

# Lower Itchen Drought Order Mitigation Package

Draft 20 March 2018

This document has been prepared following consultation with the Environment Agency, Natural England and the Hampshire & Isle of Wight Wildlife Trust. The Agency, Natural England the Trust have worked very hard to develop these packages of monitoring, mitigation and compensation in a very compressed time frame.

The contents are broadly agreed but, due to time constraints, are subject to further work. Specifically:

- The costs and budget arrangements which underpin this package are to be agreed.
- The scope of the monitoring packages remains incomplete with regards to the need for monitoring of the mitigation and compensation works.

The Agency and Southern Water are committed to working together and with Natural England and others to refine these documents and complete the missing information in the near future.

In the meantime, these draft documents are shared on a without prejudice basis. The observations and advice of interested parties will be a valuable contribution to that process.

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## Introduction

This document sets out the package of measures to mitigate for the possible environmental impacts on the River Itchen as a result of Southern Water Service's ("SWS") abstraction from the River Itchen below the hands off flow ("HoF") of 198 MI/d (when measured at Allbrook & Highbridge) pursuant to a Drought Order ("the Lower Itchen Drought Order").

This document has been prepared by SWS in respect of the matter before the Planning Inspectorate (ref. RSA/WR/00016/17/18) as part of a settlement agreement with the Environment Agency ("the Agency") ("the Settlement Agreement"). This package of measures has been agreed between SWS and the Environment Agency.

This mitigation package will be incorporated into SWS's Drought Plan Environmental Monitoring Plan.

## Content of this paper

The purpose of this document is to set out a package of mitigation measures in relation to the possible impact of abstraction pursuant to a Lower Itchen Drought Order. This mitigation package has been developed by SWS with advice from Natural England and the Agency.

In accordance with proposals from the Agency and Natural England, in consultation with the Hampshire & Isle of Wight Wildlife Trust, all mitigations measures will be funded by SWS but delivered by the following organisations:

- The Environment Agency
- The Winterbournes and Watercress Heritage Lottery Fund Project, led by Hampshire & Isle of Wight Wildlife Trust and Wessex Chalkstreams and Rivers Trust (subject to formal agreement)
- The Test and Itchen Catchment Partnership, led by Hampshire & Isle of Wight Wildlife Trust and Wessex Chalkstreams and Rivers Trust (subject to formal agreement)

Involving a range of organisations in the delivery of mitigation measures increases the chances of achieving the stated objectives, as those bodies can deliver work in ways and locations that the SWS, the Agency and Natural England cannot and optimises budget and resource efficiencies and economies of scale.

The programme of measures will be funded by SWS whether or not a Lower Itchen Drought Order is applied for. SWS has agreed to this on the basis that in-river and catchment restoration measures provided are most effective to mitigate against the potential impacts of an Itchen Drought Order. The funding and the majority of the works will be delivered by the end of 2024 at the latest.

The Agency agrees that:

[Principles under discussion]

# Summary of proposed measures

The aim of the proposed programme of river restoration measures is to:

- improve habitat conditions and increase resilience of the River Itchen chalkstream community and associated wetland habitat to support ecology during and between low flow events compounded by the use of a Lower Itchen Drought Order;
- and to reduce the risk of Water Framework Directive deterioration caused by abstraction in droughts.
- Reduce the risk of serious harm to the non SAC SSSI features

The package consists of:

- A package of in-river restoration and mitigation measures for the Itchen, including a programme of measures aimed at increasing the resilience of the Itchen valley Southern Damselfly population.
- Catchment wide work, aimed at addressing wider catchment pressures so as to increase resilience to synergistic and compounding effects. The programme of river restoration measures selected for implementation will be informed by reference to the Agency's report "Restoration measures to improve river habitats during low flows" (2016).

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# In-River Mitigation Measures for the River Itchen

**Mitigation Measure 1:** River restoration to improve chalk stream habitat in the River Itchen downstream of Winchester

**Description:** River restoration will be carried out on the River Itchen downstream of Winchester, in River Itchen SSSI units 107 and 108, to improve the resilience of the River Itchen chalk stream community to low flow conditions.

River restoration opportunities, to mitigate the potential effects of the Lower Itchen Drought Order have been identified through discussion between SWS, the Agency, Natural England and Hampshire & Isle of Wight Wildlife Trust and by reference to the Test and Itchen Restoration Strategy. The measures identified will contribute to the condition and resilience of classic chalk stream communities in the River Itchen SSSI units during low flow conditions.

Measures for reaches within these units have been identified in the Test and Itchen Restoration Strategy. The programme of river restoration measures selected for implementation will be informed by reference to the Agency's report "Restoration measures to improve river habitats during low flows" (2016) and could include:

- Restoration of channel continuity by weir removal or lowering
- Modify sluice / hatch control (this should focus on specific problematic fish passage locations, including Bishopstoke Lock)
- Rehabilitation of the riparian zone through:
  - improved vegetation management by reducing the mowing/cutting regime
  - riparian planting or shade reduction as appropriate
  - fencing to reduce access for humans/dogs/livestock
  - management of grazing pressure
- Rehabilitation of the channel by:
  - re-profiling the banks to enable berm features to develop
  - bed level raising (where it has been artificially lowered)
  - de-silting
  - channel narrowing (where it has been artificially raised) by in-channel measures or planting
  - reduce agricultural sediment inputs
  - introduction of gravels

Potential location specific opportunities include sites identified as part of the Silver Meadows HLF bid in the Itchen Valley Country Park.

**Objective:** To deliver an appropriate level of mitigation within the River Itchen SAC and SSSI to enhance the condition and resilience of the chalk stream communities to extreme low river flows.

**Expected results:** River restoration activities will improve the physical habitat and natural processes within those reaches of the River Itchen, which will improve the conditions and resilience of the chalk stream communities.

**Timing and duration:** The majority of the work to be completed by the end of 2024.

**SWS will fund:** SWS will fund a range of river restoration measures within River Itchen SSSI units 107 and 108, to improve the resilience of the River Itchen chalk stream community to low flow conditions. The level of funding appropriate to provide mitigation for the Lower Itchen Drought Order has been agreed with the Agency. The Agency is responsible for identifying and delivering the appropriate measures once funding has been provided by SWS.

**Mitigation Measure 2:** Increasing the resilience of the Itchen valley Southern Damselfly population

**Description:** The River Itchen valley is a stronghold for the Southern Damselfly. There are three key sites and a number of lesser sites that support the species alongside the Itchen, and the main stem of the Itchen also supports the species.

Key habitat features indicating favourable conditions for the species include:

- A constant (perennial) slow to moderate flow of water;
- Channel substrate consisting primarily of silt and detritus;
- Presence of a broad fringe of herbaceous emergent dicotyledon plants along margins, especially water-cress *Rorippa nasturtium-aquaticum* and fool's water-cress *Apium nodiflorum*;
- Presence of some areas of open water (i.e. ditch not completely choked by vegetation);
- Largely (but not necessarily completely) unshaded by bankside shrubs and trees.

Habitat factors that limit the distribution of southern damselfly on sites primarily comprise:

- Development, or presence, of too much scrub;
- Too little water, too little flow, flow not perennial;
- Management of adjacent meadows inappropriate;
- Lack of natural functioning interconnected wetlands to allow for easy dispersal.

The resilience of the population in the Itchen valley will be enhanced by implementing habitat improvement measures on extant or adjacent sites. Subject to the site selected, measures to be implemented will comprise some of the following:

- Secure favourable management of appropriate control structures (including contribution to maintenance / repair in the lead-up to drought) that feed the three important key sites for southern damselfly in the Itchen Valley (i.e. Itchen Valley Country Park, Allington Manor, Highbridge, Marnier's Meadows).
- Secure improved management of sites adjacent to the key sites.
- Create new habitat adjacent to extant sites, which is expected to require ditch habitat creation or restored wetland functioning if possible, including excavation,

changes to management of existing ditches to create optimal ditch habitat, and changes to meadow management to optimal marginal habitat.

- Re-visit all new potential sites after three years and, if natural colonisation has not occur, develop and implement a translocation project.

**Objective:** To enhance the resilience of the Itchen valley Southern Damselfly population.

**Expected results:** Delivery of habitat enhancements that lead to an increase in the resilience of the Southern Damselfly population in the lower Itchen valley. It should be noted that mitigation work for the in channel chalk stream habitat in River Itchen SSSI units 107 and 108 is also likely to benefit the Southern Damselfly population present in the main channel of the River Itchen.

**Timing and duration:** The majority of the works to be completed by the end of 2024.

**Funding and delivery:** SWS will fund the Hampshire & Isle of Wight Wildlife Trust to scope and deliver mitigation measures at, or in sites adjacent to, existing Southern Damselfly populations in the Itchen valley. The level of funding appropriate to provide mitigation for the Lower Itchen Drought Order has been agreed with the Agency. The Hampshire & Isle of Wight Wildlife Trust (subject to formal agreement) will be responsible for identifying and delivering the appropriate measures once funding has been provided by SWS.

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# Catchment Mitigation Measures for the River Itchen

**Mitigation Measure 3:** Support to the Test & Itchen Catchment Partnership

**Objective:** Identify and address additional issues/pressures that are preventing the achievement of favourable SSSI/SAC condition on the River Itchen.

**Description:** This measure allows the Test & Itchen Catchment Partnership to identify and undertake works to address additional issues or pressures not already addressed through other in-river mitigation measures. The Test & Itchen Catchment Partnership would be responsible for agreeing where the funds are best directed and who would implement the agreed works. [The programme of river restoration measures selected for implementation will be informed by reference to the Agency's report "Restoration measures to improve river habitats during low flows" \(2016\).](#)

**Expected results:** Specific works identified and implemented that improve resilience to pressures that are preventing achievement of favourable condition of the River Itchen SSSI/SAC.

**Timing and duration:** The majority of the work to be completed by the end of 2024.

**Funding and delivery:** SWS will significantly increase the level of its support to the Test & Itchen Catchment Partnership to further enhance the scale of works aimed at addressing the issues /pressures that are preventing achievement of favourable SSSI/SAC condition on the River Itchen. The level of funding appropriate to provide mitigation for the Itchen Drought Order has been agreed with the Agency. The Test & Itchen Catchment Partnership (subject to formal agreement) will be responsible for delivery of this measure once funding has been provided by SWS.