



▶▶▶ Ecosystem services – what are they?

Biodiversity contributes to on-farm activities by maintaining the broader environment in which agricultural enterprises operate. We have long understood the importance of the services which nature provides, but only recently has research been undertaken to quantify their contribution to agricultural enterprises.

What value is put on the services provided by nature?

Is it possible to put an economic value on biodiversity? Can we objectively value the contribution of biodiversity to sustaining our everyday lives?

Ecosystem services flow from nature to provide us with financial, ecological and cultural benefits. Land managers are both beneficiaries and suppliers of ecosystem services. Human society depends on the maintenance of those services for long term survival. Most people are aware of the value of timber products that are harvested from natural forests. But what other benefits are derived from land dedicated to forests? The range of services provided by the forest extends way beyond the value of the timber products. Additional ecosystem services contributed by the forest include maintenance of water quality, climate control, biodiversity conservation and salinity control, among many others. Humanity can't survive without these services.

Ecosystem services provided by nature include:

| SERVICE | EXAMPLE |
|-------------------------------------|---|
| Biological control | Predator control by prey species |
| Climate regulation | Greenhouse gas regulation |
| Cultural | Aesthetics; recreational, educational, spiritual benefits |
| Disturbance regulation | Storm protection, flood control |
| Erosion control, sediment retention | Prevention of loss of soil |
| Food production | Production of fish, game, bush foods |
| Gas regulation | CO ₂ / O ₂ balance |
| Genetic resources | Genes for resistance to plant pathogens and crop pests |
| Nutrient cycling | Nitrogen fixation, organic matter recycling |
| Pollination | Native insect and bird pollinators |
| Raw materials | Production of timber, fuel and fodder |
| Refugia | Regional habitats for locally harvested species |
| Soil formation | Accumulation of organic material |
| Waste treatment | Pollution control, sediment filtration |
| Water regulation | Provision of clean water for agriculture and urban areas |
| Water supply | Provision of water by watersheds, reservoirs |



Funded by:



FSBD16 Produced by: QMDC, 2006
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