



Southern Palawan Ecosystem Accounts

Photo Credit: Ana P. Santos / World Bank

As one of the eight country partners in the World Bank's WAVES (Wealth Accounting and the Valuation of Ecosystem Services) global partnership, the Philippines is constructing ecosystem accounts for Southern Palawan.

The Department of Environment and Natural Resources national and provincial offices, along with the Palawan Council for Sustainable Development (PCSD), with support from international and national experts, led the development of ecosystem accounts that use a "ridge-to-reef" approach to assess the upland, lowland, and coastal zones of the Southern Palawan region, Pulot Watershed and the coastal areas of Sofronio Española.

There are numerous competing demands on the resources of Southern Palawan, which is rich in forestry, mineral, marine and biodiversity. It is also home to a number of indigenous tribes and host to three large protected areas.

The ecosystem accounting is useful in providing valuable information in the management and use of these resources, and as a guide for decision-making, conflict resolution and development planning.

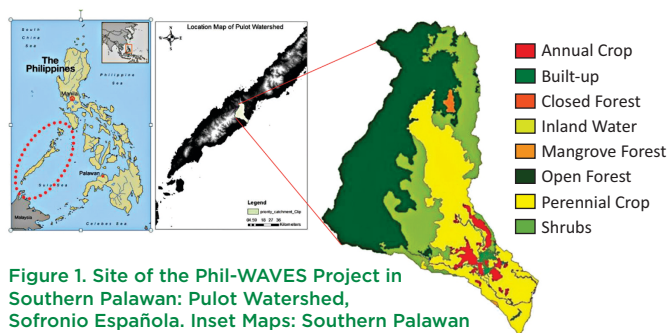


Figure 1. Site of the Phil-WAVES Project in Southern Palawan: Pulot Watershed, Sofronio Española. Inset Maps: Southern Palawan and the Philippines

Deforestation

From forest loss during the period 2003-2010, there was small net gain in 2010-2014. The recent increase may be attributed to multi-sectoral efforts to enforce forest protection laws and implementation of local and national forest management programs.

Carbon sink

Carbon sinks are natural systems such as vegetation and forests which absorb carbon dioxide produced by the burning of fossil fuels. From being a forest carbon emitter in 2010, Southern Palawan became a carbon sink in 2014, thus helping mitigate the effects of climate change. The total carbon stock contained in these forests declined from 21 million ton C in 2003 to 15 million ton C in 2010 and increased again to 16 million ton C in 2014. The decrease in the first period can be attributed to the decrease in the area (and volume) of closed forest and the wide-range conversion of closed forest to other land cover. The increase in the period 2010 - 2014 is due to a modest recovery of the closed forests in Southern Palawan.

Water supply and crop production

Pulot watershed contributes more than 20% of land devoted to oil palm plantation in Southern Palawan. Land cover changes show that portions of forest, shrubland, grassland, agricultural land and bare soil were converted to oil palm plantation.



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Coastal extent and condition

Mangrove forests, seagrass beds and coastal reefs are key coastal ecosystems that serve as habitats for marine species and provide multiple ecosystem services such as the provision of food and act as a protective barrier against strong waves.

There have been dramatic declines in coral reef quality in the period 2001-2010. Areas covered with mangrove forests have declined while seagrass covered areas have remained the same.

Sustainable management of Southern Palawan

- How can environmental impacts of mining be managed?
- How can the competing uses for Southern Palawan's resources be managed sustainably to reduce poverty, increase national income and encourage inclusive growth?
- How can we sustain the modest gains on reforestation?
- What balance can we strike between economic development, sustainable use of resources and social goals such as poverty alleviation?

Figure 2. Increase in Area of Agricultural and Industrial Plantation, 2010 and 2014 (in hectares)

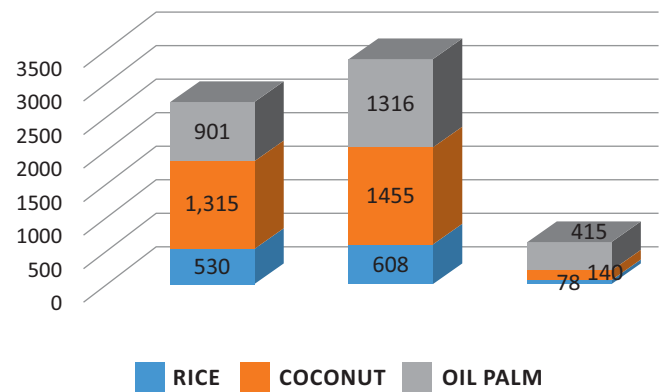


Figure 3. Value of Ecosystem Services used in Production of Rice, Corn, Coconut and Palm Oil.

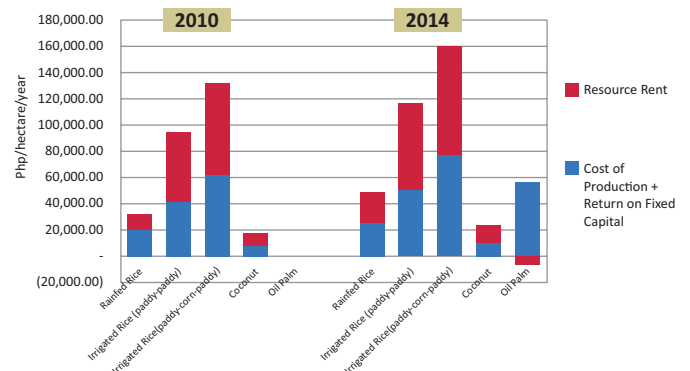
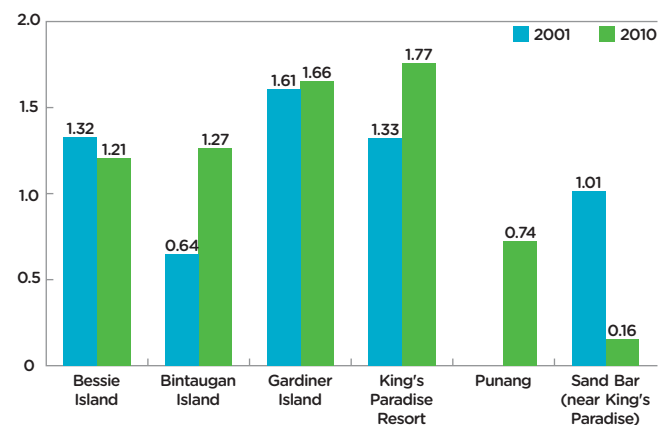


Figure 4. Ecosystem Condition, Seagrass Species Diversity (Shannon Index) per monitoring Sites, Sofronio Española, Palawan, 2001 and 2010



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Facilitated by the World Bank, **Wealth Accounting and the Valuation of Ecosystem Services** is a global partnership that aims to promote sustainable development by ensuring that the national accounts used to measure and plan for economic growth include the value of natural resources