SYSTEMATIZATION OF THE SACD YOUTH ENGAGEMENT PROGRAM

BAS-SACD STUDENT ENGAGEMENT AND AWARENESS STRATEGY



Conservation of Marine Resources in Central America Phase II Project (Financial Agreement 2010 66 836)

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CONSULTANT

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ACRONYMS

BAS	Belize Audubon Society
BHNM	Blue Hole Natural Monument
BV	Blue Ventures
CBWS	Corozal Bay Wildlife Sanctuary
CEIS	Community Engagement and Investment Strategy
CEMJC	Centro Escolar Mexico Junior College
CR	Community Researcher
FD	Forest Department
FiD	Fisheries Department
HMCNM	Half Moon Caye Natural Monument
SACD	Sarteneja Alliance for Conservation and Development
SEA	Southern Environmental Association
SEAS	Student Engagement and Awareness Strategy
TASA	Turneffe Atoll Sustainability Association
VIP	Volunteer and Internship Programme
WT	Wildtracks

EXECUTIVE SUMMARY

Sarteneja, Chunox and Copper Bank form the northern fishing communities and are key stakeholders of many of the marine protected areas (MPAs) in Belize, including Corozal Bay Wildlife Sanctuary, Lighthouse Reef (Half Moon Caye and Blue Hole Natural Monuments) and Turneffe Atoll Marine Reserve. These communities are relatively remote, with protected area managers finding that they need a high investment in time and funding for outreach and engagement activities. With many of the MPA managers not based in the north, near these communities, and with the challenges of access, community engagement has been limited to infrequent project-based activities, often with limited short term outputs.

A Northern Communities Engagement and Investment Strategy was developed jointly by Belize Audubon Society (BAS) and the Sarteneja Alliance for Conservation and Development (SACD) to identify strategies for improved engagement of these communities, based on the goal of nurturing *"Engaged, resilient*"

INTENDED IMPACT OF THE SEAS

'To inspire, inform and engage youths in conservation throughout their schooling and beyond, to build future conservation stewardship in the northern fishing communities.'

..contributing towards the long term outcome of...

'Engaged, resilient communities demonstrating good stewardship of the environment, with improved socio-economic benefits." communities demonstrating good stewardship of the environment, with improved socio-economic benefits." This identifies the need for a long term, stratified Student Engagement and Awareness Plan, considered a priority for these organizations if they are going to effectively inspire, inform and engage students in conservation throughout their schooling and beyond, to build future conservation stewardship in the northern fishing communities.

There is recognition that efforts to promote behaviour change need to ensure that the next generation of youths have the education and awareness to take on the conservation leadership role within their communities, and improve stewardship of their environment. The Strategy identifies the challenges of not having a cohesive

framework to guide student engagement, with a history of project-based activities that have resulted in limited continuity of presence in the schools, with stops and starts to engagement activities, no cohesive messages and duplication of effort by the different organizations working in the area. The limited continuity of activities based on short term project cycles, in particular, is considered a significant barrier to long-term achievement of the outreach objectives of both Belize Audubon Society and the Sarteneja Alliance for Conservation and Development.

This **Student Engagement and Awareness Strategy** focuses on that part of the Northern Communities Engagement and Investment Strategy that targets youths in the communities, with the development of a structured, collaborative, long-term programme that follows students through primary and high school and beyond, building knowledge and understanding of key conservation concepts, to improve outcomes, be more cost effective, and keep students engaged as they mature into young adults.

An assessment was conducted of the effectiveness of the five different youth engagement programmes implemented by BAS and SACD over the years, focusing on answering the following questions:

- Did the programmes achieve their awareness objectives?
- Did the programmes result in behaviour change?
- What was the level of family / peer support?
- Did programme influence spread beyond the participant?

The results demonstrated that there is a high level of youth engagement, with positive behavioural change...especially when field activities are part of the structured learning activities. It integrates a focus on not only class based activities, but also 'learning by doing' through outdoor experience. This is considered critical as it is the field activities such as the BAS Reef Protectors and SACD Volunteer and Internship Programmes that engage interest in the environment and build conservation leadership skills in these key fishing communities.

This **Student Engagement and Awareness Strategy** It is based on the lessons learnt, perceptions and outputs provided by the youth engagement programme assessment, and the participatory planning process with BAS, SACD and other MPA co-management partners. Its objective is the development of a collaborative framework for a structured youth engagement strategy. The Strategy provides opportunities for class and field activities from infants through high school, integrating existing activities by multiple organizations, reducing overlap of effort, and standardising messages to ensure students are immersed in and inspired by conservation experiences throughout their school life - from primary to high schools – and continuing beyond.

I. INTRODUCTION

Sarteneja, Chunox and Copper Bank are considered as among the most vulnerable of Belize's coastal fishing communities, at the highest risk from climate change impacts, and in a district with the highest increase in poverty. Fishing is the primary economic activity for households in these northern communities, with fishers using traditional fishing methods – free diving to harvest lobster, conch and fin fish from the northern coastal waters to as far south as Gladden Spit and Silk Cayes Marine Reserve, and out to the atolls. Belize Audubon Society (BAS) and Sarteneja Alliance for Conservation and Development (SACD) both hold co-management responsibility for marine protected areas impacted by the northern fisher communities. BAS manages Half Moon Caye and Blue Natural Monuments, on Lighthouse Reef; SACD manages Corozal Bay Wildlife Sanctuary. Both work in partnership with the Belize Forest Department, the management authority, in implementation of the site level management plans, and in close collaboration with the Belize Fisheries Department, in management of the traditional fishery in and around these areas.

BAS and SACD seek to strengthen and improve existing community outreach and income diversification programmes through the development and implementation of a joint Community Engagement and Investment Strategy (BAS / SACD, 2019) that takes into consideration the need to:

- strengthen and improve existing community outreach and livelihood strategies,
- increase community and livelihood resilience to climate change,
- engage stakeholders in reducing pressure on the marine resources.

This Strategy, with evaluation and revision every three years,

The BAS / SACD Community Engagement and Investment Strategy recognizes that a long-term approach is necessary if a significant difference is to be made in tangible benefits to the communities. It is therefore designed as a ten-year framework, and provides information on the socio-economic characteristics of the communities and marine protected area co-management organizations active in these communities. It identifies the socio-economic needs, income diversification opportunities for fishers, and options for increasing climate change resilience of livelihoods and communities.

This **Student Engagement and Awareness Strategy** builds on the Community Engagement and Investment Strategy, focusing on those components that target youths in the communities. It also identifies current activities being conducted by different organizations, and lessons learnt relevant to working with youths in the northern fishing communities.

THE NORTHERN FISHING COMMUNITIES

This Student Engagement and Awareness Strategy targets youths in three key fishing communities in Corozal District, northern Belize – Sarteneja, Chunox and Copper Bank (Figure 1). The BAS / SACD Community Engagement and Investment Strategy provides the socio-economic context and stakeholder mapping for these communities.



FIGURE 1: LOCATION OF SARTENEJA, CHUNOX AND COPPER BANK

THE ORGANIZATIONS

Belize Audubon Society (BAS) is a non-governmental, membership-based organization dedicated to the sustainable management of Belize's natural resources through leadership and strategic partnerships with stakeholders for the benefit of people and the environment. Established in 1969, BAS is the oldest and foremost conservation organization in Belize, and holds a co-management agreement for seven of Belize's national protected areas, including Half Moon Caye and Blue Hole Natural Monuments, located on Lighthouse Reef, and forming part of Belize's World Heritage Site.

The majority of the fishers of Lighthouse Reef area (Fishing Area 7) originate from the northern coastal communities – primarily Copper Bank and Chunox. BAS has been increasing its activities in these communities since 2012, to engage and build support for improved ownership and stewardship of the marine resources of Lighthouse Reef by the fishers. With the BAS office located in Belize City, maintaining consistent, ongoing communication and establishing and maintaining engagement initiatives in the northern communities is expensive in both time and logistical costs. BAS recognizes that developing a collaborative partnership with the Sarteneja Alliance for Conservation and Development (SACD), based in the northern communities, will improve cost effectiveness, consistency of communication with stakeholders and support for community projects, leading to improved outcome success.

Sarteneja Alliance for Conservation and Development (SACD) is a community-orientated, non-profit organization registered in 2008, and based in Sarteneja. The organization holds co-management responsibility for Corozal Bay Wildlife Sanctuary (CBWS), the second largest marine protected area in Belize, and a core component of the river-to-reef Northern Belize Coastal Complex seascape. SACD is dedicated to improving the quality of life of its community stakeholders, and focuses on ensuring the protection and wise use of the natural resources of the Wildlife Sanctuary for the benefit of all. It also works with the communities to improve understanding of climate change and its impacts, and to strengthen resilience of both the protected area and the communities through nature-based adaptations.

SACD provides a supporting structure and mechanisms for effective communication between the organizations in Sarteneja – the Sarteneja Tour Guide and Sarteneja Fishermen Associations. Over the last two years, it has also established the Corozal Bay Advisory Committee (CBAC) to improve two-way communication with local stakeholders, with representation of key sectors – local fishers, fishing and tourism associations, tour guides, tourism developments and village leaders from all three of the northern fishing communities targeted by this Strategy. As part of its community engagement strategy, it has established active Community Researcher and Internship programmes. SACD has as its motto "bringing people together to promote conservation and sustainable development", recognizing the strengths of partnerships with organizations such as BAS to be able to achieve the level of outcome required in the communities, whilst avoiding duplication of effort.

SCHOOLS

There are eight schools in the target communities, one pre-school, five primary schools and two high schools.

Sarteneja

- Sarteneja Community Pre-School
- Sarteneja La Inmaculada Roman Catholic Primary School
- Sarteneja Nazarene Primary School
- Sarteneja Baptist High School

Chunox

- Chunox Roman Catholic School
- Adventist Primary School
- St. Viator's Vocational High School

Copper Bank

San Juan Saltio Roman Catholic School

With easy access to Corozal Town, the majority of Copper Bank students wanting to go on to high school commute daily to Corozal or to Centro Escolar Mexico Junior College (CEMJC), or attend St. Viator's Vocational High School in Chunox. Students from Sarteneja have daily bus access to the St. Viator's Vocational High School. Many students going on to 6th form will then attend either Centro Escolar Mexico Junior College (CEMJC) or Corozal Junior College (CJC).

THE BAS / SACD COMMUNITY ENGAGEMENT AND INVESTMENT STRATEGY THEORY OF CHANGE

The Student Engagement and Awareness Strategy (SEAS) has been developed based on the foundation of the Theory of Change model for the overarching BAS / SACD Community Engagement and Investment Strategy (CEIS), which has, as its ultimate goal, the outcome of:

Engaged, resilient communities demonstrating good stewardship of the environment, with improved socio-economic benefits.

Four Key Strategic Themes were identified as part of the CEIS ToC planning process (Box 1), the most relevant to the Student Engagement and Awareness Strategy are:

Key Strategic Theme 1: Community Engagement,

Key Strategic Theme 4: BAS/SACD Supporting Collaborative Framework

KEY STRATEGIC THEMES - COMMUNITY ENGAGEMENT AND INVESTMENT STRATEGY -

KEY STRATEGIC THEME 1: COMMUNITY ENGAGEMENT

Improving communication, collaboration, capacity and engagement within communities, and ensuring accurate information and perceptions for decision making

KEY STRATEGIC THEME 2: INVESTMENT LINKED TO STRATEGIC OUTCOMES

Ensuring structures and processes are in place for successful income diversification projects in the communities

KEY STRATEGIC THEME 3: RESILIENT COMMUNITIES:

Improving community resilience to climate change

KEY STRATEGIC THEME 4: BAS / SACD SUPPORTING COLLABORATIVE FRAMEWORK

Providing a solid foundation for a long term working partnership towards implementation of the Community Engagement and Investment Strategy

BOX 1

The CEIS Theory of Change (Figure 2) provides the framework for the Student Engagement and Awareness Strategy (SEAS), ensuring the SEAS is fully integrated into the larger CEIS planning and implementation process.

BAS / SACD COMMUNITY ENGAGEMENT AND INVESTMENT STRATEGY



II. MAPPING OF CURRENT YOUTH ENGAGEMENT ACTIVITIES

2.1 ORGANIZATIONS ACTIVE IN YOUTH ENGAGEMENT ACTIVITIES

Five organizations have been identified as currently active in youth engagement and awareness activities in the northern fishing communities:

- Belize Audubon Society (BAS)
- Sarteneja Alliance for Conservation and Development (SACD)
- Turneffe Atoll Sustainability Association (TASA)
- Blue Ventures (BV)
- Wildtracks (WT)

The organizations have similar objectives – raising awareness of the role of marine protected areas and sustainable use, engaging youths to improve future environmental stewardship, building capacity for future conservation leaders, improving perceptions of the MPA co-management organizations (Table 1).

KEY YOUTH ENGAGEMENT OBJECTIVES OF CONSERVATION ORGANIZATIONS ACTIVE IN THE NORTHERN FISHING COMMUNITIES		
BAS	Equipping students to become stewards, youth leaderstowards reducing impacts. Ownership of the resources of LHR, importance of protected areas; if they protect the resources, their livelihoods are secured. Benefits of reef – ecosystem services, fish, lobster and conch, mangrove, seagrass and reef.	
SACD	Nurturing conservation leadership. Promoting conservation, sustainable resource use, ecosystem benefits (especially mangroves), river to reef connectivity. Knowledge and recognition of the role of SACD as the co-management organization.	
TASA	Improving knowledge of ecosystem functionality, and the importance of zones, nursery areas, and sustainable fishing practices. Knowledge and recognition of TASA as an MPA management organization.	
BV	Science support for management of the Northern Belize Coastal Complex, protected areas, building capacity for marine monitoring and research.	
WT	Nurturing the development of conservation leaders, improved understanding of the role of conservation and protected areas, improving stewardship of threatened species (including manatees), building capacity for conservation and project planning.	

TABLE 1: KEY YOUTH ENGAGEMENT OBJECTIVES OF CONSERVATION ORGANIZATIONS ACTIVE IN THE NORTHERN FISHING COMMUNITIES

There is the expressed willingness and commitment by the organizations to collaborate to improve effectiveness in reaching out to the communities in a more structured, coordinated and strategic manner, and increase success in engaging youths.

2.2 MAPPING OF CURRENT AND PAST ACTIVITIES

Mapping of youth engagement activities identified six past and current structured environment-focused youth engagement programmes in the communities, available to youths between 2010 and 2019, either through SACD or BAS (Table 2):

- SACD VIP programme (Volunteer Programme) focused on upper primary level students (2010 to 2012)
- SACD Scholarship Programme, focused on 1st to 4th form high school students (2013 -2018)
- BAS Reef Protectors Programme targeting 3rd and 4th form high school students (2012 ongoing)
- SACD Internship Programme, focusing on 4th form graduates (2018 ongoing)
- SACD Community Researchers targeting youths aged 18+ from the communities (2016 ongoing)

In addition, a number of organizations (including BAS, SACD and TASA) provided presentations on various topics to classes throughout the school year, generally as project-based activities, or following requests from the schools. A number of events are scheduled throughout the year by different organizations, some tied into local events (Sarteneja Fisher Fair, Sarteneja Easter Regatta) and national celebrations (Reef Week), and are attended by multiple NGOs. Others are linked to organizational programme activities (e.g summer camps, school open days, BAS World Wetland Day, Earth Day,) and involve only the implementing organization.

There is currently significant overlap and gaps in coverage with significant efforts focusing on engaging upper primary and high school students, but very few activities targeting younger students, from preschool, Infants and lower primary divisions. Organizations also do not communicate with others working in the same schools in the design and messaging of project-based school visits, leading to overlap and duplication of effort. This is also seen in the activities focused on the 6th form students of Centro Escolar Mexico Junior College (CEMJC).

	INFANT	LOWER PRIMARY	UPPER PRIMARY	HIGH SCHOOL / 6 th FORM	POST-HIGH SCHOOL
BAS	 Opportunistic presentations based on the conservation calendar or specific topics (4 times a year) 	 Opportunistic presentations based on the conservation calendar or specific topics (4 times a year) 	 Opportunistic presentations based on the conservation calendar or specific topics (4 times a year) Provides 2 scholarships 	 Reef Protectors – St. Viator's with 15 to 16 youths Reef Protector Internships (8 RPs) CEMJC 1st year 6th form Introduction to marine biology, research project development at HMCNM. 	
SACD	 Occasional presentations in 1 to 2 schools per month. 	 Occasional presentations in 1 to 2 schools per month. 	 1 activity a month with Std 5. Occasional presentations in 1 to 2 schools per month. Summer Camp. 		 Post-high school Internship Programme (2 to 3 month internships) Community Researchers (Ongoing)
TASA		 Project based presentations / activities – approx. 2 visits a year 	 Project based presentations / activities – approx. 2 visits a year 		
BV				 CEMJC - two year programme - developing capacity of students in reef research projects (repeated in 1st and 2nd year) 	
WT	 Open days for pre- school during Child Stimulation Month 	 School visits to the Manatee Rehabilitation Centre 	 School visits to the Manatee Rehabilitation Centre 	 Community Service volunteers - Manatee Rehabilitation Centre 	 Volunteer Internship (2 to 4 weeks)

TABLE 2: CURRENT YOUTH ENGAGEMENT ACTIVITIES IN THE NORTHERN FISHING COMMUNITIES

Other organizations and government departments interested in participating in the collaborative partnership are also identified (Table 3)

KEY OBJECTIVES OF OTHER ENGAGED CONSERVATION ORGANIZATIONS		
Forest Department	Management authority for CBWS, HMCNM and BHNM. Interested in contributing towards the strategy in the areas of Wildlife and the Law, Green Laws, improved awareness of protected areas.	
Fisheries Department	Management authority for the marine reserves in Belize. Interested in raising awareness of the marine reserves, fisheries regulations, sustainable use and protected marine species.	
Southern Environmental Association (SEA)	Co-management partner for LBCNP and GSSCMR. The northern fishers are identified as stakeholders for these protected areas. SEA is interested in using the Strategy to be able to reach out more effectively in the northern communities.	
FOCUS	Based in Corozal – runs an annual teachers workshop based on the environment / Corozal Bay Wildlife Sanctuary	

TABLE 3: KEY OBJECTIVES OF OTHER ENGAGED CONSERVATION ORGANIZATIONS



2.3 PAST AND CURRENT YOUTH ENGAGEMENT ACTIVITIES

2.3.1 PRIMARY LEVEL

SACD VOLUNTEER AND INTERNSHIP PROGRAMME (VIP) (2010 – 2012)

Originally conceived as a youth engagement programme with two tiers (the volunteer component and the internship component), the VIP programme started in 2010 and was based on outdoor activities conducted twice a month at weekends for six months of the school year. The target was upper primary level students (Standards 4, 5 and 6). The series of activities were designed to enable students to connect to the environment, improving awareness of conservation and build a cohort of conservation stewards.

The Programme also sought to identify and provide assistance to potential conservation leaders in the community, improving opportunities for access to high school by linking VIP performance to high school scholarships. Four four-year high school scholarships were given to the top VIP participants each year, based on a set of criteria that included commitment, level of interest, team leadership and school grades, to identify and support those students who had the potential to be future conservation stewards and leaders.

LESSONS LEARNT

The parents need to be involved and kept informed

The establishment of the SACD Education Advisory Committee strengthens communication and partnership with the schools

Activities need to be scheduled for weekends to reduce the complexities and liability issues of working through the schools

Continuity is important, with the need to move beyond project-based, oneyear programmes

An Education Advisory Committee was established with representation from the two Sarteneja primary schools and the high school. This met once a month during the initial six-month pilot to provide advice and input into the selection of activities for the annual workplan, alignment with the school curriculum, and criteria for selection of the scholarship students. It then met quarterly to provide input and feedback. The Committee was important in giving the schools a level of ownership of the VIP Programme and a vested interest in successful implementation. The Education Advisory Committee also strengthened communication and the partnership between SACD and the schools, providing an important mechanism for engaging the education sector, and ensuring they were familiar with SACD and its activities.

Standard 6 students were selected during the pilot phase to provide the natural progression to the followon high school scholarships. The schools provided SACD with space and time during school hours to present the concept at an initial meeting conducted with both parents and students. SACD presented the objectives of the programme, the commitment required from participants, the criteria for selection of VIP participants for scholarships, and the safety aspects and mechanisms in place for the field activities. 38 students were then selected from Standard 6 applicants (19 from each school), with preference given to those from fishing families (particularly local (CBWS) fisher families), and for those students with enthusiasm for and interest in conservation.

The VIP activities were timed for weekends to avoid conflict with exam preparations, and arranged directly with the parents rather than with the school. Parents were generally open and supportive, and ensured that their children attended.

WHAT DID THE VIP PARTICIPANTS THINK?

- It was helpful for gaining knowledge about the environment
- I learnt more about keeping the environment clean
- It provided me with an appreciation of the environment around us
- It provided positive ideas on ways in which we can improve the community

MOST ENJOYED ACTIVITIES

- Beach cleanups
- Helping with the SACD booth on open days
- Fieldtrip to Bacalar Chico Marine Reserve

LEAST ENJOYED ACTIVITIES

- Quizzes and tests
- Sports

The scholarship selection process was developed to ensure fairness and transparency. In each VIP activity, participants were graded on a point-based system established by the SACD Education Advisory Committee. Motivation, participation, punctuality, behaviour and attendance were all criteria. An attendance and points list kept track of each participating student across each VIP activity, with individual activities scored from between 5 and 50 points, depending on length and difficulty. Whilst the potential for scholarships was a huge incentive for participation, particularly for the parents, the VIP coordinator considers that participation would have been good even without the scholarship opportunities (A. Verde, SACD). SACD scholarship recipients were then required to assist with the next year's VIP activities.

The programme was project-based, with implementation as two one-year project cycles. This impacted continuity beyond the initial two years. As a

fledgling organization with limited human resources, the programme only ran for two school years, and the internship component was never fully developed until 2018.

VIP PARTICIPANT EVALUATION (n=7)

7 of the surveyed participants took part in the VIP Programme. 97% (6 of the 7) considered the programme to be GOOD or VERY GOOD – more than half (55%) responded with VERY GOOD (Figure 3). It should be noted that the single respondent who was less engaged by the Programme, rating it as FAIR overall, was also the participant who indicated that they received little support from their family / friends, yet still recommended that the VIP Programme should be restarted.

The strongest outputs of the programme (Figure 4) are identified as building an understanding of:

- ecosystem services provided by protected areas – particularly mangroves
- threats to the marine environment
- conservation concepts
- climate change

Compared with the other SACD programmes, participant responses suggest that the learning component could have been stronger (all participants interviewed also took part in other SACD opportunities at a later date).

Surprisingly, enjoyment didn't rate as highly as expected, suggesting that if the programme is restarted, the activities need to be reviewed and revised to include a greater emphasis on having fun, whilst still focusing on learning through experience. Skills transfer was



FIGURE 3: PARTICIPANT ASSESSMENT OF THE VIP PROGRAMME AVERAGED OVER ALL ASSESSMENT CRITERIA



FIGURE 4: AVERAGED RATINGS FOR THE VIP PROGRAMME (OUT OF 4.00)

RECOMMENDATIONS FROM THE VIP PARTICIPANTS

- Re-establish the programme using the same format and introducing additional activities
- Build on the programme to develop youth regulations and committments on garbage in the community
- Involve more students in the programme
- Improve fun through more educational games and activities with prizes / incentives
- More structure focusing on ensuring activities start on time and as scheduled

considered weak, but it should be recognized that the VIP was not designed to build skills for future employment, with participants being Upper Primary students, under the age of 12.

All VIP participants considered the VIP Programme was important for raising awareness of the environment, and should be restarted. This was echoed by the VIP Coordinator, who considered that it was important for introducing students to key conservation concepts and involving them in conservation activities at a critical time in their development (A. Verde, SACD).

STRENGTHS

- The Volunteer and Internship Programme provided students with an introduction to the natural environment.
- The establishment of the Education Advisory Committee strengthened communication and partnership with the schools.
- A strong evaluation process resulted in opportunities to benefit from scholarships.

WEAKNESSES

- Implementation was project-based on one-year cycles didn't provide continuity
- Was rated as 'low' for fun by the participants
- Limited personnel and equipment available for implementation



2.3.2 HIGH SCHOOL

SACD SCHOLARSHIP PROGRAMME (2013 – 2018)

The SACD Scholarship Programme was initially started as a component of the VIP Programme, in 2010, and continued beyond the life of the original VIP concept. It has focused on increasing the number of students in Sarteneja who go on to attend high school, building the capacity of young conservation leaders within the community, and providing them with an opportunity to improve their level of education.

Under the original VIP programme, each SACD scholarship covered four years of tuition fees for four graduating upper primary students a year from either Sarteneja Nazarene Primary School or La Inmaculada R. C. School. The students selected were those who demonstrated the greatest motivation and dedication to conservation and the environment during their participation in the VIP programme, with a selection process that was developed to ensure fairness and transparency. In each VIP activity, participants were graded on a point-based system established by the SACD Education Advisory Committee. Motivation, participation, punctuality, behaviour and attendance were all criteria. An attendance and points list kept track of each participating student across each VIP activity, with individual activities scored from between 5 and 50 points, depending on length and difficulty.

An interview was conducted with those students that qualified for the scholarship (those with the highest points at the end of the school year) by an Interview Board consisting of four people - an SACD Board member, an Education Advisory Committee member, the SACD Education Officer and SACD Peace Corps Volunteer - to determine the final four scholarship recipients. Questions focused on ensuring that the student needed the help, wanted to study and was willing to continue participating in conservation activities as an SACD Intern.

A contract was signed with each student, their parent/guardian, the SACD President, the Education Advisory Committee Chairperson, and a Justice of the Peace. The agreement guided the SACD Scholarship recipients in the rules and regulations that students needed to follow for the next four years in order to remain eligible for their scholarship. Each SACD scholarship student was also given a Certificate of Recognition, confirming that they are an active SACD scholarship recipient. This also served to remind them that they were part of SACD, and that they had the responsibility to voice issues regarding conservation and sustainable development within their community.

LESSONS LEARNT

4-year scholarships are more valuable than 1 or 2-year scholarships

Scholarships were paid directly to the high schools to avoid misuse of funds by the recipients

Without integrated, well-planned activities, the Scholarship Programme did not improve knowledge and commitment of the participants to conservation to the level hoped for As part of their commitment, scholarship students participated in SACD activities, learning skills such as GPS use and navigation, field data collection, analysis and reporting. They assisted with SACD events such as Manatee Day, the SACD Easter Regatta Booth, and the Independence Day float, and participated in training events, expanding their knowledge and experience of conservation in and around the Corozal Bay Wildlife Sanctuary. SACD kept track of each scholarship recipient throughout their four years of study to verify their progress in high school and to ensure that they were abiding by the rules and



regulations of the SACD scholarship contract, including maintaining their grades, keeping to the SACD guiding principles and participating in the SACD Scholarship activities. Scholarships would be terminated if students didn't follow the guidelines (for example, if they were to be caught using slingshots for killing birds – though it should be noted that this never occurred).

The Scholarship Programme provided an important mechanism for ensuring potential conservation leaders identified during the VIP Programme had the funding to continue on to high school. Once the VIP Programme finished, however, the foundation for providing scholarships shifted, and the criteria was no longer based on their interest and commitment to the environment, but more on provision of assistance to local fisher families

SCHOLARSHIP PARTICIPANT EVALUATION

The majority (93%) of the 11 surveyed participants who took part in the Scholarship Programme considered the programme to be GOOD or VERY GOOD – more than half (55%) responded with VERY GOOD (Figure 5).

The strongest outputs of the programme are identified as building an understanding of:

- conservation concepts
- ecosystem services provided by protected areas – particularly mangroves
- the role of protected areas
- threats to the marine resources



FIGURE 5: PARTICIPANT ASSESSMENT OF THE SCHOLARSHIP PROGRAMME, AVERAGED OVER ALL ASSESSMENT CRITERIA



FIGURE 6: AVERAGED RATINGS FOR THE SCHOLARSHIP PROGRAMME (OUT OF 4.00)

WHAT DID THE SACD SCHOLARSHIP PARTICIPANTS THINK?

- It was helpful for gaining knowledge about the environment
- It provided positive ways in which I can improve the community
- It provided me with an appreciation of the environment around me

MOST ENJOYED ACTIVITIES

- Beach cleanup
- Posters against pollution
- Learning about SACD
- Workshops
- Trip to Oceana in Belmopan
- Activities outside the village

LEAST ENJOYED ACTIVITIES

None identified

The participants enjoyed the activities 6), and were involved (Figure throughout the school year as part of their commitment as SACD scholarship recipients. This included assisting with SACD outreach activities at community events and biodiversity monitoring field activities. All SACD Scholarship participants thought that scholarships provided important support to fisher families in the stakeholder communities and should be continued, though 2-vear scholarships were not conisdered as helpful as 4-year scholarships, and concern was voiced that participants may have to drop out. Despite the appreciation of scholarship recipients and their families, however, the learning component was identified as weaker the than other SACD

programmes. When the scholarships were not linked to the VIP Programme, the long term commitment to conservation and associated behavioural changes expected were not being seen (J. Verde, SACD).

This Programme rated as the lowest in terms of its smooth operations – the structure and flow of activities were based on external activities, with no central curriculum, and with learning and skills transfer not being key objectives of the programme. This was also reflected in the lower levels of engagement and understanding observed when compared with the other programmes. As a result of this, and based on lessons learnt, the programme has been restructured over the last two years, with better defined goals and objectives, evolving over time to become the SACD Internship Programme.

RECOMMENDATIONS FROM THE SACD SCHOLARSHIP PARTICIPANTS

- Continue to provide scholarships
- Offer scholarships for more than 2 years to prevent drop outs high school is for 4 years
- Increase the number of scholarship students
- Inform and involve scholarship students in more conservation activities

BAS REEF PROTECTORS (2012 – Ongoing)

The BAS Reef Protectors programme targets high school students predominantly from Chunox and Copper Bank, with the goal of raising awareness and understanding of career options related to marine conservation, and marine protected areas. It achieves this through the implementation of a conservationbased, out-of-school educational program. The program is designed to provide young people with firsthand experience of protected areas management and conservation in Belize. It is designed on the belief that, given the proper mentorship, skills training and support, the participants can become environmental stewards and take on leadership roles in their communities. Participants are recruited from St. Viator Vocational High School, based on submitted essays and BAS programme selection criteria.

BAS focuses on a cohort of 15 to 16 youths over an 18-month timeframe, and structures activities through a series of meetings and workshops focusing on team building, development of communication skills, building capacity for biodiversity monitoring, and preparation for dive training. Three field trips are conducted to marine protected areas during the programme, including Half Moon Caye and Blue Hole Natural Monuments, and Bacalar Chico National Park and Marine Reserve. Eight participants are then selected for diver certification for 8 of the participants, followed by a two-week internship at Half Moon Caye Natural Monument.

The Reef Protectors programme is based on a series of field trips, with limited opportunities to work with the students outside of these activities. It was found that continuous communication with the participants is needed to keep them interested in the program. An evaluation of the risks associated with field activities, which include dive training, identified that medical screening prior to selection for dive certification should be a requirement. A small number of Reef Protectors also have the opportunity to qualify for a two week at Half Moon Caye during the period July 19th-August 3rd 2017.

The participants were selected based on the following criteria:

- Displays genuine interest and participates in program activities
- Has the ability to swim and is not afraid of the sea
- Displays leadership characteristics (actively seeks out and assists his/her peers)
- Is a team player
- Follows instructions
- Ability to work independently after instructions are given

REEF PROTECTOR PARTICIPANT EVALUATION (n=13)

All participants rated the overall Reef Protectors Programme very highly, with 98% of surveyed participants giving it an averaged rating of VERY GOOD, and the remaining 2% rating it as GOOD (Figure 7). 100% of the

participants surveyed enjoyed the Reef Protector activities (Figure 8). All thematic areas scored above 3.00 out of 4.00, with the strongest being identified as Learning (3.77 out of 4.00) and Skills Transfer (3.69). Areas that could be strengthened were developing an Understanding of Threats and of Ecosystem Services, though it should be noted that these still scored above 3.00 out of 4.00. Programme operations were also considered by the participants as an area that could be strengthened.

The majority of partiicpants wouldn't recommend any changes to the programme, But those participants who did, suggested:



FIGURE 7: PARTICIPANT ASSESSMENT OF THE REEF PROTECTORS PROGRAMME, AVERAGED OVER ALL ASSESSMENT CRITERIA



FIGURE 8: AVERAGED RATINGS FOR THE REEF PROTECTORS PROGRAMME (OUT OF 4.00)

Getting together more frequently for more activities

- Promoting the programme to other youths to increase their awareness of BAS and what it does
- Extending the programme to other northern fishing communities

It should be noted that the majority of participants interviewed were from the 2019 cohort, and are therefore still involved, and don't yet have a longer term perspective on the programme. Whilst most participants were very positive in what they said about the programme, one commented on the improved snorkelling skills they had acquired and how these would be very beneficial for lobster and conch fishing. However, this participant also expressed enthusiasm for volunteering in their spare time, and being active in informing community members of solid waste issues and best practices. Many of the comments revolved around garbage and plastics in the ocean, reflecting the heavy emphasis on this topic in the current Reef Protectors Programme.

LESSONS LEARNT

Activities are best designed for after school / at weekends, with permission for participation in activities being required directly from the parents, not from the schools

Teachers are hard to engage as partners – they are already overworked and very few have the time and enthusiasm to commit to an extracurricular activity such as an Environmental Club

WHAT DID THE BAS REEF PROTECTOR PARTICIPANTS THINK?

- It has changed my view of looking out on the world and my future career. In the past I wanted to be a doctor, but now I am interested in marine biology.
- It provided me with positive ways in which I can improve the community
- Attending workshops and field trips has opened my mind as to how and why our environment needs to be conserved
- It made me realize how important conservation is. It is something you learn by going into the field
- In 10 years' time I plan to be helping in conserving and protecting areas and studying marine biology
- I would recommend the programme to others because they would get to experience the beauty of our country, and also the damage we are doing to our reef

MOST ENJOYED ACTIVITIES

- Snorkeling
- Bird surveys
- Bird sounds I love clearly recognizing a bird by the sound it makes
- Learning about marine biodiversity

RECOMMENDATIONS IN MOVING FORWARD

- Continue the Reef Protectors Programme in St. Viator's Vocational High School.
- Duplicate Reef Protectors in Sarteneja Baptist High School as Mangrove Guardians, focused on the river to reef seascape of Corozal Bay Wildlife Sanctuary and Bacalar Chico Marine Reserve.
- Extend Reef Protectors to include Junior Reef Protectors (BAS) and Junior Mangrove Guardians (SACD).
- Design a volunteer programme for Reef Protectors, Mangrove Guardians and other graduates that can channel youth enthusiasm for continuing participation in meaningful conservation activities, open to anyone who is interested in signing up for an activity.

2.3.3 HIGH SCHOOL GRADUATES / POST-SCHOOL YOUTHS

SACD INTERNSHIP PROGRAMME

The SACD Internship Programme is ongoing, replacing the SACD Scholarship Programme and providing stronger links between funding for higher education and building conservation leaders. The Internship

placements are advertised in the three communities and online, with applicants screened based on the

LESSONS LEARNT

The placements run for a two- to three-month period, working either in the Natural Resource Management or Community Outreach programmes, or assisting with office administration. The number of Internship positions available at any one time is limited. Rather than a scholarship, interns are paid a stipend that they can then use towards their 6th form tuition fees. Positions are advertised for a month via social media outlets, and selection is guided by three criteria:

Conservation learning modules should be integrated into the Internship Programme

The programme would be of greater benefit to both the Interns and SACD if the placements were for 6 months

- Education applicants have to, at a minimum, have graduated successfully from high school and intend to pursue higher education.
- Participants have to be CBWS stakeholders, living in one of the CBWS communities.
- Participant area of studies needs to aligns with the needs of SACD at a given point in time.

The submitted application forms are assessed by a team of three within SACD (the Natural Resource Manager, the Education Officer and the Development Officer) and the successful applicants have to sign

WHAT DID THE SACD INTERNSHIP PARTICIPANTS THINK?

- It provided a better perspective on conservation
- Now sees how important protected areas are and the importance of conservation

MOST ENJOYED ACTIVITIES

- Giving presentations in primary schools
- Assisting with organization of Summer Camp
- Water quality monitoring

LEAST ENJOYED ACTIVITIES

None identified

an agreement for the placement. The Internships are guided by a Terms of Reference, but would also benefit from the development of mutually defined and agreed objectives at the start of the internship, beyond the use of the internships as a mechanism to engage future conservation leaders in the community.

Working as part of the organization results in a high rating for skills transfer and understanding of protected areas, ecosystem services and threats, though understanding of conservation is rated lower. Training is generally 'on the job', and there is currently only limited focus on structured learning opportunities, reflected in the lower rating for learning than in the other programmes (Figure 11). The Intern is evaluated at the end of the placement, both on their performance during their internship, and to ensure lessons learnt and recommendations can be used to strengthen future internships.

Office interns experience basic office practices such as filing, financial practices and reporting, and build their confidence in giving presentations, leading groups and organizing activities. NRM programme interns are more focused on organizing and participating in field work (both patrols and science), data management and reporting. Still in its infancy, the Internship Programme is evolving and becoming more structured. Identified challenges include ensuring the programme managers have sufficient time to orientate and train new interns, sufficient work is available that matches the interns' skill sets and interests, and that the resources (particularly laptops) are available. SACD staff agree that it would be better to focus on longer internship placements (potentially 6 months) that allow for greater skills development and training, and then opportunities for application of those skills in implementation of activities, to ensure that both the intern and SACD gain the maximum from the opportunity. This would also provide time for the development of the skills needed for tasks such as update the website, or leading preparations for monitoring activities.



SACD INTERNSHIP PARTICIPANT EVALUATION

As a new programme, there have only been 7 interns to date, 6 of whom were interviewed for this evaluation. All surveyed participants considered the Programme either GOOD or VERY GOOD, with 83% responding with VERY GOOD (Figure 9).



FIGURE 9: PARTICIPANT ASSESSMENT OF THE INTERNSHIP PROGRAMME, AVERAGED OVER ALL ASSESSMENT CRITERIA

The strongest outputs of the programme are identified as building an understanding of:

- protected areas
- threats to the environment
- ecosystem services

100% of the participants considered skills transfer to be VERY GOOD, and all evaluated the programme as VERY GOOD for enjoyment (Figure 10). Two evaluation themes were rated significantly lower than the others learning and understanding conservation. These two are related, and indicate an opportunity for improving the learning outcomes of the internships, focusing on specific topics, to improve an understanding of conservation.

Three evaluation themes were rated as VERY GOOD by all survey participants – enjoyment, skills transfer and understanding of protected areas. Participants considered that the Internship Programme is well run, but



FIGURE 10: AVERAGED RATINGS FOR THE SCHOLARSHIP PROGRAMME (OUT OF 4.00)

still with some room for improvement. Reommendations for strengthening included:

- having more activities
- providing more experience and training

Recommendations

- Provide more structure to the Internship placements, linked to the Annual Workplan and Management Plan.
- Develop Internship objectives and workplans at the start of the Internship placements with benchmarks.
- Improve Intern knowledge of specific, relevant conservation and climate change issues using presentations and online courses (e.g. modules from www.conservationtraining.org).
- Build specific Intern skills for employment e.g. basic website updating using short, on-line courses.

SACD COMMUNITY RESEARCHER PROGRAMME

The SACD Community Researcher Programme was established in 2015 with the goal of "Building stewardship of biodiversity in Corozal Bay Wildlife Sanctuary in tomorrow's community leaders". It was, and still is, based on the following objectives:

- Increase the participation and engagement of youths in management and stewardship of biodiversity of CBWS
- Provide a hands-on research training opportunities for young community members
- Provide youths with valuable experience and research skills
- Strengthen the SACD Research and Monitoring Programme

The CR programme is considered not only an important community engagement strategy, building a cohort of engaged, involved, participatory community stewards, but also a critical component of the Research and



FIGURE 11: AVERAGED RATINGS FOR THE COMMUNITY RESEARCHER PROGRAMME (OUT OF 4.00)

Monitoring Programme, addressing human resource gaps. It increases SACD's current and future human resource capacity for effective research and monitoring activities, with outputs that provide information for the effective management of the identified conservation targets, and through them, of the natural resources within the Wildlife Sanctuary and the larger, transboundary seascape, with outputs feeding back into adaptive management.

COMMUNITY RESEARCHER RECRUITMENT CHALLENGES

Target: A team of 8 CRs

September 2015: 8 CRs recruited. 3 found jobs and left the programme before graduating

April 2016: 2 additional CRs were recruited

August 2016: 5 more CRs were recruited, but only 3 actively participated

In 2015, the pilot programme was implemented focusing on building the capacity of 8 youths from Sarteneja between the ages of 18 and 22, and included development of a curriculum, with workshops and field activities, with training in field protocols, analysis of data and presentation of results, framed by the research and monitoring requirements of the CBWS conservation targets. The pilot was evaluated in 2016 and lessons learned used to strengthen the Community Researcher programme. The evaluation demonstrated that once youths obtain work experience, their probability of being hired increases if opportunities become available. Of the

fifteen Community Researchers originally recruited in 2015 / 2016, nine graduated from the programme, and four successfully obtained jobs in the conservation sector. However, over the course of the CR Programme to date, experience shows that young men are more likely to leave the programme to take advantage of job opportunities, often outside the northern fishing communities. Of the six young men who joined the CRs in 2015 / 2016, only three graduated from the programme. The others found employment before completing the programme.

Evaluation of the pilot project also identified that whilst participants became proficient in the research and monitoring skills, they didn't necessarily link these to the conservation of the natural resources. The Programme has therefore been adapted to address this knowledge gap, towards building not only their

LESSONS LEARNT

A stable CR Team is more likely to consist of young women from the communities

The programme needs to focus on building both biodiversity monitoring skills and conservation leadership in the community stewardship of the natural resources of CBWS, but also their ability to engage others. Strengthening their ability in communication, public speaking, mentoring and facilitation, with field training in education and outreach activities, with the potential for becoming fully involved in not only the Research and Monitoring Programme, but also support for other SACD community focused initiatives, including the proposed Junior Mangrove Guardians.

The Community Researcher Programme is now an integral component of the Research and Monitoring Programme, and focuses on active participation of the Community Researchers in data gathering to assist in key monitoring areas:

- Catch monitoring for strengthening resilience of the local fishing industry
- Water quality monitoring to provide a baseline for monitoring climate change impacts
- Assessment of mangroves for fish nursery functionality and carbon sequestration functions
- Mapping of benthic vegetation
- Human impact mapping of coastal vegetation
- Monitoring of Antillean manatees
- Mangrove bird colony nesting site surveys
- Crocodile population assessments in collaboration with the Crocodile Research Coalition

Recruitment is from the three local communities, and advertised for one month prior to selection by flyers posted in the communities and on the SACD social media. At the beginning, there were issues in finding enough candidates to fill the positions available, and SACD has been able to accommodate everyone who is interested. Following recruitment, the candidates then participate in three weeks of training, during which they learn the protocols and use of equipment used in the monthly monitoring surveys. This provides an opportunity for SACD to assess the level of interest and whether the applicants have completed the training satisfactorily, with those selected then being integrated into the team of Community Researchers. Once a CR, they are called upon to assist with activities when necessary, with a stipend to cover their time spent assisting SACD. Having a pool of trained Community Researchers provides

the individual CRs with the flexibility to be able to work their participation around their commitments. At the end of year, an annual evaluation is completed covering their performance, new skills learnt, and recommendation for areas where they would like to strengthen their skills.

The SACD CR Programme has created a pool of environmentally conscious, trained youths in the three targeted communities - particularly in Sarteneja, where the programme was originally focused. It has the potential to increase employment opportunities for the Community Researchers with both SACD and other marine conservation organizations in Belize. The flexibility of rotating CR fieldwork works well for young women in the communities, allowing them to shuffle their participation with their commitments in the home, with children and / or part time jobs. Some of the Community Researchers (CRs) have now been fully involved in monitoring of conservation targets of Corozal Bay Wildlife Sanctuary, including water quality monitoring, for more than four years, providing them with an in-depth understanding of the need for accurate information on which to base management decisions, and have been instrumental in ensuring SACD has the manpower for implementing key activities under its monitoring programme.

SACD provides stipends that are built into the Research and Monitoring Programme budget, ensuring it has a cohort of trained community researchers available to assist in research and monitoring activities as required, that match the quality assurance standards set for the work. As the programme has evolved, SACD has partnered with El Colegio del Sur (ECOSUR) in Chetumal in three research and monitoring areas – water quality, fish larvae and manatee tracking, with training of CRs, ensuring sound monitoring protocols that are standardized across the transboundary seascape, and quality of the monitoring outputs.

The programme was then extended to the other two key stakeholder communities (Chunox and Copper Bank), with recruitment through flyers posted in the communities, the SACD website, and social media.



III. ASSESSMENT OF OUTPUTS AND OUTCOMES

3.1 ASSESSMENT OF OUTPUTS

This assessment focuses on the outputs and outcomes of the youth engagement programmes implemented by SACD and BAS in the northern fisher communities. It measures success of the youth programmes as a mechanism for engaging youths in conservation and nurturing conservation leaders, and providing educational opportunities and skills that can open doors to local youths beyond the fishing industry. Of the 31 participants surveyed, the majority live in Sarteneja (Figure 12), reflecting the length of time SACD has been active in the community, with VIP Programme



FIGURE 12: ORIGIN OF SURVEYED PARTICIPANTS

activities starting in 2010. Participants from Chunox, Copper Bank and Progresso were more focused on the BAS Reef Protectors programme, which targets fisher families that use Lighthouse Reef, from these communities.

The majority of the participants surveyed were female (68% female vs. 32% male). This reflects the overall trend of participation in conservation activities in these northern fisher communities (SACD and BAS data), and the national trend of more women continuing education beyond primary school / high school than men. The gender ratio for the SACD Scholarship Programme participants, for example, was 1:2 (n=45), with 66.6% of participants being female and 33.3% being male (Figure 13). Experience from the SACD Community researcher programme has shown that male participants are more likely to find employment and leave the programme (and Sarteneja) than the female Community Researchers, leading to a gender-bias in the Community Researcher team towards women (L. Santoya, SACD.).



FIGURE 13: GENDER RATIO OF SURVEYED PARTICIPANTS

The 31 surveyed youths ranged from 16 to 24, and participated in a total of 46 conservation opportunities between them, with the majority of respondents participating in either one (n=19) or two (n=10) different

programmes during the course of their schooling and after. Where participants had taken part in more than one programme, they were asked to assess each independently. One person participated in three, and one in four, and should therefore be flagged as having the interest and commitment for further investment. Both these youths started their participation with the SACD VIP Programme in primary school, continuing as



FIGURE 14: PARTICIPATION PER PROGRAMME

SACD Scholarship students, and then becoming SACD Interns. One also participated in the BAS Reef Protectors programme.

The BAS Reef Protectors programme had the highest level of participation (n=13), with the SACD scholarship being the second (n=11) (Figure 14). The SACD VIP and SACD Community Researcher Programmes both had participation from seven of the youths surveyed, followed by the SACD Internship Programme (n=6) and BAS Scholarship Programme (n=2).

Programmes were assessed on the following outputs:

- Learning
- Behaviour Change
- Support and Influence
- Gaining Useful Skills
- Enjoyment
- Programme Operation

...to answer the following questions:

- Do the programmes achieve their learning objectives?
- Do the programmes result in behaviour change?
- What was the level of family / peer support?
- Does programme influence spread beyond the participant?

3.1.1 DO THE PROGRAMMES ACHIEVE THEIR LEARNING OBJECTIVES?

To understand whether the programmes have achieved their objectives, each programme has been assessed by the 31 participants using the following criteria, based on a rating scale of VERY GOOD (Score = 4.00), GOOD (Score = 3), FAIR (Score = 2.00) and POOR (Score = 1):

- Understanding Conservation
- Understanding Protected Area Management
- Understanding Threats to the Environment
- Understanding Ecosystem Services and Benefits
- Understanding Climate Change and Climate Change Impacts

Averaged ratings per programme across the assessment criteria are all above 3.00 out of 4.00 (75%) across all programmes, ranging from 3.37 (84.3%) for SACD Internships to 3.90 (97.6%) for SACD the Community Researchers programme, suggesting that all provide successful mechanisms of improving understanding of the core concepts by the participants surveyed (Figure 15).



FIGURE 15: PARTICIPATION PER PROGRAMME

When the participant response is analysed by the seven key learning assessment criteria (General Learning, Skills Transfer, Understanding of Conservation, Protected Areas Management, Threats, Ecosystem Services and Climate Change), the strengths of each programme can be identified, as well as areas that would benefit from strengthening can be identified for each programme (Figure 16). Overall, all programmes and assessment criteria performed well, exceeding 3.00 (75%) across the board. The two exceptions were both identified in the SACD Internship Programme, which are both flagged for strengthening in the areas of Learning and Understanding Conservation.


FIGURE 16: SURVEY OUTPUTS FOR KEY ASSESSMENT CRITERIA PER PROGRAMME AREA

GENERAL LEARNING: 'General Learning' assesses the perception of the participants that the activities increase their general knowledge of the environment and wildlife. The SACD Community Researcher Programme is identified as the strongest for general learning, with all respondents rating this as VERY GOOD (4.00 out of 4.00). The two programmes that would benefit from the most strengthening in this area were the SACD Internship Programme, with a rating of 2.09 (52.3%) out of 4.00, and the SACD Scholarship Programme rated as 2.18 (54.5%).

SKILLS TRANSFER: Skills transfer ratings range from 3.14 out of 4.00 (78.5%) for the SACD VIP Programme to 4.00 out of 4.00 (100%) for the SACD Community Researcher Programme. The strongest programme in this assessment criteria, the SACD Community Researcher Programme, is designed specifically to build skills in biodiversity monitoring in its participants, reflected in the very high recognition of this by the surveyed participants. The SACD Internship Programme also rates very highly, with 3.88 out of 4.00 (97%) – again, the programme design is based on training interns in basic office and organizational skills, as well as skills relevant to their internship position – natural resource management, education and outreach or administration.

The two Programmes with the lowest ratings are those focused on the younger participants (the VIP and SACD Scholarship programmes). These programmes have been designed to be more information-based than skills transfer focused. However, participants still considered that they did pick up relevant skills during activities under these programmes, with both programmes rating above 3.00 (75%).

UNDERSTANDING CONSERVATION: Participants were asked whether the programmes had improved their understanding of conservation. Those involved in the SACD Community Researcher Programme

demonstrated the greatest perception of increased understanding of conservation, rating this as 4.00 across all surveys. The SACD VIP Programme was also considered strong in transferring an understanding of conservation. At the other end of the scale, the SACD Internship Programme is weaker, rating as 2.18 (54.5%), with less focus on structured learning. This is identified as a gap in the potential outputs of the Programme, and one that SACD would benefit from addressing to ensure more informed graduating Interns in the future.

UNDERSTANDING THE ROLE OF PROTECTED AREAS AND PROTECTED AREA MANAGEMENT: All programmes rate above 3.00 out of 4.00. Both BAS and SACD are successful at increasing understanding of the role of protected areas across all the programmes, with ratings ranging from 3.55 to 4.00 out of a possible 4.00 (88.8% - 100%). The SACD Internship Programme is considered the strongest for generating an understanding of protected areas, their roles and what is required for effective management, being more focused on integration of Interns into organizational activities for day to day management activities for Corozal Bay Wildlife Sanctuary.

UNDERSTANDING THREATS TO THE ENVIRONMENT: All programmes rate above 3.00 out of 4.00. Three of the five programmes rated over 3.5 (87.5%), with the SACD Community Researcher Programme being identified as the strongest in ensuring an understanding of threats to the environment. The other two, the SACD VIP and Internship Programmes, were also identified as being particularly strong in this area. The BAS Reef Protectors Programme SACD Scholarship Programme and have lower ratings of 3.38 (84.5%) and 3.45 (86.3%) and respectively) and each scores more than 75%, these are still areas would benefit from some strengthening in understanding the wider threats to the environment, beyond solid waste management in the home and the community. It is important to note, however, that many of the BAS Reef Protectors are still actively participants in the Programme, and may not yet have achieved all the learning goals of the programme as yet.

UNDERSTANDING ECOSYSTEM SERVICES: All programmes rate above 3.00 out of 4.00, and three of the four rate as 3.50 or more. The SACD Community Researcher Programme rates as the most effective for ensuring participants have an understanding of ecosystem services, with all surveyed participants giving this a rating of 4.00 out of 4.00. It is important to note that many of the BAS Reef Protectors are still actively participants in the Programme, and may not yet have completed all the learning goals of the programme, which may impact the ratings.

UNDERSTANDING CLIMATE CHANGE: All programmes rate above 3.00 out of 4.00, but none achieves 4.00 out, with some participants in each programme finding the concepts harder to understand. This is particularly true for the SACD Scholarship Programme, which didn't include a structured learning component focused on increasing an understanding of climate change.

3.1.2 DO THE PROGRAMMES RESULT IN BEHAVIOUR CHANGE?

To understand whether the programmes have achieved behavioural change, participants were asked to rate their thoughts on whether the experience had changed the way they act in the following four areas, based on a scale of YES, SOMEWHAT, NO and NOT APPLICABLE:

- Pollution (e.g. garbage disposal)
- Attitude towards Wildlife and the Environment
- Natural Resource Use (e.g. fishing practices)
- Choosing Sustainable Products (e.g. conch in season and within size limits)

POLLUTION

Pollution, particularly plastics, has been a strong focus of BAS activities in the Chunox and Copper Bank schools, including in the BAS Reef Protectors Programme. 94% of surveyed participants consider that they have definitely changed the way they think about pollution and more specifically, the way they dispose of garbage (Figure 17). The remaining 6% indicate that they have changed their behaviour to some extent, but not entirely.

POLLUTION NO 6% 6% 7ES 94%

ATTITUDE TOWARDS WILDLIFE AND THE ENVIRONMENT

The link between programme activities and attitudes towards wildlife and the environment was weaker than that for pollution. Examples used included sling shot pellet gun use for targeting birds (as a negative) and voluntary participation in wildlife / environment orientated activities (e.g. bird watching) as a positive. 68% of respondents indicated that their behaviour and attitude towards wildlife and the environment had definitely changed, but 26% rated their behaviour change as 'somewhat', and 6% (two participants) as 'no' (Figure 18). The individual surveys indicate that both these respondents were involved in only one programme – the SACD Scholarship

FIGURE 17: BEHAVIOURAL CHANGE - POLLUTION



FIGURE 18: BEHAVIOURAL CHANGE – WILDLIFE AND ENVIRONMENT

Programme, and were less positive about their experiences, and had less support for their participation from their family and friends. The SACD Community Researcher Programme has been identified as the weakest in terms of promoting behaviour change, though it should be noted that CRs should already be positive in their interactions with wildlife to be interested in involvement in the CR programme.

Surprisingly, all of the 26% that responded 'somewhat' were participants in the BAS Reef Protectors Programme, though many of the participants surveyed are still actively participants in the Programme and may not yet have completed all the learning goals of the programme. This thematic area would benefit from further strengthening of awareness across the programmes.

NATURAL RESOURCE USE

This evaluation area was based on whether participants considered that they have changed their behaviour and attitudes in areas such as sustainable fishing, hunting, mangrove clearance etc. (Figure 19). 77% indicated that yes, they have changed their behaviour, with a further 16% indicating that they have to some extent. 7% (one participant from the SACD Community Researcher Programme and one from the BAS Reef Protectors Programme) indicated that their participation in the Programmes had not altered their behaviour with regards to natural resource use.



CHOOSING SUSTAINABLE PRODUCTS

71% of surveyed participants indicated that they have changed their behaviour when it comes to buying / eating undersized, out of season and / or illegal lobster, conch or game meat (Figure 20). A further 26% agreed that they have changed their behaviour to some extent. 3% (one person) indicated that their participation in the Programmes had no impact on their behaviour when it came to living more sustainably.

FIGURE 19: BEHAVIOURAL CHANGE – NATURAL RESOURCE USE



FIGURE 20: BEHAVIOURAL CHANGE – CHOOSING SUSTAINABLE PRODUCTS

3.1.3 LEVEL OF FAMILY / PEER SUPPORT

Many participants were at an age where a supportive family and peer group is immensely influential in their perceptions of the youth engagement programmes they were participating in. Participants were therefore asked to rate the level of support they received from their families and their friends for their participation in the programmes.

The majority of the participants had strong family support for their participation, with only one SACD Scholarship participant responding as 'no', and one BAS Reef Protector as 'somewhat' (Figure 21). Interestingly, participant friends / peers were generally less supportive than family members, with 71% of surveyed participants indicating that their friends were supportive, but 26% suggesting that the level of support was not whole hearted (Figure 22). 3% (one person) indicated that their friends were not supportive of their participation in one of the youth engagement programmes.

3.1.4 DOES PROGRAMME INFLUENCE SPREAD BEYOND THE PARTICIPANT?

To understand whether participants pass on information to their families and friends, and whether this promotes changes in attitudes beyond the actual participants, they were asked to rate whether they had seen changes in attitudes in these two groups with regards to:

- Conservation
- Protected Areas
- SACD / BAS



FIGURE 21: LEVEL OF SUPPORT - FAMILIES



FIGURE 22: LEVEL OF SUPPORT - FRIENDS

CONSERVATION

When asked whether participants perceived a change in the attitudes of their family members towards conservation, the majority responded positively, with 68% considering that there has been a shift in attitudes (Figure 23). 26% responded 'somewhat', and only 6% responded with a 'no'.

The level of impact on the attitudes of friends appears to be slightly lower, with only 55% of the participants indicating that



FIGURE 24: PERCEPTIONS OF CHANGES IN ATTITUDE TO CONSERVATION - FRIENDS

their friends have a more positive attitude towards conservation. 39% responded 'somewhat' and 6% indicated that their involvement in the Programmes had no impact on their friends' attitudes towards conservation (Figure 24)

CHANGES IN ATTITUDE TO

CONSERVATION - FAMILY

PROTECTED AREAS

There is, interestingly, a greater perceived attitude change in family members towards protected areas than in friends, though the relative outputs are similar for both (Figures 25 and 26).

PROTECTED AREAS - FAMILY

59% of the participants perceive a definite attitude change in their families, and 55% in their friends, with 38% (families) and 35% (friends) rated as 'somewhat'. The relatively high level of attitude change in families is surprising in that the majority of the families derive their income from fishing, and are generally considered to be strong in their resistance to support of protected areas.



PROTECTED AREAS - FRIENDS

ORGANIZATIONS (SACD / BAS)

When assessing changes in attitudes towards the two organizations (BAS and SACD), the perception is that both family and friends have demonstrated a positive change in attitude as a result of hearing from participants about the Programmes. 81% of surveyed participants consider that their families have an improved perception of the organizations, with 16% rated as 'somewhat' and 3% as not perceiving any changes (Figure 27).



CHANGES IN ATTITUDE TO BAS / SACD - FAMILY FIGURE 28: PERCEPTIONS OF CHANGES IN ATTITUDE TO BAS / SACD - FRIENDS

A similar pattern is also seen with perceptions of attitudes of the participants' peer groups – 87% perceived an improved attitude in their peers towards the conservation organizations, with 10% rated as 'somewhat', and 3% as having no change in attitude (Figure 28).

3.1.5 PROGRAMME MANAGEMENT AND OPERATIONS

Participants were asked to rate the performance of each programme for management and operations, based on the scale of VERY GOOD, GOOD, FAIR AND POOR:

- Level of Programme Organization/ Smooth Running
- Level of Enjoyment

PROGRAMME MANAGEMENT

The majority of participants surveyed considered the overall programme management (the average level of organization and smooth running of all programmes assessed) to rate as VERY GOOD (56%) or GOOD (40%), with only 4% considering the programme management to be FAIR, and no participant considering that programme management was POOR (Figure 29).



FIGURE 29: PERCEPTION OF LEVEL OF PROGRAMME MANAGEMENT

The strongest programme in terms of management was identified as the SACD Community Researcher Programme (Figure 30), with all participants rating this as VERY GOOD (4.00 out of 4.00). The weakest was considered to be the SACD Scholarship Programme> This was also identified by SACD during a review of the programme, leading to its evolution into the SACD Internship Programme.



FIGURE 30: PERCEPTION OF LEVEL OF PROGRAMME MANAGEMENT

ENJOYMENT

Enjoyment should be a critical component of any youth engagement programme, and the BAS / SACD programmes perform well overall. 90% of surveyed participants rate Enjoyment as VERY GOOD, with 10% rating this as GOOD. No participant rated this as FAIR or POOR (Figure 31).

All but one programme performed well, with the SACD Scholarship Programme exceeding 3.5, and the BAS Reef Protectors, SACD Internship Programme and SACD Community Researchers Programme all scoring 4.00 out of 4.00. The one exception was the SACD VIP Programme – the upper primary school level that this programme addressed has been identified as an important target for the Strategy, but the VIP Programme activities need to be better structured and focus a little more on ensuring the participants are enjoying the activities, as well as producing the learning outcomes (Figure 32).



FIGURE 31: LEVEL OF ENJOYMENT

FIGURE 32: LEVEL OF ENJOYMENT PER PROGRAMME

IV. BUILDING THE STRATEGY

The Youth Engagement and Awareness Strategy is designed to be a structured, collaborative, long-term programme, engaging youths in the northern fishing communities through primary and high school and beyond, and building their knowledge and understanding of key protected area, biodiversity and conservation concepts. It builds on an evaluation of past programmes, with review of past successes, strengths and weaknesses, and takes into account recommendations from both the organizations and the participants that will strengthen the ways in which youths are engaged as they mature into young adults, nurturing their potential as future conservation leaders.

STRENGTHS

The individual past and current programmes provide a strong, and effective framework towards achieving some if not all of the outcomes desired, with each organization bringing their strengths to the table

- SACD is located in the northern communities, giving a cost-saving logistical advantage
- BAS has well-structured Junior Reef Protector and Reef Protector programmes
- SACD has a well-structured Community Researcher programme and an ongoing Internship programme
- SACD is providing input and presence at primary level through monthly presentations in most schools in the three communities

LIMITATIONS AND BARRIERS

However, there are a number of identified key limitations and barriers that are addressed in the strategy design:

- Limited continuity of engagement of individual students throughout their schooling
- Limited coordination and / or collaboration between organizations active in the communities, leading to mixed messaging, duplication of effort and cost inefficiencies
- High costs and logistics involved in implementing activities for organizations not situated in the communities.
- Limited engagement of lower primary / infant students
- Limited trust that other organizations can implement lessons in the same way
- Turf protection attitudes of participating organizations

The Strategy is designed on the premise that collaboration between organizations can reduce these barriers significantly, especially if the collaboration is well coordinated. Implementation of the strategy requires close collaboration and effective coordination between BAS and SACD and the participating schools, and engagement of other partners – such as the Turneffe Atoll Sustainability Association (TASA),

Wildtracks, Blue Ventures and the protected area authorities – the Fisheries and Forest Departments, and the National Biodiversity Office – in the implementation of the framework.

4.1 SETTING THE COLLABORATIVE FRAMEWORK

4.1.1 PREPARATORY PHASE

The Preparatory Phase focuses on ensuring the BAS / SACD collaborative partnership is well established, and that key strategies and plans are developed and in place, through the development of:

- A BAS-SACD partnership agreement that spells out roles and responsibilities.
- Signed agreements with other participating organizations that lay out roles, responsibilities, level of involvement and financial / human resource commitment.
- 1-year BAS-SACD Collaboration Plan that guides communication between the collaborating organizations and establishment of the Strategy, identifying human resource and training needs, equipment, budget and funds.
- Student Engagement and Awareness Strategy (Primary and High School levels), Internship / Scholarship Programme and Climate Change awareness components), with monitoring and evaluation indicators and baseline.
- Annual Student Engagement and Awareness Strategy Work plan.
- Review and revision of the Strategy and workplan at the end of each year.

It is recommended that the preliminary 1-year Communication and Collaboration Plan should be developed as one of the first steps, to provide the framework for the initial Preparatory Phase, to define how often the organizations should be committed to communicating, and in what way (by phone, face-to-face) to achieve the framework required for effective implementation of the Strategy. This should be complimented by a one-year Implementation Plan to guide the first steps of the Implementation Phase.

4.1.2 IDENTIFIED COLLABORATING ORGANIZATIONS

Potential collaborating partners have been identified at different levels, dependent on the level of interest, and current and potential input from each organization, with BAS and SACD at the core (Figure 33). The second tier is comprised of marine protected area co-managers – Turneffe Atoll Sustainability Association (TASA), and Southern Environmental Association (SEA)– which identify the northern fisher communities as key stakeholders, and conservation organizations based in and active in the area (Wildtracks, Blue Ventures (BV), Corozal Sustainable Future Initiative (CSFI), Hol Chan Marine Reserve (HCMR) and Bacalar Chico Marine Reserve (BCMR).

The third tier is composed of other conservation organizations that recognise the benefits from easier access to the schools, and have messages aligned to the SEAS key concepts of ecosystem services, conservation and sustainable use, the role of protected areas, and climate change / resilience.



FIGURE 33: IDENTIFIED COLLABORATING AND POTENTIAL COLLABORATING ORGANIZATIONS

4.1.3 ESTABLISHING A POSITIVE COLLABORATING ENVIRONMENT

COMMON GOALS

All organizations participating in the Strategy implementation need to ensure they are on the same page – working towards the same goal of:

'inspiring, informing and engaging youths in conservation throughout their schooling and beyond, to build future conservation stewardship in the northern fishing communities.'

.. contributing towards the long term outcome of...

'Engaged, resilient communities demonstrating good stewardship of the environment, with improved socio-economic benefits."

All organizations also need to meet their organizational and management plan goals, including recognition of the name, role and responsibility of their respective organization, and knowledge of the protected areas they manage, whilst also being cost-effective and achieving the learning outcomes desired.

All organizations benefit from students and youths in the northern fishing communities improving their understanding of the five required pre-conditions for successful engagement:

- Understanding of the importance of ecosystem services
- Understanding of the importance of conservation and sustainable marine resource use
- Understanding of the role of protected areas, replenishment zones and regulations
- Understanding of climate change
- Knowledge of climate change adaptation and resilience strategies

All organizations benefit from the key concepts that underpin the collaborative youth engagement programme:

RESPECT AND TRUST

All organizations need to respect the capacities, strengths and weaknesses of the other participating organizations.

All participating organizations have to trust that in implementing the lessons, the Education Officer selected will teach subjects to the level expected, ensure that they are inspirational and engaging for the students, and that each organization and protected area is represented and included in agreed lesson areas.

All participating organizations need to feel confident that their collaboration is fully recognized, through inclusion of logos, recognition of information shared, and inclusion in reports, documentation and case studies etc.

COMMUNICATION

All organizations need to be committed to full participation in coordination meetings scheduled under the Communication Plan.

All organizations need to ensure that they understand expectations laid out by the Strategy – including time commitments, financial commitments and information sharing.

All organizations need to ensure that they present a clear idea of the objectives they seek to achieve from participation, and the knowledge and skills they want students and other youths to gain as a result of participation.

COMMITMENT

All organizations need to be committed to their participation in implementing the strategy, and prioritise timing, human resource and logistical support to ensure smooth implementation of scheduled activities.

All organizations need to be committed to the mutually agreed financial contributions, materials and equipment required for effective implementation of the Strategy.

All organizations need to be committed to participating in annual monitoring and evaluation and work plan development.

COORDINATION

One organization needs to take on responsibility for coordination of communication between the participating NGOs and the schools, with the mutual agreement of the other participating organizations.

There needs to be coordinated messaging, logos and presentation standards to link the separate lessons together under the same strategy.

COLLABORATION

All organizations need to be willing and open to collaboration, and participate in drafting key components of the lessons – key messaging, lesson and subject schedules etc.

All organizations need to strive for the same level of quality in the lessons and information they contribute to the strategy.

All organizations need to recognize the contribution of others, whether large or small in scale, and value it for what it brings to the Programme.



TURF PROTECTION

TRUST

FIGURE 34: STEPS TOWARDS A COLLABORATIVE ENVIRONMENT

4.1.4 FUNDING AND FINANCIAL SUSTAINABILITY

Successful implementation of the Student Engagement and Awareness Strategy (SEAS) relies on being able to implement a number of income diversification strategies across the different participating organizations to ensure financial sustainability. Current funding is from:

- Grant funded projects
- Operational support funding
- Revenue Income from sub-contracts for monitoring
- Entrance fees (BAS)
- Donations

PAST AND CURRENT FUNDING AGENCIES

An investment scan conducted for the Northern Coastal Communities identified financial investments made by granting agencies to community organizations between 2016 and 2018. Twelve key funding agencies have invested over Bz\$700,000 in the northern fishing communities, supporting income diversification, climate change adaptation, participation and engagement initiatives, and engagement of the fishing associations towards increased fishing sustainability. Of those, three have invested specifically in the youth participation and engagement projects - the Belize Marine Fund Gulf and Caribbean Fisheries Institute and New **England Biolabs Foundation.**

KEY FUNDERS INVESTING IN THE NORTHERN FISHING COMMUNITIES 2016 – 2018

Australia Aid (SIDS) Belize Marine Fund (BMF) GEF /MCCAP GEF Small Grants Programme (GEF SGP) Gulf and Caribbean Fisheries Institute (GCFI) MARFund / KfW New England Biolabs Foundation OAK Foundation Protected Area Conservation Trust (PACT) Summit Foundation Wildlife Conservation Society (WCS) World Bank / Japan Social Development Fund / BEST

Both BAS and SACD have been successful in

engaging funders and leveraging funds for education in the past, and bring established funding partnerships into the collaboration. Some of these overlap, with funders able to achieve increased outcomes through investment in the collaborative strategy rather than several investments to the individual organizations, with potential for duplication of activities. It also provides both organizations with the opportunity for increased in-kind and cash co-financing, improving their ability to leverage funds.

The SEAS Strategy is attractive to funding partners as an investment for a number of reasons, including:

- Seascape-focused, with increased impact across multiple protected areas and fishing communities.
- Increased cost effectiveness.
- Reduced duplication of effort.
- Strengthens collaborative partnerships of PA management organizations and authorities in Belize

- Core organizations (BAS and SACD) have strong records of project implementation and outcome success.
- Potential for support of structured scholarships that go beyond providing increased access to further education, but also provide skills and learning opportunities tied to conservation.
- Based on a long term vision of improved stewardship, reducing threats to the protected areas and natural resources.

Two key funding agencies (the Belize Marine Fund and (MARFund) and the GEF Small Grants Programme) in Belize include youth engagement within their priority funding areas. The third, PACT (Belize's national funding mechanism for protected areas) does not explicitly target increased youth or community engagement as priorities within its Conservation Investment Strategy.

DIVERSIFICATION OF FUNDING SOURCES

In the pre-Covid-19 context, Belize Audubon Society benefitted from being able to charge entrance fees to Blue Hole and Half Moon Caye Natural Monuments, with significant annual income to the organization. This provides the option for internal funding of BAS youth engagement activities in the northern communities if grant funding is unable to meet implementation costs. With Covid-19 resulting in the closure of the tourism industry for much of 2020, there has been increased focus on the need for greater diversification of income sources, and for more cost effective mechanisms, such as the SEAS strategy, for achieving conservation outcomes.

Sarteneja Alliance for Conservation and Development has also been identifying alternative mechanisms for sustaining its youth engagement activities, particularly the Community Researcher Programme. Whilst originally established as a youth engagement strategy, it has now become an integral part of the Research and Monitoring Programme, with CR stipends and operational costs sought from funding partners for ongoing monitoring activities, tied into adaptive management, as opposed to being based on annual youth engagement projects requiring targeted external funding. SACD has been able to market the skills of the trained researcher team it has developed to help support the monitoring activities, with SACD being contracted to provide an assessment of water quality in the New River, following a major eutrophication event.

As SACD expands further into hosting international, student-based expeditions as a financial sustainability mechanism, SACD is building the capacity of the Community Researchers in the management and training of the student expedition participants in research and monitoring protocols and implementation, the international student expeditions building financial sustainability of the CR programme in the long term.

SACD also seeks individual donors and donations to support its Internship Programme. The interns are paid at the end of their internship, with the payment taking the form of a scholarship towards continuing education costs. This ensures that all scholarships are linked to building conservation stewardship within the communities served by SACD, addressing previous weaknesses in linking scholarships to conservation, identified in the former SACD Scholarship Programme.

COST REDUCTION

Sharing costs between multiple organizations for greater cost effectiveness is a key focus of this collaborative SEAS. Through basing the operational centre of the SEAS within the communities, with a trained educator implementing the strategy, logistical costs for organizations located in Belize City or elsewhere can be significantly reduced, whilst reaching more youths within the key communities.

Two of the current programmes are also contributing towards cost effectiveness within organizations -SACD is always seeking ways of being able to accomplish more as a conservation manager, within the same budget. Both the SACD Community Researcher and Internship Programmes are built into the SACD operational framework and are important components of the day-to-day support of SACD activities. The two programmes focus on ensuring the participants not only gain the knowledge, skills and experience that will benefit them in the future, but also ensure that their work is contributing towards the conservation outputs and programme targets of SACD. They provide cost-effective support for surveillance and enforcement, research and monitoring, community outreach and the administration programme areas, reducing overall operational costs to ensure that SACD, as a community-based organization, can stretch its funds further and achieve more, while also eliminating the commitment of having to cover salaries or stipends when funding is limited.

V. THE STUDENT ENGAGEMENT AND AWARENESS STRATEGY

BUILDING KNOWLEDGE AND UNDERSTANDING, MANAGING PERCEPTIONS, ENGAGING YOUTHS

A series of five required pre-conditions were identified during the CEIS Theory of Change planning process for ensuring an enabling environment for successful outcomes:

- Understanding of the importance of ecosystem services
- Understanding of the importance of conservation and sustainable use
- Understanding of the role of protected areas, replenishment zones and regulations
- Understanding of climate change
- Knowledge of climate change adaptation and resilience strategies

These pre-conditions form the foundation of the Student Engagement and Awareness Strategy, highlighting the key concepts that need to be integrated into the SEAS, and are integrated into the SEAS Theory of Change (Figure 34).



Four SEAS SMART objectives are identified:

SEAS Objective One: 100% of the schools have sustained, active partnerships with BAS and SACD as active participants in the SEAS.

SEAS Objective Two: At least 70% of the youths participating in the SEAS understand and support the concepts of conservation and sustainable use.

SEAS Objective Three: At least 50% of the youths participating in the SEAS are actively engaged and participating in the protection of ecosystem services.

SEAS Objective Four: At least 75% of the youths participating in the SEAS have an understanding of climate change and natural resource based adaptation.

SEAS OBJECTIVES	UNDERPINNING CEIS OBJECTIVES
SEAS Objective One: 100% of the schools have	CEIS Objective One: By 2028, at least 75% of
sustained, active partnerships with BAS and	community partner groups in the three target
SACD as active participants in the SEAS	communities have sustained, active partnerships with
	BAS and SACD
SEAS Objective Two: At least 70% of the of the	CEIS Objective Three: By 2028, at least 50% of
youths participating in the SEAS understand and	households in the three target communities
support the concepts of conservation and	understand and support the concepts of conservation
sustainable use	and sustainable use
SEAS Objective Three: At least 50% of the of the	CEIS Objective Four: By 2028, at least 30% of
youths participating in the SEAS are actively	households in the three target communities are
engaged and participating in the protection of	actively engaged and participating in the protection of
ecosystem services	ecosystem services
SEAS Objective Four: At least 75% of the of the	Objective Five: By 2028, at least 50% of households in
youths participating in the SEAS understand	the three target communities understand and are
climate change	taking steps to adapt to climate change

These objectives are underpinned by the CEIS Objectives (Table 4).

TABLE 4: SEAS OBJECTIVES AND THE UNDERPINNING CEIS OBJECTIVES

Developing a **long term, stratified Student Engagement and Awareness Strategy** is considered a priority for effectively inspiring, informing, engaging and involving students in conservation throughout their time at school. Current outreach activities are short term and project-based, with limited coordination across organizations, and do not necessarily link topics from project to project. There has been no cohesive framework to guide student engagement, and project-based activities have result in limited continuity of presence in the schools, with stops and starts to engagement activities, no cohesive messaging, and

duplication of effort by the different organizations working in the area. The limited continuity, in particular, is considered a significant barrier to long-term achievement of the objectives of the SEAS and the overall objective of the CEIS.

To overcome this, the key school-based strategy is focused on the development of a structured, collaborative, long-term programme that follows students through primary and high school, building knowledge and understanding of the key concepts identified as pre-conditions, to improve outcomes, be more cost effective, and keep students engaged throughout their primary and secondary schooling. It integrates a focus on 'learning by doing' through outdoor experience. This is considered critical as it is the field activities such as the BAS Reef Protectors and SACD Volunteer Programme that demonstrate the greatest success at engaging youths in interest in the environment and build conservation leadership skills in the youths in the communities.

The Student Engagement and Awareness Strategy integrates both class-based activities, and 'learning by doing' through outdoor field experience. This is considered critical as it is the field activities that are identified in the evaluation as most effective in engaging interest in the environment and building conservation leadership skills in these key fishing communities. Also important is the need to ensure that there is equal access to opportunities for participation within the target sectors. Whilst the selection of participants for Reek Keepers, Community Researchers and Interns is focused on conservation outcomes, with BAS prioritizing students from fisher families using Lighthouse Reef, and SACD prioritizing those from local fisher families, both organizations have clear guidelines on ensuring gender mainstreaming and equal opportunities within their target participants, and use this as a criteria when assessing the inclusion of other organizations within the collaborative partnership.

The SEAS draws on the strengths of the current programmes and the collaborating organizations, and integrates a series of programme recommendations and lessons learnt identified during strategy development. It provides a framework for activities centred around existing programmes and strengthened through the addition of new activities that engage students throughout their school life and beyond.

To achieve this, a number of structures need to be established and in place:

- 1. A general schedule of topics and broad timeframe for implementation (Table 5)
- 2. Establishment of an Education Committee with representation from each school to provide input into the planned lessons and activities, and ensure that timing of activities and topics aligns with the national curriculum.
- 3. Engagement of an Education / Outreach Officer dedicated to the Strategy, charged with implementation of the schedules, based in the communities, with salary and logistical costs shared by the participating organizations, based on proportional time and effort.

- 4. A quarterly schedule of specific topics, activities and responsible organizations, with identification of lesson materials, equipment required and costs, broken down into months (Tables 6 and 7).
- 5. Equipping of the programme, with office space (including utilities), equipment and lesson materials, and dedicated vehicle.
- 6. Development of individual lesson plans for each school sector (Infants to High School), with Reef Keepers and Mangrove Guardians as core components, providing the framework for development of additional lessons and activities.
- Training of the Education / Outreach Officer in delivery of specific lessons to meet the standards of teaching outputs required by participating organizations. Participating organizations have the option of either delivering the lesson / activities themselves or training the Education Officer in delivery.
- 8. Risk Assessment identifying and assessing risks in implementation of the activities for the safety of organizers and students.
- 9. Consistent and ongoing communication with the schools is the responsibility of the Education Officer, who would ideally be based out of the SACD office.
- Replication of structured programmes across schools Reef Protectors implemented by BAS in St. Viator's High School, and replicated by SACD in Sarteneja Baptist High School.
- 11. Selection of students for participation in the Core Programmes based on performance (punctuality, team compatibility and leadership, commitment, level of interest, behaviour, grasping concepts), shown in previous activities, as well as school grades.
 - Infant and Lower Primary activities are targeted at all students in each class.
 - A pre-determined number of Upper primary students are selected for the Junior Reef Protectors programme in Chunox / Copper Bank (BAS), and Junior Mangrove Guardians in Sarteneja (SACD), based on their performance in Lower Primary activities.
 - 15 High School students are selected based on performance in the Reef /Mangrove Guardian programmes in Chunox / Copper Bank (BAS) and Sarteneja (SACD).
- 12. Events such as Marine Science Fairs, Reef Week and Manatee Awareness Month provide opportunities for participants from both the Reef Protectors Programmes and Mangrove Guardians Programmes to come together to showcase their work.
- 13. Develop standardized protocols and formats for assessment and evaluation against objectives at all levels, to provide measures of success, with adaptive implementation integrating lessons learnt.

The primary focus to date has been engagement of upper primary classes, high school students, and high school graduates. The SEAS also recognizes the importance of engagement of younger students – from Kindergarten through Infants to Standard Three. Young children who enjoy positive experiences in nature are more likely to show proenvironmental attitudes and behaviours. For younger ages the focus is on providing regular and repeated access to the natural world for inquiry-based learning....building their appreciation for nature, a gap in the current student based programmes, and an important role for other partners such as Wildtracks, based in the communities.

Implementation of the strategy requires close collaboration and effective coordination between BAS and SACD, as well as with the participating schools, and engagement of other

WILDTRACKS PROGRAMME FOR THE YOUNGER STUDENTS

What if instead of talking about loss – deforestation, extinction for example, we bottled up the incredible experiences people have in nature into an inspiring positive message? Appreciation for nature for most people is about awe and wonder, senses and sights, not ecosystem services and extinction stories.

Adapted from L. Bennett / IUCN

partners - such as Turneffe Atoll Sustainability Association (TASA), Wildtracks and Blue Ventures.

BAS-SACD JOINT STUDENT ENGAGEMENT AND AWARENESS STRATEGY

	INFANTS	LOWER PRIMARY	UPPER PRIMARY
TARGET:	All four infant schools Infants 1 and 2 (5 to 7 years old) All students	All four primary Schools Standards 1 to 3 (8 to 11 years old) All Students	All four primary Schools Standards 4 to 6 (12 to 14 years old)
TIMEFRAME:	2 years	3 years	
FREQUENCY:	Once a quarter	Once every two months	Once a month
TOPICS:	River to reef Birds (Level 1) Fish (Level 1) Sea turtles (Level 1) Manatees (Level 1) Crocodiles (Level 1) Respect for living things	River to reef / Estuaries Birds (Level 2) Fish (Level 2) Sea turtles (Level 2) Manatees (Level 2) Crocodiles (Level 2) Mangroves Reefs and reef organisms Protected areas Respect for living things	River to reef / Estuaries Protected Areas CBWS Conservation targets Mangrove Corals and Seagrass Birds (Level 3) Sea turtles (Level 3) Manatees (Level 3) Crocodiles (Level 3) Commercial marine species and sustainable fishing Intro to Climate Change Leadership skills
METHODS:	Through storytelling, art, exploration in in nature	Through storytelling, art, exploration in nature	Structured by BAS Junior Reef Protectors Programme framework (adapted as Junior Mangrove Guardians in Sarteneja), with additional components to bring in river to reef / estuaries
ALREADY IN PLACE:	Wildtracks Intro to Manatees CRC lesson plans and activities	BAS Engaging Children with Nature BAS Junior Birder Workbook Wildtracks lesson plans SACD / BAS presentations CRC lesson plans and activities	BAS Junior Reef Protector Programme SACD / Wildtracks lesson plans SACD / BAS presentations CRC lesson plans and activities

	HIGH SCHOOL REEF PROTECTORS	BEYOND COMMUNITY RESEARCHERS	INTERNSHIPS
TARGET:	High Schools (3 rd and 4 th Form) 15 students	Open to 8 to 10 community members over 18 and under 30	Open to all high school graduates in all communities
TIMEFRAME:	2 years	Ongoing	Ongoing
FREQUENCY:	Once a month	As monitoring schedule requires	3 months – 6 months
SELECTION PROCESS:	Video or Essay submission	Application process / interviews	Application process / interviews
TOPICS:	River to reef Protected Areas Biodiversity HMCNM Conservation Targets and threats Climate Change Conservation in Belize In water technical skills Communication Leadership skills	Biodiversity and water quality monitoring skills Estuaries Climate change CBWS Conservation targets Communication and Presentation Outreach	Office Administration NRM Programme Education and Outreach Communication and Presentation Outreach
METHODS:	BAS Reef Protectors Programme framework of meetings, workshops, presentations and site visits SACD Mangrove Guardians framework of field activities in the river to reef NBCC seascape (to be developed)	Structured learning through online platforms integrated into Community Researcher training	Structured learning through online platforms integrated into Internship programmes Extend to 6 months with specific organizational projects
ALREADY IN PLACE:	BAS Reef Protectors Forest Department Green Laws Fisheries Department Outreach HCMR Outreach	SACD Community Researchers CRC monitoring in CBWS / New River	SACD Internships

TABLE 5: STUDENT EDUCATION AND AWARENESS STRATEGY

PRIMARY SCHOOL CONSERVATION CALENDAR

JAN	FEB	MAR	APR	ΜΑΥ	JUN	JUL	AUG	SEP	ОСТ	NOV	DEC
	Backyard bird count	World Wildlife Day	Earth Day	Int. Day of Biodiversity	World Environment Day	Summe	er Camp	Urban Birdwatch	Int. Day for Climate Action	Manatee Awareness Month (WT and SACD)	
	World Wetland Day	Reef Week	World Dolphin Day	World Migratory Bird Day	World Sea Turtle Day	World Ranger Day	Int. Shark Day	Int. Primate Day	Croctober		
		World Water Day		Endangered Species Day	World Crocodile Day	Int. Day for Conservati- on of Mangroves					
		Child Stimulation Month (Kinder.)									

PARTICIPATING ORGANIZATIONS

TABLE 6: SCHOOL CONSERVATION CALENDAR

EXAMPLE: DIVISION BY TOPICS AND ORGANIZATIONS FOR THE MONTH OF MARCH

MARCH	LOWER PRIMARY	UPPER PRIMARY
World Wildlife Day	Respect for living things Endangered species (Level 1) Potential partners: CRC, MAR Alliance, Forest Department, Fisheries Department Visit to Manatee Rehabilitation Centre	Endangered species (Level 2) Potential partners: CRC, MAR Alliance, Forest Department, Fisheries Department
Reef Week	Reefs and reef organisms Protected areas Reef Fair / Expo	Junior Reef Protectors (BAS) Junior Mangrove Guardians (SACD) Reef Fair / Expo
World Water Day	Salty and Fresh Water Fish (Level 2)	River to Reef Estuaries

PARTICIPATING ORGANIZATIONS

TABLE 7: EXAMPLE OF DIVISION BY TOPICS AND ORGANIZATIONS FOR THE MONTH OF MARCH

VI. CONCLUSIONS AND RECOMMENDATIONS

Youth engagement in conservation and a connection with nature is considered increasingly important as we move into the future. Developing an understanding of the natural world, of the importance of ecosystem services, support for protected areas and promoting leadership in conservation of species and ecosystem – is critical if Belize is to meet its sustainable development goals without compromising its natural resources. Protected area managers need to be able to reach out and engage the next generation – the youths who will become tomorrow's community leaders. This strategy provides a coordinated mechanism for that engagement that also improves cost effectiveness and builds on the strengths of current activities in the schools and with the youths.

To date, whilst youth engagement activities have not been coordinated, both SACD and BAS have been able to develop strong programmes that have evolved over time. These programmes can be replicated and combined through the SEAS strategy to reach more students, to reduce overlap and duplication of effort, and to provide the initial framework for engaging other organizations with stakeholders in these northern fishing communities to become part of the strategy partnership.

The primary focus to date has been engagement of upper primary classes, high school students, and high school graduates. This strategy also recognizes the importance of engagement of younger students – from Kindergarten through Infants to Standard Three - young children who enjoy positive experiences in Nature have been shown to be more likely to show pro-environmental attitudes and behaviours. For younger ages the focus is on providing children with regular and repeated access to the natural world for inquiry-based learning....building their appreciation for nature. Integrating parents into the activities and experience can extend the benefits of the early-year programme to include family members, increasing reception for the environmental programmes implemented in the upper classes.

A number of lessons learnt were identified during the programme assessments that have guided the design of this strategy. Whilst recommendation have been identified for individual programmes within the relevant assessment sections, with a number of cross-cutting recommendations have also been identified:

- Multi-year outreach strengthens student engagement and understanding. Continuity is important, starting from the Infants and extending to High School, with the need to move beyond project-based, one-year programmes to an integrated, well-structured, multi-year programme.
- Field activities and outdoor experiences are critical in successful engagement of youths and inspiring of the next generation of conservation leaders. They are identified in the evaluation as the most effective mechanism for engaging interest in the environment and building conservation leadership skills in these key fishing communities.
- Graduates of the Reef Protectors, Mangrove Guardians and other would benefit from the creation of a volunteer programme for that can channel youth enthusiasm for continuing participation in meaningful conservation activities, open to anyone who is interested in signing up for an activity, and providing opportunities for further development of conservation leadership skills.

- Outreach should also focus on creating conservation leaders, and engaged participants graduating from High School need mechanisms for continued participation to keep them engaged – the Community Researcher and Internship Programmes, and the development of a less formal conservation volunteer programme.
- Outreach by multiple organizations will be more successful if it is co-ordinated, with unified messaging. It will also be more cost-effective, with sharing of costs between participating partners.
- The establishment of an Education Advisory Committee composed of teachers strengthens communication and partnership with the schools.
- Parents need to be involved and kept informed and for younger students, engaged and participatory in nature-based lessons and activities.
- Activities are best designed for after school / at weekends, with endorsed by the schools but with
 permission for participation in activities coming directly from the parents
 this reduces the
 complexities and liability issues of working through the schools.
- The after-school student engagement programmes should be self-contained and not rely on the participation of teachers. Teachers are already overworked and very few have the time, enthusiasm and energy to commit to extracurricular activities.
- Teachers can be successfully engaged and integrated into through strengthening in-class activities that align with the class syllabus, and providing capacity building for improved implementation of classes that address the environment.

This long term, structured Student Engagement and Awareness Strategy (SEAS), developed jointly by Belize Audubon Society (BAS) and the Sarteneja Alliance for Conservation and Development (SACD) is a concrete step towards "*Engaged, resilient communities demonstrating good stewardship of the environment, with improved socio-economic benefits.*" And considered a priority for these organizations if they are going to effectively inspire, inform and engage students in conservation throughout their schooling and beyond, to build future conservation stewardship in the northern fishing communities. Indications from this assessment suggest that they are on course, and that the SEAS will strengthen their conservation outputs in these communities.

The SEAS has the potential to empower young leaders, providing them with the skills and confidence to inspire those around them. It can result in increased community stewardship of the natural resources in the Northern Belize Coastal Complex and BAS managed protected areas on Lighthouse Reef – as well as those other marine protected areas used by the northern fishermen, expanding benefits beyond just the target participants. It will also be an innovative model of participatory action by conservation organizations with similar goals towards the engagement of youths, in communities reliant on the coastal and marine natural resources.



"In the end we will conserve only what we love, we will love only what we understand, and we will understand only what we are taught."

Вава Ді́оит

ANNEX ONE: MEETING NOTES

Meeting One

Date: 10th October, 2019

Participants: BAS (Varsha Clarke), SACD (Joel Verde and Abisai Verde), Wildtracks (

Location: Belize City

DAREECE (BAS):

SEAS

- The SEA Strategy should run from kindergarten to youth could do groups like cubs, scouts
- The structure of the SEA would be similar to reef protector program—run by community person with SACD or other organization, with SACD / BAS training an employee from the communities to run program out of the SACD office
- Would like scheduled meetings with partners to communicate progress of program
- Scheduled based on a Conservation calendar, similar to reef protector program, to get people involved- specific day for targeted outreach
- Need more partners if continuity throughout the year is to be maintained

BAS School Programme

- Focus on after school programs
- Families should be involved with PAs ("in between" activities/ outside of school)
- Bird club program target group for 3 years (one year not enough)
- However, not successful with teachers participating outside of school hours—how to get them involved outside of school? How to get commitment?
- Liability- don't want to be involved with children if teacher is not there—is there documentation of program in school?
- BAS has identified that 15 is a manageable number of young people for the Reef Protectors program (selected from 3 communities)
- Should the program be an option? Interested children can sign up for program?
- Pay a teacher to be part of the program?
- If the program opens to whole school, it will mean a mixed group of different ages
- 2nd and 3rd year high school are targeted for program
- Reef protector program- monthly meetings, parents sign documents for children's safety

Scholarships and Internships

- Interested in 2-month internship
- Scholarship fund challenge- no plan, only some funds- how to use and grow the fund?
- Paid internship- intern will be looking for something more full time
- 6-month apprenticeship? Means more skills for future career—how to sustain this? Is 6 months stable and what would motivate someone to stay on 6 months?
- How to keep youth involved that didn't get internship?
- How to keep track of youth from program—database?

ABISAI (SACD)

SEAS

- 1 club per community?

- INTERNSHIP

- internship works but 2 months is a short timeframe to build capacity of youth 3 months is better
- SACD published an internship opportunity and the target was Sarteneja- not many youths applied in the first round

- SCHOOL PROGRAMME

- Teachers communicate information during school hours but nothing outside of school

JOEL (SACD)

- SCHOOL PROGRAMME

- The junior section should be focused on skills development and include leadership/ responsibility
- The junior program could be taught garbage disposal (effects etc.)
- Challenges include: how to establish relationship between organization and teachers
- Should identify engagement teachers to target- maybe one teacher from each school, who can help coordinate / organize activities in the schools
- Kindergarten- Activities should be motivating, exciting and target the whole class
- Kindergarten- stimulation month should be a target time for environment activities—get teachers involved and aware during this time
- Getting started with young kids helps identify which youth will be involved and interested in the future
- 15 kids will be identified at primary level
- 2 groups of 15?
- Max 15 kids per school?
- Teacher in Chunox would be good to help with program?

INTERNSHIP AND SCHOLARSHIP

- Need to work on the current structure of the internship programme
- Challenges include maintaining oversight, limited staff
- Need better activity scheduling and involvement make a modelled plan, want engagement throughout
- SACD is worried that the scholarship is taken for granted
- Could do paid internship opportunity to get different result

EDUCATION OFFICER (BAS)

- SCHOOL PROGRAMME

- Certain teachers are very interested in conservation
- Kindergarten and infant focus during reef week
- Packages prepared for teachers at the beginning of the year so teachers are prepared with lesson so everyone is delivering same message
- Children that started in kindergarten could end up volunteering to be involved with educating children in the future that are going through the same program

OTHER

- fisheries should be guest speakers for specific areas

MEETING 2

SACD, BAS, TASA

Date: 29th November, 2019

Participants: BAS (Varsha Clarke), SACD (Joel Verde and Abisai Verde), TASA (Shantel Espadas)

Apologies from Blue Ventures

Location: Belize City

TASA

What is the organization currently doing?

- TASA has only done one school visit in the last year and it was a joint in class presentation with OCEANA
- TASA linked single use plastics into presentation
- TASA barely does any activities with Sarteneja because most fishers are from Chunox and Copper Bank
- TASA does boat to boat awareness activities to target fishers directly
- TASA is partnering with SACD to provide tour guide classes to fishers who are interested in becoming tour guides
- TASA does not target infants for youth engagement and only does school presentations at high school level
- TASA is a young organization and needs to establish knowledge of who they are before moving on to bigger plans
- TASA works to engage fishers in understanding functions of different ecosystems, zones, sustainability (not harvesting young commercial species) etc.

What does the organization want in the future?

- TASA has not evaluated their education program and would like to do this
- TASA should have at least 2 presentations per year
- TASA wants to contact TAMR resorts to train fishers to become tour guides (it could be a summer activity/ course)
- TASA wants to replicate what BAS is doing with youth engagement and likes BAS' program as a baseline
- TASA may not always be available but would like to take part
- TASA wants to commit to being in communities more frequently
- TASA wants a plan for the year, plan for the long term and wants more structure

BAS

What is the organization currently doing?

BAS does classroom visits mostly focused in Chunox and Copper Bank

- BAS has a "conservation calendar" which includes activities for earth days and reef week each year
- BAS reef protectors is focused on St. Viator's High School and is implemented once a month, with the same 15 participants each month
- BAS has done 2 school visits for plastic awareness
- BAS Reef week plans for lower middle and upper levels
- BAS Reef week includes everyone
- BAS plans fairs at each school and involves entire school including teachers and parents
- BAS has had students in Sarteneja but this year really only targeting Chunox and Copper Bank
- BAS is doing plastic awareness presently- 3 mini fairs (plastic free fair), link to culture fair, having competition using single use plastic, after fair they reinforce single use plastics message
- What BAS finds works well is to do message, do the action, then reinforce the message
- Students develop a research project, collect data and present it (first year 6 form Escuela Mexico)
- BAS reef protector program looks at PAs and links them to organizations
- BAS teaches fishers about benefits of reef, (mangrove, seagrass, reef, fish, lobster, conch focused)
- BAS thinks it is important to look at student's ability to understand, learn and speak in English (primary level)
- Simple and quick messages for primary students are key
- BAS has lesson plans to share
- BAS has a nature in classroom program (for at risk children), general conservation topics

What does the organization want in the future?

- There is a clear gap in communication between organizations during reef week, with everyone going to the same schools – need a mechanism that helps organizations communicate better so that all school grades are covered
- BAS has 2 high school scholarships and wants to change this thinks it is better to offer scholarships to reef protectors (6th form scholarships)
- BAS targets students from fishing families for the reef protector programme
- BAS wants to reach the people actually using the resource
- BAS wants to have framework for other organizations to use
- BAS wants to engage the same students for 18 months
- The program requires a lot of resources to run, BAS is figuring out a budget
- BAS wants to do junior reef protector program that will transition to reef protectors for high schoolers
- BAS wants to be able to be able to reach more students
- BAS reef protectors went to Bacalar Chico wants to do Corozal Bay next
- BAS wants to improve follow up on students to help further their education
- BAS wants to make sure they keep a certain quality of work so it is important that an outreach person who represents all 4 organizations is presenting properly - how can they monitor and ensure this is done?

- BAS wants to come up with a calendar year, look at different things to celebrate each month and split this up with organizations involved
- BAS thinks it is important to figure out which organization does what and for what level to ensure organizations are reaching a large amount of youths

SACD

What is the organization currently doing?

- SACD has an open day for whole schools and creates more impact on the message they want to send (one event with one focus)- parents, students, teachers involved – this was discontinued because of funding but is a great idea
- SACD held a competition with judges to engage schools (whole school), every school presents a
 project- mainly looking at recycling but included mangroves, coral reefs, manatees etc.
- SACD school presentations for levels 5 and 6 (only primary school), based on the teachers work plans
- SACD has no structured mechanism in place
- SACD interns SACD recruit students for 2 to 3-month internship during summer time (replaced scholarships), can only be paid internship if they have available funds
- SACD's volunteer program was discontinued and right now they are focusing on school presentations, summer camp, interns, community researchers -- and fishers fair (more about community engagement)
- SACD did scholarship for high schoolers but this is no longer active
- SACD says people who did scholarships did not apply for internship
- SACD does open the days for high school

What does the organization want in the future?

- SACD wants continuity from young age to post high school
- SACD wants to identify how to go about activities in a structured way
- SACD recruitment process is an additional expense and should be taken into account
- SACD wants to figure out how to select activities that are more feasible and have had more impact and structure
- Engaging students consistently will have a greater chance of changing their career paths
- Internships could be based on ensuring continued engagement beyond reef protectors etc.
- SACD wants all 4 organizations to work with primary schools
- SACD thinks Mangrove Protectors for primary students is a good idea
- SACD thinks Wildtracks is the best place to visit, very stimulating, and could be done during child stimulation month
- Students could intern with any of the 4 organizations
- SACD wants to touch base with FOCUS
- SACD wants to identify teachers who are best suited for the program
- Should they offer internship before scholarship?
- Outreach person would be an asset for all the organizations, could pay them by day
- FOCUS, Mar Alliance, Fisheries and Forestry, CRC, Wildtracks, Blue Ventures should all be engaged.

ANNEX TWO: REEF PROTECTORS PROGRAMME

Tier 1: Junior Reef Protectors

Age Range: 10- 13 years Duration: 1 year Topics to cover:

1) Protected Areas

Objectives: -To build knowledge of Belize's Protected Areas system -To Understand the rules, regulations and importance of Protected Areas -BAS' Role in Protected Areas Management

2) Biodiversity: Plants(Mangroves)

Objectives:

- To understand the importance of biodiversity
- To identify the 3 types of mangroves found in Belize
- -To understand the importance of mangrove ecosystems

3) Biodiversity: Birds & Reptiles (Sea Turtles)

Objectives:

- To understand the importance of biodiversity
- Basic turtle and Bird identification
- Threats to turtles & birds
- Ecological importance of target species

4) Biodiversity: Corals

Objectives:

- Understanding the ecological importance of Corals
- Basic Coral identification
- Understanding threats to corals

5) Biodiversity: Sea grass

Objectives:

- Understanding the ecological importance of sea grass
- Basic Sea grass identification
- Understanding threats to sea grass
6) Biodiversity: Fish (lobster & conch)

Objectives:

- Importance of Fishery in Belize & Northern Communities

-Fisheries regulations and rules

- Effects of overfishing
- Basic Fish identification

7) Community Outreach

Objectives :

- Create a platform for sharing and/ or community servic

Tier 2: Reef Protectors

Duration: 2 years Age Range: 14- 17 years Topics to be covered:

1) Social Skills:

Objectives: -Building communication & leadership skills - Learning to work as a team

2) Protected Areas & Biodiversity

Objective: More in depth of topics 1-6 from Junior Reef Protector Program

3) Climate Change:

Objectives: - Understanding climate change -Effects of Climate change

4) Conservation In Belize:

Objectives:

- Build familiarity with local conservation organizations & MPA managers.

-To raise awareness about marine protected areas and their role in conservation through field exposure.

5) Technical Skills

Objectives:

1.To provide youths with first-hand exposure to professionals working in the marine conservation field.

2. Introduce and provide practical experience in marine research & monitoring

Activities:

-Teaching in water skills (swimming, snorkelling & water safety)

- Open water dive certification

-Fish & Coral Identification

-Introduction to Biophysical monitoring & data collection (turtle nest monitoring, Sea grass density survey, conch & lobster density, turtles & beach profiling, bird point count)

- Internship/ Apprenticeship

6) Community Outreach

Objectives:

- Sharing what has been learnt & mentoring others to support conservation
- Volunteering to support conservation



DIFFICULTY UP



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