

Guidelines for the Design and Conduct of Research and Monitoring Projects within the Dutch Caribbean Protected Areas



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1. Background

The Dutch Caribbean is home to a wide variety of unique animal and plant species and tropical habitats like coral reefs, mangroves and elfin forest. Nature contributes to the wellbeing of the local people, providing areas used as to generate income, food, recreation and (coastal) protection. Unfortunately, the islands' natural resources are under pressure, stemming from local, regional and global threats. This combination makes understanding the state of nature through research and monitoring projects crucial for efficient and effective management and protection.

Each island has its own nature conservation (management) organizations tasked with safeguarding these natural areas. Nature conservation (management) organizations' staff (biologists, rangers) and (citizen) scientists from all over the world provide invaluable support by gathering knowledge about these complex and fragile ecosystems.

The funding for research and monitoring in the Dutch Caribbean comes largely from the European Netherlands but also from other foreign institutions. Some monitoring (and research) projects by the local nature conservation (management) organizations are funded by governments and through park visitors' incomes. Science and research agendas are determined, and essential fieldwork is often directed by large science institutes and universities such as Wageningen University & Research (WUR), Dutch Research Council (NWO), the Royal Netherlands Institute for Sea Research (NIOZ), Naturalis Biodiversity Center and the Smithsonian Institution. Although these institutions have sound scientific expertise and can meet the specific conditions required by international funders, they often lack local knowledge, capacity and infrastructure on the islands to carry out their work. Research topics are often based on knowledge gaps in science and international reporting obligations which do not always match the most pressing conservation issues for managing the protected areas (parks) in the Dutch Caribbean.

Local organizations can play an essential role in ensuring the local context is taken into consideration when doing research on the Dutch Caribbean islands. The (small) local non-governmental conservation organisations are often the only institutions with the capacity to support fieldwork of visiting scientists. They have the staff, local knowledge and necessary infrastructure and/or logistics (e.g. vehicles and laboratories), but their resources and capacity

are often limited. One of the principles of 'sound nature management' is to have management choices guided by scientific research ('science-based management'). Unfortunately, this is often impossible on the islands due to a lack of financial resources and personnel, and conservation organizations are frequently forced to conduct annual monitoring with the limited available resources they have ("management-based science").

One of the key roles of the [Dutch Caribbean Nature Alliance \(DCNA\)](#) is to find ways to build local capacity, improve knowledge sharing and cooperation, and promote efficient networking between different stakeholders, including the nature conservation management organizations on the six Dutch Caribbean islands. To help guide (visiting) researchers, students and funders in their design and implementation of projects within the region, nature conservation management organizations created these Research and Monitoring Guidelines for the protected areas (parks) with the following objectives:

- **Support research and monitoring:** keep researchers, funders and students well informed about the nature conservation management organizations' research recommendations and wishes by having this framework updated yearly and published in DCNA's digital newsletter [BioNews](#) and the [Dutch Caribbean Biodiversity Database](#).
- **Support local capacity building:** encourage (visiting) researchers, students and funders to include local capacity building in their activities to adopt a more sustainable and integrative approach by bridging the worlds of knowledge and action, by not only focusing regionally but emphasizing approaches which are local, place-based, and solution-oriented.
- **Encourage ethical practices:** provide guidance for conducting research which is carried out in consideration of the local context, practices and sensitivities.
- **Make scientific information widely available:** request researchers to submit data, reports and publications for upload to the [Dutch Caribbean Biodiversity Database](#) where it can be used, amongst others, to guide local policy and management.
- **Support science communication and outreach:** to promote the sharing of project information to enhance communication and outreach to a diverse group of stakeholders such as other members of the scientific community, local nature conservation organizations, policy makers and the inhabitants of the islands.

About DCNA

The DCNA is a regional network set up to help and assist nature conservation (management) organizations on the islands of Aruba, Bonaire, Curaçao, Saba, St. Eustatius and St. Maarten to protect and preserve nature on land and at sea for future generations.

These guidelines were developed by the DCNA Research & Monitoring Working Group. This Working Group includes representatives of [Fundacion Parke Nacional Aruba](#) (FPNA), [STINAPA Bonaire](#), [CARMABI Curaçao](#), [Saba Conservation Foundation \(SCF\)](#), [Nature Foundation St. Maarten](#) (NFSXM), [St. Eustatius National Parks \(STENAPA\)](#) and has been created to promote and facilitate permanent dialogue, knowledge and experience exchange, and cooperation. The purpose of this Working Group is to support research and monitoring in a structured manner on all six Dutch Caribbean islands.

2. Purpose

The purpose of these guidelines is:

- to improve communication and cooperation between researchers, students, funders, and local nature conservation (management) organizations.
- to develop and implement research together with foreign institutes and local organizations.
- to facilitate more targeted and effective research and monitoring efforts for the most pressing conservation issues.
- to improve decision-making in support of adaptive science-based management.
- to improve communication and outreach on scientific results.
- To encourage local capacity building and ethical practices while conducting research.

3. Place of Research and Monitoring in Management of Protected Areas

The nature conservation management organizations – the [Fundacion Parke Nacional Aruba](#) (FPNA), [STINAPA Bonaire](#), [Caribbean Research and Management of Biodiversity \(CARMABI\)](#), [Saba Conservation Foundation \(SCF\)](#), [Nature Foundation St. Maarten](#) (NFSXM), [St. Eustatius National Parks \(STENAPA\)](#) – are commissioned by the island governments to manage the protected areas (parks) in the Dutch Caribbean. These organizations are dedicated to the conservation of the natural environment through the sustainable management of their resources.

An understanding of research and monitoring in relation to managing protected areas is fundamental to this framework:

- Research is the creation of new knowledge and/or the use of existing knowledge in an innovative and creative way to generate new concepts, methodologies and understandings. This could include synthesis and analysis of previous research to the extent that it leads to new and creative outcomes (Western Sydney University, 2023). Applied science is encouraged that helps forward the needs and objectives of the nature conservation organizations as is research on nature-based solutions for a sustainable future and research that contributes to tackling the most pressing conservation issues.
- Monitoring is the process of observing, measuring, and recording the performance of a system, process, or activity over time. Monitoring is an essential component of research and essential to evaluate management success. It is therefore a priority for management of protected areas.

For the nature conservation management organizations, research and monitoring activities help with their management objectives. These objectives include, but are not limited to:

- Conserve and restore the coastal, marine and terrestrial resources and the ecological integrity of the protected areas.
- Engage stakeholders in a conducive way and manage the conflicts that may occur amongst uses and users of the protected areas.
- Enhance the economic, social and cultural benefits generated from the sustainable use of the resources of the protected areas.
- Develop methods, approaches, and knowledge for the benefit of the Wider Caribbean Region and beyond.

In addition to these general objectives, island specific objectives can be found in the Management Plans and strategic documents [here](#).

4. Guidelines for the Conduct of Research and Monitoring in Protected Areas.

All research and monitoring carried out in the Dutch Caribbean shall comply with the following requirements:

- Compliance with local and international laws, and policies.
- Compliance with regional and international treaties and conventions such as [Convention on Biological Diversity \(CBD\)](#), [Convention on International Trade in Endangered Species of Wild Fauna and Flora \(CITES\)](#), [Convention on Migratory Species \(CMS\)](#), [Ramsar Convention on Wetlands](#), [Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region \(Cartagena Convention\)](#) and the [Inter-American Convention on the protection and conservation of sea turtles \(IAC\)](#).
- Apply for permits. The process of applying for permits is different for every island. Check the process per island [here](#). Research proposals will be evaluated in relation to local nature policy priorities and should support the management goals of the nature conservation management organizations.
- For other island specific requirements, make sure to contact the representative nature conservation management organizations in chapter 7 for more information.

Other recommendations include:

- Ensure research is in line with local necessities and activities already (being) undertaken. To do so, please:
 - Check if your research can match nature conservation (management) organizations' priorities in research and monitoring topics. See nature conservation management organizations' *Research and Monitoring Wishlist* [here](#).
 - Provide nature conservation (management) organizations the opportunity during proposal/project development to give input and feedback and make them aware of your plans. See contact details in chapter 7. They can potentially also help with conversations on topics such as:
 - Local support- what support local nature conservation (management) organizations can or cannot provide.

- Budget recommendations for local support; for example regarding advice, use of their laboratory, offices, boats, vehicles, and/or staff.
- Advice on how projects could contribute to building local capacity such as training of park staff.
- Advice on social-political landscapes.
- Local context influencing your research/monitoring activities.
- Introduction to relevant stakeholders on the respective island(s).
- Check the overview of *ongoing and past biodiversity related research and monitoring projects* in the Dutch Caribbean to become aware of other organizations working on similar topics [here](#). Check also for other organizations in the wider region. Contact project leader(s) to explore where cooperation is possible and prevent double work.
- Support local capacity- include local capacity building possibilities such as establishing long-term practices, services, social and technical infrastructures that build local capacity and ensure the equal participation of scientist and researchers from less privileged institutions.
- Ensure knowledge gets back to the Dutch Caribbean where it can be used to guide local policy and management:
 - For all Dutch Caribbean islands, please share project information and results with representative nature conservation management organizations (chapter 7) and other involved stakeholders.
 - For Aruba, Bonaire, Saba, St. Eustatius and St. Maarten, please also provide project information and results on your *ongoing and past biodiversity related research and monitoring projects* in the Dutch Caribbean by submitting and updating your project information [here](#). Your information will be included in [DCNA's Research & Monitoring tables](#), [BioNews](#) and the [Dutch Caribbean Biodiversity Database](#).
 - For Curaçao, please send project information and publications to m.vermeij@carmabi.org for inclusion in the [CARMABI database](#) which is linked to [DCNA's Research & Monitoring tables](#), [BioNews](#) and the [Dutch Caribbean Biodiversity Database](#).
 - If possible, include data in (citizen) science platform [Observation.org](#) and [Dutch Caribbean Species Register](#).

- Support science communication and outreach. To do so, please:
 - Share project information, updates and results with contacts in chapter 7 to facilitate conversations on how to share with stakeholders such as staff of nature conservation (management) organizations, policy makers and the public (for example through local media, [BioNews](#) and [Nature Today](#)).
 - Stay up to date by subscribing to DCNA's free digital newsletter BioNews [here](#).

- Acknowledge relevant contributors from the Dutch Caribbean region by including them in your author list of published data.

- For more island specific recommendations, check out the related webpages (chapter 5) and contact nature conservation (management) organizations (chapter 7) in the early phase of project development.

5. Related webpages

- CARMABI Curaçao Research Station:
<https://www.researchstationcarmabi.org/>
- CARMABI Curaçao Research Project Overview:
<https://www.researchstationcarmabi.org/research-station-carmabi/projects/>
- CARMABI Curaçao F.A.Q's:
<https://www.researchstationcarmabi.org/research-station-carmabi/f-a-q-s/>
- CARMABI Curaçao Scientific Publication Overview:
<https://www.researchstationcarmabi.org/scientific-publications/>
- DCNA Research & Monitoring Wishlist:
<https://dcnanature.org/research-monitoring-wishlist/>
- DCNA Research & Monitoring Tables:
<https://dcnanature.org/research-monitoring/>
- DCNA BioNews Free Digital Letter:
<https://dcnanature.org/news/>
- Dutch Caribbean Biodiversity Database:
<https://www.dcbd.nl/>
- Dutch Caribbean Species Register:
<https://www.dutchcaribbeanspecies.org/>
- Management Plans:
<https://dcnanature.org/individual-park-management-plans/>
- Nature Foundation St. Maarten Research Projects:
<https://naturefoundationsxm.org/research/>
- Nature Foundation St. Maarten Publications and Reports:
<https://naturefoundationsxm.org/resources/publications-and-reports/>
- Observation:
<https://observation.org/>
- (Research) Permits:
<https://dcnanature.org/permits/>

6. Terms and Conditions

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7. Contacts

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