

PIMRIS

Pacific Islands
Marine Resources
Information System



NEWSLETTER

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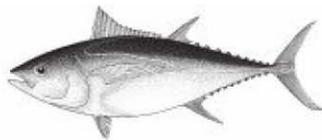
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Editorial



Ho! Ho! Ho! It is time to celebrate another successful year! Our journey has been rewarding although tough at times for all involved. We lost members and welcomed new ones. We acknowledge continued support and contributions of all our partners and stakeholders in the region and abroad. Fa'afetai lava!

For this last issue of the year, we again share highlights and achievements of this final quarter from around the region.

The fisheries divisions in Samoa and Tonga were part of their national Annual Agricultural Shows which featured colourful displays of produce, marine life and livestock (p.10). The plight of mangroves around Fiji's capital Suva and the threat imposed by new developments and settlements were highlighted recently by the Fiji media (pp.3-4, pp.11-12). The Secretariat of the Pacific Community (SPC) held regional meetings and training that promote the importance of conserving oceanic resources (p.5) and on the issue of climate change adaptation in aquaculture (p.7). We congratulate Palau for winning the 'Future Policy Award 2012' (p.9) and again share the usual updates from lower campus library in Suva.

This year we bid farewell to two of our staff who have been transferred to the USP main library as part of its annual staff rotation programme (p.2). Their replacements will be welcomed in 2013.

Have a very Merry Christmas and a prosperous and safe New Year!

Susana Macanawai, PIMRIS Coordinator

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*Season's Greetings
and best wishes for
the New Year*



*From the Team at Lower Campus
Library (PIMRIS), Suva, Fiji.*

Directory

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New Faces, New Places

Farewell Marty!

Marty Williams was farewelled by the USP library staff with a tea party on 19 October, after a year and three months with Reader Services. Marty joined USP library in July 2011 and was instrumental in setting up library guides



Marty Williams

and also actively involved as a member of the 2012 USP Open Day committee.

He will be remembered for becoming a local in no time, getting comfortable in a 'sulu vakataga' and bula shirt for work, his passion for the surf and for organizing library social events. Vinaka & Moce Marty!

Vinaka and All the Best!



Jainul Ali

Jainul Ali (Library Assistant) has been working at Lower Campus library (PIMRIS) for four years and will be relocated to OSIC (Oceania Sports Information Centre) from February 2013.

Jain has served the unit well under two separate coordinators and contributed significantly to the achievements and activities of PIMRIS and lower campus library since 2009. Thanks Jain!



Reshika Narayan

Reshika Narayan's (Part-time Junior Library Assistant) term with the team at lower campus library ended in December. She joined PIMRIS at the beginning of this year and was responsible for the main service desk. She

contributed well to all library tasks and activities including new challenges. Part-time Junior Library Assistants at USP are contracted annually and this is Reshika's second year with USP library.

Not just a smelly swamp



(Photo credit: WWF-South Pacific)

No one feels the importance of mangrove swamps like those that depend on it for their daily sustenance.

Meri Baleisawana knows only too well that if mangrove plants fringing her village home in Sasake, in the Bua province, were destroyed, life would indeed become extraordinarily tougher for her family.

She said, 'na neitou bula saraga na veidogo!' (Mangrove swamps are our life link).

As a mud or mangrove crab (*Scylla serrata*) connoisseur, the 28 year old mother of two spends most days catching the wiry crustacean which she later sells at the Labasa market.

Early mornings when the tide is high, Baleisawana and other village women like her mother Meri Masiyalewa, 45, head off to the swamp to lay out their nets. Some hours later the water retreats and trapped in the net, bounties of the swamp, both fish and crab alike, soon make it into the women's noke or fishing baskets.

If the catch isn't good, the women spread out and patiently trudge through the swamp, searching out the mud crab or move deeper into the water to fish or get other seafood.

Every mangrove tree speaks a special message, telling the women that they are headed in the right direction, just a few steps away from a crab tunnel, closer to the water's edge or inland, off the crab track or seriously lost.

"I know the trees well for just looking at a particular mangrove tree I can tell where exactly I am and how far away I am from the village," she said.

The swamp is a world of its own, the silence giving way every now and then to the splashes of the mud skippers.

"It's always quiet and peaceful in the swamp; it's just you and the mangrove trees. When I come upon a tree I know to have a crab tunnel at its base, I stop and sink my hand into the crab home. No crab home then I know the next tree I can find crab at," she said.

"Or if I don't recognise the mangrove trees I know that I have drifted far from the usual fishing ground and I start calling out to the women and their voices guide me back to the group."

Sometimes Baleisawana goes alone.

There is a huge demand for mud crabs at the Labasa market with customers expectantly waiting for the women from Sasake to arrive. A good sized crab fetches \$25 and in a good crab marketing day, her income exceeds \$100. It's good money that help pay for her children's daily and educational needs and enough to purchase staples like milk. Fish caught from the swamps usually makes up the family meal.

(con't next page)

It is a timeless tradition practiced for decades by the women of Sasake, skills passed from mother to daughter in an eternal rhythm, which could only be interrupted by the destruction of mangrove trees.

Strong domestic demand for the mud crab continues to afford Baleisawana with an opportunity to make an income from the swamp, as it has since the days of her ancestors.

As a vibrant nursery, the swamps support fish abundance at the reefs and beyond where the men fish for commercial purposes.



(Photo credit: WWF South Pacific)

She fears the day that could all end. “Da raica ena gauna oqo ni sa levu saraga na musu dogo ena kena caka na veivakatorocaketaki,” she said. (These days we see a lot of mangroves being harvested to make way for developments.)

“Au sega ni vinakata me yaco e Sasake ia eda sa kila na toso ni gauna kei na kena torovi keda voleka tikoga mai na veivakatorocaketaki (I don’t want that to happen at Sasake but I know that with the passing of time developments creep even closer). Sega ni macala era na vakaitavi na luvequ ena caka na qari se na qoli (I don’t know if my children or grandchildren will be able to catch mud crabs or fish).”

Mangrove swamps in the Macuata province are a natural resource that the Natural Resource Management Strategy for the province seeks to protect, because it supports the food security of thousands of families.



(Photo credit: WWF South Pacific)

The strategy which is being jointly constructed by WWF South Pacific, the Macuata Provincial Council and natural resource stakeholders, is aimed at ensuring that developments occur in a sustainable manner.

Incorporating the strategy into the corporate plan of the council ensures its implementation by a committee that’s partly made up of resource owners.

There are plans to replicate the strategy in other provinces.

For many of us, driving past stretches of mangroves trees may feel like an indistinguishable blur, one tree the exact twin of the next.

Not to Baleisawana, who views mangrove patches as a vibrant world teeming with life and not just a smelly swamp.

Theresa Fox
WWF South Pacific

Conservation is key to maximising benefits from oceanic resources



(Photo credit: SPC)

The western and central Pacific tuna fishery is the world's biggest tuna fishery, worth USD 5.5 billion in 2011. However, urgent conservation efforts are required if Pacific Island countries and territories (PICTs) are to enjoy the benefits of this valuable renewable resource in years to come, says Mr Mike Batty, Director of SPC's Fisheries, Aquaculture and Marine Ecosystems (FAME) Division.

Mr Batty made the comments at the annual meeting of the Secretariat of the Pacific Community's governing body held in Noumea last week, where the region's valuable oceanic tuna fishery was one of the many topics of discussion.

'We must not over-exploit our tuna resource, as has happened elsewhere. Bigeye tuna is currently subject to overfishing and other stocks are at historically low levels,' he told regional delegates.

SPC's Oceanic Fisheries Programme provides island countries and territories with scientific information, derived from region-wide stock assessments, bio-economic modeling, improved data collection and biological research. This information supports improved management and decision making on the tuna resource. In addition, the programme focuses on building regional and national capacity in monitoring services to support the management of oceanic fisheries. This includes training fisheries observers, who work onboard fishing vessels to collect data on fishing operations and monitor compliance with management measures.

Fiji's Roving Ambassador, H.E. Litia Mawi, echoed Mr Batty's sentiments at the meeting, saying that the 'effective conservation of our oceanic resources is part of maximising benefits from them in the long run'.

Mr Batty also raised concern about the amount of by-catch and non-target species such as oceanic sharks and whale sharks that are caught along with the tuna. 'There is a substantial decline in populations of oceanic sharks, whilst discarding edible species is seen as wasteful and potentially damaging to resources,' he says.

The discussions also raised the importance of coastal fisheries for food security and rural livelihoods.

'There is a widening gap between resources and the needs of growing populations, and there is limited information on coastal fisheries; it is a poor relation compared to oceanic fisheries, and gets less attention and regulation,' said Mr Batty.

To address this, SPC's Coastal Fisheries Programme builds regional and national capacity by developing sustainable alternatives based on changes in fishing technology, economic appraisal, export facilitation and support for fishers' associations. It also supports aquaculture development.

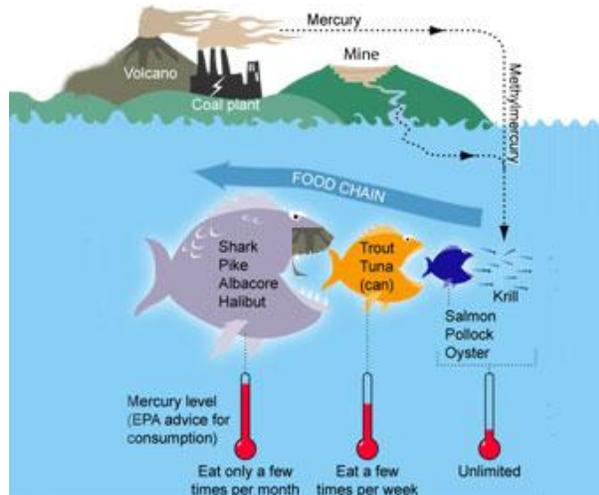
'Fiji wishes to acknowledge the remarkable work carried out in aquaculture by FAME to assist members individually and through subregional frameworks such as the Melanesian Spearhead Group in managing resources, particularly inshore fisheries, as this ensures food security,' said Ms Mawi.

Source: SPC

Mercury safety levels riskier than thought

There is widespread global mercury contamination of seafood and consumers are experiencing health effects from methylmercury below the level that was considered “safe” a few years ago, according to reports by the [Zero Mercury Working Group](#) (ZMWG) in cooperation with the Biodiversity Research Institute (BRI).

“The level of mercury in the Pacific Ocean is projected to increase by 50 per cent by 2050 if current pollution trends continue unabated,” said Richard Gutierrez, executive director of Philippines-based Ban Toxics! “This is a wake-up call for all governments to stem the rising tide of mercury pollution and finalize a strong treaty.”



Some common sources of mercury, the conversion to toxic methylmercury and the EPA consumption recommendations (Photo credit: [groundtruthtrekking.org](#))

The new findings will be presented at the fifth and final round of United Nations (UN) negotiations to establish a legally binding global treaty to reduce the use of mercury and its resulting pollution. The legal text is expected to be completed on 18 January 2013 in Geneva, Switzerland.

“The latest science points to the need for strict reduction measures to address the global mercury crisis,” said Elena Lymberidi-Settimo, co-coordinator of ZMWG at the European Environment Bureau in Belgium.

Although larger predatory fish -- such as swordfish, sharks, marlin and some tuna species -- are often listed in national fish consumption advisories due to higher mercury concentrations, different seafood varieties can differ by at least 100-fold in their average mercury content.

Further, regularly consumed seafood often contains mercury concentrations that commonly exceed “safe” levels, but low-mercury alternatives with high omega-3 benefits -- such as shrimp, cod, haddock, flounder, herring and sardines -- should be highlighted as preferable, according to the reports, *Global News* reports.

Indeed, “[Consumers] should eat mainly types of fish low in mercury and limit your consumption of types of fish with typically higher levels of mercury,” the US Environmental Protection Agency (EPA) recommends.

Additionally, many epidemiological studies demonstrate that eating ordinary amounts of fish can cause an unsafe risk to fetuses and children, suggesting that the current health exposure tolerance levels should be revised.

BRI’s Global Biotic Mercury Synthesis (GBMS) project provides a standardized and comprehensive database that can be used to identify mercury data gaps, describe where further research is needed and evaluate the effectiveness of the upcoming global mercury treaty.

More on: www.fis.com

Prioritising climate change adaptations for fisheries and aquaculture in Fiji

More than 60 stakeholders from the fisheries and aquaculture sector in Fiji attended a workshop in Suva on 'Priority adaptations to climate change for fisheries and aquaculture in Fiji: reducing risks and capitalising on opportunities'.

Inshore fish aggregating devices (FADs) were highlighted as a key adaptation for meeting increased demand for fish by growing populations faced with degrading coral reefs. Freshwater pond aquaculture and Fiji's important freshwater fisheries should also be favoured by climate change.



The workshop, which ran from 12 to 14 December 2012, was a joint initiative

by SPC's FAME Division, Fiji's Ministry of Fisheries & Forests, and Ministry of Foreign Affairs & International Cooperation, AusAID, GIZ (Deutsche Gesellschaft für Internationale Zusammenarbeit) and the Food and Agriculture Organisation of the United Nations.

Participants heard presentations from lead authors of the book published by SPC, 'Vulnerability of Tropical Pacific Fisheries and Aquaculture to Climate Change' (<http://www.spc.int/climate-change/fisheries/assessment/>).

Under the workshop's 'end-to-end' approach, they learnt about the effects of the projected changes to surface climate and the tropical Pacific Ocean on fish habitats and stocks, and the implications of changes to these resources on economic development, food security and livelihoods. Working groups then identified the adaptations most likely to minimise the threats from climate change and maximise the opportunities. Wherever possible, participants also identified 'win-win' adaptations – those that address important factors driving the use of fisheries and aquaculture resources now that will continue to work efficiently, or be favoured by, the changing climate.

There was considerable interest in the projected effects of changes to the ocean on the distribution of skipjack tuna, which is expected to move progressively east. However, the workshop concluded that it would only be possible to advise the Government of Fiji about the likely extent of changes in skipjack abundance within the nation's exclusive economic zone once more detailed modelling was completed.

There was more certainty about the likely effects of climate change on coastal fisheries production. Professor Morgan Pratchett from James Cook University, Australia, explained that catches of fish associated with coral reefs were projected to decline by 20% by 2050 under continued high emissions of greenhouse gases. The main reasons for this expected decline relate to degradation of coral reef habitats due to more frequent coral bleaching caused by higher water temperatures, and the negative effects of ocean acidification on coral growth. This reduction in catch due to climate change would be in addition to any decline caused by overfishing and habitat loss from other causes.

More on: <http://www.spc.int/>

USP Laucala Campus' First Tsunami Drill

The University of the South Pacific's Laucala Campuses held a successful tsunami drill in late October in preparation for disaster. This is the first ever tsunami drill for all three campuses (upper, lower and Satham) and also a test for the second of only two early warning systems installed in Suva. The second warning system is located in Lami.

The drill was conducted mid-day and although the heat was unbearable, staff from lower and Satham campuses made their way orderly through Laucala Bay road and Drew street searching for their designated evacuation site, USP's 10th hall. The climb to the hill was challenging but the effort and experience was worthwhile given the purpose.

The main campus (upper campus) staff and students had their own designated evacuation routes and sites and many stories to share on their experiences and lessons learned from the drill.

We have seen the images of the recent devastating tsunami in Japan and in the event of a real tsunami, we would not be strolling in lines along the main road or even see police directing traffic.



The PIMRIS team upon reaching the hill behind main Laucala campus (Photo credit: Johnson Seeto)



The registration tent along the way to USP's 10th hall. (Photo credit: Jainul Ali)



USP main library staff and some students at one of the evacuation sites. (Photo credit: USP library)



Libby Fong (DUL) with the USP main library group (Photo credit: USP library)

Susana Macanawai

Palau wins 'Future Policy Award 2012'



Koror, Palau.

(Photo credit: www.tripadvisor.com)



Palau's rock islands.

(Photo credit: www.nationalgeographic.com)

The Republic of Palau is the winner of the [Future Policy Award 2012](#). Palau received the Award in recognition of two outstanding marine policies (*Protected Areas Network Act*, initiated in 2003 and the *Shark Haven Act* from 2009). The two Silver Awards went to the Philippines for the *Tubbataha Reefs Natural Park Act* (2010) and to Namibia for its *Marine Resources Act* (2000).

FAO was a member of the international jury which felt the three winning policies contribute most effectively to the sustainable management of the world's oceans and coasts for the benefit of current and future generations.

The winners were announced today at the United Nations Headquarters in New York where Mr Carl Lewis, FAO Goodwill Ambassador, was also on hand.

Palau's Protected Areas Network Act, initiated in 2003

Palau's Protected Areas Network Act establishes the framework for a network of marine and terrestrial protected areas ensuring a long-term sustainable use of natural resources. The Act involves local communities by enabling them to undertake a scientific and social assessment of their local environment and supports traditional systems of natural resource management, which have a long history in Palau. To date, 35 protected areas have been designated, including reefs, lagoons, mangroves and a sardine sanctuary. Some sites permit sustainable harvest of fish and other natural resources, whilst others have been declared no-take zones. Palau seeks to protect 30 per cent of its near-shore marine environment and 20 per cent of its terrestrial environment by 2020.

Palau's Shark Haven Act, 2009

An estimated 73 million sharks are hunted every year and in addition to the loss of these magnificent creatures, diminishing populations have serious ecological effects. Palau has taken a global lead in shark protection by declaring its entire territorial waters a sanctuary for all shark species. Fishing for sharks has been banned and any sharks caught in the nets of other fisheries have to be released unharmed, and there are substantial fines for violators. Palau has also recognised the economic benefits of protecting sharks rather than hunting them: the shark diving industry contributes US\$ 1.2 million in salaries to local communities and generates US\$ 1.5 million in taxes for the government annually. Other countries, including Honduras, the Maldives and the Bahamas have followed the example of Palau and banned shark fishing in their national waters.

(Source: <http://worldfuturecouncil.org>)

News from around the Region

Samoa and Tonga Fisheries Divisions take part in national Agriculture Show

The Royal (Tonga) Agriculture Show



The successful 'Royal Agriculture Show' which included the Fisheries Department in Tonga took place on three different islands. The programme started with the show on Ha'apai Island on the 5 October, followed by Eua Island on the 12 October and ended with a much bigger event on the main island Tongatapu. The main show in the capital was held for 2 days from the 19-20 October.

The guest of honor during all shows was King Tupou VI. Also present during the shows on all locations was the minister for the Ministry of Agriculture & Food, Forests and Fisheries, Hon. Sione Sangster Saulala.



Some fisheries display at the Royal Tonga Agriculture show. (Photo credit: Tonga Fisheries Division)

The Samoa Fisheries Display



The Samoa Agriculture show was held on Friday 19 October 2012 at the Faleata racecourse. The event was opened by the Minister of Agriculture, Forests and Fisheries, Hon. Le Mamea Ropati who commended the farmers and participants for a much improved display of their efforts and produce this year.

Although the show was dominated by agriculture crops and livestock, the Samoa fisheries division also participated with displays of their various breeding programmes including giant clam and seagrapes. There was a lot of information available on various fisheries activities and sustainable practices currently being promoted and implemented around the country.

Top picture: Ulusapeti with seagrapes

Bottom picture: Tuluiga & Maria during the show

(Photo credit: Samoa Fisheries Division)

Landowners reject Draunibota (Lami, Fiji) deal

Landowners of Navakavu have rejected the Pacific Building (Fiji) Solutions' proposal for the development of Draunibota Bay in Lami.

The secretary of the landowners' committee handling the proposal plans by PBS, Taniela Vueta Bani, confirmed they met last Friday.

The meeting was attended by Mr Bani, Navakavu chief Na Rokobaleni Joape Tukitoga, Navakavu development chairman Joape Tukitoga Caginidaveta, and representatives from the seven yavusa — Nasei, Nabaramai, Waitabua, Nakaubeqa, Natodre, Laselase and Natabuivalu — of Navakavu.



Draunibota Bay, Lami. (Photo credit: FBC)

"We refused to go ahead with the negotiation of the proposal after finding out the intention of Pacific Building Solutions to lease 36 acres instead of 3.5 acres which we had initially agreed to," Mr Bani said.

He said the initial agreement was for 3.5 acres only. This was decided by elders who met the representatives of PBS to discuss its intention to lease the 3.5 acres of foreshore at Wailekutu earlier this year.

"Before they met for their first seating to finalise finer details of the lease, the landowners found out a notice of foreshore development had already been published in one of the dailies. It was the leasing of the 36-acre foreshore instead of the 3.5 acres that had already been agreed on," Mr Bani said.



Mangroves in Fiji. (Photo credit: www.coastalcare.org)

Ministry for Lands foreshore officer Thomas Fesau said if the landowners had rejected the proposal from PBS, there was nothing the government could do.

He said the final decision was with the landowners themselves and now they would wait for an official confirmation from them.

"I have written a letter on behalf of the Rokobaleni and heads of the eight mataqali and this has been delivered to the roko of Rewa Province. We are following this channel and they will deliver it to the Ministry of Environment," Mr Bani confirmed.

She said once they got a confirmation from the landowners of their decision, they would then release a statement.



(Photo credit: WWF South Pacific)

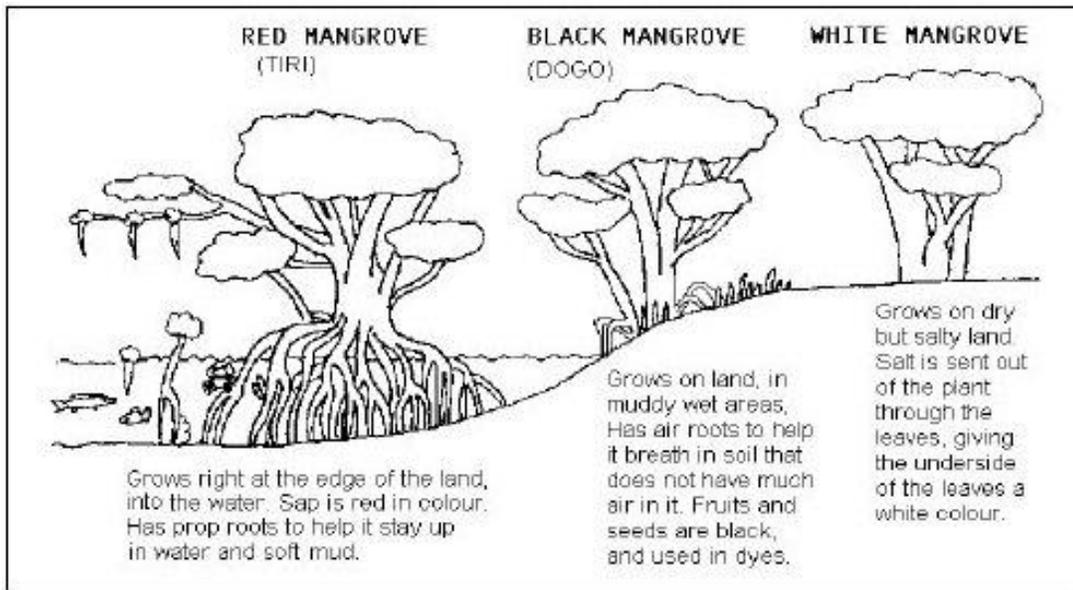
PBS had proposed to subdivide and develop 1.3935 hectares of freehold land at Lot 1, Waibola in Wailekutu, a residential zone, and further lease the foreshore State land that consists of more than 14 hectares of mangrove and shrub land in the Wailekutu flood plain, about 11km from Lami Town.

The proposal is to construct the PBS main headquarters and have access to the foreshore for the purpose of sea transportation using its own barge to load and offload containers and cargoes for heavy civil engineering works.

The development proposal, divided into three phases, proposed stage one to construct a jetty and wharf, a container yard, 10 lots for commercial complex, reclamation of the proposed 4.5 hectares of foreshore and tidal flat for construction of a maritime facility, deepening of immediate mud flat through dredging, sourcing landfill and marine slipway for boat repairs and maintenance.

PBS managing director Michael Fairfax was unavailable for a comment but his personal assistant Ana Coogan-Whippy confirmed they had yet to meet with the Navakavu landowners.

Torika Tokalau
(Fiji Times)



(Source: Mangroves for Fiji (<http://mangrovesforfiji.com/mangroves/mangroves-in-fiji>))

Tonga Fisheries Minister visits the Pacific Islands Forum Fisheries Agency (FFA)



Director-General, James Movick and Tonga Fisheries Minister, Hon. Sangster Saulala during the ministerial visit to the FFA. (Photo credit: FFA)

The Forum Fisheries Agency hosted an official visit on 15-16 November 2012 by the Honourable Sangster Saulala, Minister of Agriculture, Food, Forestry & Fisheries of the Government of the Kingdom of Tonga and the current Chair of Ministerial Forum Fisheries Committee. The Minister's visit to FFA began with an overview of FFA and presentations from the FFA's four divisions (Development, Management, Operations and Corporate Services) and Legal Services.

This was then followed by a tour of the Regional Fisheries Surveillance Centre, the coordinating hub of fisheries monitoring control and surveillance for the region.

As a part of the Fisheries Operations Division synopsis of activities, the recently appointed FFA Director General, James Movick, ceremoniously provided Minister Saulala with a Memorandum of Understanding (MOU) signed between FFA and the Government of Tonga. Under this MOU, Tonga agreed to provide partial fisheries observer services to the US purse-seine tuna fleet operating in the Western and Central Pacific Ocean under the multilateral Treaty on Fisheries between the US and Pacific Island Parties. For these services, the Tongan Division of Fisheries' observer programme was paid US\$77,125 for coordinating 25 observer placements on US-flagged vessels over the next twelve months. Those observer placements will create new employment opportunities for Tongans on board fishing vessels around the Pacific Ocean region.

FFA has supported the current expansion of Tonga's observer programme over the past two years, funding the training of Tongan observers and debriefers as well as funding a Regional Observer Coordinator Workshop hosted by Tonga in February 2012. This MOU is envisaged to provide further support in employing and training of observers as well as developing the national infrastructure needed to support this capacity expansion.

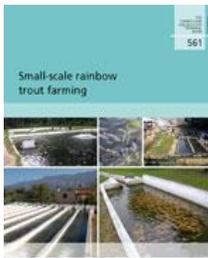
FFA's relationship with Tonga will continue to strengthen this year with further anticipated support to enhance support of the development of the Tongan Division of Fisheries observer programme.

FFA is offering similar support to all of its Members national observer agencies so as to enhance their individual capacity to provide observer coverage to all the tuna fleets in the region.

During the visit Minister Saulala emphasised the importance of the work undertaken by the FFA for the region and thanked the Director General and the FFA for the support and assistance afforded to Tonga. "There is no other way to address our fisheries issues but through continued regional solidarity and cooperation and for that we are all indebted to the FFA for ensuring that our fisheries resource remains healthy into the future" he said.

(Source: FFA)

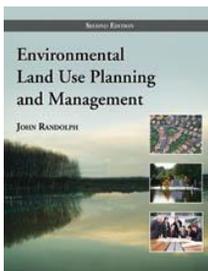
New additions to PIMRIS Library



Small-scale rainbow trout farming by András Woynarovich, György Hoitsy and Thomas Moth-Poulsen. Rome: Food and Agriculture Organisation of the United Nations, c2011. ISBN: 9789251068199.

This technical paper summarizes all the technical information that it is important for the starting and successful practice of small-scale trout production.

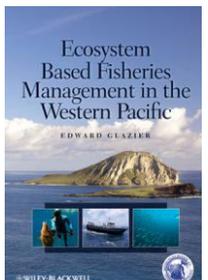
<http://www.fao.org/docrep/015/i2125e/i2125e.pdf>



Environmental land use planning and management by John Randolph. Washington, DC: Island Press, c2012. ISBN: 9781597267304.

This textbook covers issues of land use planning and management and their impacts on the environment. It builds on recent advances in environmental science, engineering and geospatial information technologies to provide students with the scientific foundation they need to understand both natural land system and engineering approaches that can mitigate impacts of land use practices.

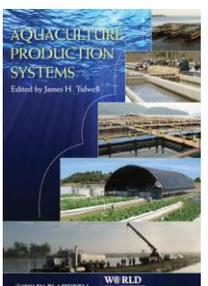
<http://islandpress.org/ip/books/book/islandpress/E/bo3558720.html>



Ecosystem-based fisheries management in the western Pacific edited by Edward Glazier. Chichester, UK: Wiley-Blackwell, c2011. ISBN: 9780813821542.

This book is the outgrowth of a series of three workshops convened by the Western Pacific Regional Fishery Management council. It represents methodologies and modeling systems to aid in switching from target species based management to EBFM (ecosystem-based fisheries management). Contributors include experts from the Pacific regions as well as the UK and non-Pacific states.

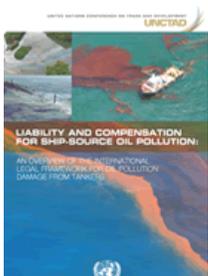
<http://au.wiley.com/WileyCDA/WileyTitle/productCd-0813821541.html>



Aquaculture production systems edited by James Tidwell. Ames, Iowa: Wiley-Blackwell, c2012. ISBN: 9780813801261.

Published with the **World Aquaculture Society**, this book captures the huge diversity of production systems used in the production of shellfish and finfish in one concise volume that allows the reader to better understand how aquaculture depends upon and interacts with its environment.

<http://au.wiley.com/WileyCDA/WileyTitle/productCd-0813801265.html>



Liability and compensation for ship-source oil pollution : an overview of the International Legal Framework for oil pollution damage from tankers by United Nations Conference on Trade and Development. New York: United Nations, c2012.

This report covers historical trends in oil pollution and spills from ships, past attempts at assessing liability and compensation for spills, and current considerations for future policy changes. A supplemental Annex provides analysis of key policy documents, including the 1992 Civil Liability Convention.

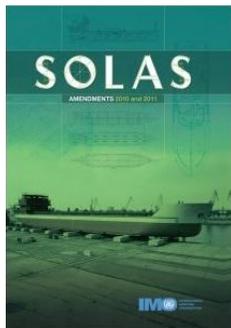
http://unctad.org/en/PublicationsLibrary/dtl/tlb20114_en.pdf



Aquaculture and behavior edited by Felicity Huntingford, Malcolm Jobling and Sunil Kadri. Chichester, UK : Wiley-Blackwell, c2012. ISBN: 9781405130899.

The behaviour of fish under culture situations has long been ignored, despite heavy commercial losses that can result from disease and stress due to bad husbandry techniques. This book summarises the current understanding of the behavioural biology of farmed species and illustrates how this can be applied to improve aquaculture practice.

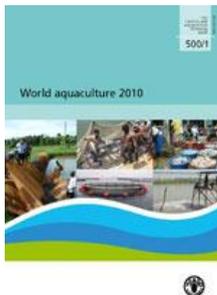
<http://www.wiley-vch.de/publish/dt/books/ISBN978-1-4051-3089-9>



SOLAS Amendments 2010 and 2011. London : International Maritime Organisation, c2011. ISBN: 9789280115420.

This publication contains the amendments to the International Convention for the Safety of Life at Sea (SOLAS) 1974 and to its 1988 Protocol that were adopted by the Maritime Safety Committee (MSC) in 2010 and 2011. These amendments concern ship construction standards for bulk carriers and oil tankers, gas measurement and detection I double-hull and double-bottom spaces, 2010 FTP Code, Life-saving appliances and arrangements, and the automatic identification system (AIS).

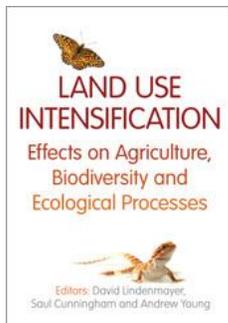
<http://www.imo.org/publications/documents/newsletters%20and%20mailers/mailers/i176e.pdf>



World Aquaculture 2010. Rome : Food and Agriculture Organisation of the United Nations, c2011. ISBN: 9789251069974.

This document provides an overview of global aquaculture status and development trends as a synthesis of such status and trends in six regions of the world: Asia-Pacific, Latin America and the Caribbean, Near East and North Africa, North America and Sub-Saharan Africa.

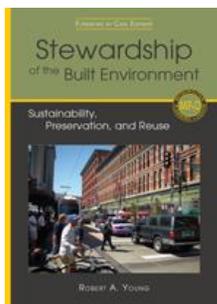
<http://www.fao.org/docrep/014/ba0132e/ba0132e00.htm>



Land use intensification : effects on agriculture, biodiversity and ecological processes edited by David Lindenmayer, Saul Cunningham and Andrew Young. Collingwood, Vic. : CSIRO Publishing, 2012. ISBN: 9780643104075.

There are many different viewpoints about the best way to deal with the myriad issues associated with land use intensification and this book canvasses a number of these from different parts of the tropical and temperate world. Chapters focus on whether science can suggest new and improved approaches to reducing the conflict between productive land use and biodiversity conservation.

<http://www.publish.csiro.au/pid/6808.htm>



Stewardship of the built environment : sustainability, preservation and reuse by Robert A. Young. Washington, DC. : Island Press, c2012. ISBN: 9781610911795.

When we think of green building, we tend to picture new construction. But Robert A. Young argues that the greenest building is often the one that has already been built. In *Stewardship of the Built Environment*, he shows how rehabilitating and reusing existing structures holds untapped potential for achieving sustainable communities. Students and professionals alike will discover the multifaceted benefits of reuse.

<http://www.islandpress.org/ip/books/book/islandpress/S/bo8459616.html>

Conference & Workshop Notices

- 7 – 10 Jan. 2013 2013 Symposium – **‘Climate variability and change on marine resources and fisheries: Toward a South Pacific Integrated Ecosystem Studies Program (SPICES)’**, Concepción, Chile.
Website: <http://www.inpesca.cl/spices/index.php#tab1>
- 28 – 31 Jan. 2013 **‘The future of marine biogeochemistry, ecosystems and societies: Multi-dimensional approaches to the challenges of global change in continental margins and open ocean systems’**, Goa, India.
Website: <https://www.confmanager.com/main.cfm?cid=2614>
- 7 – 14 Feb. 2013 **Milkfish Aquaculture Workshop – Vitawa Village, Ra Province.**
SPC/Fiji National workshop. Secretariat of the Pacific Community.
- 13 – 17 Feb. 2013 **12th Regional Observer Coordinators (and trainers) Workshop.**
Convened by SPC and the Pacific Islands Forum Fisheries Agency (FFA) and hosted by the Fisheries Division of Tonga’s Ministry of Agriculture & Food, Forests & Fisheries, Nukualofa, Tonga.
- 20 – 29 Feb. 2013 **Training Workshop on Database Fundamentals** – Secretariat of the Pacific Community, Coastal Fisheries Programme (Regional Workshop), Noumea, New Caledonia.
- 25 Feb.–1 Mar. 2013 Workshop - **‘North Pacific Regional Workshop to Facilitate the Description of Ecologically or Biologically Significant Marine Areas’**, Moscow, Russia.
- 18 – 22 Mar. 2013 Workshop – **‘Harmful algal blooms in a changing world’**, Friday Harbor, WA, U.S.A. Detailed Information: <http://www.pices.int/meetings/event-descriptiondetails/Harmful%20Algal%20Blooms%20in%20a%20Changing%20World%20-%20Workshop%20description.pdf>