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June 2013

# The Sandwatcher

PROMOTING GRASSROOTS CONSERVATION OF BEACH ENVIRONMENTS

Photo: Lisa Hiwasaki –UNESCO



Black River Foundation



United Nations Educational,  
Scientific and Cultural Organization

## Entering a New Era of Sandwatch

Since its beginning, over a decade ago, the Sandwatch program has grown from a small group of teachers in the Caribbean islands to a world-wide network of Sandwatchers. Not only have the number of people using Sandwatch grown, but the types of tools available have also increased.

Starting with only an English version, the Sandwatch Manual is now in its third edition and available in **English, Spanish, French** and **Portuguese**, with other language versions being planned. The manual also underwent a revision in 2010 such that climate change and climate variability were integrated into all existing chapters and activities.

Perhaps the biggest news for 2013 is that in March the **Sandwatch International Database** was launched in **Mauritius**. You may know that the database has been developing behind the scenes for a few years, thanks to the dedication and hard work of Dave Gray of **Canada**, and now that it is ready for use we are eager for the Sandwatch network to take advantage of this important and free tool.

One of the primary benefits to using the database is the opportunity to analyse and display your data in different ways. For example, the database will allow users to create their own graphs, tables and even maps. In the long-term the database will help track seasonal and long-term trends, and contribute to scientific information about our

beach environments and how they are being impacted by climate change.

The excitement of 2013 continues with the launch of **Sandwatch training videos**. Our partners at the **University of Puerto Rico Sea Grant College Program** have been working on Spanish and English versions of training videos that demonstrate the Sandwatch techniques and activities. Each five-minute video relates to a particular chapter in the manual. Once the videos are ready we hope to have them available as DVD's as well as online and available for download. Imagine being able to watch a video of Sandwatch participants measuring beach width and collecting water samples before taking your own fieldtrip. The training videos are a wonderful tool to show participants what to do and expect when out in the field.

Sandwatch is moving to a new level of interaction and accessibility. "With the completion of the new Sandwatch climate change activities, the database, the multiple language versions of the manual and the training videos, the past few years have witnessed the most exciting and far-reaching advances for Sandwatch since the programme was first begun in the Caribbean more than a decade ago", said Hans Thulstrup, of UNESCO's Division of Science Policy and Capacity Building.  
**(Continued on page 5)**

**Inside this issue:  
Sandwatch activities  
in 14 countries  
worldwide!**

**Including, Australia,  
Bahamas, Barbados,  
Cape Verde Islands,  
Cuba, Indonesia, New  
Zealand, Mauritius,  
Mayotte, Palau, South  
Africa, The Gambia,  
Trinidad & Tobago,  
Turks & Caicos, US Vir-  
gin Islands... and much,  
much more!**

**SANDWATCH**  
FOUNDATION





## Inside this issue...



Measuring wave direction in Aceh, Indonesia. Photo courtesy of Jaringan KuALA

Welcome to the fifteenth edition of The Sandwatcher, the Official Voice of The Sandwatch Foundation.

This issue highlights the truly global nature of Sandwatch as it contains articles and photos from Sandwatch teams in 14 countries all over the world, from the **Caribbean, Indian and Pacific Oceans, Africa, and Australia**. Thanks to all of you, Sandwatch has become a recognized global environmental project.

Just some of the highlights of this issue include...

- The **Sandwatch International Database** officially launched in **Mauritius, Indian Ocean**
- Sandwatch starts in schools in **Aceh and Bali, Indonesia**
- Sandwatch teams in **US Virgin Islands** work to protect sea turtles
- Sandwatchers in **The Bahamas and Australia** work to plant sand dunes
- Storm damage to beaches in **Bahamas, Palau, Turks & Caicos**
- A Sandwatch teacher training course is held in the **Cape Verde Islands**
- A Caribbean **conference on education for sustainable development** helps spur countries such as **Cuba** to reinvigorate Sandwatch
- Sandwatch highlights from **Barbados, Mayotte, The Gambia and New Zealand**

## Sandwatch starts in Indonesia



Sandwatch has their own YouTube channel, so tune in to see our videos from teams all over the world  
[www.youtube.com/user/SandwatchFoundation](http://www.youtube.com/user/SandwatchFoundation)

**March 11, 2013:** Sandwatch pilot project launched in two schools in **Lhoknga, Aceh, Indonesia**

After training workshops held in **Wakatobi** in December 2012 and in **Nusa Penida** in February 2013, the third Sandwatch pilot project in Indonesia has now been initiated. Sandwatch training for students and teachers was held in Lhoknga, Aceh, on 8-9 March 2013.

Lhoknga, located in Aceh Besar district close to **Banda Aceh**, has a beautiful long coastline. It is rich in coastal and marine biodiversity, and is also where sea turtles lay eggs during September to May. The area, though completely devastated in the 2004 Indian Ocean earthquake and tsunami, has now been rebuilt. Fishermen have reported negative impacts from the tsunami on the coastal environment, including destruction of corals, and efforts to conserve the coastal environment have now begun.

**UNESCO** has partnered with the Jaringan KuALA (Koalisi untuk Advokasi Laut Aceh, or Advocacy Coalition for Aceh Sea), a local NGO working on coastal and marine conservation issues, to implement Sandwatch activities in Aceh. The objective of the Sandwatch pilot project is to strengthen existing local curriculum on coastal environment by emphasizing school-based, hands-on beach monitoring.

The first Sandwatch training in Aceh was held in secondary school SMAN (Sekolah Menengah Atas Negeri) 1 Lhoknga on 8-9 March 2013. There were over 40 participants, most of whom were students and teachers from 2 schools (SMAN 1 and MTSN (Madrasah Tsanawiyah Negeri) 1 Lhoknga). Representatives of government institutions (both at the district and provincial levels) and other NGOs in the KuALA network also participated in the workshop.

During the 2-day training, students in Lhoknga learned about the Sandwatch methodology and how to monitor the beach parameters, such as beach debris, weather & climate, sea turtles, water quality, and mangroves. A field visit was carried out to Lhoknga beach where the students practised the methods to measure beach parameters they learned during the workshop. In addition, they also began drafting school workplans on Sandwatch activities for the coming few months. The students will start implementing monitoring activities by end March.

The training was enriched by participation of traditional fishermen leaders (panglima laot), who gave a presentation and answered questions from the students and teachers.

If your school is interested to join Sandwatch or you need further information on Sandwatch pilot project in Indonesia and Timor-Leste, please contact Lisa Hiwasaki ([l.hiwasaki@unesco.org](mailto:l.hiwasaki@unesco.org)).



Beach mapping with Sandwatch Bali, Indonesia. Photo: Estra Estradivari



## Sandwatch helps sea turtles in St. Croix, USVI



We have had a busy year with lots of activity here at our school on the beach in **St. Croix, U.S. Virgin Islands**.



Sandwatchers of The Good Hope School protecting sea turtle eggs on their beach

The Good Hope School's sandy shore is a popular turtle nesting spot and this year we've noticed an increase in the number of turtles spotted on land and in the surrounding waters. Hatchlings have arrived in the early morning and afternoons, causing our students to stop playing and help gather these little creatures so that they can be kept safe until they are released at the right location, at the correct time.

A group of faculty members formed a committee to plan activities to raise awareness of our fragile environment, and the responsibility we should all feel in keeping the turtles safe.

We invited guest speakers to campus who included information about who to call when we find injured turtles, or when we discover hatchlings needing attention.

Of the many significant projects undertaken, the most impressive to our class was the creation of a bulletin board that featured a pledge to the turtles. It was written by the fourth grade students and displayed with the images of paper hatchlings signed by every member of our school promising to keep the turtles safe!

### Help the Turtles!

*I promise to help the turtles because when I do, I help the whole planet. I promise to keep beaches litter-free so turtles can lay eggs safely. I promise to protect any hatchlings that head in the wrong direction since I know they could be hurt. I promise to cheer once these babies wiggle toward the moonlit sea and begin to swim! I promise to spread the word so that more turtles will survive.*

—The 4th Grade students of The Good Hope School

We've included photos of the bulletin board, the 4<sup>th</sup> grade's pledge "**Help the Turtles**" and two students investigating broken turtle eggs on the shore!

**Cindy Mault,**  
The Good Hope School  
St. Croix, USVI



Hope Town School Sandwatchers replant sea oats on their beach after the passage of Hurricane Sandy

## Sandwatchers stabilize dunes in Abaco, The Bahamas



In 1999 when the devastating **Hurricane Floyd** hit the Abaco chain of islands in the Bahamas, the beaches were nearly all destroyed. Months of using beach bulldozers to slowly scrape the sand washed back up by tides eventually produced beautiful white sand beaches again.

To further stabilize the dunes, sea oats were ordered by the town and were planted all along our 6 mile long island. **Hope Town School Sandwatch Team** were instrumental in the planting of the sea oats in several different areas on our island. They held the dunes well through several hurricanes since that time; often being beaten back but coming back to life.

They provided the Sandwatchers many years of study and comparisons. Last October the super cell storm, Sandy, again wiped out our island's beaches as she spun and blew over us for 36 hours before moving up the Eastern Seaboard to wreck havoc in the United States. Again, beach bulldozers were called in to scrape sand back onto dunes and beaches as it gradually washed in. The beaches have not yet returned to their normal width or depth but another hurricane season is starting in June and the town became worried about providing dune protection.

The Hope Town School is next to the Hope Town Lodge resort and the school's test site reef and beach for Sandwatch is in front of this resort. Once again, students from Grade 1 through Grade 6 came down to the beach early one morning this month and spent the entire day replanting their "babies". Carefully and gently the students dug their 8" deep hole in the sand, poured the right amount of gel fertilizer in and then planted the sea oat. There were **4,000** to be planted and it took 2 days. Gratefully, after a couple of days the island was blessed with 2 days of rain to get this new batch of "babies" on their way. We only hope and pray that they will reach maturity and stabilize the dunes well before another hurricane arrives.

**Candace M. Key, Country Co-Ordinator for Sandwatch in the Bahamas**



Students pose with their Sandwatch/UNESCO sign to let people know who replanted the sand dunes



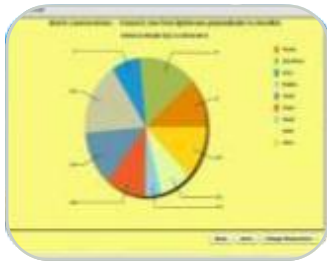
## Sandwatch international database launched



A screen shot of Sandwatch's online database. It's user friendly and simple to use!

The Sandwatch International Database was launched in Mauritius on 20<sup>th</sup> March 2013 at an Experts Meeting on Climate Change Education for Sustainable Development in Africa supported by the United Nations Educational, Scientific and Cultural Organisation (UNESCO) and the Ministry of Education and Human Resources, Republic of Mauritius.

The database will provide participating Sandwatch groups the opportunity to upload their monitoring data to a secure site. ***Not only will this allow for proper archiving of environmental data, but it will also allow users to analyse their results, create their own charts and graphs, and communicate their findings visually with the wider community.***



The online database also allow for easy graphing of your measurements and other data

Non-Sandwatch groups can also visit the site and view the data. Launched in 1999, Sandwatch is a volunteer network of children, youth and adults working together to monitor and analyse changes in their beach environment using a standardized approach, share their findings with the wider community and then take action to address issues. In so doing, Sandwatch practitioners enhance their beach environment and help build its resilience to climate change.

The database can be accessed through <https://sandwatchdb.org/beachdata> and a user name and password can be obtained by sending a request to [sandwatchdatabase@gmail.com](mailto:sandwatchdatabase@gmail.com)

At the launch in **Mauritius**, Gillian Cambers, Co-Director of the Sandwatch Foundation described how Sandwatch is an example of education for sustainable development in action providing opportunities for students, teachers and communities to learn about changes in their beach environments and in so doing to enhance the beach and make it more resilient to climate change. Moreover *"It is an opportunity to make science fun!"*

Dave Gray, a software designer from Canada who voluntarily designed the database, demonstrated some of its features including the built-in mapping function and the facility to upload and share images as well as data, text and figures in a secure and protected environment.



Sandwatch's new online database was officially launched at UNESCO's Expert Meeting on Climate Change Education for Sustainable Development held on Mauritius March 20th-22nd, 2013

*"The database will help systematize Sandwatch data collection and in time build up a significant data set covering beaches and coastal areas often not monitored by other means – thereby making a contribution to global climate change monitoring"*

In his remarks, Hans Thulstrup of **UNESCO's Division of Science Policy and Capacity Building**, described how UNESCO together with a wide network of partners

and collaborators including the **Government of Denmark**, the **University of Puerto Rico**, and many more, most significantly hundreds of dedicated school principals, teachers and students at institutions around the world has made Sandwatch the vibrant programme it is today. "We look forward to entering this new chapter in Sandwatch history."



The Sandwatch Manual is now available in English, French, Spanish and Portuguese with more on the way!

## Google Earth: A great teaching tool

An increasingly important part of Sandwatch workshops and training is not only showing educators how to use the Sandwatch manual, and methodology, but also how to network and expand your project using inexpensive or free technologies. This includes using **Google Earth** to show people where your country/community/school/beach is located, or using it to teach your students geography. It is very popular with teachers, especially the first time they use it.

It is free and easy to use! Please ask us if you need help on how to best use it for Sandwatch. Send an email to [sandwatchfoundation@gmail.com](mailto:sandwatchfoundation@gmail.com)



## Entering a new era of Sandwatch (continued from front cover)

**(Continued from front page)** "UNESCO is happy to have been part of these developments, and grateful to the government of Denmark – the support of which has contributed significantly to making these achievements possible – as well as the Sandwatch Foundation and the students, teachers and volunteers that give life to Sandwatch every day!"

2013 marks a good time to involved with Sandwatch whether for the first time or to reinvigorate past work. It is now easier than ever for anyone to get involved with Sandwatch and start monitoring their environment, analysing their results, sharing their information, developing relationships and taking action to care for their environment. More information about Sandwatch and the Sandwatch International Database can be found on our website at [www.sandwatch.org](http://www.sandwatch.org).



## Sandwatch training in the Cape Verde Islands



From April 3rd to 5th, 2013, the National Commission for UNESCO Cape Verde has trained 15 more teachers from 9 Associated Schools of UNESCO coastal cities in Sandwatch methods. The schools include C. E. Mira Flores, ES Abilio Duarte Jacinto, ES Achada Grande, ES Chão Bom, ES Salineiro, ES Santa Cruz, and ES Pedro Manuel Lopes Gomes, and the training has strengthened the Sandwatch teams around the Cape Verde Islands.

During the 2<sup>nd</sup> day of the training both the **Commissioner** and the **Minister of Education and Sports** visited the training sessions to encourage the teams and talk about the importance of Sandwatch in a fragile island country from an environmental point of view and also its importance as a component for citizenship education. The Executive Secretary of the **UNESCO National Commission** personally took part in all the training including in the field. The training was guided by two teachers who were trained in Sandwatch methods at the regional workshop held in Praia in 2009, José Maria Pires and Geiza Baessa. They were supported by the new Portuguese version of the Sandwatch manual Sandwatch. New Sandwatch kits were sent over by the UNESCO Regional Office in Dakar and were given out to the new Sandwatchers.

General objectives: to introduce the new schools around the country to Sandwatch by providing the knowledge necessary to promote awareness and protection of our beaches.

Specific objectives: i) to contribute to the improvement of the environment of beaches, and seek to change in the lifestyle and habits of youth and adults in their relations with the coastal and marine environment, ii) integrating Sandwatch activities into the school's curriculum.

Expected results: i) make participants aware of climate change, ii) train participants in the use and methods of Sandwatch iii) share experiences and replicate Sandwatch training in other schools.

In addition: i) Study climate changes in the coastal areas of West Africa, ii) general information on Sandwatch methods, erosion, accretion, waves and currents, the beach composition and iii) human use of the beach, and their impact on the quality of the seas plants and animals, iv) Actively contribute to the Sandwatch global online network, v) schedule more field sessions, during which even children wanted to participate in the beach cleanup.



15 teachers from 9 schools took part in recent Sandwatch training in the Cape Verde Islands



Sandwatchers in the Cape Verde Islands measure their beach

## Sandwatch continues to grow in The Gambia



The ASPnet/Sandwatch membership in my school is about 150 students and 5 teachers, and we are known as the 'technical committee'. In my school all the members takes part in Sandwatch activities and my school was the first to implement Sandwatch activities on our beach way back in 2010 after our UNESCO sponsored training workshop in Paria, Cape Verde Islands.

Our most recent Sandwatch beach trip was done on the 27th May, 2013 on a Friday on **Fajara Beach** and 15 students and 4 teachers participated. The main objective of this activity was to show students how to do scientific observations, measurements and analysis of the beach environment in an inter-disciplinary approach, and to help them along with local communities in applying this information and knowledge for the wise management and enhancement of their beaches and finally to ensure the future of The Gambian ASPnet/Sandwatch program, particularly in my school.



The Gambian Sandwatchers on Fajara Beach, May 27th, 2013

**Dawda Nasso, ASPnet School Coordinator, Ndow's Lower Basic School, The Gambia**





## Sandwatch represented at UNESCO meeting in Jamaica



The Trinidad Sandwatchers are very active and last year visited a Sandwatch team in England

Have you ever heard the term “**Education for Sustainable Development?**” Well, to some there has been much talk over the past decade about Education for Sustainable Development (ESD). To others, there has been very little talk or action. What about you? By the way, are you aware that the past ten years have been the Decade of Education for Sustainable Development (DESD)? As a matter of fact, 2014 will bring an end to the decade for ESD. Consequently, there was a Sub-Regional consultation to support planning for an ESD programme framework to follow on the United Nations (UN) Decade of ESD in 2014. This consultation was held in **Jamaica** on 3<sup>rd</sup>-4<sup>th</sup> April 2013. Participants stretching from **Belize** to **Guyana** met to look at issues over the past decade, evaluate where we are and to map the way forward from 2015 and beyond, and as we prepare for the **world conference** in **Japan** in 2014.

The aim of the consultation was to gather data with regard to three related processes:

- Production of the final report on the DESD, which will be one key input into the World Conference;
- Preparation of a framework for the post – 2014 ESD work;
- Preparation for the World Conference on ESD in Japan 2014 and conceptualization of its output, including the final conference declaration.

These three processes are instrumental in leading the DESD to a successful completion and ensuring substantial follow-up after 2014. This consultation was for the **Caribbean States** and had the following objective: *To contribute to ensuring a transparent, participatory preparation of the post – 2014 ESD programme framework through collecting input from relevant stakeholders from the Caribbean Member States.*



Don't forget to send updates for your homepages on the Sandwatch website!

As an educator, ESD to me is all about making education relevant and including key areas for innovative teaching. There have been and continues to be too much of talk and chalk, drill and kill in the classrooms of our schools. There must be a realignment of our teaching practices and our curriculum. The challenge is to make education meaningful and relevant to our students. We are at the threshold. The time to act is now, not tomorrow for tomorrow may never come. Stop talking and be involved in ESD. The world, the future we wish to create must start in our classrooms.

One of the highlights (and I am not being biased) of the meeting was the presentation done on day one by Andy Paul from **Trinidad and Tobago**, who represented **The Sandwatch Foundation**. “Sandwatch” became a buzz word as participants showed keen interests. From Belize to Guyana, all agreed that Sandwatch is the best tool for Education for Sustainable Development and the way forward.

The space here is too small to write about the comments made and the “chit chat”, however, countries present have decided to either strengthen their Sandwatch programme or start one. **Belize** has already received a Sandwatch manual in the post. **Guyana** has spoken about organising a Sandwatch training workshop. **Jamaica** said they are going to start. The question now dear reader, “*When are you going to start Sandwatch?*” Sandwatch has been tested and tried. It is time to stop talking about it and start doing it. Will you allow this opportunity to pass by? I hope not. Too much is at stake. Education for Sustainable Development is all about you and me making education relevant.

Permit me to ask my dear colleagues in education a question. The world is changing. Everything around us is changing. Have you changed your teaching methodology? Or is it talk and chalk, drill and kill? This is 2013, not 1962. Let us seriously consider and change our methodologies and more so the way we do our assessment. Please do not get left behind. Let us be relevant as we prepare ourselves for 2015 and beyond. Make Education for Sustainable Development a reality in our schools and education system. Let's do it together. Remember, “Sandwatch is me, Sandwatch is you, Sandwatch is all ah wee.”

**Andy Paul, Trinidad and Tobago**



## Sandwatchers plant trees in Turks and Caicos Islands



You can clearly see the erosion on Governors Beach, Grand Turk Island

Sometime ago in June of 2012, the Sandwatchers and Surf Club, of the Helena Jones Robinson School, planted six almond seedlings at Governor's Beach on the southwestern shore of **Grand Turk, Turks & Caicos Islands**. They were planted to provide alternative trees to the *Casurina equisetifolia* trees that dominate the beach and to protect the shores from future coastal erosion.

These seedlings grew from seeds sown by the students of the graduating class of 2011. The students planting these seedlings were: Tarik Newnan, Kanthal Capron, Askia Cummings, Crivanne Adams, Kirkly Parker and Aaron Lightbourne. To date, only two of the six seedlings survived due mostly to the drought conditions we experienced in January to May of this year.

We will be continuing our Sandwatching activities with more beach monitoring and reforestation efforts so stay tuned for more updates!!



A ship was blown on to our beach with the passage of Hurricane Sandy

## Sandwatch expands in the Cape Verde Islands



### Sandwatch on Gamboa Beach, Santiago, Cape Verde Islands

May 4, 2013, 7:30am-11:30am, eleven grade 9 students from Abilio Duarte Palmarejo Secondary School accompanied by two teachers, went to Gamboa Beach to do our Sandwatch measurements. Another group of eleven students in the 11 grade from the Manuel Lopes Associated School also accompanied by two teachers joined us there.

The purpose of this action was to teach students to monitor the environmental range of their adopted beach in the following ways: the profile of the beach, the width of the beach, the temperature of the water, pH, phosphate, salinity, turbidity, nitrate, dissolved oxygen, the current and wave length to the northeast; and coliforms contamination – we found more than 20 coliform colonies per 1000 ml of water.

The last phase of the work was cleaning the beach of garbage which was then collected by the Prainha town's municipality.



Teachers and students from schools across the Cape Verde Islands recently took part in a field and classroom Sandwatch

### Sandwatch activities on the Praia Baixo Beach

On 15 May 2013 a series of activities were carried out under the Sandwatch project on the beach of **Praia Baixo**, near the town of **Tarrafal** with the participation of 18 students in 7th, 8th and 9th grades of the Chão Bom Secondary School. These activities had an educational goal to push students to monitor the environment of the beach using a number of scientific methods, evaluating various aspects arising out of climate change in order to achieve mitigation. This small group, accompanied by two professors did a cleaning and exploratory analysis of the beach (mapping, measurement, special features of the waves and sand, etc.) followed by laboratory analysis of the water samples.

## The Sandwatch website logs over 50,000 hits!

Since its creation in June 2006 the Sandwatch website passed its fifty thousand viewing as of May 1st, 2013...and it seems to be picking up speed as more and more people become aware of the programme. We are making a difference!

## Cuba renews commitment to Sandwatch



### Cuba ASPnet schools commit to continue Sandwatch.

Since the start of Sandwatch in 2001, Cuba has participated in the Sandwatch project within the framework of the **UNESCO Associated Schools Project network (ASPnet)**. The importance of beaches and the need to continually care for them has motivated the different groups involved in Sandwatch since the beginning of the project.

The work became easier when the first version of the Sandwatch manual, *Introduccion a Guardarenas, una herramienta educativa para el desarrollo sostenible*, was published in Spanish in 2007. Then when a revised version, *Guardarenas: Adaptacion al cambio climatico y educacion para el desarrollo sostenible*, was published in 2012, this provided further help.

Even though we have been working in Sandwatch and participated in different regional workshops over the years, we have decided that in the next school year, 2013-2014, Cuba will reinvigorate their Sandwatch activities. Planning is underway to have teacher training workshops in October and November 2013, to train teachers in Sandwatch methods so that they are confident to measure changes in the beach environment, such as water quality and erosion.

There will be 3 workshops (in the western, central and eastern regions), involving all the ASPnet schools, 76 schools in total. Even though only 15 of those schools are in provinces which are near to beaches, all the schools will have the opportunity to experience Sandwatch.

This will be part of our contribution to the Decade of Education for Sustainable Development.

**Delia Vera Medina, National Coordinator ASPnet, Cuba.**



Sandwatchers in Cuba cleaning up a local beach



We are sure to be hearing more from the new Cuban Sandwatchers in the coming months





## Palau recovers from Typhoon Bopha



Boulders being placed along the road in Babeldoab after the passage of Typhoon Bopha



A water pumping shed in Palau damaged by the passing of the cyclone

Typhoons are rare in Palau, which is south of the main typhoon zone, however it is affected by typhoons which pass to the north.

In early December 2012, Palau was severely impacted by Typhoon Bopha, a large typhoon which went on to become a category 5 storm when it hit the Philippines. It hit the small island developing state of Palau with winds of up to 250 km/hr.

The damage was serious and even now, 6 months later, the country is in recovery mode. The east coast of the largest island, Babeldoab, and the southern island states of Palau received the most serious damage. Erosion was severe and there was significant damage to coastal infrastructure.



Cyclone Bopha created a new huge new beach on Anguar but it was made of broken coral reef

The east coast of Anguar saw the creation of a large new beach, more than 2km long and 500 m wide as a result of Typhoon Bopha. While this might seem like a positive impact – the new beach is made up of thousands of piece of broken coral!

This indicates the massive damage that has been done to the largely unseen coral reef.

Often severe typhoons such as Bopha result in underwater damage that may impact beaches and coasts many years or decades later.

Presently, one of the States of Palau, Koror State, is interested in starting up Sandwatch and is exploring opportunities with some secondary school teachers.



## Sandwatchers in West Australia replant dunes

Rehabilitation of coastal dunes damaged by impacts including erosion or the spread of invasive weeds can be a complex process requiring specialised skills. To ensure that community **Coastcare** volunteers have the required skills to undertake dune rehabilitation projects, the Perth Regions NRM's Coastcare Program runs training workshops to provide instruction in best practice dune rehabilitation techniques.

At a recently held **Coastwest** funded workshop in Perth, **Australia**, Steve Lushey from **Sandwatch** participating school South Coogee Primary attended to gain an increased understanding of dune rehabilitation techniques. Steve has been leading his students in the rehabilitation of Coogee Beach in association with the City of Cockburn and Verve Energy.

The workshop provided information on a range of topics including project planning, sand dune structure, coastal processes, erosion control techniques, fencing methods, weed control, native plant selection, seed collection and monitoring. Workshop participants then visited a dune rehabilitation site to see first hand how a degraded dune was progressively rehabilitated over a five year period.

Steve will now be able to pass on his newly acquired skills to his Sandwatch students at the next planting session at Coogee Beach and his students will have a greater understanding of why dunes are an important barrier against potential climate change impacts such as sea level rise.

**Craig Wilson, South Metro Coastcare Officer, Perth, Australia**



Volunteers rehabilitate the flora of the coastal dunes on Coogee Beach, Western Australia

### INTRODUCTION TO coastcare

Are you interested in our coastal dunes and want to know how to improve them?

**BEFORE** **AFTER**

BEFORE: A weed infested site. AFTER: The same site following a successful rehabilitation program.

**Where and When:**

**North Metro**  
Sunday March 10, 9am to 3pm  
Henderson Environment Centre  
Great Street, North Beach

**South Metro**  
Sunday March 24, 9am to 3pm  
Haragobup Environment Centre  
49 Safety Bay Road, Rockingham  
Opposite Lake Richmond

**For details and registration:**  
Kate Spillars North Metro: Email [coast@coastcare.wa.gov.au](mailto:coast@coastcare.wa.gov.au), Ph: 9285 5099  
Craig Wilson South Metro: Email [craig.wilson@kewana.wa.gov.au](mailto:craig.wilson@kewana.wa.gov.au), Ph: 9439 0433



## New Climate Change Education Course



Helping the next generation of young people understand what climate change is and how they can work to address the impact of climate change at the local and global level is crucial to the future of this earth. **UNESCO** and the **Sandwatch Foundation** partnered with Dr. Lausanne Olivett of **Rhodes University** to create a course that would empower secondary school teachers to teach the elements of climate change inside and outside their classrooms.

The course uses the **Sandwatch** program and its **MAST** methodology (*measure, analyse, share and take action*) as a prime example of climate change education for sustainable development.

Education for Sustainable Development (ESD) is about encouraging behaviour that promotes a sustainable future. ESD is based on five types of learning:

- Learning to know
- Learning to do
- Learning to live together
- Learning to be
- Learning to transform oneself and society

**The four day course consists of three modules.**

**Module 1** lays the foundation for the rest of the course by introducing climate change and describing how Education for Sustainable Development (ESD) might support communities around the world to mitigate and adapt to various climate change challenges. As this course is aimed at small island developing states and other coastal regions vulnerable to the effects of climate change, the activities and case examples have a marine and coastal focus.

**Module 2** introduces the **Sandwatch** approach through which school students, teachers and local

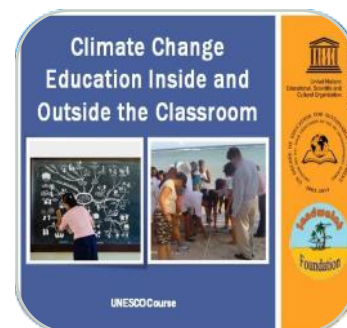
communities work together to monitor their coastal environments; identify and evaluate the threats, problems and conflicts facing them; and develop sustainable approaches to address these issues. Climate change is one of the many threats facing beach and coastal environments. One of the key components of this module is a field trip to the beach during which participants explore how the beach environment has changed in the past and how it might change in the future as a result of climate change and climate variability.

**During Module 3**, participants use the elements from ESD, climate change and Sandwatch introduced in Modules 1 and 2 to review their school curriculum and select one topic where elements of ESD/climate change/Sandwatch could enhance understanding of that topic. They then work in small groups to develop a lesson plan or educational project activity.

Two to three months after the course, participants will be asked to report back to **UNESCO** via the course co-ordinators on their experiences with implementing their educational project. The course has just been completed and is currently being reviewed by UNESCO.

The first roll out of the course is scheduled for October 2013 in **South Africa**. Preparation of the course has been supported by **UNESCO's Section for Small Island Developing States** and the Section for Education for Sustainable Development.

**Gillian Cambers, Sandwatch Foundation, and Lausanne Olivett, Rhodes University**



Sandwatch has partnered with UNESCO to develop a new climate change teaching methodology



A screen shot from the new Sandwatch training videos

## Please Join the Sandwatch Foundation's Facebook Forum

In its ever continuing efforts to keep up with rapidly changing technology, **The Sandwatch Foundation** has recently set up a dedicated 'Sandwatch Forum' on the globally popular social networking website **'Facebook'**. If you are a member, or are considering joining the website (it is free) then simply do a Facebook search using the phrase **'The**

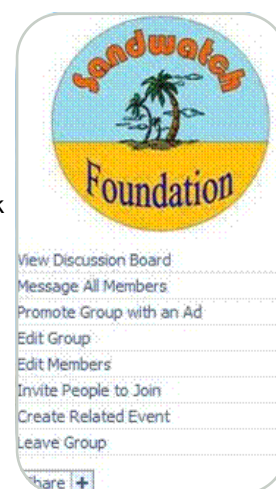
**Sandwatch Foundation'**, and it will pop up on your screen. Then you click on the dialog box that asks you if you would like to join this group...and that is basically it!

Once a member of the Sandwatch forum you can post photos, links, ask questions, communicate with other members all over the world and be regularly updated on Sandwatch events and activities etc. The Facebook forum has just started and has already proven to be quite popular with members, especially students and we hope that you will join the forum and

help to make it a viable, informative and fun way to exchange Sandwatch and community information.



Sandwatch also has its own dedicated YouTube Video Channel at... [www.youtube.com/user/SandwatchFoundation](http://www.youtube.com/user/SandwatchFoundation)





## A Poem from the Sandwatchers of Mayotte

### Coral Reef

Dear coral,  
You are precious to all  
You are a treasure for us  
You never forget to be marvellous  
Let's do something to protect you

Some people like fishermen  
Want to kill you again.  
You have no defense, you are in danger  
Men want to pollute, to destroy, and kill you all over  
Let's do something to protect you.

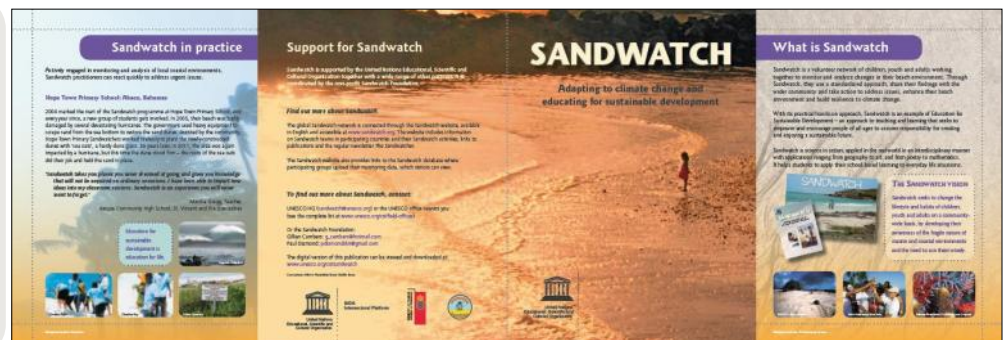
The Indian Ocean could be very ill  
If you were not here  
You are very important to  
The seas, the oceans and the island.  
Let's do something to protect you

By:

Diorellia, Soifouata, Enziza, Zoulaiata, Samrine, Naida, Kadria, Rahimina, Issouf, Hadidja, Siradjy  
Soifia Collège M'gombani in Mamoudzou, Mayotte

### New Sandwatch Brochure!

UNESCO HQ in Paris has just finished creating a new four page fold out Sandwatch brochure. Copies will shortly be available to download from our website via PDF and glossy hard copies will be produced for distribution at upcoming international conferences and meetings.



## Sandwatch partners get reusable bags for Barbados

### Recycling is in the Bag!



Sandwatchers in Barbados show their new reusable shopping bags

Under our **CoRe Network (Community Recycling)**, **The Future Centre Trust** educates and empowers communities to be able to successfully engage in recycling in Barbados. Thanks to funds granted by the U.S. Embassy, The Future Centre Trust was able to purchase 1200 reusable bags to be used by students of 3 rural schools to bring items from their homes to be recycled.

As the students of these schools typically walk to take the bus to school, the bags have provided an easy and fun means by which they can transport lightweight items such as plastics to school to be collected for recycling.

The 3 schools which have benefitted from this initiative are St. Joseph's Primary, Mt. Tabor Primary and A. Dacosta Edwards Primary. The response to the bags has been tremendous! Both students and staff have embraced the culture of recycling wholeheartedly and now other schools are expressing interest in adopting this model.

**Cherice Gibson - Executive Director**

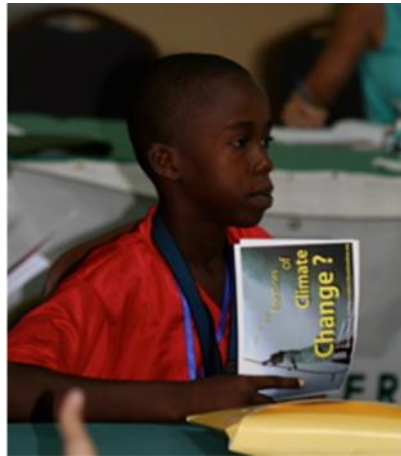


## Sandwatch Foundation wants to hear from you!

**My name is Michelle Verkooy and I'm helping the Sandwatch Foundation put together a contact list of Sandwatch groups and participants.**

Since Sandwatch first began, over a decade ago, many schools and community groups have been active in Sandwatch in one way or another. My goal is to find out if you are still participating in Sandwatch, and if not, if you would like to get Sandwatch restarted. We will be using this information to create an understanding of how Sandwatch has grown over the years, and get an idea of how many people are actively using Sandwatch methods in their schools or communities. Of course individual contact information provided will be kept confidential.

As the Sandwatch network grows we want to share the information and opportunities with those who are interested. There are a lot of exciting Sandwatch resources available to those who want to work to address some of the critical issues facing the environment. Over time, while the Sandwatch methodology (based on Monitoring, Analysing, Sharing & Taking action) has remained fundamental to Sandwatch, the Sandwatch International Database and soon to be available



Telling people about Sandwatch and how to get involved has led to Sandwatch becoming a global activity—share your contacts with the Sandwatch Foundation

Sandwatch training videos are two new tools that enhance how Sandwatch is shared and taught around the world.

We want to know if you would like to receive email updates about activities related to Sandwatch, from the Sandwatcher newsletter, to news about the database or training videos. This is the first comprehensive outreach to all past and present participants of Sandwatch. If you are interested in contributing to this information gathering, or if you do not wish to receive emails from the Sandwatch Foundation, please send an email to [sandwatchfoundation@gmail.com](mailto:sandwatchfoundation@gmail.com).

On behalf of the Sandwatch Foundation we want to thank every-

one who has ever participated in Sandwatch, whether you are still doing activities or not. We also want to thank anyone who has shared information about Sandwatch with their colleagues. One of the best ways that Sandwatch stays active is through word of mouth and without that we would not be where we are today.

So send us an email to tell us what you are doing at [sandwatchfoundation@gmail.com](mailto:sandwatchfoundation@gmail.com)!



Michelle Verkooy giving a presentation on Sandwatch



A screen shot from the new Sandwatch training videos

## Sandwatch in New Zealand



Our school team of 'Nature Nurturers' have been busily spreading the good news among students and the community, that we are committed to being a clean, green school. Sustainability is one of our main goals and with our worm farm, gardens, solar panel heated pool, butterfly garden, paper recycling and orchard, we are well on the way to achieving the dream. Mrs Anna Lee Dewes the teacher in charge of this group had this to say, "It is wonderful how all of the students are getting involved in each project."

As part of this great programme the school is now looking to build a "green wall". An area has been identified (see picture) and the project is in the planning stages. A local master gardener and parent, Mr Logan Gilmour, recently approached the school to see if they would be interested in creating this wonderful living sculpture. It is an opportunity for both community and school to build a sustainable garden on a vertical plane from recyclable materials.



The planned space for the Nature Nurturers Green Wall

**Robyn Bennett, Stanmore School, New Zealand**

## Sandwatchers around the world!

*Sandwatch is a truly global project with schools in more than 40 countries participating*



Sandwatchers in Abaco, The Bahamas help to replant their sand dunes damaged by storms



Sandwatch students and teachers in Aceh, Indonesia



Cuba is all set to reinvigorate Sandwatch across the island



Sandwatch students in the Cape Verde Islands take water samples to test for contaminants

"The Flagship UNESCO Sandwatch Project is an excellent example of what can be achieved...Sandwatch provides a framework for school children and local communities to work together to critically evaluate the problems facing their beach environments and develop sustainable management solutions. Since its launch in the Caribbean in 2001 which I myself attended, while visiting several islands of the region, Sandwatch has expanded to the Pacific and Indian Oceans, and is now active in around forty nations worldwide, including about 20 SIDS (Small Island Developing States)"

- Excerpt from The Opening Address by Mr Koïchiro Matsuura, Director-General of UNESCO, on the occasion of the International Seminar on Climate Change Education - UNESCO, 27 July 2009, Paris.



Sandwatchers in The Gambia enlist support from local businesses



The roads, reefs and beaches of Palau, North Pacific were damaged by a recent typhoon



Sandwatchers in the Turks and Caicos planted trees to replace those damaged by erosion.



Grade 4 Sandwatchers in St. Croix, USVI have created a sea turtle display



Sandwatchers in Barbados sorting trash for recyclables



Sandwatchers in The Gambia conduct measurements on their local beach



Educators from around the Cape Verde Islands attend a Sandwatch Training Workshop