

The impact of *Crassul memsii* on a small water body of conservation importance

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Over Water





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Background

- Site of Special Scientific Interest (SSSI)
- Crassula helmsii first recorded 2010 (NE)
- Previous macrophyte survey (CEH, 2009`
- Partnership working SCRT/ CFINNS / '



Objectives

- 1. Coverage and distribution of *Crassula*
- 2. Impact of *Crassula* on macrophytes
- 3. Determine presence/absence of *llyocryptus acutifrons*

Crassula helmsii

- Non-native invasive species (NNIS)
- Australian swamp-stonecrop or New Zealand pygmyweed
- Potential impacts:
 - Loss of biodiversity
 - Loss of aesthetic value
 - Economic impacts
 - Oxygen depletion
 - Reduction of breeding success of some species
 - Extremely expensive and difficult to control and eradicate





Methods 1: Crassula helmsii survey

- Boat, wader and perimeter survey
- Coverage mapping (CSM):
 - 0: null coverage; 0%
 - 1: Low; <25%
 - 2: Medium; 25-75%
 - 3: High; >75%





Methods 2: Macrophytes survey



CSM method (incl. Lake Habitat Survey)









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Methods 3: Ilyocryptus acutifrons









Results 1 -Crassula helmsii survey





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- The largest proportion of *Crassula* patches were classed as low coverage (<25 %)
- East Zone was the most densely colonised
- In-situ observations:
 - Fragmented and flowering *Crassula*
 - Wind direction;
 substrate; flow
 direction



Results 1 – *Crassula helmsii* survey

- The largest proportion of *Crassula* patches were classed as low coverage (<25 %)
- East sector was the most densely colonised
- In-situ observations:
 - Fragmented and flowering *Crassula*
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 substrate; flow
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Results 2 - Macrophytes

- Comparable to previous survey (2009) except *Elatine hexandra* & *Potamogeton gramineus* (+ *Isoetes lacustris*)
- Other NNIS: Lysichiton americanus & Elodea nuttallii
- Potential impacts of Crassula on native species





Results 3 – Ilyocryptus acutifrons







Conclusions

- Over Water has been extensively colonised by *Crassula* (east shore)
- 2. Possible competitive impacts, particularly on small native marginal and littoral flora
- *3. Ilyocryptus acutifrons* found for the first time since 1955 (Smyly, 1958)







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South Cumbria Rivers Trust









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