

# Future predictions of water scarcity in Scotland: impacts to distilleries and agricultural abstractors

## Section 1: Project Overview

### Introduction

The Centre of Expertise for Waters (CREW) intends to commission a **capacity building project** within CREW's **Hydrological Extremes, Coasts and Risk Management theme** aligned to [Scotland's Climate Change Plan 2018-2032](#) and [Scotland's vision](#) to become a global leader in sustainable and regenerative agriculture and food production.

### Background & knowledge gap

In Scotland, there is a high likelihood of an increase in the frequency and length of extreme drought events in the near future. To support abstractors in Scotland to make good investment decisions in efficient water management to adapt to water scarcity (such as irrigation equipment, storage lagoons and nature-based solutions), it is essential there is easily accessible information in a format aimed at different abstractors on the implications of water scarcity projections on their businesses. This aligns with [Scotland's Climate Change Plan 2018-2032](#) to explore options for climate adaptation to facilitate a sustainable future for agriculture and [Scotland's long-term vision](#) to transform how farming and food production is supported in Scotland to become a global leader in sustainable and regenerative agriculture and food and drink production.

### Aim and key objectives

The aim of this project is to **provide summaries** of the future predictions of water scarcity in Scotland and the impacts this may have, **tailored to three groups of abstractors**: crop producers, livestock producers and distilleries.

The **key questions** to be addressed are:

1. How will water scarcity in Scotland impact the availability of surface waters and ground waters for abstraction?
2. Considering question 1, how will this impact crop producers, livestock producers and distilleries in Scotland in the short (<5 years) and long term (>5 years)?<sup>1</sup>

Through the review of current evidence<sup>2</sup> and small focus groups with the three abstractor groups (crop producers, livestock producers and distilleries), the project will develop a tailored summary for each abstractor group. The project will also include a main report and policy brief to assist SEPA and others in the provision of advice and support to abstractors on resilience measures for water scarcity.

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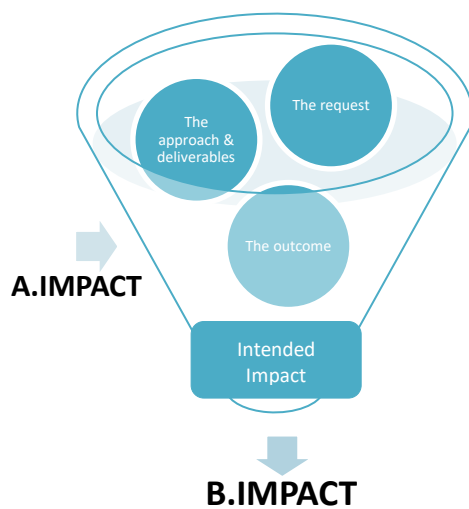
<sup>1</sup> To consider socio-economic impact and how the frequency of water scarcity could impact practices (e.g., will the need to irrigate or abstract water increase).

<sup>2</sup> It is anticipated that this project will liaise with the research teams for: (i) the [CRW2022\\_07 Climate Crisis: informing Scotland's actionable mitigation and adaptation response to water scarcity project](#), and (2) [WP1: Understanding the vulnerabilities of Scotland's water resources to drought of the 2022-27 Emerging Water Futures - Scottish Government Strategic Research Program project](#), to share current evidence and literature and ensure complementarity of the projects.

## Intended impact

There are multiple pathways for a project to achieve impact, and multiple factors that can impact the project's ability to achieve what it intends to do; both along the project lifecycle (A.IMPACT) and beyond project completion (B.IMPACT) (Figure 1).

This project will support the provision of information for abstractors to help inform their future business investment decisions to adapt to future water scarcity events. This will help increase abstractors resilience and sustainability and reduce abstractions at times of very low flows which minimises the impacts to fish and aquatic ecosystems.



- **The request:** the problem/ gap that has been identified that drives the project.
- **The approach & deliverables:** the 'methods' that explain how the request is being answered and the 'outputs' that are tangible products delivered by the project.
- **The outcome:** this is directly correlated to the findings; this is short to mid-term change because of the research.
- **Intended impact:** Explicitly what this project intends to achieve to address, which is connected to the request.
- **Along impact:** the conditions and causal factors that can influence the project during its life cycle.
- **Beyond impact:** more significant wider change that occurs at a longer timescale following the project's completion.

*Figure 1: Pathways to impact*

These stakeholders are anticipated to be a key influence on this project:

- SEPA
- Farm Advisory Service (FAS)
- Farming and Water Scotland
- Scottish Government
- NatureScot
- Scottish Canals
- WICS
- NFUS
- Distillers

## Deliverables

- Communications and impact plan – *supported by CREW at the start and throughout the project*
- Tailored dissemination materials<sup>3</sup> (e.g., leaflets, infographics, short videos<sup>4</sup>, stickers) for each abstractor group (crop producers, livestock producers and distilleries). This would include:
  - Consultation, through focus groups, with key stakeholders within each distillery and agricultural<sup>5</sup> abstractor group to identify the key information and the format of materials most appropriate and useful for each abstractor group to increase impact.
- A short final report of 10-15 pages, excluding annexes and the bibliography, and including:
  - A brief review of current evidence and literature of water scarcity predications in Scotland and the impact on the availability of surface waters and ground waters for abstraction
  - An evaluation of how water scarcity will impact crop producers, livestock producers and distilleries in Scotland in the short (<5 years) and long term (>5 years)<sup>6</sup>
  - A concise set of recommendations
  - Cover image(s) with associated photo credits
- Policy brief (max 3-4 pages, excluding annexes and the bibliography)
- A plain English summary of aims and results (up to 1 page)
- Website summary (200 words)

## Workshops/events/meetings

- Stakeholder focus groups with each abstractor group (crop producers, livestock producers and distilleries)
- A in-person dissemination event with all key stakeholders
- 2 Project Steering Group meetings (including 1 held in-person)<sup>7</sup>

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<sup>3</sup> To be agreed by the project steering group prior to production

<sup>4</sup> Video production can be subcontracted if required.

<sup>5</sup> To include Farm Advisory Service (FAS), Farming and Water Scotland among other stakeholders

<sup>6</sup> To consider socio-economic impact and how the frequency of water scarcity could impact practices (e.g., will the need to irrigate or abstract water increase).

<sup>7</sup> Please note, CREW requests a brief written update c. two weeks prior to project steering group meetings.

## **Section 2: Further information for applicants**

### **Project management**

Day-to-day communication will be between the research/review team (the contractor) and a CREW Project Manager and is likely to involve short catchups as agreed.

### **Project steering group**

A small group including representatives of Scottish Government and its delivery partners plus a CREW representative will form part of the Project Steering Group. If needed the project steering group will meet with the preferred bidder for a pre-contract meeting and provide feedback on the bidder's proposed approach.

### **Anticipated timescale**

A pre-contract start-up meeting will be held **mid-October 2023**. The project will commence **mid-November 2023**. All project outputs should be signed off by the CREW Director by end of **April 2024**.

### **Funding**

The maximum amount of funding available exclusive of VAT (where applicable) is **£100,000**

This **includes** an associated costs (excluding sub-contractor) budget of: **£7,000**

- Travel and subsistence
- 2 Project Steering Group Meetings (1 held in-person)
- At least 3 focus groups
- A in-person dissemination event
- Video production

### **Submitting a proposal**

Please send a completed application form addressing the project requirements.

A copy of expectations and the award criteria are provided below for reference.

Proposals need to be submitted to [procurement@crew.ac.uk](mailto:procurement@crew.ac.uk) for evaluation **by 15:00 on Thursday 21<sup>st</sup> September 2023**. We aim to notify the successful bidder by **Friday 6<sup>th</sup> October 2023**.

Please contact [procurement@crew.ac.uk](mailto:procurement@crew.ac.uk) if you would like any clarification on any of the above by **Thursday 14<sup>th</sup> September 2023**. You should highlight any potential conflicts of interest in your proposal. For queries about what may constitute a potential conflict of interest please contact the CREW Deputy Manager ([Nikki.Dodd@hutton.ac.uk](mailto:Nikki.Dodd@hutton.ac.uk)).

## Expectations

No.	Criteria	Descriptor
1	Duration	The proposed duration will align closely to the details provided in the anticipated timescales section of the specification.
2	Staff time and effort	The proposed allocation of staff time and effort is appropriate and includes all deliverables. The proposal provides a commitment that named staff members will be available to work on the contract if the bid is successful. For any unnamed staff, appropriate risk identification and mitigation measures are provided.
3	Project costs	The estimated breakdown of project costs is realistic and inclusive of all deliverables.

## Award criteria

No.	Criteria	Descriptor
1	Understanding the project ask and policy background	The proposal should include an introduction which demonstrates a clear understanding of the project requirements. This should include an understanding of the policy background and the supporting role of this project; the need for this research; the project aim; and how the proposal will address this aim. In addition, liaison with the relevant teams/projects identified in the specification.
2	Proposed methodology	The proposal should demonstrate a high quality and workable methodology, including: how the evidence will be identified, reviewed and assessed; consulting relevant stakeholders and/or experts where appropriate to address the key questions and produce the deliverables in the timescales required. It should explain the suitability, robustness and limitations of the proposed methodology.
3	Milestones	The project milestones are logical, practical and include all deliverables.
4	Project Management	The staff, resources and expertise are appropriate for conducting the proposed project. The proposal should name the project lead and outline their project management experience.
5	General and specific topic expertise and experience	The proposal should provide details of individual staff members who will work on this project and demonstrate how they will meet the project requirements, specifically: <ul style="list-style-type: none"> <li>- general research experience and expertise;</li> <li>- specific experience and expertise on the topics of <b>agronomy, climate change impacts, science communication, production of targeted dissemination material.</b></li> </ul>
6	General communication and deliverables	The proposal should describe the approach to producing the deliverables, which will be published on the CREW website. It should detail who will take lead responsibility for report-writing and overall report quality. It should provide examples of reports, workshops and focus groups in which they have been involved.
7	Quality assurance	The proposal should provide details of quality assurance procedures to demonstrate how the contract will be continuously delivered to a high standard. It should specifically address issues of quality control at different stages of the project, including evidence gathering, analysis and report writing. It should include a timetable for delivery of tasks, project milestones and allocation of staff and staff time against each task, covering the duration of the contract.
8	Risk	The proposal should provide a risk assessment matrix detailing any risks identified in relation to the delivery of this contract, and proposed mitigation measures to minimise their probability and impact, focused particularly on risk to completion on time.