



THE ANCHOR

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Message from the Director



Another year at ANCORS is now well advanced - a new cohort of students is settling in and academic staff are busy advancing research and teaching. This year's Masters students come from a remarkable range of countries, including the Seychelles, Italy, Sri Lanka, and the Pacific Islands.

For many of the staff, the start of the year was spent preparing applications for funding, with the rounds for the Australian Research Council schemes now coinciding with the rounds for the Australian Awards Fellowships.

We also had the first of the year's

short courses run in April, with *International Fisheries Management*. Our two most popular courses, *Law of the Sea* and *Maritime Regulation and Enforcement*, will run as usual in late June.

One notable milestone was the graduation of our first cohort of online Graduate Certificate students from East Africa, whose program was supported by the Department of Foreign Affairs and Trade. It should be the first of many graduating students in this type of program, with good enrolments in a number of our new online subjects in 2016.

Finally, ANCORS will run the first of what we intend to be an annual event in Canberra in the last quarter of 2016. A one-day symposium will focus on the range of ocean law and policy issues affecting Australia and the Indo-Pacific. It will be an opportunity to reach out to the many Government agencies with interests in ocean affairs, as well as an opportunity to engage directly with our Canberra-based Fellows. Watch this space for more details.

Underwater Noise and the New Legally Binding Instrument under the United Nations Convention on Law of the Sea

Vast scientific evidence documents the harmful effects of anthropogenic underwater noise pollution in marine areas, including the high seas and deep seabed (also known as areas beyond national jurisdiction or ABNJ).

These research findings, which focus primarily on impacts to a growing list of marine species, provide the basis for an emerging global impetus toward regulating noise to manage its impacts.

This article highlights the importance of sound in the ocean, the sources of underwater noise pollution, and its impacts on marine species.

It then looks at selected examples of the existing international legal and institutional framework, and theorises how noise might be addressed in two of the four elements proposed for the new legally binding instrument under the United Nations Convention on the Law of the Sea (LOS).

Sound and Noise in the Ocean

On land, the ease of the propagation of light in the air allows terrestrial organisms—including humans—to exploit vision as their main sensory mode for finding their way, keeping track of their young,

and making a living.

Light, however, does not propagate so readily through water. Vision is therefore an impractical vital sensory system in aquatic animals.

What does spread easily through seawater is sound. Propagating four times as fast on average through seawater as it does through air, sound's accessibility and capacity to travel rapidly over long distances make it a more practical sensory and communication medium for ocean-dwelling animals.

(Continued on page 2)



Marine mammals use sound as a sensory and communication medium and can be affected by underwater noise.

Photo: Harriet Harden-Davies

“The new UN BBNJ Instrument offers an exciting opportunity to advance the regulation of human-generated noise pollution in the ocean.”

Underwater noise and LOSC continued

Marine species known to exploit sound to navigate, forage, communicate, find habitat, and detect predators include whales, dolphins, porpoises, fish and some marine crabs and corals. Further research is likely to identify more species that use sound.

The Existing International Framework

The current global framework for regulating human-generated underwater noise pollution in ABNJ includes treaties, international institutions and customary international law.

The LOSC provides the overarching legal structure for environmental protection in articles 192-237. These include duties to take measures to prevent, reduce and control pollution (article 194) and to cooperate globally and regionally in protecting the marine environment (articles 197-201). Article 1(4) of LOSC defines pollution of the marine environment as including ‘energy’, which is on point for underwater noise as a form of acoustic energy.

Regarding actions by Parties to other treaties, the Convention on Biological Diversity has adopted a number of decisions on the impacts of underwater noise. It encourages Parties to ‘take appropriate measures’ to mitigate adverse effects on marine biological diversity (Decision XXII/23). The Convention on Migratory Species (CMS) has urged Parties to conduct environmental impact assessments to mitigate the effects of underwater noise

emissions on the marine environment (Resolution 9.19). A sub-agreement of CMS, ACCOBAMS, encourages Parties to address the cumulative effects of noise and to ‘strongly request’ emphasis of the precautionary approach in formulating mitigation measures (Resolution 4.17).

The international institutions that are making some effort toward managing the underwater noise pollution generated by their sectors include the International Maritime Organization for commercial shipping and the International Seabed Authority for deep seabed mining.

Customary international law such as the precautionary approach also plays a significant role; as much remains to be discovered about the impacts of noise, a wide margin for error must be incorporated into management measures to ensure an adequate level of protection.

The LOSC New Instrument and Noise

Through action at the UN, the global community has made the conservation and sustainable use of marine BBNJ an urgent priority. The adoption of UN General Assembly Resolution 69/292 establishes a preparatory committee to make substantive recommendations by the end of 2017 regarding draft text for an international legally binding instrument under LOSC.

Four elements have been proposed for the new agreement: marine genetic resources, area-based

management tools (ABMT), environmental impact assessments (EIA), and capacity-building and technology transfer. Human-generated underwater noise pollution touches all four elements.

For example, ABMTs (e.g., ocean corridors for migratory species) and EIAs should be structured to account for anthropogenic underwater noise, including cumulative impacts from other factors such as ocean acidification and marine debris. EIAs should also include noise modelling where appropriate.

Conclusions

The new UN BBNJ Instrument offers an exciting opportunity to advance the regulation of human-generated noise pollution in the ocean.

As noise in the ocean easily crosses jurisdictional boundaries, effective regulatory tools must be both global in scope and highly cooperative among nations. Marine industrial sectors must also be brought into discussions, as they are major contributors to ABNJ noise impacts.

Effective regulation under the BBNJ Instrument should include: mandated best practices for noise management, obligatory mitigation actions, and a robust application of the precautionary approach in the face of the scientific uncertainty.

-Lora L Nordtvedt Reeve is an ANCORS PhD Student. Portions of this article are excerpted from her other works. A complete listing of citations is available upon request.

ANCORS Well-Represented at UN PrepCom I

ANCORS graduates Dr Carole Durussel and Dr. Filimon Manoni, as well as current PhD students Lora Reeve, Pio Manoa, and Zaki Mubarok Busro recently attended UN PrepCom I in a range of professional roles. Numerous ANCORS members both past and present are actively contributing to this important international process as it develops (see *article below, also written by H.H-D*). In addition to those attending PrepCom I, ANCORS Professor Robin Warner is a leading scholar on areas beyond national jurisdiction (ABNJ) and currently supervises three PhD students on ABNJ topics. - Harriet Harden-Davies is an ANCORS PhD student



ANCORS members past and present attend UN PrepCom I. L to R: Mr. Pio Manoa, Ms. Lora Nordtvedt Reeve, Dr. Carole Durussel, Dr. Filimon Manoni. Photo: C. Durussel

Biodiversity in Areas Beyond National Jurisdiction

Marine areas beyond national jurisdiction (ABNJ) include more than 60% of the global ocean and are rich in marine life. Around the world, countries are increasingly interested in ABNJ resources and concerned about threats to marine life in these vast and remote parts of the ocean. This has spurred nations to take action to address gaps and fragmentation in the international legal framework for ABNJ.

The widespread momentum to take action led to the first meeting of the United Nations Preparatory Committee (PrepCom) in New York, 28 March – 8 April 2016. Formed at the recommendation of the UN General Assembly under UN resolution 69/292, PreCom consists of a series of meetings

between State Parties and civil society organizations with UN Observer status to develop substantive recommendations for the development of a new legally-binding international instrument for marine biodiversity.

This new instrument will focus specifically on the conservation and sustainable use of marine biodiversity in areas beyond national jurisdiction (ABNJ) and will operate as a new agreement under the United Nations Convention on the Law of the Sea.

PrepCom I focused on four key themes: area-based management; marine genetic resources; environmental impact assessments; and capacity development and transfer of marine technology.

Guided by these themes, Parties discussed the potential scope of the new instrument, its guiding principles, and its relationship with other instruments and bodies, among other topics. The meeting also established a procedural roadmap to PrepCom II in late 2016. PrepCom III will be held in 2017, before final recommendations are made to the UN General Assembly.

A number of ANCORS members both past and present attended PrepCom I and have published media pieces on the negotiations:

The Conversation (Harden-Davies, Quirk, Warner): <https://theconversation.com/new-laws-for-the-high-seas-four-key-issues-the-un-talks-need-to-tackle-56298>.

The Jakarta Post (Mubarok and Quirk): www.thejakartapost.com/academia/2016/04/18/indonesia-must-seize-role-in-drafting-rules-for-high-seas.html

“Around the world, countries are increasingly interested in ABNJ resources and concerned about threats to marine life in these vast and remote parts of the ocean.”

ANCORS at the Outer Limits (of the Continental Shelf)

On 28-29 March 2016, ANCORS Director Professor Stuart Kaye, and ANCORS PhD student Leonardo Bernard participated at the International Symposium and Workshop on the Legal Aspects of the Establishment of the Outer Limits of the Continental Shelf, held in Tokyo, Japan.

The event was organized by the Japan Hydrographic Association with the support of the Nippon Foundation to discuss important issues regarding the legal regime of the continental shelf.

Professor Kaye talked about the possibility of using the dispute settlement mechanism under Part XV of the UN Convention on the Law of the Sea to resolve disputes involving the extended continental shelf.

Leo discussed law enforcement issues pertaining to the extended continental shelf.

Dr Phil Symonds, ANCORS Honorary Professorial Fellow, also participated in the event as a moderator and contributor. The Symposium and Workshop was

attended by experts on the continental shelf, including scholars, government officials, and current and former members of the UN Commission on the Limit of the Continental Shelf.

The Symposium marked the conclusion of a series of continental shelf workshops held in Tokyo over the past three years.

- Leonardo Bernard is an ANCORS PhD student



The Symposium group, including Leonardo and Professor Kaye, at Tokyo’s Imperial Garden. Photo: L. Bernard

Contributing to Community-Based Fisheries Management in Kiribati

ANCORS Fellows Dr. Aurélie Delisle and Brooke Campbell were in Kiribati in March as part of ongoing activities for a 3-year ACIAR-funded Community-based Fisheries Management (CBFM) project. This “PacFish” project is a partnership between ANCORS, the Secretariat of the Pacific Community (SPC), WorldFish, and the Government of Kiribati.

The main purpose of this particular trip was to continue preparations for the annual CBFM Stakeholder Meeting, which was held in Tarawa in mid-April, to train local data collectors on how to collect information on gendered dimensions of small-scale coastal fisheries, and to collect this information in one of the project communities. The collected information will contribute to future co-authored publications.



Some of the Kiribati CBFM gender data collection team head up to North Tarawa. L to R: Brooke, Tarateiti, Rutiana, MFMRD Staff, Maiango, Nawaia, Eriatera. Photo: Ben Namakin.

“Climate change was a common thread amongst many of the presentations”

Urban Islands and International Law in Hong Kong

In early March, Ruth Davis, ANCORS Masters Program Coordinator, travelled to Hong Kong University for the 2016 Island Cities and Urban Archipelagos conference.

The interdisciplinary conference attracted researchers from around the globe with an interest in the experiences and challenges of urban communities on islands

and archipelagos.

Climate change was a common thread amongst many of the presentations, including papers addressing the resilience of urban island communities and a screening of Vilsoni Hereniko’s *Moana Lua: The Rising of the Sea*.

Ruth presented a paper entitled “Urban Islands and

International Law: A View from the Sea”. The paper explores the ongoing relationship between islands and the international law of the sea and presents an international law perspective on food and resource security issues for urbanised island communities in the face of climate change.
- Ruth Davis is a PhD student and Lecturer at ANCORS

Interning at the Pacific Island Forum Secretariat

ANCORS PhD Student Genevieve Quirk recently returned from Fiji, where she undertook an internship at the Pacific Island Forum Secretariat (PIFS) Office of the Pacific Ocean Commissioner (OPOC).

The internship was part of her PhD studies on regional oceans governance and focused on the operation of the Framework for a Pacific Oceanscape.

While there, Genevieve joined the Pacific Island Forum Secretariat’s induction for the UN Pacific SIDS Fellows on Oceans and Seas. These Fellows have a one-year posting with the Pacific Island Country missions to the UN in New York, USA.

The experience at the OPOC provided her with many insights into the challenges of coordinating regional positions between multiple agencies in

the Pacific with an oceans governance mandate.

Genevieve returns with a deeper respect for the regional diplomacy undertaken to implement the Framework for a Pacific Oceanscape.

The internship was cut short after she and her toddler safely weathered Cyclone Winston.

- Genevieve Quirk is an ANCORS PhD student

Publication in profile:

Fish, Food Security and Health in Pacific Islands and Territories



Fishing is a daily part of life for many households in Kiribati.
Photo: Quentin Hanich

region, where the major contribution of fisheries to livelihoods, revenue and development is undisputed.

However, a lack of

information exists regarding the contribution of fish consumption to overall nutritional adequacy and health status in PICT populations.

A systematic literature review was undertaken to assess whether increased availability of, and access to, fish improves a) household food security and b) individual nutritional status.

Not surprisingly, the review finds that fishing remains a major contributor to food security in PICTs, through subsistence production and income generation.

However, there is a paucity of research aimed at assessing how

maintaining and/or improving fish consumption benefits the diets and health of Pacific Islanders as they contend with the ongoing nutrition transition.

This transition is characterized by an increasing demand for packaged imported foods, such as canned meats, instant noodles, cereals, rice, and sugar-sweetened beverages, with subsequent decreased consumption of locally-produced plants and animals.

This publication is the result of a UOW Global Challenges collaboration between UOW School of Medicine's Dr Karen Charlton; the School of Health and Society's Dr Joanna Russell; Emma Gorman; ANCORS' Dr Quentin Hanich, Dr Aurélie Delisle, and Brooke Campbell, and ANCORS Honorary Professorial Fellow Johann Bell.

To read more, see the article in bold, below.

Pacific Island countries and territories (PICTs) face what health and nutrition professionals call a 'double burden' of disease.

This double burden means that a high prevalence of household food insecurity and childhood micronutrient deficiencies is occurring at the same time as an increase in adult obesity, diabetes and heart disease.

Around the world, fish and fisheries have been identified as a crucial factor for achieving food security, particularly in less-developed countries. This is especially true in the Pacific Island

“There is a paucity of research aimed at assessing how maintaining and/or improving fish consumption benefits the diets and health of Pacific Islanders”

Selected Recent Publications

Beckman, R and Bernard, L.. 'The Significance of Offshore Geographic Features to Maritime Claims', in Wu Shicun and Zou Keyuan (eds), *Arbitration Concerning the South China Sea: Philippines versus China*, UK: Ashgate, 2016, 185-200.

Charlton, K.E., Russell, J., Gorman, E., Hanich, Q., Delisle, A., Campbell, B. Bell, J. Fish, food security and health in Pacific Island countries and territories: A systematic literature review. *BMC Public Health*, 2016, 16(1): 1-26. Available at <http://bmcpublichealth.biomedcentral.com/articles/10.1186/s12889-016-2953-9>

Kaye, S. and W. Campbell, 'Australia and the Law of the Sea', in D.R. Rothwell and E. Crawford (eds), *International Law in Australia*, Sydney: Thomson Reuters, 2016 (*in press*).

Quirk, G and Hanich, Q. Ocean Diplomacy: The Pacific Island Countries campaign to the UN for an Ocean Sustainable Development Goal. *Asia-Pacific Journal of Ocean Law and Policy* 1, 2016, 67-94 (*in press*).

For more publications or to contact an author, visit the relevant profile page at <http://ancors.uow.edu.au/index.html>

ANCORS Aweigh: Photos From Around the World



Dr. Aurélie Delisle takes a moment to admire Niue's coastal beauty during a recent visit for the UOW Global Challenges "Sustaining Seascapes" seed grant project. Photo: Brooke Campbell.

Professor Rose at UNODC Expert Group Meeting

In February, Faculty of Law Professor and ANCORS affiliate Greg Rose was invited to Vienna, Austria by the United Nations Office on Drugs and Crime (UNODC) and WWF International to participate in an Expert Group Meeting on Fisheries Crime entitled:

"Towards an understanding and definition of Fisheries Crime as a serious transnational organised crime, including the identification of compliance and enforcement tools to address such crime".

The Expert Group Meeting provided a platform for discussion on how the international community can best understand, and respond to,

fisheries crime as a serious and transnational organised crime.

The meeting also provided an opportunity for a multi-disciplinary team of experts to discuss the nature and definition of fisheries crime, with a view to identifying appropriate compliance and enforcement tools. The meeting's considerations are being incorporated into the UNODC work plan.



Members of the UNODC Expert Group Meeting.
Photo: Greg Rose.

Building University Research Links in Germany

Earlier this year, Dr Aurélie Delisle was awarded a University Internationalisation Committee (UIC) International Links scheme grant.

The grant allows Dr Delisle to travel to Germany in June 2016 to explore collaborative research links between ANCORS-UOW and the University of Bremen.

She will present her work on small-scale fisheries governance in Kiribati during a colloquium at the Research Centre for Sustainability Science (ARTEC) and a seminar at the Leibniz Centre for Tropical Marine Ecology.

She will also visit ANCORS Honorary Senior Fellow, Dr Barbara Neumann at Kiel University and ANCORS Alumni Dr. Carole Durussel at Institute for Advanced Sustainability Studies (IASS) in Postdam.

- Aurélie Delisle is an ANCORS Research Fellow

In Profile: Dazhen Zhang



Always up for a challenge, PhD student Dazhen balances her studies with new adventures like learning to dive!
Photo: Harriet Harden-Davies

Miss Dazhen (Daisy) Zhang was born into an intellectual family in Anshan City in the midlands of Liaoning, the northernmost coastal province of China. The ocean is inherently a concern in her family; this has sowed in Dazhen an affection for ocean-related affairs.

Dazhen's family instilled in her a great interest in geography and Chinese culture from a young age. She is a fan of Chinese character handwriting and reading classical Chinese. However, this doesn't mean that she is old-fashioned.

Dazhen is always challenging herself: whether it is skydiving, learning to swim, or pursuing a PhD in an English-speaking country far from home.

Dazhen has a strong legal and academic background: she holds a Bachelor of Laws from Shaanxi Normal University (SNNU) and a Master of Laws by research from Dalian Maritime University (DMU).

Over the course of her four-year undergraduate studies, she was awarded the title of "excellent student" three times due to her outstanding academic record. As a student leader, she organised a variety of student fellowship activities together with the colleagues of SNNU Student Union.

She majored in commercial maritime law for her Masters degree and graduated with an overall distinction and a group highest score from the thesis oral defence.

Always interested and active in legal practice and legal aid, she was a member of the SNNU Legal Society and a volunteer of Students' Legal Aid Centre of DMU. She also won the Runner-up in the First DMU Maritime Arbitration Competition.

An intense two years of graduate studies deepened Dazhen's research skills and developed her passion for ocean issues. During this time, she started to realise that the purpose of research is to tackle more practical issues. For Dazhen, this meant addressing some of the many environmental issues that have arisen as a result of China's rapid economic development.

Focusing on the ocean, Dazhen saw that China's coastal marine environment is in urgent need of protection. As a large coastal State, China has more than 7,000 islands and faces environmental challenges in the areas surrounding these islands. There is much to explore in building up systematic approaches to marine environmental protection in China.

Through a rigid academic evaluation process, Dazhen became the first PhD candidate at ANCORS to hold a scholarship from the China Scholarship Council.

Under the supervision of Professors Warwick Gullet and Robin Warner, she is currently doing her doctoral

thesis on: "**Strengthening the Regulatory Framework for Marine Environmental Protection of Chinese Islands**".

This thesis examines China's existing marine regulatory framework and assesses the incorporation of international principles of environmental law and practical marine management approaches into China's domestic ocean governance.

In the future, Dazhen hopes to work as a scholar with expertise in Chinese marine legal issues, in particular China's marine environmental protection governance frameworks and China's integrated coastal and marine management.

- Dazhen (Daisy) Zhang is an ANCORS PhD student

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We want to hear from you!

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Who We Are

ANCORS is Australia's only multidisciplinary university-based centre dedicated to research, education and training on ocean law, maritime security and natural marine resource management. We also provide authoritative policy development advice and other support services to government agencies in Australia and the wider Indo-Pacific regions, as well as to regional and international organizations and ocean-related industry.

Disclaimer

The views expressed by Newsletter authors are their own and do not necessarily reflect the views of ANCORS or of UOW more broadly.

Announcements, Events, and Celebrations

In early May, ANCORS hosted a delegation of distinguished guests from Bangabandhu Sheikh Mujibur Rahman Maritime University (BSMRMU) in Bangladesh.

Director Professor Stuart Kaye hosted BSMRMU Vice Chancellor Rear Admiral ASM Abdul Baten, BSP, ndc, psc BN; Registrar Commodore Mohammad Abidur Rahman; Addl Director ICT Commander Mohammad Shahedul Islam; and Joint Secretary of the Ministry of Education MD Belayet Hossain Talukder on their visit to ANCORS and UOW.

ANCORS and the UOW Vice Chancellor's Office were also visited in early May by Master of Maritime Policy Alumni Rear Admiral Jagath (JJ) Ranasinghe USP, psc of Sri Lanka, who is now the Vice Chancellor of Kotelawala Defence University.

Dr. Michelle Voyer officially started her Post-Doctorate at ANCORS at the beginning of May. Welcome Michelle!

Johann Bell, Ruth Davis, Quentin Hanich, and Brooke Campbell are all off to Monterey, California in June for a workshop that will develop and publish a series of papers for a Marine Policy Special Edition on small-scale fisheries and change. It is a collaboration between



Rear Admiral Ranasinghe USP, psc.

Photo: www.kdu.au.lk/vice-chancellor/

ANCORS, the Stanford Center for Ocean Solutions, The Nereus Program and other institutions with direct experience in the Pacific Islands region.

Happy birthday to PhD Students Dazhen Zhang (April) and Harriet Harden-Davies (May)!

Remaining Short Course Dates for 2016:

Law of the Sea:

20 -24 June

Maritime Regulation and Enforcement:

27 June - 1 July

International Fisheries Law:

15 -19 August

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