

# BOBLME Newsletter

Bay of Bengal Large Marine Ecosystem Project



DECEMBER 2012

Bangladesh, India, Indonesia, Malaysia, the Maldives, Myanmar, Sri Lanka and Thailand are collaborating through the Bay of Bengal Large Marine Ecosystem (BOBLME) Project to better the lives of their coastal populations by improving regional management of the Bay of Bengal environment and its fisheries.



Bangladesh



India



Indonesia



Malaysia



Maldives



Myanmar



Sri Lanka



Thailand

## THE NEXT STEPS

With the BOBLME Project Transboundary Diagnostic Analysis (TDA) now complete, the Chair of the Project Steering Committee, Ajith Silva, the Director (Policy and Planning) of Sri Lanka's Ministry of Environment and Natural Resources, reviews progress and looks at what comes next.

The BOBLME TDA, which identified and quantified water-related environmental issues and problems in the Bay of Bengal was originally produced by national teams and regional experts some seven years ago.

This was updated and made available for national consultations in November 2010.

In Sri Lanka as elsewhere, we undertook an extensive two-tier consultation process with the participation of a wide range of stakeholders. Under the consultation process, seven targeted stakeholder consultation workshops were held in coastal districts from May to July, 2011, after which selected government agencies, departments, academic institutions, professional bodies and individuals were invited to make written submissions in response to a consultation paper.

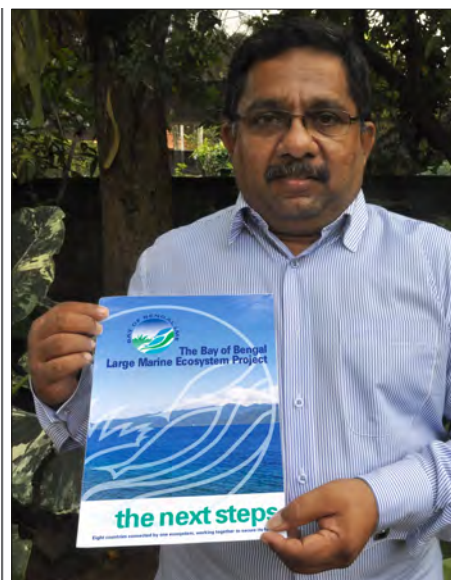
The objective of the Stakeholder con-

sultation was to review and validate the information of the draft TDA for Sri Lanka.

In this process, stakeholders participated by reviewing, challenging or verifying the information in the TDA; by noting errors and points that might need verification, and recommending deletions or additions; by assessing the information and conclusions from a transboundary perspective; and deciding whether, on balance, the TDA was an appropriate basis for the development of the Strategic Action Programme (SAP).

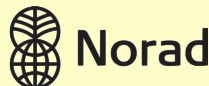
We in Sri Lanka are now looking forward to preparing our National Action Plans that will identify exactly what activities Sri Lanka will undertake as part of the SAP.

I am sure that the full will of the government can be obtained to implement the salient activities of the SAP. And as Chair of the PSC, I am looking forward to being part of the regional effort involving all eight countries to finalise the SAP and begin its



**Ajith Silva with one of BOBLME's new publications. For details see page 4.**

programme of work to improve the Bay of Bengal marine environment and its fisheries.







*Delegates at the workshop take a break for a group photograph outside the School of Biological Sciences in Penang.*

# Implementation of policies 'the biggest challenge'

There are many good policies in the fields of fisheries, environment and coastal management, but some are not well implemented.

This was one of the statements captured during the recent Regional Workshop in Penang on Policy Directions in Fisheries, Coastal and Marine Environment and ICM in the Bay of Bengal Large Marine Ecosystem (BOBLME) Countries.

More than 30 delegates from government fisheries and environment agencies from eight countries, joined by national and regional experts from policy institutions, universities and NGOs, came together to discuss marine fisheries and coastal marine environment management policies as part of a programme of work organized by the BOBLME Project.

In 2011, the BOBLME Project had produced a draft regional analysis of policy processes, content and implementation for capture fisheries and coastal marine environment management; its finalization was the major objective of the workshop.

Initial findings from the report indicated that there is good similarity between the main policies and management in the fisheries sector.

However, while countries can always improve their policy content, greater challenges may lie in implementing policy and in improving policy processes.

The synthesis report was successfully validated and the updated finalized version is now available on the BOBLME website.

The Regional Workshop in Penang came to four conclusions:

The Penang Policy Workshop participants welcome the presentation and discussion of the draft policy review report. As updated and validated through the workshop process, it is now ready to be finalized and is expected to become an informative and reliable resource on policy work in the BOBLME countries.

The BOBLME is recommended to engage in collaborative work with policy resource institutions such as Centre of Policy Research and International Studies (CenPRIS), Universiti Sains Malaysia (USM) and the Maritime Institute of Malaysia (MIMA), as well as other institutions with similar interests to promote information exchange on policies and to develop capacity.

The action items on policy strengthening identified in the Penang Policy

Workshop shall be developed into a work plan for implementation by BOBLME and its partners, to the extent possible, during the current BOBLME Project phase and shall be given due consideration in the implementation of the BOBLME SAP phase.

The workshop participants, after considering options for institutional arrangements for the implementation of the SAP implementation phase of the BOBLME Project, recommend that the process to identify a sustainable arrangement or mechanism for implementation of the BOBLME SAP phase should be given due attention by the BOBLME Project.

They also identified areas of policy needs and gaps, and constraints on policy implementation in the cross-cutting themes of capacity development, knowledge management, and institutional strengthening.

These will now be developed into a programme of work for harmonizing policies and strengthening policy making capacity in the Bay of Bengal region in order to better manage shared fisheries resources and coastal environments.

The workshop was hosted by CenPRIS and the School of Biological Sciences (USM) in Penang, Malaysia.

# Thai scholar examines migrant fishing

Around the Bay of Bengal, there are an estimated 2.2 million fishers working from more than 400,000 fishing boats, and at least 2 million other workers employed in fishing related activities. There are also significant movements of fishing vessels between countries.

Due to concerns of environmental and social justice related to migrant fishers and transboundary fishing, the BOBLME Project commissioned a 'Scoping Study on Migrant Fishers and Transboundary Fishing in the Bay of Bengal' in early 2012.

Transboundary fishing refers to small-scale or commercial fishing vessels that move across national maritime boundaries in order to fish. The report also examines the fate of "migrant fishers" i.e. small-scale fishers who cross borders to fish and "migrant labourers" who also move between countries to work on foreign-owned fishing boats.

The report was written by Alin Kadfak of Thailand, in collaboration with the team of Project IMPAACT (Improving Marine Protected Areas on the Andaman Coast of Thailand under a Climate Change Regime) of the University of Victoria, Canada, a BOBLME partner.

For the scoping study Alin and her team, gathered and analyzed more than 200 related documents and 170 news items. She also conducted interviews with experts in the field, mostly in Thailand and India.

The report describes the dynamics of migrant fishers, and identifies a range of social, economic and environmental factors that influence the flows of migration



**Alin Kadfak in Sweden, where she is now studying for a doctorate at the University of Gothenburg.**

and the working conditions of migrant fishers.

Interviews with experts and reviews of news items confirmed that working conditions of migrant fishers and human trafficking are still major issues, as are the arrests and repatriation of transboundary fishers.

The report also explores national and international governance and management arrangements and instruments that relate to the issues of migrant and transboundary fishing, and gives recommendations for further research and, importantly, makes suggestions to address the issues.

In August 2012, Ms. Alin attended the

International Conference on Fisheries and Marine Sciences in Negombo, Sri Lanka, to present the findings of the report to a wider audience from South and Southeast Asia.

Ms Alin says that before she became involved in this scoping study, she had always been interested in coastal and marine issues. She worked initially as a social worker for a livelihood development project on the Andaman Coast in the aftermath of the 2004 Asian Tsunami, and since then, she says, "I have never lost my passion for learning more about the ocean and for working with those who depend on it".

After graduating with a master's degree in sustainable development from Uppsala University in Sweden, Ms Alin says, she has paid more attention to the interactions between humans and the environment, with the goal of trying to understand the mechanisms behind the use of natural resources and their ultimate impact.

Ms Alin is currently pursuing a doctorate in environmental social science at the University of Gothenburg, in Sweden.

Coastal and marine issues will be the focus of her doctoral studies on marine ecosystem services, risk, and resilience of communities on the west coast of India.

Her work with BOBLME, she says, "was an important stepping stone to starting a PhD in Gothenburg, which is in itself an important stepping stone for returning to work on marine issues with coastal communities in Thailand."

Ms Alin's report can be read or downloaded here.

## New advice on the status of hilsa and mackerel fisheries

The Chair of the BOBLME Regional Fisheries Management Advisory Committee (RFMAC), Sinan Hussain from the Maldives, presented the newly developed BOBLME fisheries status advisories of two key species that form significant fisheries in the BOBLME region – the hilsa (*Tenualosa ilisha*) and the Indian mackerel (*Rastrelliger kanagurta*) to the 32nd Session of the Asia-Pacific Fishery Commission (APFIC) in Vietnam in September.

The Commission noted that the RFMAC advisories for hilsa and Indian mackerel included information on stock status, eco-

system impacts, socio-economics and governance, and agreed that the RFMAC advisory format was a good example of a policy advisory that was framed using the ecosystem approach to fisheries management, and that the format could be used by member countries in their own context.

The Commission also noted that the advisories were useful for communicating broader information to policy-makers, over and above the more typical, less exciting, fishery science messages. The advisories are available from the BOBLME website.





# Workshop sharpens skills

Continuing their joint initiative to improve the abilities of scientists to communicate ideas clearly, the BOBLME Project and Mangroves for the Future (MFF) organised a training workshop in August on "Science Presentation".

Participants were due to present papers at MFF's Regional Mangrove Colloquium in Mamallapuram (near Chennai), India, on August 30 and 31, and the aim of the workshop, held on the two days before the Colloquium, was to sharpen their oral and visual presentations to stakeholders and the broader scientific community.

The workshop attracted 14 participants from eight countries, one each from Myanmar, Bangladesh, Seychelles and Vietnam; two each from Indonesia, India and Pakistan, and four from Sri Lanka.

Unlike the normal BOBLME science presentation trainings that span four days each, the Colloquium workshop was condensed into two days.

Dr Chris O'Brien of the BOBLME Regional Coordination Unit conducted the training with the help of Ms Jana Esteban, the MFF's Regional Knowledge Management Officer.

The first day was divided into short lectures and practical exercises with the ultimate aim of producing a five-minute scientific presentation by the end of the two days.

The participants were asked to make an outline of their paper using a storyboard and to put together a two-minute speech highlighting the need or purpose of their research, the context, the methodology, the results, and the conclusion. Incidentally, the participants soon realised that their two-minute speeches could be used as an abstract for a scientific paper.

Each participant presented his or her speech (each was timed), and then received



**Sukrisijono Sukardjo (left), of Indonesia's Center for Oceanological Research and Development, receives his certificate of completion from Hem Pande.**

constructive feedback from the group.

The interaction among the participants and with mentors and facilitators was very positive and by the second day the familiarity with each other and a growing confidence in presentation skills greatly enhanced the performance of each participant.

On the second day the participants were asked to create a five-minute presentation aided by PowerPoint slides, based on the Colloquium abstract they had created on the first day.

To counteract the variable command of the English language, the wording of the presentations was simplified and focused (no big words were allowed) and by and large the delivery of the talks was proficient and articulate. And the use of PowerPoint was also very good, with participants making good use of hints and tips for

making slides more readable and focused.

At the final practice, six out of the 14 delivered talks came close to five minutes; the rest were clocked at around seven minutes. After each talk participants and facilitators gave feedback to each speaker, in preparation for the Colloquium that was to follow.

At the Colloquium, the presenters that did the training clearly stood out from the other presenters and there was rich praise from the senior officials for the excellent presentations given by the trainees.

At the end of the Colloquium, there was a special ceremony in which each trainee received a Certificate of Completion presented by the Colloquium Guest of Honour Mr Hem Pande, Joint Secretary of the Indian Ministry of Environment and Forests.



## TDA now out in print

THE BOBLME TRANSBOUNDARY DIAGNOSTIC ANALYSIS (TDA), the culmination of more than two years' work in the eight participating countries, is now available in hard copy or downloadable format.

The TDA identifies, quantifies and ranks water-related environmental transboundary issues in the Bay of Bengal and their causes according to the severity of environmental and/or socio-economic impacts. It draws on numerous studies and extensive regional and national consultations with stakeholders.

A "What's Next" brochure has also been released to inform stakeholders about the steps being taken towards the development of the Strategic Action Programme (SAP) that sets out a strategy for the countries to deal collectively with transboundary issues.

The TDA (Executive Summary, Volume 1 and Volume 2) and the What's Next brochure are available in hardcopy on request from the Regional Coordination Unit, or may be read or downloaded here in either flat pdf or flipbook format.

# Always learning new things

Ismail Ishak is BOBLME's National Coordinator for Malaysia. He was born in Butterworth, the town on the Malaysian peninsula that acts as the gateway to the island of Penang.

His higher education was completed in Britain, first with A-levels from the Cambridgeshire College of Arts & Technology, then a BSc in agricultural sciences from the University of Nottingham School of Agriculture, which he completed in 1978.

He returned to Britain 10 years later to study for – and achieve – a master's degree in marine biology at the University of Bangor, which perches above the Menai Straits, a stretch of fast-running water between the Welsh mainland and the island of Anglesey.

The university is within sight of the Menai Bridge, the world's first modern suspension, built in 1826 to designs by the master engineer Thomas Telford.

By that time he was married to Zarina Hamzah and the couple went on to have six children – three boys and three girls, now ranging in age from 15 to 30. They also now have a three-year-old grandson.

On gaining his degree from Nottingham, Mr Ishak's initial aim was to teach animal physiology or biochemistry (his



major at Nottingham) at a local university.

Instead, however, he was offered a post in the Malaysian Fisheries Research Institute, as a research officer, and has stayed in the field ever since and is now Coordinator of International Affairs at the Institute.

This is a role that admirably suits him

for working with the multinational crew involved in the BOBLME Project.

Mr Ishak says that the two things he most enjoys about working at the Institute are "problem solving in research and human resource management".

He is proudest of the fact that he was selected to coordinate projects for the Department of Fisheries, including Asean-Canada Cooperative Programmes in the 1980s and 1990s and, currently, the BOBLME Project.

Earlier on, in the late 1980s, he also spearheaded research at the Institute into shellfish depuration.

He acknowledges that the BOBLME Project is hugely ambitious. "It's no easy task managing a multi-national project like this."

The project has a way to go, he believes, before it can be declared an unqualified success. "It is somewhat successful in promoting awareness of current thinking on managing a sustainable marine environment viz-a-viz environmental approach to fisheries and aquaculture," he says.

That said, however, he very much enjoys working with BOBLME, especially the people networking. "And I am always learning new things," he says.

## Time for more MORFORMs

The BOBLME National Coordinator in India, Dr Vijayakumaran, who is also the Director-General of the Fisheries Survey of India, pulled off a major coup in September when he got 15 of India's premier marine agencies in one room for two days.

The aim was to tease out some of the common issues haunting the agencies and to formulate strategies for achieving greater cooperation and synergy.

Dr Vijay's Mainstreaming Ocean Research for Ocean & Resource Management (MORFORM) meeting, held under the national banner of the BOBLME Project, was the first of its kind in India to bring the institutions engaged in research and generating data on various aspects of oceans under one umbrella in order to evolve suitable strategies and policies for mainstreaming their research outputs towards addressing the challenges of ocean and resource management in general, and



BOBLME in particular.

The BOBLME Regional Coordinator, Dr Chris O'Brien, also attended the meeting and was greatly impressed by the wide range of agencies represented and their willingness to discuss ways of improving collaboration.

"There were more acronyms in the air than one could have formed from the alphabet soup we had for lunch. There

were also several agencies I had not heard of before and, impressively, there was a clear desire to break down the silos and increase inter-agency collaboration.

"I think Dr Vijay has shown considerable vision and leadership to convene this meeting and I hope that it becomes a regular event in India – and that similar meetings can be held in the other BOBLME countries."



# Buoy makers join best practices WS

**T**he BOBLME Project co-sponsored the workshop on Best Practices for Instruments and Methods of Ocean Observation held in Chennai, India in November.

The workshop was organised by the National Institute of Ocean Technology (NIOT), India, together with the Bay of Bengal Programme-Inter Governmental Organisation (BOBP-IGO) with back-up support from the World Meteorological Organisation (WMO) and the Indian Ocean Commission's Data Buoy Cooperation Panel (DBCP).

It was aimed at building capacity of scientists, researchers, engineers and

managers on best practices for calibration and testing of instruments for ocean observation systems.

Officers and scientists from India, Indonesia, Sri Lanka, Pakistan, Myanmar, Malaysia, Kenya, Oman, Bangladesh and Thailand participated.

Key to the success of the workshop was the participation of representatives of 23 companies from the world over that make ocean observation equipment and systems. The industry was given the lead role of presenting their instruments, systems and calibration methods.

After the initial presentations by the research institutions and country representat-

ives, the private industry made presentations in a series of technical sessions of meteorological and coastal observations, ocean observation, satellite communication and ocean data collection.

This was a unique opportunity for the researchers, officers and managers to understand the latest developments in instrumentation and in the industry, and to discuss their specific requirements and learn about possible options.

For the industry it was an opportunity to understand the needs of the users.

A manual was produced covering all presentations in detail. This is available on the BOBLME website.



*The new buoy will be deployed in the centre of the Bay of Bengal in 2013, part of the RAMA array. (Photo: NOAA)*

## Yes! It's a buoy!

Surely there is no better way to contribute the BOBLME objective of Improving Understanding of Large-scale Processes and Dynamics affecting the BOBLME – a historically data-sparse region of the Indian Ocean, than by supporting the collection of new oceanographic data.

The BOBLME Project is supporting a

major upgrade of the buoy site located in the centre of the Bay of Bengal, part of the Research Moored Array for African-Asian-Australian Monsoon Analysis and Prediction (RAMA).

The buoy will hold five biogeochemical sensors to measure CO<sub>2</sub>, pH, conductivity and temperature, chlorophyll, and turbidity and dissolved oxygen.

The NOAA Pacific Marine Environmental Laboratory (PMEL) is also on board and will calibrate and assemble the equipment, and make necessary mooring modifications.

The equipment will then be transferred to the campus of the National Institute of Ocean Technology (NIOT), Chennai, for deployment in 2013.

# BOBLME backs oceanography course for young scientists

**B**OBLME collaborated recently in a second capacity-building exercise with the UNESCO-IOC Sub-Commission for the Western Pacific (WESTPAC).

The course aimed to educate young scientists in understanding the ocean's role in the monsoon system, air-sea interaction, and relevant large-scale oceanographic and ecological process affecting the marine life resources.

Thirty one trainees from China, Bangladesh, India, Indonesia, Malaysia, Maldives, Myanmar, Sri Lanka, and Thailand joined the training session in Qingdao, China, from August 6 to 10. BOBLME funded the trainees from countries in the Bay of Bengal.

The course – part of an overall project dubbed the Monsoon Onset Monitoring and its Social & Ecosystem Impact (MOMSEI) – was designed with consideration of the significant role of the Asia Monsoon in the agriculture and the livelihood of people in Southeast Asia and its neighboring countries, including those bordering the Bay of Bengal region.

The monsoon brings seasonal rainfall over Asian. When it deviates from its normal pattern, especially with early or late onset, it causes flooding or drought, disrupting agricultural operation, and sometimes displacing inhabitants.

Studies such as the MOMSEI initiative are of key interest to the BOBLME Project, with its stated aim of “bettering the lives of their coastal populations by improving regional management of the Bay of Bengal environment and its fisheries”.

This is the second time BOBLME has funded nominated scientists from BOBLME countries to participate in the MOM-



**The young scientists tour the buoy workshop of China's First Institute of Oceanography, State Oceanic Administration, China. Photo courtesy of IOC/WestPac.**

SEI Summer School.

Trainees were also sent to the second MOMSEI Summer School in Phuket in July 2011 which was hosted by the Phuket Marine Biological Center.

The experience of jointly promoting the capacity for marine science and observations in the region laid down a sound basis for MOMSEI and BOBLME to explore more possibility of collaboration.

MOMSEI expects to expand the scope of cooperation with BOBLME in the near future in sharing of the cruise opportunity, data, instruments, and expertise.

In November, the first monsoon monitoring buoy, called *Bai Long* (White Dragon), built and provided by the First Institute of Oceanography of China (FIO), was deployed 350 km west of the Thai port of Ranong in the Andaman Sea, about midway between Ranong and the Anda-

man & Nicobar Islands.

The buoy was released from the research vessel of the Southeast Asian Fisheries Development Center (SEAFDEC) during a cruise by scientists from the Phuket Marine Biological Center, Thailand, and the FIO.

The buoy measures the sea surface meteorological parameters (air temperature, pressure, wind, relative humidity, longwave and shortwave radiation), as well as the ocean profiles of water temperature, salinity down to a depth of 700 metres.

All the data is collected every 10 minutes and is transmitted via the Iridium satellite at an interval of three hours.

It is believed the data will be of great importance to the seasonal monsoon outlook, monsoon-related disaster prevention and mitigation, and coral bleaching risk assessment.

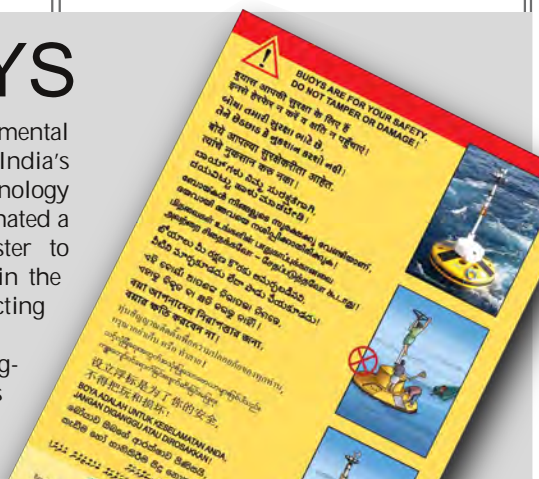
## PROTECTING OUR BUOYS

IN RESPONSE TO A MAJOR CONCERN expressed by the UN General Assembly, regional fisheries management organizations and oceanographic researchers – about damage to ocean observation buoys from vandalism and mishandling, the Food and Agriculture Organisation, the Intergovernmental Oceanographic Commission and the World Meteorological Organization have been working to develop measures to protect them.

As a concrete step, BOBLME, the Bay of

Bengal Programme - Inter Governmental Organisation (BOBP-IGO) and India's National Institute of Ocean Technology (NIOT) have produced and disseminated a multilingual hand-out and a poster to generate awareness among fishers in the Bay of Bengal about protecting observation buoys.

The posters are worded in 16 languages, including nine from India, as well as those of the other seven BOBLME countries.







**Fish market on the beach of Senegal's capital, Dakar.**  
*Photo: CCLME*

## BOBLME, CCLME: Now we're twins!

**L**ME projects are encouraged to “twin” in order to exchange lessons learned and best practices – this is an opportunity provided by IW: LEARN, the GEF’s International Waters Learning Exchange and Resource Network.

The BOBLME and Canary Current LME (CCLME) Projects “twinning” in November in Dakar, Senegal, when the BOBLME MPA Working Group Member from Indonesia and the BOBLME CTA joined their West African colleagues and counterparts of the CCLME Project for the Regional Workshop on ‘Implementation of the FAO Technical Guidelines on MPAs and Fisheries; and Planning of the Activities of CCLME Demonstration Project on MPAs’.

The workshop was attended by government representatives from Senegal, Gambia, Guinea, Guinea Bissau and Mauritania, as well as from regional environmental and fisheries organisations, NGOs, and the FAO.

BOBLME was there to share the experience of its ‘MPA guideline familiarization’ workshop which was held earlier in the year, as well as its on-going preparation of MPA policy briefs and implementation of its MPA pilot projects.

Participants also learned about the approaches being taken by Indonesia to achieve its ambitious MPA targets, including initial results from the assessment of management effectiveness using score cards and colour-codes.

Of particular interest to the BOBLME is the regional approach being taken by the CCLME to establish its MPA Working Group and to select MPA pilot sites, as well as the on-going discussion of the role of co-management in MPA establishment and participatory evaluation systems for MPAs.

The BOBLME Chief Technical Advisor, Dr Rudolf Hermes, was impressed. “This exercise was a great opportunity for both BOBLME and CCLME to interact on common issues,” he said. “As a matter of fact, we are now discussing future twinning events with the Yellow Sea LME and Agulhas Somali Current LME on oceanography and ecosystem health.”

## DIARY

### January 2013

- 6 25th Conference on Climate Variability and Change, Austin, Texas, USA.
- 7 IPWE2013 International Perspective on Water Resources and the Environment, Izmir, Turkey.
- 8 International Congress on Natural Sciences and Engineering (ICNSE 2013) Taipei, Taiwan.
- 20 2nd Water Research Conference, International Water Association, Singapore.
- 29 Sub-regional Conference on Promoting Innovations in Wastewater Management in Asia and the Pacific, Manila, Philippines.
- 22 ASEAN-SEAFDEC Regional Consultation on Common/Coordinated Position of the Commercially-exploited Species at CITES-CoP16, Bangkok, Thailand.
- 25 Bangkok International Conference on Biological Engineering & Natural Science (BENS'2013), Bangkok, Thailand.
- 25 North Pacific Regional Workshop to Facilitate the Description of Ecologically or Biologically Significant Marine Areas (EBSAs), Moscow, Russia.
- 27 1st International Conference on Bioenergy, Environment and Sustainable Technologies, Tiruvannamalai, India.
- 28 Integrated Marine Biogeochemistry and Ecosystem Research (IMBER) IMBIZO III, Goa, India.

### February 2013

- 2 33rd Annual Symposium on Sea Turtle Biology and Conservation, Baltimore, USA.
- 11 2nd Climate Impacts on Oceanic Top Predators (CLIOTOP) Symposium, Noumea, New Caledonia.
- 19 Second Signatory States Meeting of the Dugong MoU, Manila, Philippines.
- 24 2nd International Conference on Climate Change and Humanity – ICCCH 2013 Rome, Italy.
- 25 6th Global Earth Observation System of Systems (GEOSS) Asia-Pacific Symposium, Ahmedabad, India.
- 26 Innovations in Water Policy – Theory, Practice and Impacts, Singapore.
- 26/27 BOBLME National Coordinators Project planning meeting, Phuket, Thailand.

### March 2013

- 3 16th meeting of the Conference of the Parties (COP 16) to the Convention in International Trade in Endangered Species of Wild Fauna and Flora (CITES), Bangkok, Thailand.
- 5 International Research Conference on Environmental Issues and Waste Management (IRCEIWM), Bangkok, Thailand.
- 14 International Conference on Global Scenario in Environment & Energy, Bhopal, India.
- 16 2nd International Conference on Informatics, Environment, Energy and Applications (IEEA 2013), Bali, Indonesia.
- 18 Association for Tropical Biology & Conservation, Asia Pacific Chapter, Banda Aceh, Indonesia.
- 19 International Seminar on Marine Science & Aquaculture, Kota Kinabalu, Malaysia.
- 20/21 BOBLME Project Steering Committee meeting, Chennai India.
- 22 World Water Day.

This newsletter was compiled and designed by Alasdair Forbes and Forbes Communications in conjunction with the Regional Coordination Unit of the BOBLME Project, Phuket, Thailand. For further information please visit our website at [www.boblme.org](http://www.boblme.org).