

## Back from the Brink – Species summary

### Little Whirlpool Ramshorn Snail

**BftB project:** SP08 Little Whirlpool Ramshorn Snail

**Project lead organisation:** RSPB

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<b>Species name – common &amp; scientific</b>	Little Whirlpool Ramshorn Snail, <i>Anisus vorticulus</i>
<b>Photograph</b>	 <p>© Alex Hyde / Back from the Brink</p>
<b>Taxon group</b>	Mollusca
<b>Conservation status</b>	Nationally Rare and IUCN Vulnerable
<b>UK distribution</b>	Restricted to three main population centres: the Arun Valley in West Sussex, the Norfolk Broads and the Pevensey Levels in East Sussex. Occupies eight 10km squares (Article 17 report 2013-18)
<b>Habitat associations</b>	Generally considered to occur in unpolluted, calcareous waters in marsh drains with a dense aquatic flora, and to favour ditches with a diverse flora but little emergent vegetation.
<b>BftB work carried out:</b>	
<b>Survey &amp; Monitoring</b>	<p>The ditch management trial at RSPB Pulborough Brooks reserve was monitored by an experience surveyor through pond netting in autumn 2018, 2019 and 2020. The new habitat created in 2017 and 2018 was surveyed in 2019 and 2020. Ditches electro-fished to remove carp were surveyed in 2019.</p> <p>The condition of new habitat created has been recorded through drone monitoring and photographic records as well as surveys for the snail.</p>

	<p>Water quality was monitored at 10 sample points across Pulborough Brooks by two volunteers from October 2019 to June 2021.</p> <p>A quality assurance survey was carried out in autumn 2020 by an independent conchologist.</p>
<b>Sites habitat management works</b>	<p>The project has created an additional 542m of new habitat, comprising ten ditch spurs each 30-45m long and a new ditch connecting two occupied ditches, of 115m length. This new habitat can be managed specifically for Little Whirlpool Ramshorn Snail.</p> <p>Three years is not long for habitat development and some of the spurs have relatively little aquatic vegetation, especially in South Brooks which is prone to drying up, being largely rainfall dependent for water. However, the spurs and new ditch that are connected to occupied ditches in the North Brooks have been rapidly colonised with good numbers (several hundred per sample) in some locations.</p> <p>Ditch trials covering a total length of 2374m were established to test four methods of management; stagger-cleared, half-width, ends uncleared and central channel clearance.</p> <p>Electrofishing was undertaken on 1400m of ditch to the immediate south of the occupied ditches in 2017 and 1300 carp were removed, in an attempt to reduce turbidity.</p>
<b>Conservation 'interventions' incl. reintroductions &amp; translocations</b>	<p>Translocation was investigated but considered not feasible due to concerns over habitat quality, lack of flow and poor water quality. Five potential receptor ditches in South Brooks were identified in 2017. All had good aquatic macrophyte vegetation with Frogbit, <i>Hydrocharis morsus-ranae</i> and Sharp-leaved Pondweed, <i>Potamogeton acutifolius</i> indicative of good conditions. However, the South Brooks are prone to drying out and when surveyed in 2018 it was apparent that the habitat was unsuitable with a depauperate mollusc fauna, comprising species typical of slow-flowing, muddy water (eg Bladder Snail, <i>Physa acuta</i>; Marginated Ramshorn Snail, <i>Planorbis planorbis</i>; <i>Radix balthica</i> and <i>Fenissia walteri</i>.)</p>
<b>Technical advice provision</b>	<p>Results were shared at an end of project workshop with notes posted on Sharepoint. 60 volunteers and trainee interns learnt how to sample and identify the snail, sample the ditches and measure water quality, and assist in drone monitoring.</p>
<b>Links made with other taxa / conservation work?</b>	<p>Aquatic and riparian plants were recorded in the 2018 survey and records of rare species such as <i>Potamogeton acutifolius</i> have been passed on to the IUCN Species recorder . There have been ad hoc records of other taxa using the new habitat, such as water vole and even white-tailed eagle! The project findings have been shared with local NE staff who are organising aquatic invertebrate and plant surveys as part of site condition assessments for Arun Valley.</p>
<b>Wider engagement &amp; advocacy activities?</b>	<p>Two Wetland Discovery Days were held at Pulborough Brooks for members of the public to learn about the project. A Wetland Trail was established across an accessible section of the brooks to bring people closer to the wetland wildlife and become emersed in the historic grazing marsh landscape. A wider audience was reached through an art event. Visiting practitioners from NE, Buglife, and Sussex Wildlife Trust, amongst others, have been shown the project and the ditch management trial. Talks were given to local community groups such as the South Downs Society. The project features in magazine articles, an international IUCN publication, a popular book and the snail will be the subject of a forthcoming BBC Radio 4 play.</p>

<b>BftB results obtained:</b>	
<b>Recorded Distribution</b> (in BftB focal areas)	The total occupied ditch length at Pulborough Brooks increased from 2317m in 2018 to 2522m in 2020 but the species remains confined to the northern part of the reserve.
<b>Recorded Abundance of species populations</b>	Numbers of Little Whirlpool Ramshorn Snail in 144 samples increased over the survey period 2018-20. The number of occupied ditches has increased since the baseline survey of 2013/14 and when the occupancy rates were compared between 2020 and 2013/14, a higher proportion were in the highest category [75% (15/20) compared with 47% (8/17)].
<b>Other results documented?</b>	Water quality sampling, distribution of snails comparing cleared and uncleared sections of ditch. Size analysis of samples of snails from cleared and uncleared sections of ditch. Independent identification of a sample of snails by 3 experts and a quality assurance survey.
<b>Species Recovery Curve progress made</b>	From Step 5 'The causes of rarity and/or drivers of decline should have been identified and the remedial action required to bring about recovery should have been identified and articulated', to Step 6 'potential recovery solutions have been trialled'. We have trialled recovery solutions at Pulborough Brooks and improved the understanding of the distribution of the snail within occupied ditches. We have trialled different methods of ditch management and the created additional habitat in the form of ditch spurs and a new interconnecting ditch. Trials have highlighted issues of water supply and water quality which are being addressed through legacy projects. Findings have been shared with other organisations and landowners managing for the snail.
<b>Other measures of species recovery progress? e.g. FCS</b>	A paper summarising Natural England's view on the contribution England needs to make to achieve Favourable Conservation Status (FCS) for Little Whirlpool Ramshorn Snail <i>Anisus vorticulus</i> is being drafted by David Heaver, NE's Senior Invertebrate Specialist.
<b>Recommendations for future work:-</b>	<ul style="list-style-type: none"> <li>• To get to Step 7 at Pulborough Brooks requires further improvements in the ability to manage water to ensure adequate flow and enhance water quality throughout the year. Such hydrological enhancements should improve the resilience of the Little Whirlpool Ramshorn Snail population.</li> <li>• Site condition assessments of the SAC should include water quality monitoring, aquatic plant and invertebrate surveys</li> <li>• Undertake a critical review of evidence, to understand factors governing the presence/absence/disappearance of the snail across its historic range.</li> <li>• Establish similar trials of ditch management at the two other key sites: the Broads and Pevensey Levels.</li> </ul>