

Integrating ecosystem services into environmental decision making

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Freshwater ecosystem services

- Wide variety of habitats
 - Lakes, rivers, wetlands, peatlands
- Highly dependent on their catchment; indicative of management outcomes
- Transitional ecosystems; high service provision:
 - Biodiversity
 - Chemical cycling & carbon storage
 - Regulation of water quality and quantity
 - Aesthetic and cultural values



Current policy failures

- 80% of rivers in England & Wales failing to meet EU WFD 'good' status
- 18,000 sewer overflows remain
- 10% of new homes in 2016-17 built on flood plains
- 50,000 small businesses refused flood insurance across U.K.
- Annual average cost of flooding up to £6.8b by 2050

Source: Environment Agency, WWF, Financial Times, DEFRA

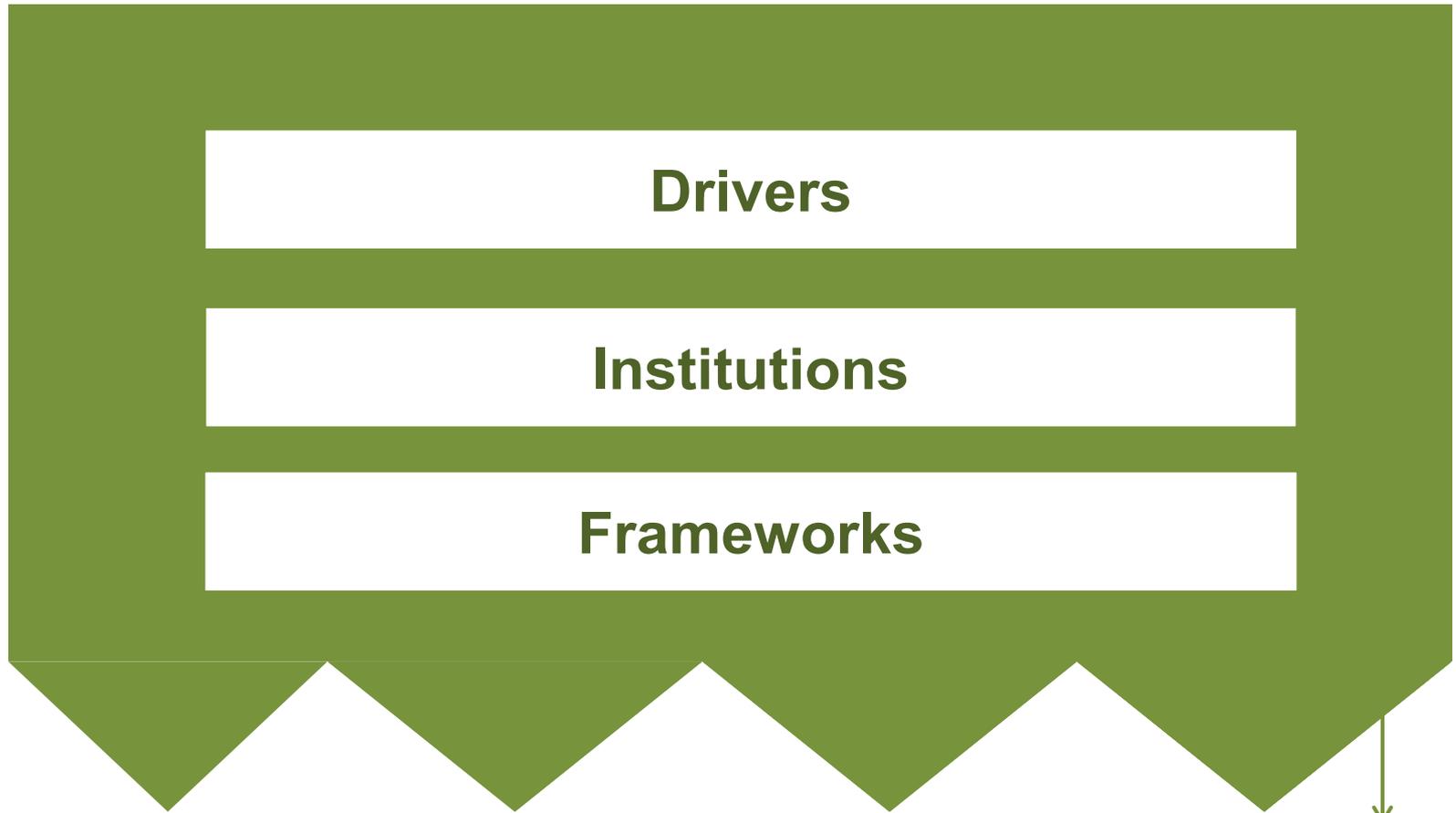


Upstream Thinking and SCaMP

- Upstream Thinking
 - southwest England. Led by South West Water, partnership with Wildlife Trusts, EA, Rivers Trust.
- SCaMP
 - Northwest England. Led by United Utilities, partnership with Natural England, Forestry Commission, RSPB
- Investment in natural capital
- Working with landowners
e.g. funding for farmers
- Improved biodiversity & water quality outcomes
- Increased catchment resilience for climate change

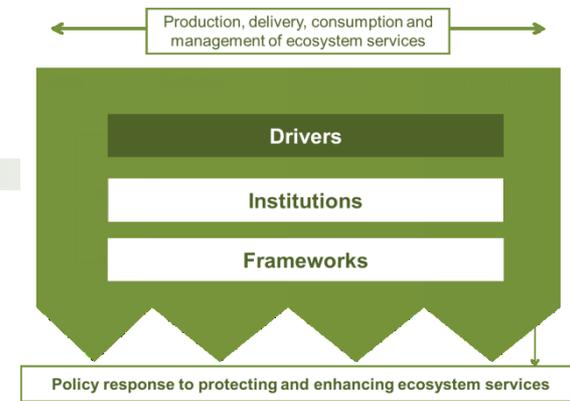


A model of ecosystem services policy



Drivers

- Trends and directions in society, environmental change and politics which directly or indirectly influence ES provision, use or management
- Mitigating and adapting to effects of climate change
- Environmental awareness
- Public participation and local decision making
- Public health & wellbeing from ecosystem services
- Economic value of ecosystem services
- CSR, 'triple bottom line', non-financial reporting

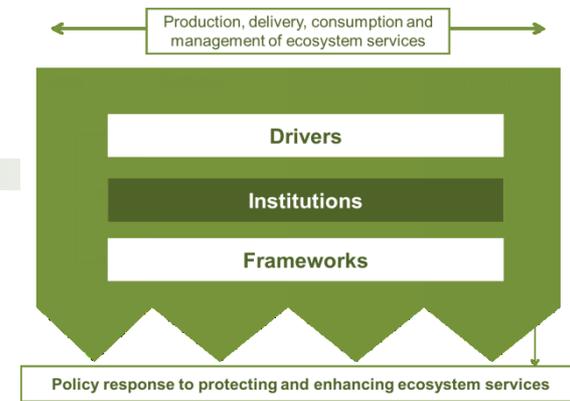


Institutions

- **Government or non-governmental organisations which contribute to or directly influence the management of ES production, delivery or consumption**

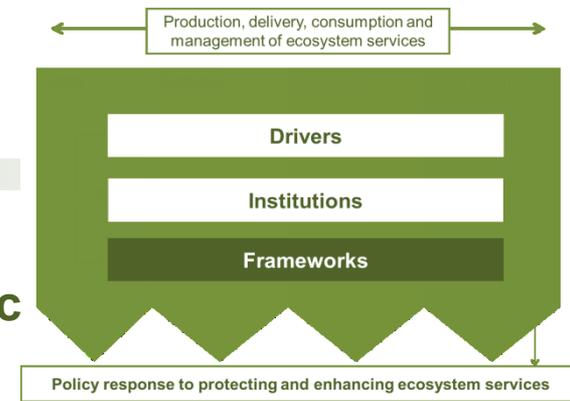
Environment Agency, Natural England, Natural Resources Wales, DEFRA, DCLG, NGOs, water companies, Parks Authorities, Forestry Commission, JNCC etc...

- Narrowing of remit and focus on permitting
- ‘Silo-ing’ of knowledge, experience
- Skills, training and creativity gaps
- Interdisciplinary knowledge lacking
- Lack of support and facilitation of ecosystem services approach – not a statutory function.



Frameworks

- **Legislative or advisory regulations, designations and initiatives concerning components of the biotic and non-biotic environment that sustain ES**

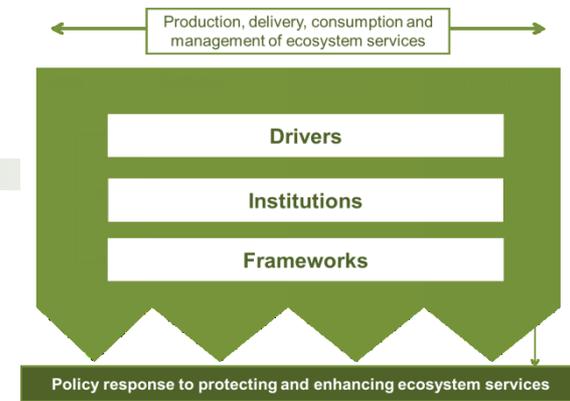


Numerous initiatives crowd the policy space

- **Great divide in protected areas:** SSSIs and National Nature Reserves vs. AONBs and National Parks
- **Lack of integration** among national policy programmes working for the environment – DEFRA and DCLG
- **Initiatives:** Nature Improvement Areas, Biodiversity offsetting, Environmental Net Gains, Natural Capital Accounting, Sustainable urban drainage system.....etc
- **Timescales** – easy to make short term changes to a river but to get improvements to ecological functioning can take decades.

Policy outcomes

- A highly complex system with ‘competing’ initiatives operating at specific and disconnected spatial scales, where ES are not integrated into planning decisions except ‘by stapler’



- Drivers diverse and not one simple driver
- Lack of institutional capacity
- Therefore lack of creativity in approaches
- Too many frameworks that are not joined up.

Conclusions

What can be done to build an evidence base and generate support among stakeholders?

- In depth studies of examples where an ecosystem services approach is adopted
- Monitoring that continues after the intervention has been made!
- Sharing outcomes from interventions – disclosure
- More cross disciplinary approaches in projects - integrating early the expertise of ecologists and landscape architects
- Learn from international experience: Netherlands, Scotland, Wales.
- Stronger role for professional bodies in advocating a well a considered ecosystem services approach

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