



## Ecosystem services, public benefits and the UK seafood industry

### 1. Looking at the world as an ecosystem

- Over the last 10 years Governments have started to look at the world as an ecosystem, the sum of its different parts (climate, air, water etc). This world ecosystem provides a range of services and public goods that benefit society.
- These services have been described as the life-support system that enables humans, and all other creatures, to thrive. We all rely on the food, water, oxygen and other benefits these services provide.
- This change in thinking has led to an holistic 'ecosystem approach' to managing and using resources of the natural world. This looks at our give and take relationship with the natural world; what we draw on and what we give back.
- With services being critical to life, it is important to preserve and enhance them. This 'ecosystem approach' is being adopted because there is concern that we are taking more than we are giving, with our natural world degrading as a consequence of human pressure.

### 2. The ecosystem 'lens' has helped reframe farmers and land based food production

- Looking at the world through an ecosystem 'lens', has already helped reframe land based food production and the role of farmers and is helping to re-structure agricultural policy in the UK.
- Recent policy consultation emphasises these principles in farming practice: bringing 'public money for public goods' into incentives and helping farmers choose to farm land in ways that support the ecosystem and provide public goods. This includes choosing to let marginal land revert to peatland to the benefit of carbon storage, and using forestry to prevent flooding.
- Land based food production is now seen as important to '*the stewardship of our diverse and distinctive landscapes – historic environments and archaeological features*'. Farming now goes hand-in-hand with land management and countryside stewardship benefitting habitats, species, landscape character and water quality.

### 3. Why is the ecosystem 'lens' important for seafood?

- If land based food production can benefit from an ecosystem 'lens' then why not marine based food production i.e. seafood?
- The ecosystem approach, with its emphasis on the give and take relationship with the natural world, can help reframe and provide a balanced seafood story.
- Too often the narrative about seafood industry practices is negative; unfairly concerned with what is taken from the natural world e.g. environmental damage, overfishing, or other problems arising from industry practice.



- However, this is one sided. A responsible seafood industry can help protect the natural world and support our access to those vital benefits derived from marine environments.

#### **4. What does the seafood industry give back to the natural world?**

Ecosystem services and public goods provided by the marine environment can be preserved and enhanced by the choices and actions of the seafood industry.

- Water and nutrient cycling, formation of species habitat
  - Shellfish filter water to get food from the water column, and so improve water quality.
  - When nutrients, like nitrogen and phosphate, are too prevalent in the environment this can lead to algal blooms. Some shellfish accumulate these nutrients, so the growing and harvesting of shellfish can mean these excess harmful nutrients are absorbed and then removed from the water column– a process known as bioremediation.
  - Farmed finfish can provide a range of different services and can help form habitats that can support other marine species and bird life. For example extensive and semi-extensive cultured seabass, where it complements natural wetland, can support a larger and more diverse waterbird community.
- Carbon sequestration
  - Shellfish also draw carbon from the environment and use this to build their calcium carbonate shells. This could be a storage mechanism for some of the excess carbon dioxide in the wider environment (a climate change imperative).

The industry also helps to support a range of public goods benefits for wider society.

- Food provision:
  - Seafood production begins with wild capture fishing and fish farming; an important, low impact source of food for a growing world population. Supported by marine ecosystem services, the production of seafood can have lower demands on energy inputs (and therefore lower carbon emissions) than other food production.
  - Seafood is a healthy foodstuff, providing us with many essential nutrients.
- Community well-being:
  - The coastal spaces where seafood production takes place are meaningful places and socially valued landscapes. Think of fishing ports and villages around the UK.
  - Seafood production helps to support: tourism, nature watching, leisure activities, local culture and heritage (over 100 food and seafood related festivals take place around the UK every year!), health and nutrition.
- Marine stewardship:
  - People working within the seafood industry can act as custodians of coastal landscapes and marine environments, much like farmers and the countryside. For example, some fishermen collect marine litter in their nets and bring it ashore for recycling.

- Production activities can support prevention of coastal erosion and create sea defence systems and water cycling.
- Producers can also support the long term sustainability of natural resources through the development and application of responsible sourcing practices.

## 5. Challenges to overcome

- Despite the wider range of potential benefit, there are still challenges to overcome.
- In contrast with land based food production, the range of benefits provided by marine food production and seafood are difficult to see; in some respects they are quite literally *under the surface*. It can be hard for people to see the contribution seafood makes, so it is important to communicate that.
- Ecosystems approaches in seafood and marine policy contexts lag behind that in land based food sectors. Policymakers must ensure the benefits and value of seafood are recognised and encouraged.
- Although an important and central benefit of seafood and marine ecosystems, we need to think beyond just food when making decisions that affect seafood production. Seafood producers have an opportunity to re-imagine their role and talk about the wider contribution they make.

## For further information:

- Read the full report "*Ecosystem services and the UK seafood industry: An initial review of industry contributions, withdrawals, synergies and trade-offs*" [here](#).
- Listen to the podcast "*Seafood: more than just the food on your plate?*" [here](#).
- Contact Dr Angus Garrett on [angus.garrett@seafish.co.uk](mailto:angus.garrett@seafish.co.uk).

