

PROTECTED AREAS

LEARNING & RESEARCH COLLABORATION

Fostering excellence in governance and management
of protected areas in Australia, Asia and the Pacific

Protected Area Short Courses in Australia, Asia and the Pacific: training issues, needs and recommendations

for the
Protected Areas Learning and Research Collaboration by
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March 2019

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Acronyms

AM	Adaptive management
CDU	Charles Darwin University
CSU	Charles Sturt University
CNRM	Cultural and Natural Resource Management
IPA	Indigenous Protected Area
IUCN	International Union for the Conservation of Nature
NAILSMA	North Australian Indigenous Land & Sea Management Alliance
NRM	Natural Resource Management
NGO	Non-government organisation
OS	Open Standards for the practice of conservation
PA	Protected Area
PALRC	Protected Areas Learning and Research Collaboration
SPREP	Secretariat of the Pacific Regional Environment Program
TAFE	Technical and further education
UNDA	University of Notre Dame, Australia
UNE	University of New England, Australia
USP	University of the South Pacific
VET	Vocational education and training
WCPA	IUCN World Commission on Protected Areas

Acknowledgements

We acknowledge the Indigenous people across Australia as the traditional custodians of this land. We thank the heads of Australian national park agencies in various jurisdictions that provided support and encouragement for this report. We also thank all of the people involved in protected areas who provided valuable input to the review and who are identified in an Appendix.

Rosalie Chapple prepared this report for the Protected Areas Learning and Research Collaboration, July-Dec 2018.

Disclaimer

This was a short scoping project, and while all due care and diligence was exercised, no representation or warranty, express or implied, is made as to the relevance, accuracy, completeness or fitness for purpose of this document in respect of any particular user's circumstances.

Executive Summary

Landscape conservation, and management of protected areas in particular, needs leadership, knowledge, practical skills, science, innovation, creativity and collaboration. The people tasked with managing land and sea in Australia and the Asia-Pacific region are confronted with a conservation challenge of unprecedented scope and complexity. With climate change, rising sea levels, uncontrollable wildfires, habitat loss, species extinctions, human population growth, and economic drivers impacting nature faster than we can protect it, the urgency of the call to build capacity for effective conservation management of protected areas cannot be overstated. This report documents the need for new short courses that can build the skills and knowledge of people working in protected areas and related conservation activities across Australia and the Asia-Pacific.

This report is the outcome of a review commissioned by the Protected Areas Learning and Research Collaboration (PALRC) in 2018, with the following aims:

- Review the range of current models for short courses that meet protected area agency, Indigenous Protected Area (IPA) and non-government organisation land managers' needs
- Assess the potential for PALRC partners to adapt and/or develop new short courses that meet these needs

Target audiences for the review include government and private sanctuaries, protected area (PA) management agencies, Indigenous protected areas (IPAs), environmental NGOs that look after land, and community-based conservation practitioners, in Australia and the Asia-Pacific region.

The report aims to identify what is most needed in professional capacity development to better prepare protected area managers and practitioners to meet today's challenges. It outlines how PALRC can help meet the capacity challenge, with all knowledge traditions working together. The report identifies training issues and needs, along with current courses and providers. The focus is on identifying priority needs for tailored short courses that can complement formal educational training offered through universities and technical and further education (TAFE) colleges.

Key findings

- All target audiences recognise significant deficiencies in current training, and the need for a more strategic and responsive approach to training
- Short courses are in high demand, and in particular for short online accredited courses that are blended with face-to-face intensives.
- Different models have emerged for short course delivery to address issues and needs, with national and regional reach. These aim to provide a more collaborative and strategic approach to skills training that is adapted to the regional and cultural context of specific audiences, and with better alignment between skills and knowledge needs, funding and course providers.
- Short courses should include the following elements:
 - Co-design of programs with target audience to ensure they are fit for purpose (i.e. meet workplace and on-ground training needs)
 - Emphasis on experiential and project-based learning
 - Follow-through and mentoring built into training packages as appropriate
 - Long-term resourcing for strategic and progressive knowledge and skills development
 - Evaluation of outcomes and impact analysis
 - Building peer networks within a community of practice
- Short courses with the above elements are proposed to be run as pilots for different target audiences and based on a partnership approach with shared investment that bring together a broad

network of trainers and providers, including universities, independent consultants and facilitators, and with evaluation of outcomes to inform future directions.

- The challenge in Australia and the region in securing long-term financial support for environmentally and cultural appropriate training may lead to development of models that are unique to this region.

Commonly identified issues relating to the dimensions of training (skills, process, content, approach) that reflect feedback from all target audiences in the region, are summarized below.

Skills – acquiring the needed skills

- Current training and course offerings are inadequate for meeting the diversity and level of knowledge and skills needed for addressing the complex challenges of the protected area sector
- Training is often *ad hoc* and opportunistic (subject to funding): it needs to be delivered within a coherent training program that provides staged skills development over time

Process – how training is conducted and learning consolidated

- There is demand for more experiential and project-based learning for integration of theory and fieldwork, and training based on local examples
- Training requires more follow-through and mentoring
- A desire for peer networks and communities of practice to support ongoing learning and sharing
- Need more local delivery of courses
- Requests for more two-way cross-cultural learning (particularly for Indigenous PA practitioners)
- Need for more staff and especially ranger exchanges (between Indigenous / non-Indigenous exchanges / international / high profile parks)

Content knowledge – what is taught

- Co-design of courses is recommended between local communities and training providers, to match specific local needs
- Short courses are often not sufficiently adapted for local context, and too generic, formulaic or academic

Approach - other issues and opportunities

- Lack of coordination between training providers (including non-government sectors, government training colleges and universities) and need for a partnership approach between training providers and with target audiences
- Funding - Programs are often prohibitively expensive for participants or their organisations, and short-term funding does not sustain ongoing course delivery for progressive knowledge and skills building
- Scholarships provide important opportunities for building professional capacity across the region, and a recommended focus is on growing funding and in-kind support for PALRC scholarships for advanced training in PA management
- Pathways are needed for transition through levels of training from VET (vocational education and training) to university qualifications
- There is a need for recognition, endorsement or accreditation of short courses (e.g. by universities and/or the IUCN)

Overall, the issues and needs identified in this report highlight the timeliness of this review, the urgency in taking action, and the crucial role that PALRC can play in capacity building for protected areas.



Swift parrot. Credit: Chris Tzaros

Recommendations

Preamble

- PALRC is well positioned to take a leadership role in developing a financially viable and culturally appropriate framework for short course development and delivery in Australia, Asia and the Pacific.
- During the process of consultations for this review, all target groups expressed a clear mandate for PALRC to address the needs outlined in this report (i.e. a social licence to operate).
- The findings of this review relating to the demand for new short courses highlight the value of PALRC expanding its role beyond the primarily university-based courses in its suite of offerings to date. PALRC could expand its role to bring together a broad network of trainers, facilitators and course providers and be the go-to organisation for access to protected area capacity building.
- The recommendations below form a basis for the branding of PALRC as a one-stop-shop service provider that is nimble and responsive in developing bespoke short courses that draw upon a wide network of facilitators and knowledgeable protected area management practitioners, experts and educators who are well versed in the required features of protected area training courses.

1. Development of a sustained cumulative capacity building framework for the region based on financially, regionally and culturally viable models for training program development and delivery

- a. Progressively expand current PALRC short course offerings as identified in Table 1 across a range of priority programs for different target audiences (Table 2) including government protected area agencies, Indigenous communities, ranger associations, private land conservation organisations, and bespoke country-specific programs in the Asia-Pacific.
- b. Design new programs to incorporate the following features:
 - i. Co-design of programs with target audience to ensure they are fit for purpose (i.e. meet workplace and on-ground training needs)
 - ii. Emphasis on experiential and project-based learning
 - iii. Follow-through and mentoring built into training packages where needed
 - iv. Resourcing available for strategic and progressive knowledge and skills development
 - v. Evaluation of course content and delivery, learning outcomes and long-term impact analysis
 - vi. Peer network building including PALRC online community of practice, ranger and other staff exchanges, and voluntary placements.
- c. PALRC develop and maintain a database of expertise across a wide network of trainers and educators (using as a basis the databases prepared for this review), that would be drawn upon for course development and delivery, as well as providing a resource for organisations seeking trainers.
- d. Following further consultation with existing PALRC partners, consider the merits of developing multi-institutional and trans-regional joint programs.
- e. Where possible and appropriate, build online components that support blended learning and regional collaboration, and explore partnerships for their delivery.

2. PALRC partnerships

- a. Clarify the interest and capacity of PALRC partners to be involved in developing and delivering courses for identified priorities (Table 1) and as appropriate, encourage and engage new partners and providers.
- b. Strengthen existing and build new PALRC university partner collaborations to progress short course developments including with: Australian Notre Dame University (ANDU), the University of the South Pacific (USP), Lincoln University (New Zealand), and the University of New England (UNE).
- c. Consider expanding partnerships or other forms of collaboration to include clients as well as providers, such as private land conservation organisations (e.g. a collaboration with the Australian Land Conservation Alliance), Australian Indigenous organisations associated with protected areas, and state government agencies.

3. PALRC organisation, brand and profile

- a. Consider reviewing PALRC's governance structure (e.g. to enhance alignment between the protected area management sector, and training and education service providers).
- b. Consider incorporating as a legal entity to be able to independently apply for and receive funding, and also to strengthen the PALRC brand and profile.
- c. Address the risk of being marginalized by a narrow interpretation of protected areas training courses, and integrate broader natural resource management into PALRC programs.

4. Learning pathways, course endorsement and accreditation

- a. Develop and offer new pilot courses in advance of formal university accreditation to expedite the process of offering the courses, and to maintain flexibility and capacity to adapt and work with training recipients in co-design (university accreditation should then be sought once outcomes of delivery can be demonstrated, including demand).
- b. Seek WCPA endorsement for new short courses that explicitly address the IUCN Global Register of Competences¹.
- c. Advocate for more recognition of informal training and knowledge sharing (such as through in-house workshops) so that it is encouraged and enabled.

5. Applied conservation research

- a. Facilitate working collaborations between universities and protected area agencies to undertake applied conservation and research projects.
- b. Progressively build PALRC's applied research profile based on documentation and development of applied research and adaptive management projects as outcomes and extensions of courses, with follow-through, feedback and monitoring.

6. Community of Practice (CoP)

- a. Build peer networks and a community of practice from course alumni as an important outcome of PALRC training programs.
- b. Prioritise the PALRC COP webpage for development and link with other sites especially the Pacific Islands Protected Area Portal (PIPAP).

¹ <https://www.iucn.org/content/a-global-register-competencies-protected-area-practitioners>

7. Course evaluation and impact analysis

- a. Evaluate PALRC courses for long-term impact by developing goals and indicators (such as measures for individual change, peer network building, skills gaps, mentoring, on-ground impact, and return on investment).

8. Resourcing

- a. Explore funding options as recommended in Table 2 and identified in the funding database, for each delivery model including philanthropy, government, and other sources.
- b. Aim to secure long-term course funding packages and that can support post-training mentoring and follow-through.

1. Introduction

Context of this review – key points

- The practice of conservation in any context is complex and interdisciplinary and requires a common and diverse set of skills and knowledge. The training needs identified in this report reflect these skills and knowledge that are relevant beyond management of protected areas. This wider relevance also reflects the continuing evolution of the understanding of the term “protected area”² and that conserving protected areas necessarily involves unprotected landscapes and natural resource management in general³. The term “protected landscape” is acknowledged as a term compatible with that of “protected area” as a better reflection of connectivity across the landscape, including of the connectivity between nature and culture.
- Protected areas play a key role in the global effort to address habitat loss. Yet the global failure of protected areas to achieve conservation outcomes, and the role of ineffective management and governance as key factors, are now widely recognised. Also recognised is the need for a new dialogue about protected areas, within a broad all-encompassing framework that addresses the complexity of the challenge and unintended collateral consequences and the need to work more effectively with other stakeholders
- We are living in an era of significant environmental, political and economic volatility and uncertainty. Landscapes including protected areas are subject to an escalating multitude of threats and pressures including climate change, human population growth and development.
- Protected areas in Australia can currently be seen as driven by an agenda of the “visitor economy” and “commercial activation”. Quoting a protected area manager consulted in the course of this review, “conservation practice, and the skills that drive it, are at risk of falling away or being increasingly focused on flagship programs rather than on strategic investment in reserve systems and agency workforces”.
- Characterizing this era in Australia is the hand-back of land to Indigenous people, including creation of Indigenous Protected Areas (IPAs) and joint or co-management arrangements. This is a significant part of the new dialogue, and further increases demand for skills and two-way cross-cultural learning in particular. The knowledge held by Indigenous communities needs to be integrated with that of western science so the best of both traditions can be brought to bear. The destruction wrought by colonization, industrialization and capitalism needs traditional knowledge and innovative new ways of thinking to restore and protect landscapes.

² “a clearly defined geographical space, recognised, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values”
<https://www.iucn.org/theme/protected-areas/about>

³ “Other effective area-based conservation measures” (OECMs) is a new term used in international law, and adopted by the Convention on Biological Diversity (CBD). OECMs are defined by outcomes rather than objectives (i.e. an OECM must deliver the effective in-situ conservation of biodiversity, regardless of the area’s management objectives).

- There is increasing interconnectedness and interdependencies regionally and internationally with many new opportunities for collaboration, including emerging cross-sectoral partnerships (e.g. agriculture, conservation, business).
- The dimension of the global protected area ‘capacity challenge’ and the need for a sustained cumulative program of capacity development is well documented (e.g. Appleton 2016a,b; IUCN-WCPA⁴ Strategic Framework for Capacity Development 2015-2025; IUCN-BIOPAMA Strategy for Capacity Development for Protected Areas and Other Conserved Areas in the Pacific Island Region⁵ 2015-2020). The need for “a greater sense of urgency in developing capacity building activities, the need to develop novel capacity building methodologies, and the need to move away from one size-fits-all approaches” has been outlined by O’Connell et al. (2017 p.1) for sub-Saharan Africa, who also observe that the “key implication arising from the extent, severity and speed of environmental change [in Africa] is the need to deliver cost-efficient, strategic, evidence-based, sustainable, equitable and adaptive capacity building across the conservation sector” (2017 p.3).

PALRC

The Protected Areas Learning and Research Collaboration (<http://www.palrc.com/>) is a tertiary and vocational education and research initiative dedicated to natural and cultural heritage protection, stewardship and conservation management and capacity development for Australia, Asia, and the Pacific. PALRC was first conceived of in 2012 and established in 2014 under the name of “Protected Areas Learning and Research Collaboration”. PALRC is not a legal entity but a collaboration of organisations that includes several Australian universities and non-government organisations⁶ whose courses are promoted through a variety of ways by the provider institutions themselves, PALRC’s networks and profile, and since 2017 through the provision of PALRC scholarships funded by a private philanthropic gift. The governance structure for the Collaboration includes three committees⁷ (Steering Group, Academic Programs Committee, Stakeholder Advisory Committee). Current university partners reflect those in more remote locations that have closer engagement with protected areas and provide for remote communities including Indigenous.



Participants in inaugural 2015 short course in Open Standards / Healthy Country Planning and Adaptive Management for Protected Areas, co-hosted by Conservation Management, the University of Tasmania, and the Tasmanian Land Conservancy (PALRC has awarded scholarships for this course over a number of years)

4 International Union for the Conservation of Nature (IUCN) - World Commission on Protected Areas (WCPA) http://cmsdata.iucn.org/downloads/sfcd_final_july_2015.pdf

5 Scherl and O’Keeffe 2016 <https://portals.iucn.org/library/sites/library/files/documents/2016-005.pdf>

6 University of Tasmania, Charles Darwin University, Murdoch University, Charles Sturt University, Tasmanian Land Conservancy, Conservation Management Pty Ltd, Blue Mountains World Heritage Institute.

7 <http://www.palrc.com/about/governance/>

The use of the term “protected area” in this report reflects the wider understanding outlined above, with the recognition that the necessary and evolving convergence of protected area and natural resource management tools and approaches across the landscape should be reflected in and advanced by PALRC course offerings.

This review and feasibility study focuses on the delivery of short courses, since PALRC recognises that to achieve its goals, there needs to be a better understanding of the range of possible models for short courses and their relative advantages. PALRC also sought to know what specific courses are most needed that would draw participants and thus warrant development.

Although intended principally for take up in Australia, it is also hoped that this review will lead to further take up in Asia and the Pacific; through both attendance at courses in Australia by participants from those regions, and by the ability for the programs to be run in Asia and the Pacific for the benefit of practitioners there.

Target audiences include all governance types⁸ for protected areas in Australia and regionally (i.e. government, shared, private, and Indigenous and local communities).

The review is undertaken with the recognition that PALRC’s motivation is to develop a principle-centred business model that is not profit-driven (yet is financially viable) and that has as its driver the needs of protected area practitioners for the ultimate outcome of nature conservation.

The review takes the following approach:

- Identify training needs and issues with delivery
- Review available courses and providers
- Propose viable course delivery models that address identified needs and issues

The information in this report is based on discussions with a range of people involved in protected area conservation and through published and unpublished literature and reports including internet research. Discussions were held with people representing the range of practitioner levels and target audiences (see Appendix 1), to identify training needs and issues with current training delivery. A database of current course offerings was prepared (see attached spreadsheet). The review focused on tailored short courses that can be offered in conjunction with formal learning as well as stand-alone informal courses, and online learning. It considers mechanisms such as building a community of practice (e.g. peer networks and knowledge sharing) and mentoring.

A large number of terms and definitions are used that relate to “training” outside the formal education sector, including building of capacity, skills, or competency, and professional development. In this report, the terms “training” and “skills building” encompass the wide set of competence, skills and knowledge that are needed for conservation.

⁸ The IUCN defines four governance types for protected areas:

Type A. Governance by government: Federal or national ministry/agency in charge; Sub-national ministry or agency in charge (e.g. at regional, provincial, municipal level); Government-delegated management (e.g. to NGO).

Type B. Shared governance: Transboundary governance (formal and informal arrangements between two or more countries); Collaborative governance (through various ways in which diverse actors and institutions work together); Joint governance (pluralist board or other multi-party governing body).

Type C. Private governance: Conserved areas established and run by individual landowners; non-profit organizations (e.g. NGOs, universities) and for-profit organizations (e.g. corporate landowners).

Type D. Governance by Indigenous Peoples and local communities: Indigenous Peoples’ conserved areas and territories, established and run by Indigenous Peoples; Community conserved areas, established and run by local communities.

2. Issues with delivery of training

2a. Summary of training issues

There is a demand from all target audiences for a more strategic and responsive approach to training that aligns with funding availability and training needs.

Below is a summary of commonly identified issues across various dimensions of training (process, content, skills needed, and other considerations) that have been identified across all target audiences and throughout the wider region.

Skills – acquiring the needed skills

- Current training and course offerings are inadequate for meeting the diversity and level of knowledge and skills needed for addressing the complex challenges of the protected area sector
- Training is often *ad hoc* and opportunistic (subject to funding): it needs to be delivered within a coherent training program that provides staged skills development over time

Process – how training is conducted and learning consolidated

- There is demand for more experiential and project-based learning for integration of theory and fieldwork, and training based on local examples
- Training requires more follow-through and mentoring
- A desire for peer networks and communities of practice to support ongoing learning and sharing
- Need more local delivery of courses
- Requests for more two-way cross-cultural learning (particularly for Indigenous PA practitioners)
- Need for more staff and especially ranger exchanges (between Indigenous / non-Indigenous exchanges / international / high profile parks)

Content knowledge – what is taught

- Co-design of courses is recommended between local communities and training providers, to match specific local needs
- Short courses are often not sufficiently adapted for local context, and too generic, formulaic or academic

Approach - other issues and opportunities

- Lack of coordination between training providers (including non-government sectors, government training colleges and universities) and need for a partnership approach between training providers and with target audiences
- Funding - Programs are often prohibitively expensive for participants or their organisations, and short-term funding does not sustain ongoing course delivery for progressive knowledge and skills building
- Scholarships provide important opportunities for building professional capacity across the region, and a recommended focus is on growing funding and in-kind support for PALRC scholarships for advanced training in PA management
- Pathways are needed for transition through levels of training from VET (vocational education and training) to university qualifications
- There is a need for recognition, endorsement or accreditation of short courses (e.g. by universities and/or the IUCN)



A volunteer conducting flora monitoring at the Tasmanian Land Conservancy's Vale of Belvoir Reserve. Credit: Phill Roach



James Sabi (PNG) attended the Adaptive Management for Protected Areas Conservation in the Asia-Pacific course (2018) at the Blue Mountains World Heritage Institute



At Rabaul Observatory, Beside Thomas (right) Papua New Guinea Conservation and Environment Protection Authority's Manager of Terrestrial Protected Areas. Joe Ringo (middle) Local Level Government Manager for West Pomio Mamusi. Peter Kikele (left) Charman - Tavolo Wildlife Management Committee)



Papua New Guinea Conservation and Environment Protection Authority's Ranger Workshop, Varirata National Park 2018. Credit: Mat Wolnicki

2b. Detailed issues and skill needs

The range of specific training topics and skill needs that were identified across the region reflect those that are universal to protected area management and have been well documented elsewhere (e.g. Appleton 2016: global; IUCN-WCPA 2015: global; Scherl and O’Keeffe 2016: Pacific; Clements et al. 2015: northern Australia Indigenous communities; Peterson et al. 2018: Papua New Guinea). This report presents a list of priority training needs in section 4 and this section focuses on the issues around delivery *per se*, which were prominent factors to be addressed in order to make content delivery more effective.

The above summary is presented in more detail below and highlighting any issues that are distinct to different audiences.

Formal vocational education and training (VET)

- While current formal training meets the statutory and baseline necessities of protected area and land management, it is not sufficient to meet the complex challenges of working in conservation.
- Where there is available “off-the-shelf” formal training in the broader range of skills, it generally does not match the needs of conservation – the training is formulaic and not sufficiently relevant or adapted to the realities of conservation and environmental/land management. “Institutionalised training has gaps and is not adapted to local needs” (Rohit Singh, President of International Ranger Federation (IRF) Asia).
- A common issue in the VET sector is training fatigue, especially for Australian Indigenous people, where many courses are undertaken that do not form part of a cumulative training program, and there is not a sense of achieving a goal. A more strategic and coherent training framework with clear pathways can help to address this.
- Formal off-the-shelf training courses generally fail to integrate with other knowledge, and this tends to increase the fragmentation of operational and research knowledge and the operational-science divide.
 - Modules for standardized international ranger training are outdated (Rohit Singh, IRF Asia) and need to be updated and adapted to local situations.
- Pathways are needed for transition through levels of training from VET to undergraduate qualifications. There is a shortage of options for higher-level training (and that also can be a bridge from VET to university).
 - There is a need for recognition of new short courses by universities and/or TAFE so they contribute to the achievement of a broader relevant qualification or recognised Certificate of Competency such as those provided by Registered Training Organisations. e.g. a TAFE-based Certificate IV in Conservation and Land Management or recognised as a unit of a university qualification such as a Graduate Certificate in Protected Area Planning or Protected Areas Management.
 - Existing enabling programs, bridging programs and Tertiary Pathways Programs (TPP) were valued, but were considered too general in nature and not targeted to regional and remote Indigenous students’ needs (Clements et al. 2015).

Short courses

Currently short course delivery is *ad hoc* and lacks staged coherent scaffolding for progressive skills development, and is not standardised or accredited.

- All target audiences consulted expressed preference for short courses, with a combination of online training and field intensives that are standardised for the sector and then customized and adapted to local situations (especially for less-developed countries).
- Preference for blended delivery models (face-to-face and online learning) due to convenience and reduced cost.

- Short courses not adapted for less-developed countries and lack of consultation in relation to needs when designing and offering short courses for international rangers (Rohit Singh, IRF Asia).
- Co-design of courses is recommended, to match specific local needs. For international rangers, prefer co-design of courses between the course deliverer and recipient country, to identify training needs and suitable delivery options (Rohit Singh, IRF Asia)
- A diverse base of cross-institutional short course offerings and shared investment is recommended.
- Short courses are often delivered by external consultants, and content is not sufficiently relevant or appropriate to the on-ground context.
- Demand for field-based courses.
- Preference for experiential and project-based learning for integration of theory and fieldwork, and training based on local examples.
- Preference for local delivery partners (cost-effective and familiarity with context).
- In-country training is more affordable and facilitates culture shift. Short courses for international participants preferred in-country but with options for delivery in Australia if there is funding and follow-through in home country (e.g. mentoring through ranger exchange) (Rohit Singh, IRF Asia).
- Training coordinators are recommended, who can travel, support and liaise with training providers and help make it relevant (e.g. for remote communities).
- Lack of coordination between training providers. e.g. inadequate coordination between NGOs and with institutions including the government training colleges. Recipients then lack a staged coherent training program and may learn different/conflicting messages and techniques. There is value in a partnership approach between training providers and target audiences for training that includes a number of universities, non-government sectors, government and industry.
- Trainers are often individually sourced through networks and briefed on what is needed, but this process is time-consuming and some standardisation across the network with a database of trusted and appropriate trainers would increase efficiency and effectiveness.
- Short courses that are provided for international rangers are exclusively expensive and academic in nature (Rohit Singh, President, IRF Asia).
- Widespread interest in training that is followed by ranger exchanges (e.g. Wayne Davis, Program Manager, Anangu Pitjantjatjara Yankunytjatjara (APY) Inc.; Rohit Singh, IRF Asia).

Opportunities for the protected area workforce

- Ranger associations and protected area agencies note that rangers are often looking for more career development opportunities such as university degree programs.
- There is a need to define and support a career path for the increasingly diverse skill mix of agency staff. Some state agencies have removed the required basis for a professional qualification for many ranger and similar roles. Rangers now exist within a workforce that has become increasingly diverse, and good PA management relies increasingly on linking ranger skills and knowledge with that held by specialist staff such as ecologists and archaeologists, and on community-based knowledge. Rangers need training in how to work with these other parties.
- There is also a need for a more strategic understanding of how the two streams of Rangers and Field Service Officers (FSOs) (who do the bulk of work in the field e.g. baiting, spraying, facilities maintenance) differ professionally, what their career pathways are, how they would work best together, and what a good blend of trade and academic training in this collective workforce should look like.
- Current and retired rangers for state government agencies have expressed willingness to support peers through mentoring and training workshops.

New ranger associations

- Needs of the protected area workforce in the Oceania region are quite distinct in many ways from other regions such as Africa where organisation and resourcing of ranger programs is more established and where, since the 1990's, there has been development of an extensive offering of well-funded tertiary education and training for protected area workers (e.g. Southern African Wildlife College⁹; also see O'Connell 2017).
- Declarations of new protected areas in the South Pacific and of Indigenous Protected Areas in Australia create a new workforce that is seeking training.
- Formation of new ranger associations in the South Pacific, in conjunction with declaration of new protected areas and informal governance and management structures, creates a particular need for ranger training, with needs including project mgmt. skills, mgmt. plan development, mgmt. effectiveness, biodiversity conservation, law enforcement, awareness raising, communication and collaboration (e.g. Peterson et al. 2018; Scherl and O'Keefe 2016).
- The Solomon Islands Ranger Association (SIRA) was developed in 2015 to bring community, NGOs and other rangers together into one unified ranger association. SIRA faces the challenges of developing the skills and expertise of its members and engaging local communities who live in close daily proximity to terrestrial and marine resources with very limited funding and professional support. The QRA Travelling Ranger Training 2019 program will deliver 3 modules over 3 weeks (May-June): first aid, caring for equipment, and working with people in conservation. Evaluation 12 months later will guide future training. Queensland Ranger Association (QRA) have signed an International Ranger Federation (IRF) twinning agreement with SIRA.
- Peterson et al. (2018) identify the capacity building and training needs of rangers working on protected areas in Papua New Guinea (PNG) and key recommendations to enhance their competence include establishing and funding a network of rangers across PNG and incorporating training covering topics including.

Resourcing

Training needs long-term funding so it can be strategic to meet skills development over time.

- Course development and delivery is commonly opportunistic, being subject to the vagaries of limited and erratic funding, and this under-mines progressive training.
- Lack of recurrent funding and opportunities in Australian state government agencies for training (individually or collectively) exacerbates the problem of lack of funding for progressive training.
- Course funding packages need to include post-training mentoring and follow-through especially for Indigenous training and for participants from less-developed countries (e.g. Rohit Singh, IRF Asia), as well as in situ / on-country courses being most preferred.
- Need a more transparent process for selection of candidates for scholarships e.g. selection committees need to include in-country representatives who are familiar with the communities and training needs, to enable more participation of international rangers in training (Rohit Singh, IRF Asia).

⁹ <http://wildlifecollege.org.za/programme-schedule/short-courses/>

Training of trainers (ToT)

- Train-the-trainer “is quite common practice and in some cases oversold. If the person is not selected properly then the ToT may not give any results. I have seen several trainees from the ToTs that are not able to deliver training because they don’t have the mandate to do so. Also, delivering training needs specific qualities as not everybody trained can be a trainer (having a knowledge and giving knowledge are two different things” (Rohit Singh, IRF Asia). Train-the-trainer skills should be delivered to training recipients who have the personal skills or qualities to be a trainer (and therefore can effectively train others).
- It was also noted that international training is often delivered to local communities without community members themselves being trained to subsequently build capacity in the community and to run their own training workshops (independent of external trainers in the long-term).
- A new initiative in east Africa (Ranger Campus: rangercampus.org) includes a program based on training trainers so local rangers can teach and mentor peers over the long-term (leadranger.org).
- Skills held on-staff (e.g. by rangers) in government agencies are often not shared with those less skilled (e.g. new recruits), and skills are lost when rangers/managers leave the agency. Train-the-trainer skills are valuable for these staff to pass on their skills, as well as for course participants to pass on learning.
- Professionals in Australian protected area agencies and the IUCN World Commission on Protected Areas (WCPA) express enthusiasm to support, mentor and train.

Recognition of informal training

- The importance of informal training and sharing of tacit knowledge especially within government agencies, and the lack of recognition of this has been expressed. There is under-utilization of tacit knowledge in land and fire management and informal approaches to training need to be more ‘formally’ recognised (often done behind the scenes). It is important for agencies to recognise tacit knowledge and how it is used, withheld and shared by individuals within organisations¹⁰. The quoted author has himself offered his support to PALRC as a trainer.
- “Knowledge-sharing is a socialization process; yet often knowledge is seen as an object to be imparted rather than as a process, and this is a barrier to sharing of tacit knowledge. A hierarchical command and control approach flies in the face of much that enables effective decision-making” (state national park manager).
- Informal training can help to break down hierarchical structures that are not seen as being helpful for conservation practice, and can address the fragmentation of operational and research knowledge and the operational-science divide.
- Training workshops that are less formal, cross-generational and include participants with varying levels of experience, are perhaps unrecognized for their value.
- One approach for utilizing tacit knowledge (implemented by a manager at Parks Victoria) is ‘skills days’ that are peer-based informal training days (not accredited), where staff have the opportunity to ask questions. Important outcomes include teamwork and safety.

Australian Indigenous communities

- As noted in the IUCN Strategic Framework for Protected Area Capacity Development (2015-2025), capacity development by and for Indigenous communities entails a distinct set of skills and tools, including application and maintenance of traditional knowledge and customary management systems by the recognized custodians of this knowledge. “What we know begins with ancient and Indigenous wisdom, wisdom that is based on natural law, the workings of the land and relationships”¹¹.

¹⁰ English A. 2016. Knowing fire: exploring the scope and management of the tacit fire knowledge of agency staff. Australian Journal of Emergency Management Volume 31, No. 2: 7-12

¹¹ https://static1.squarespace.com/static/597b547aebbd1a681f3883f2/t/5c000ff4562fa7bb7de1ffd9/1543507959528/HometoUsAll_Nov2018FINALTF.pdf

- A report by Clements et al. (2015) recognises cultural and natural resource management (CNRM) as a growing cross-sectoral discipline that integrates human cultural knowledge, values and relationships with the natural environment in the management of natural resources. CNRM incorporates Indigenous knowledge of country specifically where Indigenous peoples, knowledge and values are integrated with and enhance Western scientific knowledge. The report documents CNRM training needs across northern Australia and identifies constraints and content gaps that are detailed in Appendix 2. Some of the key points are:
 - The need for more CNRM-specific courses in higher education
 - The CNRM-specific courses that are available at the higher education level do not address all the needs of Indigenous and non-Indigenous students studying across Northern Australia in terms of delivery mode, qualification level and access
 - Insufficient focus on the linkage between cultural knowledge, cultural governance and how these inform natural resource management
 - Training is needed on cultural governance and protocols
- The ‘Strong women on country’ report (August 2018) for the Country Needs People campaign highlights Indigenous women and their network of knowledge sharing as an untapped resource in relation to land stewardship and protected areas. The report highlights the need to increase the participation and skills for Indigenous women on country. Investment of \$200,000 by WWF-Qld Govt in Indigenous women on country to increase their participation and skills and in support of the new Women Rangers Environment Network (WREN).
- Training facilities for Indigenous courses preferably outside of large towns.
- Greater support needed for Aboriginal and Torres Strait Islander (ATSI) interns in Australian government agencies.
- Training for Indigenous rangers offers insufficient focus on the linkage between cultural knowledge, cultural governance and how these inform natural resource management.
- Calls for Indigenous and non-Indigenous cross-exchanges (and for the courses to include both Indigenous and non-Indigenous participants for cross-cultural learning). There is interest from Indigenous communities in ranger exchange with a high profile World Heritage Area such as Tasmania or Wet Tropics/Reef (Wayne Davis, Program Manager, APY Inc.).
- Preference for training facilities located outside of large towns.
- Training coordinators who can travel, support and liaise with training providers and help make it relevant.

Staff (especially ranger) exchange

- Ranger exchanges are valuable and more are needed (between countries, and within Australia between Indigenous and non-Indigenous PAs).

University graduates

- Recognition of need for university graduates to be job-ready and the widespread lack of both soft and hard skills (soft skills being the human factors such as communication, working with communities, leadership, conflict resolution etc., hard skills being practical on-ground competencies such as monitoring).
- A state government agency recommended placement of university students in government protected area agencies (e.g. for four weeks) and to do a professional development course at the same time. This was seen to meet a goal of attracting the next generation of managers, and helps graduates become job-ready.



Wunambal Gaambera Country rangers, Kimberley region, Western Australia Credit: Doug Humann

3. The training landscape – current courses and providers

This section outlines key examples of relevant course providers, and a database of courses and providers internationally is available upon request. The governance and financial arrangements for these courses and potential success factors are further detailed in section 5 where delivery options for new courses are proposed.

3a. University providers

Few universities offer short courses for professional development relating to protected areas, with few options beyond standard degree programs in the field of conservation. This likely reflects a lack of capacity (incentive, time and funds) to develop and offer short courses for this sector, while for the business sector (such as Master of Business Administration (MBA) programs), this has been common practice. Yet Australian universities are more recently considering a wider range of new course offerings that are more flexible to meet new markets, through new delivery methods including online and short courses.

There is certainly scope for the non-government training sector (which could be under the PALRC banner) to partner with universities to identify, design and deliver short courses on conservation and protected areas. This would entail designing a mutually viable business model for both partners.

Key examples:

- Charles Darwin University (CDU) has adapted more flexible short course options in response to demands of the more remote location, and the high proportion of people who are not university-enrolled but seek professional natural resource management (NRM) skills. These short courses are available to external participants at a fee.
 - CDU courses are distinguished between courses for PA rangers and courses for Rural Operations (pastoral lands). The Indigenous Land Corporation (ILC) encourages people to do the Rural Operations course as there is more job scope.
- The University of Tasmania provides the rare example of a semester-long environmental course offering a short (5-day) intensive field-based Open Standards training course and contracting an external facilitator (the Conservation Management NGO which is a PALRC partner). The course was credited for enrolled university students, and also available for external people at a subsidized fee.
- The Broome campus of the University of Notre Dame Australia (UNDA) is developing a suite of new short courses for Indigenous skills development in response to a feasibility study (Clements et al. 2015). The UNDA is seeking to work in partnership with other institutions and resource opportunities to support the development of new models for curriculum development and the delivery of a Cultural Natural Resource Management (CNRM) qualification for Northern Australia.
 - Likely partners include Indigenous Land and Sea Management organisations, Aboriginal Land Councils and other potential university, industry and government organisations, as well as PALRC.
 - The CNRM curriculum would include a series of ten short-courses comprising professional development modules to address the current needs in ranger training relating to indigenous culture and protected areas. These professional development courses are seen to fill in the gaps of the TAFE certificate courses, and UNDA plan to build the case for a Graduate Certificate in CNRM.
 - UNDA is meeting challenges in progressing its proposal for new courses due to lack of funding, despite the demonstrated need. The campus plan to start offering unaccredited professional development short courses as a way of demonstrating the need and hopefully building from this base, and PALRC is seen as being able to provide leverage and support through joint funding proposals and reinforcing the need for these courses. “With continued discussions about potential funding streams, we would certainly have more leverage with our Fremantle and Sydney campuses to develop the full Grad Cert.” (Gillian Kennedy UNDA).

- The new short courses for professional development (ie non-accredited) include: Introduction to Aboriginal Research Methodology; Introduction to Cultural Heritage Management; Introduction to CNRM; Sustainable livelihoods; Introduction to GIS; Aboriginal site recording; Management Planning; Legislation; Aboriginal community engagement; Cultural tourism.
- The University of New England (UNE) is seeking to increase Indigenous enrolments and offer new short courses including bespoke online courses.
- The University of NSW Sydney offers a short intensive field-based Masters-level course on protected area management.
- The International Water Centre (IWC) is an independent statutory centre at Griffith University that delivers a Masters program (integrated water management), short courses for professional development training, online courses, applied research and a leadership program. It is an interesting model for NRM education and training.
 - Topic areas of overlap with PALRC include wetlands, catchments, cultural indicators for river health, and ranger training.
 - A twinning program builds capacity through skills exchange.
 - The IWC distinguishes between the three activities of: education, training, and capacity development and has five areas of activity:
 - Education¹² - Masters program at Griffith University – IWC offer two scholarships plus industry scholarships are sought; Program includes 10-day field trip in Thailand
 - Training¹³: Courses not credited by university; certified by Alliance for Water Stewardship. Three types: (a) Training portfolio of short courses¹⁴ - only one identified on website which is about to be upgraded; (b) Custom-designed training¹⁵ - online form for selecting themes and content options as well as delivery options. 95% of their training is custom-designed with clients and is therefore *ad hoc*. (c) Online courses – several developed and are mostly foundational and modules can be done as a micro-Masters; they are working on developing a progressive training framework e.g. 4 weeks \$500 (incl GST); can choose Certificate of Excellence or Certificate of Participation (with different requirements)
 - Leadership Program¹⁶
 - Capacity Development¹⁷
 - Applied research¹⁸

12 <http://watercentre.org/our-services/tab/education/>

13 <http://watercentre.org/our-services/tab/training/>

14 <http://watercentre.org/training/tab/short-courses/>

15 <http://watercentre.org/training/>

16 <http://watercentre.org/our-services/tab/leadership/>

17 <http://watercentre.org/our-services/tab/capacity/>

18 <http://watercentre.org/our-services/tab/research/>

- The University of the South Pacific (USP) has established the Pacific Center for Technical and Further Education (TAFE) and is working on the development of transition pathways from TAFE to university. A previous foundation program has been folded into Pacific TAFE.
 - TAFE courses in climate change resilience (“Resilience certificate”) are now standardized, with identified attributes that are needed to transition from TAFE to USP under-graduate and then post-graduate.
 - There is now an aim to develop a “conservation certificate” based on the same model as part of a joint training across resilience and conservation, as a partnership with LMMPA (locally managed marine protected areas).
 - A new USP Pacific Islands & Ocean Stewardship (PIOS) post-graduate program aims to meet needs of stakeholders and include experiential learning and skills development. This will help to meet the identified gap in undergraduate or post-graduate courses on standards for conservation practice. USP is seeking funding to support the capacity building through the BIOPAMA¹⁹ grant program.
 - USP recognises that establishment of PIOS would provide a clear mechanism for collaboration with PALRC, and is interested in jointly taught programs.
 - The New Columbo Plan for joint university partnerships is worth pursuing.
 - There are a number of key drivers of capacity building in the South Pacific for PALRC to collaborate with, and in particular in relation to the Pacific Island Community Adaptive Co-management (PICCC) course. The Protected Areas Working Group (PAWG) provides a strong regional implementation support network, and provide recommendations to the Pacific Islands Roundtable for Nature Conservation (PIRT), which is a coalition of nature conservation and development organisations, governments, inter-governmental agencies, donor agencies, and community groups created to increase effective conservation action in the Pacific Islands Region. PIRT is the key coordination mechanism for the implementation of the new Framework for Nature Conservation and Protected Areas in the Pacific Islands region (2014-2020) and currently IUCN is the Chair and SPREP is the Secretariat of PIRT. The South Pacific Regional Environment Program (SPREP) offers a range of short courses on an *ad hoc* basis (subject to funding) that are not accredited or standardized, including courses on project mgmt., cost-benefit analysis, as well as courses much more specific to protected area management.
- Lincoln University in New Zealand is developing a partnership with the Department of Conservation²⁰ and has a range of protected areas courses including conservation and interpretation, tourism and recreation planning. The Landscape Design Lab²¹, works in the space between conservation and design, with the goal to connect nature to people and people to nature, and has projects oriented toward how protected areas can change people, rather than how people can change protected areas, and promoting ideas of belonging and identity rather than consumption. Reciprocal courses with Lincoln University are worth exploring, such as co-designing a package of residential programs.
- Colorado State University, Centre for Protected Area Management offers customized short courses²². They are interested in collaborative capacity building programs²³.
- University of Wisconsin-Madison partner with Foundations of Success (FOS) in delivery of accredited Open Standards training (detailed below for online courses).

¹⁹ <https://www.biopama.org/>

²⁰ <http://www.lincoln.ac.nz/News-and-Events/Help-on-the-way-for-parks-and-recreation-sector/>

²¹ <http://www.designlab.ac.nz/en/about/>

²² <https://warnercnr.colostate.edu/cpam/customized-courses/>

²³ <https://warnercnr.colostate.edu/cpam/collaborative-capacity-building-programs/>

3b. Non-university providers

The wide network of providers outside the university system is represented in the attached course and provider databases for courses internationally. These providers will form part of the network of training providers that PALRC would need to draw upon to deliver on new program proposals identified in section 5.

3c. Online courses (E-learning)

Online courses and blended learning (online combined with face to face) are proliferating and open up more affordable and accessible training opportunities especially for those in more remote locations. Combining online learning with intensive in-person sessions is an ideal approach and two new online initiatives currently being developed are outlined below (Foundations of Success and the Zoological Society of London).

As outlined by O'Connell et al. (2017) e-learning "has the potential to provide accessible, strategic, low-cost and efficient means to build capacity in some areas of conservation. However, despite the rapid increase in the availability of both face-to-face and e-learning courses, it is clear these need to be driven pro-actively by strategic partnerships between the conservation and education sectors" (p3).

- New channels for capacity building relating to protected areas are provided by Massive Open Online Courses (MOOCs) (see Mauvais 2017), along with Open Universities Australia (online higher education organisation) <https://www.open.edu.au/>.
- MOOCs open up training opportunities including blended learning whereby online learning is complimented by face-to-face learning intensives.
- A database of relevant online courses is included as an attachment to this report.
- Since 2009, IUCN Papaco (Program on African Protected Areas & Conservation) has been developing online training programs for protected areas in Africa (see Mauvais 2017).
- The Ranger Academy in east Africa (rangercampus.org/rangeracademy/) is a new E-learning platform designed to the specific requirements of rangers worldwide.
- Availability of online material for courses facilitates collaboration e.g. students between Australia and the South Pacific can study same materials, combined with student exchanges. Students can do the intensive in a choice of locations and the online content is the same.
- The Pacific Islands Protected Area Portal (PIPAP²⁴) is a protected areas online platform that serves as an information portal about capacity development, courses and scholarships for the region. IUCN in Suva contracts SPREP to deliver this portal through BIOPAMA. A more sophisticated portal is being developed and there is an opportunity here for PALRC to contribute information on courses and providers. The portal could be developed to support a community of practice, and could be set up to function as a PA "dating agency" along with the WCPA, similar to the Global Parks²⁵ one in Canada.

Foundations of Success

Foundations of Success²⁶ (FOS) started in 2002 as a small, not-for-profit organization committed to working with practitioners to learn how to do conservation better through the process of adaptive management (AM) and using the Open Standards (OS) framework. They work with other conservation organizations to help them develop adaptive management systems, facilitate cross-project and cross-site learning, and conduct monitoring and evaluation. FOS has a team of OS facilitators who deliver training that is adapted for specific organisational needs.

- FOS have five strategies: (1) helping organisations (clients e.g. NGOs, government agencies, universities) to do AM primarily through OS (2) teaching courses for universities as part of a Teaching Adaptive Mgmt (TAM) network (3) CoP - supporting those using OS (4) Research development & innovation - technical support for those using OS and research based on documenting OS case studies.

²⁴ <https://pipap.sprep.org/>

²⁵ www.Globalparks.org

²⁶ <http://www.fosonline.org/>

Ongoing support is provided online after face-face training courses and this follow-through is built into the contract prepared with the client.

FOS USA has developed FOS Europe and FOS Latin America. FOS has identified a niche with blended learning that enables course participants to go to higher level OS training.

- FOS has offered short intensive OS courses over recent years for various universities in the US, such as a 2-week intensive in partnership with the Smithsonian and George Mason University. These were unaccredited and were available for external participants as well as university students. They have recently discontinued this, due to lack of accreditation and expense and are investing in online development at University of Wisconsin-Madison (UWM) and directing other students to there rather than try to continue to offer it through various universities. Market research showed demand for an online course that was cheaper and accredited – both for students from other universities who will be directed to this course offering, as well as for conservation practitioners and NGOs and to make it more accessible for remote communities. Therefore FOS is now focusing on a partnership with one university (UWM) to deliver an accredited 10-week OS course that is a mandatory course for the (25) graduate students in a conservation program. FOS received grant funding to support development of the online modules. UWM will charge a fee (amount not confirmed) for the use of their online platform and the pilot will be ready for delivery in 2019. The interim approach is not to accredit it so non-UWM participants will not get university accreditation but a certificate from the Conservation Measures Partnership (CMP) which houses the Open Standards. The plan is to pursue accreditation after the pilot. The online training will be supported by interaction with facilitators and UWM students partner with an agency (e.g. Fish&Wildlife Service) or an NGO for project focus to develop a management plan for a conservation problem.
- *Summary of lessons from FOS experience for PALRC:*
 - Blended learning most cost-effective.
 - Focus on one Australian university partner for OS offering (e.g. UTas) OR partner with FOS and UWM to have access to their online course for Australian participants, with Australian-based OS trainers providing the blended learning with interaction and ongoing support. Partnership agreement to be explored with FOS and UWM. e.g. delivery of OS online complimented by face-face field intensives and can be offered as a short course in partnership with PALRC university partners.
 - If PALRC lists the UWM online course in its offerings and scholarships are offered for a package of online with local interaction and optional short intensive and ongoing support, then it profiles the UWM course globally and increases enrolments thus increasing UWM income (may be a win-win proposal).
 - Best to commence delivery of new short courses independent of accreditation for pilots and seek accreditation after the pilot.
 - The 5 strategies of FOS align quite well with PALRC in terms of the CoP, and the development of research based on documentation and development of adaptive management case studies.

Zoological Society of London (ZSL) / National Geographic

The ZSL-National Geographic Professionalizing Conservation initiative involves development of a set of global, open access online courses on protected area management. The initiative aims to contribute to the establishment of the first ever set of global professional standards in conservation.

- A suite of standardised online training courses is being developed for all levels of protected area management. These courses will be developed by leading protected area practitioners and experts and delivered through a dedicated online learning platform combined with practical courses at Regional Training Centres (Africa, Latin America and Asia).

Endorsement of the modules by the IUCN WCPA is being sought. The course framework has been designed to align with both the IUCN/WCPA Register of Competences for Protected Area Practitioners and the IUCN Green List Standard for Protected Areas. It is structured around six pillars: Protected Area Foundations; Organization and Management Culture; Biodiversity Conservation; Site Management and Operations; Communities; and Assessing Performance.

- The intent of ZSL/NG is that the course aligns itself with the three regional training centres to integrate local applied and context-specific training with the more generic online materials that will be available.

3d. Courses offered by institution and by subject

Databases (referenced above) for courses relevant to protected area management are organised by:

- **Courses by providers**
 - International scope (but with regional focus so not comprehensive internationally)
 - Includes universities, TAFE colleges, non-government
- **Courses by topic**
 - Topics are identified within skills categories that reflect those in the IUCN Global Register of Competences
 - Identifies almost 200 short courses, that range significantly in relevance and suitability but indicate what is available
- **Online courses**
 - Internationally



Dr Rosalie Chapple (far left) with UNSW Sydney Masters of Environmental Management students studying protected area management in the Blue Mountains

3e. Pathways and accreditation

There is a widespread call for short courses that are institutionally accredited and that can contribute to a cumulative education pathway through vocational education and training (VET) to university.

Short course accreditation options

All stakeholders/ or target groups express the value of having short courses accredited by an institution i.e. courses that are recognised for meeting certain standards of educational quality and therefore certified or endorsed by a reputable institution such as a university or the IUCN (e.g. through WCPA endorsement).

University accreditation

- Uptake of many university PA courses is low to date, despite high demand from the field. The practitioner-led demand for training has not yet been reflected in university course enrolments as practitioners are looking for short courses not degree programs.
- An ideal outcome would be new short courses that have university accreditation and are offered internally with credit for university-enrolled students, and externally for protected area practitioners or professionals who can gain credit for the course (and this credit may go to any program they are or might in the future enroll in).
- The University of New England (UNE) has recently started offering bespoke courses²⁷ - a variety of short courses that combine online with intensives (those relevant to PA practitioners are identified in the 'course by topic' database). However uptake of these course appears to be minimal to date.
- Another approach is for a composite series of accredited short courses to articulate with a Masters program for protected areas, based on the structure of a Masters of Business Administration (MBA). Perhaps an MBA program based on ecological integrity!
- Accreditation is a lengthy process and this can undermine the very purpose of developing new short courses that are responsive and adaptive to practitioner needs. ANDU has encountered this same hurdle in trying to implement its new short courses.
 - It is recommended to develop and offer new courses without them initially being formally part of a university program, to speed up the process of offering the courses and to maintain flexibility and capacity to adapt and work with training recipients in co-design. These unaccredited short courses can articulate into university programs, but be independent.
 - University accreditation can then be sought after delivery and evaluation of outcomes, when value can be demonstrated.
- Other examples of university articulation of new short courses, which may or may not include accreditation:
 - Short courses can be designed for research project or field intensives or professional practice. UTas offering of OS short course under PALRC banner is an example.
 - Delivery by an external provider (under PALRC banner) such as an experienced consultant requires external payment – participants pay course fees to the university – a special arrangement is needed for payment of the course provider. An agreement would be needed between PALRC and the university whereby PALRC designs and delivers the short course, which is credited to university programs.
- Short courses need to be marketed and PALRC can be valuable to universities in defining the demand for short courses, designing and delivering them, in partnership with the university, and marketing to PALRC networks.

²⁷ <https://www.une.edu.au/bespokecourses/courses>

- PALRC could develop agreements with university partnership/engagement offices – may need a business agreement between PALRC and each university for financial return to PALRC.
 - Example: University of Tasmania Grad Cert in PA Planning - No new enrolments since 2016; may need marketing and re-framing to appeal to non-academic audience.
- Current university courses can be modularized and re-badged; Courses double-badged with different fee structure from standard academic courses.
- Best combination is online with short field-based intensives.

IUCN recognition or endorsement

- An alternative to university accreditation is for new courses that cross correlate with the IUCN Global Register of Competences²⁸ and where WCPA endorsement is sought. Meeting the Global Register of Competences is already a requirement for PALRC courses, so the courses are developed to be ‘fit for purpose’, so this should not be a lengthy process for either PARLC or the WCPA.
 - The Zoological Society of London (ZSL) is seeking WCPA endorsement of their new Professionalizing Conservation online modules (noted in section 3c). Assessment templates have been developed for WCPA members to review the curriculum for each of the 22 modules; as the process has just commenced the outcome of this remains to be seen.

Multi-institutional and trans-regional joint programs

- Short courses can be combined with semester-long courses into joint programs that are cross-institutional and trans-regional and offer a range of course offerings from PALRC university partners. Working with USP and ANDU would be two avenues for this – both universities are developing new courses on PA management and need leverage.
- Students in jointly taught programs between Australian universities and USP, could study the same curriculum and benefit from different case studies/locations between the South Pacific and Australia.
 - Short courses can feed into the new USP “Islands and Ocean Stewardship” post-graduate course.
- PALRC should continue discussions with BIOPAMA and the IUCN Suva office, to become an entity for delivering short courses in partnership with USP and SPREP. This could be one way to develop a more coherent framework for capacity development and address current inconsistencies. If BIOPAMA funding can be secured, and the Australian Government may also be approached to support this.
 - James Cook University secured a GEF-funded tender to provide an external offering for conservation practitioners in the South Pacific 2017-2020. This enabled all of the currently enrolled students to complete the Reef to Ridge program (mostly online with some face-face). Local education providers in the South Pacific were not competitive in this tender, yet this is an example of a program that would have been best delivered as a partnership with local providers.
- The Indigenous Desert Alliance (IDA) recently contacted PALRC about their field school proposal to address the demand for job-ready university graduates who want to work in Indigenous land management. They are developing an annual 10-day field-based introduction to Indigenous land management in order to attract, identify & support potential recruits to work effectively with ranger teams in the desert (see Table 2D).

Training and education transition pathways

- More short courses are needed to enable transition pathways from TAFE to university.

²⁸ <https://www.iucn.org/content/a-global-register-competencies-protected-area-practitioners>

- Several universities articulate an environmental degree with the Conservation and Land Management (CALM) Diploma²⁹: (Charles Sturt University (Wagga), University of New England (UNE), University of Queensland (Gatton), University of Newcastle, Western Sydney University (Hawkesbury))
- The University of the South Pacific as identified earlier, is developing a bridging course from TAFE to university. New England TAFE is working with the University of New England to develop new short courses to help build bridges between TAFE and university e.g. the Uralla Centre offers a bridging course through the Higher Education and Partnership Program (HEPP).

4. Topics for new courses

A list of priority topics that address skills and content knowledge has been developed (Table 1) as a basis for further discussions with partners and specific target audiences. In section 5, proposals are developed for training programs that include these topics for different target audiences (Table 2), and that will include evaluation of outcomes.

The topics for short courses identified in Table 1 are those considered most needed for a practitioner to deal with contemporary society and a rapidly changing world with multiple pressures on nature. The list of topics is defined both from the practitioner's view of what the needs are, as well as from a meta-understanding of the purpose and meaning of protected areas (guided by the IUCN Global Register of Competences). This helps to ensure that the new short courses are strategic as well as being responsive to specific skill needs. The courses therefore include broader and deeper understanding, as well as specific practical skills that are identified as needed by practitioners and yet rarely offered in a form adapted to local situations.

To address the issues identified earlier, development of courses should be based on the following features and approaches:

- **Co-design** with target audience to ensure they are fit for purpose (i.e. meet workplace and on-ground training needs)
 - Drawing on content and expertise across a wide network of trainers and educators (including beyond current PALRC partners) including universities, NGOs and agencies
- **Experiential and project-based learning** are emphasized
 - Blended delivery models (face-to-face intensives and online learning)
 - On-country and project-based learning for integration of theory and fieldwork
- **Follow-through and mentoring** is built into training packages as needed
 - Including ranger and other staff exchanges post-training
- **Peer network** building (e.g. PARLC course alumni join an online PALRC community of practice)
- **Resourcing** is sought for strategic and progressive skills development
 - Courses delivered within a framework that allows for irregularity of funding (so even if training is stop/start, then it can still be part of a sequential training program) including short-term refresher courses to fill in training gaps; ongoing funding options to be explored including philanthropy
- **Evaluation of outcomes and impact analysis**
- **Local delivery** preferentially

²⁹ <https://www.tocal.nsw.edu.au/future-students/articulation>
<https://www.tocal.nsw.edu.au/courses/degree-pathway>

Principles of the training approach

- Courses provide enabling environments for learning rather than training for skills alone.
- A partnership approach across Australia and the region, that includes universities, industry, government, and non-government sectors, with PALRC providing an umbrella for a wide network of delivery that includes on-ground facilitators who provide a range of skills and knowledge and deliver training in versatile formats.
- Supporting Indigenous people and communities to maintain and establish their own learning approaches and networks, and to making best use of traditional knowledge to help achieve conservation goals through two-way cross-cultural learning and knowledge integration.
- Pathways from VET through university education are developed and supported.
- The training approach is based on participatory learning, which recognises participant's own experience, with a format and facilitation that encourages participants to share their knowledge in a way that fosters individual and collective learning. Courses build on participants' existing leadership capabilities and experiences in natural resource and protected area management.



Students participating in the University of Tasmania's Masters of Protected Area Governance and Management
Credit: Graeme Worboys

Table 1. Priority training needs for the range of target audiences.

Notes:

- Topics are not in order of priority, are not definitive or exhaustive, and are a work-in-progress that provides a basis for development of new short courses.
- Target audiences include all governance types for protected areas (i.e. government, shared, private, and Indigenous and local communities).
- Categories and competence levels are based on the IUCN Global Register of Competences: Personnel level 1 Skilled worker; level 2 Middle management / technical specialist; level 3 Senior Manager; level 4 Executive <https://www.iucn.org/content/a-global-register-competencies-protected-area-practitioners>

TOPIC	DETAILS	TARGET AUDIENCE	COMPETENCE LEVEL
Policy, planning and projects			
Protected Area Essentials	The how, why and what of protected areas: their definition; levels of protection, management and values; basic knowledge in biodiversity conservation; interconnectedness of cultural, natural & social values.	All (specific request by Australian state government agencies & NGO-managed lands)	For new employees / not familiar with PA context (could be any personnel level)
Evidence-based conservation practice, policy and management planning An introduction to evidence-based public policy management, and how to maintain ecological integrity. Understanding trends and operationalizing management based on evidence.	(a) Learning & applying the Open Standards (OS) adaptive mgmt. framework – helps teams be systematic about planning, implementing, & monitoring conservation initiatives to learn what works, what doesn't, & why - & ultimately adapt and improve efforts. (b) Understanding how to use scientific data for policy & management; working with scientists; understanding how science is carried out in practice; skills in basic monitoring for ecological integrity; differences between good science & poor, ethics, graphical representation of & interpreting data, research design & basic statistical methods that can be used to summarise, analyse & interpret scientific data.	Identified by all target audiences	Level 1-3
Protected Area Governance	Specifically in relation to: <ul style="list-style-type: none"> • Indigenous land • Access and use rights in and around PAs, and participation in decision making processes • Community engagement 	All	Level 3-4
Master classes in key areas of conservation competency	Short dynamic workshops (2 days max, plus follow-up session), 'real project' content, and mentoring as arranged. For example, navigating complexity, high impact conservation program design and co-design, collective leadership, and fostering innovative collaboration.	All	Level 3-4
Personal & relationship competences			
Human factors of management	Leadership (individual and collective), working with communities, communicating conservation, navigating complexity, conflict resolution, personal development and resilience, reflective & mindfulness practice.	Identified by all target audiences	All

<p>Personal and organizational resilience</p> <p>In the face of crisis and includes engaging with communities and personal recovery from trauma</p>	<p>Risk and disaster preparedness and recovery (including preparing for climate change) and engaging communities in times of crisis. This relates to trauma and stress and is a different focus from incidence management training that does not address these issues and the fall-out from incidents.</p>	<p>Need identified by Australian government agencies</p>	<p>All levels</p>
<p>Train-the-Trainer (T-the-T) courses that are adapted for the PA sector</p>	<p>Addressing the issues that have been identified at various levels, namely:</p> <ul style="list-style-type: none"> • Less formulaic, more focused on PAs and T-the-T at a functional, not generic, level • Building capacity for community to deliver their own training • Enabling staff to pass on their skills • For suitable recipients who have the personal skills and a workplace mandate to train • Being trained to pass on key messages (somewhat like the AI Gore initiative for climate change) 	<p>Need identified by all audiences.</p>	<p>Level 2-4</p>
<p>Sustainability, local communities & cultures</p>			
<p>Cross-cultural competency and knowledge integration</p>	<p>Various dimensions and components for both Indigenous and non-Indigenous people and includes: cross-cultural knowledge; cross-cultural competency and Indigenous cultural protocols (for non-Aboriginal people to work effectively with Aboriginal communities and for Aboriginal people to work effectively within their own communities); working with conflict over management issues within and between communities; the practice and multiple values of cultural burning.</p> <p>NB. Cross-cultural learning and different cultural knowledge bases can be incorporated into any of the other topics in this table.</p> <p>NAILSMA is currently developing strategic principles and guidelines for blending traditional and scientific approaches to land management (<i>Our Knowledge Our Way Guidelines</i>).</p>	<p>All (most target audiences identify a need for more explicit programs for cross-cultural learning e.g. Indigenous and 'western' traditions)</p>	<p>All</p>
<p>Cultural heritage planning & management</p>	<p>Planning and managing for cultural heritage on parks for both Indigenous and non-Indigenous heritage and including cultural database management</p>	<p>Request from NGOs, Indigenous communities & government agencies</p>	<p>Level 2-3</p>
<p>New business enterprises</p>	<p>Sustainable livelihoods including new business enterprises based on natural resources e.g. connect training to sites to help address sustainability issues and economic development issues where there are many native title claims and joint management opportunities.</p>	<p>Request by Indigenous communities</p>	<p>Level 2-3</p>

<p>Tourism management</p> <p>Managing visitation and the visitor economy to create the best outcomes for natural and cultural heritage.</p>	<p>Creating visitor experiences (e.g. knowledge-sharing and activities for meaningful experiences and to raise visitor awareness; defining target markets).</p> <p>Building business partnerships and ecotourism opportunities.</p> <p>Managing and avoiding unsustainable levels and types of use (e.g. governance arrangements; Corporate and Social Responsibility principles; managing and monitoring to identified targets and limits for integrated social, environmental and economic sustainability etc.).</p> <p>Include in-depth case studies of exemplary practice in sensitive, sustainable tourism, visitation and other human uses of natural and protected areas; plus examples of how and why things go wrong.</p>	<p>Identified need by Australian government agencies and Indigenous communities</p>	<p>Level 3-4</p>
Applied conservation management skills			
<p>Best practice</p> <p>Case studies of good and exemplary practice based on field visits and lessons learned from inappropriate practice</p>	<p>Field visits that provide an opportunity to see what others are doing and have interactive discussions with peers in other locations.</p>	<p>All audiences identify value of this</p>	<p>Middle managers; future leaders; rangers</p>
<p>Preparing for climate change</p>	<p>Strategic; Preparing for climate change and its implications (understanding implications on a broad level for senior staff) – includes sourcing robust data to inform preparation and adaptation (integrates with course on understanding science) e.g. 3-day intensive</p>	<p>All</p>	<p>Level 3-4</p>
<p>Specific practical management skills</p> <p>A package of short courses on specific skills for different target audiences/locations (e.g. rangers – international, indigenous Australian) – includes fire and pest management</p>	<ul style="list-style-type: none"> • Need for informal training and sharing of tacit knowledge especially within government agencies • An example is ‘skills days’, which are an approach for utilizing tacit knowledge through peer-based informal training days (not accredited); staff have opportunity to ask questions; outcomes include teamwork and safety. • Training workshops that are less formal, cross-generational and include participants with varying levels of experience 	<p>International Ranger Federation; both Indigenous and non-Indigenous audiences and across range of tenures</p>	<p>Level 1-2</p>



Bushfire in the Grose Valley, Blue Mountains. Credit Ian Brown.

New courses will be cross-correlated to the IUCN competences that can be flexibly used and adapted according to local needs, contexts, working practices and cultures. The competences are a list of 300 skills and associated knowledge requirements (competences) that recognise four levels of personnel (as detailed for Table 1). Appendix 3 provides references and further detail for some topics. Below are comments and perspectives for some topics in Table 1.

Leadership – see Box 1.

A program like this can address the need to enable protected area managers to understand that societal values underpin where protected area management goes ... not just the science. The ability to develop public policy and take a broad social, cultural and economic view into their work is critical - establishing holistic awareness across the need to bring all these aspects together and work closely on informing and leading societal discussions regarding the role of protected areas is critical and has been poorly achieved since the Commonwealth's National Reserve System funding ceased (Terry Bailey, leader in the PA sector).

Leadership programs should focus on collective (rather than just individual) leadership and take a multi-disciplinary and multi-partner approach that is inter-generational in delivery and impact. Those are the unique challenges of environmental and social endeavours (Dedee Woodside, NRM trainer).

Decisions should be based on the first principle of what is best for country (or nature) and from a place of feeling with, being with, country, in short: "making decisions from country not about country (Scott Gorringer, Manager, Indigenous Leadership programs, ARLF).

Box 1. Examples of PA & NRM leadership programs

- The Australian Rural Leadership Foundation¹ (ARLF) runs leadership programs for emerging rural leaders as well as for Aboriginal and Torres Strait Islanders². Community-based capacity building in the Torres Strait has 5 key objectives for their leadership training: 1. Understanding of and capacity for engagement in governance and politics. 2. Self-awareness and adaptability in their approaches to leadership. 3. Leadership skills including persuasion. 4. Influence and meeting facilitation. 5. Confidence levels in relation to public speaking. The ARLF can co-design a leadership program for the PA sector. Alumni include people working in protected areas. They do extensive evaluation and impact analysis.
- Executive Leadership Seminar³, University of California Merced (UCMerced) – A 10-day intensive management seminar on leadership, innovation and organizational renewal for protected area leaders. A partnership between UC Merced, the National Park Service and Stanford Business School. This course provides an intensive program for high achievers, and a model of course delivery that incorporates experiential learning and individual participant case challenge projects.
- International Water Centre Water Leadership program⁴ (detailed more broadly in above section on university providers); 9-month delivery online, commencing with a mandatory 5-day intensive and an optional mid-term intensive. IWC may be able to adapt their courses for the PA sector, recognizing the value in cross-sectoral integration and avoiding re-inventing wheels. For example, PALRC and its partners could draw upon IWC developments such as their leadership program, courses in conflict resolution and project management. Leadership Program⁵ - Sometimes co-badged with industry associations; mostly supported by industry bodies; scholarships offered by institutions; a boutique course with high profile. 9-months online with intensives - for project & middle managers.
- International Coral Reef Management & Leadership course⁶ - 10-12 day delivery intensive. Mostly Federal government funding support (DFAT); also the tourism industry fund a 1-day course through the American University International Program; "MindTools" used for pre-and post-survey. About 15 participants/year. Has been running for 3 years. 3-5 day courses are more popular.
- International Rivers Foundation⁷ - connected to the International Water Centre at Griffith University (outlined above), this Australian foundation developed in 2015 an emerging Water Professionals Program (EWPP) that fosters education and innovation in water management by supporting the professional and personal development of future water leaders. They invite emerging professionals, including postgraduate students and early career professionals, to participate in this leadership program that is sponsored by the Department of Foreign Affairs and Trade. The IRF received a large donation when the centre was established which was invested and provides ongoing income. The IRF awards a high profile annual prize. There is a twinning program⁸ for long-term, peer-to-peer relationships between organisations and communities at the local level.

see p58 for footnotes

Master classes

There is great organizational value (and potential for re-energizing staff) through Master classes focusing on “navigating complexity, high impact conservation program design and co-design, collective leadership and fostering innovative collaboration”. Along with key subject matter competency, these skills sit at the heart of “effective conservation”, and essential for nature-based business/social ventures (especially ventures that are time bound, urgency, resource poor or culturally complex) (Dedee Woodside).

Evidence-based policy and practice

An introduction to evidence-based public policy management, to allow enough learning that participants will be in a position to contribute to jurisdiction wide policy not just local park management policy (Terry Bailey).

The search for certainty produces ever more indices of uncertainty.

Can the value of nature be numerically demonstrated? Or, is it more important to better understand the whole immeasurable system and to stop trying to measure it? (Graeme Worboys)

Communication

How are we communicating the actual value of nature?

Communications across Indigenous and non-Indigenous cultures will be crucial - not warm and fuzzy but real; invest in a short course for current and future PA managers (Graeme Worboys)

Cross-cultural integration

NAILSMA (North Australian Indigenous Land & Sea Management Alliance) is currently developing strategic principles and guidelines for blending traditional and scientific approaches to land management (*Our Knowledge Our Way Guidelines*³⁰). NAILSMA also has a capacity-building program for Women Rangers on Country.

The value of traditional (cultural) burning goes beyond measurable environmental indices – it has deep cultural and social value.

NAILSMA is currently trialing a Certificate III in Indigenous Land Management³¹ (ILM) for delivery in the Northern Territory as part of NAILSMA’s Higher Education Participation and Partnerships Program (HEPPP) Whole of Community Engagement (WCE) initiative. The ILM trial has developed a culturally appropriate framework for delivering nationally accredited Certificate III units that recognise Indigenous Traditional Knowledge in a western education framework.

Tourism – Box 2 outlines a new TAFE course on cultural tourism

Park-perspective tourism not commercial tourism. Beware the marketization of nature and nature-based experience. It’s a slippery slope. How to be prepared and savvy to meet this challenge. Is nature becoming marketised? Is it at risk of becoming a number? (Graeme Worboys).

30 <http://www.nespnorthern.edu.au/wp-content/uploads/2018/08/Our-Knowledge-Our-Way-Call-for-case-studies.pdf>

31 <https://nailsma.org.au/projects/certificate-iii-in-indigenous-land-management>

Box 2. Cultural Tourism training

New England (NE) TAFE in Armidale is offering a new Certificate III in Cultural Tourism. Armidale Land Council asked New England TAFE to develop the course and it has been tailored (co-designed) with local Aboriginal Land Councils (it is taught by one Indigenous trainer and two non-Indigenous trainers) for Armidale, Guyra and Tenterfield TAFE campuses, for IPAs, rangers etc. Currently 26 participants. New course (Aug 23 2018 – March 2019) (16 weeks). Convened by the Aboriginal Engagement Coordinator (AEC) at New England TAFE (TAFE restructure – 10 AECs across the Western TAFE region). Other communities are interested to establish a similar course – such a course needs to arise from community interest. Delivery format is face to face, with video conferencing for those in neighbouring towns who can't attend. Currently working with local Aboriginal Land Councils to build a local support network for follow-through and mentoring (Steven Briggs, Aboriginal Engagement Coordinator, New England TAFE).

5. Proposed new training programs – addressing needs and issues

The challenge in Australia and its region in securing long-term financial support, along with cultural distinctiveness, may lead to development of models that are unique to this region. Several models have emerged for short course delivery for Australia and regionally, that seek to address identified needs and issues, and bring together a broad network of trainers and providers, including universities, independent consultants and facilitators, with clients including government environment agencies, NGOs, IPAs and ILCs. A series of pilots for different target audiences is proposed in Table 2, based on a partnership approach with shared investment. Importantly, these pilots should include evaluation of outcomes.

Table 2 presents various models for short course delivery for different target audiences, based on partnerships that demonstrate national and regional reach, and addressing identified issues and needs. These models reflect discussions with target audiences and any specific training requests.

There is a diverse range of learning opportunities for people working in protected areas that reach far beyond formal training, and the proposals include mechanisms such as building a community of practice (e.g. peer networks and staff exchanges), practical learning, and mentoring.

As identified earlier, features of these new short courses should include:

- Co-design of programs with target audience to ensure they are fit for purpose
(i.e. meet workplace and on-ground training needs)
- Emphasis on experiential and project-based learning
- Follow-through and mentoring built into training packages where needed
- Building peer networks and a community of practice
- Long-term resourcing for strategic and progressive skills development
- Evaluation of outcomes and impact analysis

The table identifies funding options for programs and a more detailed list of potential funding sources is provided in an attached database. The database of courses by topic is also an important reference for what courses are currently available that match or can be adapted to the priorities identified in Table 1.

The table also indicates the capacity of present PALRC partners to be able to deliver on these topics, and where other expertise will need to be engaged including independent consultants and facilitators.

Some of these include the Australian Rural Leadership Foundation and the International Water Centre Another example is the Seven Generations International Foundation Australia Ltd³² (7-Gen) which has a team of trainers across education, training, professional development, mentoring, capacity building, and specialized cultural and cross cultural programs. Along with the ARLF and IWC, 7-Gen are open to exploring longer-term collaboration or partnership opportunities with PALRC to build programs that are responsive to emerging needs such as Indigenous cultural competency; traditional fire knowledge and practice; ‘soft skills’ of management; visitor relations/tourism, protected areas co-management / cultural and eco-tourism; traditional ecological knowledge and cultural heritage management, leadership and inter-generational programs; traditional values and methodologies to enhance resilience and sustainability; community / stakeholder engagement; well-being and healing programs; cross-cultural leadership, peace building and conflict management programs.

Table 2. Proposed new training programs based on needs analysis.

Note: separate tables are for different target audiences and programs.

A. Target audience - Australian government protected area agencies				
<p>Three key topics from Table 1 are proposed to pilot a 12-month training package of three short courses for a range of staff levels in agencies, with the following elements:</p> <ul style="list-style-type: none"> - Agencies co-invest in development (assuming common set of short courses) and each agency pays for delivery for their staff. - Courses can be delivered for each state in turn, or as a joint course for two or several states depending on participant numbers. - Delivery of the series of 3 courses over a 12-18 month period from mid-late 2018 to end 2019. - Proposal to include facilitating national forums and webinars to encourage cross-fertilisation between state agencies. 				
Topic	Personnel level	Content	Delivery format	Delivery partners
Protected Area Essentials	New recruits, technical workers, field officers & rangers	The how, why and what of protected areas: their management and values; basic knowledge in biodiversity conservation; understanding ecological integrity & its maintenance; interconnectedness of cultural, social and ecological values.	Primarily in-class and some online 2-3 day intensive	PALRC university & NGO partners (specifics to be discussed, but capacity is there to develop and adapt from existing courses)

32 <http://7genfoundation.org/> ; <http://workingwithpeople.com.au/about-us/>

<p>Evidence-based conservation practice & management planning</p>	<p>Rangers, field officers & middle-senior managers</p>	<p>Understanding trends, informing policy and operationalizing management based on evidence; preparing people to contribute to jurisdiction-wide public policy development.</p> <p>Optional content includes:</p> <p>(a) Learning & applying the Open Standards (OS) adaptive mgmt. framework – helps teams be systematic about planning, implementing, & monitoring conservation initiatives to learn what works, what doesn't, & why - & ultimately adapt and improve efforts.</p> <p>(b) Understanding how to use scientific data for management, working with scientists, & skills in basic monitoring for ecological integrity; how science is carried out in practice; differences between good science & poor, ethics, graphical representation of & interpreting data, research design & basic statistical methods that can be used to summarise, analyse & interpret scientific data.</p>	<p>In-class & in-field; Option of blended learning (online OS modules with field intensives)</p> <p>(a) 2-5 days including 0.5-1 day in field</p> <p>(b) 2-3 days (includes 1 day in field)</p>	<p>(a) Open Standards trainers</p> <p>(b) Adapt from existing courses identified in database</p>
<p>Navigating complexity</p>	<p>Senior Manager to Executive</p>	<p>Problem-solving for complex conservation challenges in multi-stakeholder environments.</p> <p>Focus to be designed for agency needs e.g. could include:</p> <ul style="list-style-type: none"> - focus on making decisions & policy in areas of uncertainty - theory & case studies in scientific research & policy development; partnerships between researchers & policy-makers. - systems thinking - appreciating and working with paradox 	<p>In-class</p> <p>2-5 days intensive</p>	<p>Independent consultants/facilitators</p>

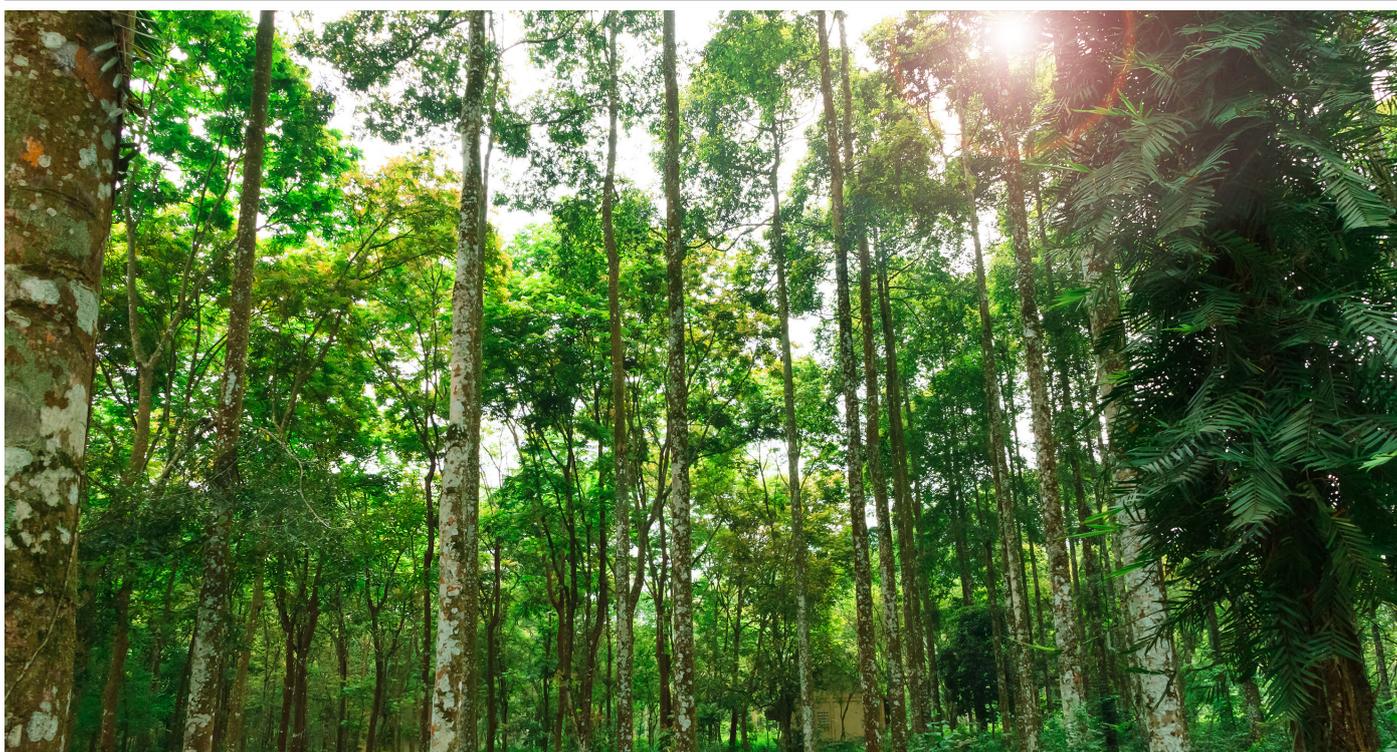
B. Target audience – Emerging leaders across Australia and the Asia-Pacific (adapted for audience)

Topic	Personnel level	Aims & content	Delivery format	Funding	Delivery partners
Protected Area Leadership Program	Emerging leaders or for senior to executive level; includes agencies, NGOs, private land managers, IPAs, Land Councils etc.	<p>To stimulate deeper self-awareness about what it means to live in & take responsibility for protected areas & landscapes, & to open up, broaden, & deepen the collective dialogue.</p> <p>To move discussions, thinking, & actions beyond the dominant paradigms of science, business, recreation, management, & policy as they are conventionally understood and practiced.</p> <p>To build capacity to inform and lead societal discussions regarding the role of protected areas.</p> <p>Key features:</p> <ul style="list-style-type: none"> • Collective & individual leadership • Experiential & project-focused learning • Why protected areas – reviewing, understanding, reinforcing the context & purpose from different cultural, and from different societal, perspectives • Trends & critical issues in protected area management & re-thinking approaches in a rapidly changing world • Appreciating & working with paradoxes • Ethics, philosophy & reflective practice • Cross-cultural 2-way learning • Developing public policy from a holistic social, cultural and economic view 	<p>Across 2-3 months, with a 4-5 day intensive at the start and end (4-7 days).</p> <p>Location: a nation-wide program and given that place is intrinsic to learning, sites would be chosen depending on participants and focus.</p> <p>Building alumni and peer network post-course through follow-up webinars with course convenors to help consolidate the learning & to establish a peer network that enables members to self-convene their network in the longer term.</p>	<p>Sponsors will be sought to provide scholarships.</p> <p>Capacity Building for Indigenous Rangers Strategy (CBIRS), Indigenous Employment & Recognition Division, Prime Minister & Cabinet³²</p>	<p>Program delivery would be based on a collaborative teaching approach, including Indigenous & non-Indigenous facilitators & presenters, PALRC partners & other experienced PA practitioners who act as group mentors, specialist trainers & guest speakers/ highly regarded experts (academics & practitioners) from a range of disciplines.</p> <p>Box 1 outlines other NRM leadership programs that provide considerable experience in course development, funding models, delivery, course evaluations etc.</p> <p>Options for exploring collaborative partnerships include in particular the Australian Rural Leadership Program and the US National Parks Institute.</p>

C. Target audience – Private land conservation organisations

Private land organisations have expressed interest in a range of new short courses for staff and volunteers. Topics of interest are outlined below.

Topic	Personnel level	Aims & content	Delivery format	Delivery partners
Protected Area Essentials	Applicable for staff and volunteers at a range of levels.	The how, why and what of protected areas, their management and values; basic knowledge in biodiversity conservation; understanding ecological integrity & how to maintain it.	Primarily in-class and some online. Duration: 2-3 day intensive	PALRC university & NGO partners (explore development of existing courses), and supporting private land organisation
Suite of short courses such as: Human factors; Open Standards; Cross-cultural awareness; Master classes; Cultural heritage mgmt.	Applicable for staff and volunteers at a range of levels.	As identified in Table 1.	Blended training (online plus in-field)	PALRC partners with supporting private land organisation



D. Target audience – Indigenous Protected Areas / Rangers

Overall aim: Development of a suite of courses as part of a training package offered in different parts of the country and adapted as needed for local contexts.

The package would have national reach and include co-design and delivery in several locations (north, south, east west, center) for ongoing annual delivery.

Course content to be location specific, not generic, and include field sessions.

Low cost; seek sponsorship and support from local business and/or corporate players as well as seek discounts for local services.

Topic	Personnel level	Aims & content	Delivery format	Funding	Potential delivery partners
Range of courses from table 1. e.g. adaptive management / Open Standards; cultural tourism	All	To develop a suite of courses with national reach as part of a training package offered in several locations (e.g. north, south, east, west, centre) and adapted as needed for the local contexts. - Include ranger exchanges and aspects of best practice management that feature in each location, e.g. joint management, managing risks, (pests and weeds), & managing visitation.	Local delivery, field-based intensives - similar format across locations but content is location-specific rather than generic. Building the alumni and peer network post-course will include follow-up webinars with course conveners to 1) help consolidate the learning & 2) establish a peer network that enables members to self-convene their network in the longer term.	Co-investment across locations joint bid to the Federal Govt (Prime Minister & Cabinet (PMC) Capacity Building Program), plus other government agencies and grants and philanthropy.	Locally based trainers with practical experience. PALRC university partners Wet Tropics Management Authority UNE (potential venue for eastern seaboard offering) Notre Dame University Broome TAFE Armidale (Cultural tourism course) Aboriginal Land Councils - Explore joint bid to PMC Capacity Building Strategy
Adaptive mgmt. including Open Standards	Rangers, field officers & middle-senior managers		5-day intensive. Location: central Australia tbc		tbc
Cross-cultural 2-way learning	All	Multi-year package of training – can integrate with other program proposals – for discussion	Central Australia		Discuss further with Seven Generations International Foundation Australia http://7genfoundation.org/
Series of short courses in cultural & natural resource mgmt. (CNRM) for Indigenous communities		PALRC to help progress development of new short courses with ANDU & Kimberley Land Council, as per their recent review of training needs in CNRM			Kimberley Land Council; Australian Notre Dame University (ANDU), Broome campus; Charles Darwin University (CDU).

<p>Proposal by the Indigenous Desert Alliance (IDA) for an Indigenous Land Management Field School, Matuwa Indigenous Protected Area</p>	<p>For university graduates and aspiring protected area managers</p>	<p>An annual 10-day field-based introduction to Indigenous land management in order to attract, identify & support potential recruits to work effectively with ranger teams in the desert.</p> <p>Long-term outcomes:</p> <ul style="list-style-type: none"> - Support Indigenous land management programs to identify, attract and retain high-quality staff and to enable them to focus on growing and developing their programs - Build the long-term sustainability of the Indigenous land management sector through career development pathways & better talent identification, support and retention strategies - Reduce recruitment costs & staff failure rates for Indigenous land management programs 	<p>Course designed by the IDA team in partnership with IDA members (ranger groups) and will be delivered in collaboration with senior rangers from the Matuwa Kurrara Kurrara Indigenous Protected through their regional cross-cultural learning hub.</p>	<p>The IDA is seeking investment to leverage other funding from current partners to make this field school an annual event and a crucial avenue to attract, retain and develop field-ready staff that can support the Indigenous land management sector to grow and develop.</p>	<p>IDA Indigenous Land Management Field School</p> <p>Partner with key universities (Murdoch, CDU, CSU etc.) to attract quality final year candidates & to inform them of the opportunity. Advertise the opportunity through TAFEs, environmentally focused organisations and other related fields in-order to attract good quality candidates from a broad spectrum of fields.</p>
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E. Target audience – South Pacific

Topic	Personnel level	Aims & content	Delivery format	Potential funding	Potential delivery partners
Adaptive management	Rangers & middle-senior managers	Learning & applying the Open Standards (OS) adaptive mgmt. framework – helps teams be systematic about planning, implementing, and monitoring conservation initiatives to learn what works, what doesn't and why - and ultimately adapt and improve efforts.	Proposed 5-day intensive in Fiji	IUCN-BIOPAMA	USP, IUCN-Oceania, BIOPAMA, PNG-CEPA, SPREP Explore whether the workshop can be a springboard for the revamped PICCC (below), as a component of that wider training program.
Pacific Island Community Adaptive Co-mgmt course (PICCC)	Middle to senior managers	<p>To build and improve the capacity of conservation practitioners, community representatives, government technical officers, NGO technical officers and training personnel in the management of community-based conservation projects and sites for the sustainable conservation and management of natural resources.</p> <p>To provide core skills and develop critical thinking for achieving widespread NRM & sustainable community livelihoods in Pacific island countries drawing particularly on successful regional experience and skills.</p> <p>The course would draw upon many of the topics in Table 1.</p> <p>The course aims specifically to:</p> <ul style="list-style-type: none"> · Develop personal professional skills and strengthen the confidence to apply them · Develop and practice community participation and planning skills · Develop understanding of the wider governance context affecting or supporting community livelihoods · Develop critical thinking and strategic planning capacity · Understand basic NRM, conservation, adaptation, disaster risk reduction & supplementary livelihood tool. 	<p>Delivered 4x between 2001 & 2015. Some delivery issues reflect those identified in this report, & are now being addressed in an effort to have the program offered annually with ongoing viability.</p> <p>Delivery over several months, with in-person training followed by fieldwork then in-person reflection.</p>	<p>Funding needed for curriculum/content development.</p> <p>Funding options to explore:</p> <ul style="list-style-type: none"> - BIOPAMA - Colombo Mobility Plan 	USP, IUCN, SPREP, BIOPAMA, LMMA (Locally Managed Marine Area Network)
Short courses that articulate with new University of South Pacific (USP) course		Contribute to new "Islands and Ocean Stewardship" post-graduate course at USP		Colombo Mobility plan options to be explored with PALRC university partners	University of South Pacific (USP)

<p>Range of short courses including soft-skills, leadership, mentoring (PNG CEPA)</p>	<p>Rangers primarily plus managers & other tbd</p>	<p>A report by Peterson et al. (2018) identifies the competence of senior managers and rangers working on protected areas in Papua New Guinea (PNG) to perform their roles and to identify key recommendations in relation to training and capacity building.</p> <p>Key recommendations to enhance the competence of rangers include:</p> <ol style="list-style-type: none"> 1. Establish and effectively fund a network of rangers across PNG and incorporate relevant capacity building and training to enhance their abilities to improve the management effectiveness of protected areas. 2. Build the field capacity rangers (e.g. biodiversity, law enforcement, awareness raising, communication and collaboration etc.). 3. Prioritise the capacity building and training activities to be undertaken both over the long and short-term. 	<p>to be determined</p>	<p>Options to explore:</p> <p>Bilateral relationship between the Australian Department of the Environment and the PNG CEPA & Parks Australia</p> <p>UNDP</p> <p>GEF</p>	<p>PNG's Conservation and Environment Protection Authority (CEPA).</p> <p>Workshop early 2019 in PNG to explore a program for delivery of ranger training with local RTOs and institutions for conservation and protected area agencies in PNG (and likely throughout the Pacific).</p>
<p>Pacific Islands Protected Area Portal (PIPAP)</p>		<p>Contribute to a community of practice and peer network and provide input to the portal with information on training, scholarships, exchanges, secondments, etc.</p>			<p>South Pacific Regional Environment Program (SPREP)</p>



Members of Solomon Island Rangers Association

F. Target audience – International Ranger Federation (IRF)

Discussions with the International Ranger Federation (IRF) have highlighted the value of new short courses in partnership with PALRC and potentially with the IUCN-WCPA, focusing on specific skills.

Topic	Personnel level	Aims & content	Delivery format	Funding	Potential delivery partners
Specific practical skills such as fire & feral animal mgmt.	Rangers & field officers	Proposal of IRF Asia to pilot new short courses in conjunction with the World Ranger Congress in Nepal November 2019.	Pre- and post-Congress workshops		IRF Asia Include several Ranger Associations. Trainers would likely include Australia ex-Parks staff with the requisite skills. Potentially involve IUCN-WCPA.

G. Online modules

Topic	Personnel level	Aims & content	Delivery format	Delivery partners
Practical ranger training skills	Levels 1, 2 & 3 (Skilled workers/Rangers, Middle managers/Technical specialists, Senior managers)	Collaborate with new e-learning platforms	May include field-based training to support e-learning	Examples include: Ranger Academy in east Africa (ranger-campus.org/rangeracademy/) National Geographic/Zoological Society of London (Professionalizing Conservation training initiative)
Open Standards online	Levels 1, 2 & 3 (Skilled workers/Rangers/Field officers, Middle managers/Technical specialists, Senior managers)	To develop online Open Standards training modules for the Oceania region	Online (for blended learning)	Explore options for PALRC collaboration with the new online modules developed by Foundations of Success (FOS) with the University of Wisconsin-Madison



Forest Rangers, Phong Kna Ke Bang NP Vietnam Credit: Graeme Worboys

5a. Financially viable models for short course development and delivery

As already identified, key to sustained and progressive training delivery is continuity of funding, and funding packages that support follow-through and mentoring. Table 2 includes targeted products for funding that could include stand-alone short courses for ongoing annual delivery – either through government support or philanthropy.

In considering the financial viability of training organisations, two relevant business models are outlined below.

- The International Water Centre, based at Griffith University, maintains financial independence and flexibility. The IWC was founded in 2005 in the context of drought (and pre-GFC) when there was widespread attention to better water mgmt. Founding members included four universities, but only Griffith remains as a member³³. Start-up funding and partners dissipated after the drought and the GFC. Universities also shifted focus away from water.
 - A broker of networks - they have some in-house trainers and otherwise source external trainers (e.g. from government, industry, universities).
 - Funding – various avenues: IWC scholarships international participants often through Australian Awards Fellowship Program; institutions provide scholarships; industry bodies fund their staff.
- The Australian Rural Leadership Foundation (ARLF) was established in 1992 to address a need to build leadership capacity within rural, regional and remote (RRR) Australia. Funding is reliant on sponsorship, fee-for-service programs and donations. The ARLF, as a social enterprise, is a not for profit public company. It requires a minimum of \$1.5-2m annually to provide its programs, which averages over \$1,000 per day to deliver the programs to each individual. Sponsorship of scholarship places makes up the majority of the Foundation's income other than funding raised from fee-for-service industry specialist programs. The Foundation underwent a renewal process in 2014 with a major aim to achieve a more secure and longer-term funding base. They are presently considering how to better position themselves to be a centre for regional leadership, and while 60-70% of what they do is deliver programs, the other important element is sharing the stories, and on-going alumni engagement with issues such as climate change, food security, waste and energy, where leadership is needed (Philippa Woodhill, Director, Partnerships, ARLF). <https://rural-leaders.org.au/our-programs/arlfp/>

An attached database identifies a range of funding sources. Particular funding options that have been explored during the process of this review include:

- South Pacific - BIOPAMA – several discussions have been held in relation to BIOPAMA phase 2 funding and these continue in relation to the South Pacific collaboration and as reflected in Table 2F and recommendation 3I.
- Indigenous capacity building - The Indigenous Employment and Recognition Division of the Dept. of the Prime Minister and Cabinet (PMC), has a new \$30m Capacity Building for Indigenous Rangers Strategy (CBIRS) focusing on training in compliance and leadership. This is still in the planning stage and presents potential opportunities for PALRC.
 - The strategy is expected to support IPAs and/or Indigenous ranger groups³⁴ in implementing management effectiveness plans.
 - The PMC is working with Social Ventures Australia (SVA) to develop an outcomes framework for measuring impact.

³³ Similarly, BMWHI started with 8 institutional members in 2004 including four universities, and no universities remain as members.

³⁴ It was noted by an Aboriginal Land Council officer that most funds are towards the training and capacity building of the Indigenous rangers, but support staff also need training.

- Indigenous capacity building - Discussion with Assistant Secretary Joint Management Branch, Parks Australia, Parks Australia, Department of the Environment and Energy – it was suggested that PALRC put a proposal to the Boards of the Federal Government parks in advance of their Feb/March meeting, to propose PALRC as a service provider for training needs; it was also suggested PALRC connect with the Environment Branch in PMC and the heritage section of DEE, to discuss support for capacity building.
- Approach the Wet Tropics Management Authority (WTMA) in regard to a targeted training opportunity for Indigenous Rangers (Table 2D) as a strategic priority for World Heritage Areas and there is momentum with establishing the Daintree as a jointly managed national park including three IPAs and their organisational bodies, Qld Parks and Qld tourism industry council. WTMA have been talking to Charles Darwin University as potential delivery partner for aspects of the Wet Tropics course (they also deliver the Kakadu training program), which helps to ensure units/courses comply with competency standards and with assessment of participants. CDU advised they could support enrolment online and conduct assessments for the three units that WTMA offer.



In November 2018, PALRC supported six scholarship recipients to travel to the Blue Mountains World Heritage Institute (BMWHI) in Katoomba, NSW to undertake the Adaptive Management for Protected Areas Conservation in the Asia-Pacific course.

Pictured left to right: Zin Lin Tun (Myanmar), Niraj Kakati (India), Furwoko Nazor (Indonesia), Doug Humann (PALRC Development Director), Phuntso (Bhutan), James Overall (Australia), Abir Man Sinchuri (Bhutan)

6. Further considerations

- Developing a PALRC Community of Practice
- Research development
- Evaluation and impact analysis
- Value proposition

6a. PALRC Community of Practice (CoP)

Communities of practice support knowledge sharing between participants and co-production of knowledge. PALRC has developed a CoP webpage that can progress a number of the proposals already identified in this report:

- Providing an online portal for building and nurturing a community of practice around course alumni, to provide further engagement and post-training support (see examples³⁵)
- Central directory of learning resources including key topics of protected area management
 - Online resources for course participants³⁶
- Facilitation of skills exchange between staff, institutions and protected areas
 - E.g. ranger exchanges and non-Indigenous rangers working and learning on-country with Indigenous rangers to enable 2-way learning between Indigenous and non-Indigenous rangers e.g. ranger exchange as well as culture training on country for non-Indigenous rangers
- Online courses - A database of available and new online courses.
 - Intensives organised to support online training.
- Collaborate and feed into PIPAP³⁷ at SPREP
- Build and sustain research partnerships (see further below) - Applied conservation research projects that are long-term outcomes of short courses based on participant case studies of management issues – collaborations between researchers (e.g. university-based or NGO) and practitioners/agencies.
 - The case studies are the basis for research and monitoring and are developed as part of follow-through and mentoring post-training.
 - Case studies provide vehicles for on-going learning and sharing within peer network
 - Important aspect of training impact analysis
 - Online Open Standards capacity building integrates well with on-ground implementation, monitoring and research
 - Addresses the demand for research partnerships between protected area government agencies, universities and NGOs in the region³⁸ including capacity building, voluntary placements for research and management support, and for educational visits such as Study Abroad students

35 <https://rural-leaders.org.au/our-leaders/network-portal/> ; <http://forum.reefresilience.org/network/>; <https://isnad-africa.org/>

36 A pilot web page is being set up by BMWHI for the November 2018 adaptive management short course

37 <https://pipap.sprep.org/> ; they wish to compile a list of Australian and New Zealand government PA and environmental agency opportunities for secondments, exchanges, scholarships etc.

38 e.g request for engagement and support from Nam Phouy National Park and Elephant Conservation Center in Laos

- Developing sister park / twinning relationships through staff exchange and research partnerships
- A vehicle for matching needs with providers including a mentoring service. e.g. CoalitionWILD Global Mentorship Program in partnership with IUCN WCPA³⁹; Global Parks⁴⁰

6b. Research partnerships (the “research” part of PALRC)

- Applied conservation research projects could be developed through PALRC as outcomes of training courses as part of follow-through and mentoring post-training. Course participants apply learning to their own case studies, with feedback and monitoring; case studies provide vehicles for on-going learning and sharing within peer network; the case studies provide for experiential learning and are the basis for research and monitoring.
- This is also an important aspect of training impact analysis.
- This meets a large demand by state government agencies to partner with universities in applied conservation research projects⁴¹.
- Forms part of the online portal for a community of practice as noted above.

6c. Training evaluation - outcomes-focused evaluation and impact analysis

What impact does PALRC want to have? And how will it be measured? While this is beyond the scope of this review, outcome evaluation and impact analysis of PALRC courses must be a priority. Outcome evaluation measures the program effects in the target audience by assessing progress in the desired outcomes or outcome objectives. Impact evaluation assesses program effectiveness in achieving its ultimate goals (e.g. conservation effectiveness). Development of an impact and evaluation framework is important to measure impact at the personal, professional, organizational, community and on-ground conservation levels. This includes stratifying indicators for impact of courses e.g. individual change measures; measures for the community of practice; measuring impact on the ground back home; plus a return on investment some years later. Measures can be based on surveys, focus groups and face-to-face interviews with alumni from programs. The Rural Leaders Foundation⁴² is an example. All new short courses should include thorough pre and post training surveys, and the desired outcomes be defined and measure against those.

As another example, PMC commissioned Social Ventures Australia⁴³ to understand and estimate the extent and value of outcomes generated by investment in five IPAs across Australia. IPAs and the Indigenous Land and Sea Management (ILSM) initiatives are subject to evaluation of the social, economic, cultural and environmental outcomes & an assessment of the relative value of these outcomes. The PMC are undertaking a two-year trial of an outcomes hierarchy with Social Ventures Australia (SVA). The outcomes framework defines desired outcomes and measures: 5 shared outcomes are being developed with key performance indicators (KPIs) and measurement tools for: Healthier Country; Strengthened Culture and Language; Stronger People, Families and Communities; Greater Economic Opportunities; Stronger Voice, Choice and Action.

PALRC can define a set of goals such as: increased number of short course offerings; access to do these courses (affordable for participants as well as sustainable for providers); etc., with success indicators such as: number of relevant short courses & number of people enrolled to do them; more people employed in PAs; more Indigenous women employed in PAs; more Indigenous people in senior positions in PA agencies and conservation organisations; long-term measure: better managed PAs. It is important to identify baseline data and track changes in knowledge and behaviour over time (test knowledge of participants prior to and post-course). While measures are important, conservation is also about protecting the poetry and wonder of nature, and the experience of this is unquantifiable. How do we measure the intangible, without turning it into a set of “abstract, categorical traits”⁴⁴?

39 <http://coalitionwild.org/mentorship/>

40 <http://globalparks.org/index.html> ; <http://globalparks.org/mentoring.html>

41 e.g. Blue Mountains World Heritage Institute was established with this as a key function www.bmwhi.org

42 <https://rural-leaders.org.au/about-us/our-impact/>

43 <https://www.aspc.unsw.edu.au/node/38/paper/2003>

44 What Matters? Talking Value in Australian Culture by Julian Meyrick, Robert Phiddian and Tully Barnett, Monash University Publishing, Melbourne Australia. 2018.

6d. PALRC's value proposition

While beyond the scope of this review, note is made here of the value in clarifying PALRC's value proposition for both university partners and target audiences (clients). Currently there appears to be some lack of clarity about the role and value of PALRC to its university partners. To help address the emerging challenges of protected areas and landscape management, what is most needed is a model of collaboration that is based on coordinating an integrated toolkit for capacity building and skills training, in the context of a community of practice and with the ultimate measure of success being improvement in our practices on the ground (namely, protected areas achieving conservation outcomes) (Dedee Woodside, NRM trainer).

PALRC is well positioned to provide this collaborative model, however the minimal funding and staffing base of PALRC will require supportive and engaged committees that can most effectively and critically progress the Collaboration to the next phase of its evolution. A governance review may be timely, including consolidating the current three committees (Steering Group, Academic Programs Committee, Stakeholder Advisory Committee) into two - one that represents the protected area sector to advise on needs and including increased Australian Indigenous representation, and one that represents training and education service providers for detailed advice on course development.

Below are some notes on a value proposition (not definitive), for consideration.

Important elements of the PALRC brand or legacy might be:

- PALRC is dedicated to integrating Indigenous knowledge with scientific approaches to environmental management and how the two cultures can effectively work together to manage and conserve landscapes.
- PALRC brings a focus, nimbleness, interest and capacity to act quickly that institutions don't have.
- PALRC training includes long-term support and a community of practice (CoP).

A shared value proposition for partners and clients might be:

- A wide cross-sectoral network for delivery of education and training
- Cross-institutional partnerships for shared delivery and in different locations as appropriate
- Identifying and connecting capacity building / skills training needs with suppliers
- Funding avenues including scholarship program
- Online courses with face-to-face intensive field components

Why do universities (or other providers or trainers) need PALRC? - draft value proposition to its university partners:

- Development and marketing of co-badged targeted short courses
- Linked to a national and regional network of practitioners to do university-based professional development
- Providing skill-base for graduates so they are work-ready

Why do protected area practitioners need PALRC? – a draft value proposition to clients (govt agencies, IPAs, NGOs & conservation practitioners):

- A model of collaborative skills training that draws the best cross-institutionally and provides for the wide range of skills needed
- Ongoing support & follow-through
- Community of practice (CoP)
- Dedicated to supporting indigenous people and communities to maintain and establish their own learning approaches and networks, and making best use of traditional knowledge to help achieve conservation goals.

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Further reading

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BIOPAMA Pacific Regional Inception Workshop, Apia, Samoa June 2018.

Building Institutional Capacity in Government Conservation and Protected Area Organisations.

A workshop to explore options and identify directions 2017 Workshop Report. IUCN, WCPA, German Federal Agency for Nature Conservation [BfN].

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Teaching from Country - report. Charles Darwin University and Australian Learning and Teaching Council. 2008-2009. Published 2010. <http://learnline.cdu.edu.au/inc/tfc/index.html>

Appendices

Appendix 1. People consulted

Name	Position	Organisation
Government		
Paul Chantrill	Principal Project Officer	Wet Tropics Mgmt Authority
Peter Cochrane	ex-Head	Parks Australia
	Councillor	IUCN Oceania
Terry Bailey	ex-Chief Executive	NSW Office of Environment & Heritage
Tony English	District Manager (until late 2018); Chief Fire Officer (current)	Parks Victoria (until late 2018); Victorian Department of Environment (current)
Glenys Jones	- Steering Group	- PALRC
	- Associate	- University of Tasmania, Geography & Spatial Sciences, School of Technology, Environments and Design
	- Planner (Policy & Projects) & Coor- dinator Evaluation	-Tasmania Parks and Wildlife Service
Erika Schwarze, Deborah Hawke, Tharman Saverimuttu	Indigenous Affairs & Working on Country program	Australian Government Prime Minister & Cabinet (PMC)
John Gibbs	Assistant Secretary Joint Manage- ment Branch	Parks Australia Department of the Environment and Energy
David Lucas	Joint Mgmt	Parks Victoria
Mat Wolnicki	International Heritage section	Australian Government Dept of Env & Energy
Indigenous & IPA groups including Land Councils, NTRBs, Regional Land & Sea Organisations		
Debby Cox	Property Manager, Fish River, North- ern Territory	Indigenous Land Corporation
		Armidale Land Council
Wayne Davis	Program Mgr	Anangu Pitjantjatjara Yankunytjatjara (APY) Inc & 7-Generations Foundation
Ric Fennessy	Project Mgr, Caring for Country Program	Gidarjil Development Corporation
Wil Bennett	West Kimberley Program Manager, Land and Sea Management Unit	Kimberley Ranger Program, Kimberley Land Council
Steven Briggs	Aboriginal Engagement Coordinator	Armidale TAFE
Victor Briggs	Audit of Indigenous content in the curriculum & pathways for Indige- nous students	University of New England
Ricky Archer	CEO	North Australian Indigenous Land & Sea Management Alliance (NAILSMA)
Rangers – national and international		
Michael Treanor		Victorian Rangers Association & Council of Australian Ranger Associations
Ross Domin	Chair	Queensland Ranger Association
Jolene McLellan	Vice Chair	Queensland Ranger Association & Queensland Parks and Wildlife Service
	& A/Senior Ranger, South West Region	Department of Environment and Science

Council of Australian Ranger Associations conference		
Scott Filmer		Protected Areas Workers Association (PAWA)
Brad Nesbitt	Ex-ranger	NSW National Parks
NGOs, independent practitioners & consultants, trainers		
Graham Worboys	PA consultant	
Michael Lockwood		Ex-University of Tasmania
Penny Figgis	Chair	IUCN-Oceania
Kathy Zischka	Director	Australia Committee for IUCN
Protected Areas Working Group		Pacific Island Round Table for Nature Conservation
Dedee Woodside	Independent NRM consultant	
Mason Smith Etika Qica	Regional Director Regional Project Officer	Oceania Regional Office (ORO), International Union for Conservation of Nature (IUCN)
PALRC Steering Group & Academic Programs Committee http://www.palrc.com/about/governance/		PALRC
Eddie Game	Lead Scientist Asia Pacific	The Nature Conservancy
Arlyne Johnson		Foundations of Success
Pip Walsh	Open Standards trainer; ex-Bush Heritage Australia	
Tony O'Keefe & Paul Van Nimwegen	Coordinators	IUCN BIOPAMA
James Hattam	CEO	Tasmanian Land Conservancy
Rebecca Spindler	Executive Manager – Science and Conservation	Bush Heritage Australia
Rohit Singh	Enforcement & Capacity Building Specialist, WWF President of IRF Asia	World Wildlife Fund; International Ranger Federation Asia
Amanda Wheatley & Vainuupo Jungblut	Acting Biodiversity Adviser	Secretariat of the Pacific Regional Environment Program (SPREP)
Stuart Cowell	Open Standards trainer	Conservation Mgmt
Brad Lewis & John Hunter	Trainers	7 Generation Foundation
Ellie Smith	Professionalising Conservation Project Manager	Zoological Society of London
Tim Cronin	Senior Manager, Species Conservation	WWF
Dominique Noome		Ranger Campus, Kenya, Africa
Research & Education institutions		
Nick Reid	Head of School, School of Environmental and Rural Science Faculty of Science, Agriculture, Business and Law	University of New England
Vanessa Adams	Lecturer & PALRC Academic Programs Committee	University of Tasmania
Ben Wilson	Dean, Faculty of Science & Chair, PALRC Academic Programs Committee	Charles Sturt University
Elizabeth Holland		University of the South Pacific

Daniel Robinson & Paul Brown	Environmental Management	University of NSW
Mick Abbott		Lincoln University, New Zealand
Pablo Orams	Capacity development & training	International Water Centre
Charlie Morrice & Scott Gorringer	Dir, leadership program & Mgr Indigenous Leadership programs	Australian Rural Leadership Foundation
Adam Smith	Director, Coral Reef Mgmt & Leadership course	Reef Ecologic
Manoj Nair	Scientist	Wildlife Institute of India
Phillip Cornwell	Board member	Australian Environmental Grantmakers Network (AEGN)

Appendix 2. Cultural and natural resource management training needs

A report by the Nulungu Research Institute at the Australia Notre Dame University (Clements et al. 2015) provides a comprehensive review of cultural and natural resource management (CNRM) training needs across northern Australia and is cited in the main body of the report, with further detail included here.

The initial impetus for the CNRM Feasibility Study was to investigate the development of a qualification that would provide a pathway for Indigenous rangers to transition from VET qualifications in Certificates I – IV in Environmental Management to an undergraduate qualification in CNRM. A limited number of CNRM-specific courses are available at the higher education level and none that address all the needs of Indigenous and non-Indigenous students studying across Northern Australia in terms of delivery mode, qualification level and access. Concurrent with this growth in activity is an increase in demand for qualifications that address unique CNRM cross-discipline characteristics.

The study considered the positive benefits of a CNRM qualification to transition the growing number of Indigenous rangers into higher qualifications to support continued employment and skills development for management positions. Keen interest exists for the development of a project-based learning CNRM qualification based in the Kimberley which incorporates Indigenous Knowledge and can be delivered in intensive block and reverse block programs, at diploma, bachelor, graduate certificate and graduate diploma levels. Proposed that any CNRM qualification needs to involve accredited training and assessment of the actual work that rangers, Land and Sea Management Units and communities are engaged in, such as GIS and data management. A staged rollout of this program is proposed, with the CNRM qualification starting with a diploma of 8 units, with an optional exit point after 4 units.

Many of the current CNRM training modules were not developed to a sufficiently complex level or were not dealing with specific Indigenous contexts to any real degree. It was considered that the level of training in the contexts of health and safety, environmental ethics, fire management, and so on, was either formulaic, off-the-shelf or ad-hoc. On the other hand, exemptions from national standards for Indigenous organisations for some licensing and training (e.g. firearm and vessel certification) results in the qualifications being un-transferrable to the mainstream context. In this context, the CNRM qualification needs to be specific to a cultural context, yet transferrable as a recognised undergraduate degree. Current lack of a bridge between VET and undergraduate qualifications. Existing enabling programs, bridging programs and Tertiary Pathways Programs (TPP) were valued, but were considered too general in nature and not targeted to regional and remote Indigenous students' needs. Respondents were critical of courses that required participants to spend regular extended periods of time away from country, community, family and work.

ANDU Broome campus is seeking long term sustainability of the qualification through identification of resource opportunities at the institutional, individual (student) and regional level in the phases of development, implementation and long-term establishment. Identified a range of potential programs that could be accessed through competitive grant processes to support staged phases of development and continued support in the form of resourcing scholarships or specific expertise.

Further constraints and content gaps identified in the report include:

- The need for delivery in intensive block and reverse block programs, at diploma, bachelor, graduate certificate and graduate diploma levels.
- Advantages in a diverse base of unit offerings (cross-institutional) and shared investment.
- “The level of training in the contexts of health and safety, environmental ethics, fire management, and so on, was either formulaic, off-the-shelf or *ad hoc*” (p7).

Skills and training topics identified as needed:

- Training in health and safety, environmental ethics, fire management, and so on, was either formulaic, off-the-shelf or *ad hoc*
- Development of literacy, numeracy, and Information Technology (IT) skills — essential for rangers to develop confidence and build motivation
- Learning specific research and report writing skills including academic writing and analysis
- Need access to relevant professional people e.g. environmental scientists, archaeologists and Geographic Information Systems (GIS) mappers
- Cultural governance and protocols – more focus on cultural protocols – knowing the right people to speak to for the right country, cultural governance, interpretation of traditional stories, knowing about protocols with plant and animal species and being able to “look at country more deeply”, to identify and respect place-specific environmental and cultural ethics, including an awareness of dangers on country.
- Fundamentals of science, the scientific process (experimental design, statistics)
- GIS and data management
- Community asset planning
- Mentoring and leadership
- Academic writing and analysis (accessing, interpreting and writing academic papers and reports)
- Targeting recruitment of people with leadership and cultural skills, based on recognition of the need to integrate Indigenous Knowledge and protocols in the delivery of CNRM

Appendix 3. Supporting information on topics in Table 1

Soft skills of management

- MBA courses on psychology can be adapted for the PA context (working with people/communities); dealing with conflict and avoiding creating it in the first place; understanding the social context.
- Source reference for content development: Worboys et al. 2015 - complexity chapter

Leadership program

- Source reference for content development: Worboys et al. 2015 chapter on leadership (written by four CEOs of parks agencies globally (chapter as background reading for the seminar))

Protected Area Essentials

- Reference Worboys et al. chapters 2, 7 and 8

Evidence-based conservation practice, policy and management planning

Skills in basic monitoring for ecological integrity: helpful definition of ecological integrity
<https://www.pc.gc.ca/en/nature/science/conservation/ie-ei>

Adaptive management training including the Open Standards

- “Adaptive management”: New methods and approaches to collecting, managing, and interpreting data are regarded as necessary to understand dynamic changes (O’Brien et al 2013). What are our unquestioned assumptions and beliefs? Asking this question may help identify non-obvious barriers to implementation, including barriers related to specific paradigms. Changes in one’s beliefs and mindsets are part of the adaptive challenge, and exploring one’s own (individual and collective) assumptions. Important is building capacity to shape and create change, not just adapt to it. New approaches to education and capacity building are now seen as the foundation for responding to environmental change (O’Brien et al 2013).
- Open Standards online course book-ended by face-face field intensive (or begins with an intensive) and as a joint course between PALRC partner unis and accredited by the unis. For university students and externals. e.g. USP, UTas, CDU, NDU. Students can do the intensive in a choice of locations and the online content is the same.

Cross-cultural learning and knowledge integration

Various dimensions and components for both Indigenous and non-Indigenous people and includes: integration between Aboriginal and western knowledge; cross-cultural competency and Indigenous cultural protocols (for non-Aboriginal people to work effectively with Aboriginal communities and for Aboriginal people to work effectively within their own communities (NDU proposed courses)); working with conflict over management issues within and between communities).

- Diagram 1 in Clements et al 2015 that depicts integration between Aboriginal and western knowledge.
- Use language of CNRM and ITEK
- NAILSMA is currently developing strategic principles and guidelines for blending traditional and scientific approaches to land management (*Our Knowledge Our Way Guidelines*⁴⁵). NAILSMA also has a capacity-building program for Women Rangers on Country.
- p16 Clements et al. (2015) for integrating Aboriginal and western knowledge

45 <http://www.nespnorthern.edu.au/wp-content/uploads/2018/08/Our-Knowledge-Our-Way-Call-for-case-studies.pdf>

PA Governance

Including community engagement and noting IAP2 model/principles <https://www.iap2.org.au/Resources/IAP2-Published-Resources>

Planning and managing for cultural heritage on parks including cultural database management (NDU course)

- Source reference for content development Worboys et al ch.4

Tourism

Visitor and tourism engagement and management including business partnerships and ecotourism opportunities – meeting the challenge based on the first principle to look after nature

- One important aspect is Aboriginal cultural tourism (New England TAFE and NDU Broome)
- *The course should start with the ethics and the philosophy of parks*
- *Developing business partnerships including ecotourism opportunities from a park perspective (not from a commercial perspective, but make them financially viable)*
- *Recall the philosophy of national parks – beware tourism utilitarianism/exploitation*
- *See tourism chapter in Worboys e-book re visitor use; Ch 2 and 8 also – to reinforce purpose of parks*
- *Ski companies have business model based on real estate and sole right to charge lots of money for people to use public lands – they are bullies in implementing their business model – far end of spectrum of involving tourism in parks – other end is family with thermos and picnic basket*
- *Environmental (protected area) government agencies seen as scaled-up delivery mechanisms for policy outcomes? (Graeme Worboys)*

Project management

Use operations chapter in Worboys e-book; see IWC Masters program unit on project mgmt. (brochure for Masters syllabus)

Footnotes for Box 1

30 <https://rural-leaders.org.au/our-programs/arl/>

31 <https://rural-leaders.org.au/sponsors-partners/sponsor-milparanga-developing-aboriginal-torres-strait-islander-leadership/>

32 <https://parkleadership.ucmerced.edu/>

33 http://watercentre.org/wp-content/uploads/2018/07/1805-WLP-Flyer_web.pdf

34 <http://watercentre.org/our-services/tab/leadership/>

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