UNIVERSITY OF HULL

Environmental Governance of the Blue Space - Introduction

International Estuarine and Coastal Specialists

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GES4 SEAS

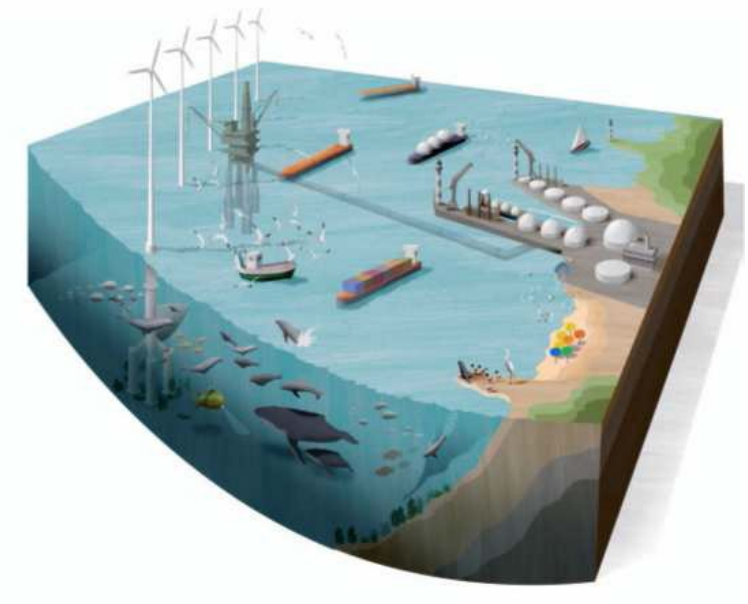
Marine SABRES

MarinePlan

MARBEFES

UKRI

Challenges for estuarine/marine science & management:

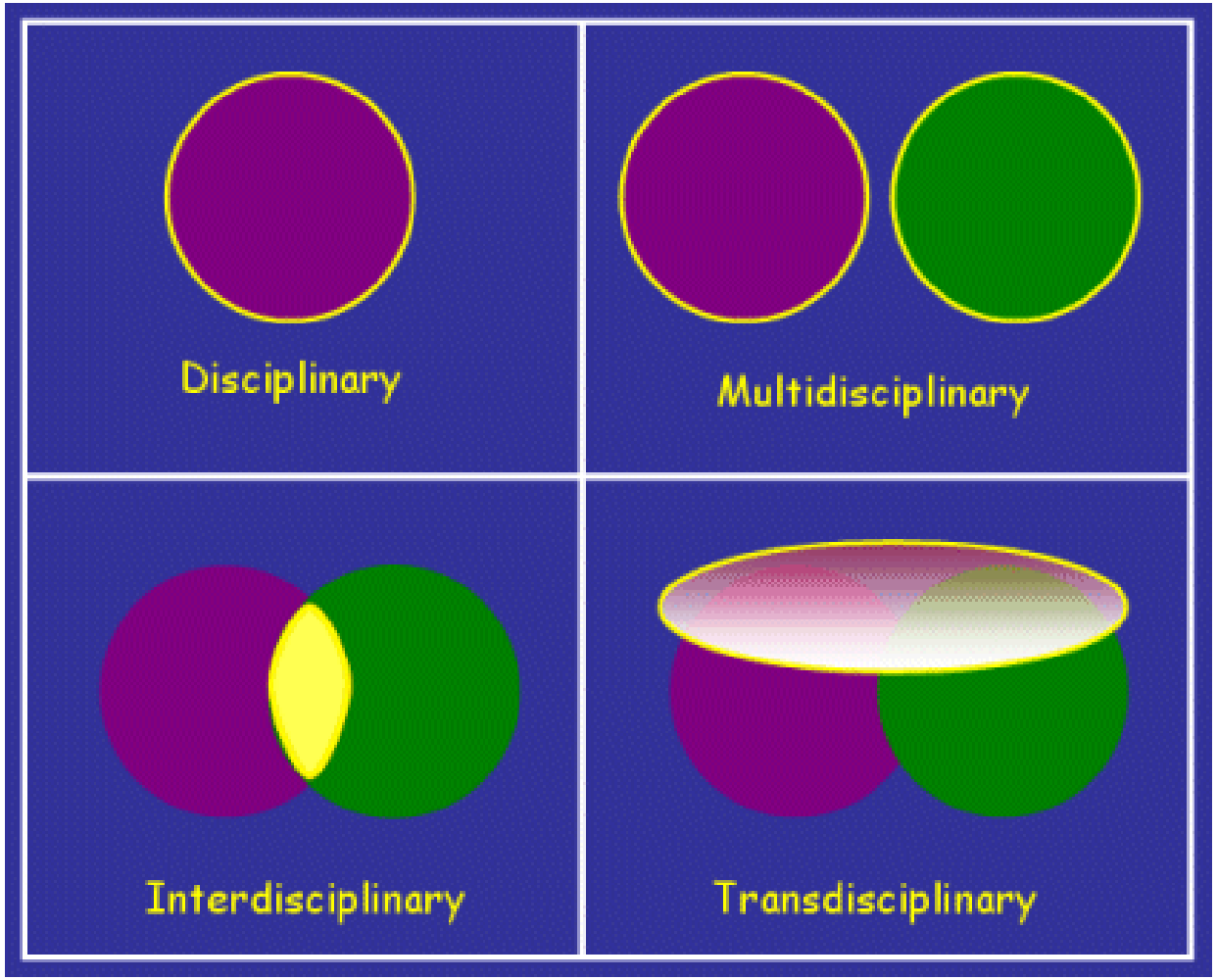


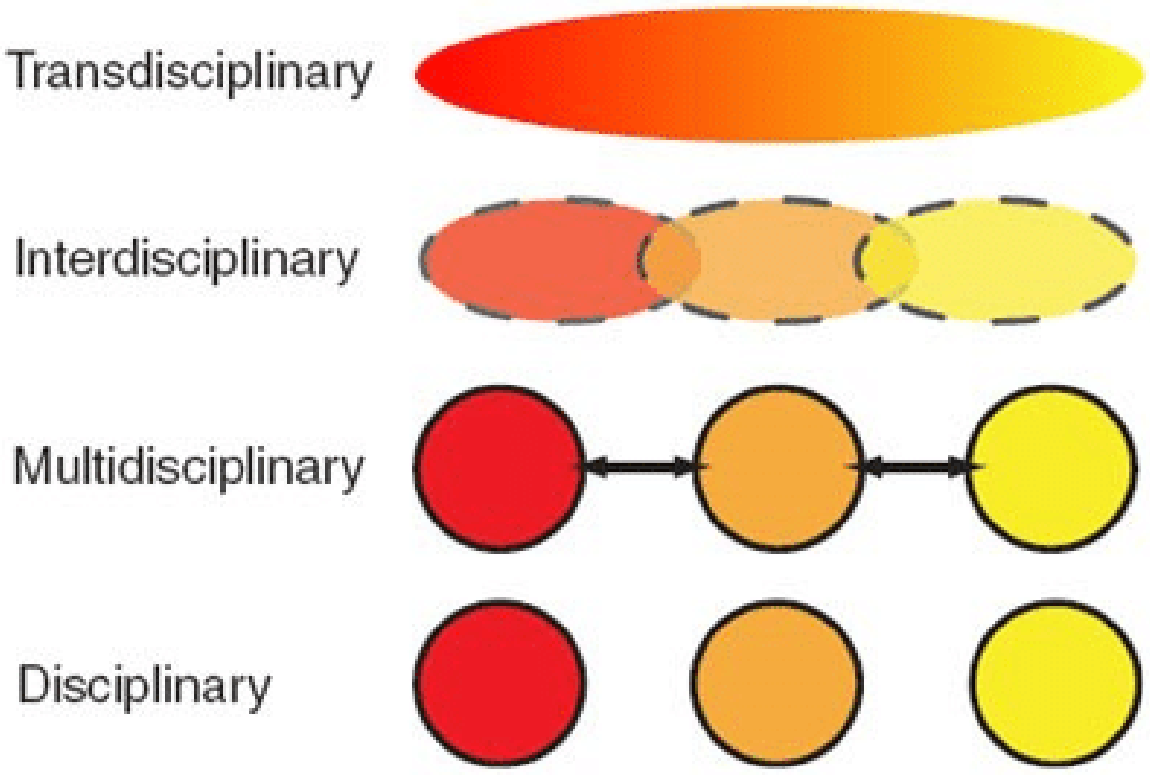
There is only one big idea: *how to maintain and protect ecological structure and functioning while at the same time allowing the system to produce ecosystem services from which we derive societal benefits.*

- Recovery/coping with historical legacy
- Endangered coastal and marine ecosystem functions
- Legal & administrative framework
- Economic prosperity and delivery of societal benefits
- Coping with climate change & moving baselines

In other words:

"to look after the natural stuff and deliver the human stuff"





"To steal one idea is plagiarism, to steal twenty ideas is research!"

"There are two types of researcher – those who have a technique and look for a problem to solve, and those who know the problem and look for the techniques for the solution!"

Disciplinary (apple) and Intra-disciplinary (apple varieties)

Multidisciplinary – disciplines working together ('pork with apple')

Interdisciplinary – integrating different disciplines ('apple crumble')

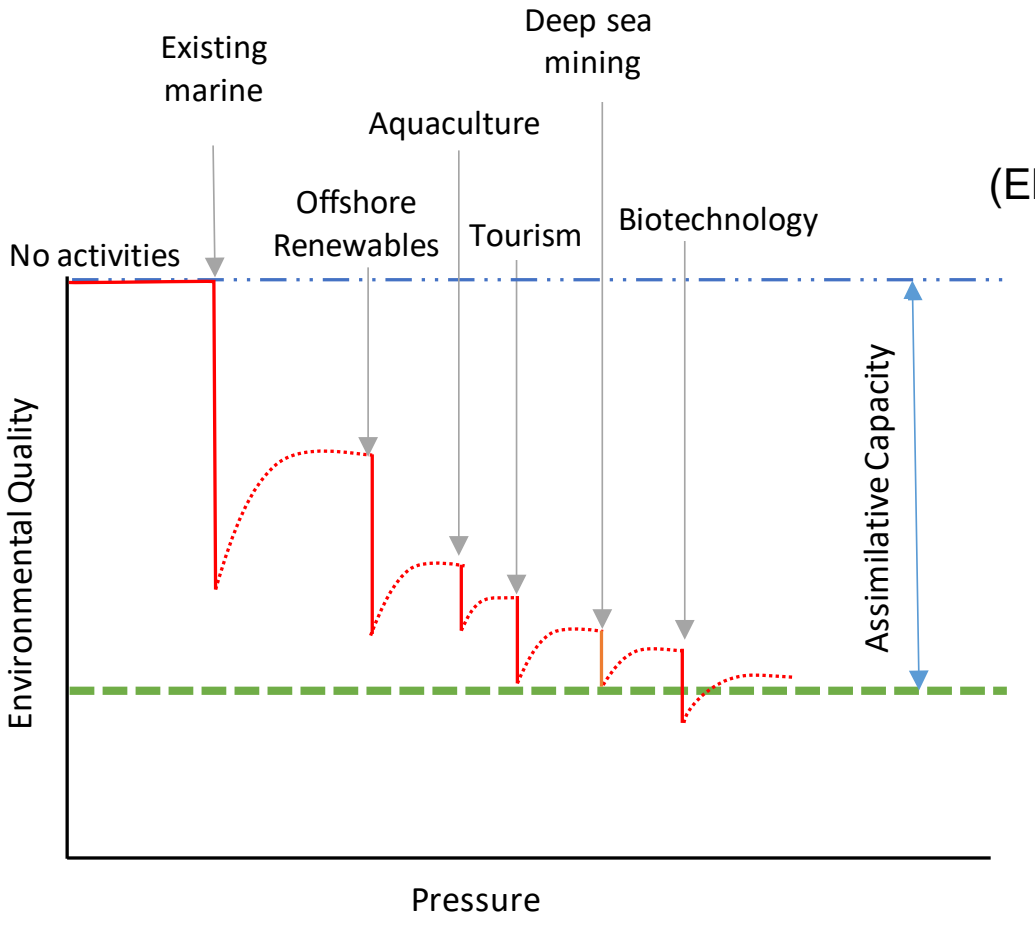
Transdisciplinary – a holistic approach beyond disciplinary boundaries ('apple cake')

A truly integrated product!

A truly integrated and high quality product!

(Ackn. Prof. Steve Fletcher, U Portsmouth)

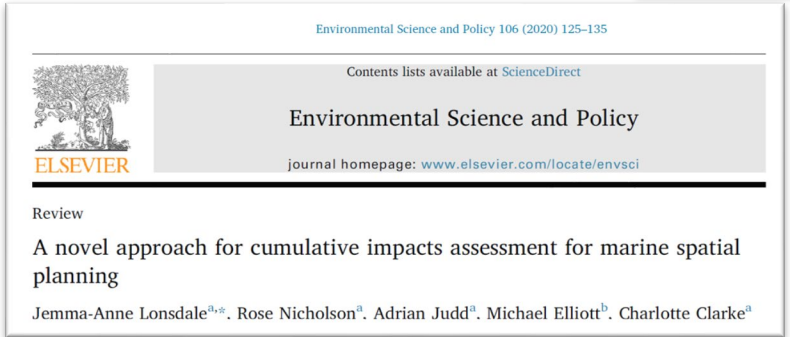
Environmental Quality Model incl. mitigation measures – the challenge of cumulative effects



(Elliott et al., 2018, Mar. Poll. Bull.)

KEY

- Pristine marine environment with no activities
- GES threshold (∑ of 11 MSFD Descriptors)
- Trajectory of environmental quality as the marine area is used by multiple activities
- Regained environmental quality with mitigation and/or compensation measures



GES4 SEAS

Solutions - The 10-tenets:

To be successful, management measures or responses to changes resulting from human activities should be:

- Ecologically sustainable
- Technologically feasible
- Economically viable
- Socially desirable/tolerable
- Legally permissible
- Administratively achievable
- Politically expedient
- Ethically defensible (morally correct)
- Culturally inclusive
- Effectively communicable

Marine Pollution Bulletin 74 (2013) 1–5

Contents lists available at ScienceDirect

Marine Pollution Bulletin

journal homepage: www.elsevier.com/locate/marpolbul

Editorial

The *10-tenets* for integrated, successful and sustainable marine management

ENVIRONMENTAL SCIENCE & POLICY 51 (2015) 181–191

Available online at www.sciencedirect.com

ScienceDirect

journal homepage: www.elsevier.com/locate/envsci

The 10-tenets of adaptive management and sustainability: An holistic framework for understanding and managing the socio-ecological system

Steve Barnard *, *Michael Elliott*

Ocean and Coastal Management 163 (2018) 162–172

Contents lists available at ScienceDirect

Ocean and Coastal Management

journal homepage: www.elsevier.com/locate/ocecoaman

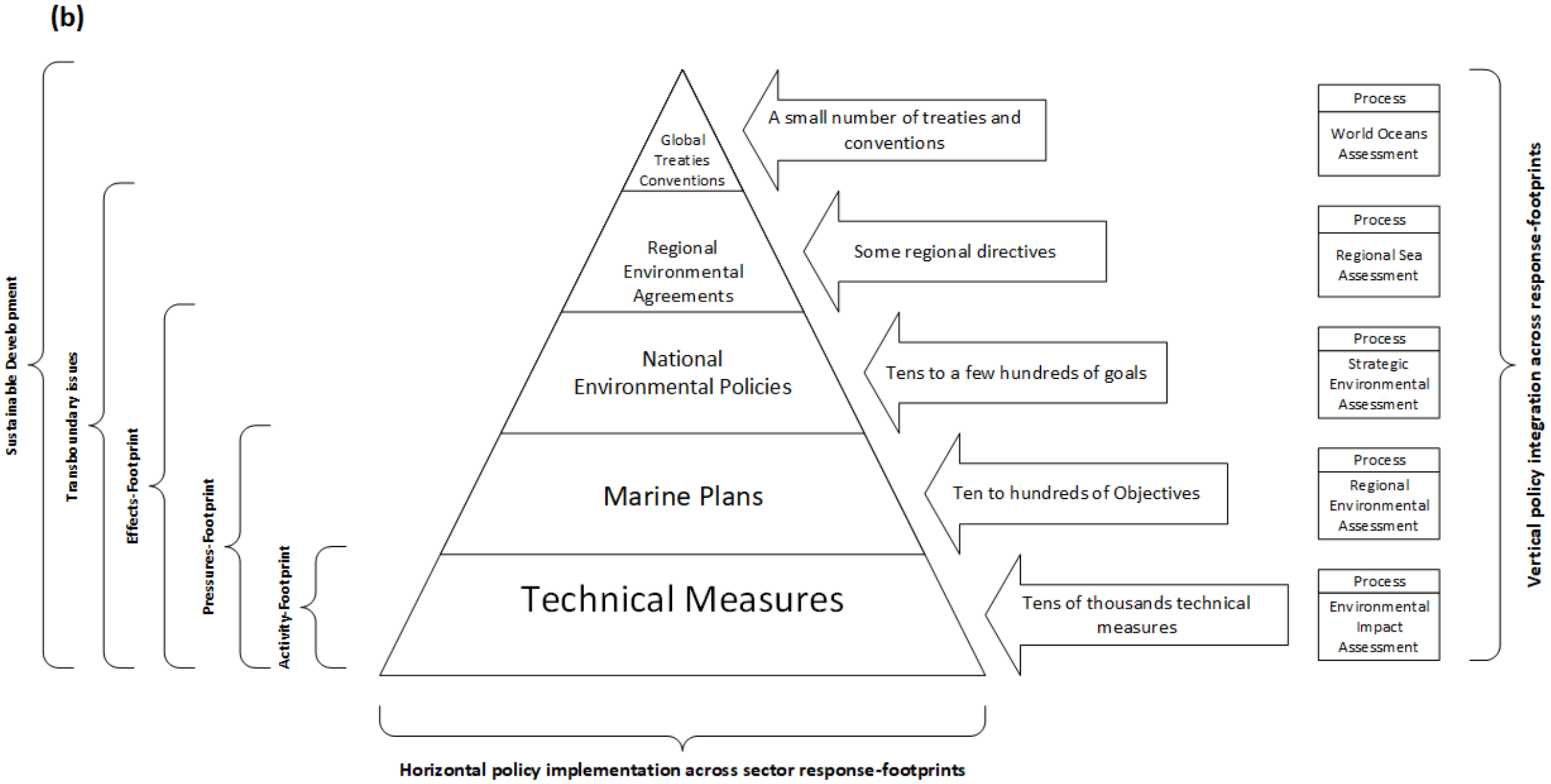
A proposed interdisciplinary framework for the environmental management of water and air-borne emissions in maritime logistics

David B. Grant[a,b,*], Michael Elliott[c]

Governance – defined as the integration of policies, politics, administration and legislation

(NB spellcheck - not "10 Tennents – that's a good night in Scotland"!)

The '*management response-footprint pyramid*'



(From Cormier, Elliott & Borja – 2022, Frontiers in Marine Science)

(Expanded from Boyes & Elliott, Mar Poll Bull 2014)

Horiz. int.

Vert. int.

The European (Withdrawal) Act 2018(1), converts the body of existing EU law (e.g. Treaties, Regulations, Directives, Strategies) into domestic legislation, preserving the UKs EU obligations until further amendments are made.

INTERNATIONAL LAW / COMMITMENTS

INTERNATIONAL REGULATORY BODIES

CLIMATE CHANGE

EC Laws retained in domestic legislation

Target / Status to be met

Enabling / Primary Legislation

Legislative protection afforded

Legislation contributing to achieving GES

Waste hierarchy & Good Practice; Good disposal practice of waste; Deposit return schemes; Recycling practices; Tackle waste crime; Ban or restrict export of waste to non-OECD countries; Legally binding Environmental Improvement Plan targets to include integration, prevention, rectification at source, polluter pays and precautionary approach.

Policy and targets for tackling and responding to climate change; Net zero by 2050; Climate Change Risk Assessments (CCRA); National Adaptation Programme (NAP)

Trade and Cooperation Agreement - establishes Specialised Committee on Fisheries providing a forum for the UK and EU to discuss and cooperate on: mechanisms for in year transfers of quotas; adopting multi-year strategies e.g. on non quota stocks; data sharing; control and enforcement.

Sustainable management of commercial fishing activity; Protection of sensitive marine species (bycatch); Joint Fisheries Statements (JFS) – UK and Devolved Administrations; Fisheries Management Plans (FMP) for individual species and environmental purposes will contribute to achieving GES under the MSFD (Descriptors 1 and 4); Reduction in emissions/decarbonisation from vessels (climate change); Funding for scientific research and evidence; Shared stocks and cooperation with other countries (equal access); Power to amend UK law related to fisheries and aquaculture; Development of an aquaculture strategy was one of the recommendations in the Seafood 2040 Strategic Framework for England to promote sustainable growth.

Multilateral Treaties to promote the conservation and sustainable exploitation of fish resources on the high seas

UK membership of relevant RFMOs

The Fisheries Act 2020

Sea Fisheries Act

Sea Fisheries (Wildlife Conservation) Act

The Fishery Limits Act

Seafood 2040

Sea Fisheries (Shellfish) Act

Salmon & Freshwater Fisheries Act

Marine Strategy Regs

Marine and Coastal Access Act

Flood risk and hazard maps; flood and coastal erosion risk management; flood defence.

Flood & Water Management Act

Flood Risk Regs

Water Res. Act

River Basin Management Plans (RBMPs); Heavily Modified Water Bodies & Artificial Water Bodies; Shellfish waters. (Also see UWWT Regs and Environment Act 2021)

Licences, Consents and Authorisations; Prevent water companies discharging sewage into rivers, waterways and coastlines; Duty to ensure water companies secure a progressive reduction in the adverse impacts of discharges from storm overflows; Effective collaboration between water companies through statutory water management plans.

Water quality & pollution; Licences, Consents and Authorisations; H1 Method

Waste Regs

Climate Change Act

Energy Act

Electricity Act

Sustainable fisheries & safeguarding the marine environment

Water Res. Act

Environment Act 2021

Pollution Prevention & Control Regs

Environmental Permitting Regs

Renewables targets

Safe consumption of fish & shellfish

Licences, Consents and Authorisations

Environmental Standards

Flood Risk Assessment

Water Environment (WFD)(E&W) Regs

Nitrate Pollution Prevention Regs

Renewable Energy

COP26

ICES CONV.

Contaminants in Food Reg

Good Chemical Status & Good Ecological Status

Environment Act 2021

PARIS AGREEMENT

UN FISH STOCK AGREEMENT

Regulatory Fisheries Management Organisations (RFMOs)

FRMD

Environmental Assessment Regs

Licences, Consents and Authorisations

Urban Waste Water Treatment Regs

Nitrate Vulnerable Zones

Waste FD

UN FRAMEWORK CONV. ON CLIMATE CHANGE (UNFCCC)

UNCLOS

WFD

Town & Country Planning (EIA) Regs

Strategic Environmental Assessments to include transboundary effects

Licences, consents, authorisations, surveys and monitoring

Industrial Emissions Dir.

KYOTO PROTOCOL

OSPAR CONVENTION MINISTERIAL MEETING

ESPOO CONV.

SEA

Harbour Works (EIA) Regs

Applications for Nationally Significant Infrastructure Projects (NISPs) / Marine licences

Sensitive area

Licences, consents, decommissioning, environmental protection, surveys and monitoring

Bathing Water Regs

Nitrates

LONDON CONVENTION & PROTOCOL

G7 SUMMIT

EIA

Marine Works (EIA) Regs

Infrastructure Planning (EIA) Regs

Planning Act

Marine projects subject to Environmental Impact Assessment

Bathing beaches

UWWTD

Bathing Waters

UN CONV. on BIOLOGICAL DIVERSITY (CBD)

GLOBAL BIODIVERSITY FRAMEWORK

EU Integrated Maritime Policy

MSFD

Many regulatory drivers

Offshore Petroleum Activities (Conservation Habitats) Regs

IMO

COP15

Programme of measures; Qualitative descriptors; Ecosystem-based management approach; MPAs.

Good Environmental Status

Marine Strategy Regs

Oil and Gas Production and Decommissioning

Various EU Regs to control shipping & pollution from ships

MARPOL

UN SDG

UN DOS

UN DER

BERN CONV.

BONN CONV.

EU Biodiversity Strategy

MSP Dir

Environment Act 2021

The 2021 Act will complement the Marine Strategy Regs in the priority areas of biodiversity (e.g. Net Gain, LNRSs), water and waste.

Offshore Petroleum Activities (Oil Pollution Prevention and Control) Regs

BALLAST WATER CONV. (4)

Marine and Coastal Access Act

Marine spatial planning

Marine Notices - shipping, guidance & information; Revision and Empowerment Orders. Conservation duties on ports; Harbour & Works Licences

Safer shipping navigation, pollution control and operation

INT. CONV. ON SALVAGE

AICHI Targets

RAMSAR CONV.

UK Marine Policy Statement (MPS); National Planning Policy Framework (NPPF); Localism Act

Marine planning (3); Fisheries management; Licences, Consents & Authorisations; Coastal Recreation Conservation/Biodiversity protection (MCZ);

Merchant Shipping Regs

Reg. on Invasive Alien (non-native) Species

EU Strategy on Invasive Alien Sp.

Wild Birds

Habitats & Species

Favourable Conservation Status

Harbours Acts

Prevention, management & control of harmful aquatic organisms & alien species

AARHUS CONV.

UNESCO Protection of Underwater Cultural Heritage (2)

CITES

Marine Protected Areas (MPAs)

Reg 35 advice, Article 17 condition monitoring, Appropriate Assessments (AA), Habitat Regulations Assessment (HRA) & Likely Significant Effect (LSE). Management Plans & Schemes

Public Access to Env. Info Dir

Various Regs to control CITES fauna & flora

Loading and discharging ballast water from ships (4)

Invasive Alien Species Regs

Marine & Coastal Access Act

Offshore Marine Conservation Regs

Natura 2000 sites (SAC/SPA)

Env Liability

Council of Europe Conventions on archaeology & landscape

Wildlife & Countryside Act (as amended by CROW)

NERC Act

Biodiversity & Species Action Plans; Habitats and Species Protection; Site designation (e.g. SSSIs); Management plans; Conserving wider biodiversity.

Strict restrictions apply to 'species of Union concern'

Access to information, public participation & justice

Prevention & remedy of env. damage

Environment Act 2021

Conservation of Habitats and Species Regs

Site designations - European Marine Sites (EMS) include SAC & SPA; Conservation/biodiversity protection (MCZs); Programme of Measures; RAMSAR sites are given same management considerations as EMS; Species protection (WCA).

Public access to environmental information for decision-making. Public bodies more accountable

Environmental Information Regs

Marine archaeology

Endangered species protection

National Biodiversity Strategies and Action Plan (NBSAPs)

Conservation of Seals Act (amended by Fisheries Act 2020)

Env. Damage (P&R) Regs

Polluter pays principle & remedial measures

Protection of Military Remains Act

Protection of Wrecks Act

Control of Trade in Endangered Species (COTES) Regs

Local Nature Recovery Strategies (LNRS); Protected site strategies and species conservation strategies; Biodiversity net gain (including NISPs); Conservation covenants; Nature recovery network; Legally binding 15 year Environmental Improvement Plan targets; Legally binding target on species abundance for 2030.

National Heritage Act

Ancient Monuments & Archaeological Areas Act

Protection of marine archaeology

Merchant Shipping Regs

Protection and enforcement

(1) Since leaving the EU on 31/01/20, the UK enacted the 'European Union (Withdrawal) Act 2018' which converts the body of existing EU law into domestic legislation. This allows the UK to continue to implement our obligations to these EU laws.

(2) The UK is not a signatory to this Convention however a number of public statements have been produced that confirm its endorsement of the rules in its Annex

(3) All regulated activities in the English marine environment consider UK marine policy drivers such as the UK High Level Marine Objectives 2009, the UK Marine Policy Statement and various National Policy Statements

(4) The UK has not yet ratified the Ballast Water Convention however, the UK regulatory package has been drafted and the Government remains committed to acceding to the Convention and implementing it into UK law.

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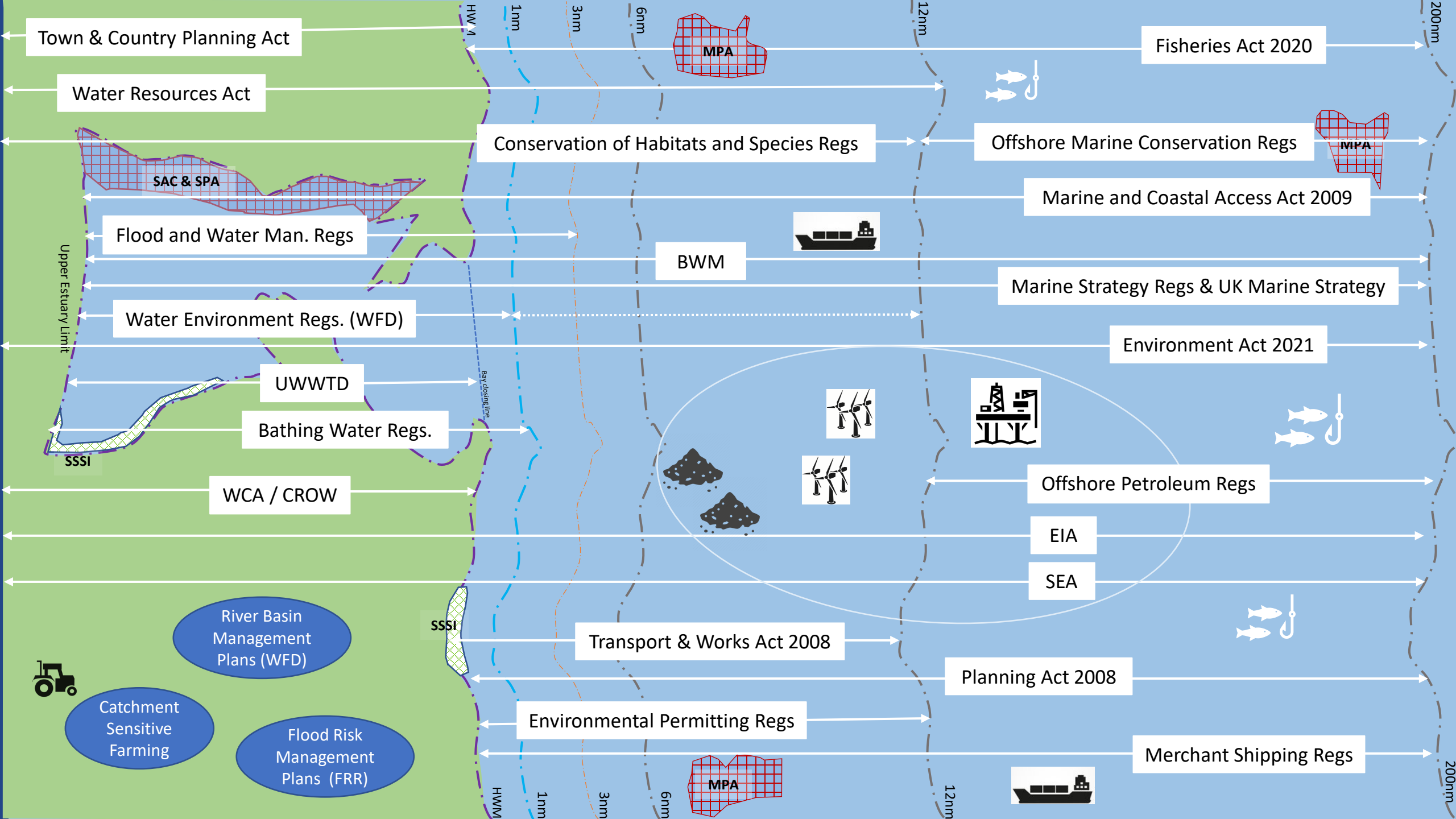
Town & Country Planning Act
Water Resources Act
Conservation of Habitats and Species Regs
Offshore Marine Conservation Regs
Fisheries Act 2020
Marine and Coastal Access Act 2009
Flood and Water Man. Regs
BWM
Marine Strategy Regs & UK Marine Strategy
Water Environment Regs. (WFD)
Environment Act 2021
UWWTD
Bathing Water Regs.
WCA / CROW
Offshore Petroleum Regs
EIA
SEA
Transport & Works Act 2008
Planning Act 2008
Environmental Permitting Regs
Merchant Shipping Regs
SAC & SPA
SSSI
MPA
Upper Estuary Limit
Bay closing line
HWM
1nm
3nm
6nm
12nm
200nm
River Basin Management Plans (WFD)
Catchment Sensitive Farming
Flood Risk Management Plans (FRR)

Custodianship of Marine Life: Economic and social impact of anthropogenic activity in the ‘blue space’

Session 1: Environmental governance of the ‘blue space’: What is the right thing?

Part 1: Environmental Social Governance (ESG) – Are we doing the right thing?

ESG is usually associated with climate change, pollution, resource scarcity…In reality it covers a wide spectrum of socio-economic issues such as diversity, ethics, data security, sustainability. In this session we look at ESG from varying perspectives through a series of short talks to stimulate your thinking: We all want to do the right thing, but what is the right thing, and are we doing it?

Part 2: Data as a currency

Money is not the only metric – Data can also be used as a currency to help make informed decisions. But is there a common currency, and are we genuinely measuring the right things? What can be used as a proxy for measuring the health of an ecosystem? And what are the criteria of success? In this session we explore these questions, asking are we organising our thinking properly?