



THE UNIVERSITY OF
**WESTERN
AUSTRALIA**



UWA Albany

**Annual
Report 2022**

The UWA Regional Experience

ACKNOWLEDGEMENT TO COUNTRY

The University of Western Australia acknowledges that campuses are situated on Noongar land and that Noongar people remain the spiritual and cultural custodians of their land and continue to practise their values, languages, beliefs and knowledge.



UWA Albany has provided the Great Southern community with access to higher education and research opportunities since 1999. Over 20 years later, the University offers full undergraduate degrees in Arts, Commerce, Science and supports the first year of most majors. Postgraduate degrees are also offered through the expertise of local research academics.

In 2001 the Centre of Excellence in Natural Resource Management (CENRM) opened. The Centre is a leader in the provision of knowledge necessary to better manage natural resources in Australia and has a vision to solve natural resource management issues.

Renamed since 2020, the Centre for Natural Resource Management (CNRM) focuses on targeted, cost-effective and innovative research and research training, with a view to enhancing the environmental, economic, social and cultural wellbeing of the Great Southern and elsewhere. Research through CNRM is complemented through applied consultancy, education and communication.

The Rural Clinical School of Western Australia (RCSWA) was established in 2002 with the explicit goal of attracting more doctors to regional, rural and remote practice, and the placement of medical students from

UWA, the University of Notre Dame (since 2007) and Curtin University (since 2020) has been coordinated by RCSWA. Students have the opportunity to spend an academic year training in a regional, rural or remote location with the expectation that this experience will increase the likelihood that, after graduation, they will choose to practise in regional areas.

Marine Energy Research Australia (MERA) - formerly the Wave Energy Research Centre- is part of the UWA Oceans Institute and has been headquartered at the UWA Albany Campus since early 2018. An internationally recognised knowledge hub for ocean renewable energy, the Centre has expert research capabilities and ongoing industry engagement in wave, tidal, fixed and floating offshore wind and floating solar energy. The Centre translates UWA's long-standing industry relationships and world-leading ranking in offshore engineering to the renewable energy sector. The Albany headquarters leads all coastal and marine fieldwork activities on the south coast of WA, with a particular focus on the Moodrenup/Sandpatch and King George Sound wave energy development sites but also additional research contracts with local government and State government departments. Headquarters are housed in the Great Southern Marine Research Facility, also a well-known community education destination.

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MOTTO

Seek Wisdom

OUR VISION

UWA will have a vibrant regional campus in Albany, embedded in the Great Southern community, delivering high-quality education, research and services that both reflect the strengths and needs of the Great Southern region and are valued by the rest of the University.

OUR MISSION

The Albany campus is an integral part of UWA, committed to helping the University meet its broader mission while benefiting the Great Southern region through focused education, research and community activities that reflect the richness and diversity of the region.



2022 Highlights

- **In 2022 UWA Albany hosted its inaugural Formal Graduation Ceremony** here in Albany with 10 students graduating and over 130 people in attendance. The ceremony was officiated by Deputy Vice Chancellor for Education, Prof David Sadler on behalf of the Vice Chancellor.
- **The journey from the Smart Start (Enabling Program) through to completion of Honours at UWA Albany** Campus is a journey worth celebrating. Brenda McInnes began her higher education journey in 2013 as a mature age student enrolling in the enabling course, and successfully completing the course with the guidance & support of local tutors Dr Harry Freemantle, Dr Sarah Drummond, and Yann Toussaint. She also benefited from 'her' or 'having a' Uni Mentor in navigating the learning journey & managing study-life balance as a mature age student. In 2014 Brenda began her undergraduate degree as a Bachelor of Arts students – a course she was able to fully complete in Albany. Brenda recalls that a highlight of her degree studies was completing an Arts Practicum at South Coast Natural Resource Management Centre, where she produced a report on 'Noongar Place Names of the Great Southern'. The report was the catalyst for the City of Albany gaining a Lotteries West Grant to pursue dual naming in the region. In 2022 Brenda became the inaugural student to graduate with Honours in History at the Albany Campus via the online delivery mode. Dr Andrea Gaynor supervised the project from Perth, while Dr Harry Freemantle supported and mentored Brenda in Albany.



Brenda McInnes
Albany Bachelor of Arts
(Hons) Graduate

- **The Great Southern Marine Research Facility hosted the Australian component**, entitled Mirnong Maat (Whale Journeys), of an international southern right whale tagging campaign, led by Dr Kate Sprogis, in September. The project is aimed at understanding migratory movements and circumpolar connections among populations and individuals of this endangered species. Academic collaborators were A/Prof Emma Carroll (University of Auckland, NZ), Prof Rob Harcourt (Macquarie University) and Dr Nick Gales (International Whaling Commission).
- **Dr Bronte Van Helden was awarded the Early Career Research Award** for the UWA School of Agriculture and Environment. This award acknowledges her activity in both research and teaching including the publication of 12 peer reviewed papers and the co-supervision of 11 student research projects to completion, and five of these to publication. It also recognises her success in obtaining external grants totaling >\$40,000 to support her PhD research program and >\$450,000 for her current post-doctoral research in urban ecology.

- **Two new major research initiatives funded through the Ian Potter Foundation:**

Dr. Paul Close, in partnership with Murdoch University, was able to secure \$470,000 from the Ian Potter Foundation to investigate the potential value of fire dams as refuge habitat in a dry climate. Creating new fire-fighting water sources that enhance the resilience of biodiversity to climate change is a collaboration led by Murdoch University with numerous community and government partners.

Professor Hopper and Dr Lullfitz commenced work with Noongar Elders Dr Wayne Webb and Lynette Knapp on the Ian Potter Foundation funded project PEAT Protecting peatland ecosystems and addressing threats in southwestern Australia. This project is a collaboration co-led by UWA and Edith Cowan University and also involving the Walpole-Nornalup National Park Association, the Department of Biodiversity, Conservation and Attractions and the Western Australian Museum. The project will run over five years and has a total value of \$4,075,133.



Mirnong Maat (Whale Journeys)
International southern right whale tagging campaign

Learning and teaching

UWA Albany offers a wide range of undergraduate, postgraduate and university entry-pathway courses. The Study In-broad program offers a range of experiences for metropolitan-based students to experience the natural wonders of the Great Southern region firsthand through field sampling units. In 2022, students studied populations of a threatened plant species occurring in the Porongurup National Park, assessed biological indicators of river health in the Kalgan River catchment, and collaborated with Menang Elders and others to co-develop a co-management plan for Mount Melville/ Kardarup.

University preparation program

The UWA Smart Start program continued to offer people living in the Great Southern region an alternative pathway to university entrance.

Feedback from students indicated that UWA Smart Start was valuable in equipping them with the skills required to be successful in their chosen UWA course. The program was run in conjunction with the School of Indigenous Studies.

Undergraduate courses

The Albany Campus is committed to producing industry-ready, well-rounded graduates.

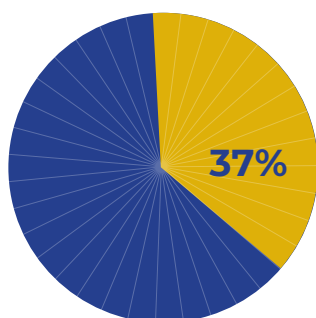
In 2022, the Bachelor of Arts course offered a full degree with a choice of majors in Anthropology and Sociology, English and Cultural Studies, History, and Indigenous Knowledge, History and Heritage as well as Criminology. The Bachelor of Science course offered a full degree with a choice of majors in Conservation Biology, Environmental Science and Marine Biology and students were able to complete a Bachelor of Commerce course with a major in Accounting and Management. A



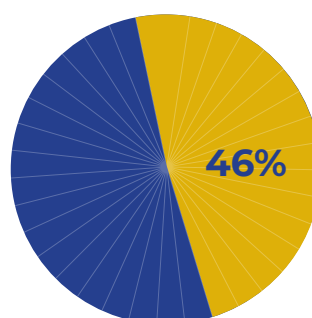
larger range of other majors provided a wide selection for students completing the first year of their Arts, Biomedical Science, Commerce or Science course in Albany. Albany staff continue to contribute projects and supervision, in collaboration with government and industry partners for fourth year Honours research dissertations, with 2 students graduating with Hons.

7 students achieved the highest mark in a unit across the whole university. In semester one, of the 35 undergraduate units that were available to Albany students, 37% of those units had an Albany based student as the overall highest, second highest or third highest achiever. In semester two the result was 46% from the 37 units available.

Semester 1
13 units from a total of 35



Semester 2
17 units from a total of 37



Rural Clinical School of WA (RCSWA)

In 2022, The Rural Clinical School celebrated 20 years of providing healthcare to people living in regional, rural and remote areas of the state.

Twelve medical students in their penultimate year of study and six students in their final year were placed in Albany in 2022. The students undertook clinical education and practical placements throughout Albany, Mount Barker, Denmark and Katanning, including time in general practice, hospitals and community-based placements.

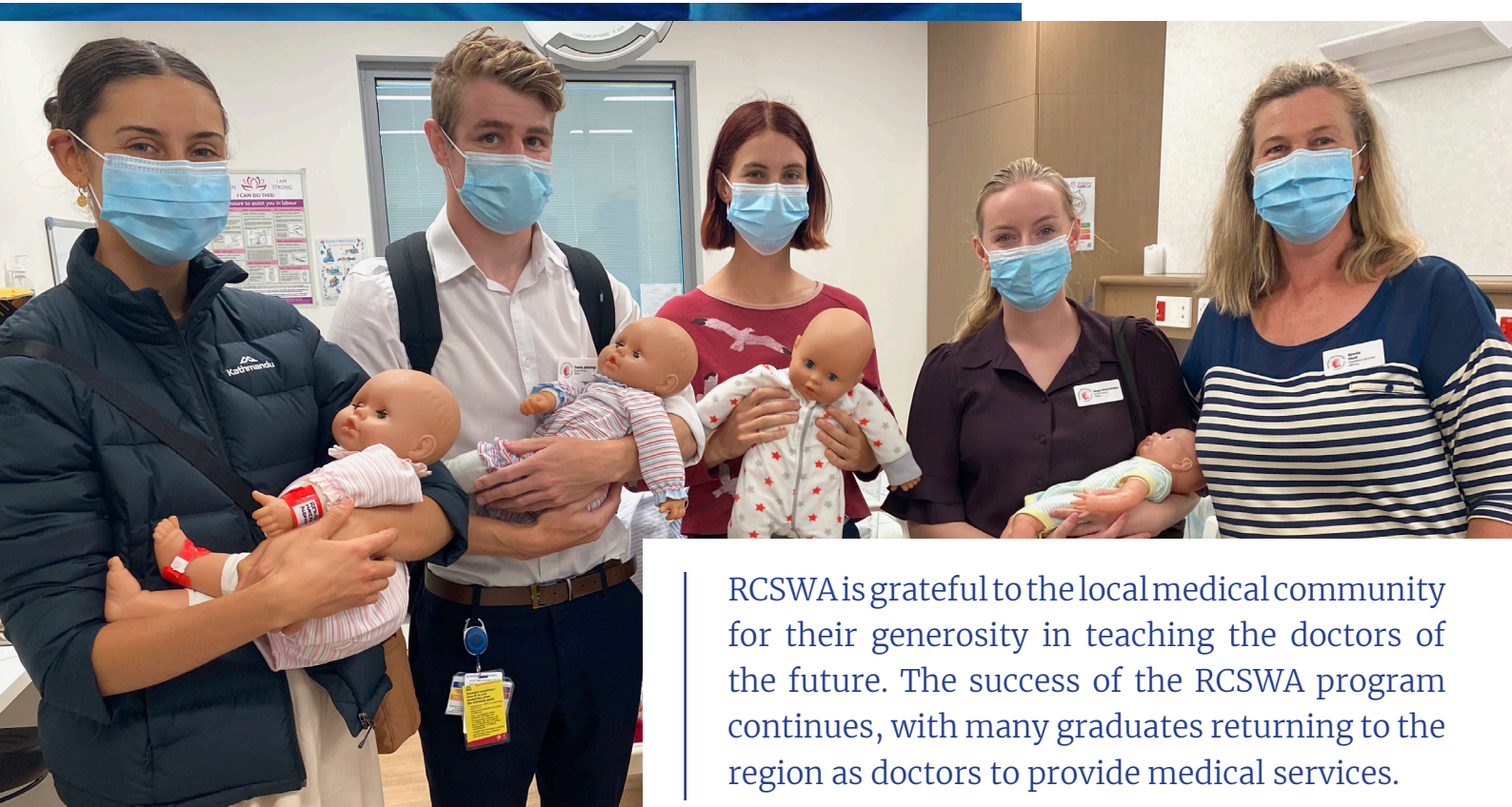
The RCSWA student experience included communal student living and exploring the beautiful Great Southern region. Students developed relationships with the Follow the Dream program at Albany Senior High School, an initiative that links university student mentors with Indigenous high school students.

RCSWA continued to strengthen and develop pathways for rural doctors - characterised by the final year RCSWA program. Now in its second year, the final year program enables students to stay in a region for two years of their medical degree, with a view to starting their career as a rural doctor in Albany, Bunbury, Broome or Geraldton. It is a link in developing a rural generalist training pathway in WA.

RCSWA Regional Training Hubs worked collaboratively with WA Country Health Service and general practice training in the Great Southern to promote, develop and support rural doctor training opportunities. RCSWA Regional Training Hubs ran training events in the Great Southern called SCARP (Sharing the Challenges and Appreciation of Rural Practice) to enable education, networking and support between junior doctors in the hospital, general practice trainees, and senior doctors in the local community.

Postgraduate courses

The Albany campus contributed to postgraduate study courses through coordination of three units, the supervision of 14 Masters by coursework and dissertation research projects. Supervision of research dissertations for students enrolled in the Master of Environmental Science (UWA School of Agriculture and Environment), Master of Biological Science (UWA School of Biological Sciences) and the Master of Teaching-Secondary (UWA School of Education). Ecological Monitoring, a micro credentialling unit delivered from Albany attracted 5 students in 2022. Albany academic staff also coordinated and supervised research dissertations of 4 International students undertaking the Masters of Global wildlife health and Conservation through the University of Bristol. In 2022 five students undertook research activity contributing to their higher Degrees by Research (Master of Philosophy and Doctor of Philosophy).



RCSWA is grateful to the local medical community for their generosity in teaching the doctors of the future. The success of the RCSWA program continues, with many graduates returning to the region as doctors to provide medical services.

Enrolments

Table 1 illustrates resident students studying in Albany at HECS census dates (31 Mar and 31 Aug).

Table 1

	2021 Albany Campus Students	2022 Albany Campus Students
UWA HECS	127	96
CROSS-INSTITUTIONAL	2	1
UWA SMART START PREPARATION COURSE	26	21
INTERNATIONAL STUDENTS	1	2
POSTGRADUATE BY COURSEWORK	2	5
POSTGRADUATE BY RESEARCH	9	5
SEMESTER 1 TOTAL	167	130
UWA HECS	111	96
CROSS-INSTITUTIONAL	0	0
UWA SMART START PREPARATION COURSE	11	19
INTERNATIONAL STUDENTS	1	1
POSTGRADUATE BY COURSEWORK	2	2
POSTGRADUATE BY RESEARCH	10	10
SEMESTER 2 TOTAL	132	128
TOTAL EQUIVALENT FULL TIME STUDENT LOAD (EFTSL)	91.25	64.75

Throughout the year students from UWA's metropolitan campus visited UWA Albany facilities for intensive units and activities.

Graduating students

13 UWA Albany students completed their courses and had their achievement recognised at a graduation ceremony at the Albany Entertainment Centre in December. Table 2 provides a summary.

Table 2

	2021	2022
BACHELOR OF ARTS	5	4
BACHELOR OF ARTS (HONOURS)	0	1
BACHELOR OF COMMERCE	2	0
BACHELOR OF SCIENCE	5	4
BACHELOR OF SCIENCE (HONOURS)	3	1
MASTERS OF ENVIRONMENTAL SCIENCE	0	2
MASTERS OF TEACHING	0	1
PHD	3	0
TOTAL	18	13

Four students from the University of Bristol completed a Master of Science in Global Wildlife Health and Conservation with projects in Albany supervised by UWA Albany research staff.

Scholarships and prizes

Scholarships and prizes provided by donors from the Great Southern and the Australian Government Department of Education, with a total value of \$153,000 were awarded to 27 students.

UWA Albany acknowledges the valued support of the Australian Government Department of Education, local organisations and individuals in recognising student achievements.

Research

Natural resource management research

Research staff undertook a wide variety of research projects that contributed to the management of natural and cultural resources locally, nationally and internationally.

Dr Paul Close worked on a number of projects, including:

- Collaborative development of a cultural wetland assessment protocol
- Environmental management in farm forestry: Impacts of blue gum plantations on water quality and biodiversity in small streams
- Conservation opportunities for freshwater fish and mussels
- Turning gardeners into conservationists: using gardens to conserve wildlife. Citizen Science – Inspiring Australia Science Engagement Program Grant
- Creating new fire-fighting water sources that enhance the resilience of biodiversity to climate change

Professor Peter Cook was involved with the following projects:

- In collaboration with the Nature Conservancy, restoring native oysters to Oyster Harbour in Albany
- Investigating potential heavy metal pollution in the local aquatic environment at the Talison Lithium Mine, Greenbushes

Dr Barbara Cook (nee Stewart) undertook numerous research projects, including:

- Monitoring the effectiveness of natural resource management initiatives aimed at conserving biodiversity and reducing threats
- Assessment of the suitability of restored vegetation as habitat for native fauna
- Potential climate impacts on freshwater fish diversity and conservation
- Freshwater mussel taxonomy and conservation
- Ecology and management of selected threatened plant species
- Ecotourism potential of a new rail link in Sulawesi



Professor Stephen Hopper AC continued to work on several research projects investigating sustainable living with biodiversity, including cross-cultural studies with Noongar people. Specifically, subjects investigated included:

- Collaborative projects with Elders on Noongar Traditional Ecological Knowledge – South Coast and Dryandra Woodlands. Money for the South Coast Walking Together Project has come from Lotteries West via South Coast NRM and a UWA Research Priorities Fund Grant. For Dryandra woodlands, support is from an Australian Research Council (ARC) Indigenous Discovery Grant (IN200100039) Healing Land Healing People: Novel Nyungar Perspectives; with co-investigators including Elder Darryl Kickett (Curtin University), Prof Anna Haebich (Curtin University), Dr Tiffany Shellam (Deakin University) and Badimia woman Dr Carol Dowling. Both projects in 2022 have involved intensive fieldwork and ongoing discussions with Noongar people. The UWA contributors included Professor Hopper, Catherine Vasiliu, Dr Alison Lullfitz, PhD candidates Susie Cramp, Ursula Rodrigues and Rocio Almuna, and MSc students Genevieve Carey and Anna Ischenko.
- New papers were published in internal scientific journals on lizard traps on granite outcrops, on first Nation's use of underground storage organs of plants, and on) Indigenous Knowledge, Aspiration, and Potential Application in Contemporary Fire Mitigation in Southwest Australia.
- Noongar language and caring for country. Work on biological language continued with Merningar Bardok Elders Lynette Knapp and Gail Yorkshire, in collaboration with the Perth-based Noongar Boodjar Language Centre and CSIRO's Atlas of Living Australia. Caring for country research focused primarily on continued publication of the ARC Linkage Project (LP150100450) Is restoration working – an ecological genetic assessment; with co-investigators Dr Margaret Byrne, Department of Parks and Wildlife (DPaW), Dr David Coates (DPaW), Prof Siegy Krauss, (Botanic Gardens and Parks Authority), Mr Keith Bradby (Gondwanalink) and postdoctoral fellow Dr Melissa Millar (DPaW).
- Professor Hopper and Dr Lullfitz commenced work with Noongar Elders Dr Wayne Webb and Lynette Knapp on the Ian Potter Foundation funded project PEAT Protecting peatland ecosystems and addressing threats in southwestern Australia. This project was awarded \$1,356,000 over five years.



Dr Alison Lullfitz continued to work on several projects including:

- Collaborative projects with Elders on Noongar Traditional Ecological Knowledge – South Coast and Dryandra Woodlands
- Development of cultural burning protocols with Noongar Elders

Dr Peter Speldewinde undertook a number of research projects including:

- Investigating the impact of jungle restoration on zoonotic malaria in Sabah, Malaysia
- Investigating the impacts of land use on zoonotic malaria in Indonesia
- Ecotourism potential of a new rail link in Sulawesi
- Quantifying habitat characteristics of threatened birds (in south-west Western Australia) that influence presence, density and fine scale movement of feral cats
- Social-ecological factors for human-predator coexistence: a comparative study between Southern Chile and Western Australia
- The cultural and ecological importance of lizard traps

Dr Bronte Van Helden continued to work on projects, including:

- Turning gardeners into conservationists: using gardens to conserve wildlife. Citizen Science – Inspiring Australia Science Engagement Program Grant
- Environmental management in farm forestry: Impacts of blue gum plantations on water quality and biodiversity in small streams

Marine Energy and Ocean Engineering Research

January 2022 marked the official commencement of the Albany Wave Energy Demonstration (M4) Project, led by MERA. The M4 Project is jointly funded by the Blue Economy Cooperative Research Centre and the WA Government, through Royalties for Regions, with a total project cash value of \$3.46 million, and an additional \$2.7 million in leveraged cash funding. By the end of 2024, the M4 Project will have designed, constructed, deployed, operated and decommissioned a reduced-scale M4 wave energy converter in Albany's outer harbour, King George Sound. In 2022, the wave climate analysis of the King George Sound site was completed and the site's bathymetry and seagrass surveyed through side-scan sonar technology. MERA completed this survey with UWA owned equipment and technical research expertise as part of a larger survey, commissioned by the WA Government, for the newly announced aquaculture leases in the Albany harbours. This data is not only contributing to academic sectors, but also to industry sectors such as the Southern Ports facilitated Albany Harbours Sustainability Group.

The M4 Project progressed towards procuring a power generator from a highly specialised supplier in China with the pre-tender Request for Information completed in December. Working closely with the Local Content Advisers at the WA Department of Primary Industries and Regional Development, the Request for Tender will seek to maximise investment from the 'Royalties for Regions' funding into local subcontracts in March 2023. MERA research fellow Dr Kurniawan was nominated for the 2022 School of Engineering Teaching Excellence Awards. Through MERA, Dr Kurniawan delivered online lectures for OCEN4007 Renewable Ocean Energy to the metropolitan campus, out of the UWA Albany Campus. His research covers aspects of wave energy conversion, wave-structure interactions, and multi-objective optimization. He is part of the Oceans Graduate School and is responsible for MERA's and UWA Albany's research and teaching in marine renewable energy and hydrodynamics.

The Datawell wave buoy and the array of upstream Spotter buoys at the open ocean wave energy development site offshore the Moodrenup/Sandpatch windfarm delivered the basis for PhD student Thobani Hlophe's wave prediction model that is the first to use real field data. This open ocean site was the focus of a MERA publication that compared the performance of a full-scale M4 wave energy converter at this location to the internationally best-known wave energy site in the Orkney Islands, northern Scotland. The study concluded that the high energy density and consistency of Moodrenup/Sandpatch makes this site superior.



Activities in other marine research areas housed at the Great Southern Marine Research Facility (GSMRF) included the continued aerial drone surveys and wave buoy monitoring at Ocean Beach in Denmark in collaboration with the WA Department of Water and Environmental Regulation and the remote coastal camera set-up and development of a near real-time hazard warning system for rock fishing at Salmon Holes near Albany, both led by Oceans Institute and MERA researcher Dr Mike Cuttler and MERA Research Technician Matt Hatcher.

Coordinated by UWA Albany adjunct researcher Dr Kate Sprogis, the southern right whale tagging campaign for Australia was based at the Great Southern Marine Research Facility in September, with other fieldwork departing from Augusta and Cheyne Beach. Collaborators Prof. Rob Harcourt (Macquarie University) and Dr Nick Gales (International Whaling Commission) visited UWA Albany during the intensive 3-week campaign, resulting in the satellite tagging and genetic sampling of southern right whales off the southwest WA coast. The whale tracks revealed previously unknown migratory behaviour to feeding grounds in the Southern Ocean, to Kerguelen Island and Crozet Islands, and off Antarctica. The tracks have also shown that the Australian southern right whales migrate to areas of overlap with the South African southern right whale population (off the Crozet Islands) and with the New Zealand southern right whale population (south of Australia). This previously unknown information is being used to make the Australian Biological Important Areas (BIAs) for southern right whales.

Students supervised by Dr Harriet Paterson studied bivalves in Oyster Harbour and the impact of weed on the movement of penguins on Mistaken Island (in collaboration with the WA Department of Biodiversity, Conservation and Attractions).

RCSWA Great Southern Research

RCSWA research operates within a community-based participatory research approach, which brings together community and academic worlds, as well as Indigenous and Western research methodologies. Stakeholder engagement is a key factor in our success. Including end-users (community members as well as health service staff) as core members of our research team facilitates rapid translation of research findings into changes at a community level, service level and in policy.

Associate Professor Kirsten Auret, based in Albany, is part of The Enhanced Advance care planning and life Review Longitudinal Intervention (EARLI) study: increasing proactive care planning in Australian community aged care setting. Led by former RCSWA Albany staff member Craig Sinclair (UNSW), the project is funded by a NHMRC grant over five years. It aims to adapt and tailor a combined life story and advanced care planning intervention for older adults receiving home care services, and then to report on outcomes (such as advance care planning documentation, participant and family psychosocial wellbeing and health economic impact over five years).

Dr Auret continued her work as a Chief Investigator with the Palliative Care Outcomes Collaboration (PCOC). PCOC's primary objective is to systematically improve palliative care patient and carer outcomes, including pain, symptom control and psychosocial distress, through the commitment of participating services. Within Australia, PCOC has led to statistically and clinically significant improvements in patient and carer outcomes over time.

In August, Dr Auret presented Implementation of Compassionate Albany Charter at the Perron Institute Symposium – Compassionate Communities Reframing Palliative Care.

Associate Professor Mathew Coleman was part of the investigator team, led by Chief Investigator Professor Helen Milroy, on a project titled Building a Culturally Safe Mental Health System for Aboriginal and Torres Strait

Islander Young People. The two-year project is funded by the Medical Research Future Fund. Aboriginal and Torres Strait Islander young people face a disparity in mental health systems as these systems do not operate in a culturally safe way. The project will establish evidence-based ways to improve cultural safety in mental health services for Aboriginal and Torres Strait Islander young people and their families.

Southern Regional Health Research Collaborative hosted the Southern Regional Health Research Forum at the Albany Entertainment Centre in August. As the Forum facilitator, Dr Mathew Coleman delivered the opening address and presented Rethinking accessibility in rural and remote mental health – applying a socioecological research lens to mental health commissioning. Other Research Prioritisation Discussions included Identifying key health research questions for Aboriginal young people, and Optimisation of community care for regional people with life-limiting conditions. RCSWA students Fraser Pensini, Monique Haddleton and RCSWA staff members Dr Denese Playford, Dr Mathew Coleman, Dr Terri Pikora and Beatriz Cuesta-Briand gave a poster presentation titled Why Rural? Examining urban-origin doctor's decisions in choosing rural careers.

Dr Kelly Ridley, RCSWA alumni, presented to the National Rural Health Conference in Brisbane in August: Implementing a GP psychiatry phone line in the Great Southern: preliminary results.

Dr Mathew Coleman presented to the Perinatal and Infant Mental Health Symposium: Perinatal Mental Health in a Time of Challenge and New Horizon in November in Perth. Dr Coleman and his Perth colleagues Dr Yulia Shiikha and Dr Helen Wright presented their ongoing Medical Education and Workforce Research. The research provided data to inform RCSWA teaching practices and RCSWA Regional Training Hubs workforce activities. Projects associated with this work include Impact of Facilitators and Rural Immersion during a Child and Adolescent Psychiatry Videoconference workshop and Developing a Rural Paediatrician Workforce and Social Network Analysis.



Research funding

Six new CNRM projects were successfully funded from over \$700,000 in grants. Multi-year funding worth \$3,237,000 continued to fund on-going research projects.

\$470,000 was approved for the project Creating new fire-fighting water sources that enhance the resilience of biodiversity to climate change. Funded by the Ian Potter Foundation. Research partnership with Murdoch University and community partners

\$4,075,133 was approved for the project PEAT Protecting Peatland Ecosystems and Addressing Threats in southwestern Australia, a collaboration co-led by UWA and Edith Cowan University, also involving the Walpole Nornalup National Park Association, Noongar Elders Dr Wayne Wonitji Webb and Lynette Knapp and the Department of Biodiversity, Conservation and Attractions. \$126,770 was granted from the National Disaster Risk Reduction (NDRR) Grant Program 2022-23 through the Department of Fire and Emergency Services to Dr Alison Lullfitz, PhD candidate Ursula Rodrigues and Professor Hopper AC for a project on Caring for Country, People and Communities through Noongar Cultural Burning.



PhD Candidate Ursula Rodrigues and Auntie Eliza Woods at the 2022 Ecological Society Conference in Wollongong

MERA has received funding from the Blue Economy Cooperative Research Centre for the appointment of Dr Jana Orszaghova (\$96,000) as Deputy Leader of Research Program 3 Offshore Renewable Energy Systems which highlights WA initiatives and positions MERA for strategic leadership. MERA has also been awarded funding for a 6-month research project (\$53,000) that requires the specific mathematical and numerical modelling skills of UWA Albany PhD student Thobani Hlophe, to benefit the entire offshore ocean renewable sector.

MERA researcher Dr Adi Kurniawan had consulting contracts with Sandia National Laboratories in the US for the project Numerical Investigation of the Benefits of a Compressible Degree of Freedom (\$5,000) and with ROC-Technologies Pty Ltd for D-Spar 1:100 tank testing (\$5,800). He is also a Chief Investigator on the ARC Linkage Project Efficiently Unlocking Full-scale WEC Dynamics for Industry Cost Reduction (\$280,000), a collaboration with CorPower Ocean, a leading wave energy developer.

\$72,950 from DFAT for investigation of ecotourism potential of new rail link in Sulawesi.

Worth \$5,000 each, two Lishman Health Research Fellowships were awarded to penultimate RCSWA students completing a rural research project, worth \$5000 each. Lishman Health Research is the only regional-based charity in Australia dedicated to advocating for and promoting local health research.

RCSWA Albany student Elisa Bolhuis, supervised by Dr Carly Roxburgh and Dr Christine Oosterhuis, was a joint winner for her research project The Feasibility and Acceptability of the Fourth Trimester Matrescence Action Plan (FTMAP). The aim of this project is to determine whether the Fourth Trimester Matrescence Action Plan is feasible and acceptable, firstly to women in the fourth trimester and secondly for the health practitioners implementing the plan using an online questionnaire and interviews.

The ORCHID Study Phase 3 – Optimisation of screening and management of hyperglycaemia in pregnancy was awarded funding by a MRFF grant and a WA Department of Health and UWA support package. The five-year project is a multi-site study, with Albany Chief Investigators Dr Carly Roxburgh and midwife Greta Hull contributing the future implementation of the ORCHID project for the Great Southern region.



RCSWA Albany student Elisa Bolhuis (left) with Dr Carly Roxburgh (centre) and Dr Christine Oosterhuis (right).

Research supervision

The Great Southern region continues to provide a rich environment for research into natural resource management on land, in waterways, coastal areas and in the open ocean, over tens of thousands of years. Current research programs in the region are multi-disciplinary and culturally diverse. UWA Albany researchers provided supervision to Undergraduate, Master's and PhD projects and facilitated several internships.

INTERNSHIPS

- RiverLab internships: **Bryan Tan** (wave energy, M4 modelling), **Dave Dong** (wave energy, M4 metocean), **Megan McDougall** (solitary wave)
- Centre for Natural Resource Management: **Kathryn Greenop** (urban ecology)

HONOURS PROJECTS

- **Michelle Boule** | The impact of phosphite spraying for *Phytophthora cinnamomi* control on soil and plant abundance. Co-supervised by Dr Barbara Cook and Sarah Barrett (Department of Biodiversity, Conservation and Attractions).
- **Sonja Pascho** | Estuarine cockles (*Katelysia* spp.) as an indicator of spatial and temporal variation of the bivalve food web of Oyster Harbour, Albany WA. Bachelor of Science (Honours). Co-supervised by Dr Greg Skrzypek and Dr Harriet Paterson.
- **Bryan Tan** | Nonlinear hydrodynamic forces on fixed axisymmetric bodies in incident waves. Co-supervised by Dr Hugh Wolgamot, Dr Adi Kurniawan, and Dr Jana Orszaghova.

DOCTOR OF MEDICINE PROJECTS

- **Boston Black** | What are the factors for increased acceptance of telehealth in palliative care? A pilot study among rural WA palliative care providers. Supervised by Dr Kirsten Auret.
- **Ruby Goedsir** | Improving Sepsis Care Through Diagnostic Excellence at Albany Health Campus. Supervised by Dr Sue Benson (Curtin University) and Dr Lloyd Nash (WACHS Albany).
- **Andrew Hall** | on the student research project, Qualitative Evaluation of Telepalliative Care in the Home in Rural WA. Supervised by Dr Kirsten Auret.

MASTER'S PROJECTS

- **Deborah Bayliss** | The Burrowing Seabirds on Mistaken Island, Masters of Biological Science: Conservation Biology Speciality, co supervised by Dr Harriet Paterson and Dr Belinda Cannell.

- **Genevieve Carey** | Phylogeographic analyses for Kalloora conservation management in the Southwest Australian Floristic Region. Co-supervised by Professor Stephen Hopper AC, Wadandi Elder Dr Wayne Wonitji Webb, Dr Alison Lullfitz and Dr Rachael Binks (DBCA).
- **Sean Donovan** | Investigating the dynamic interaction of aerodynamic loads on motion of a Primus wind turbine on a scaled Nautilus DTU floater. Master of Professional Engineering. Co-supervised by Dr Hugh Wolgamot, Dr Adi Kurniawan, and Dr Guy McCauley.
- **Max Fabry** | Residency and habitat use by southern right whales on the south coast of Western Australia. Co-supervised by Dr Paul Close, Dr Chandra Salgado Kent and Dr Renae Hovey
- **Sydnee Galvin** | Evidence of microplastic contamination and trophic level transfer between beaked salmon (*Gonorynchus greyii*) and brown noddies (*Anous stolidus*) on Lancelin Islands, Western Australia. Co-supervised by Dr Renae Hovey and Dr Harriet Paterson
- **Victoria Guthrie** | Fishing practices, behaviours and attitudes of shore-based recreational shark and ray fishers in Western Australia. Co-supervised by Dr Barbara Cook and Dr Gary Jackson
- **Daniel Ho** | Ocean wave energy converter hydrodynamics: Nonlinear radiation modelling and analysis. Master of Professional Engineering. Co-supervised by Dr Jana Orszaghova, Dr Hugh Wolgamot, Dr Adi Kurniawan.
- **Renae Hoskins** | Investigating factors that drive the deposition of plastic on beaches. Co-supervised by Dr Harriet Paterson and Dr Peter Speldewinde.
- **Jenny Howell** | Does the presence of cats influence the activity of a ground-dwelling mammal in residential gardens? Co supervised by Dr Paul Close, Dr Bronte Van Helden and Dr Nicola Rooney
- **Anna Ischenko** | Combining Indigenous knowledge and GIS to visualise Noongar travel routes and locate sacred trees in South-West Western Australia. Co-supervised by Professor Stephen Hopper AC, Merningar Bardok Elder Lynette Knapp, Dr Alison Lullfitz and Dr Bryan Boruff.
- **Jenny Maddern** | Comparison of abundance estimation models using feral cat camera trap data. Co supervised by Dr Peter Speldewinde and Sarah Comer.
- **Lydia Milani** | Modelling and testing of a compressible ocean wave energy converter. Master of Professional Engineering – Mechanical Engineering. Co-supervised by Dr Adi Kurniawan and Dr Hugh Wolgamot.
- **Tobias Muir** | Investigating floating offshore wind technology using the Swan River. Master of Professional Engineering. Co-supervised by Dr Hugh Wolgamot, Dr Adi Kurniawan, and Dr Guy McCauley.

- **Ben Osborne** | Wave effects on floating photovoltaics in the Swan River. Master of Professional Engineering. Co-supervised by Dr Hugh Wolgamot, Dr Scott Draper, and Dr Adi Kurniawan.
- **Ria Popat** | Water depth reduces detectability of turtles by drone survey. Supervised by Dr Paul Close
- **Sam Ryan** | Implications for floating photovoltaic panels of overtopping bore collisions. Master of Professional Engineering. Co-supervised by Dr Hugh Wolgamot, Dr Adi Kurniawan, and Dr Scott Draper
- **Michelle Seymour** | Development and testing of floating wind technology. Master of Professional Engineering – Mechanical Engineering. Co-supervised by Dr Hugh Wolgamot, A/Professor Scott Draper, Dr Jana Orszaghova, Dr Wenhua Zhao, Dr Ian Milne, and Dr Adi Kurniawan
- **Avinash Singh** | From footpaths to ecosystems: understanding the role of the verge in delivering urban ecosystem services. Co-supervised by Dr Paul Close and Dr Natasha Pauli
- **Sam Thorniley** | Modelling and testing of a compressible wave energy converter. Master of Professional Engineering – Mechanical Engineering. Co-supervised by Dr Adi Kurniawan and Dr Hugh Wolgamot.
- **Charlize Van Der Mescht** | Can changes in beekeeper practices reduce the spread of American Foulbrood? Supervised by Dr Barbara Cook and Dr Peter Speldewinde.
- **Lucy Wang** | Techno-economic analysis of a wave hybrid renewable energy microgrid in WA's Southwest. Master of Professional Engineering. Co-supervised by Dr Adi Kurniawan, Dr Hugh Wolgamot, and Dr Chris Townsend.
- **Janelle Yong** | Plastic contamination of freshwater ecosystems: environmental load and ingestion by freshwater mussels. Co supervised by Dr Paul Close, Dr Justin Benson and Dr Harriet Paterson
- **Andrew Wharton** | Development and testing of floating wind technology. Master of Professional Engineering – Mechanical Engineering. Co-supervised by Dr Hugh Wolgamot, A/Professor Scott Draper, Dr Jana Orszaghova, Dr Wenhua Zhao, Dr Ian Milne, and Dr Adi Kurniawan.
- **Hui Xie** | Development and testing of floating wind technology. Master of Professional Engineering – Electrical and Electronic Engineering. Co-supervised by Dr Hugh Wolgamot, A/Professor Scott Draper, Dr Jana Orszaghova, Dr Wenhua Zhao, Dr Ian Milne, and Dr Adi Kurniawan.

PHD RESEARCH PROJECTS

- **Nathaniel Anderson** | Ecosystem moisture and fire in the Tingle mosaic. Co-supervised by A/Professor John Callow, Dr Joe Fontaine, Dr Alison Lullfitz, Dr Ben Miller and Dr Ryan Tangney.
- **Sarah Comer** | Ecology of the feral cat (*Felis catus*) in coastal heaths of the south coast of Western Australia. Co-supervised by Dr Peter Speldewinde, Dr Dale Roberts and Dr David Algar (DBCA).
- **Susannah Cramp** | Learning from lizard traps; Walking Together to care for granite country Co-supervised by Professor Stephen Hopper AC, Ms Lynette Knapp, Dr Alison Lullfitz and Dr Peter Speldewinde.
- **Daniel Raj David** | Multi-objective optimisation of nearshore submerged wave farms. Supervised by Dr Adi Kurniawan (MERA/Oceans Graduate School), Dr Dirk Rijndorp (Delft University of Technology), Dr Jeff Hansen, Dr Hugh Wolgamot and Professor Ryan Lowe (all MERA/Oceans Graduate School).
- **Gael Davidson** | Impact of dipterocarp forest restoration and land use on mosquitos, monkeys, and malaria. Co-supervised by Dr Peter Speldewinde, Professor Tock Chua, Professor Angus Cook (Population and Public Health) and Professor Philip Weinstein.
- **Tara Devi Laabar** | Development of a palliative care model - socially, culturally and spiritually applicable for the Kingdom of Bhutan & fellowship. Supervised by Dr Kirsten Auret.
- **Thobani Hlophe** | Efficient real-time deterministic wave prediction for wave energy generation. Supervised by Dr Adi Kurniawan, Dr Hugh Wolgamot, Dr Jana Orszaghova, A/Professor Scott Draper (all MERA/Oceans Graduate School) and Professor Paul H. Taylor (MERA and University of Oxford).
- **Rocio Morales Almuna** | Promoting landscapes of coexistence for humans and predators: an interdisciplinary comparative study in the Southern Hemisphere. Co-supervised by Professor Stephen Hopper, Professor José Tomás Ibarra etch (Pontificia Universidad Católica de Chile) and Dr Peter Speldewinde.
- **Carly Portch** | Coastal flood risk under extreme erosion/accretion cycles at a proposed commercial wave energy site. Supervised by Dr Mike Cuttler, Dr Jeff Hansen, Dr Mark Buckley, Professor Ryan Lowe (all MERA/Oceans Graduate School)
- **Ursula Rodrigues** | Caring for Country, people and communities through Noongar Cultural Burning. Supervised by Professor Stephen Hopper AC, Merningar Bardok Elder Lynette Knapp, Dr Alison Lullfitz and Dr Joe Fontein (Murdoch Uni).

2022 Research publications

Auret K, Pikora T, Gersbach K. Being a safe place: a qualitative study exploring perceptions as to how a rural community hospice could respond to enactment of voluntary assisted dying legislation. *BMC Palliative Care*. 2022 Dec;21(1). 2. <https://doi.org/10.1186/s12904-021-00891-3>

Auret K, Pikora TJ, Gersbach K, Donovan RJ. "Respecting our patients' choices": making the organizational decision to participate in voluntary assisted dying provision: findings from semi-structured interviews with a rural community hospice board of management. *BMC Palliative Care*. 2022 Dec;21(1). 161. <https://doi.org/10.1186/s12904-022-01051-x>

Coleman M, Amos A, Hoimes J, Ridley K. Remote supervision in psychiatry training: Unlocking capacity and technology. *Australasian Psychiatry*. 2022 Sep 22. <https://doi.org/10.1177/10398562221127825>

Coleman M, Cuesta-Briand B, Collins N. Rethinking Accessibility in Light of the Orange Declaration: Applying a Socio-Ecological Lens to Rural Mental Health Commissioning. *Frontiers in Psychiatry*. 2022 Jun 24;13. 930188. <https://doi.org/10.3389/fpsyt.2022.930188>

Coleman M, Taran M, Cuesta-Briand B. Responding to rural adversity: a qualitative study of alcohol and other drug service users' experiences of service response to COVID-19 in Western Australia's Southwest. *Australasian Psychiatry*. 2022 Feb;30(1):74-78. <https://doi.org/10.1177/10398562211036125>

Cramp, S. Murray, S., Knapp, L. Coyne, H., Eades, A., Lullfritz, A., Speldewinde, P.C. and Hopper, S.D. (2022) Overview and Investigation of Australian Aboriginal Lizard Traps. *Journal of Ethnobiology* 42(4) DOI: 10.2993/0278-0771-42.4.400

Cuesta-Briand B, Taran M, Coleman M. A rural ecosystem of recovery: Lessons from substance users' experiences of accessing services in Western Australia's South West. *Drug and Alcohol Review*. 2022 May;41(4):963-973. <https://doi.org/10.1111/dar.13455>

Darmawan W, Harding C, Coleman M, Samuels A. Rural workforce challenges: Why not rural psychiatry? *Australasian Psychiatry*. Nov 2022;0(0). [doi:10.1177/10398562221139128](https://doi.org/10.1177/10398562221139128)

David, D. R., Kurniawan, A., Wolgamot, H., and Hansen, J., Rijnsdorp, D., and Lowe, R. (2022). Nearshore submerged wave farm optimisation: A multi-objective approach. *Applied Ocean Research* 124, 103225.

Ding J, Johnson CE, Auret K, Ritson D, Masarei C, Chua D et al. Comparison of end-of-life care for people living in home settings versus residential aged care facilities: A nationwide study among Australian general practitioners. *Health and Social Care in the Community*. 2022 Jan;30(1):91-101. <https://doi.org/10.1111/hsc.13375>

Faint N, Cuesta-Briand B, Coleman M. An evaluation of junior doctors' experience in smoking cessation training in a rural mental health setting. *Frontiers in Psychiatry*. 2022 Aug 25;13. 868212. <https://doi.org/10.3389/fpsyt.2022.868212>

Galbally M, Watson SJ, Coleman M, Worley P, Verrier L, Padmanabhan V et al. Rurality as a predictor of perinatal mental health and well-being in an Australian cohort. *Australian Journal of Rural Health*. 2022 Oct 17. <https://doi.org/10.1111/ajr.12934>

Gardiner F, Middleton J, Perera S, Gunner M, Churilov L, Coleman M et al. Cohort study comparison of Mental Health and Wellbeing Services delivered by The Royal Flying Doctor Service, across Far North and Central West Queensland: Comparison of Mental Health Services across geographical areas. *The Lancet Regional Health - Western Pacific*. 2022 Apr;21. 100385. <https://doi.org/10.1016/j.lanwpc.2022.100385>

Gardiner F, Spring B, Coleman M. Assessment and management considerations working with women experiencing a mental health perinatal emergency in remote Australia. In Peta Marks, *Mental Health in Emergency Care*. Elsevier, October 2022. <https://www.elsevier.com/books/mental-health-in-emergency-care/978-0-7295-4421-4>



Hlophe, T., Wolgamot, H., Taylor, P. H., Kurniawan, A., Orszaghova, J., and Draper, S. (2022). Wave-by-wave prediction in weakly nonlinear and narrowly spread seas using fixed-point surface-elevation time histories. *Applied Ocean Research* 122, 103112.

Hlophe, T., Wolgamot, H., Taylor, P. H., Kurniawan, A., Orszaghova, J., and Draper, S. (2022). Wave-by-wave prediction in narrowly spread seas using fixed- and drifting-point wave records: Validation using physical measurements. *Proceedings of 41st International Conference on Ocean, Offshore and Arctic Engineering (OMAE 2022)*, Hamburg

Kurniawan, A., Taylor, P. H., Orszaghova, J., Wolgamot, H., and Hansen, J. (2022). Measuring a rogue? An investigation into an apparent giant wave. *Journal of Atmospheric and Oceanic Technology* 39, 1129–1147.

Kurniawan, A., Tran, T. T., and Yu, Y.-H. (2022). An efficient time-domain model to simulate parametric resonances in a floating body free to move in six degrees of freedom. *Proceedings of the ASME 2022 International Mechanical Engineering Congress and Exposition (IMECE2022)*, Columbus, Ohio

Laabar TD, Auret K, Saunders C, Ngo H, Johnson CE. Support Needs for Bhutanese Family Members Taking Care of Loved Ones Diagnosed with Advanced Illness. *Journal of Palliative Care*. 2022 Jul;37(3):401-409. <https://doi.org/10.1177/08258597211066248>

Lullfitz, A., Knapp, L., Cummings, S. & Hopper, S.D. 2022. First Nations' interactions with underground storage organs in southwestern Australia, a Mediterranean climate Global Biodiversity Hotspot. *Plant & Soil* 476, 589-625. <https://doi.org/10.1007/s11104-022-05524-z>.



Ngo H, Birnie T, Finn J, Ball S, Perera N. Emotions in telephone calls to emergency medical services involving out-of-hospital cardiac arrest: A scoping review. *Resuscitation Plus*. 2022 Sep;11. 100264. <https://doi.org/10.1016/j.resplu.2022.100264>

Orszaghova, J., Lemoine, S., Santo, H., Taylor, P. H., Kurniawan, A., McGrath, N., Zhao, W., Cuttler, M. V. W. (2022). Variability of wave power production of the M4 machine at two energetic open ocean locations: Off Albany, Western Australia and at EMEC, Orkney, UK. *Renewable Energy* 197, 417–431.

Pearn L, Auret K, Pikora T. 'What about the carbon?' A call to count carbon costs prospectively to count carbon costs and savings in healthcare models. *Internal Medicine Journal*. 2022 Nov 20;52(11):2013. <https://doi.org/10.1111/imj.15946>

Rodrigues, U, Lullfitz, A., Coyne, L., Dean, A., Eades, A., Flowers, E., Knapp, L., Pettersen, C., Woods, T. and Hopper, S.D. (2022) Indigenous Knowledge, Aspiration, and Potential Application in Contemporary Fire Mitigation in Southwest Australia. *Human Ecology*, <https://doi.org/10.1007/s10745-022-00359-9>.

Roxburgh C, Moore S, McCulloch C, Valli K, Zuidersma D, Pikora T et al. Satisfaction with general practitioner obstetrician-led maternity care in rural Western Australia. *Australian Journal of Rural Health*. 2022 Apr;30(2):135-148. <https://doi.org/10.1111/ajr.12783>

The Leeuwin Group Professors John Bailey, Don Bradshaw, Stephen Hopper, Kingsley Dixon. Western Australian Legislative Council Standing Committee on Environment and Public Affairs 2022. Petition No. 029 - Independent Review of DBCA Prescribed Burning Practices Transcript of Evidence Taken at Perth Friday, 19 August 2022 Session 2 13 pages. <https://doi.org/10.1016/j.dsr2.2022.105184>

Wazir M, Roxburgh C, Moore S. General practitioner obstetricians' models of care in rural Western Australia. *Australian and New Zealand Journal of Obstetrics and Gynaecology*. 2022 Jun;62(3):401-406. <https://doi.org/10.1111/ajo.13483>

2022 Reports

Kurniawan, A. (2022). M4 Metocean Condition. OGS-M4-2022-001. The University of Western Australia.
Kurniawan, A., Orszaghova, J., and Wolgamot, H. (2022). ROC-Tech D-Spar 1:100 physical model testing: Factual Report. COEL Report No. 22021 v1. The University of Western Australia.

Van Helden B E, Greenop K R, Gulliver H F, Close P G (2022) Wildlife Friendly Gardening in Southwestern Australia. Guide 3: Garden Structure Installation Manual. Centre for Natural Resource Management, University of Western Australia & Perth Natural Resource Management Inc.

Van Helden B E, Gulliver H F, Pitman J J, Close P G (2022) Wildlife Friendly Gardening in Southwestern Australia. Guide 1: Common Garden Wildlife of Southwestern Australia – Vertebrate Species Identification Guide. Centre for Natural Resource Management, University of Western Australia & Perth Natural Resource Management Inc.

Van Helden B E, Gulliver H F, Pitman J J, Close P G (2022) Wildlife Friendly Gardening in Southwestern Australia. Guide 2: Wildlife Monitoring Manual. Centre for Natural Resource Management, University of Western Australia & Perth Natural Resource Management Inc.

Benson J A, Ford B, Close PG (2022) Environmental management in farm forestry: Impacts of blue gum plantations on water quality and biodiversity in small streams. Report to Australia Blue Gum Plantations, PF Olsen Forestry and Albany Plantation Forestry Company of Australia. CENRM Report, University of Western Australia.

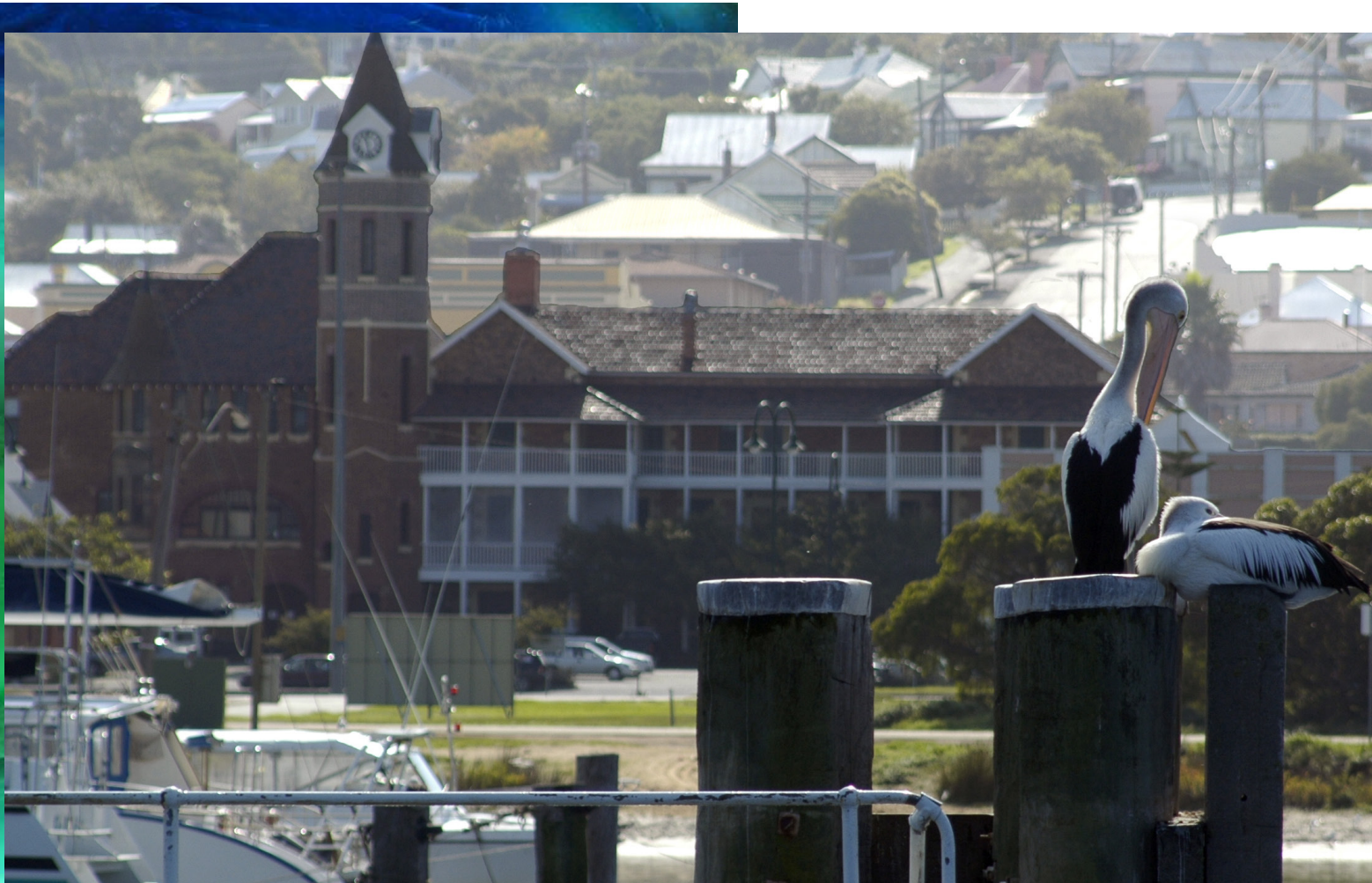
Reviewing Duties:

Dr Adi Kurniawan - Australian Research Council (ARC) Discovery Projects 2023

Dr Adi Kurniawan - CRC Press | Taylor & Francis Group for book proposals

Dr Paul Close - Reviewing Editor of Fishes

Dr Peter Speldewinde - Senior Editor Sustainable Environment



Community and Industry Engagement

Community Outreach

Lynette Knapp and Shandell Cummings taught an eight-week culture and language course over February and March, facilitated by Susie Cramp. The course consisted of eight two-hour workshops, mostly held outdoors at the Oyster Harbour fish traps. Topics covered included plants and animals, family system, landscapes and forming sentences in Merningar. The workshops were carried out in a relaxed, yarning style. Jackbam and Wabbinyet's vocabulary, recorded by Daisy Bates in early 1900s was used as a base for the language. Feedback from the students was very positive, with everyone enjoying the course and learning a lot about both language and culture.

GSMRF continued its strong public outreach and school engagement offerings throughout the year. Events included the school holiday programs at the Whaling Station, public lectures, the City of Albany's Maritime Festival, "Green Fair on the Square" and a range of presentations to individual groups. MERA was again part of the Year 6 Regional Camp of Mundaring Christian College. MERA members also participated in the UWA Perth visit of the "Girls in Engineering" team and a career panel at Albany Senior High School in August.

In August, MERA held a Key Stakeholder & Business Briefing for the M4 Project for representatives from local and State Government, regional organisations and stakeholder businesses. Presentations included technical and procurement details about the M4 Project.

Dr Bronte Van Helden attended the 68th Annual Scientific Meeting of the Australian Mammal Society in September 2022 where she presented her research on the conservation value of urban landscapes for wildlife. She also presented similar work to numerous local community groups such as the Stirling Probus Club.

"Mirnong Maat" (Whale Journeys), fieldwork and research project on southern right whales conducted by UWA Albany adjunct researcher Dr Kate Sprogis and colleagues Prof. Robert Harcourt (Macquarie University) and Dr Nick Gales (International Whaling Commission) held a community forum at the Great Southern Marine Research

Facility in September 2022. This event attracted a lot of interest, and attendance exceeded seating capacity. Festival of Birds and Biodiversity Symposium was held in March 2022. Adjunct Research Fellow and Merningar Elder, Lynette Knapp, Dr Alison Lullfitz, Shandell Cummings and PhD candidate, Susie Cramp participated in a shared presentation and panel discussion on their collaborative biocultural research entitled 'Walking Together: Bringing Indigenous Knowledge and Western Science Together for Care or Country.'

Turning Gardeners in Conservations project held two workshops led by Dr Bronte Van Helden and Dr Paul Close to train participating citizen scientists in wildlife monitoring techniques. They visited eight primary and secondary schools to talk with students and teachers about the benefits and opportunities for wildlife-friendly gardening on school grounds.

Community partnerships

Professor Hopper provided strategic advice on biodiversity to Chief Executive Officers of the Environmental Protection Agency, Department of Biodiversity, Conservation and Attractions, Botanic Gardens and Parks Authority, Western Australian Museum and the City of Albany. He also served as an ambassador for Danjoo Kooliny.

MERA Centre Manager Dr Wiebke Ebeling continued to chair the Great Southern Science Council and was successful in attracting \$12,000 in funding from Inspiring Australia for community and school outreach in the region in 2022. As part of the Great Southern Science Council

Dr Ebeling and UWA Albany PhD student Susie Cramp organised a series of 'Yarning Circles' in collaboration with the Lotterywest funded 'Walking Together' program. Noongar Elder Lynette Knapp participated in these events, with UWA Albany scientists Prof Steve Hopper, Dr Alison Lullfitz, UWA Albany PhD student Ursula Rodrigues, Dr Kate Sprogis and Dr Wiebke Ebeling providing expert input on rocks, fire and ocean research. Shandell Cummings captured the conversation at each

event in a painting. More events are planned for 2023 to share scientific and artistic impressions. MERA also worked closely with the Great Southern Science Council for the 'Kinjarling Coastal Atlas Photography Competition' that closed in September with a prize event.

Dr Ebeling promoted MERA's 'Wave Hello to Renewable Energy' outreach program and the Great Southern Science Council teaching resources to a variety of groups. UWA summer intern Megan McDougall was involved in creating the video sequences of the 'Coastal Impacts' classroom experiment. Little Grove Primary School was the first to borrow the portable wave tank and conduct the experiment. As part of their collaboration with the WA Marine Science Institution (WAMSI), GSMRF hosted the Albany MIX Artists throughout the year, with presentations by UWA Albany's Prof Peter Cook, Dr Harriet Paterson and Dr Wiebke Ebeling. This project led to the art exhibition 'Immerse' at the Albany Town Hall in January 2023.

Dr Bronte Van Helden and Dr Paul Close were successful in obtaining three years funding from the commonwealth governments Citizen Science- Inspiring Australia Science Engagement Program Grant. The Project Turning gardeners into conservationists: using gardens to conserve wildlife, engages residents of southwestern Australia as citizen scientists in a research program to benefit conservation outcomes and human

wellbeing in urban landscapes. The project has partnered with more than 200 residential citizen scientists and has more than 15 community-based partner organisations contributing.

RCSWA continued to expand its horizons as it strengthened and developed pathways for rural doctors in training, working in collaboration with the WA Country Health Service and general practice training providers to facilitate this.



Professor Stephen Hopper and
Noongar Elder, UWA Adjunct Research
Fellow Lynette Knapp on Country

Industry & Government partnership

Dr Wiebke Ebeling presented at the STEM Professional Town Hall' hosted by Member for Perth, the Hon. Patrick Gorman MP, at UWA Perth in January. She also participated in the UK-based Supergen Ocean Renewable Energy Hub 4th Annual Assembly in January. She collaborated with the Aotearoa Wave and Tidal Energy Association (NZ), the University of Auckland and other international partners on a funding proposal to the New Zealand Government's Green Investment Fund review, and with Impact Services, Curtin University and the Bureau of Meteorology for a grant application to develop an indigenous coastal ranger program. Dr Ebeling further provided input into the City of Albany hosted Water Sensitive Cities Index Benchmarking Workshop' and the 'UNESCO I-Cities Workshop for Sustainable Development.'

Under Minister Alannah MacTiernan's mentorship, MERA Master's student Xiao Lan (Lucy) Wang participated in the 2022 WA Parliamentary Research Program, addressing 'The Role of Wave Energy in Decarbonising Albany's Energy System'. The final report offers three policy recommendations based on the key findings that have since been shared with the WA Department of Jobs, Tourism, Science and Innovation and with Energy Policy WA.

Dr Speldewinde collaborating with DECMIL on monitoring fauna in relation to development of the Albany Ring Road, and MSc student Anna Ischenko started work on water trees constructed by Noongars and related cultural matters supported in part by DECMIL.

UWA Albany researchers maintained membership on a variety of committees, reference groups and expert panels including:

- Albany Harbours Sustainability Group
- Albany & surrounds feral cat working group

- Australian Ocean Energy Group Steering Committee
- Australian Institute of Company Directors
- City of Albany Mounts Master Plan Community Advisory Group
- Core strategic group and working group 2 leader – WA Coastal and Marine Community Network
- Great Southern Science Council
- Department of Biodiversity Conservation and Attractions South Coast Threatened Flora Recovery Team
- Education in Sustainability in the Great Southern
- International WaTERS (Wave and Tidal Energy Research Sites) Network
- International Energy Agency (IEA) Ocean Energy Systems Australia Working Group
- Oyster Harbour Catchment Group
- South Coast Region Western Ringtail Possum Working Group
- Southern Ports Authority, Board of Directors
- Standards Australia – Technical Committee EL-066 Marine Energy - Wave, tidal and other water current converters
- Steering Committee - City of Albany Coastal Hazard Risk Management and Adaption Planning
- Steering Committee -Turning gardeners in to conservationists; a Citizen Science- Inspiring Australia Science Engagement Program.
- United Nations Regional Centre of Expertise in Education for Sustainable Development (WA)
- Western Australian Museum Albany Advisory Committee
- International Electrotechnical Commission (IEC) Committee on Marine energy - Wave, tidal and other water current converters, Working Group on Measurement and characterisation of biofouling accumulation, IEC-TC 114/PT62600-41
- Editorial Board of Wave and Tidal Energy (specialty section of Frontiers in Energy Research) | Review Editor



Children's University Western Australia Partnership

Children's University brings together children, parents, schools, universities and the wider community to foster children's love of learning and aspirations for lifelong learning. Participating members in Years 2 – 6 are issued with a Passport to Learning, in which they earn stamps for participating in voluntary extra-curricular learning at school, in the community, at on-campus events, or at home. An annual graduation ceremony is held to recognise children's learning achievements, recreating the pride and celebration of a university graduation. Children's University provides children with innovative new ways to learn, to follow their interests and discover new passions, and to develop a sense of belonging to their community.

With generous support from Rio Tinto, UWA partners with Edith Cowan University and Children's University Australasia to jointly deliver the Children's University WA Partnership. In 2022 Children's University in Albany had 109 members across four partner primary schools: Flinders Park Primary School, Little Grove Primary School, Spencer Park Primary School and Great Southern Grammar.

The program had strong community engagement and support, through 17 local Learning Destinations Partners: Albany Leisure and Aquatic Centre, Albany Public Library, Albany Visitor Centre, Albany's Historic Whaling Station, City of Albany, DECMIL, Down South Arts and Crafts, Fossicker's Tip Shop, Friends of the Fitzgerald River National Park, Great Southern Science Council, UWA Albany's own MERA team at the Great Southern Marine Research Facility, Mount Barker Public Library, Museum of the Great Southern, National ANZAC Centre, Outdoors Great Southern, Valley of the Giants Tree Top Walk and Vancouver Arts Centre.

Learning Destinations are a central pillar of the Children's University model, providing avenues for children and their families to access high-quality community-based learning. This unique model acts as a framework to support learning both within and beyond the school gate.

UWA Albany Campus academic and professional staff contributed their knowledge and skills to a school holiday program at UWA Albany Campus. Children's University Holiday Programs provide children and their families with aspirational learning experiences, giving them the chance to meet passionate UWA researchers and students. Children and families had the opportunity to: experience the science building laboratory; extract DNA from strawberries, design a wave buoy with MERA; explore the science and art of nature journaling; and discover local plant life and their use in Indigenous practices through the "Walking Together" project. Girls in Engineering UWA



delivered a workshop for families on biomimicry and the inspiration nature can provide for engineering designs. Finally, students received "STEM Out of The Box" activity kits developed by the Children's University WA Partnership, thanks to an Inspiring WA STEM Grant.

Children's University also facilitated two community-based holiday programs, in partnership with Camp Quaranup and the Museum of the Great Southern. Children's University members had the opportunity to participate in a variety of activities including paleontology, geocaching, archery, kite-making, and shelter building, learning valuable teamwork skills along the way.

Student Feedback:

Grade 5 student Devin, at Spencer Park Primary School, said the program had taught him to never give up, to opt in and always do his best. "I have more self-belief and know if I try, I can do anything! It's given me a chance to meet different people and I have found out lots of cool information about the world along the way."

Media

UWA Albany featured regularly in Great Southern and national press. The University was profiled in more than 80 articles and interviews printed or broadcast by a range of local and state media in 2022. UWA Albany promoted its activities via print, radio, television and digital media as well as through online communication channels.

Dr Wiebke Ebeling co-authored the script for and provided visuals for the Australian National Maritime Museum and their new 'Ocean Decade' exhibition in Sydney. The video production about Ocean Energy attracted nearly 1,000 views. Dr Ebeling also contributed to West Australian Ed! Magazine, with the 'Motion in the Ocean' introduction to marine energy, for young readers.

People and Resources

Staffing

Thirty-nine academic staff, representing ten full-time-equivalents, were employed locally to deliver UWA Albany's teaching, learning and research programs. Administrative, technical and information technology services were managed by 6.8 full-time-equivalent staff members.

The RCSWA in Albany was staffed by six full-time positions, ten part-time academic teaching staff and one part-time researcher.

MERA has one full-time postdoctoral researcher, one full-time professional staff member and a cohort of research students from the Perth and Albany campus.

Sponsors and supporters

Australian Government Department of Education
City of Albany
Department of Primary Industries and Regional Development
Friends of UWA Albany
Pat Fox Memorial Fund
Great Southern Development Commission
Roy and Beatrice Little

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Professor Stephen Hopper AC
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Efforts have been made to capture all available and relevant information. If a person, agency or group has been omitted or incorrectly cited, please advise UWA Albany 9842 0888.



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