

## **Overview**

The pilot project in the Nariva Swamp focuses on the ecosystem services provided by agriculture, pollination and pollinator habitat quality.

The goal is to evaluate the effects of potential future scenarios, such as changes in land use and climate, on the interactions between these three services by:

- assessing, mapping and valuing agriculture, pollination and pollinator habitat quality;
- identifying trade-offs and synergies between these services in order to identify win-win-win scenarios;
- identifying and, where possible, quantifying drivers of ecosystem service supply change;
- assessing the relationships between drivers and between drivers and ecosystem service supply response functions
- producing supply response models for pollination, habitat quality and agricultural production under different scenarios; and
- mapping the flow of benefits from these ecosystem services to local and national stakeholders;
- using these maps as the basis for participatory decision-making.

## **Methodology**

The services will be assessed individually through pollinator exclusion experiments, pollen analyses, field observations, habitat assessments, questionnaires and focus groups. The InVEST program will be used for mapping and partial valuations of the services, trade-off analyses, scenario planning and driver relationship assessments.

### **Rationale for the Nariva project**

Pollination as an ecosystem service is in decline worldwide as a consequence of habitat destruction, pesticide use, diseases, parasites and unsustainable farming practices. And this decline has a direct impact on food production.

Since agriculture makes an important contribution to people's livelihoods in Nariva, Plum Mitan and environs, it is important for all stakeholders to understand the relationship between agriculture, pollination and pollinator habitat quality. If there is a disruption to any one service, the way in which local people benefit will change. Or they might completely lose a benefit they have relied on in the past.

### **Results**

By investigating the way in which the three ecosystem services are supplied, the extent and value of each service and the way in which they interact to produce potential synergies and/or trade-offs, the project will supply stakeholders with effective data and management tools for decision-making.

Together with the results and findings from the other pilot sites, the project is expected to contribute to a more complete picture of the value of the ecosystem services provided by ecosystems in Trinidad and Tobago and to the integration of ecosystem service values in national planning and accounting.

The project is being coordinated by Lena Dempewolf as part of her research for a PhD at the University of the West Indies. Lena began her research in 2011 and expects to complete it in 2014.