

Annual Report 2016

Southern Leyte Coral Reef Conservation Project



Report by:

Tom Dallison, Head of Science ¹

¹Coral Cay Conservation, The Kiln, Grange Road, Tongham, Surrey, UK;
headofscience@coralcay.org

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CCC

Founded in 1986, Coral Cay Conservation (CCC) believes that our choices today will benefit the generations of tomorrow, where coral reefs will sustainably provide for local communities in the face of growing demand for resources, allowing these systems to thrive in harmony with human kind

CCC works with government bodies and non-governmental organisations within a specific host country, and does not receive monetary payment for the services provided. CCC is primarily self-financed through an innovative volunteer participatory scheme in which international volunteers are given the opportunity to gain valuable experience by joining a phase of each project, in return for financial contribution towards project costs.

Upon arrival, volunteers are entered into a Skills Development Programme (SDP) that trains them in the skills of marine fauna and flora identification, underwater visual census (UVC) methodologies and further underwater data

collection methods. The SDP is taught by highly experienced and qualified marine scientists, which allows volunteers to confidently assist in the acquisition of data. Finances generated from the volunteer programme allow CCC to provide a range of services, including data collection, assimilation and analysis as well as conservation and environmental education. Other technical training and capacity building programmes are provided.

CCC has been successfully operating volunteer based conservation programmes in developing countries for 31 years with several internationally notable accomplishments, including the establishment of MPAs around the world. This includes, but is not limited to the creation of the UNESCO World Heritage Site in Belize, the Danjungan Marine Reserve and Wildlife Sanctuary for Negros in the Philippines, and the development of several no-take areas (NTAs) around Sogod Bay, Southern Leyte, the Philippines.



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“Providing resources to help sustain livelihoods and alleviate poverty through the protection, restoration and management of coral reefs and tropical forests”



© Pash Baker

The Numbers

7

independent
Barangay coastal
waters surveyed

45

transects surveyed
by CCC
volunteers

540

individual
replicates
sampled

13204

target fishes
identified

53

educational and
outreach events

24

amazing volunteers
passed through
CCC's doors

4290

hours of scholar
training provided

405

hours spent
underwater
surveying

Sogod Bay

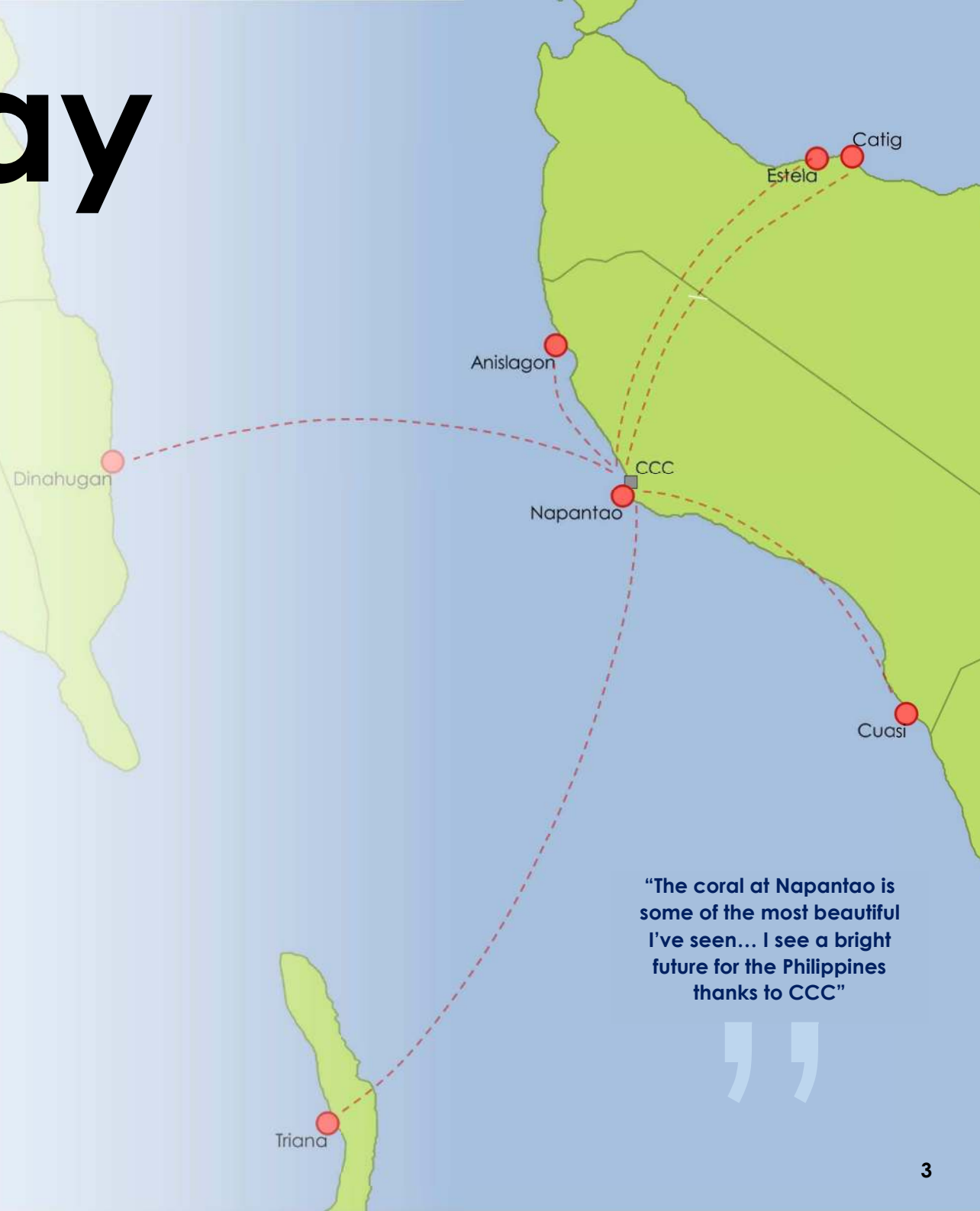
Sogod Bay (10° 12' N, 125° 12' E), Southern Leyte, is surrounded by 132 km of coastline and is shared by 11 municipalities: Padre Burgos, Malitbog, Tomas Oppus, Bontoc, Sogod, Libagon, Liloan, San Francisco, Limasawa, Pintuyan, and San Ricardo. The bay is an important fishing ground and the area is rich in tuna, flying fish, herrings, anchovies, shell-fish and Spanish mackerel. It is also a feeding ground for charismatic mega-fauna such as pilot whales, melon-headed whales, dolphins, manta rays and whale sharks.

The bay is characterised by naturally limited mangrove areas, narrow fringing coral reefs, limited seagrass beds and narrow intertidal areas and beaches. While the reefs of Sogod Bay are, in many places, in good condition, they face a number of anthropogenic threats. Commercially important species such as parrotfish (Scaridae sp., mulmul), groupers (Serranidae sp., lapu lapu), snappers (Lutjanidae sp., maya maya)

and sweetlips (Plectorhinchus sp., lipti) are present in low numbers throughout the bay; a clear indicator of overfishing.

Throughout 2016, CCC were highly active within Sogod Bay. Marine Protected Area (MPA) assessment and monitoring surveys were conducted within the waters of coastal barangays. Subsequently, community days were held to disseminate results and provide information on the reasons for CCC's activity, their outputs and how it will benefit the local communities. Such events are critical as CCC promote a bottom-up approach to conservation, with Barangay councils practicing co-management.

CCC staff also placed tremendous effort in their outreach activities in 2016, resulting in a bounty of schools partaking in CCC's Seastar Environmental Award Scheme (SEAS), Reef Rangers and community-education activities that focused on a range of conservation-focused topics.



“The coral at Napantao is some of the most beautiful I’ve seen... I see a bright future for the Philippines thanks to CCC”



Research

In 2013, CCC adopted a new survey methodology that marked a permanent shift in the structure and purpose of CCC's research programme. With an abundance of MPAs established throughout Southern Leyte, their continued monitoring and assessment is an important tool for their effective management.

Monitoring will allow resource managers to implement changes where necessary to adapt policies and by-laws. Monitoring and assessment will provide information to detect changes in conditions that may trigger a management response, determine the cause of such changes of concern, and to ultimately evaluate the effectiveness of management actions; a key element that provides continuous feedback. By providing ecological data, comprehensive MPA surveys enable managers to assess progress towards aims and goals and make informed, ecological management decisions. In combination, CCC will continue to provide

scientific data for the establishment of new MPAs.

MPA assessments are conducted using an augmented Reef Check method. The Reef Check methodology is widely recognised and is used to survey coral reefs around the world. It is a mode of UVC that allows for a diverse range of divers to easily and efficiently conduct surveys, with respectable results.

CCC has enhanced the methodology through additional target species of fish, coral and other invertebrates to better reflect the high biodiversity within Sogod Bay. Survey transects are conducted

at depths of 6m and 12m where topography allows, both inside and outside the MPA. The total number of transects assessed depends on the size of the MPA, with a minimum of three inside and three outside. Each transect is 100m and divided into 4 replicates of 20m. Between each replicate there is a 5m gap where no data is recorded.

The data are analysed and assimilated into reports that provide a holistic overview of the current ecological status of the MPA and its respective reef. Finally, CCC provides recommendations to the barangay council on how to progress and either, maintain or achieve success.

"It's amazing how a marine protected area influences the growth of its marine life"

”



Anislagon

This survey was requested by Sanguniang Bayan Secretary Servando Tiu to help meet the 1998 Fisheries Code (Republic Act 8550), which states that 15% of all municipal waters should be within an MPA. CCC surveyed the coral reefs located between 50-200m from the shoreline of the Barangay Anislagon, on the eastern side of Sogod Bay. The southern region of the bay from the barangay boundary was chosen as the proposed location for a Marine Protected Area.

The proposed Anislagon MPA gives the overall impression of a moderately healthy reef ecosystem.

There are some trends that are of concern, indicating activities such as overfishing, which require consideration to ensure the preservation and restoration of the coral reef in Barangay Anislagon. However, there are encouraging signs that the reef is in a healthy state and would benefit from an MPA.

The proposed MPA shows moderate levels of total fish abundance and low abundance of commercially important fish species. These trends are indicative of overfishing.

There appears to be enough hard coral coverage to support a decent population of corallivorous Butterflyfish species.



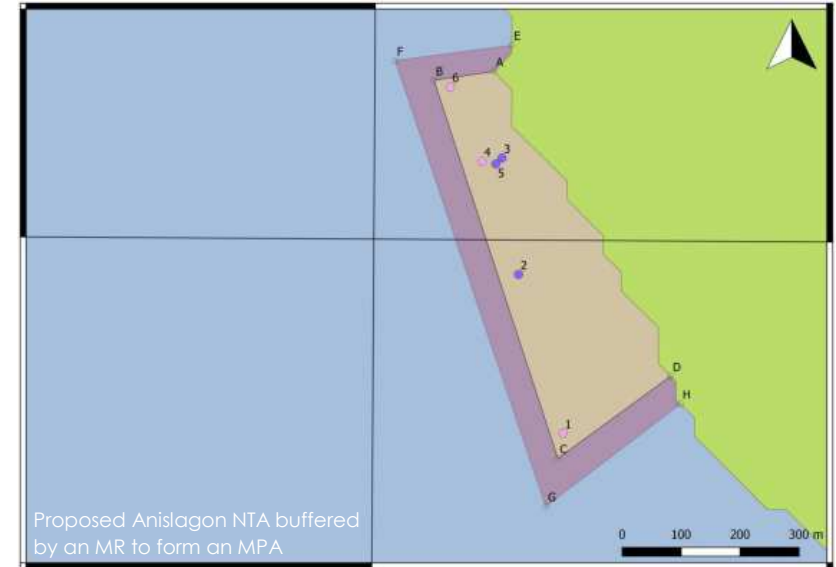
The site showed moderate levels of invertebrate abundance but no important commercial species were recorded. Crown of Thorns Starfish were also found in relatively high numbers and should be extracted to reduce the chances of a serious,

coral-damaging outbreak. The site is dominated by rock, which is a positive sign for future coral recruitment. There was also decent coverage of hard coral species, particularly massive and sub-massive lifeforms.

The significantly higher abundance of stress tolerant corals like massive and sub-massive, at the proposed MPA site, may suggest that the area experiences high levels of anthropogenic stressors (e.g. anchoring and fishing) or natural stressors (e.g. storms and sedimentation).

The coral reefs of Anislagon show moderate levels of human impacts. The amount of fishing related impacts, general trash and coral damage are a concern, however, if the reef were protected these stressors may diminish or disappear over time.

CCC strongly recommend creating an MPA in the Anislagon. Considering the



levels of overfishing, it is recommended that an MPA is established that spatially restricts fishing effort on areas of the reef. This should be buffered with a Marine Reserve (MR) allowing artisanal fishing practices (e.g. hook and line).

By combining an ecosystem approach to fisheries (EAF) with community-based management (CBM), CCC aims to empower the local user group level and promote high levels of transparency

working directly with stakeholders and government units. As a result, CCC will facilitate the designation of an MPA within the coastal waters of Barangay Anislagon.



Estela

This survey was requested by Ma'am Benie Dipay of the Municipal Agricultural Office in Liloan to help meet the 1998 Fisheries Code (Republic Act 8550).

The reefs of Estela, located within Cabalian Bay, are partially sheltered from strong winds coming across the Pacific. The Barangay has a population of approximately 1,069 people, all of which live within proximity to the coastline. A river mouth of <10m is located approximately 1.5km away from the proposed site.

Overall, the Estela proposed MPA site showed moderate levels of fish abundance (42.09 ± 9.48 per 500m^3). In comparison, the Marine Protected Area in Napantao, San Francisco- surveyed in 2015, conferred a higher average fish abundance (93.33 ± 19.03 per 500m^3).

Commercial fish species showed low abundances and were small, suggesting levels

of overfishing within the area. The moderate abundance, species richness, and diversity of butterflyfish in Estela indicate that, although the proposed area is currently in moderate health, there is room for ecological improvement through adequate protection.



The proposed MPA site showed relatively low levels of invertebrate abundance. This may suggest a lack of hard coral shelter or food for invertebrates and an unbalanced predator prey relationship between fish and invertebrates.

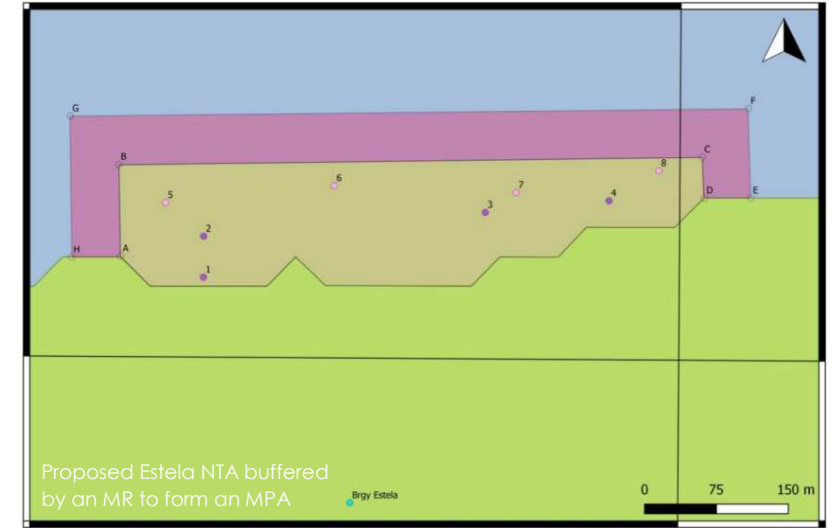
A worrying, though locally common, result from the data

is the lack of many commercially important species of invertebrates such as Triton's Trumpet, Squid and species of Sea Cucumber. These species, which in many cases are slow growing and slow moving, are particularly vulnerable to over exploitation.

The proposed MPA was dominated by sand, which is not ideal for hard coral recruitment that requires hard surfaces to attach and grow. However, the second most prevalent substrate was rock, which is a positive sign for future coral recruitment. Hard coral was the third most common substrate.

The majority of the surveyed area showed some level of fishing related and general trash (ranging from low to high impact), and levels of coral damage are a concern, however, if the reef were protected these levels may diminish or disappear over time.

We believe the Estela reef



would make an excellent MPA with enough coral cover and fish diversity to promote reef improvement with adequate protection. The implementation of an MPA could help to reverse the effects of historical overfishing and allow the reef to recover, with lasting benefits for the community of Estela. It is recommended that consultation be started between the local community, municipal and provincial government and CCC on the creation of an MPA.



Limasawa-Triana

This survey was conducted at the request of Armando Gaviola of Provincial Environment & Natural Resource Management Office (PENRMO), Maasin, on behalf of the Protected Area Management Enhancement (PAME) Project. After consulting with the Barangay Captain, Triana was surveyed for the purpose of a proposed MPA.

The reefs of Triana are sheltered from prevailing trade winds coming across the Pacific. However, during the monsoon season of Habagat (June-October), Southwest winds leave the north-west coast of Limasawa exposed to moderate to high wave action. The site was also heavily impacted by the recent typhoons, Yolanda and Queenie. The Barangay has a population of approximately 1,495 people, all of which live within proximity to the coastline.

In terms of total fish abundance, Triana's proposed MPA can be

considered a healthy reef as total fish abundances were found to be higher (104.88 ± 11.18 per 500m^3) than those at the longstanding Napantao MPA (93.33 ± 19.03 per 500m^3).

Although total target fish abundance was found to be high (104.88 ± 11.18 per 500m^3), low total commercial fish abundance (10.79 ± 2.44 per 500m^3) and biomass ($0.09\text{kg} \pm 0.05$ per 500m^3) are indicative of overfishing. Of all the commercial fish families, Parrotfish held the greatest biomass with $0.22\text{kg} \pm 0.07$ per 500m^3 .



Butterflyfish species richness (S) within the Napantao MPA (3.17 ± 0.03 per 500m^3) was markedly higher than at the

Triana proposed MPA site (1.88 ± 0.39 per 500m^3), which is more comparable to findings found outside the Napantao MPA (1.71 ± 0.03 per 500m^3).

The absence of all commercially important invertebrate species at the Triana site is a concern. Currently, invertebrate harvesting was said to be low, which may indicate that historically high levels of removal are linked to the lack of individuals observed. Promisingly, only 6 Crown of Thorns Starfish were found across the entire Triana survey site.

Hard coral coverage ($23.54\% \pm 3.57$ per 20m) was lower than that of the Napantao MPA ($36.35\% \pm 5.58$ per 20m). However, the dominance of obligate corallivorous Butterflyfish found within the proposed MPA could suggest that the coral composition is sufficient to support a populous community of such species.

The site is dominated by rock



($37.08\% \pm 3.10$ per 20m) and hard coral ($23.54\% \pm 3.57$ per 20m) which is a positive sign for future coral recruitment. Stress-tolerant corals including non-Acropora submassive ($24.98\% \pm 5.08$ per 20m) and massive ($22.1\% \pm 5.68$ per 20m) dominated the Triana proposed MPA site, indicating the frequent influence of anthropogenic pressures and sedimentation.

Implementing marine protection across the Triana site could help encourage a shift in reef composition, from

stress tolerant to competitor corals; a movement that can already be observed on a select few of the survey transects.

CCC strongly recommend creating an NTA in the Barangay Triana that bans all fishing on at least some of the reef is the recommended course of action. Ideally this would be buffered with designated MR zones allowing some restricted (hook and line only) fishing in the area.

Catig

CCC conducted a brief biophysical and visual assessment of an area south of the proposed Catig MPA to look for appropriate lobster habitat for the creation of a Marine Reserve.

One 100m transect line was surveyed for fish, invertebrates, and substrates. Additionally, the survey line was photographed for lobster habitat and the entire shoreline of the specified area was visually assessed via snorkelling by photographers.



Hard coral cover, fish, and invertebrate abundances were considerably lower than those found in Napantao

MPA. The area was characterised by rubble and rocky substrates (see figure). A local fisherman indicated that Spiny Lobsters (*Panulirus* sp.) were the main Genus targeted by local fisherfolk within the community of Barangay Catig.

The data obtained from the single transect conducted on the eastern coastline is inconclusive of the area's ability to support a lobster fishery. Although lobsters were recorded, these individuals did not appear to be the target Genus, as highlighted by local fisher folk.

As the habitat is believed to be suitable to support such Genus of lobster (*Panulirus* sp.), it is proposed that the discussed area be established as a lobster-specific NTA. This proposed NTA must encompass specific and direct by-laws that prohibit the removal of the *Panulirus* sp. and other lobster species under outlined conditions and temporal-scales.

To be effective, the NTA should also include catch-size limitations, area and/or seasonal closures of which must be designed around the specie's growth and reproductive characteristics. For example, as *Panulirus* sp. have been demonstrated to elicit nocturnal behaviours, lobster-specific fishing gears or gears that result in the capture of lobster are advised against during these times of increased activity.



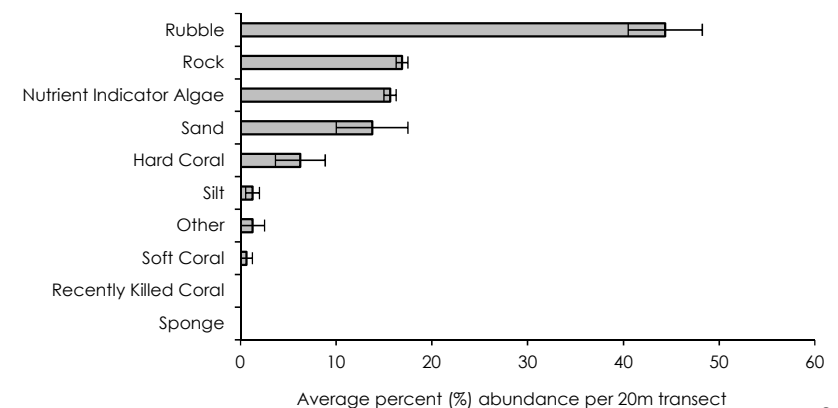
Furthermore, by removing the ability to exploit all lobster under the established doctrine, for a set period of time, the aim is to enable lobster populations to recover;

providing a fruitful future fishery. Other by-laws regarding fishes and other invertebrates will need to be further discussed based on the aim of this assessment.

To conclude, CCC recommends the establishment of a lobster-specific NTA that enforces direct by-laws regarding the exploitation of *Panulirus* sp. and other lobster species. Following this establishment, a re-assessment of the NTA will need to be conducted to determine populations; the preliminary time-scale proposed is 2 years. Thus, the by-laws will enforce their

respective doctrines for 2 years; until re-assessment. The by-laws established will need to be done so with the scientific guidance of CCC directed at the ecology and behaviour of target lobster species.

Following discussions, it may be decided that a full closure would be the most suitable action and other by-laws regarding catch-sizes, as previously mentioned, may become suitable following re-assessment. This will enable CCC to advise on by-laws for the specific population observed within the waters of Catig.



Cuasi

At the request of Arman Gaviola of PENRMO, Maasin, on behalf of the PAME Project, after consulting with the Barangay Captain, Cuasi was surveyed for a proposed MPA.

In terms of total fish abundance, Cuasi's proposed MPA can be considered a healthy reef, as its fish abundances were found to be only marginally lower than those at the longstanding Napantao MPA.



There are some trends that are of concern, indicating activities such as overfishing, which require consideration to ensure the preservation and restoration of the coral reef in Barangay Cuasi. However,

signs indicate that the reef is currently healthy enough to benefit from MPA protection.

Although the proposed MPA shows total fish abundances similar to that of Napantao MPA, low abundances of commercially important fish species suggest overfishing in the area.

The composition of hard coral throughout the site is indicative of being able to support a populous community of corallivorous Butterflyfish species.

The site showed moderate levels of invertebrate abundance but no important commercial species were recorded. A low number of Crown of Thorns Starfish were found.

The site is dominated by hard coral and rock, which is a positive sign for future coral recruitment. Non-Acropora foliose and branching species were found to be abundant which is encouraging, as an anecdotal increased

structural complexity is beneficial to both fish and invertebrate species.



The significantly higher abundance of competitor corals like non-Acropora branching, foliose and encrusting, compared with stress tolerant or fast growing corals, at the proposed MPA site may suggest that the area experiences lower levels of anthropogenic stressors (e.g. anchoring, fishing) or natural stressors (e.g. storms, sedimentation) compared with other Filipino reefs in the area.

The coral reefs in Cuasi show low levels of human impact. However, if the reef were

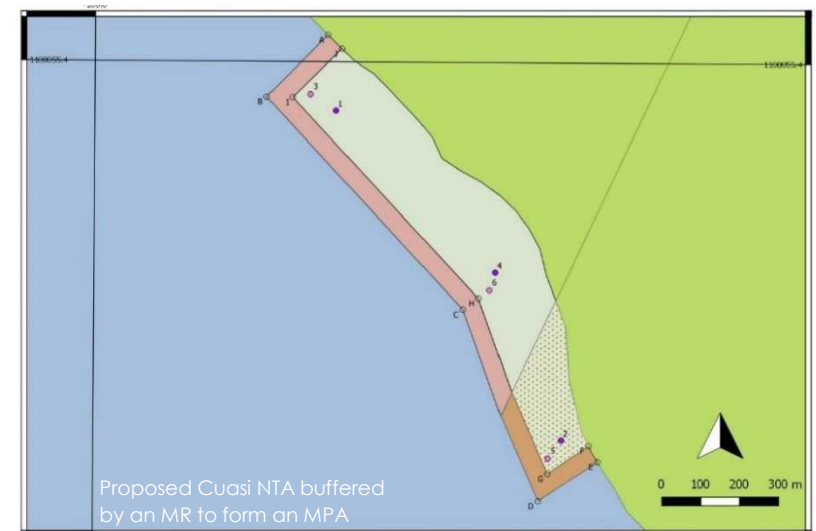
protected these levels may further diminish over time.

CCC recommend an MPA in the Barangay Cuasi. Considering the levels of overfishing suggested from the survey, an MPA, that bans all fishing on at least some of the reef, is the recommended course of action. Ideally this would be buffered with designated MR zones allowing some restricted (single hook and line only) fishing in the area.

By combining an ecosystem approach to fisheries (EAF),

and community-based management (CBM), empowering the local user group level and conferring high levels of transparency in a triangulated consortium, CCC aims to facilitate the local Barangay Cuasi in achieving measurable levels of effectiveness from their designated MPA.

It is recommended that consultation be started between the local community, municipal and provincial government and CCC on the creation of a MPA.



Napantao

CCC assessed the reef fish, invertebrates, substrates and anthropogenic impacts inside and outside the Napantao MPA, in April and October 2016.

The reef is in a good ecological status with high coral cover and fish diversity however, exhibits signs of stress. Fish abundance was not significantly different inside ($N = 106.04 \pm 10.06$) vs. outside ($N = 85.21 \pm 11.08$) the MPA. However, species richness and Shannon's Diversity Index (H'), a measure of the number of species and their respective abundance within a community, were higher inside ($S = 1.85 \pm 0.10$ and $H' = 2.13 \pm 0.09$) than outside ($S = 1.20 \pm 0.05$ and $H' = 1.50 \pm 0.01$) the MPA on the majority of transects.

Low abundance and small size of commercially important fish species suggest a history of overfishing and possibly continued illegal fishing inside the MPA; an even smaller size of the commercially important

fish species outside of the MPA also suggests heavy fishing activity. Invertebrate abundance was not significantly different between inside and outside transects ($N = 106.25 \pm 9.03$ and $N = 125.17 \pm 11.46$, respectively). Many commercially important species of invertebrates (e.g.



squid and triton's trumpet) were completely absent from the surveys. This suggests intensive harvesting, either past or present. Crown of Thorns seastar (CoTs) were found at a healthy, low level.

There was a significantly greater composition of hard coral within the MPA (44.06%)

than outside (31.87%) which may be explained by higher levels of rock within the MPA, which aid coral recruitment. Overall, bleaching and coral disease were low inside and outside.

The composition of disturbance adapted fast growing corals (e.g. Branching *Acropora* sp.) was significantly greater inside the MPA ($35.10\% \pm 7.70$ per 20m). Significantly higher abundances of stress tolerant ($28.10\% \pm 0.68$ per 20m) and competitor corals ($24.70\% \pm 3.33$ per 20m) were recorded outside the MPA. This may suggest both effective MPA protection and possibly anthropogenic impacts from



high recreational diving inside the MPA. CCC recommends enhanced monitoring and protection from Bantay Dagats to decrease illegal fishing activities within the MPA. Additionally, continued monitoring of the reef is required to note and address any changes from anthropogenic and natural stressors. It is evident from stakeholder communication that community members are

not aware of the MPA ordinance. Therefore, it is also recommended CCC's efforts in education and capacity building are increased within the community of Napantao.

Efforts should continue to focus on basic education in conservation, MPAs and the ecosystem services of coral reefs, whilst providing opportunities for dissemination of ordinance.



Napantao: 2013 - 2015

CCC conducted a triennial (2013 – 2015) assessment of the coral reef associated fauna and flora communities and anthropogenic impacts, in relation to the established marine protected area (MPA) in the waters of Barangay Napantao, Sogod Bay, Southern Leyte, Philippines.

An augmented Reef Check protocol was conducted resulting in an annual total of six 100m transects at a depth of 12m. Three transects were located inside of the MPA with the remaining three outside. Data regarding the abundance and diversity of fishes and invertebrates were collected, in combination with anthropogenic impacts and benthic substratum composition. This equated to a total of 36 individual 100m transects, throughout the temporal scale. Each 100m transect was separated into four 20m replicates with 5m inter-replicate gaps.

Populations of fish throughout the sample period exhibited significant declines ($p = <0.05$)

on the coral reef as a whole. The species richness of fishes showed no significant trends, however, preliminary analysis suggests that species decline is occurring at a greater rate outside of the MPA than inside. Furthermore, the diversity of communities outside the MPA displayed a significant decrease ($p = <0.05$), with communities inside of greater diversity and evenness. Each year during the sample period, the diversity of fishes inside of the MPA was greater than that recorded outside ($p = <0.05$).

The abundance and diversity of invertebrates was stable showing no significant temporal trends or spatial differences.

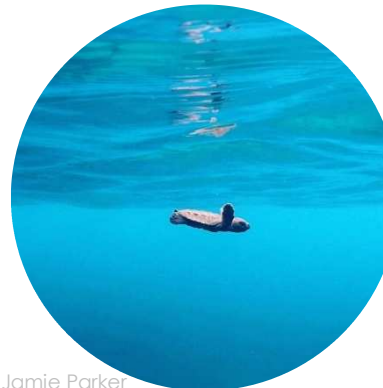
Scaridae (Parrotfish) were the dominant commercially important fish family, contributing the greatest standing biomass both inside and out of the MPA throughout the sample period. However, the populations were composed of small cohorts, with a lack of large ($>40\text{cm}$) adults. Lutjanidae



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(Snapper) and Scaridae abundance decreased outside of the MPA ($p = <0.05$).

Hard Coral cover decreased by 19% inside the MPA over the sample period ($p = >0.05$). Hard coral was dominated by *Acropora* sp. inside the MPA, with each sample year conferring a higher complexity. Stress-tolerant corals became the dominant life trait of species inside the MPA in 2015, however the coral composition was deemed to be well balanced and diverse. The abundance of sponge outside of the MPA declined from 2013 to 2015. Silt levels also declined across the coral reef ($p = <0.05$).

The results portrayed are indicative of an MPA that is buffering against species decline but is failing to increase the productivity of the fishery. Although results suggest that the MPA is maintaining the *status-quo*, it is failing to achieve desired objectives. The protected portion of the coral reef is more complex in benthic

structure than areas that are unprotected, indicating received benefits from the MPA. However, further temporal monitoring may indicate significant negative trends in benthic substratum composition.

The MPA and respective coral reef are displaying signs of detrimental stressors on near and far-field levels. As a result, CCC recommends that ordinance and directives are adjusted to further enforce MPA by-laws, as signs of poaching and overfishing are prevalent. Furthermore, the promotion of transparency at the local user-group level is recommended to empower local fishers further on a co-management basis; involving them throughout every process of establishment and monitoring.

CCC further recommends that the Napantao MPA should form part of a larger network of small-scale MPAs throughout Sogod Bay whilst developing a large scale MR.

Education

It is CCC's cornerstone belief that marine conservation goes hand in hand with education and economic development. Therefore, throughout the LRCP, great emphasis has been placed into education and outreach efforts, providing stakeholders with the knowledge and skills to explore new careers; reducing the amount entering the fishery.

The implementation of educational programmes has provided thousands of children, students and adults with a better understanding of the marine environment, resource management and sustainable practices within Sogod Bay.

Many of the barriers to successful conservation have their roots embedded in cultural, social and traditional practices. Therefore, working in coordination with, and supporting, local subsistence-based communities, the active efforts of CCC's enthusiastic staff are an essential component of the LRCP. Through the successful implementation of education initiatives, CCC are increasing

compliance to modified management policies with sustainability at the core, whether through the establishment of MPAs or increased ordinance. Thereby driving a co-management approach to ecosystem-based management (EBM) throughout Southern Leyte.



Whilst the provision of educational resources to all demographics of communities are, unquestionably, beneficial, CCC's focus revolves around children and students; the next generation. By raising awareness and inspiring future generations, CCC aims to alter perceptions and as a result, overcome the barriers to success, incorporating sustainability and a sense of

ownership for the marine environment.

In 2016, CCC continued with their efforts of increasing accessibility to conservation-focused education through the Seastars Environmental Award Scheme (SEAS) (in schools) and Reef Rangers (at CCC's base) as well as other *ad-hoc* events such as community days and workshops.

Each lesson or activity conducted by CCC is tailored to the age of the children and students. They all address the same core principles of coral reef ecology, species identification, coral reef and coastal conservation, marine resource management, sustainability, marine pollution, and plastics.

In 2016, CCC conducted a total of

18

educational events, lessons and activities throughout Sogod Bay at MPA survey sites.

SEAS

The Seastar Environmental Award Scheme (SEAS) is an educational programme designed by CCC. That aims to develop sustainable partnerships with schools whilst establishing an environmental ethos. CCC recognises the importance of developing an environmentally aware culture amongst younger and future generations to ensure the sustainability of the local environment and its resources.

SEAS enables CCC to be more active within local communities. By working directly with children and teachers, CCC aim to inspire, raise awareness and increase accessibility to educational resources that pertain to marine and coastal conservation. Throughout the SEAS, children and teachers are introduced to a range of topics: coral reef ecology; the importance of coral reefs; coral reef communities; food chains and webs; threats to coral reefs; coral reef conservation; MPAs; marine spatial planning; marine

resource management; and sustainability.

The SEAS curriculum is directed towards elementary students, however can be tailored to suit any age class through the addition or removal of specific



components. This programme entails CCC staff members going into local schools, where CCC are currently active undertaking survey work. The delivery of SEAS constitutes CCC conducting a three-tiered (Bronze, Silver, and Gold) educational programme. Within each tier, the students of the attending class must complete specified objectives to progress to the

subsequent tier.

In 2016, CCC's Community Liaison Officer (CLO) and Project Scientist (PS) conducted 9 independent SEAS lessons in 6 independent schools. Of these 6 schools, 1 was awarded the prestigious Gold Seastar, with 2 being awarded the Silver Seastar and the remaining 3 finishing 2016 with the Bronze Seastar.

The 29th August 2016 saw Sudmon Elementary School receive their Gold Seastar following the completion of their own environmental campaign; a beach clean. The session started with a scavenger hunt followed by the viewing and discussion of a marine focused documentary. To complete

"Inspiration, raising awareness and education are key elements to any successful conservation project"



the day, all the students participated in the beach clean, managing to collect over 20 rice sacks full of marine debris and trash!

The other 5 schools attending were: Tuno Elementary School; Bongawisan Elementary School; Napantao Elementary School; Marayag Elementary School; and CAASAFI San Francisco High School.

Successful conservation can

only be achieved when there is a key focus on education. By increasing opportunities to access education, providing conservation-focused lessons that prompt action, and inspiring the future generations, CCC can hold confidence in the future of the Philippine's coral reefs as barriers to success are overcome and an active generation of conservationists is developed.



Bronze Seastar

Each Grade in the school has an introductory lesson about coral reefs by CCC



Silver Seastar

Each grade has two follow-up lessons on the marine environment with CCC within two months of the introductory lesson

The school holds a marine awareness open day with CCC

An environmental committee is established in the school by the students



Gold Seastar

Schools hold their own environmental campaign within their local area, three months following the Silver Seastar award*

*Environmental campaigns can include: Coastal/Beach clean-ups; tree planting; mangrove planting; environmental concert for the local community etc

Reef Rangers

The Reef Rangers initiative is an immersive activity for children from schools with Southern Leyte to attend CCC's base in Napantao. The activity is run throughout the day and provides children with opportunities to learn about coral reef conservation and coral ecology, putting their newly acquired knowledge into practice during snorkelling activities on the Napantao coral reef.

Whilst Reef Rangers is focused on conservation-education, it is designed to be fun, practical and immersive. Many of the children attending the Reef Rangers events, despite having stunning reefs on their doorstep, have never snorkelled before. Therefore, by not only providing the opportunity for them to take the plunge, ensuring a personal connection to the marine world.

Successful conservation, education and inspiration go hand-in-hand; making the Reef Rangers essential for the

prosperity of Southern Leyte's coral reefs and marine resources.

As Reef Rangers is held at CCC's base, it is a fantastic way for staff, volunteers, and the children to integrate, share stories and be involved with worthwhile and inspiring activities.

In 2016, CCC conducted 5 Reef Rangers events to over 60 children and students from Napantao, LaMaVe, Estella High School, Punta, CAASAFI High School.

With all the students graduating and becoming certified Reef Rangers, a plethora of different activities were conducted. These included lectures about coral lifeforms, fish biology and dangerous marine creatures – to the amazement of the students. These educational lessons were coupled with games such as MPAmazing, marine biology Pictionary and the Reef Rangers scavenger hunt! Play is a great tool for education and inspiration,

ensuring that the Reef Rangers take home CCC's ethos.

Following the conclusion of the lessons and educational activities, the students are equipped with a mask, snorkel and buoyancy aid and delve into the wonders of the blue, accompanied by experienced CCC staff. There is a greater association made between student and the reef when they can apply their knowledge, understand the processes and have the ability to interact amongst each other to identify fauna – for all involved, it is an extremely worthwhile experience.

The house reef is full of macro-fauna, coral and amazing shapes and colours, on occasions the Reef Rangers are even lucky enough to come face to face with the region's megafauna! In November, the children from Napantao were greeted by a passing 4m whale shark during their snorkel! Seeing these amazing creatures up-close, we hope, will provide them with a unique experience,

further inspiring them to protect the ocean and its inhabitants.



"The role of the Reef Ranger is very important; you will become a guardian of the reef to ensure it is conserved for future generations. As a Reef Ranger you will pass on your knowledge of coral reefs and encourage others to love the reef!"



Outreach & Capacity Building

In conjunction with SEAS and Reef Rangers, CCC conducts a wide range of outreach and capacity building initiatives, that aim to provide opportunities to educate and build capacity within Southern Leyte. These can include daily events within local communities, teacher training workshops and Bantay Dagat training days. In addition, CCC is often invited to attend various technical meetings, a vital opportunity to discuss MPA establishment, whilst providing other communities with survey result presentations.

In total (excluding SEAS and Reef Rangers events) CCC conducted

34

additional outreach and capacity building events through 2016. A basic list is provided with event summaries given in Appendix A.

Additional Outreach

27-28.01.16
Napantao Day

02.02.16
Himayangan Community Day

07.03.16
SLSU Founding Day

04.04.16
Dive Against Debris

22.04.16
Earth Day

02.05.16
Dive Against Debris

26.05.16
Ocean Forum

31.05.16
Punta Community Day

08.06.16
World Oceans Day

01.07.16
Maasin Parade

23.07.16
Dive Against Debris

25.07.16
Napantao Community Day

05.08.16
Scout Marine Conservation

27.09.16
Anislagon Community Day

20.10.16
San Francisco High School Beach Clean

11.11.16
Dive Against Debris

10.12.16
Cuasi Community Day

14.12.16
Napantao Christmas Community Day



Capacity Building, Scientific and Technical Meetings

07.01.16
Tabugon Sanctuary Marker Buoys

27.01.16
Barangay Gudan MPA Technical Meeting

08.02.16
Himayangan MPA Survey Presentation

18.03.16
PAME

03.16
Department of Tourism Focus Group

20.04.16
Bantay Dagat Law Enforcement Workshop

01.06.16
Candayuman Visual Assessment Presentation

12.08.16
Punta Results Presentation

25.08.16
Catig Proposed MPA Assessment

17.09.16
Napantao Community Teachers Day

03.10.16
Maasin MOA Meeting

11.11.16
PAME Project Meeting

20.10.16
Estela MPA Presentation

03.11.16
FARMC Network Meeting

10.11.16
SBSMMA Meeting

12.12.16
MPARG Limasawa MPA Ordinance



“Creating opportunities for education whilst inspiring and raising awareness amongst the younger generation is key to successful marine conservation”



Scholarship Programme

The Scholarship Programme is a unique initiative practiced by CCC. It aims to increase capacity within the Philippines through immersive, practical training; providing stakeholders with the tools and skills to successfully manage their marine resources sustainably.

It is appreciated that CCC's reach within the Philippines is limited and thus the Scholarship Programme ensures the development of conservation advocates that will carry and implement CCC's ethos throughout the country.

The Scholarship Programme provides opportunities to national Filipino students and community members that can demonstrate a clear intent and passion for conservation, and a wish to pursue this passion further. The opportunity to attend is available to two Filipino nationals every month following a rigorous application process. Over a four-week period, scholars

are integrated amongst international volunteers. During this period, scholars receive all of the training experienced by paying, international volunteers free-of-charge (excluding costs of personal insurance). This includes gaining a SCUBA PADI Open and Advanced Open Water certification, First Aid training through CCC's Expedition Care Programme (ECP) and CCC's Skills Development Programme (SDP).



Whilst undertaking the programme, scholars form an integral part of CCC's scientific survey team, implementing proposed MPA

assessments, whilst also being introduced to CCC's coral reef rehabilitation programme through coral reef propagation and transplantation. Upon completion of the Scholarship Programme, scholars will hold certifications, knowledge and skills in coral reef ecology, marine resource management, species identification, data collection methods and data assimilation techniques; all relevant tools to enable pro-activeness within their resident community.

To date, over the past ten-years, CCC has delivered over 25,000 hours of scholar training to 132 successful applicants. During 2016, CCC welcomed 22 scholars through their doors. Graduated scholars are placed into our alumni support group where they can share their post-programme experiences, update CCC on their current positions and ask questions to a network of like-minded individuals. The

programme has shown great success over the years with scholars often continuing to take up roles within government agencies, conservation NGOs and even establishing their own NGOs. Furthermore, it is not uncommon for scholars to return to CCC's site to further their experience and assist with current initiatives on site.

Occasionally, CCC will also offer the opportunity to exceptional scholars to undergo further training and complete their SCUBA PADI Divemaster training, to support their current role or ambitions. For example, such an offer was made to Jon Cabiles in November 2016 following his first experience of the programme in March 2016. Jon is a freelance underwater photographer who wanted to shape a career in environmental photography and is currently undergoing his MSc in Environmental Science; showing a clear intent of following a career in coral reef conservation.

CCC would like to congratulate all the scholars that graduated from the programme in 2016:

Precious Gaurana
Dionn Francis Hubag
Jairus Josol
Zhandrez Brito
Jon Cabiles
Jules Butlig
Jamaica Alcedo
Angeline Lacson
Alenah Dy
Angelie Cabaless
Jay Quiliste
Rouenne de Castro
Jan Japay
Marion Bacabac
Carmela Novilla
Nikka Alonso
Victor Villero
Edmundo Cruz
Andrea Gaurana
Daff Binobo



With Thanks...

... to all our amazing and dedicated volunteers, staff members, scholars and project partners. The work completed over the course of 2016 would not have been possible without your efforts and support.



CCC can only be successful in conserving the wondrous and critical ecosystems within the Philippines' biodiversity hotspot, through their devoted volunteer, scholar and staff network. It is only through a proactive group of conservation-minded advocates, multi-faceted collaborations, and regional capacity that current stressors can be challenged and actions taken ensuring sustainability for future generations.

As an organisation, we cannot continue to achieve targets and aims, provide education to the future generation of the Philippines and promote best practices without your support, we would like to express our heart-felt gratitude to...

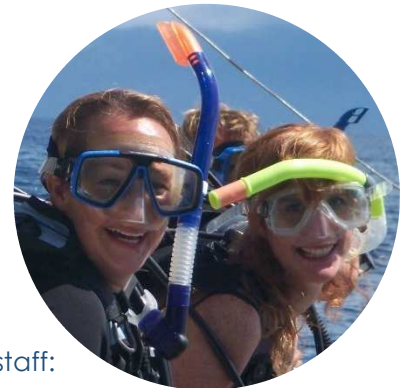
Alenah Dy
Alexander Wady
Alexandrei Lambon
Aminah Kaharuddin
Andrea Gaurana
Andrew Miklas
Angeline Cabales
Angeline Lacson
Carmela Nikka Alonso
Chantelle Wyatt
Charlotte Henriksen
Courtney Powell
Daff Binobo
Daniel Bocharnikov
Danielle Contrada
DDRC
Dionn Hubag
Dominic Matchett
Dr. Arturo Isip
Dr. Doniert MacFarlene
Dr. Gloria Reyes
Edmundo Cruz
Emily Jose
Gareth Turner
George Allen
GREEN
Harry Simmons
Homer de Dios
Jairus Josol

Jamaica Alcedo
Jan Japay
Jay Quilliste
Jon Cabiles
Jonathan Graham
Josh Oliver
Jules Butlig
Kristin Eisele
Lucinda Green
Ma'am Eva Abad
Maria-Anna Heijboer
Marion Bacabac
Mark Hall
Matthew Pearcey
Nicholas Dickinson
Olly McGuinness
PENRMO
Precious Gaurana
PGSL
Rachel Pederson
RMS
Rouenne de Castro
SBSMMA
Servando Tio Jr.
Sir. Nedgar Garves
SLSU
ORC
The Barangay Council of
Napantao
The Hon. Christopherson M.
Yap

The Hon. Damian G. Mercado
The Honourable Ricardo Mercado
The Provincial Southern Leyte Board
The Provincial Tourism Office staff
members
Victor Villero
Vina Serrano
Waterloo Foundation

With special thanks to our dedicated staff:

Aoife Foley
Ben Jack
Charles Eve
Charlotte Hesterman
Claire Ogg
Darien Lancaster
Dominic Revell
Jamie Parker
Janie Morton
Jesse Tinapay
Joel Brown
Jose Yidel (Dudong)
Josh Milne
Marco Galliani
Marie Seraphim
Maryanne Watson
Nelson Espinas (Tata)
Olly McGuinness
Richard Bongot (Bokbok)
Richard Sajol (Ricky)



“No single organisation or individual can make the campaign to save the Philippine hotspot successful. Only by building a critical mass of ardent biodiversity advocates will the biodiversity crisis become part of the national consciousness and part of the political debate. Otherwise, it will continue to receive little attention, not only from the government but also the Philippine society”

—

Philippine Biodiversity; an Assessment and Plan of Action, 1997.

Appendix A

The below table provides a summary of Additional Outreach activities conducted throughout 2016 by Coral Cay Conservation volunteers and staff. Each activity is categorised by the month they were conducted.

Month	Activity	Description	Parties Attended	Location
January	Napantao Day	CCC were honoured to be invited to attend the 8 th annual Founding Day festival to celebrate the founding of Barangay Napantao colloquially known as 'Napantao Day' on the 27 th and 28 th January, 2016. The day was full of music, dancing and competitions following by a Barangay wide feast. It was an excellent way for CCC to further immerse themselves in the culture of the Philippines whilst building stronger bonds with stakeholders.	Barangay Napantao community members	Barangay Napantao, San Francisco, Southern Leyte
February	Himayangan Community Day	Members of the Barangay Himayangan were invited to attend a day of training at CCC's project base in Napantao. Participants underwent training in coral reef ecology, coral lifeforms, target fish families and invertebrates via classroom-based lectures. Attendees took a guided snorkel on Napantao reef, putting their acquired knowledge into practice followed by further lectures on coral reef conservation, threats and remediation. The benefits of MPAs were also discussed establishing a dialogue with the council for future actions.	Himayangan Barangay Officials	CCC Project Base, Barangay Napantao, San Francisco, Southern Leyte
March	SLSU Founding Party	SLSU celebrated its 12 th anniversary and CCC was invited to attend. The CCC personnel were well fed, shown the SLSU Bontoc Biology classroom, and entertained by a fusion of modern and traditional dances, all of which had a marine conservation theme to them. It was a great method of maintaining relations with SLSU and generating new networks.	SLSU, ex-CCC Scholars	Southern Leyte State University (SLSU), Bontoc, Southern Leyte
April	Dive Against Debris	CCC successfully completed a Dive Against Debris in collaboration with PADI Project Aware on 4 th April 2016, in response Project AWARE created Dive Against Debris, a global survey of underwater rubbish in our ocean. CCC volunteers tackled the problem and removed 2kg of trash of Napantao house reef! The garbage collected included rice bags, cigarette filters, fishing lines wrapped around coral, shampoo packaging and glass bottles. The data reported are now recorded on the Project Aware website and will hopefully help drive real change in marine debris research and waste management.		CCC Project Base, Barangay Napantao, San Francisco, Southern Leyte

April	Earth Day	In the name of Earth Day, CCC staff and volunteers took it upon themselves to conduct a thorough clean-up of the area around the CCC base to ensure that no hidden trash enters the beautiful Napantao MPA. An hour later, tired but happy, CCC residents had filled 4 large bags with discarded bits of plastics, cigarette filters, bottles and others.		CCC Project Base, Barangay Napantao, San Francisco, Southern Leyte
	Dive Against Debris	CCC volunteers have completed a Dive Against Debris in collaboration with PADI Project Aware. The data collected will add to the global survey of underwater rubbish in our ocean. The garbage collected included rubber, plastic, fishing lines wrapped around coral, a tin can and a piece of cardboard.		CCC Project Base, Barangay Napantao, San Francisco, Southern Leyte
May	Punta Community Day	Young and old from Barangay Punta headed back to their old Barangay location, abandoned after Typhoon Yolanda. The beautiful beach location was the perfect setting for a CCC community day. The day started off with a beach scavenger hunt a wild round of charades. Then the community settled down for some lectures on coral reef ecology, lifeforms, fish, and dangerous marine animals before heading out for a snorkel in the beautiful Punta MPA.		
		After a snorkel with a few recently trained Punta Reef Rangers who turned up for another round of coral reef education, everyone settled in for a nice lunch. In the afternoon, the winners of the Punta MPA logo contest were selected. First place winner took home a Coral Cay t-shirt and a bag of sweets. Second place took home a t-shirt and third place also took home some sweets.	CCC, Punta Community Members	(old) Barangay Punta, Libagon, Southern Leyte
		Finally, the day was finished off with a food chain race; lectures on food chains, the importance of coral reefs, threats to coral reefs, and how we can protect them; and a round of marine themed Pictionary.		
	Ocean Forum	Overall it was an amazing day with the community of Punta and a great to further strengthen relations with local communities.		
		CCC's FBM on 26 th May 2016 spoke about CCC projects, the coral triangle, and the importance of coral reefs at the San Francisco Ocean Forum to celebrate May as the Month of the Ocean. Other speakers included: Armando Ordiz Gaviola from PENRMO discussing the role of local governments in marine conservation; Jerome Napala from SLSU	CCC, PENRMO, SLSU, MPARG	San Francisco, Southern Leyte

		who spoke about coral restoration; and Natasha Kunesch with MPARG who provided an insight into remote sensing and coral mapping. The event was well attended with locals from San Francisco, Napantao, and Punta, Barangay Captains and Bantay Dagats.		
June	World Ocean Day	In honour of World Ocean's Day on June 8 th , CCC conducted a beach clean on the house beach in Napantao. The entire crew showed up in the afternoon to clean up our house beach. In less than one hour the team managed to collect eight rice bags of garbage. The trash included items like plastic bags, candy wrappers, plastic cups, fishing line, and bottle caps.		CCC Project Base, Barangay Napantao, San Francisco, Southern Leyte
	Maasin Parade	The Coral Cay Team marched from downtown, Maasin Plaza, all the way to the Capital with the help of their fishy puppets. It was a great chance to say hello to the people of Maasin, including the Maasin Senior Citizens Group who posed for a photo with the team.		Maasin, Southern Leyte
July	Dive Against Debris	The divers managed to collect over 40 pieces of trash in a single dive. Items collected included pots, a toy truck, a baking tray, plastic bags, and hard plastic debris.		CCC Project Base, Barangay Napantao, San Francisco, Southern Leyte
	Napantao Community Day and Results Presentation	On July 25 th Barangay officials and community members from Napantao arrived at the CCC base for a day of games, marine education, and a presentation of survey results from the 2015 assessment of the Napantao Marine Protected Area.	Barangay Napantao community members	CCC Project Base, Barangay Napantao, San Francisco, Southern Leyte
August	Scout Marine Conservation Event	On August 5 th , approximately 185 scouts from San Francisco and surrounding barangays arrived at the Coral Cay base for a morning full of marine conservation lectures, an introduction to SCUBA diving, and a chance to breathe under water for the first time.	San Francisco Scouts	CCC Project Base, Barangay Napantao, San Francisco, Southern Leyte
September	Anislagon Community Day	CCC associates travelled to Barangay Anislagon to conduct a community day. The day aimed to highlight the importance of marine conservation in relation to their community, while also taking them through the CCC findings relating to a new proposed MPA site on the Anislagon coast.	Anislagon community members	Barangay Anislagon, San Francisco, Southern Leyte
October	San Francisco High School Beach Clean	On October 20 th , CCC visited San Francisco High School to help with the annual San Francisco beach clean. The event started at 3pm with over a hundred students making their way to the beach, each with a broom in hand, each made by CCC's Jesse and Jose. By the end of	Municipality San Francisco Barangay	

		the day bags were filled to the brim with all manners of plastic, glass, pots and buckets; leaving the black sand of San Francisco litter free.	community members	
November	Dive Against Debris	Marine debris is becoming a dangerous problem across the world's oceans; the planet's growing human population and the lack of efficient waste disposal methods in many regions, has led to an increase in the amount of non-biodegradable waste floating around coastal regions. Non-biodegradable plastics in particular have been shown to seriously harm and potentially kill marine and terrestrial creatures including, corals, turtles and sea birds. CCC try regularly to keep the surrounding reefs of Napantao free of litter and raise awareness whenever possible to help prevent its presence in the first place.		CCC Project Base, Barangay Napantao, San Francisco, Southern Leyte
December	Barangay Cuasi Community Day	On the 10 th of December, all CCC staff members and volunteers travelled to Barangay Cuasi in San Francisco to present the findings of Cuasi's proposed MPA site during an action-packed community day.	Barangay Cuasi officials and community members	Barangay Cuasi, Southern Leyte
	Napantao Christmas Community Day	On the 14 th of December CCC's Science Officer and Scholar as well as the rest of CCC organised an evening of Christmas themed games for the children of Napantao, which saw a surprise visit from CCC's very own Santa Clause!	Napantao Community Members	CCC Project Base, Barangay Napantao, San Francisco, Southern Leyte

The below table provides a summary of Capacity Building activities conducted throughout 2016 by Coral Cay Conservation volunteers and staff. Each activity is categorised by the month in which it was conducted.

Month	Activity	Description	Parties Attended	Location
January	Tabugon Sanctuary Marker Buoys	CCC facilitated in the establishment of MPA marker buoys within the coastal waters of Barangay Tabugon alongside the MOA of Liloan. In 2014, CCC undertook MPA surveys to assess the ecological status of the already established MPA. Following recommendations, the Barangay Tabugon council took the decision to alter already existing boundaries to provide better protection to the marine resources. A great example of adaptive management within the region.	CCC, Municipal Agricultural Office (MAO) of Liloan	Barangay Tabugon, Liloan, Southern Leyte
	Barangay Gudan MPA	The conclusion of CCC's efforts in Barangay Gudan following MPA assessment surveys in 2015. The barangay council of	Barangay Gudan officials, MAO of Pintuyan	Barangay Gudan, Liloan, Southern Leyte

	Technical Meeting	Gudan made a collective decision of accepting CCC's recommendations of establishing an MPA based on the spatial proposal of Scenario B, a 12.4 Ha MPA.		
February	Himayangan MPA Survey	In 2015 CCC completed a full proposed MPA Assessment of the coastal waters of Barangay Himayangan. On 8 th February 2016, CCC staff travelled back to Himayangan to disseminate survey results to the Barangay Captain and local fishermen. Recommendations are a key factor in such presentations, providing stakeholders with options in terms of MPA establishment. Following discussions, the Captain and fishermen decided that an MPA should be established to protect their marine resources.	Himayangan Barangay Council and Local Fisherfolk	Barangay Himayangan, Liloan, Southern Leyte
March	PAME	CCC attended the Protected Area Management Enhancement (PAME) technical meeting and planning workshop. The aim of the workshop was to discuss priority conservation areas in Sogod Bay and the implementation of 10 potential MPAs within the year 2016. The goal is to protect and conserve the marine biodiversity of the Bay, which has been identified as one of the Key Biodiversity Areas in the Philippines. During the workshop a Technical Working Group as well as several Committees were formed in which CCC will be participating. A project plan was therefore reviewed and targets were set for the effective set-up of new protected areas. CCC looks forward to the collaboration with PAME project partners on Socio-Economic and Habitat Assessments of those proposed areas.	Padre Burgos, Limasawa, Liloan, San Francisco, Pintuyan LGUs, PENRMO, DENR, BFAR, SLSU-Bontoc	Southern Leyte State University (SLSU), Bontoc, Southern Leyte
March	Department of Tourism (DOT) focus group	The DOT sought to build and upscale the implementation of tourism programs. DOT conducted a Focused Group Discussion to draft a National Tourism Development Plan (NTDP). CCC is a stakeholder in the planning process. Technical assistance from USAID, Rhea Rosario Adam, who led the identification of gaps and collection of information from the attendees for the implementation of the NTDP 2016-2022. Past NTDP 2011-2015, present and future were openly discussed.	USAID, Dept. Trade and Industry, Dept. of Public Works, LGU Maasin, SLTIPC, DTI, Blue SkyTravel & Tours	Maasin, Southern Leyte
April	Bantay Dagat Law Enforcement Workshop	On April 20 th , CCC hosted a workshop on Bantay Dagat Law Enforcement. We were thrilled to receive 14 participants during this training including Bantay Dagats from Napantao and Punta, and speakers PNP Chief Inspector Rodrigo Amper as well as Sir Servando Tio, Sanguniang Bayan Secretary for the day.	CCC, Servando Tio (Sanguniang Bayan Secretary), PNP Chief Inspector Rodrigo Amper, Napantao and Punta Bantay Dagats	CCC Project Base, Barangay Napantao, San Francisco, Southern Leyte

		The day started off with a presentation discussing the importance of MPAs and effective MPA management. This was followed by a talk from Philippine National Police Precinct, Chief Inspector Rodrigo C. Amper on Law Enforcement and how to apprehend illegal fishing. The day concluded with a talk from Sir Servando Tio on Coastal Management, the Fisheries Code and implementing rules and regulations.		
June	Candayuman Visual Assessment Pres	On June 1st, 2016, CCC staff gave a short presentation of the results of the visual assessment of the Candayuman proposed MPA site. The site was deemed unsuitable for a MPA due to a landslide in 1999 buried the seamount that was once located there. Currently, the proposed site is almost completely sand and silt. There were a few patches of rock and coral and sparse animal life. The presenters proposed expanding the proposed MPA area to include areas with greater complexity; selecting a new MPA site; or attempting coral restoration using frames and coral planting.	Barangay Candayuman officials	Barangay Candayuman, Liloan, Southern Leyte
		The community was not interested in expanding or choosing a new MPA location and they were concerned about the costs of a coral restoration project.		
August	Punta Results Presentation	Presentation of CCC's results following a full MPA assessment at Barangay Punta. The presentation was well attended and resulted in recommendations of expanding the current MPA boundaries. The Barangay Punta Captain was interested in maintaining size but adjusting boundary location to better protect areas that showed greater promise and need for protection.	Barangay Punta officials	Barangay Punta, Libagon, Southern Leyte
August	Catig Proposed MPA	CCC's Project Scientist gave a presentation of the Catig Proposed MPA results for the Liloan Local Government Unit (LGU) on August 25th in Liloan. This presentation was requested by Ma'am Benie Dipay of the MAO in Liloan on behalf of the Chairman for the LGU who runs a special committee on agriculture and fisheries. The LGU aims to formulate ordinance that will see autonomous management of MPAs, reducing the responsibilities of Barangay Officials and empowering stakeholders.	Liloan LGU	Liloan, Southern Leyte

September	Catig Lobster Presentation	Coral Cay Conservation completed a proposed MPA survey in Catig in August 2015 and the ordinance for that MPA is currently being developed. This additional visual assessment was requested by the Local Government Unit (LGU) in Liloan which is interested in creating a marine reserve (MR) around the proposed MPA to protect lobsters which are often found in the Catig area.	Barangay Catig community members, officials and local fisherfolk	Barangay Catig, Liloan, Southern Leyte
	Napantao Comm. Teachers Day	On September 17 th , the Napantao elementary school teachers were invited to the CCC site for a community day, with the aim to help promote the importance of coral reef conservation, as well as useful information regarding coral and fish lifeforms.	Napantao Elementary School Teachers	CCC Project Base, Barangay Napantao, San Francisco, Southern Leyte
October	Maasin MOA meeting	CCC were invited to a council meeting encompassing the yearly progress of CCC and the current memorandum of agreement (MOA). Those who attended included Hon. Jessica Escano, Sir Armando Gaviola of PENRMO, Southern Leyte tourism representative Sir Nedgar and Vice Governor Coco.	Head of Provincial Tourism Office, PENRMO	Maasin, Southern Leyte
	PAME Project Meeting	The daylong event would bring together many of the Barangay captains and environmental representatives from across Southern Leyte. All had the opportunity to discuss conservation management plans, legislation and coastal security, thus helping sustain the transparency that is strived for when trying to establish successful MPAs.	PAME, region wide Barangay Captains	San Francisco, Southern Leyte
	Estela MPA Presentation	CCC presented results from survey findings collected by CCC associates during 2016, in support for a newly proposed MPA off Estela's coast.	Barangay Estela Officials	Barangay Estela, Liloan, Southern Leyte
November	FAMRC Network Meeting	On November 3 rd CCC's Project Scientist attended the Southern Leyte FAMRC network meeting which brought together representatives across the region involved in the establishment and maintenance of marine protected areas in Southern Leyte.	FAMRC, PENRMO	Villa Catalina Resort, Sogod, Southern Leyte
		Members from PENRMO, including Sir Armando Gaviola, played a large hand in the day's proceedings, providing short lectures on their work within the Sogod bay area. Uniting representatives from across Southern Leyte to discuss MPA management plans, legislation and coastal security, is		

		vital for the successful establishment and longevity of current and future marine protected areas.		
	SBSMMA Meeting	CCC's Science Officer attended the meeting of the Southern Leyte SBSMMA. This meeting brought together the 11 representatives from each municipality of Sogod Bay to discuss in further detail amendments to be made to the SBSMMA Manual of Operations. The Alliance is a joint agreement by the 11 Sogod Bay municipalities to cooperate and work together to sustainably manage the resources and increase the positive potential of the Bay. A Strategic Management plan was partially developed with discussions focusing on the timings for future meetings, how the planned work will be handled and what data are needed in terms of baseline studies on community poverty levels, estimated fish catches etc. There was also added talk of the role CCC can play in providing biophysical data and monitoring of the MPAs within Sogod Bay.	SBSMMA	Villa Catalina Resort, Sogod, Southern Leyte
December	MPARG Limasawa MPA Ordinance	On the 12 th and 13 th of December CCC's Project Scientist accompanied Alessia Kockel of the Marine Protected Area Research Group (MPARG) and Sir Armando Gaviola (PENRMO) to Limasawa, to help establish and validate the coordinates for proposed and established MPAs surrounding the island.	PENRMO, MPARG	Limasawa, Southern Leyte