

A perspective from the Chair of the Evaluation Committee: Professor Stephen Hawkins

Ocean and Earth Science, University of Southampton and Marine Biological Association, Plymouth





- The call
- A personal perspective
- The evaluation process and procedures
- The work I would have applied for with Irish, Dutch, Italian (if our countries had participated) and Portuguese collaborators if it had been possible....



THANKS!



- Co- Chair Marina von Weissenberg
- Deputy Chairs: Paul Giller (Ireland), Simon Gardner (UK)
- Biodiversa Secretariat : Xavier Le Roux, Claire Bery, Sarah Todd

for both the spirit of Biodiversa as well as its administrative niceties

- Agence Nationale de La Recherche (ANR) France: Maurice Heral, Sophie Germann, Sarah Todd, Dalila Mamouni (T&S)
- Estonian IT platform Taavii Tiirik: superb (ANR should outsource)
- Observers from the National Funders and the European Commission – made sure we did everything properly



THANKS!



Together with the European Commission, 24 national and regional funding organisations from 15 countries are contributing to the funding of this present joint call:

Belgium (Belspo) Belgium (FWO) Bulgaria (BNSF) Estonia (ETAG) France (ANR) France (ADECAL) France (Guadeloupe Region) France (Guyana Region) France (Réunion Region) Germany (DFG) Germany (PT-DLR) Hungary (VM) Lithuania (RCL) Norway (RCN) Poland (NCN) Portugal (FCT) Portugal (FRCT) Romania (UEFISCDI) Spain (GOBCAN) Spain (MINECO) Sweden (FORMAS) Sweden (SEPA) Switzerland (SNSF) Turkey (MFAL)



+



Why is Biodiversa needed?



The scale of environmental and ecological processes is usually much greater than the resolution of legislative and statutory instruments – nature does not respect national boundaries, nor local administrative units

- International conventions, platforms, panels and actions very important (CBD, OSPARCOM, CITES, RAMSAR, IPCC, IPBES etc)
- EU very important (WFD, MSFD, reformed CAP, reformed CFP etc)
- European projects and networks allow processes to be addressed at appropriate scales - BIODIVERSA
- Take advantage on land and at sea of European wide gradients of: climate, altitude, bathymetry, geology, soils, sediments, agricultural/aquaculture and fisheries practice, cultural and economic differences



The 2015 BiodivERsA CALL: 2 THEMES



CO-FUND CALL on "Understanding and managing biodiversity dynamics to improve ecosystem functioning and delivery of ecosystem services in a global change context: the cases of

Theme 1) soils and sediments,

Theme 2) land- river- and sea-scapes (habitat connectivity, green and blue infrastructures, and naturing cities)"



The 2015 BiodivERsA CALL:



Theme 1) soil and sediment biodiversity crucial for ecosystem processes and services:

- Carbon sequestration and storage
- Nutrient storage and recycling (N, P, Si etc)
- Food security: soils for agricultural production and sediments for marine food webs and fisheries
- Potential biotechnologies and products from microbes
- Pollution sink and site of bioremediation
- Erosion control on land, along catchments and the coast

and below-ground biodiversity and ecological processes are both scientifically interesting and a challenge for knowledge exchange, outreach and public engagement



The 2015 BiodivERsA CALL:



Theme 2) land- river- and sea-scapes (habitat connectivity, green and blue infrastructures, and naturing cities)

- Responses to climate change occur at these large scales
- Understanding connectivity essential to understanding how species and habitats will respond to climate change and whether they are at risk or not
- Interactions between global change and regional and local scale impacts need to be understood for management
- Artificial and highly modified habitats can both act as barriers to connectivity on land and sometimes assist connectivity – particularly in marine systems
- "Brownfield" sites and suburbs often oases of biodiversity in urban areas or agricultural landscapes dominated by monocultures
- Restoration and remediation techniques can be applied to degraded urban areas
- Working with nature can lead to greener and bluer cities to the benefit of the health and wealth of citizens as well as biodiversity



A personal perspective



- A university career for 40 years as a Marine Ecologist often in disciplinary silos
- 5 years running an interdisciplinary Centre for Environmental Sciences at Southampton – with strong interfaces with Engineering, Law and Social Sciences and in parallel Directing the Biodiversity and Ecology Division in Biological Sciences
- 8 years running a marine research institute (the Marine Biological Association of the UK)
- 3 years as Head of a newly-formed College of Natural Sciences at Bangor - bridging between university departments and disciplines including some excellent socio-economists in agro-forestry
- 5 years Dean of Natural & Environmental Sciences at Southampton (Ocean and Earth Science, Biological Sciences, Chemistry)



Personal perspective



- In UK research assessment (RAE/REF) metrics favoured narrow discipline based pure science
- BUT NOW Societal Impact formally recognized in the UK as part of grant award making and research assessment (REF)
- Social science can sometimes be challenging for natural scientists and vice versa
- Been involved for over 20 years in interdisciplinary EU Projects and Networks – this forces people together
- The effort of inter-disciplinarity is well worth it especially when you eventually share a vocabulary and communicate

How did I end up as Chair? An example of chance European connectivity

- Worked in Portugal, especially the Azores since 1986; Supervised 17 Portuguese PhD students (including MEP Ricardo Santos)
- Invited to be member of Netbiome ERA-Net evaluation panel in Lisbon on Biodiversity Conservation in European Overseas Territories, nominated by the Azores Regional Government to FCT Portugal (whose evaluations I have served as panel member) NB UK did not participate....
- Met representative from ANR in Lisbon who invited me to Chair two evaluation panels on Climate Change plus two on Living Earth
- Proposed by ANR to Chair panel and selected by the the Call Steering Committee (when UK withdrew from Biodiversa after the 2015 election)
- Refereed for Biodiversa before, but unable to attend panel meeting as clashed with other commitments

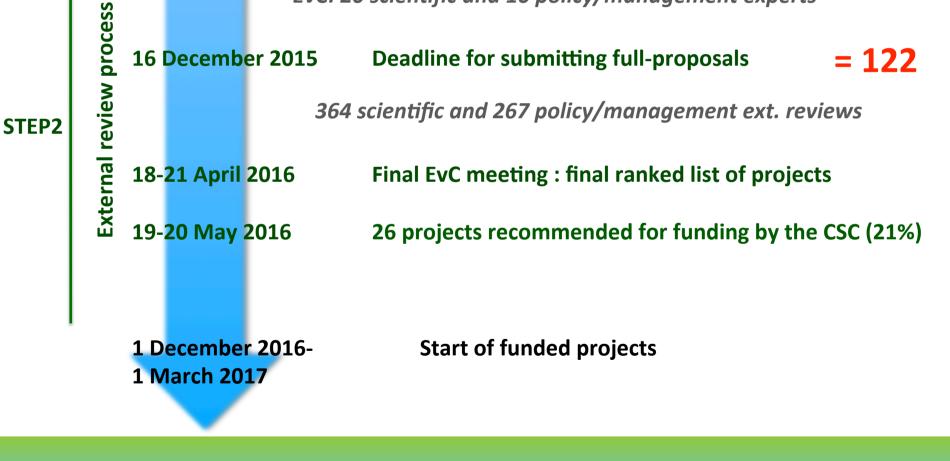


SUMMARY of the EXTERNAL REVIEW PROCESS



25-26 November 2015 First meeting of the Evaluation Committee (EvC)

EvC: 20 scientific and 10 policy/management experts





The 2015 BiodivERsA CALL: Evaluation Committee



Evaluation panel invited from outside EU (e.g., USA, Canada, Australia) and non-participating EU countries (e.g., Czech Republic, Denmark, Finland, Ireland, Italy, Netherlands and United Kingdom)

Observers present from most of the funders

VERY CROWDED ROOM!

The evaluation



process

- Two key elements: (i) quality of science (excellence and implementation) and (ii) societal impact (knowledge exchange, policy and management relevance, stakeholder engagement, input to practice, outreach to public)
- Both needed to be of high quality (above set thresholds) to ensure funding
- The scoring system weighted the Science quality: Societal Impact (10:5) – some issues with assessment willingness to give 9s and 4s (but not 5s)
- Rigorous monitoring and avoidance of perceived or actual conflicts of interest



The evaluation

process



- Mainly worked in plenary
- Deputy Chairs appointed to Chair meeting when Chair and Vice Chair had to leave room due to very occasional conflicts of interest
- One parallel session to resolve internal differences of opinion amongst the Scientists or amongst the Policy/Practice end-users
- Worked from a preliminary ranking list with scores from 1st and 2nd readers, plus external referees grades
- Moderated these scores by discussion, especially when differences in opinion between committee members – particularly the grades/ comments of external referees to come to final list
- Third readers employed to read proposals to help resolve differences
- Some highly rated Science did not meet threshold for Societal Impact and vice versa – no averaging across the two separate sets of criteria
- Finally focussed on ranking those projects with high scores for both Science and Societal Impact to get final ranked list to go to Steering Committee. Ties avoided.
- Then prepared feedback which was signed off by Chairs and Deputy Chairs



Challenges



- Very broad call with two distinct sub-themes
- Getting useable referees for peer review especially on the Policy\Management side
- Workload in short space of time for panel especially on the policy/management side
- Getting sufficient socio-economic expertise on the panel (one person withdrew in this area late on)
- Making sure the scientific panel members (many had much experience in policy development) did not stray into Societal Impact; and the policy/management people into science (many had scientific backgrounds) in their judgements/comments
- Chairing a huge and diverse panel
- Finding a big enough room at ANR...

Outcomes & lessons



- Only the very best science with high societal relevance was funded
- Successful projects benefitted from the resources made available by Biodiversa (e.g., handbooks and web based resources)
- These projects will create a community of scientists well versed in knowledge exchange and translation of their science to society
- Some excellent scientific publications will result contributing to the European Research Space
- There will be "top down" policy outcomes as well as "bottom up " engagement with practitioners and the public
- Schemes like Biodiversa address major environmental challenges at an appropriate transnational scale
- Biodiversa ensures that the best science is delivered to society
- These 26 (21% success) funded projects will make a real difference

Problems & prospects for urban coastlines in a rapidly changing world







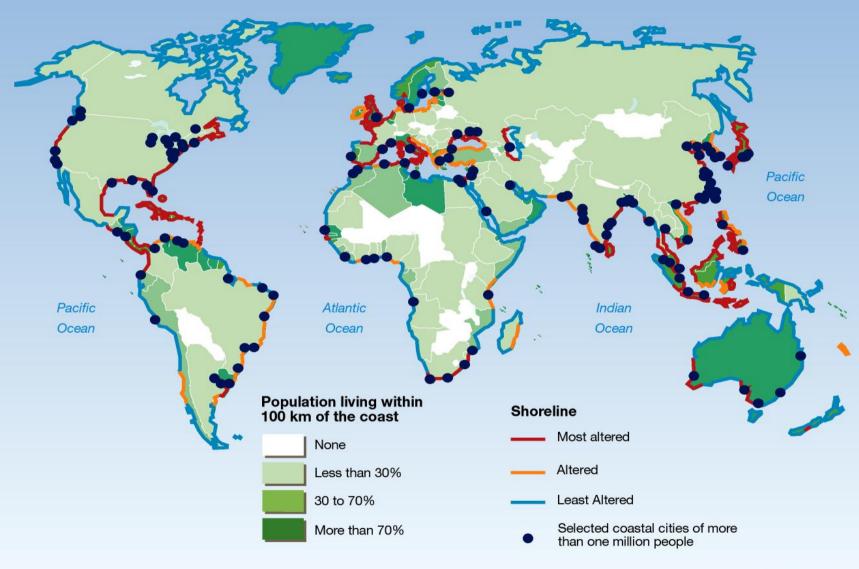
Esmee Fairbairn Foundation



Global climate change Sea level rise, extreme waves & storm surges



Global urbanization of the coast



Source: Burke et al., World Resources Institute, Washington DC, 2001; Paul Harrison, Fred Pearce, AAAS Atlas of Population and Environment 2001, American Association for the Advancement of Science, University of California Press, Berkeley.

PHILIPPE REKACEWICZ FEBRUARY 2002

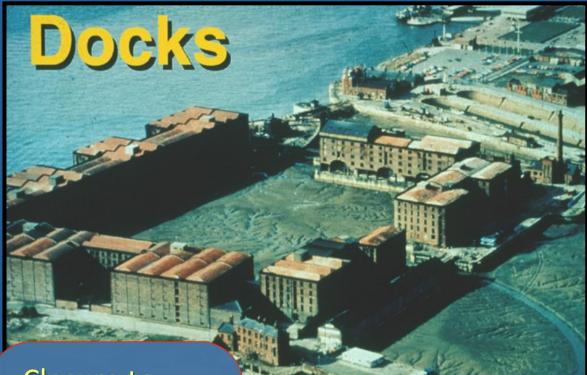
Disused docks in the UK



- Former commercial ports in the UK with basin no longer used for commercial shipping
- Common after the increase use of containerised vessels end of 20th century



But - habitat restoration may be necessary



The Albert Dock, Liverpool in the early 1980s after closure to shipping

Closure to
shipping
No
maintenance
Open gates

Adjacent to the Mersey - one of the most polluted estuaries in Europe until clean up in the 1980s and 1990s and de industrialization

Environmental conditions in the Albert Dock following restoration

Using an airlift pump to mix and de-stratify the dock

Oxygen

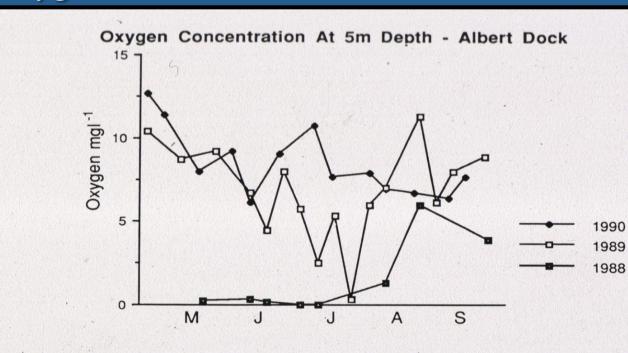


Figure 5. Oxygen concentrations in the Albert Dock, Liverpool showing improvement with time between 1988 and 1990.

Bio-filtration by

mussels: volume of dock passed through a mussel every 1-2 days

Disused docks

Unique ecological habitat!

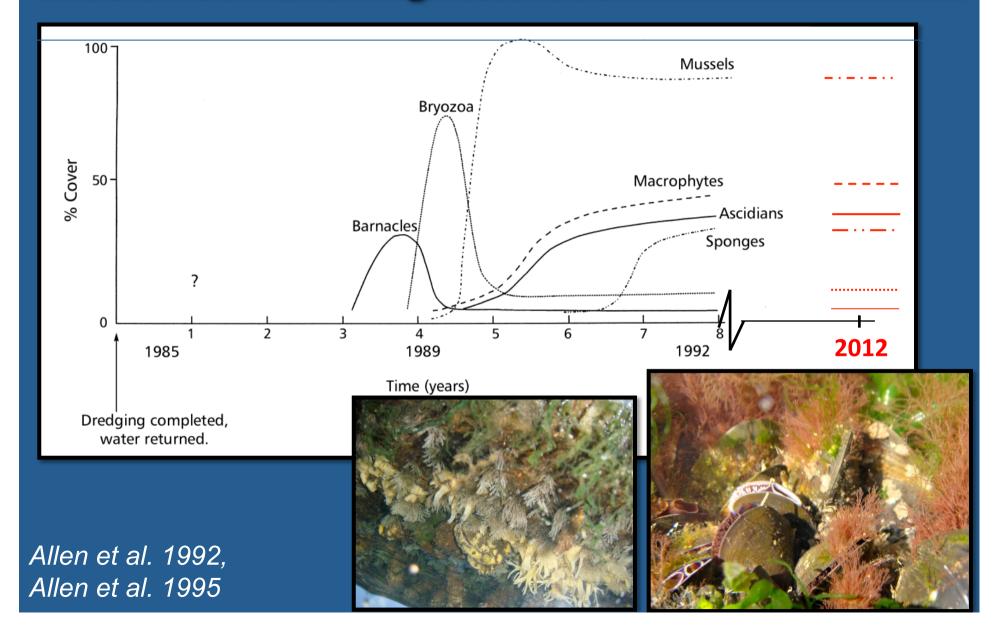
- Diverse marine/ brackish water communities
- Filter feeding molluscs, sponges, tunicates



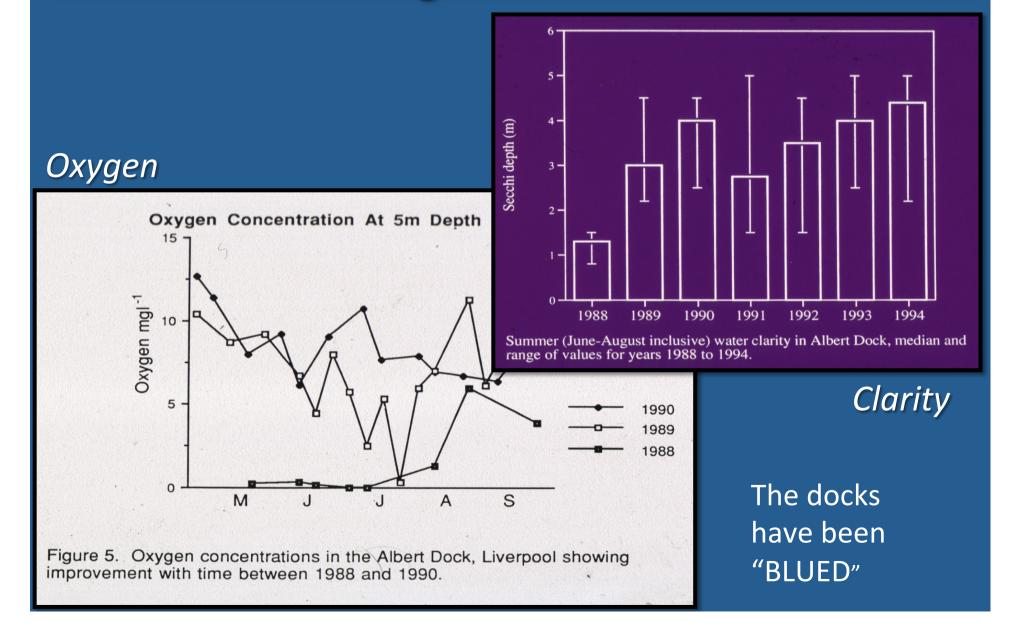




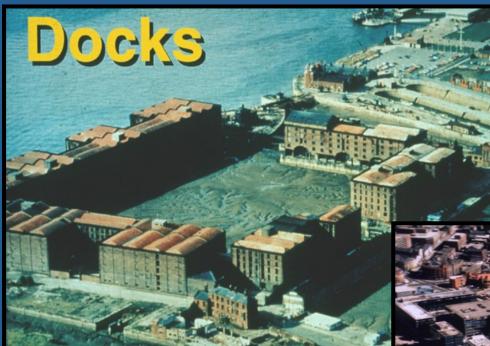
Colonisation of major groups in the Albert Dock following restoration



Environmental conditions in the Albert Dock following restoration



Restoration of the Liverpool Docks



Restoration 1981-1985:

- Dredging
- Reinstallation of gates
- Artificial vertical mixing
- Naturally & experimentally settled mussels

The Albert Dock after restoration in the 1980s



"Hardening" of coasts Coastal defence schemes



Coastal defence & maintaining tourist beaches

Adriatic,

Italy

Marine engineering homogenous and regular?



Environmental heterogeneity Roughness, crevices & pools –







Nature likes it rough and irregular



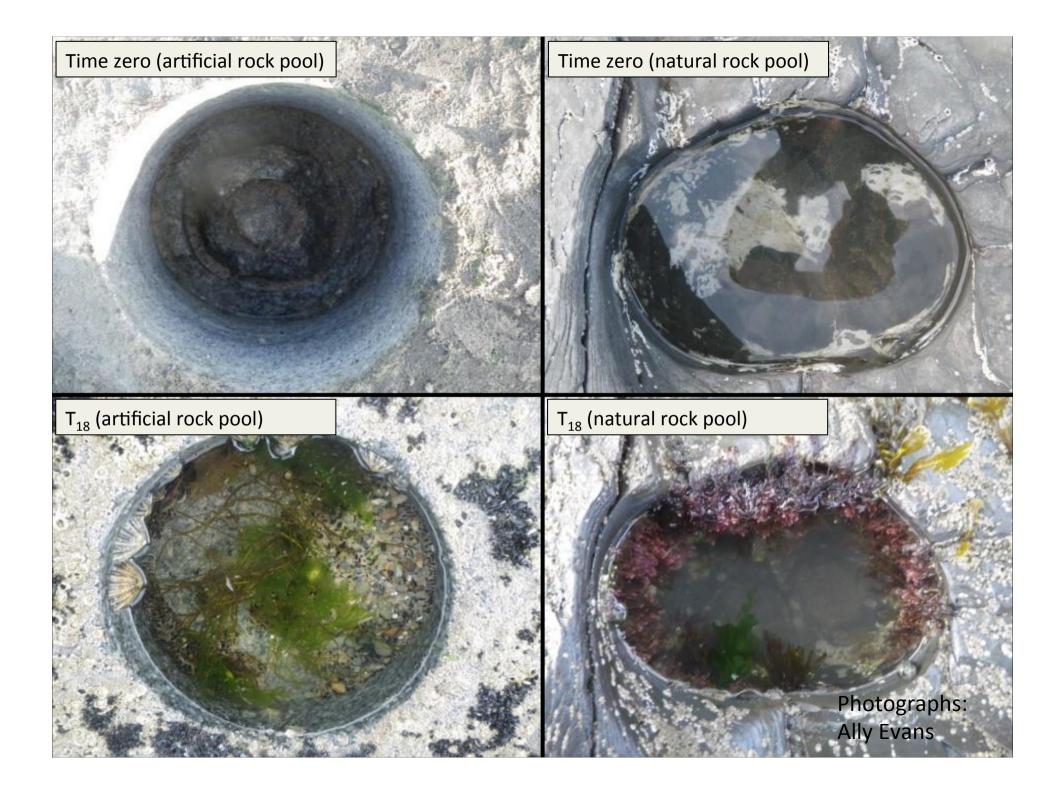
Habitat enhancement Drill-cored rock pools at Tywyn

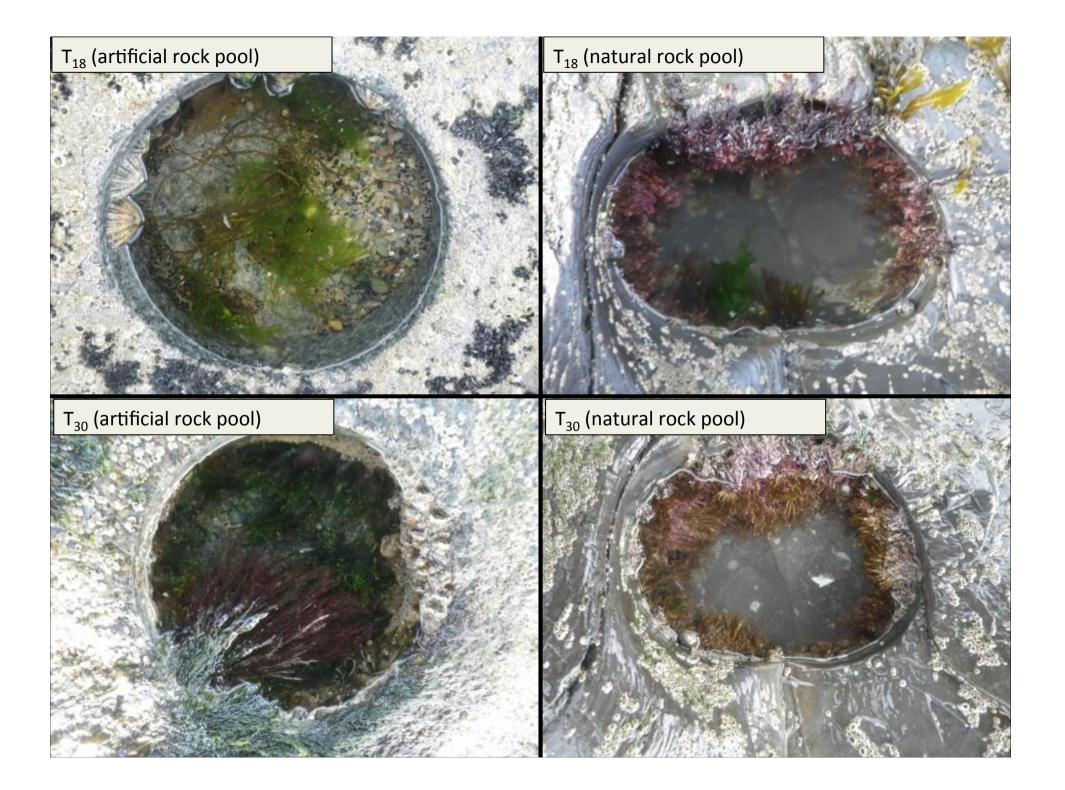






Firth et al. (2014) *Coastal Engineering;* Firth et al 2016 *OMBAR*; Evans et al 2014 Mar. Fresh. Res

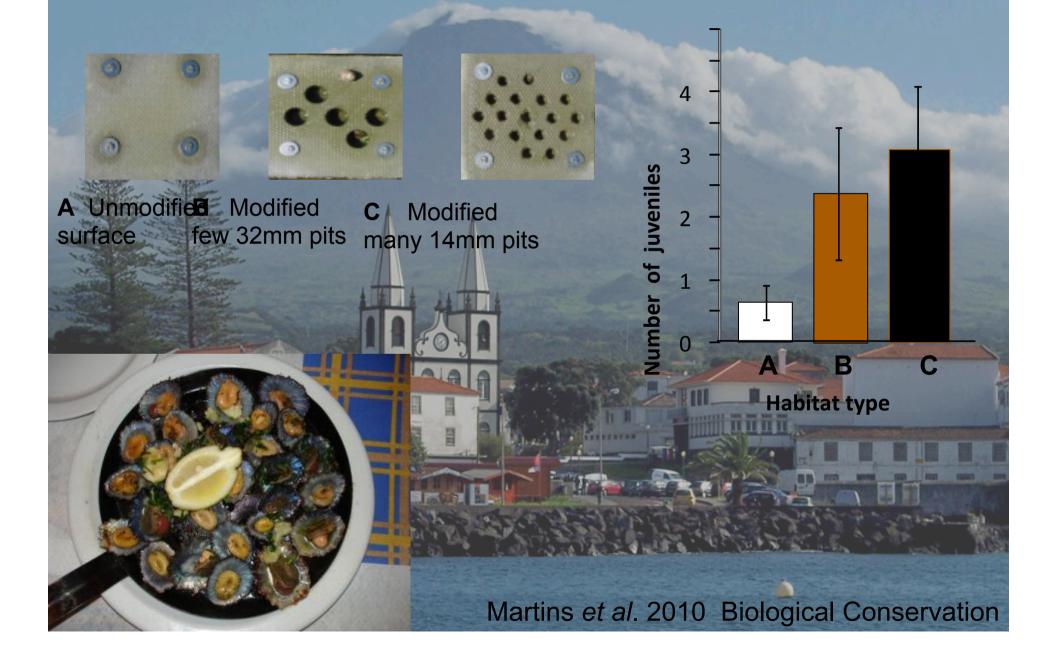




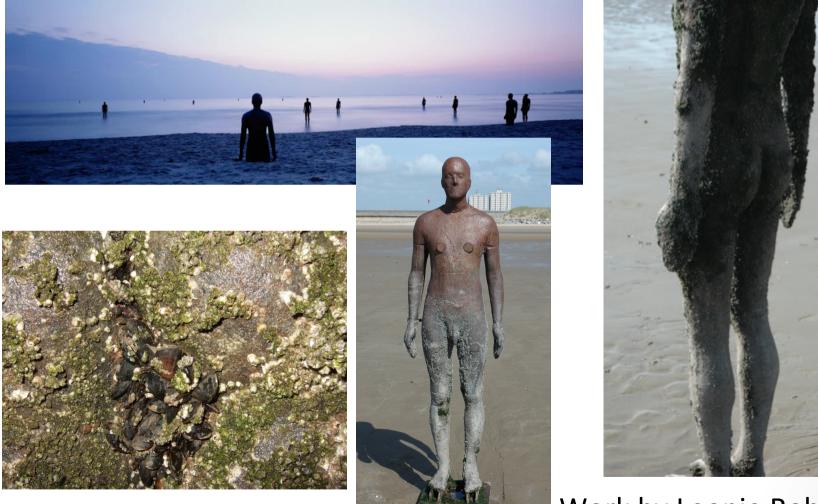




Abundance of Patella candei on modified surfaces



Some surprising artificial structures 'Another place' Liverpool by Antony Gormley



Bracewell et al. (2012) PLoS ONE

Work by Leonie Robinson and colleagues at Liverpool



Marine Policy Statement (2011):

Marine planning should:

"Avoid harm to marine ecology and biodiversity"

"Provide opportunities for buildingin beneficial features for marine ecology and biodiversity"

UK Marine Policy Statement (HM Government, 2011).



Marine and Coastal Access Act 2009 CHAPTER 23

CONTENTS

PART 1 THE MARINE MANAGEMENT ORGANISATION CHAPTER 1 ESTABLISHMENT Marine Management Organisation teral objective ormanice

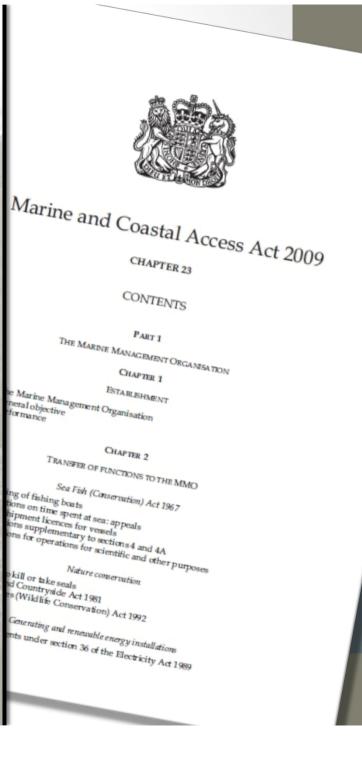
CHAPTER 2 TRANSFER OF FUNCTIONS TO THE MMO Sea Fish (Causerution) Act 1967 Sea Fish (Causerution) Act 1967 ing of fishing boats ing of operations for exceeded ing of operations ing operatio

Marine Plans (Draft 2015)

Developers should:

"Restore/enhance biodiversity as part of proposals" ...

… "through innovative project designs and alternative building techniques"





Outcomes & lessons



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- They ensure that the best science is delivered to society
- These projects will make a real difference



Last words from Marina von Weissenberg:

- The importance of the science policy interface cannot be underscored enough.
- The balance of good science and social and political relevance requires the balance of good knowledge of both in an evaluation.

We think we achieved that.... Now over to the projects