ABSTRACT

Control of *Lagarosiphon major* and Restoration of Indigenous Communities using a Biodegradable Geotextile to Exclude Light

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Lough Corrib is the second largest lake in Ireland, measuring 178 square kilometers. It is of major conservation importance and supports 14 habitats and six species that are listed on Annex I and Annex II, respectively, of the Habitats Directive. The lake is a nationally important wild brown trout and Atlantic salmon angling resource and a major tourist angling destination. In 2005 the presence of an aggressive invasive submerged plant species, *Lagarosiphon major*, was confirmed. This southern African plant had become established in a number of key angling bays on the western side of the upper lake and was expanding its range within the upper and middle lakes. In 2005 it was estimated that *circa* 1,670 tonnes wet weight of *Lagarosiphon major* was present in one single bay. This biomass had increased to 2,700 tonnes at this site in 2007. The rate of spread of the invasive weed within the upper and middle lakes was also dramatic and increased from 9 sites in 2005 to 113 sites in 2008. To date, no *Lagarosiphon* has been recorded in the lower lake and every effort is being made to halt the southerly spread of the plant into this large and shallow watercourse.

A variety of weed control methods have been tested in Lough Corrib in an effort to control the growth and spread of this highly invasive weed. One method that is currently proving to be both highly effective and environmentally safe is light exclusion through the use of a geotextile material. In 2008 initial trials using a biodegradable jute or hessian geotextile were undertaken in the middle lake. A methodology to effectively cover both large (> 500 sq metres) and relatively small (< 100 sq metres) areas of weed-infested lake bed was developed. Results from trials that were established at a range of *Lagarosiphon*-infested sites demonstrate that the target weed dies rapidly beneath the geotextile cover. An unexpected result to emerge was the fact that native macrophyte species, and particularly members of the charophyte community, became established at these trial sites following the demise of the invasive *Lagarosiphon.* This paper will describe the rate at which the *Lagarosiphon* dies and decays, the longevity of the biodegradable geotextile and the rate and course of recovery of the indigenous macrophytes community.