



Centre for Ecology & Hydrology

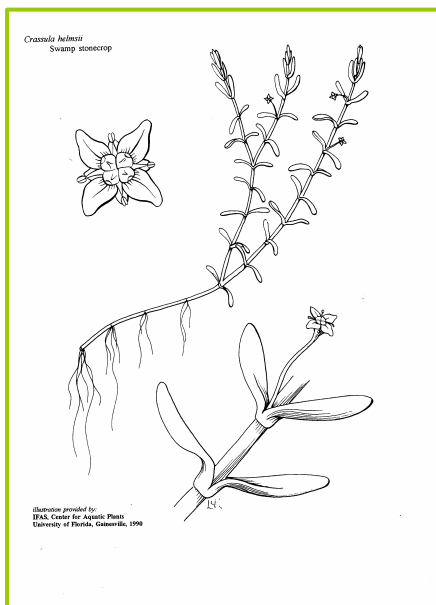
NATURAL ENVIRONMENT RESEARCH COUNCIL

Centre for Aquatic Plant Management

Information Sheet 11: Australian Swamp Stonecrop

Crassula helmsii was introduced to Britain in 1911 from Tasmania. It was first sold as an “oxygenating plant” in 1927 by Perry’s Hardy Plant Farm in Enfield. The first recorded natural occurrence was at Greensted Pond in

Essex in 1956. In recent years it has spread much more widely and rapidly due to the increased availability of the plant at Garden Centres and Aquatic Nurseries. It is sometimes mis-labelled as *Tillaea recurva* or *Tillaea helmsii*.



The plant will grow around the damp margins of ponds and in water up to 3m deep. It forms very dense stands. It first appears as a small light green tussock on the sediment. These tussocks grow and spread rapidly to form a dense mat of vegetation. The dense mat out-competes all other aquatic vegetation, eliminates native flora and creates a poorer ecosystem for invertebrates and fish. Severe oxygen depletion can occur below dense growths of this plant. The plant assimilates CO₂ for 20 hours of the day when submerged due to the possession of crassulacean acid metabolism and grows throughout the year. There is no dormant period.

Mechanical control

DO NOT PRACTICE MECHANICAL CONTROL ON THIS PLANT. The fragments that are produced by cutting and tearing can regrow and spread the infestation downstream or re-infest the treated area. Fragments as small as one node (5mm) can regrow. Mechanical removal of dead plant material which has been treated with herbicides is recommended to reduce oxygen depletion by decomposing plant material.

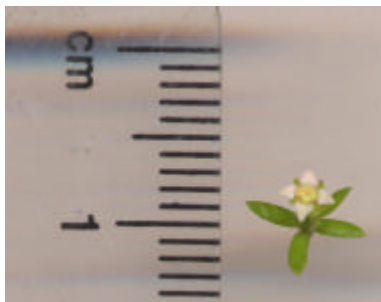
Chemical control

C. helmsii is only really susceptible to herbicide formulations containing diquat and glyphosate. Diquat has been withdrawn from aquatic use by the EU, but the products are the subject of appeals to reinstate their use on this species. In place of this on submerged material, use dichlobenil as Midstream GSR applied in February or March when the plant is still completely submerged.

We recommend that at least 70% of dense infestations \$ treated at one time to reduce re-colonisation from untreated areas. Treatment of the remaining 30% should be carried out after 1 week. The dead material should be removed two to three weeks after treatment if possible, but can remain in the lake if necessary.

Glyphosate can be applied to any emergent material, either on the bank or in the water, as long as it is dry. Only formulations of glyphosate which are specifically recommended for use in aquatic situations should be used. Re-treatment after an application of glyphosate is not usually necessary except to treat parts which were missed in the first application. Glyphosate should be applied from April to the end of November, when the majority of the plant is emergent.

Biological control



There are no known biological control agents for this plant in this country. It will be eaten by grass carp if the infestation is small and not well developed, but dense infestations cause severe fluctuations in dissolved oxygen content of the water and the fish do not usually survive.

Environmental control

C. helmsii is tolerant of shade for long periods. It is frost tolerant, desiccation tolerant and cannot easily be controlled by any method of environmental control. Covering with black plastic or carpet can effectively eliminate small patches, but the shade material should remain in place for at least 8 weeks, and preferably for 6 months.

Best option

Submerged: Treat with dichlobenil as Midstream GSR in February.

Emergent: Material on the banks or emerging from the water should be treated with a formulation of glyphosate approved for use in aquatic situations. Re-treatment is not normally necessary.