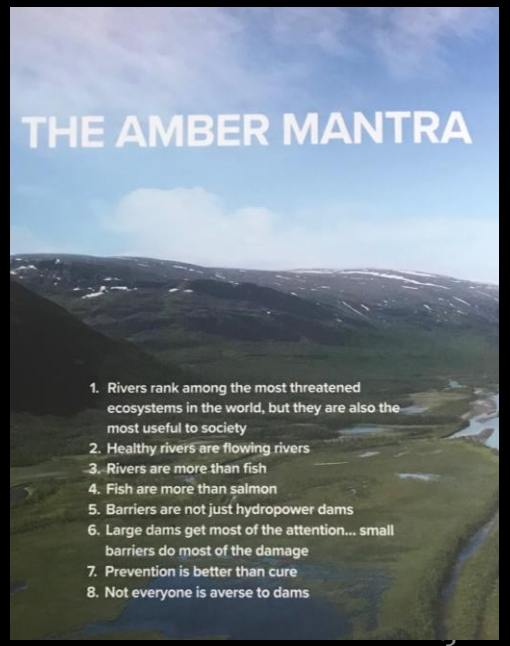


Donald Rumsfeld
US Secretary of Defense

[the *unknown unknowns*]

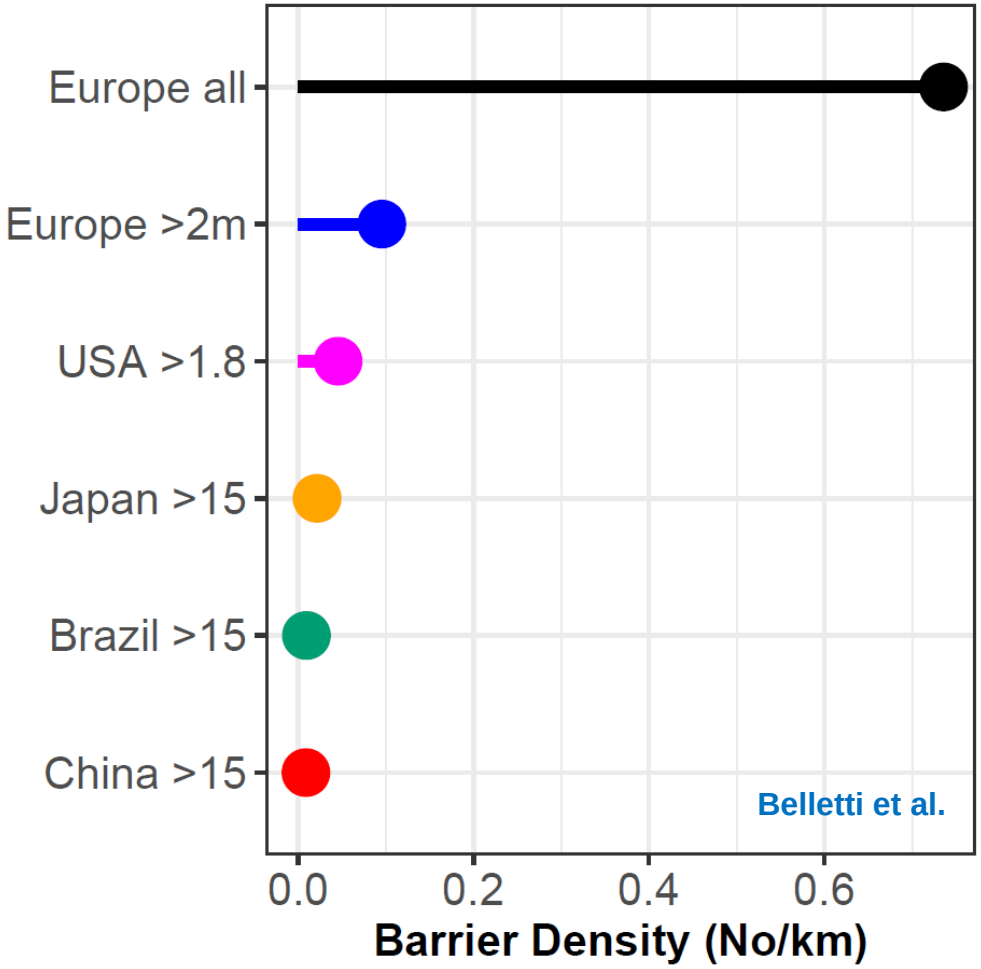
What we now know:

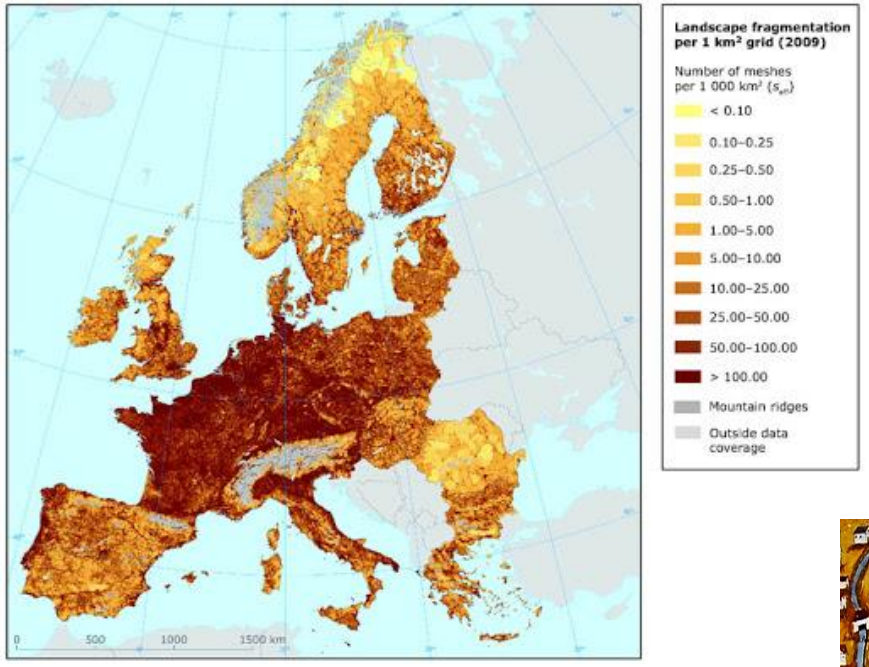
the AMBER take home messages



[*known unknowns*]

1 Europe has some of the most fragmented rivers in the world……



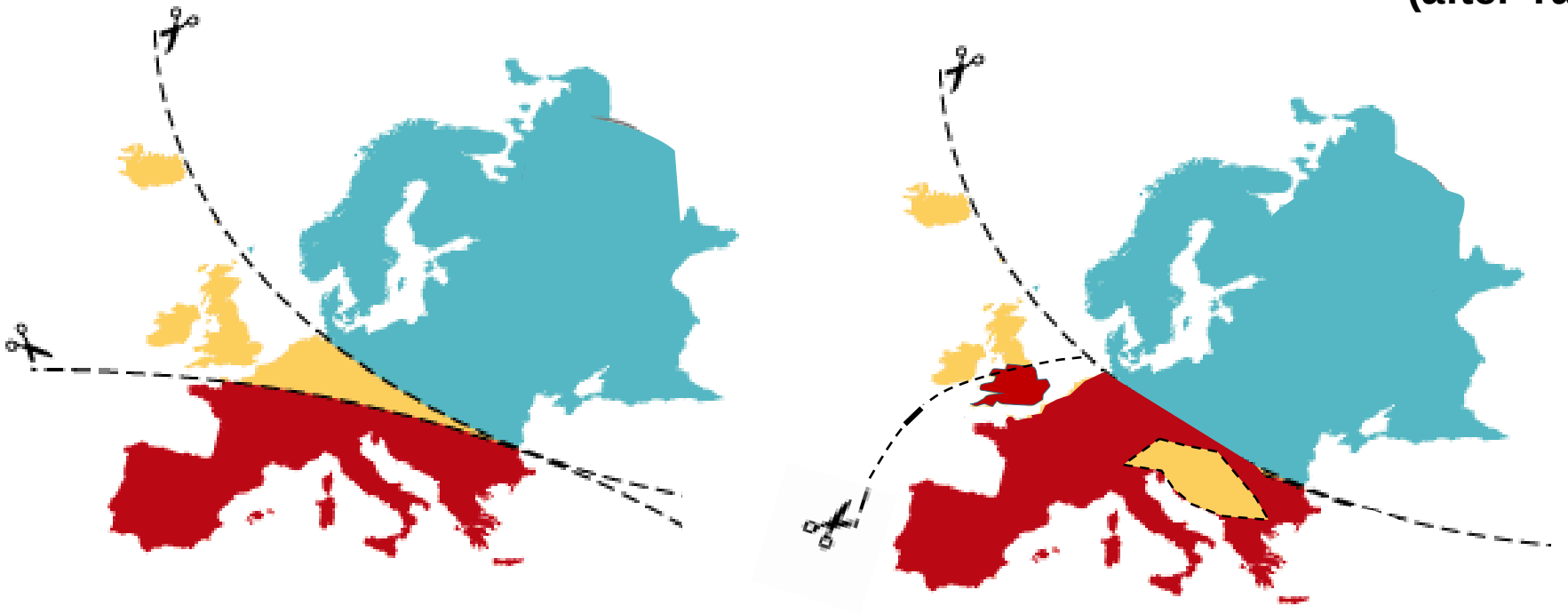


EEA 2011 –Landscape fragmentation

7th century

2 But attitudes to dams vary…

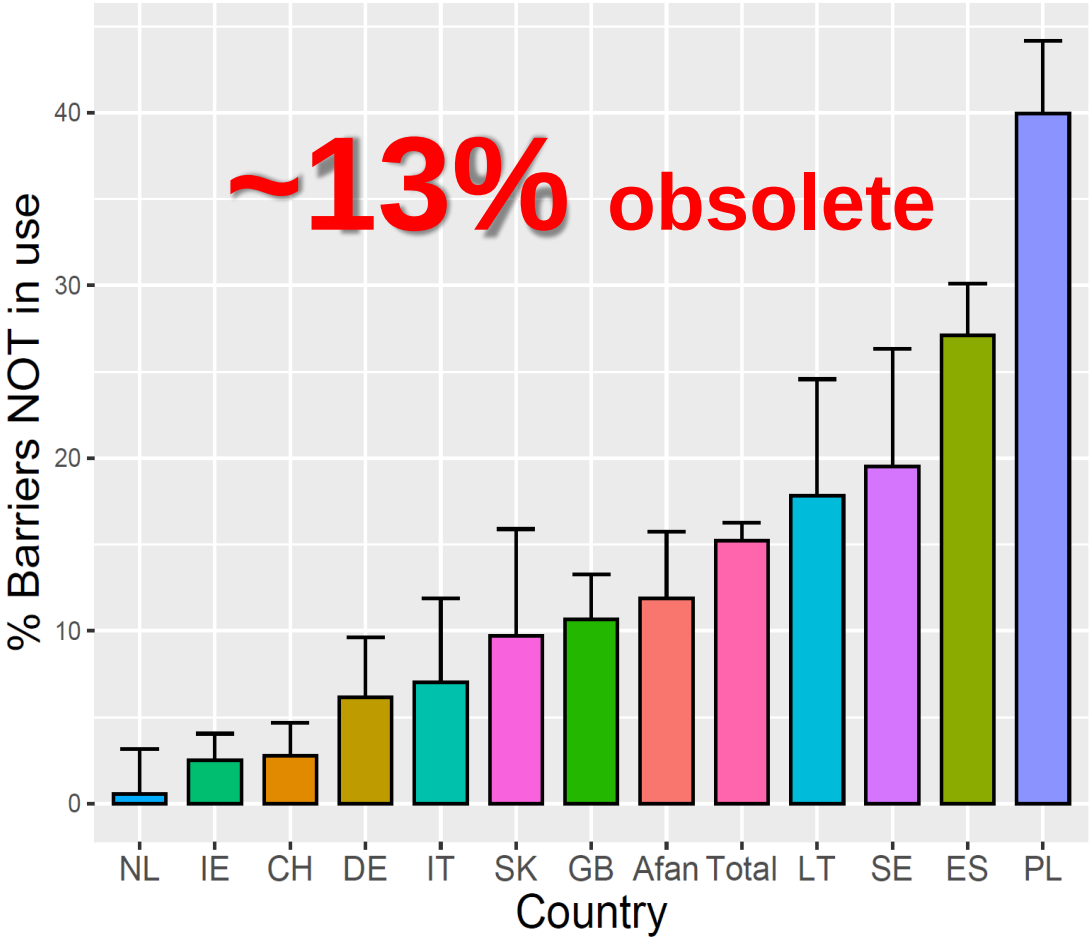
(after Yanko Tsvetkov)



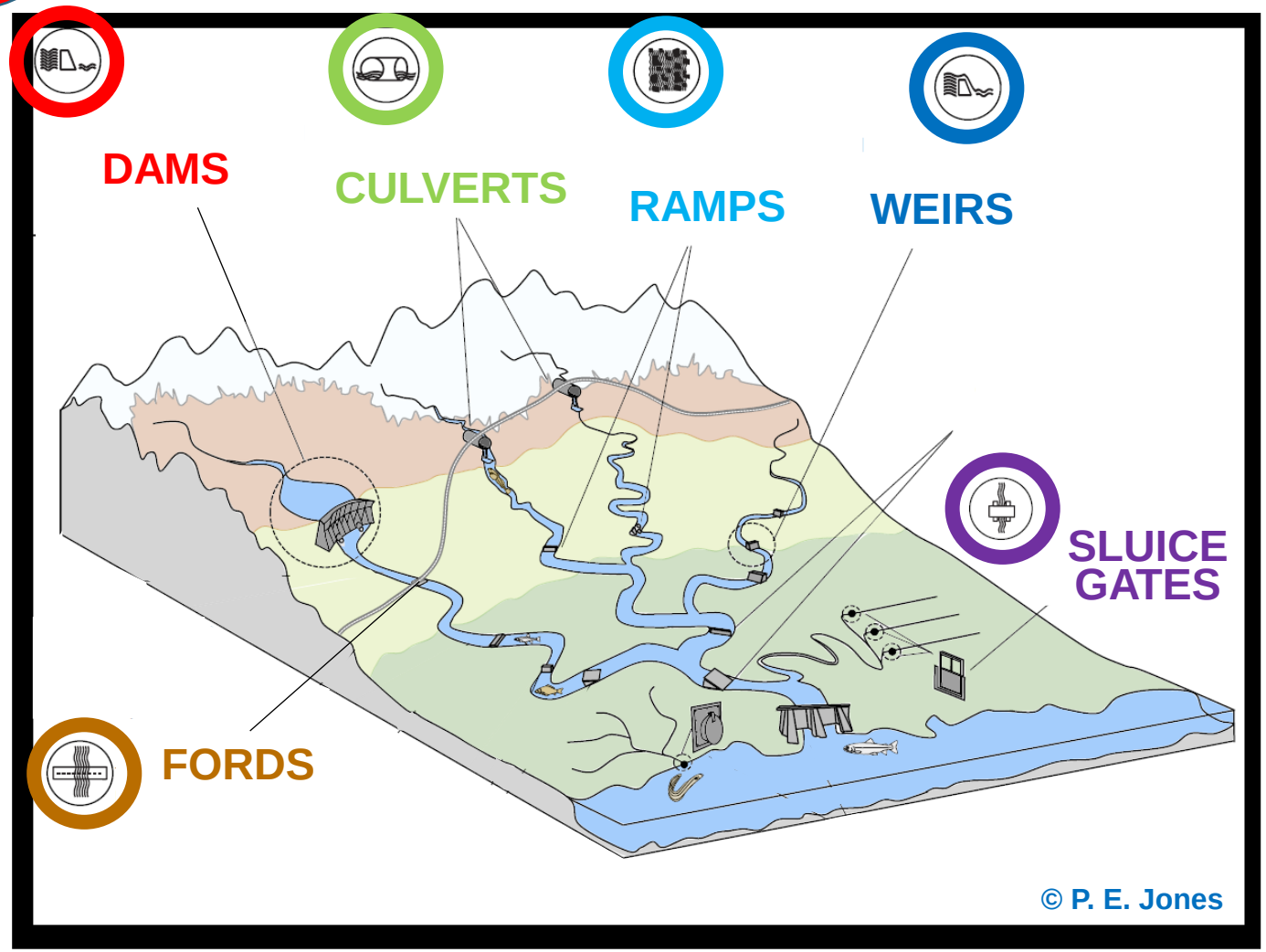
- Wine Europe
- Beer Europe
- Vodka Europe

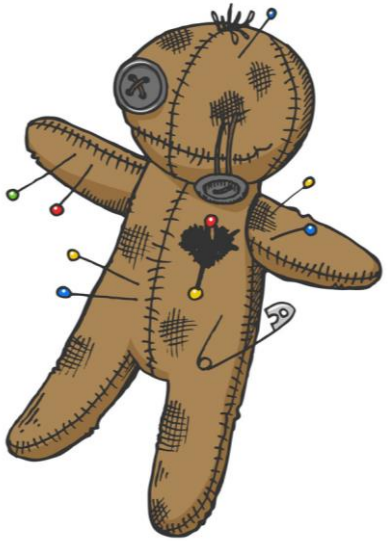
- Have many dams
- Have fewer dams
- Don’t give a dam

3 Most barriers are small, many obsolete



4 Death by a thousand cuts





Large dams get the attention…,

Small barriers do most of the damage

5 ...BUT this offers unprecedented opportunities for restoration

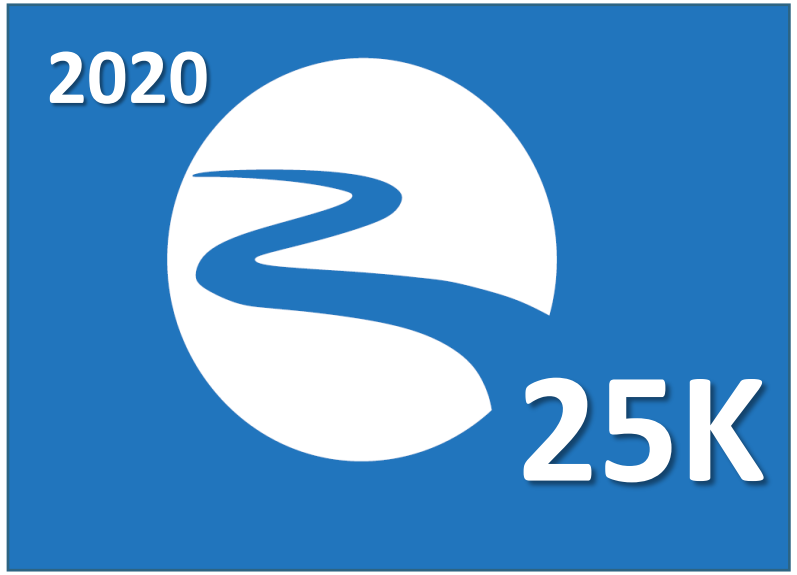
STOP fragmenting

+

Reconnecting

Targeting small obsolete barriers is cheaper & socially more acceptable

6 But How? – BLUE RIVERS



+25,000 km free by 2030

- Encouraging citizens to take ownership of their rivers
- Monetizing free flow
- **Awarding BLUE Flags** to recognize river integrity
- Emphasizing the good, not the bad

THANK YOU

LET IT FLOW

Swansea University Prifysgol Abertawe
Durham University
University of the Highlands and Islands Oilthigh na Gàidhealtachd agus nan Eilean
DTU Technical University of Denmark
UCC University College Cork, Ireland Coláiste na hOllscoile Corcaigh
Iascach Intíre Éireann Inland Fisheries Ireland
WORLD FISH MIGRATION FOUNDATION
Universidad de Oviedo
AFMS Kies con vida
UNESCO United Nations Educational, Scientific and Cultural Organization
ERCE European Regional Centre for Ecohydrology Under the auspices of UNESCO
IRS
POLITECNICO MILANO 1863
Conservatoire National du Saumon Sauvage
WWF
ingenieurbüro kauppert
uni per
UNIVERSITY OF Southampton
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