

ANNUAL REPORT: MANGROVE ACTION PROJECT FY 2017



MANGROVE ACTION PROJECT

From the Executive Director:

2017 was another significant year for both MAP and the mangroves. MAP's workload greatly expanded and some added new staff helped ease the otherwise unwieldy burden of work overload. Sara Lavenhar took on the position of co-director, while also managing MAP's new office in Seattle. She was formerly working on MAP's Question Your Shrimp campaign, but moved into the important niche of helping build MAP's organizational capacity via her part-time position.

In Thailand, the MAP Asia office continued further with establishing CBEMR restoration sites in Thailand, while developing further an interactive network among participating villages. Meanwhile, MAP's education director, Martin Keeley, advanced the work on bringing MAP's *Marvellous Mangroves Curriculum* to Suriname, initiating teacher trainings in the curricula, as well as working closely with tour guides from the Stg. United Tour Guides of Suriname teaching them the basics of mangrove ecology so they can make their already established popular kayak tours in the mangroves of Suriname more interesting and rewarding.

In regards to the mangroves, MAP has been gathering further evidence on the enormous value and benefits of mangrove ecosystems. Via its website and biweekly newsletter, MAP is publicizing the facts that mangroves nurture our oceans, sustain biodiversity and local communities, while also combating climate change by sequestering and storing massive amounts of carbon- five times the amount stored by inland tropical rainforests. As well, mangroves support over 200 million coastal fishers who depend upon these coastal wetlands for their lives and livelihoods.

Yet, further mangrove loss continued throughout 2017, though fortunately at a lower annual rate of around .6%, whereby around 100,000 ha are still being lost each year. We at MAP are increasing our efforts to address the reasons for this ongoing loss, hoping to not only halt this loss, but also to reverse it through implementation of effective mangrove conservation and restoration measures, including MAP's main programs of Community-Based Ecological Mangrove Restoration (CBEMR) and our *Marvelous Mangrove Curriculum*.

We view our ongoing work as an opportunity to restore our planet's threatened mangroves. Mangroves are no longer so remote and maligned in misconceptions as "muddy, mosquito invested wastelands!" There is a genuine awakening of both scientific and general public sentiment concerning mangroves today, and this gives rise to hope that after 25 years of dedicated work, we are witness to a remarkable change which could well lead to a reversal of that still dangerous .6% loss rate.

And towards that end, MAP has developed effective tools to further the goals of mangrove conservation and restoration via our proven track record with CBEMR and the *Marvellous Mangroves* Curriculum. More people living in the mangrove areas are learning important lessons that improve the overall approach to mangrove conservation and management. CBEMR is bringing local communities more clearly and effectively into the picture of restoration and resource management. And our MM Curriculum program is reaching the next generation of decision makers who will be so much wiser in the care and sustainable use of our planet's otherwise diminishing coastal resources.

As hinted in MAP's annual report of 2014, MAP is at a crossroads in our work. After 25 years as MAP's executive director and co-founder, I still have much hope that the mangroves can be conserved and restored to a more healthy balance.

We at the Mangrove Action Project (MAP) realize the need to expand the level of our work to meet the immense challenges we now must face! We greatly appreciate all those who have supported us, as you really do have a huge impact on our projects and us. We sincerely hope that our program updates and visions for the upcoming year will excite and convince you to participate as best you can to help MAP Save the Mangroves.

For further information please visit our new interactive and engaging website www.mangroveactionproject.org showcasing all of the work we are involved in, as well as holding an enormous amount of information about mangroves. We encourage you to sign up to receive our biweekly news on all things mangroves, and use the new social media features to promote and spread awareness on all we are doing.

Sincerely,

A handwritten signature in black ink that reads "Alfredo Quarto". The signature is written in a cursive, flowing style.

Alfredo Quarto

Executive Director,
Mangrove Action Project

Highlights of MAP's Work in 2017**MARVELLOUS
MANGROVES:****MAP'S MANGROVE CURRICULUM
SPREADS WORLDWIDE**

Following the pilot of *Marvellous Mangroves* (Dutch version!) in Suriname, a review and additional workshops were carried out in summer, 2017. MM is now being based and taught at the Mangrove Education Centre in Coronie, Suriname, with Mangrove Rangers being trained for long-term education. The eco-tourism focus (first implemented in San Andres and Cartagena) has also been incorporated into an extensive eco-tourist program of Stg. United Tour Guides of Suriname. Martin Keeley has been closely involved in the redesign of the Mangrove Education Centre and the focus of its operations. Initial MM funding was provided by the Disney Conservation Foundation and Signing Field Foundation, along



The revamped Mangrove Room at the Coronie (Suriname) Mangrove Education Centre



with additional funding for travel from Samworth Foundation.

Also underway is the start of adaptation/translation of the Suriname MM for use in neighbouring French Guyana. Flora and fauna are essentially the same, most of funding required is for translation. Partners have been found and funding exploration has

begun – FG local funding looks promising. Travel supplemental FG expenses (materials printing etc.), covered by Samworth and the Singing Field Foundation.

Errol Gezius (left) of the Stg. United Tour Guides of Suriname instructs trainee tour guides on mangrove ecology.



Launching of Marvellous Mangroves International Educational Website

Teachers and students all over the mangrove world are connecting thanks to a new interactive website launched by the Mangrove Action Project (MAP).

Marvellousmangroves.org has been several years in the making, says MAP Education Director Martin Keeley, “And we have just spent the last couple of weeks working with Year 5 students at Edna Moyle Primary School, Northside, Grand Cayman, to iron out the bugs and make sure the site is up and running.”

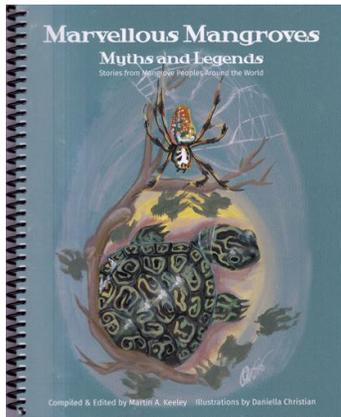
The site is an extension of the *Marvellous Mangroves* education program which was first introduced into Cayman’s schools in 2001 and has, since then, been taught to every Year 5 at every school class where it is part of the science/social studies curriculum. It is currently being taught by Catherine Childs, Education Director of the Cayman Islands National Trust, and is sponsored by Caribbean Utilities. Since its introduction it has been translated and adapted for use in 13 countries worldwide.

“The primary purpose behind *marvellousmangroves.org* is to allow teachers and students around the world to explore the wonderful world of mangroves in their own country in their own language,” Keeley, who is also Cayman Brac Campus Director of the University College of the Cayman Islands (UCCI) and founder of the Mangrove Education Project, explains. “The site was designed under the supervision of MAP’s IT

whiz, Leo Thom, and follows the same five section structure as the *Marvellous Mangroves* teachers guide.”

“Teachers and students will not only be able to explore mangrove ecology in their own countries in their own language - where the site allows teachers to pose questions and students to answer them and record their own findings. It will enable them to find out what their counterparts in other countries are doing and seeing.”

“This *Marvellous Mangroves* Program is so worth while!” exclaims Ms. Janice Brown, Year 5 teacher at Edna Moyle Primary, whose class enabled the pilot to be undertaken. “It not only teaches students about the values and vital need to protect the mangroves but involves the students learning in an interactive way through the website and through fascinating, outdoor field trips. Education at its best!



Marvellous Mangroves, Myths and Legends

Martin also published his book *Marvellous Mangroves, Myths and Legends*, which offers great traditional story telling from around the world featuring mangroves and local myths. He collected the stories during his *Marvellous Mangroves* work in different countries, and they have been beautifully illustrated by young Cayman Brac artist Daniella Christian. This popular book can be ordered on Amazon.

MAP ASIA OFFICE WORKS

The MAP Asia office organized a mangrove field day event at one of MAP’s partner village site at the Thai village of Ban Bang Kang Khao to celebrate Mangrove Action Day on July 26th. Environmental Education activity took place there involving both local teachers and students. The following photo shows young students on a field trip as part of their Mangrove Action Day events. Another MAD event was held simultaneously in Seattle, along with an international mangrove photo contest.

MAP Continues to Promote CBEMR as a “Best Practice” Method for Long-term Mangrove Restoration

MAP Asia joined with Wetlands International to produce a much-needed booklet entitled “To Plant or Not to Plant.” This important publication has already been translated in several languages, and appears to be gaining steam in shifting attention to the great benefits of CBEMR as a way forward in regards to restoration.



Mangrove planting has become hugely popular. The majority of planting efforts are however failing. A more effective approach is to create the right conditions for mangroves to grow back naturally. Mangroves restored in this way generally survive and function better. This leaflet aims to contribute to best practice by exploring the question that everyone involved in mangrove restoration should ask: ‘To plant or not to plant?’

Key messages:

- The world needs mangroves, but in many parts of the world they have been lost or degraded, along with their valuable services like coastal protection or fisheries enhancement. Restoration is necessary in many places.
- Mangrove planting is hugely popular, but the majority of planting efforts fail to restore functional mangrove forests and we can learn from these experiences.

- Successful restoration results in the establishment of a sizeable, diverse, functional and self-sustaining mangrove forest that offers benefits for nature and people.
- When the enabling biophysical and socioeconomic conditions are put back in place applying Ecological Mangrove Restoration principles, nature will do the rest. When that happens, species to site matching is



optimal, resulting in better survival, faster growth and a more diverse and resilient mangrove forest.

- In some cases, planting can assist or enrich the natural regeneration process. However, planting in non-mangrove habitat and areas showing natural mangrove recruitment needs to be avoided.



Mangrove restoration: to plant or not to plant?

[download](#)

(MAP) in Thailand was part of an IUCN 5-year project called **Ecosystems Projecting Infrastructure and Communities (EPIC)** which just finished at the end of August 2017 and focused on Eco-Disaster Risk Reduction *(DRR), which had been mainly inspired by the 2004 tsunami disaster and rising sea levels and intense storms fomented by global warming. The project involved 6 countries and a range of hazards such as landslides, avalanches, desertification and coastal storms were involved. Here is an excerpt from that final report:

EPIC is a five year initiative that is promoting the implementation of ecosystem-based disaster risk reduction through 5 Case studies in [Burkina Faso](#), [Chile](#), [China](#), [Nepal](#), [Senegal](#) and [Thailand](#). The project is contributing to community resilience by:

1. Documenting scientific evidence
2. Building capacities to understand vulnerabilities and take action by using best practices

- Promoting effective policies for integrated approaches to disasters, climate change and environment management.

Climate Change and Disasters: Working together to find a nature-based solution



During the past few decades the number of disasters and their impacts on communities worldwide has increased steadily. With climate change, this trend is set to continue, with an expected increase in the number of extreme weather events. Healthy ecosystems can be important allies in reducing risk and increasing resilience for people and the environment.

3 Key lessons from EPIC for effective ecosystem-based approaches:

- It is important to involve communities and valorise traditional knowledge to identify local strategies to cope with extreme events
- Science and research is an important in informing and guiding effective strategies
- To ensure scaling up of ecosystem-based approaches to risks, it is important to work with authorities to inform and influence policy at local and national levels.

Community-based ecological mangrove restoration against coastal hazards

The problem

Thailand has experienced a rapid loss of coastal mangroves due to a range of natural and anthropogenic factors. Shrimp aquaculture has been attributed as the largest single cause of mangrove loss in Thailand and South-east Asia. Clearance of mangroves has now left many coastal communities exposed to natural hazards like cyclones, storm surges, and tsunami. Increased salt intrusion is also affecting fresh water supplies. Currently abandoned ponds dominate large coastal areas and without the protective services of mangrove forests, the coastal communities are very vulnerable to natural hazards.

EPIC's solution

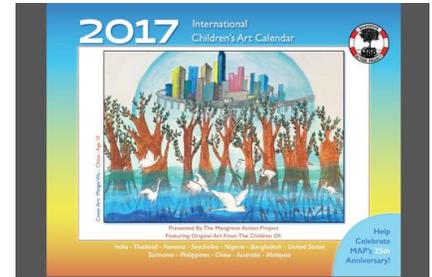
EPIC is implementing Community-based Ecological Mangrove Restoration (CBEMR) in two coastal sites in Thailand. CBEMR is a mangrove restoration technique that emerged in response to other type of restoration that have failed for example monoculture plantation of mangroves. It is also an innovative approach to natural resource management and combines scientific research, situational analyses and local knowledge

for the integration of ecological restoration, disaster risk reduction, climate change adaptation and livelihood diversification.

[You can see the video on this program in the link: [Video: Mangroves-Reducing the Risk of Disaster through Nature-Based Solutions](#)]

MAP'S 2017 CHILDREN'S MANGROVE ART CALENDAR

MAP's 16th publication of our Children's Mangrove Art Calendar was a great success, involving thousands of children from 13 nations where Mangroves are found.



KNOWLEDGE EXCHANGE AND NETWORKING

MAP's global network continued to strengthen its reach via effective information exchange, expert referrals and skills sharing. Our biweekly electronic newsletter, The MAP News, our website and social media outlets continued to offer our wide audience access to timely information and expertise.

ADVOCACY

MAP's Question Your Shrimp Consumer/Markets Campaign:

One of the leading causes of mangrove destruction still stems from the tropical shrimp farming industry in the developing world. Because the average intensive shrimp farm yields for only 2 to 5 years before pollution and rampant disease render its ponds unusable, the industry responds by continually razing more mangrove forests to make way for new shrimp rearing ponds. In addition, this shrimp product is tainted with antibiotics, pesticides, and shrimp feed additives, many known to be carcinogens.



MAP's Question Your Shrimp consumer awareness campaign is a grass roots effort to significantly reduce consumer demand for this destructive and unsustainable product. The Campaign aims to combine advocacy with raising awareness among consumers to reduce consumption of imported tropical farmed shrimp enough to impact the market in order to slow or stop tropical shrimp farming expansion.

SUMMARY OF FINANCIAL ACTIVITIES – 2017

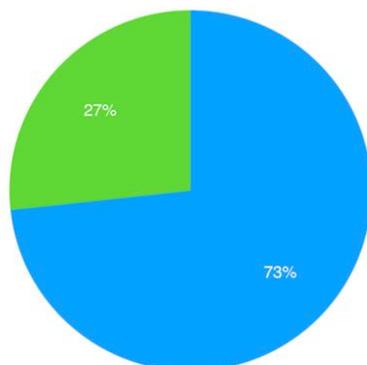
Balance Forward from 2016:	\$60,567.40
Income 2017:	
Grants/Foundations	\$108,720.00
Individuals/Major Donors	\$39,575.06
Interest	\$62.81
Total Forward Balance & Income:	\$208,925.27

OPERATING EXPENSES 2017

Programs	\$151,278.36
Administration	\$17,334.15
Fundraising	\$12,464.49
Total Expense:	\$181,077.00
Balance Moving Forward:	\$27,848.27

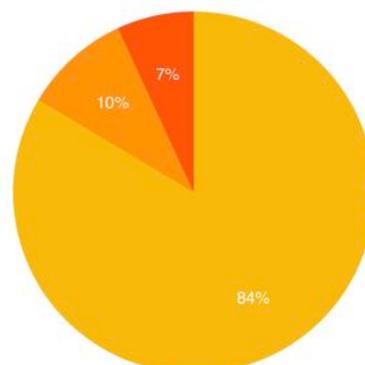
Revenues

● Grants/Foundations ● Individuals/Major Donors



Expenses

● Programs ● Administration ● Fundraising



2017 MAJOR DONORS

MAP would like to thank the following donors for their generous support:

<i>Charities Aid Foundation</i>	<i>Munson Foundation</i>
<i>Cottonwood Foundation</i>	<i>New England Biolabs</i>
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<i>Earthways Foundation</i>	<i>Rainforest Information Center</i>
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