

A scenic photograph of a coastal landscape at sunset. The sun is low on the horizon, casting a bright glow and long, shimmering reflections across the water. The sky is filled with wispy, white clouds. In the foreground, a dark, rocky outcrop juts into the water, with several birds perched on its edge. The background shows a range of low mountains under the twilight sky.

How the introduction of cameras can help us maintain an economically and environmentally resilient fishing industry in the UK

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Brave New World



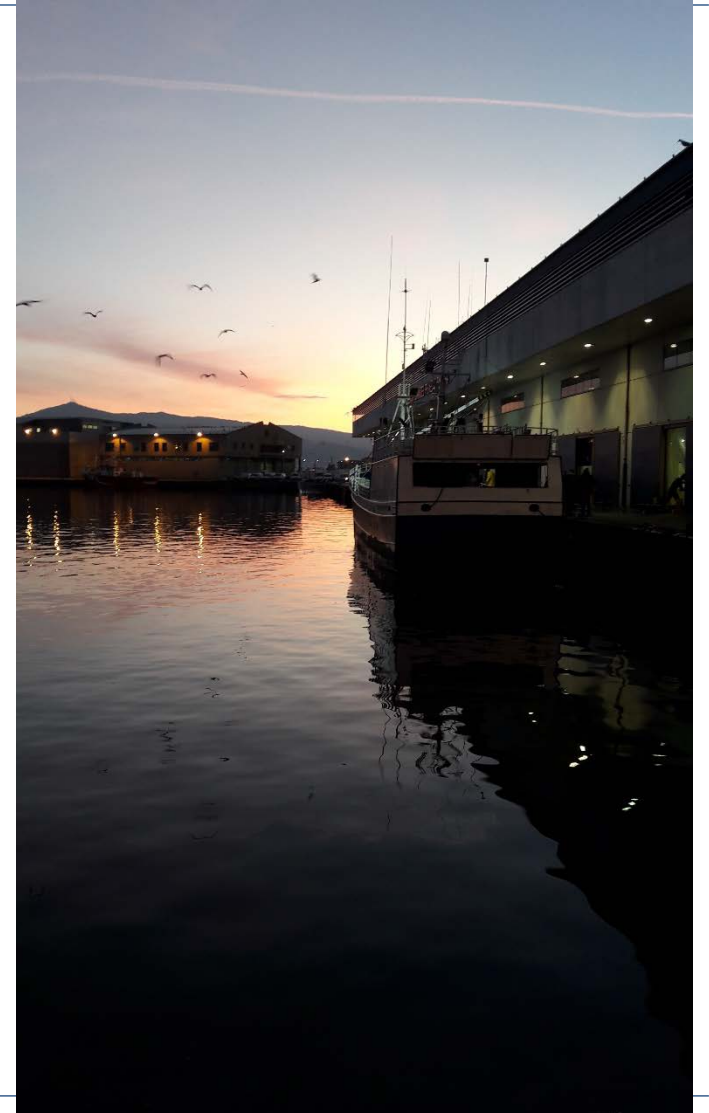
UK seafood needs to be able to make its name in the highly competitive international market

Need strong, credible brand values – high quality, sustainability

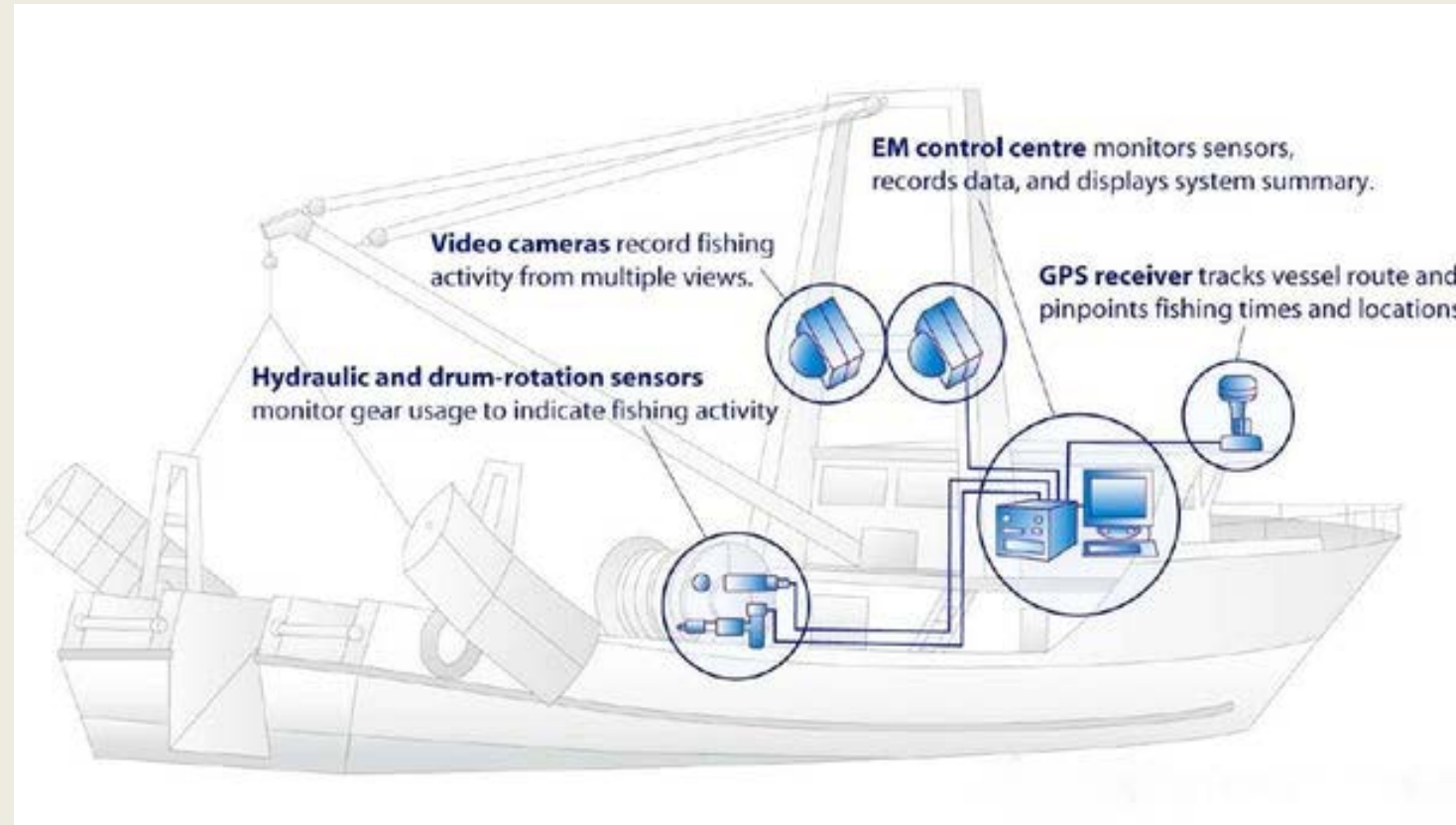
Need systems in place that will support these brand values

Key elements that will support sustainable harvesting include confident stock assessments, transparency, traceability and accountability.

Cameras have a role in supporting these in fully documented fisheries



Remote Electronic Monitoring (REM) system



Courtesy of Archipelago Marine Research Ltd

Benefits of REM



Some of the reasons cited by New Zealand government for their move towards REM:

Improvement of the **information base** to support fisheries management: improving data for setting sustainable catch limits

In the UK, there is potential for improved data, more reactive data management and larger data sets to feed into fisheries management, and the ability to use the technology to support evidence for industry anecdotal claims



“The cameras and REM systems gave us the chance to collect data and prove we were telling the truth but also help managers at the same time. We want a healthy well managed stock and that can only be achieved through good data collection at high enough levels”

“We wanted to show the scientists what was really going on and help them make well thought out management decisions”

David Stevens, Crystal Sea

Benefits of REM



Reduction of waste in commercial fisheries as cameras will encourage full catch reporting and eliminate discarding of unreported catch

More responsive decision-making: The availability of more comprehensive, timely and fine-scale information on fishery interactions with fish stocks and the environment will enable a risk based decision-making framework to deliver New Zealand's environmental goals



Other considerations



- i) **Health and Safety:** Where injury or engine/equipment failure occur cameras can assist with details to provide to insurance companies when seeking claims. Insurance companies could use this in return for reduced policy cover costs
- ii) **Consumer confidence:** Growing awareness that fish is a public resource that offers a sustainable source of protein – vital for global food security. Becoming more important to have social license to operate. This will be supported by increased transparency and ability to demonstrate that a fishery is being managed sustainably
- iii) **Levelling the playing field:** Introduce as condition of fishing in UK waters. This will level the playing field across all vessels and waters



ON DECK | DOCK TALK

Losing grounds: Self-report or report by force



By Ray Hilborn
Ray Hilborn is a fisheries professor at the University of Washington in Seattle.

Effective lobbying by anti-fishing NGOs leading to public concern about the environmental impacts of fishing, are leading to increasing restrictions on commercial fishing far beyond any regulation needed to assure the sustainability of the fishery. Commercial fishing as a livelihood and economic activity is under threat in much of the world.

No country illustrates this better than the United States, where

recreational fishing interests to have more and more of the country declared as No Commercial Fishing zones. Pressure from environmental NGOs caused the Australian government to pass a law specifically banning an individual large fishing vessel. A similar alliance in New Zealand is also being very effective at demanding more restrictions on fishing and the public relations by these groups has caused the New Zealand public to believe that marine fish are more threatened with extinction than the native terrestrial animals where roughly half have gone extinct.

In Europe, anti-fishing groups have great power in the European Parliament, successfully banning trawling in waters deeper than 800 meters, enacting a ban on bottom trawling in the

ning electrofishing with trawls, which largely eliminates bottom contact and reduces fuel use.

At the international level ENGOs are pushing for 30 percent of oceans to be declared no-take marine protected areas. The ENGO argument is that commercial fishing uses a public resource for their own profit largely without oversight and is riddled with illegal practices, such as fishing in closed areas, discarding protected species, and misreporting catch. Recent convictions of well-known fishermen for these crimes reinforces the public view of fishermen as pirates.

The commercial fishing industry is losing the battle over the social license to operate.

To maintain the social license to operate, I believe fishing industries worldwide need to step forward and accept levels of transparency in fishing activities that were unimaginable a decade ago. If fishery

Addressing some misconceptions



Cost effective: 2017 study found that when compared to 2015, costs have reduced by 22% from £4,694 to £3,785 per vessel per year due to advancements in technology and greater efficiencies of analyst staff time

To monitor 100% of fishing activity and provide 10% video review monitoring across the over-10-metre fleet across the UK would cost in the region of **£5.01 million**. This equates to roughly a quarter of the money spent on more traditional systems which deliver less than 1% at-sea coverage



Addressing some misconceptions



You don't need to look at all the data: Reviewing 10% of fishing activity data is common place. This can be increased or decreased dependent on perceived risk of operation or management objective. Under compliance objective only where this data identifies an irregularity would further data be reviewed from that vessel



There can be enough personnel to review data: Capacity to review could be delivered in part by reallocation of resources from quayside inspections which will be less vital

Invasion of privacy: Cameras are only operational during the time that the vessel is fishing and all cameras are in common areas where fish are being handled. Cameras are common in workplace and public places nowadays



Getting the management framework right



Remote Electronic Monitoring is not a silver bullet and needs to be established within the right management regime. Need to consider:

Setting clear objectives and timeframes - discard monitoring, endangered or alien species monitoring, additional data requirements, enforcement and compliance

Right level of governance – collaboration is vital with inclusion of key stakeholders – government agencies, industry, enforcement, and technicians, including reviewers



Conclusions



- **Supports sustainable management** - increased/improved data collection informing sustainable harvesting, incentivises improved selectivity, reduced waste, healthier stocks
- **Demonstrates sustainable practice** – consumer confidence, market access
- **Creates Level playing field** – across vessels and seas
- **Cost effective** – in delivering more data and supporting effective monitoring & control

Healthy and resilient stocks and ecosystem are key to supporting economically sustainable fisheries



Effective implementation of REM offers the UK the chance to improve fisheries management and lead the way in the adoption of progressive technology that delivers sustainability, accountability and confidence in the supply chain, as well as a level playing field across shared seas. Introducing it as standard practice makes environmental and economic sense and can help the UK market its seafood on strong brand values of quality and sustainability