Location of whitefish (Coregonus lavaretus (L.)) spawning grounds using Eurasian otter (Lutra lutra L.) spraints and prey remains

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with 4 figures

Abstract: The assessment of spawning grounds is frequently an objective of conservation management, but their locations remain scantily described for many lacustrine fish species. This study explored the use of whitefish (Coregonus lavaretus (L.)) scales in Eurasian otter (Lutra lutra L.) spraints and the remains of otter-predated fish to locate whitefish spawning grounds at two lakes (Ullswater and Haweswater) in the English Lake District, U.K. At Ullswater, regular spraint collections were made at a known whitefish spawning ground from the spawning season in February 2010 through to the end of the subsequent spawning season in March 2011. The frequency of spraints was several times higher during the spawning seasons and whitefish scales were almost entirely restricted to spraints collected during these periods. At the same time, motion-triggered infra-red cameras recorded otters bringing fish ashore to eat. More extensive searches around the shore of Ullswater during the spawning seasons of 2010 and 2011 found whitefish remains and high numbers of spraints in numerous other places. At nearby Haweswater, a survey of the lake’s shore during the spawning season of 2010 found remains of otter-predated whitefish only at sites on the east shore, including an area adjacent to the only known whitefish spawning ground.

Keywords: Spawning ground location, spawning timing, assessment, conservation, infra-red camera, seasonal diet, feeding behaviour, social organisation, Haweswater, Ullswater.

Introduction

In an extensive review of the importance, threats, status and conservation challenges pertaining to global freshwater biodiversity, Dudgeon et al. (2006) made frequent reference to fish populations. Moreover, within such remarks they also made specific and repeated references to fish spawning grounds and their importance for fish life cycles and thus conservation efforts. However, what Dudgeon et al. (2006) did not discuss at length is the fact that the locations of such spawning grounds are often poorly known.

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