

Environmental Services: Fact or fiction for landholders

research FOR A SUSTAINABLE FUTURE

**Max Finlayson - Director
ILWS**

Good morning ladies and gentlemen

**It is my pleasure to welcome you to the
Australian Alpine Valleys Agribusiness Forum
in conjunction with the
North East Catchment Management Authority
on
Environmental Services: Fact or Fiction for
Landholders?**

**This welcome is extended on behalf of the
Forum organisers and supporting organisations**

and

from myself on behalf of the

Institute for Land, Water & Society

Charles Sturt University

In considering the topic of the forum I would like to raise a few issues – what do we mean by environmental services? And how do we quantify and value these?

I am personally not used to the term “environmental services” – I am familiar with the term “ecosystem services” which was developed in late 1990s to represent critical services that facilitate the conditions and processes sustaining human existence.

And has since developed to refer to the benefits human populations derive from ecosystem functions.

However, a multitude of terms have been adopted to refer to the benefits ecosystems provide to people, including:

- **ecosystem services**
- **ecosystem benefits/services**
- **services**
- **goods and services**
- **environmental services and benefits**
- **environmental services**

The question may not be so much which term should we use, but do we mean the same thing when using these terms? Some common understanding of the term or terms would be useful. A few example of different uses follow.

With these different terms being used the question may not be so much which term should we use, but do we mean the same thing when using these terms?

Some common understanding of the term or terms would be useful. The reasons for this are fairly obvious – we need to understand each other and not talk at cross purposes.

A few example of different uses follow. These are examples only. Whilst I have my preference I am not about to say that you should accept this.

The International Union for Conservation of Nature (IUCN) has used the term “ecosystem benefits” interchangeably with “ecosystem services”. Not seemingly by design.

The **Convention on Biological Diversity** seems to have a more complex lexicon and has used the terms “ecosystem benefits, ecosystem services, and environmental services” seemingly interchangeably and without defining them.

The **UN Environment Program** uses the term “ecological services” to refer to the conditions and processes through which natural ecosystems sustain and fulfill human life. They use this term interchangeably with “ecosystem benefits”.

Engineering and local government seem to use “environmental services” as the main term used to describe services provided by people that benefit ecosystems. This is a vastly different use to the examples given previously.

The **World Trade Organization** defined “environmental services” as including sewage services, refuse disposal services, sanitation services, and other environmental services provided by governments or the private sector including cleaning of exhaust gases, noise abatement services, as well as nature and landscape protection services.

The above terms are not synonymous with the use of ecosystem services as the benefits that people obtain from ecosystems.

The **World Wide Fund for Nature (WWF)** when advocating payments for environmental services programs explains that natural ecosystems provide a wide range of *environmental services* from which people benefit, and upon which all life depends.

They consider that “*environmental services*” and “*ecosystem services*” are synonyms.

The use of the term ‘*payment for environmental services (PES)*’ seems to be part of the confusion – it is often seen to cover *ecosystem services*.

The **World Bank** has been using the term “*environmental services*” in its efforts to develop payment for environmental services programs since at least 2002.

While not defining “*environmental services*” it has been inferred that when talking about “*environmental services*” that these encompass water services, emission reductions, and ecosystem services, indicating that “*environmental services*” and “*ecosystem services*” are not synonymous.

The **World Bank** and **UNEP** were major sponsors of the Millennium Ecosystem Assessment that used “*ecosystem services*”.

As said, the UN supported Millennium Ecosystem Assessment used the term “*ecosystem services*” and defined these further:

- **provisioning services** such as food, water, timber, and fiber;
- **regulating services** that affect climate, floods, disease, wastes, and water quality;
- **cultural services** that provide recreational, aesthetic, and spiritual benefits; and
- **supporting services** such as soil formation, photosynthesis, and nutrient cycling

And defined “*ecosystem services*” as the benefits that people obtain from ecosystems. This was accepted by the Ramsar Wetlands Convention.

The **Comprehensive Assessment of Water Management in Agriculture** put forward recommendations for improving water management in agriculture to address the world water (food) crisis. It used “ecosystem services” as per the Millennium Ecosystem but was reluctant to accept that ecosystem services included food production and not just other services such as pollination, pest control etc.

The subsequent **FAO-WUR led Agricultural-Wetlands Interactions project** did treat food as an ecosystem service and concluded that agriculture had over emphasized provisioning services at the expense of regulating and supporting services and this should be redressed. This introduces a further and important issue – the balance between food and other services.

The second issue that I wanted to raise seems to arise when considering the services provided by ecosystems for people is that of **valuation** and **trade-offs** between services and between users.

There has been a lot of debate about the valuation of environmental services. Debate about the methods and data.

In some instances socio-cultural values have been treated as a sub-set of economic values. Others state that in practice economic valuation is limited to efficiency and cost-effectiveness analysis, usually measured in monetary units, disregarding the importance of spiritual values and cultural identity which are in many cases closely related to environmental services.

Whether or not valuation methods are agreed there is still a lot more discussion required about trade-offs. We have already heard of a global analysis that concluded that a shift from provisioning services to regulating and supporting services in agricultural situations was necessary.

Past emphases in agriculture have also been held responsible for wide-scale biodiversity and landscape degradation with a loss of environmental services globally.

The development of opportunities for landholders to include environmental services as part of their economic base may also require further trade-offs whether driven by market forces or incentive/disincentive schemes.

I would like to now conclude by referring in brief to some of the work that has been done and continues to be done on environmental services by members of our Institute.

This work introduces many inter-related issues that need to be addressed when landholders are seeking opportunities for environmental services. Some of these will be developed here – a key point is that many NRM issues will influence the uptake of opportunities for environmental services

The next slide contains a list – I am not about to describe all the work that is being done, has been done or still needs to be done – we have a list of speakers who will do this with you.

- **Defining landholder duty of care to achieve vegetation outcomes for regional NRM**
- **Triple bottom line reporting to enhance capacity to move to sustainable irrigation**
- **Influence of NRM investments, climate change and demographic change on changes in vegetation condition, and exploring links between catchment management and riparian zone condition**
-
- **Landholder adaptation to climate variability**
- **Understanding landholder constraints to the uptake of market-based instruments**

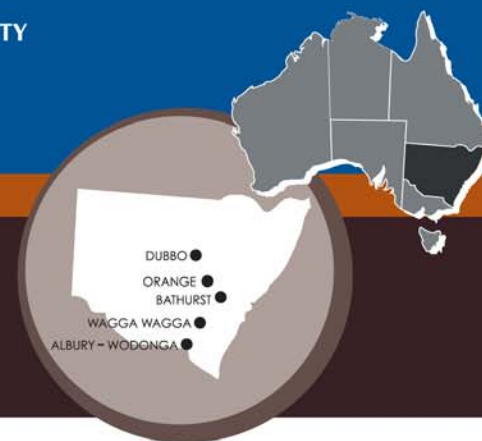
With that ladies and gentlemen I again welcome you to this forum. Thank-you

our aim...

“ TO UNDERTAKE INTERNATIONALLY RECOGNISED RESEARCH IN SOCIAL AND ENVIRONMENTAL SUSTAINABILITY THAT ENHANCES THE LIVELIHOODS AND LIFESTYLES OF PEOPLE IN RURAL AND REGIONAL AUSTRALIA. ”

CHARLES STURT UNIVERSITY LOCATIONS WITHIN AUSTRALIA:

Albury-Wodonga, Bathurst, Dubbo, Orange and Wagga Wagga



Wagga Wagga Campus

Locked Bag 678
Boorooma Street
WAGGA WAGGA 2678 NSW
Australia

TEL +61 2 6933 2778
FAX +61 2 6933 2293
EMAIL crsr@csu.edu.au

Albury-Wodonga Campus

PO Box 789
Elizabeth Mitchell Drive, Thurgoona
ALBURY 2640 NSW
Australia

TEL +61 2 6051 9992
FAX +61 2 6051 9797
EMAIL jcentre@csu.edu.au