NORTH DEVON MARINE PIONEER PROJECT – OUTPUT 3

HOW THE EXPENSE OF NDMP FISHERIES MANAGEMENT CAN BE SUSTAINABLY FUNDED

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FISHERIES MANAGEMENT FUNDING

1. INTRODUCTION

Despite marine fisheries constituting a relatively small economic sector in the UK (capture fisheries 0.05% of GDP and aquaculture 0.02% of GDP)\(^1\), the costs of managing fisheries are substantial. From enforcement to port infrastructure, fisheries science to tax exemptions, the costs of fisheries management are diverse and can be substantial relative to the economic contribution of the industry.

By way of example, Defra spent £85 million on their ‘marine and fisheries’ in 2016/17 according to the National Audit Office (NAO).\(^2\) According to the MMO, in 2017, UK vessels landed 724 thousand tonnes of fish and shellfish into the UK and abroad with a first sale value of £980 million.\(^3\)

Figure 1 below (see Annex 1 for full table) compares OECD figures\(^4\) for fisheries support for some key comparable countries within the EU (e.g. France) that are comparable in terms of fishing sector and sea area, some which are notably smaller (e.g. Belgium or Estonia) and some outside the CFP but comparable (e.g. Norway) in terms of sea area and finally the USA, Australia and New Zealand (who the UK Government looks to in terms of delivering world-leading fisheries management).

As the OECD Financial support to the fisheries sector report concluded: “It is evident from the experiences of a number of countries, such as Norway, New Zealand, Iceland and Australia, that the reduction of financial support does not necessarily spell doom and gloom for the industry and have generally resulted in increased profitability and reduced dependence on government assistance over the medium to longer term from reducing financial support.”\(^5\)

These management costs are paid for through general taxation but the financial benefits of fisheries management is limited to those within the fishing industry (and to a lesser extent ancillary industries and consumers in the UK and abroad). The ‘resource rent’ generated from the commercial harvest of fish stocks is further limited by the fact that commercial licensing in UK fisheries is limited (by the MMO). A cap on commercial fishing licenses prevents new entry into the fishing industry (and generates economic benefits for those fishers holding licences) by limiting access to the fishing industry.

Despite acknowledgement that fish stocks are a public resource, this limiting licensing is deemed a crucial protection for the sustainability of the resource. In other industries, the existence of profits would induce new entry, but for the fishing industry limited licensing sustains these profits for the current fishing fleet.\(^6\)
Figure 1: OECD fisheries support estimates (US$) 2008-2018 for selected countries (UK, USA, Estonia, France, Australia, Belgium, New Zealand, Norway, Portugal).

Management costs are increasing, as are the profits within the UK fishing industry overall.

2. WHO SHOULD PROVIDE FISHERIES MANAGEMENT?

Given the pure public goods characteristics of fisheries, management costs (enforcement of laws and regulations, scientific research and policy formulation) are a public expense, which private sector would be ill-suited to provide.
There is a strong case for raising revenues from fisheries through taxes, auctions, permits, or other means for three main reasons:

1. Fisheries management comes at a substantial public cost in proportion to the size of the private industry. The main commercial beneficiaries of fisheries management should be the main financial contributors.
2. Commercial fisheries generate rent from a public resource. Much of the resource rent that is generated is the direct result of public policy limiting entry to the industry.
3. Commercial fisheries generate negative externalities – costs borne by others. These externalities (overfishing, emissions, bycatch, seabed impacts) which impact natural capital and marine ecosystems, are at the expense of the public and future generations.¹⁰

On both equity and efficiency grounds, the fishing industry itself, rather than the public should pay for fisheries management, given some key established principles:

- *The polluter pays principle* - On equity grounds, there is the principle that those responsible for the costs should bear the costs. This is often expressed as the ‘polluter pays principle’ but does not require those responsible for the costs to be ‘polluters’ as such.
- *The beneficiary pays principle* - Those who benefit from management, especially financially, should bear the costs of that management. The fishing industry wants to influence decision-making, so should also share responsibility to pay for that management.
- *The principal-agent problem* - Currently in fisheries management there is no real link between the value of the services provided and the cost of providing them. This can be improved/overcome by establishing a closer link between those paying the costs (the public) and those benefitting from them (industry). This arrangement would increase industry buy-in to fisheries management – as the procurer of a ‘service’.¹¹

### 3. COST RECOVERY IN FISHERIES

Two aspects of fisheries management – significant public costs and limited private benefits – have led to calls for ‘cost recovery’ in fisheries management – most recently in the Fisheries White Paper (described below).¹² Iceland, the Faroe Islands, Australia, New Zealand and regions of the US have all responded to this call by implementing auctions, levies, and other mechanisms to raise revenue from the fishing industry to pay
for management costs. Buy-in from the public for fisheries management approaches is essential and may receive wider scrutiny because of Brexit and the current profile of the fishing industry. The public may want to know why beneficiaries are limited to some individuals who have the right to commercially harvest fish stocks (which in the case of the UK FQAs were freely gifted), while the public as a whole pays for the cost of management. In Iceland the use of a resource tax is credited with making management of commercial fisheries via Individual Tradable Quotas (ITQs) more politically palatable to the Icelandic public (as ITQs have resulted in a concentration of fishing rights which has been detrimental to small scale fishing communities) as a financial return to wider society resulting from a fisheries tax. See Annex 2

While these mechanisms for cost recovery are relatively new in fisheries management, they have a long, established history in other natural resource industries - where private users derive economic benefits from a public resource. This approach includes natural resource sectors such as oil and gas, aggregate extraction (The Marine Aggregates Levy Sustainability Fund—MALSF—was a £25m programme of marine research undertaken between 2004-2011, funded through a Government imposed levy on all primary aggregate production, including marine aggregates, to reflect the environmental cost of extracting these materials), or the levy paid to SEAFISH (funded mainly by a levy on all first-hand UK purchases of seafood products which contributed £8.25 million, or 78% of SEAFISH total income according to the 2018 published accounts).

There is growing appreciation in the fishing industry that high quality fisheries management can yield economic benefits and that high quality has high costs. The ‘public money for public goods’ principle should now be at the forefront of fisheries management. Sharing the costs of fisheries management is in the long-term economic interest of the fishing industry as well as wider society. One clear example of the benefits of contributing industry funding towards management would be if fisheries management can increase the abundance of fish or shellfish stocks (or otherwise improve the condition of the fishery), then additional funding of such management could improve profitability. There may be support from the fishing industry to pay for fisheries charges if it could result in more frequent and more detailed stock assessments, which could lead to increased fishing opportunities in the future. Of course, this is not guaranteed as biomass may only increase as a result of more restrictive management for certain stocks and species. Increased fish stock biomass and means larger allowable catches and this requires good data. Improved stock assessments should increase confidence in the findings and possibly greater support from industry.

While fisheries management is not high on the public agenda compared to other issues in society and the economy, the fishing industry has received more public attention as a result of Brexit. This may lead to questions being asked about why only some individuals have the right to commercially harvest a resource, why fishing rights (FQAs) were freely gifted, and why the public as a whole pays for the cost of management.
The Fisheries White Paper

The White Paper makes an explicit commitment to cost recovery: “We will also use the Fisheries Bill to ensure the MMO in England has the same powers as elsewhere in the UK to recover their costs for fisheries management. This will ensure that they can carry out a process of continual improvement, making the service they provide to the sector as efficient as possible. In line with government’s Managing Public Money, certain services provided by public sector organisations are financed by charges, normally reflecting the full cost of providing those services. This may sometimes include services related to compliance and monitoring, subject to Treasury approval. This might also encourage schemes of self-assurance. Cost recovery will also encourage behaviour change in the industry and a responsible approach to the management of a public asset.”

Brexit

Brexit is likely to increase fisheries management costs (if EU fisheries management functions are then undertaken by the UK). Total fisheries management costs may also increase as control and enforcement, exporting requirements, and other aspects of fisheries management are likely to increase in scale and complexity. Post-Brexit fisheries management will also bring in new fisheries legislation which also incurs a cost.

4. NATIONAL AND LOCAL COST RECOVERY OPTIONS:

Any evolution of a cost recovery system for England or the NDMP will almost inevitably lead to two independent charges to reflect the structure of the fisheries management system, which is undertaken by two levels of government: national and local. With regard to fisheries, these could be at IFCA (local) or MMO (national) level.

- **National level** cost recovery typically involves either auctioning fishing opportunities or charging a tax/levy.

- **Local level** cost recovery typically involves the use of permitting, e.g. the Sussex IFCA charge for a district-wide shellfish permit and oyster permits for Chichester Harbour.

National level options:

Internationally there are examples of both auctions and taxes in fisheries management that can serve as models for cost recovery in the NDMP area. In Iceland, New Zealand
and Australia, cost recovery amounts to 65%, 39% and 36% of management costs, respectively.\textsuperscript{22} These systems provide helpful examples of the available policy options.

\begin{enumerate}
  \item \textbf{Taxes}

  Taxation or levies can be used to raise revenues from fisheries. This usually takes the form of a tax on income from landing or on net income (\textit{income minus expenses}). The charge can be differentiated by fishing type or applied as a uniform rate. As presented earlier, Seafish is currently funded through a levy on landed value (as well as a levy on the processing sector). Currently fishers pay a levy to Seafish, but for the inshore fleet as NDMP workshop outputs have shown, they perceive little benefit from the levy. Some of the landings levy could be ring-fenced for inshore fisheries management, proportionate to their contributions. \textit{Alternative models from Iceland and Alaska are presented in Annex 2}. A national fisheries landings tax should consider:

  \begin{itemize}
    \item the level of charge and whether it is phased-in or increases with time;
    \item if it is levied on landed value, income, net income, or an estimation of resource rent;
    \item any deductions or exemptions;
    \item whether there is differentiation by fish type or fleet type;
    \item other equity issues;
    \item transparency;
    \item the political feasibility; and
    \item statutory incidence versus economic incidence.\textsuperscript{23}
  \end{itemize}

  There are additional features for consideration, e.g. what level of government receives the revenues: is the it the Treasury, Defra, MMO, or the IFCA and whether these revenues are ringfenced for certain purposes (research, enforcement etc). As fisheries landings do not remain static, the annual revenue stream will vary (possibly quite dramatically). There is also the issue of quota and non-quota species – currently a landings tax on finfish and shellfish would likely be differentiated, a landings tax on quota species could be national and shellfish landings could be local (for example) as this is more closely linked to the level at which management decisions are made.

  \item \textbf{Fuel duty exemption}

  The fuel tax exemption in the UK is set at 0.1114 £/litre.\textsuperscript{24} This is a significant financial loss of funds, which could be used for fisheries management and furthermore contributes to the build-up of fishing effort and risks of overfishing. Beyond the level of fishing effort, there are two incentive-based environmental effects of the fuel tax exemption that should be recognized for the UK fishery as a whole.
\end{enumerate}
1. By lowering the price of fuel there is an artificial increase in profits and fuel usage, (and therefore carbon emissions), compared to a situation in which the full cost of fuel were paid.

2. Reducing the price of fuel influences the type of fishing that takes place, not just the amount (alongside other factors such as demand, fish prices, stock health, seasonality and catchability). Previous research reveals that types of fishing using heavy gear that impacts with the seabed are given a competitive advantage over other fishing types (e.g. the fuel tax exemption equates to 30% of fishing income for large scallop dredgers, but 0.3% for long liners). By impacting the seabed, mobile gears tend to have larger ecosystem impacts in addition to consuming more fuel.

Removing the fuel tax exemption nationally would provide an incentive for innovation in fishing behaviour, developing new gear technology, and/or switching between fishing types. It would reduce emissions and be transformative in terms of how the industry operates, and which kind of fleets can adapt.

Local level options:

Most of the literature on cost recovery focuses on the national management of fisheries, but local fisheries management is increasing in scale and importance. In England, the IFCAs are empowered to pursue cost recovery to fund their operations through the use of byelaws. In their guidance to IFCAs, Defra specifies, “IFCAs will be able to recover the costs of administering and enforcing a permit scheme, attach conditions to permits and limit the number of permits they issue under a particular scheme.”

a. Permitting

IFCAs are funded by a levy, which is charged to the local authorities for a proportion of the funds made available to local authorities from Defra alongside a contribution from Council Tax receipts (discussed below). Additional revenue is generated from permits and shellfish sampling. IFCAs can create commercial revenue through survey work, data management or support for leisure activities in some instances but this is rare. Although an IFCA is a levying authority, council members of an IFCA have a right of veto over the budget.

There are now a multitude of cost recovery byelaws used in the IFCAs. The Eastern IFCA, for example, is scaling up its fees to reach 50% cost recovery in the coming years. EIFCA and other IFCAs (e.g. Sussex via the Shellfish Permit and Chichester Harbour Oyster permit) have cost recovery programmes that use a combination of
licences, permits for specific fisheries, and pot tagging schemes to aid limiting static fishing gear per vessel spatially.

Devon and Severn IFCA (D&SIIFCA) currently have a permit scheme in place for mobile fishing gear at sea, commercial potting, commercial diving, commercial netting and estuarine mobile fishing\(^3\), as well as recreational permits for diving, potting and netting\(^4\). All of these permits, whether commercial or recreational are charged at a nominal fee of £20 for 24 months.\(^5\)

b. Local taxes

At the Local Authority level, the income to fund the IFCAs comes from Council Tax receipts. The public purse is not infinite and there are pressures between uses. Every pound spent on fisheries is one that is not going towards the justice system, transport, or any number of alternative uses or Local Authorities in North Devon who need to provide housing, schooling, medical and elderly care for their population (see budget breakdown\(^6\)), in an area which has numerous social issues to contend with e.g. 43.5% of children in Coham Bridge are growing up in poverty\(^7\), or Hartland & Bradworthy (both in Torridge which is the most deprived district in Devon)\(^8\).

Most IFCA funding continues to come from Defra and local authorities (Councils and Unitary Authorities). Defra allocated £3 million in ‘New Burdens Funding’ to IFCAs annually from 2011 to 2015 to defray additional costs incurred by the local authorities operating IFCA. This is paid to local authorities through the Department for Communities and Local Government’s (DCLG) Local Services Support Grant. This funding is not ring fenced.

Local Authorities could consider raising revenues through taxing landings in the NDMP area, or by raising council taxes throughout the districts to increase funds for fisheries management at the following levels: Torridge District Council, North Devon District Council, and Devon County Council.

c. Access fees and user charges

In Estonia, fishing fees have been in place since the 1990s, these are differentiated based on the purpose (commercial, recreational and special purpose fishing). Commercial rates are based on the first sale price of fish and recreational fees vary temporally. Revenues collected are earmarked and are transferred to the Environmental Investment Centre, who distributes the revenues as grants for specific projects. Funds are used for research, conservation and awareness raising.\(^9\) The Crown Estate area could charge for access to the fishing grounds, dive sites and use the revenues for management. This may be
perceived as an unfair penalty to those vessels who fish within the NDMP area. Recent research highlighted options for MPA funding for the NMDP.\textsuperscript{40}

d. Landings tax for NDMP ports

As described in the national section above a Landings Tax (either on landed value or profits – see also \textit{Annex 2}) could be initiated in NDMP ports. This would be more difficult than if it were implemented nationally, as vessels could land outside the NDMP area without paying the tax, thereby decreasing economic activity in those ports.

5. DEVON AND SEVERN IFCA EXPENDITURE – MANAGEMENT COSTS IN RELATION TO THE NDMP.

For Devon and Severn IFCA, the annual budget is £715,000 for 2019/20.\textsuperscript{41} The NDMP has areas both inside and outside the 6nM limit (IFCA and MMO responsibility respectively) but for the purposes of this briefing we only consider the costs relating to the D&SIFCA budget.

Table 1: D&SIFCA budget and LA funding source and contribution for 2019/20.\textsuperscript{42}

<table>
<thead>
<tr>
<th></th>
<th>2018/19 Base Budget</th>
<th>Base Budget Adjustments</th>
<th>Inflation</th>
<th>2019/20 Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Employees</strong></td>
<td>544,400</td>
<td>15,700</td>
<td>10,600</td>
<td>570,700</td>
</tr>
<tr>
<td><strong>Premises</strong></td>
<td>35,300</td>
<td>2,600</td>
<td>0</td>
<td>37,900</td>
</tr>
<tr>
<td><strong>Transport</strong></td>
<td>32,500</td>
<td>(2,300)</td>
<td>800</td>
<td>31,000</td>
</tr>
<tr>
<td><strong>Supplies &amp; Services</strong></td>
<td>101,100</td>
<td>2,900</td>
<td>1,400</td>
<td>105,400</td>
</tr>
<tr>
<td><strong>Boat Costs</strong></td>
<td>29,700</td>
<td>5,000</td>
<td>700</td>
<td>35,400</td>
</tr>
<tr>
<td><strong>Environmental Research</strong></td>
<td>13,800</td>
<td>3,000</td>
<td>0</td>
<td>16,800</td>
</tr>
<tr>
<td><strong>Support</strong></td>
<td>29,400</td>
<td>8,000</td>
<td>0</td>
<td>37,400</td>
</tr>
<tr>
<td><strong>Fees &amp; Charges</strong></td>
<td>(21,200)</td>
<td>(5,000)</td>
<td>0</td>
<td>(26,200)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>765,000</td>
<td>29,900</td>
<td>13,500</td>
<td>808,400</td>
</tr>
</tbody>
</table>

In terms of D&SIFCA work, all the work officers and members of the Authority undertake, relate to managing fisheries and the marine environment (and
the introduction of appropriate management through Permitting Byelaws), and applies to the whole district, so there are no costs available for the NDMP area only. All strategies and policies developed also relate to the whole district. The following points cover a range of the D&SIFCA activities which incur costs for the district overall but are related to specifics for the NDMP where possible:

- **Marine Protected Area (MPA) management** introduced is significant for the NDMP as 7 of the 17 MPAs the in the D&S IFCA district fall wholly or partly in the NDMP area. A further 6 MPAs have been designed in tranche 3\(^5\) as MCZs, and one of which, the Morte Platform\(^4\) is within the NDMP and D&SIFCA district. North West of Lundy\(^4\) is outside the D&SIFCA district. For these sites there have been numerous Habitats Regulations Assessments\(^6\) (HRAs) and Marine Conservation Zone (MCZ) assessments undertaken to determine what the likely impacts of fishing activities on the features of those sites is. In total to date, for the NDMP area, 20 European Marine Site (EMS) HRAs covering 398 habitat interactions and 14 Tranche 1 & Tranche 2 MCZ assessments covering 678 habitat and feature interactions, occurring within MPAs in the NDMP area (excluding Severn Estuary MPA), have been completed by D&S IFCA and received formal advice from Natural England. These are time consuming and expensive assessments required under both EU and UK legislation.

- **Research activities** by the IFCA extend beyond this and for aspects relevant to the NDMP area include: Potting and Netting Activity Survey (2008, 2009, 2014); Lobster tagging work 2009-2013; Mobile Gear Shark ByWatch data collection; Angling 2012 surveys and further surveys in the Severn; Whelk Size of sexual maturity and spawning season research; Fishing Activity Surveys for T2 MCZs; Habitat surveys with Cefas/EA/NE T2 MCZ and Lundy SAC/MCZ; Crab tile surveys Taw Torridge Estuary; annual mussel surveys Taw Torridge Estuary; Bass research – I Bass in the Taw Torridge Estuary and Start Realignment. All of these incur costs and the findings are used to inform management and improve the sustainability of the fishery.\(^47\)

- Furthermore, IFCA officers attend numerous regular **meetings and events**/presentations, for example: Lundy MPA Advisory and Management groups; North Devon Biosphere meetings; Coastwise; Whelk meetings and consultations; Netting consultation outreach events; Blue Marine Foundation meetings; IBASS meetings; Shark ByWatch meetings; ND Pioneer meetings and workshops; input into various Marine Licence consultations; SW Marine Planning meetings; Project UK SW Crab & Lobster Fishery Improvement Project (FIP) steering group meetings.

- In terms of **enforcement** visits to the NDMP area there were 13 in 2016; 3 in 2017; 9 in 2018 and 1 to date in 2019. These have been a mixture of RIB patrols; shore patrols; premises inspection; shore patrols combined with angling surveys,
and educational visits re: the Netting Permit byelaw\textsuperscript{48}. Again, these incur notable costs.

It can be estimated that 2,353km\textsuperscript{2} of the NDMP is within the D\&SIFCA district. This approximately equates to 52\% of D\&S IFCA sea area (see Figure 2 below).

Clearly, it is impossible to say that managing the D\&SIFCA part of the NNDMP is 52\% of the 2019-2020 budget (£715,000) but for the purposes of exemplifying the costs this would equate to £371,800. In reality, the south and north parts of the District have very different issues, fisheries, habitats, MPAs, levels of compliance and enforcement to manage the fisheries and enforce legislation (and the southern part of the district includes ports such as Plymouth, which are among the largest in England, whereas the NDMP ports are small in comparison), but even one tenth of the D\&SIFCA budget attributed to the NDMP would be £71,500 per year.

**Figure 2:** The D\&SIFCA district\textsuperscript{49}

As shown in Output 1 (‘FISHERIES BASELINE AND WHAT’S POSSIBLE FOR THE PIONEER’) of this series, in 2018, 788.5 tonnes were landed into NDMP ports, with a first sale value of £1.58 million. The £371,800 NDMP management estimate, while crude, would represent 23.5\% of the value of landings (£371,300). This is an important consideration regarding a landings tax, as described in the section below.

**NDMP budget:**

There are no specific NDMP funds (other than an initial year covered for one key member of staff to organise the project in the role of coordinator). This time has been used already in developing the project. The NDMP ‘budget’ involves contributions from
the Partners and a European Maritime and Fisheries Fund (EMFF) grant for a ‘marine natural capital plan’, which is for staff time, some stakeholder engagement and communications work (including fisheries engagement work). Further funds for additional work with the fisheries would need to be applied for. The NDMP are currently bidding to the EMFF for additional funds for the research and management plans, which has been submitted. WWF are looking at methods of sustainable finance for North Devon.\textsuperscript{50} It is hoped that this will help to provide the legacy of the NDMP through the North Devon Biosphere’s continued work in North Devon. The Pioneer location was chosen because of the UNESCO Biosphere Reserve (BR) and for anything going beyond the end of the Pioneer will be done through the BR partnership. The legacy of the Marine Pioneer will be realised by the North Devon Biosphere beyond the end of March 2020. Funding for the coordinator role is confirmed until March 2020, WWF UK SEAS have a further 4 years, SWEEP have about 3 years. Blue Marine Foundation have their own funds for suitable projects to cover their staff time. Budgets are available under the Biosphere Reserve but there is very little directly for marine, hence the work with WWF on sustainable financing.

6. COST RECOVERY OPTIONS FOR THE NDMP

Management, enforcement, research and engagement for the NDMP with regard to fisheries, come at a cost, which is currently being met, by Local authorities and Defra (note that for North Devon the funding for the IFCA comes from Devon County Council – not form any district council). Any additional fishery officer time would need to be funded by the project. Several different cost recovery mechanisms are available and an even greater number of design features are possible. The NDMP must work with the Local Authorities Regulators (MMO and D\&SIFCA) as well as fisheries stakeholders to determine the best way forward to implement a cost recovery programme at the NDMP level. All of the options presented below refer to the Local level options from section 4.

a. Permitting

D\&SIFCA could increase the charge for their permits\textsuperscript{51} and as mentioned earlier this will reviewed later in 2019. D\&SIFCA could also follow the lead of the EIFCA and Sussex IFCAs\textsuperscript{52} to reform their permitting system to enable cost recovery, rather than charging a nominal fee of £20, but this is more likely to be appropriate and operationable at the district, rather than NDMP, level.

A specific permit to fish within the NDMP could be issued and charged for. This could be done by charges per pot or fleet of nets, of the vessel power. This may decrease
fishing effort within the NDMP area, but would need to be applied to vessels from outside the NDMP ports as well (and also to Welsh and EU vessels fishing the NDMP outside the 6nM limit).

b. Local taxes

At the County Council and Local Authority level, increasing the level of Council Tax receipts to fund fisheries management is possible, although it might be politically difficult given the impacts of austerity on councils/wards and the demands they are under to provide other services.

c. Access fees and user charges

Charging for access to fish in the NDMP is possible and this approach is very common for Marine Protected Areas (MPAs) globally. It would also be easier to ensure that revenues collected are earmarked specifically to fund management in the NDMP area. A user charge to fish the NDMP area could be differentiated based on gear, vessel power etc in order to favour low impact fishing (see Output 2: WHO GETS TO FISH IN THE NDMP AREA: FISHING OPPORTUNITIES AND MANAGEMENT) for criteria which could be used to define low impact fishing.

Alternatively, a levy could be charged for individuals or organisations for a short term membership of the NDMP (although due to the time limited nature of the project this may not be feasible) or indeed the NDFA could increase membership and charges (currently not all vessels that fish the NDMP area members and would need to be incentivised to join), which could then be re-invested in specific local management determined by stakeholders. A levy charged to fishermen’s association members, could be pooled to use to (part) fund management meetings, data collection, consultation responses etc or part of the Seafish levy could be earmarked for local inshore management.

Landings tax for NDMP ports

Local Authorities or Relevant Authorities could consider raising revenues through taxing landings in the NDMP area, but again this may be politically difficult and incentivise fishers to land outside the NDMP ports (and it would certainly prevent vessels from outside the NDMP ports landing within the NDMP) thus decreasing income into those ports. The question here would also be which authority (local authority, MMO, D&SIFCA or the North Devon Biosphere) could actually enforce and collect those taxes, whether they could be ring-fenced for fisheries management and at what level they would need to be set given the estimate of costs for the area, versus the value of
landings (for instance a 23.5% landings tax to cover management costs would obviously be unpalatable to the industry locally and would probably discourage landings into NDMP ports especially given the Seafish levy is currently considerably lower⁵⁹). The manner in which a tax is applied (landings percentage or percentage of profits) would also need to be consulted upon and it is important to note that the tax income would vary greatly on an annual basis in line with fishing opportunities, the health of stocks, market prices and even the weather (as it impacts fishing activity).

7. Questions for the NDMP to consider:

Could revenues be earmarked for fisheries management?

Any cost recovery for local management would likely need to be collected at a local level to ensure it can be used for local management.

One issue of note is that currently the proceeds of crime (e.g. illegally caught and sold fish) and revenue from fines and fixed administrative penalties are returned to the Treasury (although the MMO and IFCA would have to bring the charges and spend the time in court and building the evidence case). A national discussion about how these proceeds could be returned into local management may be timely.

Fishing charges were earmarked and returned as grants in the Estonian case and this model could serve as a useful basis for the NDMP.

Should charges be differentiated by social, environmental and/or economic criteria?

When environmental externalities are brought into consideration that costs can be expected to vary much more between fishing types as some fishing types are more fuel intensive, less selective, and/or impact more with the marine ecosystem.

One proposal that has been put forth for UK fisheries management is for a differentiated landings tax based on whether the landings take place in the UK, thus generating economic activity (and tax revenues) in related industries, or whether landings are made abroad.⁶⁰ This could be expanded to the NDMP for all vessels in the NDMP area, or those that fishing within the NDMP boundary and could furthermore be graded based on whether the vessel or gear is considered to be low impact, thus contributing less to externalities and more to maintaining the natural capital base and local ecosystem.

Should charges progressively increase based on scale of operation?
Charges could increase with respect to vessel size or capacity. Despite management objectives in Icelandic fisheries giving a relatively small importance to social considerations, their fisheries tax has a progressive element (as it is not levied on the first 30 cod-equivalent tonnes and the next 70 tonnes are subject to half the standard rate). As cod-equivalent tonnes approximate a measure of income, this policy is closer to common usage of ‘progressive’ as relating to income. By taxing profits, Iceland’s resource rent charge is also economically progressive.\textsuperscript{57}

**Would IFCA management out to 12nM be more cost effective?**

Monitoring and compliance responsibilities could be delivered more cost effectively through an expanded IFCA regional management model, extending out to the 12nM boundary. The benefits include the removal of unnecessary duplication of responsibilities, more efficient deployment of resources, strengthening national enforcement capacity and ensuring a harmonisation of approaches for inshore and offshore areas. Overlapping enforcement duties with the MMO and Environment Agency could be incorporated into the IFCA model who could lead on management within the 12nM, delivering more cost-effective and efficient enforcement, whilst maintaining existing service levels and allowing the MMO to focus on licensing marine activities, marine spatial planning and managing the inshore quota pool.\textsuperscript{58}

**8. CONCLUSIONS**

Any demands for increased local management or stock assessments leading to increased fishing opportunities will need to be financed. From Local Authority to IFCA level it would be impossible to justify giving preferential treatment to stakeholders in the NMDP without contributions to the cost of that management. A local cost recovery programme should be consulted on, using the questions in section 7 to guide discussions, and learning from examples used elsewhere. It should be noted that nationally:

- Although uncommon in the EU, fisheries charges are used in Iceland, Australia, New Zealand and the US;
- Raising revenue is common practice in other resource industries and lessons can be learnt from the experience of aggregate extraction, as well as the Seafish levy;
- The fuel tax exemption for fishing vessels is one of the largest management costs nationally and is working in direct opposition to the strategic objectives for the environment and removing harmful fisheries subsidies;\textsuperscript{59}
- Cost recovery may not harm the economic performance of fisheries if effort is reduced in overexploited fisheries and, especially if management is improved, may even improve economic performance.

A cost recovery programme for local fisheries management could contribute to the financial and ecological sustainability of NDMP fisheries, all while ensuring that users
contribute their fair share to management costs. To meet these objectives the cost recovery programme should take the following design features into account:

- A landings tax is preferable to a quota auction due to the significant non-quota fisheries in the NDMP area. It should have a differentiated rate based on fishing type and based on their estimated contribution to environmental externalities. How fishing types are defined should be consulted upon within the NDMP group.

- Differentiating a charge based on fishing type could reflect existing environmental externalities (indirect management costs). This policy would likely be progressive with respect to scale (as smaller vessels tend to use lower-impact fishing gear) and would deliver social benefits from increased local landings (as low-impact fishing vessels tend to operate closer to NDMP fishing ports);

If implemented, these proposals would not only lead to a more sustainably financed fisheries management system in the NDMP area, but they would also lead to a more environmentally sustainable system and one which fishermen may feel they have direct buy-in as a result of contributing to management costs which may yield long-term returns to them in the form of improved stock assessments and the possibility of increasing fishing opportunities through improved stock health.
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ANNEX 2: FISHING INDUSTRY LEVIES

“The Icelandic model”

One of the longest running fisheries levies is the Icelandic resource tax, beginning in 2004. It was introduced, in part, to address concerns that the quota system in Iceland grants fishing rights in perpetuity and thus privatises a public resource. Through a resource tax, the public purse is able to derive an annual flow of benefits from fish stocks.

The Icelandic fishing levy is applied to fishing rights for the entire Icelandic fleet. The fee is calculated in a manner to account for both the amount of quota held by the fishing firm as well as its economic performance. First, a rate of 9.5% (increased from 6% in 2009) is applied to net fishing income (total landed value with fuel, wages and other operating costs deducted) for the previous tax year. This tax bill is then divided by the landings in cod-equivalent (a fixed value-based conversion factor to represent all species as cod) kilos to provide a fee per cod-equivalent landed for the current tax year. With this approach to taxation, the levy takes account of fluctuations in the profitability of the industry while also charging for the amount of fish landed to account for fluctuations in quota.

In 2012 an additional resource tax was introduced. This tax was targeted specifically at fishing industry profits in the context of the deep economic recession in Iceland and a resilient fishing industry. The tax was set at 50% but increased to its full rate of 65% in 5 percentage point increments. It is differentiated by pelagic and demersal species and there are exemptions for the first 30 cod-equivalent tonnes, which are tax free, and the next 70 tonnes, which are half the standard rate.

“The Alaskan model”

Alaska has a different approach to taxation, consisting of dozens of separate fees and taxes. The first set of taxes, the largest in revenue, are in response to specific economic practices in Alaskan fisheries: there is a Fishery Business Tax levied on exporters, a Fisheries Resource Landing Tax levied on resources processed outside their 3-mile limit and landed in Alaska. Many localities also charge a raw fish tax. There are also fees for cost recovery. Some of these are for specific purposes such as the Federal Observer Program and the Salmon Hatchery Cost Recovery. Finally, there are fees for industry self-assessment and promotion. The Seafood Marketing Assessment is levied at 0.5% of landed value in Alaska and three additional taxes (Salmon Enhancement Tax, Regional
Seafood Development Tax, Dive Fishery Management Assessment) are levied on specific fisheries and charged as small percentage of the price paid.  

ENDNOTES
In the OECD’s assessment of support for fisheries (their term for subsidies and other management costs), they consider both the damages of induced effort as well as the benefits to fishers’ incomes of different support measures. The OECD notes that for support measures, “governments should consider not only whether they are susceptible to provoking overcapacity and overfishing, but also their transfer efficiency and the scale of support required to achieve their objectives.”


11 Ibid.


16 Marine Data Exchange http://www.marinedataexchange.co.uk/aggregates-data.aspx


32 Sussex IFCA https://www.sussex-ifca.gov.uk/shellfish-permit

33 D&SIFCA https://www.devonandsevernifca.gov.uk/Apply-for-a-Permit/Commercial-permits

34 D&SIFCA https://www.devonandsevernifca.gov.uk/Apply-for-a-Permit/Recreational-permits

‘The Authority acknowledges that charging under the permit schemes does represent an opportunity to recover some of the costs associated with the fisheries and conservation management it undertakes. In 2014, the Mobile Fishing Permit Byelaw introduced, for the first time, the requirement for fishers using mobile gears to operate under a permit issued by the Authority and to pay a fee of £20. The permit would be valid for up to 24 months. Charging was seen at the time to be a particularly sensitive issue and the only costs that the permit fee was looking to offset at that time was the cost of administration associated with the issuing and monitoring of the permits. Without better costings available the decision was to place a nominal charge on the face of the Byelaw.

With the introduction of the Netting Permit Byelaw in 2018, the fourth permit based byelaw to be introduced, the Authority did consider reviewing the permit fees. It was decided that a full review of charges would take place when all six proposed activity based byelaws were in place. However, given the extended timeline for the last two such Byelaws the Authority may wish to consider the permit fees charged in relation to the Mobile Fishing Permit Byelaw when it is reviewed later this year. At this time, the Authority may wish to revisit the
notion that the permit fees should be used to offset more of the Authority’s expenditure in relation to the work it carries out in the mobile fishing sector.' D&SIFCA (pers. Comm.)

38 TORRIDGE WARD PROFILE. Hartland & Bradworthy 2018 https://www.torridge.gov.uk/CHttpHandle.rashx?id=18040&p=0
39 Illes. IEEP Hunting and fishing fees in Estonia. https://ieep.eu/uploads/articles/attachments/9668a5db-d5e4-49f1-9446-70e7a627778e/EE%20Hunting%20Fishing%20Fees%20final.pdf?v=63680923242
47 D&IFCA (pers. Comm.)
48 D&IFCA (pers. Comm.)
50 WWF UKSEAS https://ukseasproject.org.uk/sustainable-finance
51 D&IFCA https://www.devonandsevernifca.gov.uk/Apply-for-a-Permit/Commercial-permits
52 Sussex IFCA https://www.sussex-ifca.gov.uk/shellfish-permit
55 Seafish levy rates schedule https://www.seafish.org/media/Levy_rates_schedule_080219.pdf
57 NEF (2018) FISHERIES MANAGEMENT COSTS HOW THE EXPENSE OF SCOTTISH
FISHERIES MANAGEMENT CAN BE SUSTAINABLY FUNDED


60 OECD fisheries support estimates https://stats.oecd.org/Index.aspx?datasetcode=FISH_FSE


