

Payments for Ecosystem Services

Ecosystem Services

Natural environments, and the ecosystems that they sustain, benefit human populations in many ways; these benefits are known as Ecosystem Services (ES). The European Commission follows the categorisation established by the common International Classification of Ecosystem Services, and divides these services into three categories:

Provisioning services - products that can be traded, exchanged, consumed or used.¹ These include food, raw materials, genetic resources, water, minerals, medicinal resources, energy and ornamental resources.

Regulating and maintenance services - includes all ways in which ecosystems control the ambient environment. This includes mediation of waste, toxics and other nuisances; mediation of flows (such as mass, liquid and gas flows); and maintenance of physical, chemical and biological conditions.¹

Cultural services - all non-material benefits obtained from ecosystems. These include both physical and intellectual interactions with the environment (such as hunting and paintings of nature) and spiritual and symbolic interactions with it (such as the use of animals and plants in national symbols).¹

These services are a 'product of biodiversity' and their continued existence relies on the health of the natural environment, thus the loss of biodiversity may leave the environment less able to provide these services.²³ Unfortunately, most indicators of the state of global biodiversity show declines while indicators of pressures on biodiversity show increases,⁴ and the millennium Ecosystem Assessment - which included over 1300 scientists from 95 countries - found that over 60% of the ecosystem services studied were being degraded faster than they could recover.⁵ As human populations are dependent on ecosystem services to provide resources, regulate our environment and provide the basis for cultures around the world, the loss of biodiversity and ecosystem services functionality could have enormous impacts for communities all over the globe.

¹ Adapted from Common International Classification of Ecosystem Services (CICES v4.3), 17 January 2013; <http://cices.eu/>.

² Worm B, Barbier EB, Beaumont N, *et al.* 2006. Impacts of Biodiversity Loss on Ocean Ecosystem Services. *Science* 314 (5800): 787-790

³ Balvanera P, Pfisterer AB, Buchmann N, *et al.* 2006. Quantifying the evidence for biodiversity effects on ecosystem functioning and services. *Ecology Letters* 9 (10): 1146-1156

⁴ Butchart SHM, Walpole M, Collen B, *et al.* 2010. Global Biodiversity: Indicators of Recent Declines. *Science* 328 (5982): 1164-1168

⁵ Millennium Ecosystem Assessment. 2005. Ecosystems and Human Well-Being: Synthesis. Island Press, Washington.



Payments for Ecosystem Services

The loss of biodiversity implies that policies and incentives need to be established for communities to protect the natural environment, therefore maintaining the provision of ecosystem services. One potential reason for the loss of biodiversity is that the natural environment is perceived as having no, or little, financial value. If the concept of ecosystem services is not well understood or taken into account, decisions regarding land use and aiming to maximize the value of the land, will fail to consider the value of natural environments and the services they provide on a long term basis. Furthermore, there may be a lack of incentives to prevent land degradation.

Payments for Ecosystem Services (PES) are financial, incentive-based mechanisms that have the potential to protect the environment. These operate via payment schemes that reward landowners for managing land in ways beneficial for that ecosystem service and its long-term maintenance, thereby giving ecosystems an additional value to the landowner.⁶ A broadly well-accepted definition of PES states that they are:

“a voluntary transaction in which a well-defined environmental service, or a form of land use likely to secure that service, is bought by at least one ES buyer from a minimum of one ES provider if and only if the provider continues to supply that service (conditionality).”⁷

In practice, PES schemes depend fundamentally on state and/or community involvement; as a result ‘buyers’ of services are commonly public agencies.⁸ However, regardless of whether payments are made by private or public bodies, some researchers argue that they may be one of the rare mechanisms by which ecosystem services can be protected at a global level.⁹ PES schemes therefore have the potential to play a larger role in the preservation of biodiversity and the maintenance of ecosystem services.

⁶ Karousakis K. 2012. Enhancing the effectiveness of Payments for Ecosystem Services (PES). In: DG Environment News Alert Source, *Science for Environment Policy: Payments for Ecosystem Services*. Pp.1-3

⁷ Wunder, Sven 2005, quoted on CIFOR website: http://www.cifor.cgiar.org/pes/_ref/about/index.htm

⁸ Vatn A. 2010. An institutional analysis of payments for environmental services. *Ecological Economics* 69 (6):1245-1252

⁹ Farley, J., Aquino. A., Daniels, A. et al. (2010). Global mechanisms for sustaining and enhancing PES schemes. *Ecological Economics*. 69(11): 2075-2084.



of biological diversity and the maintenance of ecological connectivity, in Denmark to conserve farmland biodiversity¹⁷ and in the Republic of Ireland for the conservation of upland bird species.¹⁸

An example of a PES scheme from outside the hunting world is Perrier Vittel (now owned by Nestlé), which bottled and sold 'natural mineral waters' in north-eastern France. To be labelled 'Vittel' the water cannot contain more than 4.5 mg of nitrates per litre; however, in the early 1980s Perrier Vittel realised that the intensification of agriculture in the Vittel catchment posed a risk to nitrate and pesticide levels in "Grande Source", the mineral water's origin, thereby putting the 'Vittel' label and the business at risk. Perrier Vittel began negotiations with farmers in the Vittel catchment zone in 1989 to convince them to switch to less intensive forms of farming and provided them with a diverse package of incentives. By 2004, all 26 farms had switched to less intense farming methods and water quality in the Vittel catchment was maintained as well as Vittel's 'natural mineral waters' label.¹⁹

Implementation of PES

The environmental and cost-effectiveness of PES depend on programme design and implementation. The United Nations Environment Programme (UNEP)²⁰ breaks the implementation of PES schemes into 4 points. These points are targeted towards potential sellers of PES schemes, however can be adapted to suit potential



Identifying ecosystem service prospects and potential buyers or sellers.

The first step in preparing a PES scheme is to identify what ecosystem service you wish to buy or sell. For most hunters the ecosystem service desired will typically be the ability to hunt on land that currently doesn't support game species or increased game populations on land that does. For hunters that already own land, it will be necessary to identify what ecosystem service your land could provide and potential buyers of that service. Once an ecosystem service and potential buyers and sellers have been identified negotiations over price can begin; as land may remain less developed than it otherwise would, the price of the ecosystem service would likely be similar to the value of the income lost from not fully developing the land. Furthermore, it is crucial that payments actually result in an improvement of the ecosystem service and it is therefore necessary to ensure the ecosystem service will be monitored.

¹⁶ BASC (British Association for Shooting and Conservation), Southwest Cheshire Dormouse Project. Available at <http://basc.org.uk/conservation/green-shoots/green-shoots-in-cheshire/>

¹⁷ Markvildtprojektet. Available at www.markvildt.dk

¹⁸ Red Grouse Species Action Plan, 2013. Available at http://www.npws.ie/sites/default/files/publications/pdf/2013_RedGrouse_SAP.pdf

¹⁹ Perrot-Maitre D, 2006. *The Vittel payments for ecosystem services: a "perfect" PES case?* [pdf] DFID: Department for International Development, UK. Available at <http://pubs.iied.org/pdfs/G00388.pdf>

²⁰ UNEP (United Nations Environment Programme). 2008. *Payments for Ecosystems Services, Getting Started: A Primer.* Available at http://www.unep.org/pdf/PaymentsForEcosystemServices_en.pdf





Assess Institutional and Technical Capacity.

Secondly, it is necessary to check the legal context of the proposed PES deal. In the case of hunters, questions should be asked such as: Does the land legally belong to the person wishing to sell? Can the land legally be converted in the way being discussed? Do organisations exist that could provide support during this process? The context of each PES scheme may change according to location, so it is important to check the legal background in each situation.



Structure Agreements.

The structuring of agreements may take time, but it is important to ensure both parties (landowner and ecosystem service buyer) understand the terms of the agreement. Furthermore, some PES agreements can last for decades; therefore, business plans must include provisions for transferring management and how to adapt the project over time.



Implement the PES agreement.

Once an agreement has been made the PES scheme must be implemented. For the European hunting community this is likely to involve beginning work on the land as agreed upon, be that flooding and creation of wetlands, planting of crops preferred by certain game species, or farmers adapting more wildlife-friendly farming methods. If the PES scheme is implemented by the ecosystem service seller then monitoring and evaluation of the ecosystem service must take place to ensure that results are being delivered as agreed upon. If the work of the PES scheme is carried out by the buyers then monitoring can be done by them as they use the land.



Conclusion

In conclusion, human populations are dependent on ecosystem services to provide resources, regulate our environment and provide the basis for cultures around the world. As these services are a 'product' of the natural environment, it is extremely important that this is maintained in a healthy state and preserved for future generations as the loss of biodiversity may leave the environment less able to provide these services.²¹ While the global trends are worrying, one method of maintaining the provision of ecosystem services is to provide financial (and other) incentives to preserve them. These Payments for Ecosystem Services (PES) also help communities to further recognise that the natural environment has value and should be conserved.²²

Four steps exist for the implementation of PES projects, as highlighted in this document. If these are followed PES can be effective. PES schemes have been successfully implemented by communities and businesses, and examples of existing PES schemes can be seen in a wide range of European countries.

From a hunting perspective, hunters can be both the buyers and providers of ecosystem services. On the one hand, examples exist of where hunters support the greening of farming practices in order to increase hunting opportunities; these usually have a positive impact on biodiversity. On the other hand, Payments for Ecosystem Services could become a relevant tool for directly supporting hunters' land management and restoration activities that contribute to biodiversity preservation, while simultaneously allowing the provision of hunting-related and non-hunting-related ecosystem services.

²¹ Worm B, Barbier EB, Beaumont N, *et al.* 2006. Impacts of Biodiversity Loss on Ocean Ecosystem Services. *Science* 314 (5800): 787-790

²² Karousakis K. 2012. Enhancing the effectiveness of Payments for Ecosystem Services (PES). In: DG Environment News Alert Source, *Science for Environment Policy: Payments for Ecosystem Services*. Pp.1-3

