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Study on eco-system and its impact

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Abstract
In this paper the Cultural services comprise a range of largely nonconsumptive uses of the environment including the spiritual, religious, aesthetic and inspirational wellbeing that people derive from the 'natural' world; the value to science of the opportunity to study and learn from that world; and the market benefits of recreation and tourism. While some of these activities—particularly recreation and tourism—have significant implications for GHG emissions, many have relatively little impact.

Keywords: eco-system, study, cultural services

Introduction
The main ecosystem processes that underpin all other services such as soil formation, photosynthesis, primary production, nutrient, and water cycling. The concern over climate change is primarily a concern over the atmospheric consequences of changes in the carbon cycle these services play out at very different spatial and temporal scales, extending from the local to the global, and over time periods that range from seconds to hundreds of years.

The regulating services were defined by the MA to include air quality regulation, climate regulation, hydrological regulation, erosion regulation or soil stabilization, water purification and waste treatment, disease regulation, pest regulation and natural hazard regulation. More generally, they comprise the benefits of biodiversity in moderating the effects of environmental variation on the production of those things that people care about directly. They limit the effect of stresses and shocks to the system. As with the supporting services they operate at widely differing spatial and temporal scales. So, for example, the morphological variety of plants in an alpine meadow offers strictly local benefits in terms of reduced soil erosion, while the genetic diversity of crops in global agriculture offers a global benefit in terms of a lower spatial correlation of the risks posed by climate or disease. Both macro- and micro-climatic regulation are examples of the regulating services.

Discussion
In principle, evaluation of the biological causes of climate change requires estimation of the multiple ways in which the production, processing and consumption of foods fuels and fibers are associated with climate drivers—emissions of GHGs. Combustion of fossil fuels is the dominant source of CO_2, but agriculture is a major source of CH_4 and N_2O. In the USA, for example, agricultural activities were responsible for emissions of 427.5 Tg CO_2 Eq. in 2008, or 6.1 percent of total U.S. greenhouse gas emissions. CH_4 emissions from enteric fermentation and manure management accounted for one third of CH_4 emissions from all anthropogenic activities. Fertilizer application accounted for around two thirds of N_2O emissions. Biofuels—biodiesel, bioethanol, wood, charcoal-accounted for 4.4 per cent of CO_2 production from energy. Partially offsetting these emissions, Net CO_2 Flux from land use and land use change, including forestry, reduced net emissions by 13.5 percent [1].

In addition to these direct sources of CO_2 flux from biofuels, agriculture and forestry, many of the activities that add value to foods, fuels and fibers are associated with fossil fuels based energy use, and consequently generate emissions as a by product. In the USA, again, the largest single source of CO_2 emissions from fossil fuel combustion by end-use sector in 2008 was transport (1790 Tg CO_2 Eq.), followed by industry (1511 Tg CO_2 Eq), residential (1185 Tg CO_2 Eq) and commercial activity (1045 Tg CO_2 Eq) [2].

The research problem in all cases is to identify the production functions that connect changes in biodiversity to changes in ecosystem services and human wellbeing. The Millennium Assessment's evaluation of biodiversity through the services it offers [3].

Is the approach that economists have traditionally taken to the problem? In this approach, biodiversity change is evaluated in terms of its implications for: a) the production of foods, fuels, fibers, water, genetic material and chemical compounds; b) human, animal and plant health; c) recreation, renewal, aesthetic and spiritual satisfaction, and d) its role in buffering many ecological processes and functions against the effects of environmental variation. The approach recognizes that change in the diversity of species is a source of both benefits and costs. Many of the benefits that people derive from ecosystems-especially managed productive systems—require reductions in the abundance of pests, predators, pathogens and competitors. We wish to eliminate HIV AIDS and SARS, smallpox and rinderpest at the same time as we wish to save the panda, the bald eagle, the ring-tailed lemur or the giant redwood. The mix of species that maximizes delivery of one ecosystem service, seldom maximizes delivery of other services.

There are trade-offs involved. In particular, the diversity of species that maximizes carbon sequestration can be much lower than the diversity of species that maximizes the flow of genetic information [4, 6].

Conclusion

The way that economists have approached the problem of modeling the effect of biodiversity change on the production of ecosystem services is described in an appendix. In all cases the central challenge is to specify an appropriate set of production functions that link biodiversity—which one can think about as a set of biological assets—to the production of the things that people care about. Including climate change as either cause or effect of biodiversity change means including either the biodiversity effects of climate change or the impact of biodiversity on climate change in the relevant set of production functions. While this may be hard to do, the approach itself is quite straightforward.

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