Protecting and improving natural capital: land management and farming considerations

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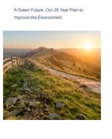
Natural capital approaches underpinning the development of environmental policy

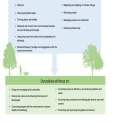
The first generation to leave the natural environment of England in a better state than that in which we found it - a cleaner greener country for us all

- Natural Capital Committee's 2015 report recommended government produce a 25 year plan for the environment
- A Green Future: Our 25 year Plan to Improve the Environment published January 2018

25 year Environment Plan policy intents

- A new environmental land management system
- Restoring vulnerable peatlands
- Ending peat use in horticultural products by 2030
- Developing better information on soil health
- Improving soil health
- Focusing on woodland to maximise its benefits
- Greater use of natural flood management solutions
- Reforming water abstraction
- Increasing the supply of water
- Incentivising greater water efficiency
- Embedding an 'environmental net gain' principle
- Developing a Nature Recovery Network
- Conserving and enhancing natural beauty
- Promoting health and wellbeing benefits





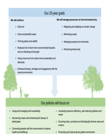
Natural capital principles

- Place and area based
- Need to understand:
  - assets and their ownership
  - whether renewable or non-renewable
  - the extent and condition
  - if stock is increasing or decreasing
  - if at risk and from what
  - proximity to any tipping points
  - the cost of enhancement and maintenance
- Manage natural capital so it can continue to meet the needs of people and the economy, despite mounting pressures
- What geography or catchment to use for different assets
- And don't forget the biodiversity



There is a need for:

- Quantified measures of success
  - targets with associated metrics and methodologies for the 25-year goals
- The plan to be placed on a statutory footing
- A body accountable to Parliament to ensure continuing compliance with environmental legislation
- An independent body to assess progress against 25 Year Plan actions, targets and milestones on an annual basis
- Local natural capital plans, maps and data
  - an agreed natural capital baseline – common year; 5 yearly comprehensive and annual update assessments
- Policy clarification on:
  - net environmental (natural capital) gain; polluter pays; public goods for public money

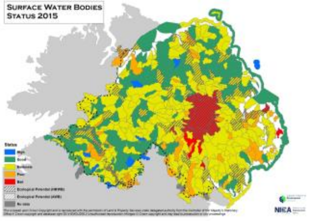
Land management and farming considerations

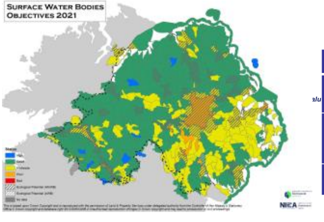
- Polluter pays – how does this apply?
- Public goods for public money
  - who is the beneficiary?
  - what does the public value enough to pay for?
  - are they public goods or do they just benefit private individuals and organisations?




Good or better status 2015
33% Rivers
24% Lakes
36% Transitional/Coastal
65% Groundwater

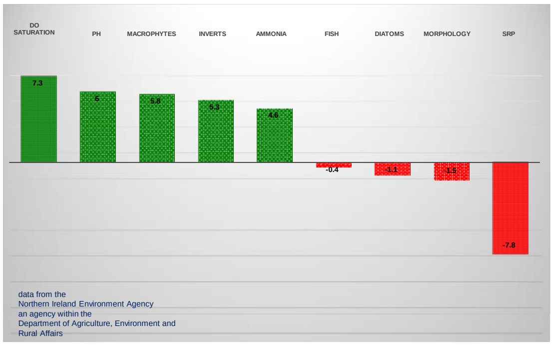
Good or better status 2021
70%





	WFD2015	WFD2018
Total No of tests	4106	4425
No of tests at High or Good	3339	3629
% at Good or better	81.3	82.0

Percentage change in Northern Ireland water bodies at good status or better 2015 - 2018



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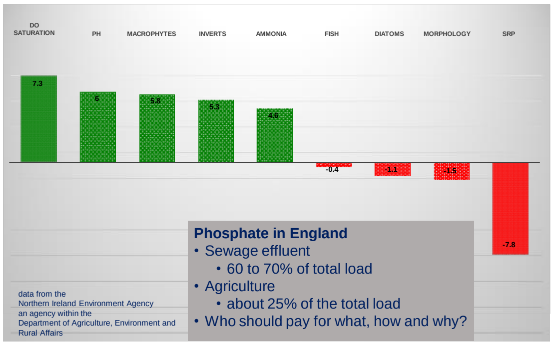
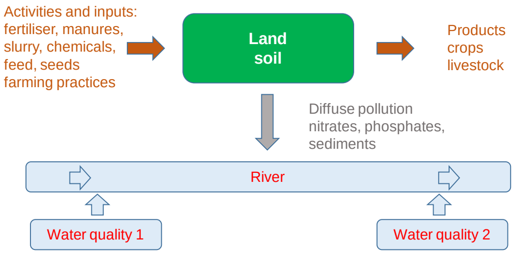


Phosphate in England
- Sewage effluent
  - 60 to 70% of total load
- Agriculture
  - about 25% of the total load
- Who should pay for what, how and why?

Ecosystem services and natural capital in a catchment context

1. How do the activities affect the value of the natural capital assets?
2. Are the assets soil, water etc increasing or decreasing in value?



Typical catchment approaches

- Nutrient management plans
- Pesticide control
- Keep animals out of watercourses
  - stock fencing; livestock watering
- Field management
  - loosen compacted soil layer; contour cultivation; manage over-winter tram lines
- Reducing surface flow
  - gate relocation; re-surfacing gateways; cross drains under farm tracks; grass swales; check dams
- Peatland restoration
  - grip blocking; application of nurse crops; heather brash spreading

Scottish approach to rural diffuse pollution

River basin management plan1: 2009 – 2015

- General binding rules for wide range of land management activities
- Scottish Rural Development Programme funding for some to go beyond GBR requirements
- People can't be paid to comply with legislation
- Fixed monetary penalties for farms that remained non-compliant at third revisit
- 84% of farms compliant at their first revisit

River basin management plan 2: 2016 – 2021

- Only 1 revisit to a non-compliant farm before initiating enforcement action
- Advice on both pollution prevention and the General Binding Rules

Catchment based approaches

- Wessex Water (EnTrade) to reduce phosphate discharges into Poole Harbour
  - Compensate farmers for alternative practices such as planting cover crops
  - 40 tonnes reduction in nitrogen per year by 2020
- Moors for the Future re-gripping to reduce colour and nutrients in water
- Paying farmers to substitute dry metaldehyde slug pellets for a more expensive formulation or for ferric phosphate
- Land management based flood risk management approaches
- Northern Ireland catchment and flood risk management work including through strategic tree planting




Factors affecting natural capital valuations: trees

- Area
- Type of woodland
- Multiple benefits
- Location dependent
  - flood risk reduction
  - diffuse pollution reduction
  - recreation and health and wellbeing
  - air pollution reduction
  - habitat
  - habitat connectivity
- Non-location dependent
  - carbon sequestration
  - habitat
  - wood



Land management and farming public goods for public money some considerations

- Ecosystem services must be considered in relation to their impact on the underpinning assets
- Integrated catchment approaches should be implemented to maximise value for money:
  - quality, quantity, drainage and flood risk
- Sufficient cat
- chment area has to be subject to an intervention to achieve required outcomes
  - groups of farms coming together
- Achieving a sufficient area of planting to make a difference will require long-term planning and coordination – Forest Research Northern Ireland
- How will the benefit be demonstrated – what does success look like?
- Pay for actions - policy makers to share the risks if the outcomes are uncertain
- And don't forget the soil!