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Program for the development of an environmental culture that promotes the conservation of birds in coastal communities of the APRM Baconao Biosphere Reserve Cuba.

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3. Art instructor Antonio Boissan Elementary School, Oasis Community.
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Resumen

Through the presentation of the project: Program for the development of an environmental culture that encourages the conservation of birds in coastal communities of the Protected Area of Managed Resources, Baconao Biosphere Reserve Cuba, in the Cape Cod Birds Club fund, we had the opportunity to establish Links between the Santiago de Cuba Flora and Fauna Company and three communities located in the APRM Baconao based on environmental education activities. Prior to the project, a survey of the bird species with the highest capture rate in the area was carried out, which allowed us to better focus on the environmental and social situation of the communities and consequently act to reverse this situation. The results obtained were turned into environmental education experiences in schools located in the region. In them, the following stood out: training for teachers and students, regarding the accelerated and unpunished growth of the illegal trade and trafficking of wildlife in Cuba and our role as a citizen to reverse this evil that is so damaging to the conservation of biodiversity. As a closing of the project activities, a Poetry and Story Contest for Children about Cuban and migratory birds that require protection was held in the context of the school year, with good acceptance, with a total of 25 people participating among children, adolescents and adults, as well such as the making of a mural in the courtyard of the elementary school in the town of El Oasis with an allegorical theme of not capturing wild birds. This program has obtained short and long-term achievements such as the insertion of organizations such as the State Forest Service and the Environmental Unit of the province in the activities and consequently obtaining financial support to replicate this program in other locations in the province. Santiago de Cuba.

Keywords: Birds, Environmental education, APRM Baconao Biosphere Reserve

Introduction

The design and implementation of environmental education programs is a strategy by which individuals are expected to adopt behaviors and practices that allow them to live a full life in harmony with the sustainable development policy (UNESCO, 2004). So, in congruence with this strategy, the expected results are an improvement in the environment as a result of a greater environmental awareness of the population.

Like many of the groups of vertebrates that exist today, birds face a series of direct and indirect threats such as the destruction of their habitat, indiscriminate hunting, among others (Hoffman, et al., 2010). In Cuba, year after year during the autumn migration, many people are observed in our fields and cities capturing birds to keep in captivity and introduce them to the illicit market (eg, Azulejos, Mariposas, Degollados, Azulejones, and others). These birds do not belong only to Cuba, as they are also part of the fauna of other countries and many are protected in them. Likewise, species that breed in our country are captured such as Parrots, Parakeets or Cateyes, Tomeguines de la Tierra and El Pinar, Aparecidos de San Diego, Mockingbirds, Negritos, Goats, among others. The Flora and Fauna Company in Santiago de Cuba, a pioneer in the conservation of the country's biodiversity, has for several years been developing actions aimed at reversing this situation in different areas of the Santiago de Cuba province where it has been observed to be a focus of illegal extractions bird's. It is therefore that the objective of this program is to encourage the population of the APRM Baconao to conserve birds through the development and dissemination of environmental ecological education programs in primary, secondary and adult schools in general that allow reducing or mitigating threats about it.

Área de intervención

The Protected Area of Managed Resources (APRM) Baconao Biosphere Reserve is located east of the city of Santiago de Cuba, in the eastern portion of the Sierra Maestra with a surface area of 84,887 ha.

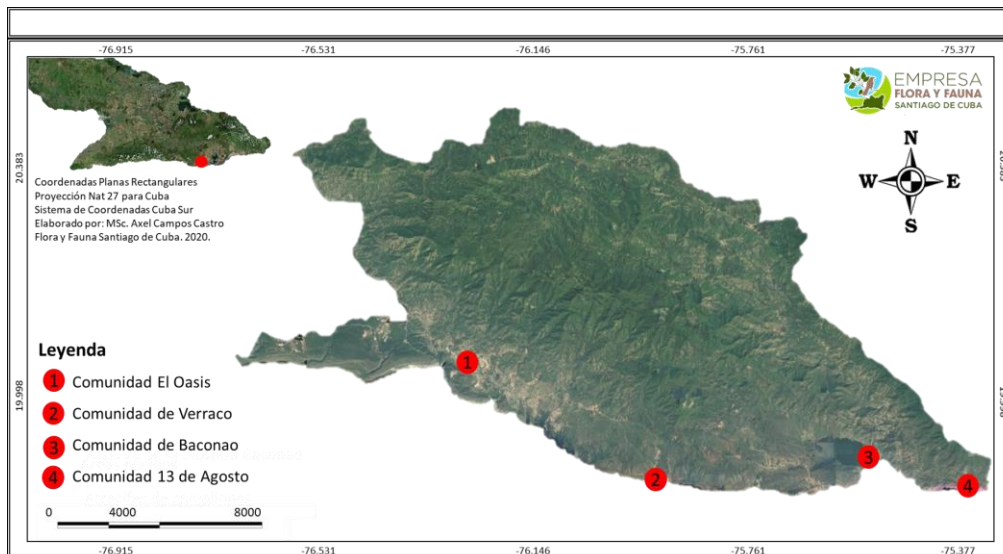


Figure 1. Program intervention zones in the Protected Area of Managed Resources (APRM) Baconao Biosphere Reserve

The APRM territory comprises more than 20 human settlements, however, only four are involved in the following program, located in areas on the peripheries of the protected area: El Oasis with 1,737 inhabitants; Berraco with 874 inhabitants; August 13 with 325 inhabitants and Baconao, 205 inhabitants that make use of the natural resources of the protected area (APRM Baconao Management Plan 2019-2023).

Results

The fact that birds are part of our cultural heritage, facilitates the approach from the educational point of view, since the population of students always knows some kind of myth, legend, belief, story, music, dance, or simply a bird sighting, which relates their previous knowledge about birds with the new contents that are addressed for the environmental education carried out, in this way the students' knowledge is retaken to build from them, so that the talks or workshops are more meaningful educationally speaking (Palavecino, 2017).

For this reason, the Program began with the implementation of talks, workshops and meetings where the characteristics of the study area were described. On the other hand, visual and auditory identifications of the birds were carried out, at first, from the information presented in power point, and later from direct observation in field trips carried out with the participants (Figure 2).



Figure 2. Talks and drawing section with children and adolescents from the El Oasis community.

During the execution of the program we used some lessons from the International Bird Detective curriculum of the Cornell Laboratory of Ornithology for the development of a series of activities such as: 1) Observation of land and sea birds that use the area as a route for their migration or wintering site, describe its most notable characteristics, as well as compare and contrast characteristics of local bird species. This allowed the compilation of a list of species that is used by the researchers. Training and handling practices of optical instruments (Figure 3 and 4) for bird watching.



Figure 3. Observation of land birds with children from the Antonio Boisan school. El Oasis Community.



Figure 4. Observation of seabirds with children from the Baconao community.

3) In the context of the school year, we convene Drawing, Poetry or Story Contests for children, adolescents and adults on Cuban and migratory birds that require protection.



Concurso de cuentos y poesía
“Guardianes de las aves”

Con el tema “Historias de aves terrestres y marinas”,
se abre la convocatoria a participar en el concurso
Guardianes de las Aves,
que se organiza con el objetivo de conmemorar
el Día Mundial de las aves migratorias.

Este evento es organizado por la Empresa Flora y Fauna Santiago de Cuba.
Pueden participar todas aquellas personas que presenten un cuento o poesía
relacionado al tema “Historias de aves terrestres y marinas”.

Las obras se recibirán hasta el 5 de octubre, sin excepción.
Habrá tres categorías: Niños/as : de 6 a 12 años;
Adolescentes: de 13 a 18 años;
Adultos: a partir de los 19 años (sin límite de edad).

Habrán premios sorpresa y diplomas de participación para todos los
autores. Las personas que deseen consultar las bases y condiciones
para participar en este concurso pueden llamar al 22622232 y
preguntar por las especialistas
Ines Lourdes Fernández o Kenia Mestril C.

PARTICIPA

Figura 5. Call for the Short Story and Poetry contest.

A total of 21 people participated as shown in Table 1.

Ages	Poetry Category	Story Category
	No. of people	No. of people
6-12	7	3
13- 18	12	
19 and more	2	1
TOTAL	21	4



Figure 6. Awarding of the Short Story and Poetry contest at the Antonio Boissan school.



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4) Create a mural made by children and adolescents of the community with allegorical themes to not capture wild birds. For the painting of it, the birds that were most captured in the province were selected together with a phrase that inspired respect for all living beings.





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Project achievements

- Linking the population to protected natural areas is an effective way to magnify the importance of conserving the environment, making it possible to raise awareness for a responsible and sustainable use of resources.
- This program has obtained as short and long-term achievements the insertion of organizations such as the State Forest Service, the Forest Guard Corps and the Environment Unit of the province in the activities and consequently the obtaining of financial support to replicate this program in other towns in the Santiago de Cuba province.

Bibliographic references

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Desglose de presupuesto utilizado durante las actividades

Materials	Quantity	Cost of National Currency	Total	Cost USD (Exchange rate 1 USD x 25 MN)	Total	Purchase source
Crayons (Box)	25	50	1250	50	50	Tiendas nacionales
Colored pencils (Box)	10	32	320	12.8	12.8	Tiendas nacionales
Paint pigments	10		0	9.96	99.6	www.amazon.com
White Vinyl Paint (gallon)	2	200	400	16	32	Tiendas nacionales
Oil paint (gallon)	1	545	545	21.8	21.8	Tiendas nacionales
Set of 24 acrylic and oil paint brushes	2			16.96	33.92	www.amazon.com
Brushes	2	32	64	2.56	5.12	Tiendas nacionales
Datashow	1			500	500	www.amazon.com
Tablet	1			110	110	
Logistics and transportation for activities				100	100	Tiendas nacionales
TOTAL					965.24	