

# Market Based Instruments for Ecosystem Services in the Murrindindi Shire of Victoria

## Establishing development offsets to protect ecosystem services

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### Background

The Murrindindi Shire is an attractive and growing area for lifestyle developments and hobby farming. However, important ecosystem services have been impacted upon by this growth in lifestyle farms in the Shire. These impacts may be felt not only in the upper catchment but further downstream as well. The use of a Market Based Instrument could be a possible mechanism to alleviate the future development pressures on ecosystem services whilst providing flexibility to developers. These outcomes may also be achieved at significantly lower costs than on-site actions.



### Approach

The Murrindindi Shire provides an excellent opportunity to trial a project that could target ecosystem services that are threatened by development on rural lands. This is directly related to the urgent need for some sort of program that would alleviate such ecosystem services damage as well as the fact that relevant data already exists in the region from other projects. The pilot project would be a collaborative effort between CSIRO, the Murrindindi Shire Council and the Goulburn Broken Catchment Management Authority. At this stage it would be a proof of concept or scoping study that would link local government development offsets to Goulburn Broken CMA targets. i.e. the underpinning conceptual framework and steps to implement a market-based program would be developed but there would be no on-ground work undertaken in the initial phase of the project. After the conceptual framework has been developed, CSIRO could also assist the Murrindindi Shire Council to seek necessary funding to implement and run an operational offset scheme.



### Establishing property rights

There are no established property rights (or rights of ownership) to many ecosystem services and this is a key problem in the establishment of markets for these ecosystem services. However, there is potential for ecosystem services property rights to be created as part of the development permit process within local governments. There is also potential for mitigation activities to be undertaken on sites not being developed, therefore allowing some flexibility in local government plans.

One constraint in using such a process is that it is very difficult to accurately measure ecosystem goods and services on biophysically different sites and for different goods and services. There are also difficulties in defining and measuring like for like exchanges between different ecosystem services. As well, there may be problems involved in linking outcomes over different geographical scales and applying the methods and results of specific studies to different regions.



### Mechanism

The scheme could involve defining suitable 'offsets' that would apply to specified impacts of rural development such as water quality and biodiversity impacts. In other words, an action that damages ecosystem services on one site could be allowed to be undertaken as long as a separate activity to increase ecosystem services (the 'offset') is undertaken at the same site or elsewhere. This would involve a mechanism where the property right to the offset action is only traded once (i.e. when the permit is issued). This is termed a non-tradeable instrument. Credits would be issued to reflect the amount of offset activity undertaken. Development could only be undertaken once the required credits are obtained and a development permit issued. The property right/offset/credit structure is provided by the local government development planning and permit framework.

Once established, the mechanism could be tested using the techniques of Experimental Economics.



## Regions and Stakeholders

The Murrindindi Shire lies in the upper Goulburn Broken Catchment of Victoria -only an hours drive from Melbourne. As such, it is an important area for recreation, tourism and lifestyle or hobby farms. The region has grown considerably over the last ten years and the local council and catchment managers have recognised increased environmental degradation as a result.

This project would engage the input of the local council, the Goulburn Broken Catchment Management Authority, local developers and landholders to assist in the development of a market instrument to combat environmental problems in the region.



## Outcomes

The most important outcome of such a scheme is the potential that it has to reduce future loss of ecosystem services in the Shire and Catchment. Another outcome could be that such schemes offer better incentives to developers to manage the causes of degradation to ecosystem services than other methods. In addition there is great potential for gains from trade between the developers and others who are undertaking such mitigation activities. It also offers a potential mechanism for purchasing ecosystem services into the future. Important insights will be gained from testing different possibilities such as the measurement and exchange rate regimes employed, the definition of the credits, the type of offsetting actions required and the institutional and legal frameworks necessary to make such a scheme successful.

## Important considerations

Allowing such offsets could increase the flexibility in meeting the goals of conserving ecosystem services, especially if a specialised third party is involved (such as a service that would manage the issuing of permits and monitoring of results or where a third party is operating at a separate site). The offset targets will be explicitly linked to regional targets thus integrating a local government managed Market Based Instrument into a regional process and therefore allowing for objectives at both the local and regional scales to be met. It is possible that such offsets will cause increased transaction costs in the development application process and it will be important to identify if this or other issues are likely to hinder the acceptance of such schemes by the community. It is also important to identify if such a scheme is likely to be in competition with the objectives of neighbouring shires and whether or not it will delay or reduce the other benefits of development that may be available to the community. Another crucial consideration is to define appropriate currencies and exchanges between locations.



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