

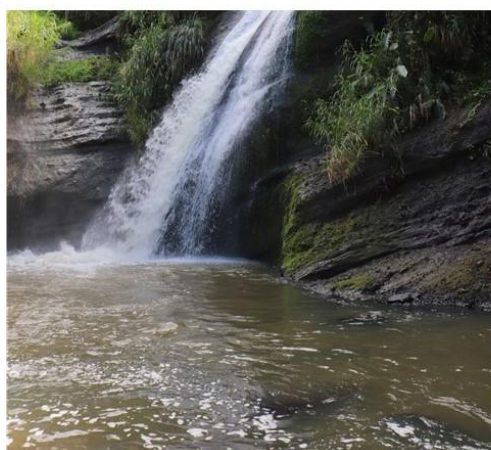
Workshop on the Second Order Draft of the Grenada National Ecosystem Assessment

Thursday 29 September 2022

9:00am – 12:15pm

<https://us06web.zoom.us/meeting/register/tZAqce-srjgiHNUYIMte6BwQc5OW7y5zryyP>

Summary of Chapter 4 on Towards the valuation of the genetic and ecosystem resources of Grenada and Indicative Questions for Stakeholder Feedback



Summary of Chapter 4

TOWARDS THE VALUATION OF THE GENETIC AND ECOSYSTEM RESOURCES OF GRENADA

Coordinating Lead Authors: Reia Guppy, Aria St. Louis, Hiroe Ishihara, Martin Forde, Alexander Girvan

Lead Authors: Anita Sutton, Sonali Chauhan, Gem Thomas, Donovan Campbell, Jason Alexander, Peter Edwards

Introduction: Grenadian ecosystems make numerous contributions to social, biological and economic wellbeing of the island's peoples. The positive impact of policies and approaches to managing ecosystems are greatly enhanced when the relationship between people and nature in a local context are carefully considered so as to lessen the negative impacts of anthropometric activities on ecosystems (Chan *et al.*, 2016). This is particularly crucial for island populations that often hosts lower levels of genetic diversity and higher levels of differentiation when compared with the mainland (Frankham, 1997). This puts species on islands such as Grenada at increased risk of extinction, especially given the likelihood of greater environmental and demographic stochasticity.

The aim of this chapter is to provide an overview of Grenada's biodiversity with a special focus on those flora and fauna and ecosystems with significant economic, ecological, and/or social importance. This situational review is done in line with established methodologies on the theoretical valuation of resources with relevant case studies provided where possible. Further, it highlights Grenada's aquatic (marine and freshwater), terrestrial, medicinal, and agricultural ecosystems and resources. Finally, this chapter discusses key emerging issues and policy recommendations. With an eye on giving support to the development of policies that place an emphasis on conservation, this chapter also provides opportunities and challenges for the conservation, sustainable use and benefits of sharing resources.

Contributions made by Nature to People in Grenada:

Marine

- Marine capture fisheries make a significant contribution as intrinsic values in Grenada, with US \$690 Million (EC \$1.86 billion) in value harvested during the period 1978-2017. Important commercial species include, yellowfin tuna, spiny lobster, Queen Conch (lambi). Other important species include, big eye scad, round eye scad, common dolphinfish, Atlantic sailfish and parrot fish.
- Marine ecosystems produce numerous important natural products and bioactive compounds.
- Coral reefs provide important coastal protection services to critical assets along Grenada's coast worth an estimated US \$480 million (EC \$1.3 billion) annually. Coral reef associated recreation services are worth approximately US \$20 million annually.
- Mangroves provide numerous instrumental and relational values, such as coastal protection, fishery nursery, medicine and tourism related values. The various services provided by mangroves are estimated to be worth approximately US \$3.7 million (EC \$9.9 million) annually.
- Seagrasses also play an important role in human wellbeing but are less well understood.

Freshwater Resources

- Freshwater ecosystems provide a number of animal protein sources and other instrumental values through the harvest of species such as titree, crayfish, land crabs, cascadura and canac dois shrimp. While not commercially important, these are also important relational values, as these products are only locally sourced with no equivalent substitute.
- Water supply from forest watersheds is essential to the functioning of the Grenadian economy. While further research is necessary, the annual net benefit of water production in Grand Etang in 2010 was US \$1.2 million (EC\$ 3,266,445) and when upscaled to other watersheds across Grenada it is estimated to be a benefit of US \$23.9 million (EC\$ 64,825,047.84) of value per year generated by natural water resources.

Terrestrial Resources

- Timber resources such as roundwood play a small but important role in the local construction, furniture and boatbuilding industries. The daily income for loggers is approximately US \$140 (EC \$378) per day.
- Non-timber forest products play an important role in the local handicrafts industry
- Traditional “bush medicine” is an important service provided by Grenada’s forest, with at least 80% of the population reporting using local remedies from the forest to address minor health issues.
- Terrestrial tourism likely plays an almost equally important role in the Grenadian tourism product but is not as well understood. Terrestrial tourism sites generate income through user fees, tour guide fees and transportation fees for local Grenadians serving the tourism market. Gran Etang Lake received 3,263 local visitors in 2011, also indicating that terrestrial recreation is important for locals. Anecdotal reports indicate that hiking and visits to terrestrial natural sites has increased in recent years and is becoming an increasingly important relational value for Grenadians.
- Carbon sequestration benefits provided by terrestrial forests are also notable, with net carbon fixation benefits of US \$88,036 (EC \$237,924) provided per year by the forests around Gran Etang.

Agro-forestry resources

- Known as the spice isle, spices and other related agricultural products play an important role in Grenada’s identity and economy. Average annual exports of nutmeg are estimated to be about US \$7.77 million (EC \$21 million) per year and exports of mace are estimated to be worth US \$5.18 million (EC \$14 million) per year.
- Cocoa and its value-added products chocolate are worth approximately US \$1.85 million (EC \$5 million) and US \$1.1 million (EC \$ 3 million) in exports annually.
- Soursop is a crop with increasing commercial importance with exports of US \$2.66 million (EC\$ 7.2 million) in 2017.
- Backyard farming, plays an important instrumental and relational value for Grenadians, supplementing food supplies in periods when the volatile industries of tourism provide inconsistent employment.

Gaps: Significant gaps in knowledge exist with regards to ecosystem values in Grenada. Specific values on the income earned by those operating in nature- based enterprises is a gap that we believe can be addressed through further consultations. Further articulation of relational values, using narratives from Grenadians would also benefit this chapter.



Indicative Questions for Stakeholder Feedback during breakout sessions

The information presented in the Grenada NEA is largely based on the available literature including peer reviewed journal articles, national reports, records and databases. This information has been supplemented by surveys and interviews where possible and relevant.

The breakout sessions will be used as one avenue for stakeholder feedback and local knowledge in terms of their “on the ground” observations and experiences relevant to the material presented in the chapter. Stakeholders are also welcome to continue to provide feedback on the workshop material after the event which can be emailed to project officer Aditi Thanoo Aditi@canari.org. Stakeholders are also invited to serve as official chapter reviewers, to be credited as such in the final published National Ecosystem Assessment document. Reviewers will receive the draft copy of the chapter with the expectation that they will review the entire chapter and submit detailed written comments. If you are interested in becoming an official reviewer, please email Aditi Thanoo at Aditi@canari.org

The breakout sessions for Chapter 4 during the workshop on Thursday 29 2022 will address questions below.

INDICATIVE QUESTIONS

The indicative questions are intended to guide the sessions, but stakeholders are encouraged to share any additional information that is relevant to this Chapter of the NEA and may be important for this assessment. The indicative questions are:

With regards to Coastal/Marine, Freshwater and Terrestrial/Forest Resources

- Which are the most valuable to you and why?
- Of these values which are you most worried about losing in the future?
- Of these values which would you like to preserve as a priority for your well-being?
- For Terrestrial/Forest resources- Can you think of any examples of plants or animals that have value outside of those mentioned so far?

With regards to Agriculture Resources

- What is the value to you of agro-ecosystems (including farms of nutmeg, other spices, cocoa, soursop and other fruits; backyard farming (or multi-story tree gardens), poultry and livestock rearing, managed bee-keeping?
- Can you think of any examples of plants or animals that have value outside of these groups?

Other Questions

- What do you think are some of the potential uses or emerging opportunities for Grenada's living resources at the level of genes? species level? ecosystem level?
- What do you think are some of the emerging issues at the level of genes or species? and at the level of ecosystems?
- What recommendations would you suggest to Ministers/Policy Makers to safeguard Grenada's genetic resources and ecosystems?