



1. Requirement overview:

Requirements	Innovative and novel approaches to enforcement
Requirement detail	<p>Active enforcement of wildlife licensing through traditional enforcement methods requires significant resource. Exploration of innovative approaches to enact wildlife legislation for example, education or outcome focused compliance, would benefit the efficiency of marine management work. Such innovative approaches may also have application within other MMO functions where regulatory enforcement is required including licensing and fisheries</p> <p>It is important that any novel approaches proposed are practical to and cost-effective to implement. Therefore innovative and novel approaches should also consider appropriate feasibility testing or parallel work in other enforcement fields and any implementation considerations</p>
MMO use	<p>Marine Conservation and Marine Licensing:</p> <p>Reduce the need for, or improve the effectiveness of, approaches for compliance and associated enforcement in respect to respective remits in wildlife licencing and marine licensing respectively</p>
External interest	Natural England, Joint Nature Conservation Committee, Centre for Environment, Fisheries and Aquaculture Science
Delivery target	Ongoing

2. Aims and objectives

Aim:

To identify, test and implement innovative and novel approaches to enforcement

Objectives:

Objectives to deliver this requirement include to

- identify innovative and novel approaches to enforcement of marine licences
- test the feasibility of such approaches

- provide necessary support to guide implementation

3. Existing evidence

MMO	The MMO has not directly produced any evidence reports in this area. The MMO has been trialling Inshore Vessel Monitoring Systems and Automatic Identification Systems, technical solutions that inform on vessel based activity.
Academic	Read et al (2015) reviewed enforcement actions from 2007 to 2013 from five New South Wales Marine Parks including enforcement action rates, reoffending rates, local community offence rates and proportions of young offenders that represent general deterrence, specific deterrence levels of local support and education compliance strategies respectively. While there was some evidence of education leading to reduced young offenders there was no discernible improvement over time in other strategies highlighting the value of collecting and analysing information on enforcement activities. Lancaster et al (2017) used shore-based remote camera monitoring to quantifying recreational fisher non-compliance in Canadian near-shore protected areas for rockfish. Levels of fishing similar inside and outside protected areas in 79% of cases. This was comparable to estimates from over-flight data, suggesting that trail camera monitoring may be an accurate and affordable alternative method.
Other	VECTORS (European Union FP7 funded 2011 to 2015) was a large scale project examining the significant changes taking place in European seas, their causes, and the impacts they will have on society. Outputs included development of alternative risk assessment frameworks.

4. Current activity

Marine Ecosystems Research Programme (MERP - National Environment Research Council and Defra funded 2013 to 2018) will provide a more complete picture of how marine food web components, pressures and environmental variables are distributed in space and time. This aims to underpin advice to maintain marine ecosystems and improve understanding of the effects of natural and human change

5. Associated evidence requirements

Ref	Title
R045	Pressures of different fishing gears (adaptive risk management
R109	Novel technologies to reduce risk to marine protected areas

More information on these evidence requirements is available [here](#)

6. Potential delivery route

The MMO will undertake **Knowledge Exchange** encourage identification and tests potential novel but practical and implementable solutions to compliance and enforcement challenges. For example MMO and academics from Southampton University exploring the possibility of chemical tracers in animal tissue to address misreporting of fish catch locations. The MMO will also with other enforcement organisation including Maritime and coastguard Agency, Polices forces and others to identify successful initiative elsewhere that may be reapplied.

7. Contact

For more information or to add further research to the existing evidence list please email evidence@marinemanagement.org.uk

Table 1: Delivery timescales 2017 to 2020

Delivery Route	2017				2018				2019				2020			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Knowledge Exchange																

Key

	No activity
	Actively undertaking
	Outside of delivery target