



Valuing Nature:

Why Mexico's Protected Areas Matter for Economic and Human Wellbeing

INVESTING IN NATURE FOR ECONOMIC DEVELOPMENT

Human wellbeing across the globe depends intimately on the state of natural ecosystems, and any threat to nature runs the risk of imposing untenable economic costs to almost every sector and social group.

Far from being a luxury that governments and the international community cannot afford, nature conservation is something that they cannot afford not to invest in. It is absolutely fundamental to sustaining human development, now and in the future.

Unfortunately, nature is rarely appreciated as a productive economic asset which is a valuable public good and therefore requires high public investment. The flows of funds and other resources which are allocated to conservation remain pitifully low. In many cases they are actually declining.

Together with the National Protected Areas Council, the Nature Conservancy has conducted a study which compiles information about how natural protected areas in Mexico generate extremely valuable goods and services for the benefit of the economy and the population.

The evidence that has been uncovered points to a clear conclusion. Investing in conservation yields tremendously high development returns, and there is little doubt that continuing to under-value nature will prove extremely costly in economic terms, not just for biodiversity-rich countries, but for the whole world.

KEY FACTS AND FIGURES

- Mexico's protected areas provide economic benefits and save economic costs worth almost \$3.4 billion every year, just through storing carbon, protecting water supplies and supporting the tourism industry. If all their benefits were to be valued, the total figure would be far higher than this.
- This represents an economic return of \$56 for each dollar invested in protected areas from the Federal budget.
- Mexico's Protected areas save the global community around \$2.5 billion each year by storing carbon, add water worth between \$130 million and \$260 million to the national economy, and inject tourist spending of \$760 million and employment of close to 30,000 jobs into local economies.

Mexico's Natural Wealth: *an undervalued asset?*

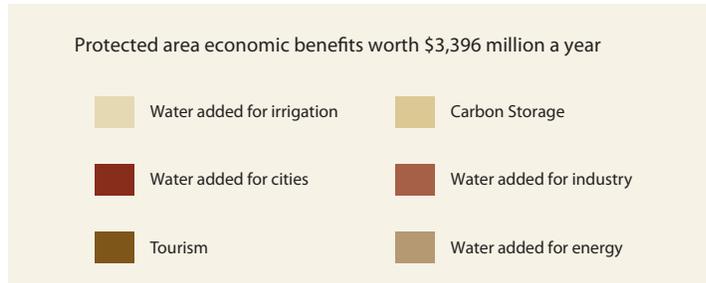
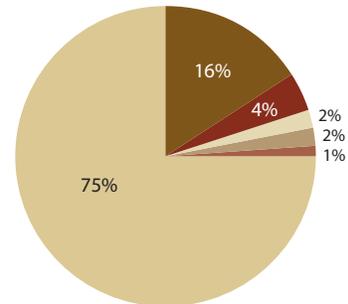


Figure 1: Economic benefits of protected areas



Mexico hosts a quite extraordinarily rich biodiversity with global value. Its varied topography and climatic conditions, combined with a complex geological, biological and cultural history, have all contributed to the development and maintenance of a huge assortment of habitats and species.

Mexican protected area systems, covering land managed at the federal, municipal, private and community levels, are one of the primary mechanisms for biodiversity conservation. Mexico's protected areas cover about 24 million hectares – about 10% of its land area, and 1,5 % of sea area. Almost 6% of the rural population, or 2.6 million people, live and work inside protected areas.

In order to appreciate the value of protected areas and their contribution to human and economic wellbeing – and how much the Mexican people, government and economy stand to lose out if these valuable assets are degraded and lost, some of these valuable nature's goods and services were quantified. Those which mitigate climate change, secure clean and regular water supplies and provide space for tourism, are of critical importance for human and economic wellbeing in Mexico and beyond.

THE ECONOMIC RETURNS TO INVESTING IN NATURE

Even if we only consider selected ecosystem goods and services, Mexico's protected areas can be calculated to be worth almost \$ 3.4 billion a year. This shows that for every dollar invested in biodiversity conservation, at least \$56 worth of benefits are generated for the economy just from carbon storage, water supplies and tourism. If all biodiversity values were included, the total figure would be far higher than this.

One of the most critical services that Mexico's protected areas provide, which benefits both the international

community and local populations, is to *mitigate climate change* through carbon sequestration. More than 2.2 billion tonnes of carbon is locked up in Mexico's federal and state protected areas. Even at a very conservative price, this service is worth at least \$34 billion and is equivalent to 6 years' worth of emissions by the country.

Climate change is not only a concern at a global level. It is also a pressing issue in Mexico, particularly in low-lying coastal areas which are vulnerable to the *effects of sea level rise*. Places which are especially vulnerable include the Rio Bravo Delta, Alvarado Lagoon and lower reaches of the Papaloapan River, the Grijalva-Mezcapala-Usumacinta Delta Complex, Los Petenes, and Sian Ka'an - Chetumal Bays. Large protected areas have been established in four out of these five sites. These will generate immense savings to future generations, by protecting coastal settlements from the effects of sea level rise as well as minimizing coastal erosion and helping to reduce the damages caused by storms, waves and tidal surges.

Many of Mexico's conservation areas *protect water sources* – and indeed some were specifically created for this purpose. This generates important benefits for the national economy, and for many individual households, businesses and industries. Various studies have shown that water supplies are cleaner and more reliable downstream from protected areas than in places where the land and resources are not protected. Conservation therefore can be said both to add value in terms of improved water availability, as well as saving considerable costs associated with coping with water shortage, and dealing with sedimentation and siltation. Looking at urban, agricultural and industrial consumers, the conservative value of added water supplies is between \$130 million and \$260 million a year.

After oil and remittances, *the tourism industry* is the third largest economic sector in Mexico, contributing around 8% of GDP. The country is considered the eighth most

important tourist destination in the world, and many of the 20 million overseas visitors who come to Mexico are attracted by the natural and cultural environment that is embodied in the protected area system. There is also a substantial, and growing, domestic market for nature tourism. Protected area tourism acts as an engine for local and national economic growth, as well as contributing substantial revenues to government. Through tourism in federal protected areas the National Protected Areas Commission (CONANP) was able to collect almost \$13 million earnings between 2002 and 2007 from entry fees and other charges. Meanwhile, tourist consumption injects more than forty times this amount into the local economies around protected areas – a total spillover effect of more than \$600 million in spending, or \$54 per tourist, as well as 30,000 paid jobs.



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	LAND COVER IN PROTECTED AREAS (HA)	CARBON STORAGE (MTCO ₂ E)	VALUE (\$ MILLION)
Coniferous Forests	1,029,220	265	3,378
Oak Forests	999,301	236	3,012
Cloud Forests	188,247	81	1,034
Tropical Moist Forests	1,392,294	425	5,423
Tropical Dry Forests and Thorn Forests	1,238,562	191	2,436
Halophilous, Gipsophilous and other Natural Grasslands	245,544	20	251
Arid and Semiarid Vegetation	6,768,178	657	8,384
Aquatic and Subaquatic Vegetation	1,165,078	329	4,196
Total	13,026,424	2,204	28,114

Figure 2: By storing carbon, the natural vegetation in federal protected areas helps to offset global climate change costs of more than \$28 billion

Financing protected areas: *a continuing challenge*

Over the last decade, there has been an impressive growth in government spending on protected areas. Annual budgets have risen steadily, from just \$4 million in 1995 through around \$15 million in 2000 to \$88 million in 2008.

Yet, despite the growing public funding to biodiversity conservation, investments in protected areas actually remain low, compared to the benefits and savings that they generate for the nation and to the budgets allocated to other sectors. For instance, the National Infrastructure Development Program plans to invest an average of just under \$8 billion a year over the next three

years. Similarly, subsidies and transfers to rural development programs are around \$3.5 billion a year.

It is not only public decision-makers and financial planners who seem to be unaware of the economic importance of investing in biodiversity. Even more worryingly, there seems to be scant recognition by many members of the general public what a valuable asset protected areas represent for them and their economy. A recent national poll found that more than a third of the population have a negative perception of the current state of protected areas, and only 40 % would be willing to contribute personal funds through entrance fees for their upkeep.

Financing long term persistence of protected area values: *what policymakers can do*

Although funding to protected areas in Mexico has risen over recent years, there remains a problem that certain key biodiversity and critical ecosystems still lie outside the existing protected area network. Additional funding is required to extend the coverage of protected areas. Just like for any other productive asset or profit-making business, there is a need to ensure that protected areas are not under-capitalized. At the federal, state and municipal levels, there is a need to find new and innovative sources of public funding for protected area conservation. Feasible federal alternatives include:

A public infrastructure development compensation tax is a form of polluter-pays instrument, paying for the diffuse negative environmental impacts of construction.

If just 1% of the 2009-12 National Infrastructure Program budget were allocated to conservation activities, it could generate \$307 million funding for protected areas.

A carbon emissions tax for air travel targets one globally important greenhouse gas emitter. Setting a tax of \$18 per flight hour could raise \$6.7 million a year for protected areas, without a negative impact on flight rates.

Redirecting existing public rural and fisheries budgets towards environmentally friendlier production would enhance the quality and sustainability of rural development. Committing just 0.1% of existing subsidies and transfers made by the Ministry of Agriculture, Cattle, Rural Development, Fisheries and Food towards this end could also generate \$36 million yearly.

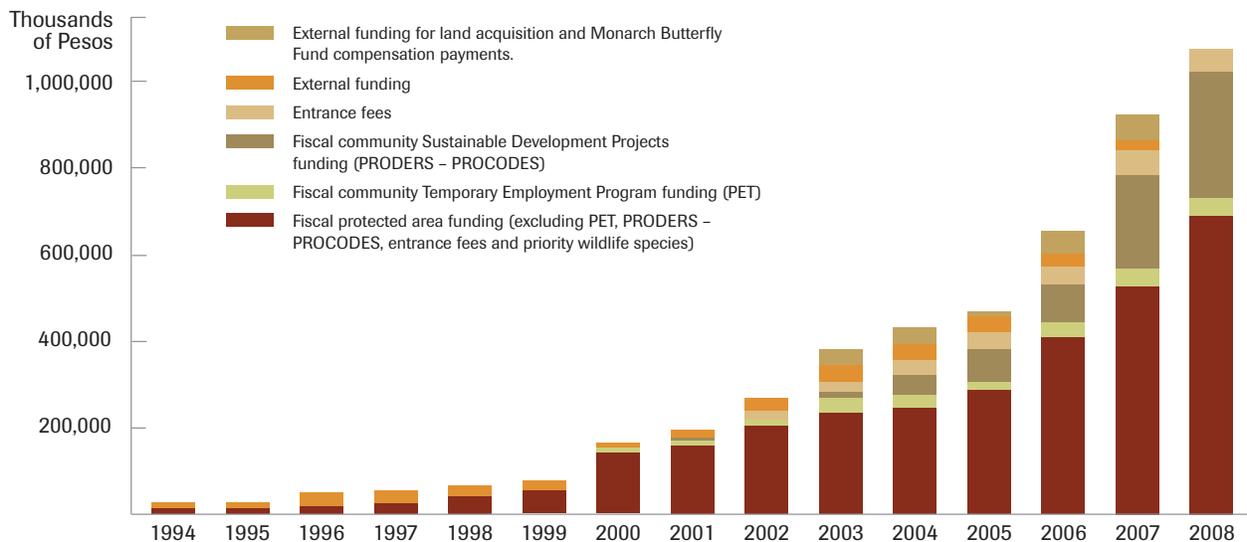


Figure 3: Government budgets for protected areas have over the last decade

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