

Registration Form

ACI Latin America and Caribbean Green Airport recognition 2025

Submission deadline: September 5, 2025



ACI-LAC will send an acknowledgment of receipt via email after receiving each form.

• **Participating Airport Information**

Name: Martinique Aimé Césaire International Airport

Airport Group (if applicable):

Full name: SUEZ PANAMA BOUTON Willem Gerald

Position: Head of Aeronautical Infrastructure & Civil Engineering Division

Email: w.suez-panama-bouton@martinique.aeroport.fr

Project's name: EcoBypass: Innovative Stormwater Management and Biodiversity Preservation at Martinique Aimé Césaire Airport

Project website (if applicable):

• **Official/Alternate Representative for ACI-LAC**

Signature of the official/alternate representative for ACI-LAC:

Full name: Nathalie SEBASTIEN

Position: Chairwoman of the Management Board

Email: n.sebastien@martinique.aeroport.fr

• **Recognition conditions**

I accept that the information provided (executive summary and graphics/images) be published at the discretion of ACI-LAC.



Biodiversity and Nature-Based Solutions (NbS)

The **Green Airports Recognition 2025** offers a valuable platform for airports across Latin America and the Caribbean to showcase their successful efforts in biodiversity preservation and the implementation of Nature-Based Solutions (NbS) within the aviation sector. Initiatives may include (but not limited to) wetland restoration and creation, restoring ecosystems, and leveraging NbS for carbon removal. Examples of eligible practices range from in-house horticulture and airport nurseries, plantation for carbon reduction and community benefits, ecological rejuvenation of wetlands, marine life conservation efforts led by airports, and basket of measures for biodiversity.

Important note: Projects currently under implementation are eligible, provided they are mature enough to

produce measurable, quantitative outcomes in accordance with the evaluation criteria. Participating airports or airport groups may submit only one (1) project

- **Evaluation**

Each application evaluated must meet the following recognition criteria:

- 1. Involvement of the airport's senior management**

Demonstrate active participation and endorsement from airport senior management during any phase of the project's development or implementation.

- 2. Sustainability Benefit**

Detailed description of the sustainability benefits of the project/program supported by quantitative data and objective sustainability indicators where possible.

Indicate the level to which the project contributes to the United Nations Sustainable Development Goals

- 3. Stakeholder Engagement**

Present evidence of collaboration with internal teams and external partners—such as government agencies, NGOs, community groups, or industry stakeholders—in the planning and execution of the initiative

- 4. Innovation**

Demonstrate that the project/program exceeds standard industry practices.

In addition, ACI-LAC will present a Special Recognition to the project demonstrating exceptional achievement. To be eligible, the participating airport must hold accreditation at any level within the Airport Carbon Accreditation (ACA) program.

The weighting of the criteria for special recognition is indicated below:

1. Involvement of the airport's senior management (20%)
2. Sustainability Benefit (30%)
3. Stakeholder Engagement (30%)
4. Innovation (20%)

- **Instructions to participate.**

Complete and submit the form with the project information in MS Word and send to fmedela@aci-lac.aero before **September 05, 2025**.

1. Summary Executive (maximum 350 words)

Please include an Executive Summary of the project in a maximum of 350 words. In case your project meets the criteria of the ACI-LAC *Green Airport Recognition*, this Executive Summary will be included in the Best Environmental Practices Document that seeks to promote best practices that minimize the impact of airports on the environment, in addition to recognizing the achievements of airports in the region in their environmental projects.

Martinique Aimé Césaire International Airport is located in a highly sensitive coastal environment built on former mangrove land. Its stormwater drainage network runs through dense mangrove areas, creating a dual challenge: maintaining sufficient hydraulic capacity to protect airport operations during heavy tropical rainfall, and minimizing human disturbance to an ecologically rich but fragile habitat. Additionally, the presence of piscivorous birds attracted by fish moving up the drainage channels creates a significant bird strike risk, threatening aircraft safety.

The Osprey and the Brown Pelican, drawn to large fish, represent a major risk for operations. Collisions with these large birds have already caused significant damage to engines and airframes, highlighting their critical impact on aviation safety.

EcoBypass combines civil engineering, applied ecology, and airport safety principles into one coherent approach. The project includes the construction of a bypass drainage canal outside the mangrove, freeing the natural ecosystem from heavy maintenance activities.

At the new discharge point, a selective slide gate fitted with a calibrated screen prevents fish from entering the airside network, thus removing the main attractant for piscivorous birds while allowing water to flow freely.

A second major component of the project is the creation of a managed ecological basin within airport grounds but away from operational areas. This basin serves as both a scientific monitoring site and a safe alternative habitat for wildlife, deliberately attracting birds away from critical flight paths.

This innovative combination of infrastructure and ecological design has already shown promising results during its pilot phase, where a temporary net reduced bird strikes involving large species. The project demonstrates the airport's commitment to the United Nations Sustainable Development Goals, particularly SDG 6 (Clean Water), SDG 13 (Climate Action), and SDG 15 (Life on Land).

Supported by senior management and developed in collaboration with internal and external partners such as SUEZ Consulting and AéroBiodiversité, EcoBypass illustrates how sustainable stormwater management can enhance both biodiversity conservation and operational safety.

EcoBypass is a pilot project for integrated water–biodiversity–aviation safety management, demonstrating that an airport can transform a constrained area into a space with added ecological and safety value.

2. Project Background (maximum 150 words)

Please describe the background of the project or program (Why was it necessary to develop this project/program?)

The airport's stormwater network currently discharges into the sea through channels running across a large mangrove area. Over time, dense vegetation has colonized the outfall channel, reducing its hydraulic capacity and causing water levels to rise significantly during major rainfall events. A hydraulic study in 2024 showed that under current conditions, a ten-year storm could raise water levels on the runway strips by up to 50 cm, posing a risk to operations.

At the same time, the mangrove attracts fish and piscivorous birds, some of which pose a high risk to aviation safety. After years of research, the Wildlife Department of Martinique Aimé Césaire airport was able to determine the minimum size of fish targeted by these birds.

Frequent dredging and cutting to maintain the channel disrupt the natural balance of the mangrove ecosystem. A solution was required to improve drainage capacity, reduce bird strike risk, and minimize ecological disturbance.

3. Project scope (maximum 50 words)

Describe the area of implementation of the project, for example: area of operations, terminal, the entire airport, etc ; as well as agents involved in it: airport staff, other *stakeholders* , NGOs , environmental groups, etc.

The EcoBypass project was implemented along the airport's northern boundary, covering the stormwater network and adjacent ecological zones. It involves internal airport teams, including Operations and Wildlife Management, state environmental authorities such as DEAL, the Ministry of Ecology, and local territorial authorities, alongside external partners like Hydréco and AéroBiodiversité.

4. Project Description (maximum 100 words)

Describe how the project was implemented.

Following hydraulic and ecological studies, the EcoBypass project involves constructing a bypass drainage canal along the northern edge of Martinique Aimé Césaire Airport, outside operational zones. A solar-powered selective slide gate will control water flow while preventing fish from entering airside channels, reducing the presence of piscivorous birds.

The project also includes a managed ecological basin for biodiversity monitoring and to attract birds away from runways. It was implemented in collaboration with internal teams (Operations, Wildlife Management, and Safety Management), state environmental authorities, and external partners, ensuring integrated management of water, wildlife, and airport safety.

5. Project results and benefits (maximum 300 words)

Describe the results of the project highlighting its achievements. Please emphasize data, for example: cost savings, recognized environmental benefits, evidence of innovation, etc.

The EcoBypass project provides a tangible and measurable response to the identified challenges.

Improved hydraulic flow

The new canal route, located outside the mangrove and installed in a grassed area, increases the airport's stormwater drainage and temporary storage capacity. This configuration significantly reduces past issues of water stagnation and overflow, enhancing airfield safety. The preliminary results of the ongoing update of the hydraulic study, based on the projected state of the network, already confirms these improvements.

Reduced bird strike risk

By preventing fish from entering the drainage network from the mangrove, the integrated selective gate system greatly reduces the attractiveness of the canals to piscivorous birds. This directly contributes to lowering the risk of bird strikes in the airport area, improving operational safety. A preliminary experimental phase of this project, consisting of installing a temporary net at the current main outfall, demonstrated a drastic reduction in bird strikes, particularly collisions with large birds. Our subcontractor in charge of monitoring local fauna observed a significant decrease in the number of fish present in the canals.

Furthermore, the creation of a managed wetland outside runway safety zones provides an alternative ecosystem, diverting birds away from flight paths.

Biodiversity preservation

By bypassing the mangrove, the project avoids heavy maintenance interventions in this fragile ecosystem, preserving its natural regulatory and filtration functions. Conserving the mangrove around the airport also improves the resilience of airport infrastructure against marine erosion and extreme climatic events, such as tsunamis or cyclonic waves.

EcoBypass contributes to the United Nations Sustainable Development Goals, particularly SDG 6 (Clean Water and Sanitation), SDG 13 (Climate Action), and SDG 15 (Life on Land).

This project thus demonstrates that technical efficiency and biodiversity protection can coexist, placing innovation at the service of sustainable airport management.

6. Graphics and Images (maximum 4)

Include a maximum of 4 graphs, including tables or photographs, with a brief description. This information will also be included in the Best Environmental Practices Document.

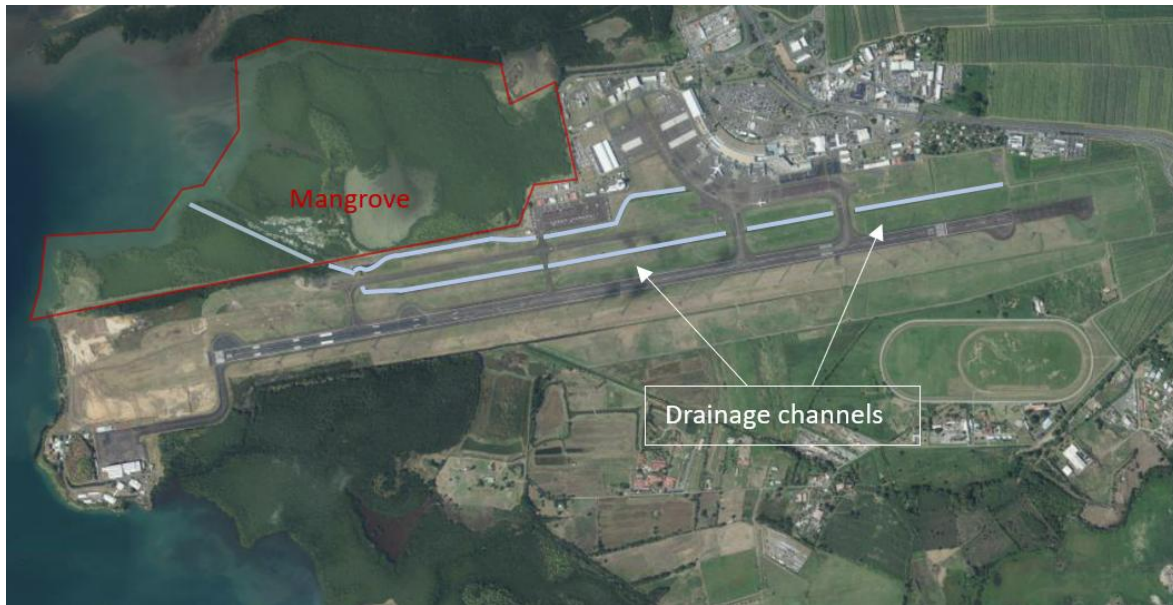


Figure 1: General layout of the stormwater drainage network at Martinique Aimé Césaire Airport

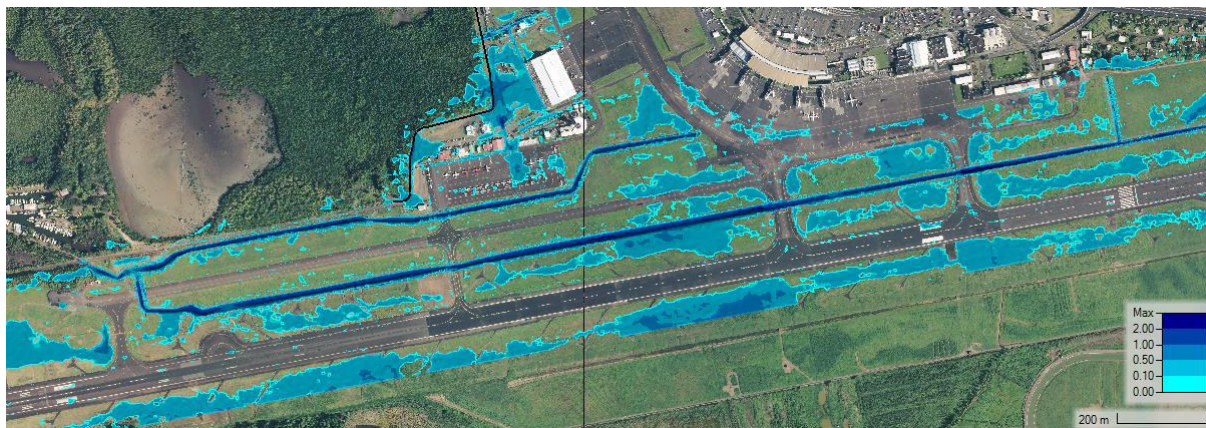


Figure 2: Maximum water levels (in meters) during a ten-year flood – Source: SUEZ Consulting, 2024.



Figure 3: Schematic plan of the new drainage channel

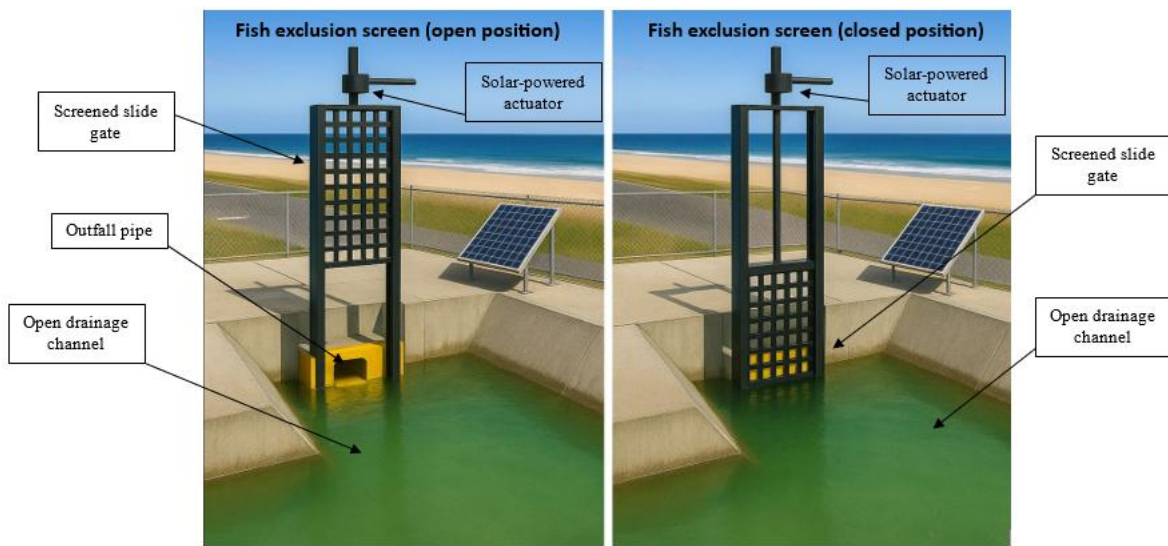


Figure 4: Outfall tank with selective slide gate