

## December 2012 Welcome to BioNews.

This is the first issue of a new monthly newsletter, which will focus on the biodiversity research and monitoring work being carried out in the Dutch Caribbean.

This first issue presents you with an overview of what was going on in the last quarter 2012.

In future issues you will find regular updates on the research and monitoring initiatives underway on our islands.

BioNews is a work in progress. Your feedback and comments are most welcome!



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## Research and monitoring in the Dutch Caribbean

Research and monitoring in the Dutch Caribbean is carried out by a mosaic of organisations and individuals both from within and outside of the region. Some work in partnership with local conservation organisations and some pursue their own independent research interests.

On the islands, a considerable amount of mostly management driven monitoring and applied research is carried out by or on behalf of the staff of the local non-governmental nature conservation organisations, which manage the islands' protected areas (parks) and/or species. Many conservation organisations have well established, often long-term, relationships with researchers and/or research institutions, which conduct work on their behalf.

The Dutch Caribbean Nature Alliance (DCNA), which was established in 2005, supports the research and monitoring work of nature conservation practitioners throughout the Dutch Caribbean, which is aimed at safeguarding nature and/or promoting the sustainable management of the islands' natural resources.

The region has a well-established research centre, CARMABI (Caribbean Research and Management of Biodiversity), which was set up on Curaçao in 1955. The foundation's scientific interests focus on marine and terrestrial ecology as well as nature management. CARMABI supports approximately 70 visiting researchers and

graduate students annually at their facilities and produces an average of 25 scholarly publications per year. CARMABI is a founding member of the Association of Marine Laboratories of the Caribbean (AMLC)

Discussions are underway to establish a second centre for scientific research on St. Eustatius in 2013. The "Caribbean Netherlands Science Centre" (CNSC) will have a broad, science-based agenda, with projects being selected by the Netherlands Organisation for Scientific Research (NWO).

Furthermore, the region attracts a significant number of researchers from abroad who visit the islands to undertake their own research projects inside and outside of the protected areas.

Since the constitutional change took effect in October 2010 research and monitoring efforts on the BES islands (Bonaire, Saba, St Eustatius) have been further augmented by work, which is being financed by the Ministry of Economic Affairs (Ministry EZ). This has led to a significant increase in research by the Dutch research institute IMARES.

To support research and monitoring in the Dutch Caribbean the Ministry EZ is also funding the creation of a Dutch Caribbean Biodiversity Database (DCBD), which is being built by specialists at Alterra in close co-operation with the region.





## DCNA's Research Liaison

**In part due to the increased attention and funding for research and monitoring in the Dutch Caribbean, with assistance from the Ministry EZ, on 1<sup>st</sup> October 2012 DCNA was able to hire Paul Westerbeek to fill in the newly created position of 'Research Liaison'.**

Paul is an enthusiastic employee with a marine biological background, years of working experience with the Dutch Government and a vast network within the Netherlands.

The task of Research Liaison is to improve communication between all parties involved in research and monitoring in the Dutch Caribbean and to close the 'information loop' by ensuring that the results of monitoring and research findings are fed back to conservation practitioners.

Paul is focusing his efforts on co-ordinating and facilitating:

- the implementation of monitoring efforts which are part of the (soon to be developed) Biodiversity Monitoring Strategy,

- the implementation of research activities, particularly those initiated by the Ministry EZ to ensure synergy with local efforts,
- the content management for the DCBD (central database),
- the development of integrated research programmes for the Dutch Caribbean,
- the development and distribution of research and monitoring results to stakeholders.

## Research overview

Below you will find an overview of the research work underway in the Dutch Caribbean. In each future BioNews newsletter you will find an update on current research work.

*Don't see your research on this list? Email us: [research@dcnanature.org](mailto:research@dcnanature.org)*

| Category            | Title  | Islands | Organisation: Project leader                        |
|---------------------|--|---------|---|
| Mammals             | Marine mammal noise registration on Saba bank with 'pop-up' buoy                   | SAB     | IMARES: Klaus Lücke                                 |
| Birds               | Study on (invasive) predator control related to Red-billed Tropicbird conservation | SAB     | IMARES: Martin de Graaf                             |
| Crustaceans         | Lobster population dynamics  | EUX     | IMARES: Martin de Graaf                             |
| STENAPA: Erik Boman | Lobster population dynamics  | EUX     | IMARES: Martin de Graaf                             |
| Corals              | Shallow Water Reef Restoration Project ( <i>Acropora sp.</i> )                     | CUR     | CARMABI: Mark Vermeij                               |
| Corals              | Pilot reef restoration project ( <i>Acropora sp.</i> )                             | BON     | Coral Reef Restoration Foundation: Augusto Montbrun |
| Corals              | Pathology of coral diseases  | CUR     | CARMABI: Mark Vermeij                               |
| Corals              | Effect of coastal development on coral reproduction                                | CUR     | CARMABI: Mark Vermeij                               |
| Corals              | Effect of microbes on coral larvae behavior  | CUR     | CARMABI: Mark Vermeij                               |
| Corals              | Drivers of settlement success  | CUR     | CARMABI (Valerie Chamberland)                       |
| Algae               | Impact of turf algae on reefs  | CUR     | CARMABI: Mark Vermeij                               |
| Plants              | Flora collection   | EUX     | UPR: Franklin Axelrod                               |
| Plants              | Palm tree survey   | SAB     | IMARES:<br>STENAPA: Erik Boman                      |
| Insects             | Inventory of butterfly species   | EUX     | STENAPA: Hannah Madden                              |
| Insects             | Inventory and collection of arachnids  | EUX     | STENAPA: Hannah Madden                              |
| Geology             | Benthic mapping of St. Eustatius National Marine Park                              | EUX     | IMARES: Dolfi Debrot                                |
| Environmental       | Production of dissolved organic compounds on Caribbean reefs                       | CUR     | NIOZ: Fleur van Duyl                                |
| Environmental       | Nutrient dynamics on reefs   | CUR     | CARMABI: Mark Vermeij                               |
| Socio-economic      | TEEB - The Economics of Ecosystems and Biodiversity                                | BON     | VU: Pieter van Beukering<br>WKICS: Esther Wolfs     |





## Monitoring overview

In the monitoring overview table you will find an overview of the monitoring underway in the Dutch Caribbean. In each future BioNews newsletter you will find an update on current monitoring.

Don't see your monitoring programme on this list?

Email us: [research@dcnanature.org](mailto:research@dcnanature.org)

| Category      | Title  | Islands                 | Organisation; Project Leader  |
|---------------|--|-------------------------|---|
| Mammals       | Bat monitoring and inventory and mapping of caves                  | ARU, BON, CUR           | FPNA: Indra Zaandam<br>STINAPA Bonaire: Fernando Simal & Jaffet Nasar<br>CARMABI: John de Freitas             |
| Mammals       | Cetacean sighting network  | SAB, EUX, SXM           | STENAPA: Anna Maitz   |
| Birds         | Terrestrial bird monitoring  | BON, EUX, SXM           | STINAPA Bonaire: Fernando Simal<br>STENAPA: Hannah Madden<br>EPIC: Rueben Thompson                            |
| Birds         | Seabird monitoring   | BON, SAB, EUX           | STINAPA Bonaire: Fernando Simal<br>SCF: Kai Wulf<br>STENAPA: Hannah Madden                                    |
| Birds         | Red-billed Tropicbird breeding success monitoring                  | SAB, EUX                | SCF: Kai Wulf<br>STENAPA: Hannah Madden   |
| Birds         | Brown Pelican abundance and breeding success monitoring            | SXM                     | Nature Foundation: Tadzio Bervoets  |
| Birds         | Flamingo abundance monitoring (monthly counts)                     | BON                     | DROB: Frank van Slobbe<br>STINAPA Bonaire   |
| Birds         | Pilot habitat monitoring for terrestrial birds                     | BON                     | Echo: Sam Williams  |
| Reptiles      | Sea turtle nesting and beach monitoring                            | ARU, BON, EUX, SXM      | Turtugaruba: van der Wal<br>STCB: Mabel Nava<br>STENAPA: Jessica Berkel<br>Nature Foundation: Tadzio Bervoets |
| Reptiles      | Leatherback nesting monitoring                                     | EUX                     | STENAPA: Jessica Berkel   |
| Reptiles      | Sea turtle sightings   | BON, EUX, SXM           | STCB: Mabel Nava<br>STENAPA: Jessica Berkel<br>Nature Foundation: Tadzio Bervoets                             |
| Reptiles      | Sea turtle tagging and satellite tracking                          | BON                     | STCB: Mabel Nava  |
| Reptiles      | Invasive species programme ( <i>Boa constrictor</i> )              | ARU                     | FPNA: Salvador Franken  |
| Reptiles      | Aruban Island Rattlesnake ( <i>Cascabel</i> ) genetics             | ARU                     | FPNA: Agapito Gomez   |
| Reptiles      | Breeding success monitoring for the Lesser Antillean Iguana        | EUX                     | IMARES: Dolfi Debrot<br>STENAPA: Erik Boman   |
| Reptiles      | Lesser Antillean Iguana sightings                                  | EUX                     | STENAPA: Hannah Madden  |
| Fish          | Lionfish Transect Monitoring                                       | BON, CUR, EUX           | BNMP: Ramon de Leon<br>CARMABI: Mark Vermeij<br>STENAPA: Anna Maitz   |
| Fish          | Lionfish Control Program and abundance monitoring                  | ARU, BON, CUR, EUX, SXM | BNMP: Ramon de Leon<br>CARMABI: Mark Vermeij<br>STENAPA: Anna Maitz<br>Nature Foundation: Tadzio Bervoets     |
| Fish          | Fish population sampling   | SAB (Saba Bank)         | IMARES: Martin de Graaf   |
| Fish          | Monitoring fish landings   | SAB (Saba Bank), EUX    | IMARES: Martin de Graaf<br>STENAPA: Erik Boman  |
| Fish          | Shark tagging and migration monitoring                             | SXM                     | Nature Foundation: Tadzio Bervoets  |
| Fish          | Surveys of reef fish communities                                   | CUR                     | CARMABI: Mark Vermeij   |
| Mollusks      | Queen Conch population study (Capture-Mark-Recapture) in Lac Bay   | BON                     | Sabine Engel<br>STINAPA Bonaire: Ramon de Leon  |
| Mollusks      | Queen Conch population dynamics (larval and adult monitoring)      | EUX                     | IMARES: Martin de Graaf   |
| Corals        | Reef Check   | EUX, SXM                | STENAPA: Steve Piontek<br>Nature Foundation: Tadzio Bervoets  |
| Corals        | Surveys of reef communities  | CUR                     | CARMABI: Mark Vermeij   |
| Corals        | Long term monitoring of Curaçaoan reef communities                 | CUR                     | NIOZ: Rolf Bak  |
| Plants        | Long-term monitoring of orchid species                             | EUX                     | UPR: James Ackerman & Raymond Tremblay  |
| Plants        | Phenology study (associated with ongoing bat monitoring programme) | ARU, BON, CUR           | FPNA: Indra Zaandam<br>STINAPA Bonaire: Fernando Simal<br>CARMABI: John de Freitas                            |
| Plants        | Sea grass monitoring in Lac Bay                                    | BON                     | Sabine Engel  |
| Plants        | Invasive seagrass monitoring                                       | BON, SXM                | STINAPA Bonaire: Sabine Engel<br>Nature Foundation: Tadzio Bervoets   |
| Environmental | Nutrient monitoring (fresh/salt water)                             | BON                     | DROB: Frank van Slobbe<br>BNMP: Ramon de Leon   |
| Environmental | Water quality monitoring   | SXM                     | St. Maarten Nature Foundation   |
| Environmental | Water quality (microbial & nutrients)                              | CUR                     | CARMABI: Mark Vermeij   |
| Environmental | Large scale automated reef surveys                                 | CUR                     | CARMABI: Mark Vermeij   |
|               | Beach profile monitoring   | SAB, EUX                | Jennifer Rahn<br>STENAPA: Jessica Berkel  |
|               | Historical data inventory  | SAB                     | Jennifer Rahn   |
| Human impact  | Diver visitation monitoring  | BON, SAB, EUX, SXM      | STENAPA: Anna Maitz   |



## Nature parks of the Dutch Caribbean



**Aruba**  
 Fundación Parke Nacional Arikok  
 San Fuego 71  
 Santa Cruz, Aruba  
 tel: +297-585-1234  
 www.arubanationalpark.org



**Bonaire**  
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**Curaçao**  
 CARMABI  
 Piscadera Baai, Curaçao  
 tel: +599-9-462-4242  
 www.carmabi.org



## Dutch Caribbean Biodiversity Database

**The Dutch Caribbean Biodiversity Database (DCBD) is an initiative of the Ministry of Economic Affairs (EZ) to create a central online resource, which will house all biodiversity and conservation related information for the Dutch Caribbean region.**

The goal is to make the DCBD the central repository for all biodiversity research and monitoring data for the region. The database will be used to organise, securely store and display data and information, provide easy data en-

try as well as produce statistics, graphics, maps and reports on biodiversity.

The information in the database will be used to provide reports on the status of biodiversity in the region, which will be used, among others, by the Ministry EZ for their annual 'Nature Balance of the Dutch Caribbean'.

DCNA will be working with Alterra on various content management aspects of the database to ensure the database is as user-friendly, functional and useful as possible.

In December 2012 DCNA received funds from the Ministry EZ to:

- acquire existing and new monitoring data for the database,
- provide recommendations to improve the interface and usefulness of the database,
- develop options to improve the data entry interface,
- optimise the map/GIS component of the database,
- provide relevant data, maps, and archive material for inclusion in the database,
- expand the 'lionfishcontrol.org' website to include other Dutch Caribbean islands.

### Need help?

If you have research or monitoring data, DCNA can assist by making sure your data is uploaded correctly into the database and work with you so that Alterra can develop a user-friendly process for data input and any statistics, graphics, maps or reports you might need.

## Events: Workshops, Trainings, Seminars

| Category        | Title  | Islands       | Organisation: Project leader                    |
|-----------------|--|---------------|---|
| Pollution       | Oil Spill Preparedness and Response Workshop. [December 2012]  | SAB, EUX, SXM | Rijkswaterstaat Noordzee: Edith Kuijper         |
| Mammals         | Workshop on the identification of whales & dolphins. [December 2012]                                   | SAB, EUX, SXM | IMARES: Steve Geelhoed & Meike Scheidat         |
| Socio-economics | TEEB Caribbean Netherlands: De economie van de natuur van Bonaire [November 2012; Diergaarde Blijdorp] | BON           | VU: Pieter van Beukering<br>WKICS: Esther Wolfs |



## Nature parks of the Dutch Caribbean



### Saba

Saba Conservation  
Foundation  
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www.sabapark.org



### St Eustatius

STENAPA  
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### St Maarten

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www.naturefoundationsxm.org

## Reports and Publications

Below you will find an overview of the reports and publications on biodiversity related subjects in the Dutch Caribbean that came out in the last quarter of 2012. In each future BioNews newsletter you will find an update on the latest reports and publications.

### Becking, L.E.; Slijkerman, D.M.E. (2012)

Generic ecological assessment framework for coastal ecosystems in the Caribbean Netherlands  
Den Helder : IMARES, (Report / IMARES C122/12) - p. 44.

### Bervoets, T. (2012)

Project Report: St. Maarten Pelican Project. St. Maarten Nature Foundation - p. 14.

### Buurt, G. van; Debrot, A.O. (2012)

Introduced agricultural pests, plant and animals diseases and vectors in the Dutch Caribbean, with an alert species list  
Den Helder : IMARES, (Report / IMARES C193/11) - p. 35.

### Cremer, J.S.M.; Meesters, H.W.G. (2012)

Bonaire National Marine Park (BNMP) op weg naar werelderfgoed  
Den Burg : IMARES, (Rapport C140/12) - p. 21.

### Davaasuren, N.; Meesters, H.W.G. (2012)

Extent and health of mangroves in Lac Bay Bonaire using satellite data  
Den Helder : IMARES, (Report / IMARES C190/11) - p. 64.

### Debrot, A.O.; Hylkema, A.; Vogelaar, W.; Meesters, H.W.G.; Engel, M.S.; Leon, R.; Prud'homme van Reine, W.F.; Nagelkerken, I. (2012)

Baseline surveys of Lac Bay benthic and fish communities, Bonaire  
Den Helder : IMARES, (Report / IMARES C129/12) - p. 52.

### Nava, M. (2012)

Workshop Report - St. Maarten Nature Foundation Training and Sea Turtle Assessment on St. Maarten.  
Sea Turtle Conservation Bonaire – p.11.

### Overzee, H.M.J. van; Beek, I.J.M. van; Graaf, M. de; Debrot, A.O.; Hintzen, N.T.; Coers, A.; Bos, O.G. (2012)

Kennisvraag haaien: wat is er bekend over haaien voor de voor Nederland relevante gebieden?  
IJmuiden : IMARES, (Rapport / IMARES C113/12) - p. 63.

### Rivera-Milán, F.F., F. Simal, and P. Bertuol (2012)

Population Surveys of the Yellow-shouldered Parrot (*Amazona barbadensis rothschildi*) on Bonaire in March and October 2010–2012.  
Report by U.S. Fish and Wildlife Service, Division of Migratory Bird Management and STINAPA Bonaire – p. 12.

### STINAPA Bonaire (2012)

Conch restoration Project Report. Reporting period May to October 2012. STINAPA Bonaire – p. 25.

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Dutch Caribbean Nature Alliance  
Safeguarding nature in the Dutch Caribbean

# Looking ahead...

**To help you stay on top of biodiversity related issues in the Dutch Caribbean, here's a calendar of research and monitoring related events coming up in the next quarter.**



## January

- 31 January 'Algemeen Overleg' TEEB in The Hague, the Netherlands
- Red-billed Tropicbird breeding monitoring – STENAPA
- Continuation water quality testing Emilio Wilson Estate – St. Maarten Nature Foundation
- 3<sup>rd</sup> Annual Marine Mammal Monitoring Project – St. Maarten Nature Foundation

## February

- 13 February – 'Goed Geld Gala' in The Hague, Netherlands
- Red-billed Tropicbird breeding success monitoring – SCF and STENAPA
- Audubon's Shearwater monitoring – SCF and STENAPA
- 3<sup>rd</sup> Annual Marine Mammal Monitoring Project – St. Maarten Nature Foundation

## March

- 'Nature Policy Plan BES' to be presented to Dutch Parliament
- 3 - 14 March – CITES Conference of Parties in Bangkok, Thailand
- 4 - 9 March – Ramsar Caribbean Wetland Initiative Meeting in Surinam (unconfirmed)
- 12 - 14 March – Inter-American Sea Turtle Convention, Consultative Committee of Experts meeting in Honduras
- **18 – 21 March – 18<sup>th</sup> DCNA Board Meeting held on St. Maarten**
- 22 – 23 March – Data analysis workshop on St. Maarten
- 27 - 28 March – EEZ Commission meeting on Bonaire (unconfirmed and might change to Curaçao)
- Red-billed Tropicbird breeding success monitoring – SCF and STENAPA
- Audubon's Shearwater monitoring – SCF and STENAPA
- 3<sup>rd</sup> Annual Marine Mammal Monitoring Project – St. Maarten Nature Foundation.

## List of acronyms

|         |  |         |   |
|---------|--|---------|---|
| AMLC    | Association of Marine Laboratories of the Caribbean          | IMARES  | Institute for Marine Research   |
| ARU     | Aruba  | LVV     | Department of Agriculture, Animal Husbandry and Fisheries                           |
| BNMP    | Bonaire National Marine Park                                 | Min EZ  | Ministry of Economics (formerly: Ministry of Economics, Agriculture and Innovation) |
| BON     | Bonaire  | NIOZ    | Royal Netherlands Institute for Sea Research  |
| CARMABI | Caribbean Research and Management of Biodiversity foundation | NOW     | Netherlands Organisation for Scientific Research                                    |
| CNSC    | Caribbean Netherlands Science Centre                         | SAB     | Saba  |
| CUR     | Curaçao  | SCF     | Saba Conservation Foundation  |
| DCBD    | Dutch Caribbean Biodiversity Database                        | STCB    | Sea Turtle Conservation Bonaire   |
| DCNA    | Dutch Caribbean Nature Alliance                              | STENAPA | St. Eustatius National Parks  |
| DROB    | Directorate of Spatial Planning and Development              | STINAPA | Stichting National Parken Bonaire   |
| EPIC    | Environmental Protection In Caribbean                        | SXM     | St. Maarten   |
| EUX     | St. Eustatius (Statia)                                       | UPR     | University of Puerto Rico   |
| FPNA    | Fundacion Parke Nacional Arikok                              | VU      | Vrije Universiteit Amsterdam  |

