



Experimental ecosystem accounting project in the Gunbower-Koondrook-Perricoota Forest Icon Site

Background

In April 2018, Commonwealth, state and territory environment ministers agreed to a [*Strategy for a common national approach to environmental-economic accounting*](#).

The Strategy committed Governments to apply the United Nations framework, the [*System of Environmental-Economic Accounts*](#) (SEEA), to national accounts that address policy priorities.

The project’s Interjurisdictional Steering Committee determined that the Gunbower-Koondrook-Perricoota Forest Icon Site (GKP) would be an ideal first case study for developing ecosystem accounts for the policy priority of water management.

Ecosystem accounts present environmental, social, cultural and economic information about ecosystems. These dynamic communities of plants, animals and microorganisms and their physical environment provide a range of ecosystem services that our wellbeing and economy depend upon.

GKP provides recreational, tourist and cultural activities, as well as timber, pollination and honey, carbon sequestration, and water supply and water quality services to the regional economy.

The case study

This case study aims to:

- improve approaches to development of ecosystem accounts.
- increase capacity to develop high-quality ecosystem accounts across multiple government agencies in Australia.
- demonstrate the value of ecosystem accounting to leaders.
- increase uptake of ecosystem service assessment and valuation by Government.

The Gunbower-Koondrook-Perricoota Forest Icon Site

GKP is located on the Murray River north-west of Echuca and covers an area of 51,081 hectares across the Victorian and NSW sides of the river (Figure 1). In Victoria, Gunbower Forest is part national park and part state forest (managed by the Victorian Government). In NSW, Koondrook-Perricoota Forest is made up of several state forests managed by NSW Forestry Corporation.

The entire icon site is a Ramsar-listed wetland, contains the second largest extent of river red gum forests in Australia, and is a nesting site for internationally protected migratory waterbirds. GKP is also one of six icon sites that are regularly monitored for ecological health under The Living Murray program.



Figure 1 The Gunbower-Koondrook-Perricoota Forest Icon Site

The intended outcomes are:

- better informed adaptive management and decision making
- better informed research, analysis, reporting and related information and communication products
- increased understanding and valuing of the environment's contribution to human wellbeing.

The Department of Agriculture, Water and the Environment is leading the case study, in close partnership with the Murray-Darling Basin Authority and CSIRO. Other Commonwealth, state and local jurisdictional agencies, private sector entities and academia are involved where relevant.

In March 2021, the project aims to publish an integrated and coherent set of ecosystem accounts for GKP. CSIRO is leading accounts on ecosystem extent, ecosystem condition and biodiversity. The project also aims to provide physical and monetary estimates of ecosystem service flows, as well as discuss non-monetary expressions of value.

How could the ecosystem accounts be used?

Environmental watering for the GKP and other important sites in the Basin largely focuses on environmental objectives and outcomes. Ecosystem accounts for GKP will provide credible and trusted information on the socio-economic benefits and costs of environmental watering that include environmental goals and their value to people.

This will help address three policy challenges identified during user consultation in 2019:

- a better quantified balance between social, economic and environmental outcomes
- better understanding of how environmental watering helps people
- better information for ensuring the health of ecosystems into the future.

Technical expertise

For this project, scientists and accounting experts have built on decades of international work to further develop accounting methods that tailor, extend and more strongly couple existing recognised techniques:

- the [Habitat Condition Assessment System](#), which aims to provide Australia with its first consistent, repeatable

and cost-efficient assessment of habitat condition for biodiversity

- [BILBI](#), which uses best-available biological and environmental data, modelling and high-performance computing to assess biodiversity change at fine spatial resolution across the global land surface
- the [Australian Ecosystem Models Framework](#), a national framework of dynamic models of ecosystems that describe ecosystem states and reference conditions.

The methods align with the [SEEA Experimental Ecosystem Accounting framework](#), and demonstrate how to:

- use reference states and reference condition when determining ecosystem type
- distinguish between natural variability and human-made changes.

The method is designed for scaling to regional and national ecosystem accounts. We are collaborating closely with other accounts in development to ensure coherence and consistency. For example, the ecosystem accounts are linked to new and existing national datasets on land cover and reasons for change (led by Geoscience Australia for the experimental national land accounts).



Figure 2 Environmental water flooding a forest in GKP
Image © Department of Agriculture, Water and the Environment

How we will engage

The team is developing accounts with the needs of target user groups as the core focus. The project is working collaboratively across multiple government agencies, and has engaged more than 20 experts from jurisdictions and organisations.

For further information: eea.environment.gov.au

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