Environment Agency

Evidence

www.environment-agency.gov.uk

Acoustic deterrents for otter management at stillwater fisheries: preliminary investigation

The recent recovery of the otter in the UK has led, in some areas, to conflict with inland freshwater fisheries. One suggested alternative to fencing (expensive and not always suitable) is the use of acoustic deterrents ('pingers') similar to those used to keep harbour porpoises and dolphins away from fishing nets. This report presents the results of preliminary investigations by a partnership project between the Environment Agency and the Wildlife Conservation Research Unit of the Department of Zoology, Oxford University, to assess the potential for pingers to be used as a management tool to reduce otter predation of fish in stillwater fisheries.

During the first phase of the project, five pingers deployed in a small carp pond in Oxfordshire for a fourweek field trial had no apparent effect on how often otters visited and it was therefore decided not to carry out repeat field trials.

There was some reduction in otter visitation rates during an opportunistic eight-week deployment of a Lofitech seal scarer at the same carp pond. However, the shortness of the trial and the lack of a comparable control site meant that it was not possible to attribute the decline to the seal scarer rather than seasonal/weather effects.

During the second phase of the project, a series of preliminary captive trials was carried out in an attempt to identify an underwater acoustic signal (sound) that might scare otters away from stillwater fisheries, or more specifically prevent them entering the water to hunt for fish.

Based on the limited existing knowledge on otter hearing range, a 'chirp' of between 10 and 25 kHz, with a cycle of 3-4 seconds, was identified as being the most appropriate sound for trials. Two trials using a pair of 'show' otters at the New Forest Wildlife Park tested a number of different acoustic signals (the chirp and three potentially 'threatening' novel sounds – one predator noise and two man-made noises).

In neither trial were the otters prevented from entering their pools. However, they were clearly interested in the sound when it was played at high intensity (second trial) and appeared to be agitated by the presence of the equipment when the cycle duration of the chirp was reduced to one second.

A third trial using 'off-show' otters in two separate pens tested the high intensity chirp at a one-second cycle duration. The off-show otters differed from the show otters in that they were nocturnally active and were not used to people. In this trial, otters entered their pools significantly fewer times and spent significantly less time per night in the water in the presence of the signal compared with baseline behaviour.

These preliminary investigations have provided the Environment Agency with some initial evidence that acoustic deterrents might be effective as a management device for controlling otters at stillwater fisheries. However, much more research in captivity and in the field is required before their use could be recommended.

This summary relates to information from the following project:

Title: Preliminary investigation: acoustic deterrents for otter management at stillwater fisheries

October 2013

Status: Publicly available
Project managers: Graeme Peirson, Evidence Directorate and Graham Scholey, Operations

Research Collaborator: Aquatec Group Ltd
Research Contractor: Wildlife Conservation Research Unit, Department of Zoology, Oxford University. Recanati-Kaplan Centre, Tubney House, Abingdon Road, Tubney, Oxfordshire OX13 5QL. Tel: 01865 611100

This project was funded by the Environment Agency's Evidence Directorate, which provides scientific knowledge, tools and techniques to enable us to protect and manage the environment as effectively as possible.

Further copies of this summary are available from our publications catalogue: http://publications.environment-agency.gov.uk or our National Customer Contact Centre:
T: 08708 506506
E: enquiries@environment-agency.gov.uk.