

## ABSTRACT

### **Management of the invasive *Lagarosiphon major* (Curly leaved waterweed) in Lough Corrib, Ireland**

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The highly invasive, submerged aquatic plant *Lagarosiphon major* (Curly leaved waterweed), native to southern Africa, was introduced to Ireland as an oxygenating plant for use in artificial watercourses. It was first recorded in the wild, in Lough Corrib, in 2005. Lough Corrib is the second largest lake in Ireland (178 km<sup>2</sup>) and is of major conservation and salmonid angling importance. Knowledge of the invasive capacity of this weed, and the environmental and economic havoc that it has caused over a period of 40 years in New Zealand, gave rise to serious concerns for the conservation status and overall functioning of Lough Corrib. The study undertook to assess the status of *Lagarosiphon* in Lough Corrib, the impact the weed is having on native biotic communities and methods that might be used to control or eradicate the weed.

*Lagarosiphon* was recorded from 64 sites in 2007, compared with 24 in 2006 and 9 in 2005. In Rinerroon Bay, where the founder population was recorded, *Lagarosiphon* expanded its range by 7.4 ha and its standing crop by 1,000 tonnes in two years.

In bays where *Lagarosiphon* had not yet colonised, indigenous plant (primarily charophyte) communities occupied extensive meadows. Where the weed was well established, however, practically no native species were present beneath the vegetation canopy. Significant differences in species composition and abundance among macroinvertebrates were also recorded within stands of native and invasive species. Results from a preliminary fish stock survey were inconclusive in respect of the impact that *Lagarosiphon* might have on the trout (*Salmo trutta*) stock status within the lake. However, it is clear that the habitat structure produced by the tall, canopy-forming vegetation will better suit cyprinid fishes, perch and pike than it will salmonid species, for which this lake is renowned. Further surveys will be conducted in 2008.

Pilot control trials on *Lagarosiphon* were conducted in 2007. Of the five methods tested, most success was achieved using a large V-blade trailed behind a boat. Divers estimated that 95% of the *Lagarosiphon* was removed from the test plot during this operation. The percentage bottom cover present some eight months after cutting was *circa* 8%. During further cutting trials conducted in September 2007, approximately 300 tonnes of *Lagarosiphon* were removed from a 4.7 ha section of bay. The efficacy of this treatment in terms of long-term weed control and the rate of recolonisation by indigenous species will be monitored in 2008.

