

Understanding the condition of natural capital ecosystems

Field survey data collection commissioning proof of concept

Background

The terrestrial and marine Natural Capital Ecosystem Assessment (tNCEA and mNCEA) are flagship programmes of Defra.

“Natural Capital and Ecosystem Assessment (NCEA) is a science innovation and transformation programme, which spans across land and water environments. It has been set up to collect data on the extent, condition, and change over time of England’s ecosystems and natural capital, and the benefits to society.”
(Defra, 2022)

Challenge

The aim of our work was to support delivery planning for the programme by finding a way to rapidly calculate costs across multiple data collection schemes run by three organisations.

Develop a proof of concept to demonstrate what is possible

The idea is to enable tNCEA technical leads to explore different field survey commissioning scenarios, and so bring a view of projected cost options to the decision-making table. The team was asked to develop a proof of concept to demonstrate what is possible in terms of costing field survey data collection, while also considering scales of efficiency to optimise value from investment.



Solution

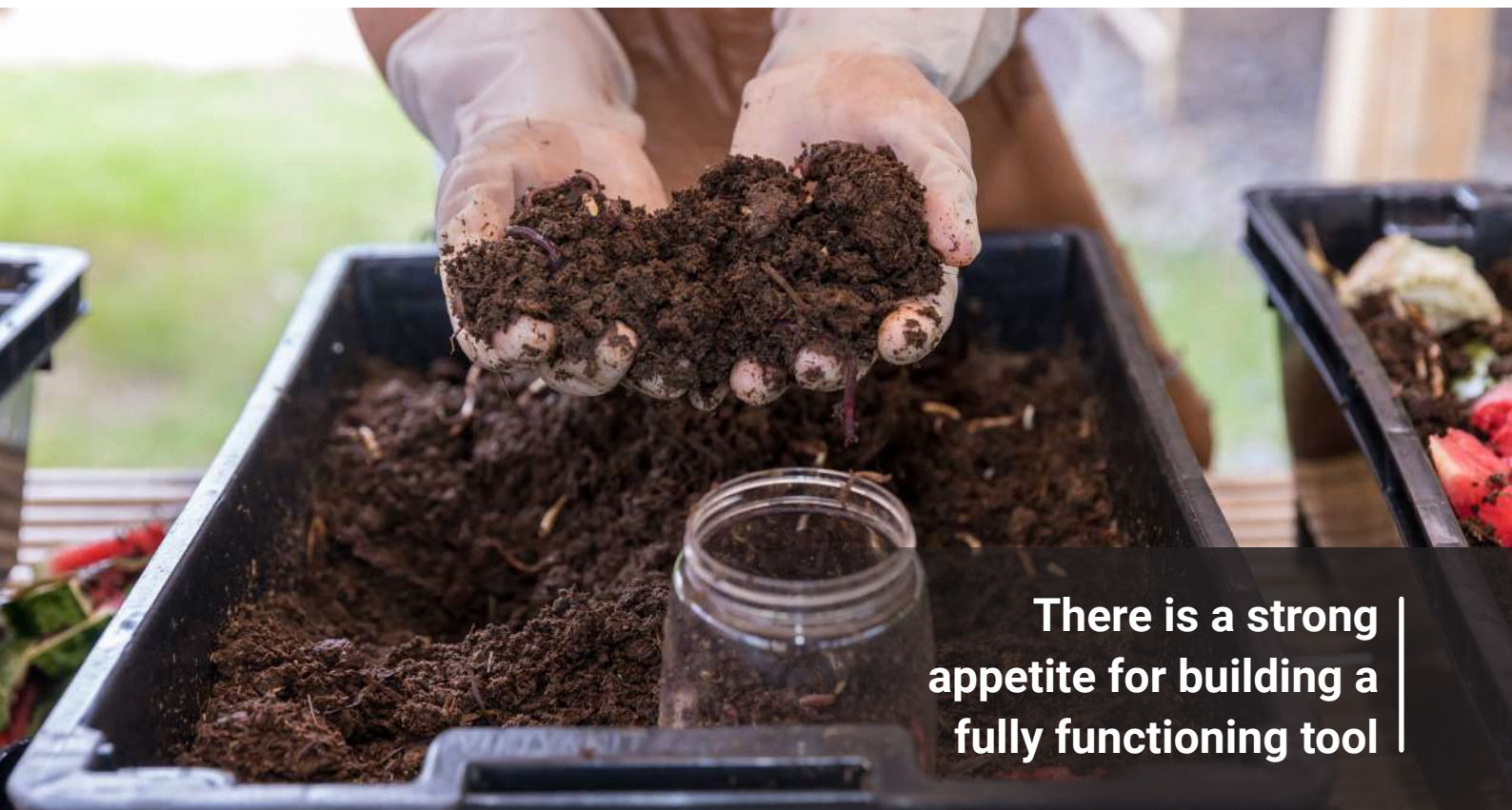
First, we conducted a discovery of current field survey costing data across the partner organisations of Natural England, Forest Research, and the Environment Agency. The data model behind the tool was then designed in collaboration with experts from Natural England and the Environment Agency. Essentially, the data model represents a 'catalogue' of field activities, such as pond sample collection, wetlands surveys and earthworm counts, with their related costs. The activities can be combined as potential scenarios, rather like putting items in a shopping basket, and then be compared with each other.

In just a few weeks, a basic proof of concept was developed which we then tested with Project Managers and Technical Leads from both Defra and the partner bodies, resulting in eight user insights.

Outcome

The Defra senior leadership team was fully engaged and supportive of the team's work and facilitation. Based on what we were able to deliver as a proof of concept, it was concluded that there is a strong appetite for building a fully functioning tool – it was agreed that such a tool would help maximise cost efficiencies for field survey commissions, while optimising data collection and statistical confidence.

In terms of shaping the composition of costed field survey commissions, it was also agreed that it should be driven by adjustable variables such as available budget, frequency, or geographic scale. An interesting problem to solve but one which we believe will help contribute to better understanding of the condition of natural capital ecosystems.



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