# A global register of competences for threatened species recovery practitioners

A comprehensive list of skills, knowledge and personal attributes required by practitioners working within threatened species recovery

Edited by Gwen Maggs, Mike Appleton, Barney Long and Richard P. Young

INTERNATIONAL UNION FOR CONSERVATION OF NATURE

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# Contents

# Foreword

In the conservation world, people often talk about the need to strengthen technical capacity in order to reverse the decline of fungi, plants and animals, in the lands, caves, rivers, lakes and oceans where they live. It is a major challenge, as most available human and financial resources are located where biodiversity is not. Imagine a color-coded map of the world, so that countries with, for example, more bird species are shown in warm colors such as red and orange, while countries with fewer species are in cold colors, such as green and blue. You would see tropical areas in red and orange, changing progressively to green and blue as we move to higher latitudes. Now imagine the same map but with the different colors reflecting a measure of financial resources, such as *per capita* Gross Domestic Product (or GDP), or a measure of institutional capacity, such as number of IUCN member organizations, or a measure of scientific capacity, such as number of authors that participated in the Millennium Ecosystem Assessment. These three maps would be the opposite image of the bird map. Most birds, and the rest of biodiversity, are where financial resources, institutions and scientific capacity is lowest. I call this the *biodiversity paradox*, and a challenge that we need to address to be able to reverse biodiversity decline.

The biodiversity paradox, however, points to one element of strengthening technical capacity. It highlights where there needs to be an increase of the *quantity* of qualified professionals. What about the *quality*? What are the skills, knowledge and personal attributes that define a conservation professional? These are the questions addressed by *A global register of competences for threatened species recovery practitioners*.

Following an exhaustive, inclusive, participatory consultation process, Gwen Maggs, Mike Appleton, Barney Long and Richard Young, combined information from the literature with contributions of hundreds of conservation professionals from around the world to define 19 categories of competence in 1) Planning, Management and Administration, 2) Threatened Species Recovery, 3) and General Personal Competences. The *Register* will influence many aspects of our professional universe, including the development of curricula for training, helping individuals decide on the credentials that they need for a job, or guiding donors to place their resources to expand the most relevant competences.

But above all, I think that the major role of *A global register of competences for threatened species recovery practitioners*, is to highlight that strengthening technical capacity in this field cannot be achieved solely by occasional courses on specific skills at places where existing financial and professional capacity is low. It requires sustained, long-term investment in this well-defined, extensive portfolio of skills, knowledge and personal attributes that may be comparatively easy to acquire in few countries but are very scarce in most of the rest of the world.

**Jon Paul Rodríguez**
**Chair, IUCN Species Survival Commission**
**Instituto Venezolano de Investigaciones Científicas and Provita, Caracas, Venezuela**

# Preface

Competence frameworks are widely used in many professional sectors, helping to develop capacity by defining and recognising the required skills, knowledge and personal attributes. Registers of competences have been developed within the conservation sector, including the International Union for Conservation of Nature (IUCN) World Commission on Protected Areas (WCPA) *A global register of competences for protected area practitioners* (Appleton, 2016). Until now, however, no equivalent overarching global competence register has existed for the species conservation sector. Here we present a register of competences in the form of a directory of the possible skills, knowledge and personal attributes required by practitioners working in threatened species recovery programmes around the world, in both in-situ and ex-situ contexts.

*A global register for threatened species recovery practitioners* (hereafter referred to as the Competence Register) has the potential to transform approaches to capacity development within threatened species recovery and help improve the effectiveness of this branch of conservation. Its structure largely follows that of Appleton (2016). Nineteen categories of competence are arranged in three main groups: Planning, Management and Administration; Threatened Species Recovery; and General Personal Competences. Within each category, specific competences are defined for up to four professional levels: Executive, Senior Manager, Middle Manager/Technical Specialist and Skilled Worker.

PART 1 of this document explains the overall competence approach and how the Competence Register was developed.

PART 2 outlines the structure as a whole and explains the groups, professional levels, categories and individual competences within the Competence Register.

PART 3 identifies potential user groups for the Competence Register and explains how to use the Competence Register within the threatened species recovery sector.

PART 4 outlines the Competence Register itself in a tabulated format, with the structure based on the categories and professional levels.

It is advised that readers also consult Appleton (2016), which sets out in more detail the role of competence registers within the conservation sector.

**“Nature Kids” engagement, New Delhi © Kanchana Weerakoon**

# Acknowledgements

The development of the Competence Register would not have been possible without the foundation set by *A global register of competences for protected area practitioners* (Appleton, 2016), produced by the World Commission on Protected Areas (WCPA). *A global register* provided a comprehensive and detailed baseline for our project to adapt and develop a register of competences for the threatened species recovery sector. Throughout this document, we draw on information from *A global register* but do not provide citations within Part 4 and the FAQ boxes, in order to avoid repetition. It is advised that readers of this document consult *A global register*, which outlines in fuller detail the role and use of competence registers within the conservation sector.

We would like to thank all those who have taken the time to engage in and contribute to the development of the Competence Register. The following individuals made major and noteworthy contributions. Lianne Concannon coordinated the scoping and inception of the project, and led the initial collating and sorting of published and unpublished information relating to competences in the threatened species recovery sector. This information-gathering effort was assisted by Gale Glendewar. Chloe Hodgkinson, Esteban Brenes-Mora, John Ewen, Kira Mileham and Madhu Rao all played active roles as members of the project advisory board, advising on the process for development of the competence register and helping us ensure broad engagement with the threatened species recovery community. We are also grateful to the IUCN SSC Asian Species Action Partnership and Thirza Loffeld for sharing their expertise regarding the development of competences for threatened species recovery in Southeast Asia (Chao et al., (forthcoming); Loffeld et al., 2021; Rao et al., 2019).

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# Acronyms and abbreviations

| | |
|---|---|
| APC | Advanced Personal Competences |
| AWA | Awareness and Education |
| CAC | Communication and Collaboration |
| CBD | Convention for Biological Diversity |
| CITES | Convention on International Trade in Endangered Species of Wild Fauna and Flora |
| CPSG | Conservation Planning Specialist Group |
| CTR | Conservation Translocation |
| DDR | Documentation, Data and Reporting |
| EICAT | Environmental Impact Classification of Alien Taxa |
| EXM | Ex-situ Management |
| FLD | Field/Watercraft and Site Management |
| FPC | Foundation Personal Competences |
| FRM | Financial and Resource Management |
| GDPR | General Data Protection Regulation |
| GPS | Global Positioning System |
| INM | In-situ Management |
| INTERPOL | International Criminal Police Organization |
| INV | Invasive Species Management |
| IP | Indigenous peoples |
| IUCN | International Union for Conservation of Nature |
| JEDI | Justice, Equity, Diversity and Inclusion |
| LC | Local communities |
| MOU | Memorandum of understanding |
| NBSAP | National Biodiversity Strategies and Action Plans |
| NGO | Non-governmental organisation |
| ODK | ODK software |
| PEO | People, Communities and Cultures |
| PER | Personnel Management and Training |
| PSP | Policy, Strategy and Programme Delivery |
| RAM | Research, Assessment and Monitoring |
| REDD+ | Reducing Emissions from Deforestation and Forest Degradation |
| SHW | Species Health and Welfare |
| SMART | Spatial Monitoring and Reporting Tool |
| SSC | Species Survival Commission |
| SWOT | Strengths, Weaknesses, Opportunities, and Threats |
| TEC | Technology |
| TRA | Species Trade and Use |
| TSR | Threatened Species Recovery |
| UHL | Upholding Laws and Regulations |
| UNEP WCMC | United Nations Environment Programme World Conservation Monitoring Centre |
| UNESCO-UNEVOC | United Nations Educational, Scientific and Cultural Organisation, International Centre for Technical and Vocational Education and Training |
| WAZA | World Association of Zoos and Aquariums |
| WCPA | World Commission on Protected Areas |
| WHO | World Health Organization |

# Part 1

## Introduction

# Part 1: Introduction

## 1.1 The competence approach

Capacity development within many sectors is held back by the lack of recognition for the skills and knowledge required within that sector (Julé et al., 2017). Since the 1980s the concept of competences has emerged in response to a demand for higher performance and has become an increasingly accepted component of modern personnel management (CIPD, 2019). Competences are the proven ability to perform a task based on a combination of skills, knowledge and attitude (Figure 1). Skills ensure tasks are performed reliably and consistently; knowledge provides a theoretical and technical understanding of the task; and the right attitude ensures motivation to perform tasks responsibly and ethically (Appleton et al., 2017).


**Figure 1. The skills[1]-knowledge[2]-attitude[3] model for competence (Appleton, 2016) (Photo credits: [1]Tiffany Lang, [2]Natalie Meyer, [3]Olivia Copsey)**

**FAQ**

**Competence or competency?**
These two words can be used interchangeably and, in many dictionaries, have the same meaning, which can cause confusion. In order to be consistent, the term 'competence' is used throughout this document. Users can substitute the words competency or competencies as they wish.

Competence frameworks are widely used in many professional sectors (ILO, 2015; Mulder, 2014), for example medicine and education. They provide a starting point for managers and human resource professionals to plan and manage personnel needs, for educators to identify and meet training and capacity needs, and for individuals to assess and develop their own skills. It is important when developing a register of competences, that the balance between detail and flexibility is considered in order to avoid a single, overarching approach which limits accessibility for varying situations (CIPD, 2019). It is also important that they reflect the skills, experience and behaviour required by practitioners and the ethos and values of the sector as a whole (CIPD, 2019).

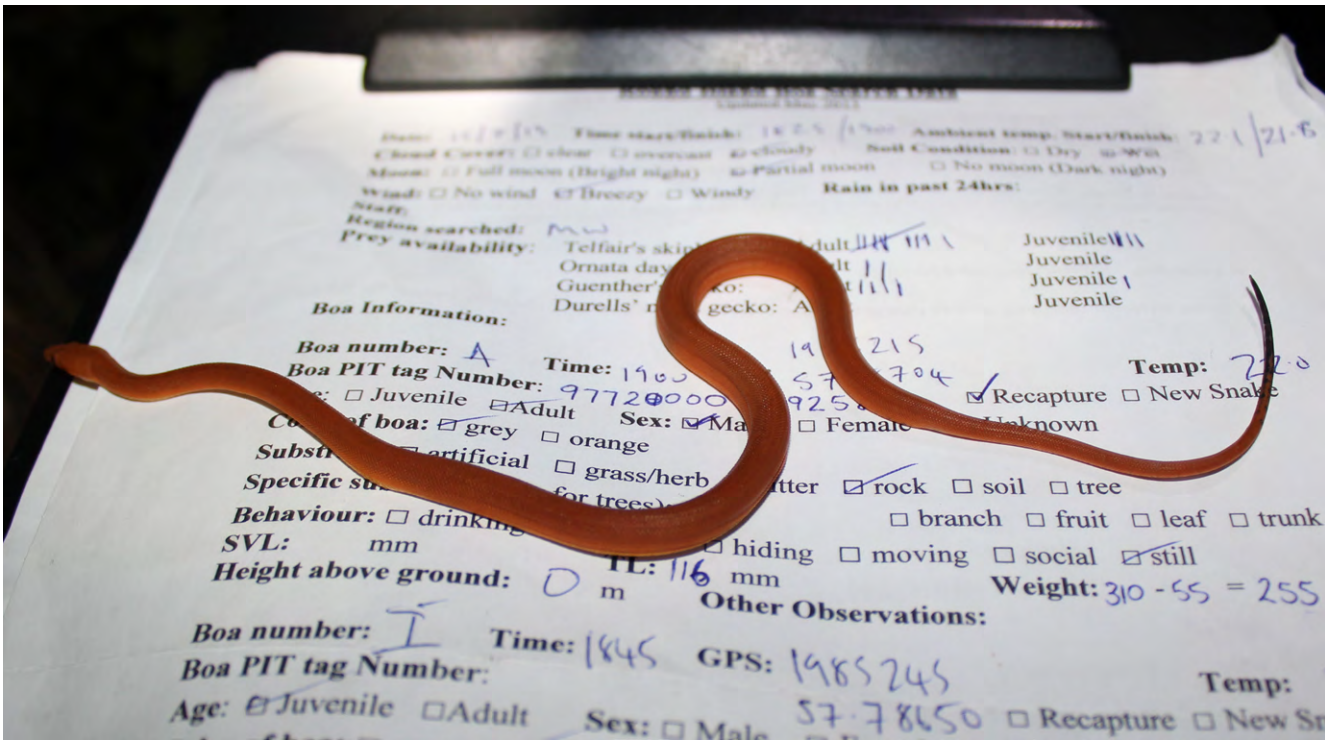
As laid out in Appleton (2016), a competence register usually defines some or all of the following:

- the specific tasks required for the job (what a person should be able to do)
- the variables associated with the task and range of conditions under which the person should be able to demonstrate competence (sometimes referred to as the 'scope' or 'range statement')
- the knowledge and understanding required for the person to be competent
- the associated behaviour and attitudes necessary for the person to be competent.

## 1.2 Origins of the project

Species extinction is occurring at up to 1,000 times the natural rate. Currently nearly 129,000 species have been assessed on the IUCN Red List of Threatened Species™ and around 30% of these are threatened with extinction (IUCN, 2020). Threatened species recovery programmes are essential for the restoration of ecosystems, with a species considered fully recovered if it is viable and ecologically functional in every part of its indigenous and projected range (Akçakaya et al., 2018). Conservation actions to achieve species recovery have increasingly been shown to work. For example, Bolam et al. (2020) have found that extinction rates for birds and mammals between 1993–2020 would have been 3-4 times higher in the absence of conservation intervention. However, in order to meet the challenges of the extinction crisis the global conservation sector needs to do more to increase its effectiveness and maximise conservation impact. The threatened species recovery sector, therefore, needs to rapidly increase its capacity to tackle rising numbers of threatened species.

Such an endeavour requires the identification and wide recognition of the competences required to deliver effective threatened species recovery (Englefield et al., 2019). Such recognition demonstrates that ensuring the future of the planet's biodiversity and life support systems is a complex, multi-skilled profession worthy of respect, recognition and support (Appleton, 2016). Identification of sector-wide competences enables the development and adoption of competence and performance standards that can be integrated into qualifications, professional development, career paths and performance assessments, as well as driving organisational culture change (Appleton, 2016).




Round Island keel-scaled boa (*Casarea dussumieri*) © Natalie Clark

In 2016 the WCPA launched *a global register of competences for protected area practitioners* (Appleton, 2016). Until now, however, no equivalent overarching competence framework has existed for the global species conservation sector. Here we present a competence register in the form of a directory of the possible skills, knowledge and personal attributes required by practitioners working in threatened species recovery programmes around the world, in both in-situ and ex-situ contexts.

## 1.3 How was the competence register compiled?

The Competence Register was compiled by a small core team, working in close consultation with a wide range of subject matter experts, following a series of methodological steps (outlined below). An advisory board was established at the inception of the project, made up of experts representing different geographic regions and specialisms. The purpose of the advisory board was to guide the core team in the development of the Competence Register and to provide advice to ensure we engaged with a wide and representative set of experts from across the global species conservation community.

The Competence Register was developed through the following methodological steps:

- **Scoping:** A rapid review was conducted of competence frameworks and registers from within the conservation and other sectors. This led to the determination that the Competence Register would follow closely the structure (i.e. how the competences are defined and organised) of Appleton (2016). The Conservation Measures Partnership Conservation Actions Classification Scheme was also used to guide the design of the overall structure (CMP, 2016).
- **Data collation:** The core team searched and reviewed a wide set of published and unpublished literature likely to contain information relevant to competences in threatened species recovery. This included systematic internet searches of job descriptions, training needs assessments, and capacity development plans within the species conservation sector. Relevant best practice and technical guidelines, such as those published by the IUCN, were reviewed for competence-related information along with existing competence registers/ frameworks from outside the conservation sector. These raw data were then reviewed and sorted to create a series of rough 'competence statements' (see Section 2.4). These statements were then arranged into a set of 10 draft 'competence categories' to facilitate review and refinement at expert workshops. These categories were in-situ management, ex-situ management, conservation translocation, invasive species management, species trade and use, human-wildlife conflict, research and monitoring, building capacity and support, administration and human resources and planning and policy.
- **Expert workshops:** Two workshops were conducted with a set of international experts to review and refine the rough competence statements, identify gaps and provide additional information on the skills, knowledge and personal attributes required by threatened species recovery practitioners. The workshops engaged with 33 experts, which comprised of the core team, the advisory board and additional experts from professional recommendations or web searches for taxonomic

or disciplinary experts (e.g. IUCN Species Survival Commission (SSC) Specialist Groups). This resulted in 1,488 lines of data from all of the key conservation categories examined. The content produced at the workshop, alongside the raw data, were then used by the core team to form the first draft Competence Register. The draft Competence Register was sent for initial review by the experts who participated in the workshops, enabling additional detail to be added and gaps to be identified. This resulted in 387 individual comments, which were then used by the core team to refine the competences and the structure of the draft Competence Register.

- **Targeted consultation:** The draft Competence Register was shared for consultation with selected Chairs of the disciplinary IUCN SSC Specialist Groups and targeted user groups; in-situ conservation programmes, ex-situ facilities, government departments, training/educational institutes, human resource departments and individual/early career practitioners. The aim was to review the content and functionality of the draft Competence Register within real life circumstances, for multiple taxonomic groups and in line with existing IUCN documents and guidelines. The consultation engaged with 20 international organisations/experts, representing all of the user groups targeted. The consultation resulted in 136 additional comments, which focused mainly on the guidance material and the overall functionality of the register, which were incorporated into the draft Competence Register.
- **Review and refinement:** The draft Competence Register was systematically reviewed and refined by the core team. During group sessions the structure, categories and each individual competence were reviewed and standardised, generating a near-final structure and set of competences.
- **Wider consultation:** Finally, the Competence Register was sent for review by the wider conservation community, targeting the IUCN SSC and the World Association of Zoos and Aquariums member networks. The consultation was hosted on an online platform to ensure accessibility and international participation. The different competence categories were hosted within separate online Microsoft Forms, which enabled participants to comment and share their expert opinion on each competence. This consultation engaged with 115 practitioners generating 1,017 comments, which were incorporated into the draft Competence Register.

These steps to develop the Competence Register engaged with experts representing all global regions, taxonomic groups, biomes, user groups and the Competence Register categories (Figure 2). In total, 293 individual competences were identified and organised across a structure of 19 categories, within three overarching competence groups: Planning, Management and Administration; Threatened Species Recovery; and General Personal Competences **(see Figure 3**).

**Telfair skink (*Leiolopisma telfairii*), Durrell Conservation Academy © Charoltte Pegg**

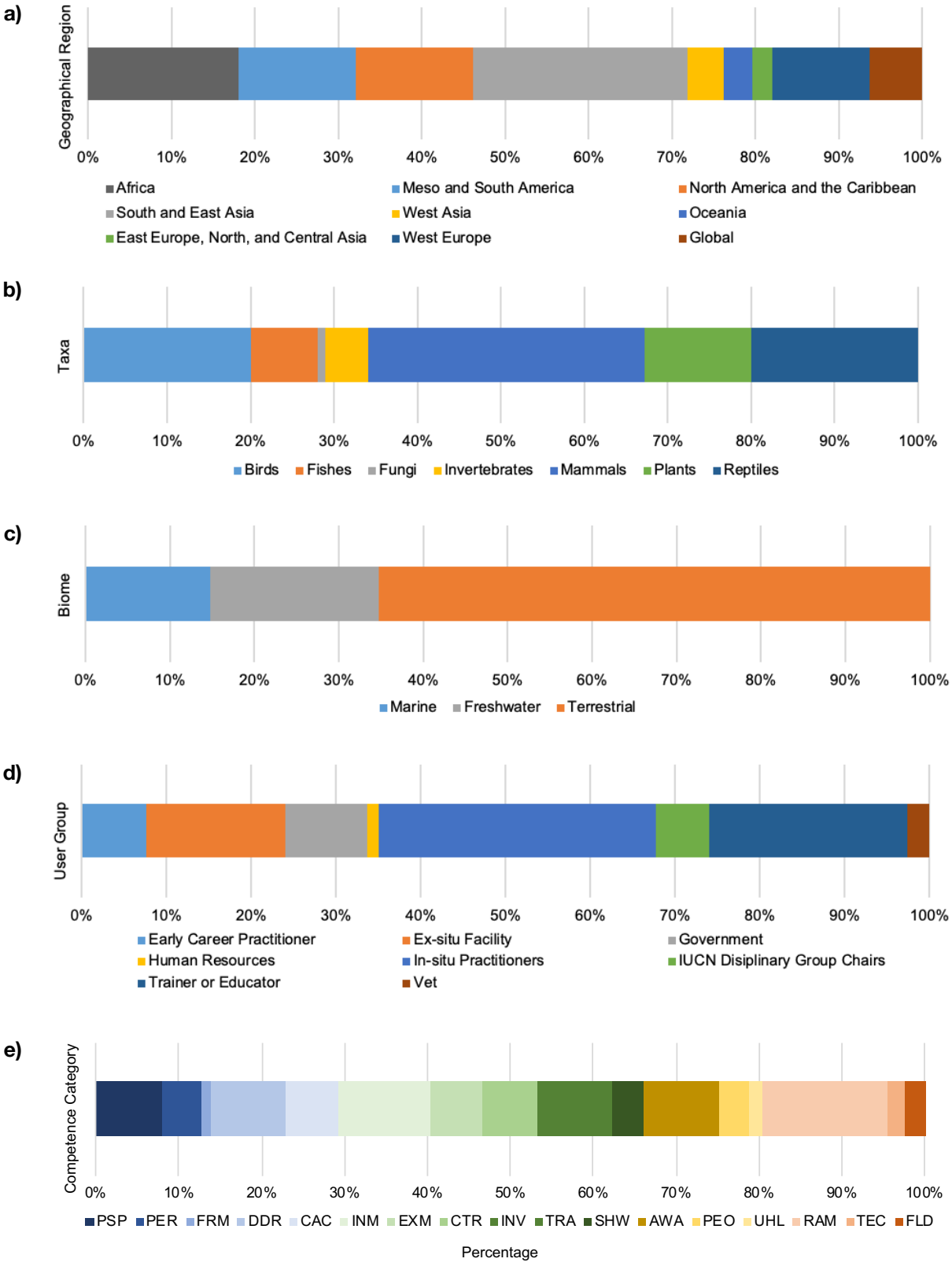



Figure 2. Percentage of expert representation across all the consultation phases for the *A global register of competences for threatened species recovery practitioners*, based on geographical region (a), taxonomic group (b), biome (c), user group (d), and the categories of *the register*, excluding Group C Foundation and Advanced Personal Competences, which did not require technical expertise (e; Group A (blues): PSP Policy, Strategy and Programme Delivery; PER Personnel Management and Training; FRM Finance and Resource Management; DDR Documentation, Data and Reporting; CAC Communication and Collaboration; Group B, sub-group – Species Management (greens): INM In-situ Management; EXM Ex-situ Management; CTR Conservation Translocation; INV Invasive Species Management; TRA Species Trade and Use; SHW Species Health and Welfare; Group B, sub-group – People and Behaviour (yellows): AWA Awareness and Engagement; PEO People, Communities and Cultures; UHL Upholding Laws and Regulations; Group B, sub-group – Science, Technology and Fieldwork (oranges): RAM Research, Assessment and Monitoring; TEC Technology; FLD Field/watercraft and Site Management).

# Part 2

## The Competence Register explained

# **Part 2:** The Competence Register explained

The following sections outline the structure of the Competence Register, which is summarised in **Figure 3**.

## 2.1 Structure of the competences

The Competence Register is organised in three main groups: (A) Planning, Management and Administration; (B) Threatened Species Recovery; and (C) General Personal Competences. The threatened species recovery group is split into a further three sub-groups, representing the species-focused, people-focused and science and fieldwork based aspects of this area of competence (see **Figure 3**). Split across the three main competence groups are nineteen competence categories, which represent distinguishable functional areas of threatened species recovery around the world. Each of the nineteen categories is given a three-letter code, a title and a defined 'overall function', which provides a general description of the work associated with the competence category (Table 1). The right four columns in Table 1 combine the nineteen categories across the four professional levels (see Section 2.2) and provide a general statement for each category-level combination. Due to the nature of threatened species recovery and the overlap of skills within different disaplines, the decision was made as to which category each competence best fits, in order to prevent repetition across the Competence Register. In these cases, details of their location are outlined in the 'associated competences', alongside additional competences where other skills are relevant.

**FAQ**

**These categories do not exactly fit my organisation. What should I do?**
The categories are designed to be a sector 'average best fit' for how threatened species recovery practices are typically differentiated. Therefore, these may not be a perfect fit for all organisations or programmes. Due to the nature of threatened species recovery programmes, it is inevitable that the categories will overlap with each other, and that most individuals will require competences from several categories and levels in different combinations. This is expected and so the Competence Register can be adopted as it is, or it can be adapted to suit the specific needs of users, programmes or organisations.

**Ploughshare tortoise (*Astrochelys yniphora*) guardians, Madagascar © Tim Flach**

Table 1. Details of the competence groups (A-C), categories and professional levels (1-4) within *A global register of competences for threatened species recovery practitioners*; based on Appleton (2016)

| COMPETENCE GROUP AND CATEGORY | OVERALL FUNCTION | General competence statements for each category and professional level | | | |
|---|---|---|---|---|---|
| | | **LEVEL 4 EXECUTIVE** | **LEVEL 3 SENIOR MANAGER** | **LEVEL 2 MIDDLE MANAGER/ TECHNICAL EXPERT** | **LEVEL 1 SKILLED WORKER** |
| **A. PLANNING, MANAGEMENT AND ADMINISTRATION** | **Ensuring effective, efficient and equitable governance and management** | ***The individual should be able to…..*** | ***The individual should be able to…..*** | ***The individual should be able to…..*** | ***The individual should be able to…..*** |
| **PSP Policy, Strategy and Programme Delivery** | Developing, delivering and adapting strategic and rationally planned policies and programmes for threatened species recovery | Enable the establishment and integration of threatened species recovery within (inter) national polices and plans. | Direct the development and implementation of strategies, plans and programmes for threatened species recovery. | Plan and lead the implementation of threatened species recovery programmes. | N/A |
| **PER Personnel Management and Training** | Managing, leading and developing people associated with threatened species recovery programmes | Enable the establishment of systems for personnel management, development and support across threatened species recovery programmes | Ensure that threatened species recovery personnel are sufficient, competent, well managed and motivated | Lead and support teams and individuals conducting threatened species recovery work | Contribute to team work |
| **FRM Finance and Resource Management** | Ensuring that threatened species recovery programmes are adequately and efficiently financed and resourced. | Ensure adequate physical and financial resources and management systems are in place for threatened species recovery organisations and programmes. | Identify and secure adequate financial and physical resources for delivery of a threatened species recovery programme and ensure their effective and efficient use. | Manage, monitor and account for the use of financial and other resources required for the delivery of threatened species recovery programmes. | Account for money and resources provided for specific activities. |
| **DDR Documentation, Data and Reporting** | Establishing and implementing systems and procedures for information and data management, documentation and reporting. | Enable the establishment of comprehensive systems for data management, documentation and reporting across threatened species recovery organisations and programmes. | Ensure that a system of documentation, data management and reporting is in operation across threatened species recovery programmes. | Prepare and manage documentation, data and reporting of management activities according to required procedures. | Keep basic records of, and report on, activities as required by the threatened species recovery programme. |
| **CAC Communication and Collaboration** | Building and using the skills required to communicate and collaborate effectively. | Contribute effectively in high level meetings and form alliances for threatened species recovery. | Maintain effective communications by and within a threatened species recovery programme and build partnerships. | Communicate effectively with programme personnel, partners and other stakeholders. | Communicate effectively with colleagues and stakeholders. |

| COMPETENCE GROUP AND CATEGORY | OVERALL FUNCTION | General competence statements for each category and professional level | | | |
|---|---|---|---|---|---|
| | | **LEVEL 4 EXECUTIVE** | **LEVEL 3 SENIOR MANAGER** | **LEVEL 2 MIDDLE MANAGER/ TECHNICAL EXPERT** | **LEVEL 1 SKILLED WORKER** |
| **B. THREATENED SPECIES RECOVERY** | **Applying specialist technical skills to threatened species recovery** | ***The individual should be able to…..*** | ***The individual should be able to…..*** | ***The individual should be able to…..*** | ***The individual should be able to…..*** |
| **SPECIES MANAGEMENT** | | **Direct threatened species recovery practices** | | | |
| **INM In-situ Management** | Delivering direct and indirect in-situ conservation measures to conserve and recover threatened species. | Make significant contributions to (inter)national initiatives and policies on in-situ species management measures. | Develop strategies and direct programmes for in-situ species management. | Plan, lead and report on the practical implementation of measures for in-situ species management. | Conduct practical tasks for managing species in-situ (not general field craft). |
| **EXM Ex-situ Management** | Delivering ex-situ species programmes and management as part of wider conservation strategies. | Make significant contributions to (inter)national initiatives and policies on ex-situ species management measures. | Develop strategies and direct programmes for ex-situ species management. | Plan, lead and report on the practical implementation of ex-situ species management measures. | Conduct practical tasks for ex-situ species husbandry. |
| **CTR Conservation Translocation** | Reintroducing, reinforcing and introducing living organisms to a site for species and/or ecosystem restoration. | Make significant contributions to (inter)national initiatives and policies for conservation translocations. | Develop strategies and direct programmes for conservation translocations. | Plan, lead and report on the practical implementation of conservation translocations. | Conduct practical tasks to implement conservation translocations. |
| **INV Invasive Species Management** | Ensuring invasive species are identified and their impacts prevented, removed or mitigated in line with threatened species recovery goals. | Make significant contributions to (inter)national initiatives and policies for invasive species management. | Develop strategies and direct programmes for invasive species management. | Plan, lead and report on the practical implementation of measures for invasive species management. | Conduct practical tasks for managing invasive species. |
| **TRA Species Trade and Use (*does not include law enforcement*)** | Ensuring species trade and use is appropriately managed and regulated to permit the recovery of a threatened species. | Make significant contributions to (inter)national initiatives and policies for regulating use and trade of threatened species. | Develop strategies and direct programmes for regulating use and trade of threatened species. | Plan, lead and report on the practical implementation of measures for regulating use and trade of threatened species. | Conduct practical tasks for regulating use and trade of threatened species. |

| | | | | | |
|---|---|---|---|---|---|
| **SHW**<br>**Species Health and Welfare** | Assessing and managing species health and welfare as part of wider threatened species recovery programmes. | Make significant contributions to (inter)national initiatives and policies for species health and welfare. | Develop strategies and direct programmes for species health and welfare management. | Plan, lead and report on the practical implementation of species health and welfare measures. | Conduct practical tasks for catching, handling, marking and treating organisms. |
| **PEOPLE AND BEHAVIOUR** | | **Indirect threatened species recovery practices through human behavioural change** | | | |
| **AWA**<br>**Awareness and Education** | Ensuring that programme stakeholders, decision-makers and the wider public are aware of the need for, and benefits of, threatened species recovery. | Promote (inter)national awareness and education of threatened species recovery, its purpose and values. | Direct the development and implementation of an awareness and education strategy for threatened species recovery. | Plan, lead and report on the delivery of awareness-raising and educational activities using appropriate methods and media. | Conduct face-to-face awareness-raising and educational activities. |
| **PEO**<br>**People, Communities and Cultures** | Ensure knowledge, rights and needs of Indigenous peoples and of local communities are integrated in threatened species recovery practice, policy and programmes. | Promote knowledge, rights and needs of Indigenous peoples and of local communities in threatened species recovery practice and policy. | Direct the integration of the knowledge, rights and needs of Indigenous people and of local communities in threatened species recovery programmes. | Plan, lead and report on the practical implementation of measures for the engagement of Indigenous peoples and of local communities in threatened species recovery programmes. | Engage appropriately with Indigenous peoples and with local communities. |
| **UHL**<br>**Upholding Laws and Regulations** | Ensuring that laws, regulations and rights affecting threatened species recovery are upheld. | Promote the establishment of (inter)national policy and legal frameworks for reducing illegal activity. | Direct the development and implementation of programmes for crime prevention, law enforcement and compliance. | Plan, lead and report on activities for crime prevention, law enforcement and compliance. | Conduct supervised wildlife crime prevention, law enforcement and compliance activities. |
| **SCIENCE, TECHNOLOGY AND FIELDWORK** | | **Practices for implementing and guiding threatened species recovery** | | | |
| **RAM**<br>**Research, Assessment and Monitoring**<br>**(*not just biological information*)** | Ensuring that adequate evidence and information is available to guide and evaluate threatened species recovery. | Make significant contributions to (inter)national initiatives and policies for threatened species research, assessment and monitoring. | Develop strategies and direct programmes for research, assessment and monitoring. | Plan, lead and report on the practical implementation of research, assessment and monitoring. | Collect and record basic information for research, assessment and monitoring. |
| **TEC**<br>**Technology** | Mobilising and using technology to support threatened species recovery programmes. | Promote digital technology to support threatened species recovery. | Mobilise technology to support threatened species recovery. | Use and adapt technology to support threatened species recovery. | Use basic technology to support threatened species recovery. |
| **FLD**<br>**Field/Watercraft and Site Management** | Conducting fieldwork and practical tasks correctly and safely. | N/A | N/A | Plan, lead and report on field-based activities. | Conduct field-based activities safely and securely. |

| COMPETENCE GROUP AND CATEGORY | OVERALL FUNCTION | General competence statements for each category and professional level | | | |
|---|---|---|---|---|---|
| | | **LEVEL 4 EXECUTIVE** | **LEVEL 3 SENIOR MANAGER** | **LEVEL 2 MIDDLE MANAGER/ TECHNICAL EXPERT** | **LEVEL 1 SKILLED WORKER** |
| **C. GENERAL PERSONAL COMPETENCES** | **Demonstrating the personal skills and behaviours required for working in threatened species recovery** | ***The individual should be able to…..*** | | | |
| **FPC** Foundation Personal Competences | | Demonstrate fundamental personal skills and behaviours required for day-to-day threatened species recovery work. (Applies to all professional levels) | | | |
| **APC** Advanced Personal Competences | | Demonstrate personal skills and behaviours required for effective performance and leadership. (Applies to all professional levels, but mainly 2-4) | | | |

## 2.2 The professional levels

The Competence Register recognises four main professional levels of practitioners working within threatened species recovery programmes. An outline of the these professional levels, the respective responsibilites and example positions can be found in Table 2. An additional level of 'unskilled worker' is also include within Table 2 but not within the Competence Register. This level represents a baseline entry level of personnel; all those within level 0, unskilled worker, should be aiming to obtain the competences of level 1 and above for the required role they wish to achieve. In practice, few roles in threatened species recovery will sit neatly within one professional level. Every programme or organisation is different, and the levels used here might not 'fit' perfectly to all scenerios or roles. Therefore, it is important to remember that individuals are likely to require competences from multiple levels. In some categories, certain professional levels are not included as competences at this level are not relevant. This is not to say that some level of knowledge is not required. In these circumstances, practitioners may require knowledge of the lower professional levels in order to obtain a general understanding on the subject area.

**Table 2. Definitions of professional levels 0-4 with job examples within *A global register of competences for threatened species recovery practitioners*; based on Appleton (2016).**

| Level | Title | Scope of work and responsibility | Examples of positions at the level within TSR |
|---|---|---|---|
| **LEVEL 4** | **EXECUTIVE** | • Direction and management of large organisations and initiatives;<br>• (Inter)national policy development, spatial and strategic planning;<br>• Cross sectoral coordination;<br>• Direction of complex programmes and plans. | • Director of a conservation organisation<br>• Executive Director<br>• CEO |
| **LEVEL 3** | **SENIOR MANAGER** | • Direction and management of medium sized organisations and initiatives;<br>• Planning and management of projects and programmes within strategic frameworks;<br>• Conducting and leading complex and technical programmes (according to speciality). | • Director or head of a conservation department<br>• Curator of an ex-situ facility<br>• Director or head of an education or training institute<br>• Programme Director<br>• Scientific Director |
| **LEVEL 2** | **MIDDLE MANAGER/ TECHNICAL EXPERT** | • Management, organisation and leadership of technical sections and teams implementing plans and projects;<br>• Completing specific and complex technical assignments (according to technical speciality). | • Programme Manager or Senior Officer<br>• Section Head<br>• Education/Engagement Officer<br>• Lecturer/Trainer<br>• Field Researcher or Conservation Scientist<br>• Consultant |
| **LEVEL 1** | **SKILLED WORKER** | • Completing specific and sometimes complex tasks and assignments under regular supervision. | • Ranger<br>• Field worker<br>• Keeper<br>• Community Outreach Officer<br>• Programme or Project Officer<br>• Research assistant<br>• Skilled volunteer |
| **LEVEL 0** | **UNSKILLED WORKER** | • Completing practical tasks under continuous supervision. | • Labourer<br>• Unskilled volunteer<br>• Casual worker |

**FAQ**

**The job roles within my organisation sit across multiple professional levels. What should I do?**
Due to the nature of threatened species recovery programmes, it is inevitable that individuals will require competences from multiple levels to reflect the various responsibilities they have. They will, therefore, require competences from several professional levels in different combinations. This is expected and so the Competence Register can be adopted as it is, or it can be adapted to suit the specific needs of users, programmes or organisations.

## 2.3 The competences

The total number of competences, broken down by the different categories and professional levels, are summarised in Table 3. The structure of the overall Competence Register and the competences themselves is outlined in Figure 3, with the competences being made up of the following columns, *based on* Appleton (2016):

***Column A.*** **A unique code and number based on the competence category and professional level.** For example, INM 2.3 means In-situ Management, Level 2, Competence 3. These codes are useful for sorting and analysing the competences.

***Column B.*** **Competence statement.** This provides a statement of the competence and is written so that it could complete the sentence: '*The individual should be able to……..*'

***Column C.*** **Competence range statement.** This is an explanation of the statement in Column B, defining more precisely what it involves, and outlining typical variations in how it can be conducted for applied to different scenarios, taxonomic groups, regions, etc. This is intended to help ensure that each competence can be clearly understood in the same way by anyone reading it.

***Column D.*** **Main knowledge requirements.** This is a brief list of knowledge requirements associated with the competence. Being competent not only requires the skills to complete a task, it also requires that the individual should know the specific facts and principles required to complete the task, and to understand the context(s) in which it is completed.

***Column E.*** **Associated competences.** These are the closely related competences that may overlap with or complement this competence. Capacity development planners may find it useful to 'cluster' these sets of competences when planning curricula, training events or assessments.

**FAQ**

**Does this mean I am expected to have all the competences within a category?**
***Absolutely not!*** The Competence Register includes all possible competences for all professional levels within threatened species recovery. Nobody would need or be able to acquire them all. It is likely that most jobs may only regularly require 30 or 40 competences and perhaps occasionally require another 20, depending on the requirements of their specific job.

**FAQ**

**Are the details within the range statement and knowledge requirements everything I need for that competence?**
No, these details are merely in place as guidance and to help explain what is meant by the competence statement. The range statement outlines some of the details, scope and variations of the competence and the knowledge requirements are examples, but neither are a complete or definitive list. The details listed are generic as they have to be applicable to all scenarios, species, regions, etc. For details on how to conduct specific practices outlined in a competence, recognised best-practice guidelines should be consulted, where available.

Table 3. Summary of total numbers of competences within the categories and professional levels of *A global register of competences for threatened species recovery practitioners*.

| CATEGORY | NUMBER OF COMPETENCES PER LEVEL | | | | |
|---|---|---|---|---|---|
| **A. PLANNING, MANAGEMENT AND ADMINISTRATION** | **L4** | **L3** | **L2** | **L1** | **TOTAL** |
| PSP. Policy, Strategy and Programme Delivery | 3 | 7 | 3 | | 13 |
| PER. Personnel Management and Training | 3 | 6 | 7 | 1 | 17 |
| FRM. Finance and Resource Management | 2 | 5 | 5 | 2 | 14 |
| DDR. Documentation, Data and Reporting | 3 | 4 | 5 | 3 | 15 |
| CAC. Communication and Collaboration | 4 | 4 | 6 | 1 | 15 |
| SUBTOTAL | **15** | **26** | **26** | **7** | **74** |
| **B. THREATENED SPECIES RECOVERY** | **L4** | **L3** | **L2** | **L1** | **TOTAL** |
| **SPECIES MANAGEMENT** | | | | | |
| INM. In-situ Management | 2 | 5 | 5 | 7 | 19 |
| EXM. Ex-situ Management | 2 | 3 | 6 | 5 | 16 |
| CTR. Conservation Translocation | 2 | 3 | 4 | 4 | 13 |
| INV. Invasive Species Management | 2 | 4 | 4 | 5 | 15 |
| TRA. Species Trade and Use | 3 | 4 | | | 7 |
| SHW. Species Health and Welfare | 2 | 3 | 6 | 5 | 16 |
| **PEOPLE AND BEHAVIOUR** | | | | | |
| AWA. Awareness and Education | 3 | 4 | 5 | 2 | 14 |
| PEO. People, Communities and Cultures | 2 | 6 | 8 | 1 | 17 |
| UHL. Upholding Laws and Regulations | 3 | 6 | 10 | 11 | 30 |
| **SCIENCE, TECHNOLOGY AND FIELDWORK** | | | | | |
| RAM. Research, Assessment and Monitoring | 2 | 5 | 9 | 4 | 20 |
| TEC. Technology | 1 | 2 | 5 | 4 | 12 |
| FLD. Field/Watercraft and Site Management | | | 7 | 12 | 19 |
| SUBTOTAL | **24** | **45** | **69** | **60** | **198** |
| **C. GENERAL PERSONAL COMPETENCES** | **L4** | **L3** | **L2** | **L1** | **TOTAL** |
| FPC. Foundation personal competences | 12 | | | | 12 |
| APC. Advanced personal competences | 9 | | | | 9 |
| SUBTOTAL | **21** | | | | **21** |
| | | | | **TOTAL** | **293** |

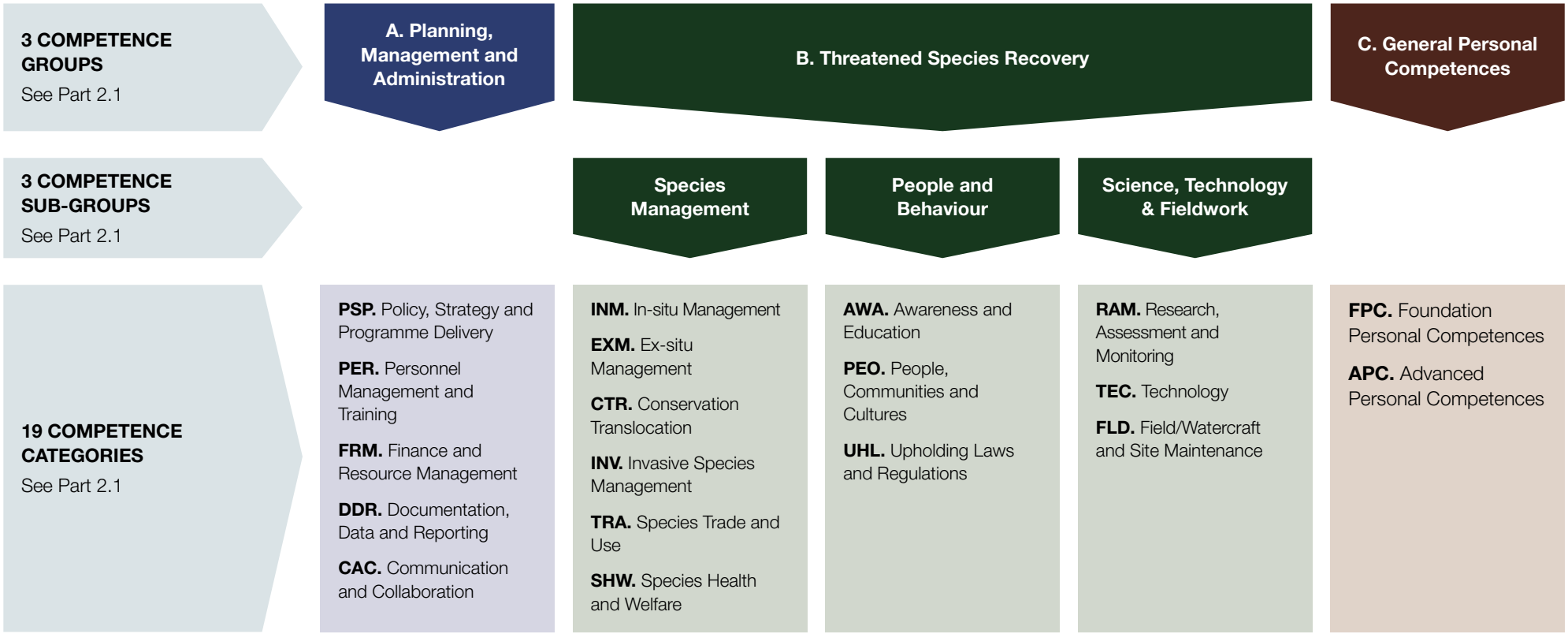



Figure 3. Overview of the structure of *A global register of competences for threatened species recovery practitioners;* based on Appleton (2016).

# Part 3

## How to use the Competence Register

# **Part 3:** How to use the Competence Register

The Competence Register is designed so that it can be applied across the threatened species recovery sector and is adaptable to the needs of programmes of varying sizes or capacities. Those responsible for implementing competence-based approaches within threatened species recovery programmes or organisations will be managers, human resource professionals, educators, etc. and they will be looking to integrate it in various ways, including career planning, carrying out needs assessments or designing competence focused training.

The intended range of users for the Competence Register is broad. With four professional levels (Executive - Senior Manager - Middle Manager - Skilled Worker) it is anticipated that a majority of people working in the sector will benefit from the Competence Register, from field assistant to executive, volunteer to long-term staff. Also, by targeting all areas of threatened species recovery practice, the Competence Register can be applied across whole organisations, benefiting all personnel and influencing a sector wide learning culture.

**FAQ**

**Is the Competence Register for threatened species recovery programmes only, or can anyone use it?**
The Competence Register is not only designed for threatened species recovery programmes and their staff but all practitioners working in the species conservation sector. The emphasis of the competence approach is on what you can do, not on who you are, who you work for or your qualifications. Anyone from any background could potentially be working at any of the levels and achieve any of the competences. The professional levels are defined according to the type of work an individual does, not to specific jobs, ranks or backgrounds. The adoption of the competences could, therefore, recognise the skills and contributions of volunteers, community groups and those who are not conventionally qualified.

It is important to remember, when using the Competence Register, that it is a 'tool not a rule'. It is designed to be adapted as required at various scales and in various contexts. The Competence Register includes all the possible skills required within threatened species recovery, by a large number of people around the world, but nobody needs all of them. It is therefore vital that the Competence Register is adopted, and adapted, to suit the needs of organisations, programmes or individuals.

## 3.1 User groups

The Competence Register is designed so it can be adopted by multiple user groups within threatened species recovery and adapted to meet specific programme or sector needs. These users include, but are not limited to:

- in-situ programmes
- ex-situ facilities
- scientists/academics
- human resource departments
- non-government organisations
- government departments
- trainers and educators
- students and learners
- early career practitioners.

## 3.2 Ways to use the Competence Register

There are numerous ways in which the Competence Register can be applied to threatened species recovery to increase effectiveness and improve individual, team, organsational or national performance, including (*modified from* Appleton, 2016):

### 3.2.1 Developing national standards

As with many competence frameworks, the Competence Register is not intended as a single 'global standard' of competence but provides the basis for which these can be developed. There is no plan to develop a global standard or certifications, as an overarching standard would not be applicable for all scenarios, species, or regions and would be difficult to validate. However, like other competence frameworks, the Competence Register could be adapted to develop specific standards or qualifications at a regional, national or local level (ILO, 2009). If this were to happen, it is advised that performance criteria, means of assessment and prior competence requirements are developed (*see* section 2.6 in Appleton, 2016).

### 3.2.2 Aiding the preparation of job descriptions

The Competence Register can be used to assist personnel recruitment by aiding the preparation of job descriptions and advertisements, providing checklists when assessing candidates, guiding interviews and selecting the best candidate. Job descriptions can also help regarding staff performance, appraisals and promotions, enabling individuals to understand their duties, and motivate them to learn and to improve their performance.

### 3.2.3 Assessing and identifying priority needs for individual capacity development

The Competence Register provides an excellent basis for individuals to assess their own competences, or for managers to assess the personnel within a programme

or organisation. Many 'professional development needs assessments' are based around the question 'what training/capacity building do you (or your staff) think is needed?' Competence-based needs assessments instead ask 'what competences are needed for the job, and to what extent do staff already possess these competences?' The capacity need is then defined by those required competences which are lacking or are particularly weak.

### 3.2.4 Identifying capacity development needs for organisations or programmes

The Competence Register can be used by threatened species recovery organisations as a basis for identifying their main functions, major gaps in organisation-wide skills or for designing organisational capacity development strategies. Institutionalising capacity development in this way can help to address skill gaps, justify budget requests for capacity development and motivate organisations to devote more effort to supporting staff development in a systematic and structured (rather than ad hoc) way. The Competence Register can also be used as a checklist for identifying the capacity needs of threatened species recovery programmes. Cross-checking competence requirements with objectives and management actions, enabling the identification of priority capacity needs for implementation. The results can then be used to assess personnel professional development needs (as described in section 3.2.3).

### 3.2.5 Generating support and funding for threatened species recovery

The Competence Register demonstrates effectively just how complex and diverse threatened species recovery can be. The various elements of the Competence Register can be used to provide evidence for requesting improved support and funding, for developing project funding proposals and for arguing for better recognition of the importance of threatened species recovery programmes and those who work in them.

### 3.2.6 Designing and assessing training curricula and courses

The Competence Register can be used to help design new training courses and assess whether existing courses are comprehensive. Course planners can select the categories and competences most relevant to the learning programme and the level of the course participants, and use them to structure the course and to identify specific curriculum elements and learning outcomes. Using a competence-based approach can then enable training providers to quantify the impact of courses by assessing participant competence prior to and after the course, identifying change in their level of competence within the course subject.

### 3.2.7 Ensuring capacity development reflects local priorities and needs

Many threatened species recovery programmes include capacity development elements. However, these elements can tend to be more aligned to the specific outcomes of the project, rather than to the priorities of the beneficiary (e.g. countries, organisations, local communities, businesses, farmers, etc.). The Competence Register can be used for identifying capacity needs and negotiating project support between the programme/donor and beneficiary. This could, in turn, improve the effectiveness of capacity development intiatives and increase the chances of sustaining initiatives after programmes finish.

### 3.2.8 Browsing for ideas

When the competences, explanations and knowledge requirements are combined, they provide a comprehensive catalogue of skills for all areas of threatened species recovery. Managers and staff can browse the register for ideas, inspiration and new approaches to management.

### 3.2.9 Organising information

The categories of the register can be used as the main categories for organising information, for example in libraries, filing systems and databases.

### 3.2.10 Cross-referencing the competences to other programme support tools

The competences can be cross-referenced with various widely used plans and tools that support the improvement of threatened species recovery e.g. Conservation Measures Partnership Open Standards for the Practice of Conservation (CMP, 2016).

# Conclusion

Competence frameworks are essential tools in many professional sectors. Here we have created a comprehensive register of the skills, knowledge and personal attributes required by practitioners working within threatened species recovery. A global register of competences for threatened species recovery practitioners provides a starting point to plan and manage staffing needs, identify and meet capacity requirements, and for individuals to assess and develop their own skills, both within and between levels.

More widely, the Competence Register has the capacity to catalyse substantive changes within the species conservation sector, enabling the adoption of a competence-based approach to performance and capacity development. It can be integrated into qualifications, professional development, career path planning and performance assessments, as well as organisational culture and practices. Practitioners using the Competence register may need or want to adapt the material to suit their needs or application. New knowledge and thinking around competence-based approaches will be generated through this process and therefore people are encouraged to share their perspectives and experiences so the Competence Register can be improved. Ultimately, its purpose is to help drive increased success of species recovery programmes, but also to make threatened species recovery practitioners more effective.

Finally, at a time when the conservation sector needs to be far more effective and deliver greater conservation impact, it is hoped that this Competence Register will demonstrate that ensuring the future of the planet's biodiversity is a complex, multi-skilled profession, worthy of respect, recognition and support (Appleton, 2016).


**Mountain chicken frog (*Leptodactylus fallax*), Montserrat © Gerardo Garcia**

# Part 4

## The competences

# GROUP A
# PLANNING, MANAGEMENT AND ADMINISTRATION

## Planning, management and administration of threatened species recovery programmes

# CATEGORY PSP:
# POLICY, STRATEGY AND PROGRAMME DELIVERY

Developing, delivering and adapting strategic and rationally planned policies and programmes for threatened species recovery

| PSP. LEVEL 4 | Enable the establishment and integration of TSR within (inter)national polices and plans | | |
|---|---|---|---|
| **CODE** | **COMPETENCE STATEMENT**<br>***The individual should be able to:*** | **RANGE STATEMENT**<br>***A brief explanation of the competence.*** | **KNOWLEDGE REQUIREMENTS**<br>***Main specific knowledge requirements for the competence.*** |
| **PSP 4.1** | **Coordinate development and updating of (inter) national polices, legislation and standards for threatened species recovery.** | · Creating new or reviewing and updating existing (inter)national or regional policies and legislation.<br>· Reviewing and updating existing or establishing global/sector standards for TSR.<br>· Making a significant and recognised contribution (inter)nationally to TSR policy, planning and management (e.g. through publication of specialist guidance, conference presentations, provision of high level training, etc.).<br>· Taking part in global policy development initiatives related to TSR.<br>· Engaging with all relevant parties and levels where relevant. | · National conservation policy and legislation.<br>· Roles of other relevant sectors and related policy and legislation.<br>· (Inter)nationally recognised best practice for TSR and biodiversity policy and legislation.<br>· Processes for development and passing of policy and standards.<br>· Main actors involved in developing international policy and standards.<br>· Communication within high level meetings (see also CAC 4.3). |
| **PSP 4.2** | **Coordinate major collaborative initiatives and partnerships for threatened species recovery policy and planning.** | · Coordinating initiatives with (inter)national authorities to harmonise laws, regulations, policies, etc. to improve TSR management and connectivity.<br>· Identifying opportunities and engaging in two-way collaborations with those whose interests/activities affect or are affected by the TSR programme (e.g. Indigenous peoples, local communities, private sectors, etc.).<br>· Seeking solutions to conflicting interests and activities.<br>· Embedding an institutional philosophy of collaborative, stakeholder and evidence-based planning.<br>· Where relevant, establishing a 'one plan approach' into TSR strategies, plans and policies collaborating with both conservation and external sectors. | · Relevant conservation organisations, authorities or communities.<br>· Major relevant sectors.<br>· Relevant laws and regulations.<br>· Recognised best practice guidelines (e.g. IUCN SSC Conservation Planning Specialist Group Principles of species conservation planning; Open Standards for the Practice of Conservation).<br>· Conflict resolution techniques (see also CAC 3.4).<br>· Communication and collaboration skills (see also CAC 4.1).<br>· Maintaining relationships with IPs and LCs (see also PEO 4.1). |
| **PSP 4.3** | **Plan and build organisational capacity of the threatened species recovery programme management and governance.** | · Establishing system-wide standards and practices for effective and efficient management, administration and governance of TSR programmes.<br>· Developing and introducing norms, standards, standard operating procedures and technical guidance for effective TSR management practices.<br>· Identifying and meeting organisational level capacity needs for TSR programmes (e.g. finance, resources, personnel, research, etc.).<br>· Identifying sources of support and lobbying for improvements.<br>· Defining targets and objectives for strengthening the overall system of management and governance for TSR programmes, in line with legislation and best practice. | · Principles and practices of organisational capacity development.<br>· National policies and practices for administering and resourcing TSR programmes.<br>· Recognised best practice for organisational management and administration.<br>· Options for securing resources and improving capacity (see also FRM 4.1).<br>· Techniques for developing a learning culture within an organisation (see also PER 4.2).<br>· Institutional analysis techniques (e.g. vision and mission identification, situation analysis, stakeholder analysis, SWOT analysis, etc.). |

| PSP. LEVEL 3 | Direct the development and implementation of strategies, plans and programmes for threatened species recovery | | |
|---|---|---|---|
| **CODE** | **COMPETENCE STATEMENT**<br>***The individual should be able to:*** | **RANGE STATEMENT**<br>***A brief explanation of the competence.*** | **KNOWLEDGE REQUIREMENTS**<br>***Main specific knowledge requirements for the competence.*** |
| **PSP 3.1** | **Direct the development of programme concepts and proposals for threatened species recovery.** | · Preparing concepts and proposals defining the scope of TSR programme plans.<br>· Conducting a review of available literature and knowledge to ensure plans are evidence-based, identify barriers and are in line with existing programmes.<br>· Identifying programme partners and stakeholders and ensuring participation in the development process.<br>· Obtaining support from donors or officials regarding assistance of programmes. | · Threat to target species (see also RAM 3.3).<br>· Conservation status of focal species (see also RAM 3.2).<br>· Literature review techniques (see also RAM 3.5).<br>· Proposal/concept development skills and tools.<br>· Stakeholder identification and collaboration (see also CAC 3.2, CAC 3.3).<br>· Likely donors and required formats for proposals. |
| **PSP 3.2** | **Direct the development of strategic plans for threatened species recovery.** | · Developing strategic plans and prioritising interventions based on initial programme concepts and proposals.<br>· Ensuring a cross-sectoral, 'one-plan approach' with all relevant areas of TSR and external sectors.<br>· Ensuring complete stakeholder and partner participation, collaboration and consensus in the planning process.<br>· Using recognised formats, processes and best practice guidelines (e.g. IUCN CPSG Species Conservation Planning Principles and Steps, Open Standards for the Practice of Conservation, etc.) for strategic planning. | · Project identification and planning processes.<br>· Recognised best practice guidelines (e.g. IUCN CPSG Species Conservation Planning Principles and Steps; Open Standards for the Practice of Conservation).<br>· Existing programmes and sectors associated with the focal species.<br>· Prioritisation tools.<br>· Participatory techniques (see also PSP 3.7).<br>· Communication and collaboration skills (see also CAC 3.2, CAC 3.3). |
| **PSP 3.3** | **Direct the development of contingency plans for threatened species recovery programmes.** | · Identifying the major operational threats and risks or major disasters which could impact the TSR programme delivery (e.g. climate change, forest fires, earthquakes, etc.).<br>· Assessing and evaluating resulting impacts and pressures from major threats and risks to TSR.<br>· Horizon scanning for new or emerging threats or risks and conducting risk assessments.<br>· Identifying options and preparing plans for avoidance, mitigation and adaptation.<br>· Ensuring rapid response to major operational threats, risks or disasters. | · Potential threats and risks to TSR.<br>· Risk assessment and contingency planning techniques and procedures.<br>· Threat assessments for species (see also RAM 3.3).<br>· Options and measures for risk avoidance, reduction, mitigation and adaptation.<br>· Specific schemes for supporting responses to threats/risks or disasters (e.g. REDD+). |

| | | | |
|---|---|---|---|
| **PSP 3.4** | **Direct the implementation and monitoring of threatened species recovery programme plans.** | · Preparing detailed plans for the implementation of TSR programmes, maintaining project cycles and frameworks of activities.<br>· Ensuring that programmes are implemented in a timely and efficient manner according to plans/contracts.<br>· Monitoring and evaluating implementation against goals and objectives.<br>· Reporting on overall performance, impact and effectiveness.<br>· Securing certified recognition of the quality standard and impact of management (e.g. IUCN Green Status, etc.). | · Mandate and responsibilities of the TSR programme.<br>· Project management techniques and processes.<br>· Recognised monitoring and evaluation system.<br>· Principles of monitoring and use of various types of indicator (see also RAM 3.1).<br>· Assessment tools for species recovery (e.g. IUCN Green Status). |
| **PSP 3.5** | **Direct the regular review and adaptive management of threatened species recovery programmes.** | · Adopting a strategic, structured and planned approach to programme management (as opposed to ad hoc and passive/reactive management).<br>· Establishing means for regular reviews of management status, effectiveness and efficiency against planned activities, obligations and objectives, identifying gaps in data and knowledge.<br>· Conducting regular reviews of new and emerging literature and knowledge.<br>· Ensuring that programmes are adaptively managed based on new information and lessons learnt from review processes.<br>· Identifying and disseminating knowledge and lessons learned within the TSR programme and stakeholder community. | · Strategic and management planning.<br>· Principles and practice of adaptive management.<br>· Requirements for monitoring and evaluation.<br>· Details of the TSR management plan and its provisions for monitoring.<br>· Recognised monitoring and evaluation systems.<br>· Methods for effective communication of results (see also RAM 3.3).<br>· Methods for assessing and adapting plans (see also APC 02). |
| **PSP 3.6** | **Direct the development of best practice guidelines for threatened species recovery practices.** | · Developing recognised best practice guidelines for TSR practices (e.g. ex-situ management, conservation translocations, invasive species management, disease, etc.).<br>· Collaborating with official bodies to amend and improve existing best practice guidelines.<br>· Collaborating with taxon or specialist advisory groups and partner organisations.<br>· Ensuring best practice guidelines are published and made widely available. | · Processes for developing or updating best practice guidance.<br>· Advanced writing skills (see also CAC 2.4, DDR 2.4).<br>· Publication procedures.<br>· Collaboration skills (see also CAC 3.3). |
| **PSP 3.7** | **Direct the establishment and implementation of participation and good governance within threatened species recovery programmes.** | · Ensuring transparency in planning, decision making and evaluation processes, addressing concerns and conflicts.<br>· Enabling regular flows of information between decision-makers and practitioners with bottom-up and top-down per-spectives and communication.<br>· Enabling regular communication within and between TSR programmes and stakeholders, enabling all to participate in planning and decision making.<br>· Ensuring inclusion of groups such as Indigenous peoples, local minorities, young people, women, and those disadvan-taged or underrepresented.<br>· Ensuring high standards of governance and respect for rights associated with TSR programmes (e.g. human rights, Indige-nous peoples rights, free prior and informed consent, access and benefit sharing, etc.). | · The full range of stakeholders with an interest in the TSR programme.<br>· (Inter)national legislation, agreements and regulations regarding public participation and transparency.<br>· Principles and practices of participation.<br>· Principles and practices of good governance.<br>· Communication and network building principles and methods (see also CAC 3).<br>· Maintaining relationships with IPs and with LCs (see also PEO 3.5). |

| PSP. LEVEL 2 | Plan and lead the implementation of threatened species recovery programmes | | |
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| **CODE** | **COMPETENCE STATEMENT**<br>***The individual should be able to:*** | **RANGE STATEMENT**<br>***A brief explanation of the competence.*** | **KNOWLEDGE REQUIREMENTS**<br>***Main specific knowledge requirements for the competence.*** |
| **PSP 2.1** | **Participate in the development of plans for threatened species recovery programmes.** | · Contributing expertise into the creation or adaption of strategic and operational plans.<br>· Contributing to implementation reviews and adaptations of planned programmes of work.<br>· Ensuring adequate stakeholder consultation and participation in operational planning.<br>· Ensuring knowledge and insight is communicated bottom-up and across levels within the TSR programme.<br>· Ensuring effective interpersonal skills within and across professional levels. | · Work planning techniques and formats.<br>· Communication and interpersonal skills (see also CAC 2.2, APC 07).<br>· Dissemination skills of results (see also RAM 2.9). |
| **PSP 2.2** | **Operationalise the implementation of threatened species recovery plan components.** | · Preparing periodic (e.g. annual) work plans for implementation of larger strategies, plans and proposals, including goal setting, planning, implementation, evaluation, and adaption.<br>· Ensuring adequate and rational allocation of resources.<br>· Tracking delivery, ensuring that the plan is followed and the conservation measures are correctly implemented.<br>· Mobilising technical skills and expertise for TSR where required. | · SR programme strategy.<br>· Work planning techniques and formats.<br>· Personnel and resource availability (see also FRM 2.1, PER 2.1).<br>· Stakeholder engagement skills (see also CAC 2.1).<br>· Problem solving and decision making skills (see also APC 01, APC 02, FPC 02). |
| **PSP 2.3** | **Monitor delivery of threatened species recovery programmes.** | · Monitoring implementation of activities.<br>· Tracking and reviewing results against objectives and goals.<br>· Reporting on overall performance, impact and effectiveness.<br>· Making use of recognised monitoring, evaluation and reporting systems. | · Mandate and responsibilities of the TSR programme.<br>· Recognised monitoring and evaluation systems.<br>· Project reporting techniques (see also DDR 2.5). |
| **PSP. LEVEL 1** | **Not Applicable** | | |

# CATEGORY PER:
# PERSONNEL MANAGEMENT AND TRAINING

Managing, leading and developing people associated with threatened species recovery programmes

| PER. LEVEL 4 | Enable the establishment of systems for personnel management, development and support across threatened species recovery programmes | | |
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| **CODE** | **COMPETENCE STATEMENT**<br>***The individual should be able to:*** | **RANGE STATEMENT**<br>***A brief explanation of the competence.*** | **KNOWLEDGE REQUIREMENTS**<br>***Main specific knowledge requirements for the competence.*** |
| **PER 4.1** | **Institute management policies and procedures for human resource systems within threatened species recovery organisations and programmes.** | · Establishing norms for: numbers of personnel and organisational structures; standard job descriptions; required competences; transparent and merit-based procedures for recruitment and advancement of personnel; training and professional development; accident insurance; equality of opportunity, diversity and inclusion.<br>· Establishing standards and guidance for working conditions related to welfare, health, safety and security of TSR personnel.<br>· Ensuring the adoption and application of policies for personnel conduct and safeguarding throughout TSR programmes.<br>· Embedding policy and procedures within organisational strategy and culture, ensuring adequate resource allocation. | · (Inter)national legislation for employment.<br>· (Inter)national legislation for working conditions in TSR.<br>· Institutional norms and standards for employment and personnel management.<br>· Labour standards and policies set by the International Labour Organisation.<br>· Techniques for justice, equity, diversity and inclusion (JEDI) (see also FPC 07.)<br>· Recognised best practice guidelines. |
| **PER 4.2** | **Promote and enable a working culture of professional development and continual improvement across threatened species recovery organisations and programmes.** | · Promoting an organisational learning culture, valuing training and expressing the impact to the board members, donors. etc.<br>· Consulting on and implementing a values based culture centred on diversity, equity, inclusion and justice.<br>· Ensuring effective employee recruitment, professionalism, retention and life cycle.<br>· Championing and promoting norms and cultures around welfare, health, safety and security. | · Recognised best practice in training, education and capacity development.<br>· Preventative and mitigating safety measures.<br>· Techniques for justice, equity, diversity and inclusion (JEDI) (see also FPC 07). |
| **PER 4.3** | **Influence the direction of international initiatives for professionalisation of threatened species recovery.** | · Making a significant and recognised contribution internationally to the field of human resource management and capacity development in TSR (e.g. publication of specialist guidance, conference presentations, provision of high level training, etc.).<br>· Introducing and promoting measures for increasing the professional status of TSR management (e.g. competence registers). | · Examples of capacity development in TSR.<br>· Recognised best practice guidelines.<br>· Principles of professional standards.<br>· TSR competence frameworks.<br>· Representation and contributions within high level meetings (see also CAC 4.2, CAC 4.3).<br>· Methods of participation (see also APC 07). |

| PER. LEVEL 3 | Ensure that threatened species recovery personnel are sufficient, competent, well managed and motivated | | |
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| **CODE** | **COMPETENCE STATEMENT**<br>***The individual should be able to:*** | **RANGE STATEMENT**<br>***A brief explanation of the competence.*** | **KNOWLEDGE REQUIREMENTS**<br>***Main specific knowledge requirements for the competence.*** |
| **PER 3.1** | **Identify personnel needs and build a team capable of delivering threatened species recovery programmes.** | · Developing organisational structures and assigning personnel to positions in the structure.<br>· Identifying competences required for all positions.<br>· Preparing descriptions and performance requirements for all positions.<br>· Introducing a programme of performance review and appraisal for personnel.<br>· Developing a culture of teamwork within programmes and across organisations. | · Norms for organisational structures, job descriptions, etc.<br>· Options for personnel structures (e.g. vertical or horizontal structures).<br>· Competence-based approaches to human resource planning and management. |
| **PER 3.2** | **Oversee and ensure adoption of comprehensive personnel policy and procedures within threatened species recovery programmes.** | · Ensuring fair and transparent compliance with procedures for personnel recruitment, advancement, evaluation, grievance, retention, etc.<br>· Ensuring high standards in regards to codes of conduct and ethics, safeguarding policy, whistle-blower policy, etc.<br>· Ensuring compliance with labour and employment law, norms for employment of TSR personnel, standards for equality, opportunity and diversity.<br>· Personnel could include permanent and temporary staff, volunteers, helpers and regular collaborators. | · Employment legislation.<br>· Norms and standards for personnel procedures.<br>· Understanding of organisational culture and its underpinning values.<br>· Terms for external contracts (see also FRM 3.5). |
| **PER 3.3** | **Ensure suitable, equitable and supportive working conditions for personnel and others within threatened species recovery programmes.** | · Ensuring safe and healthy working conditions for personnel (full time staff, part time staff, volunteers, collaborators).<br>· Ensuring justice, equity, diversity and inclusion are accounted for across all working environments.<br>· Overseeing that risk assessments, safety equipment and first aid facilities and trained personnel are in place.<br>· Implementing special measures to ensure the security of vulnerable staff.<br>· Developing mental health support systems for personnel.<br>· Providing access to adequate accident and health insurance for personnel. | · Legislation relevant to health, safety and security.<br>· Techniques for justice, equity, diversity and inclusion (JEDI) (see also FPC 07).<br>· Risk assessment and health and safety audit and planning procedures.<br>· Mental health and wellbeing specific support networks and associated employee assistance programmes.<br>· Security audit techniques.<br>· Hazard assessment techniques (see also APC 03). |

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| **PER 3.4** | **Establish systems and procedures to ensure high standards of ethics and conduct among threatened species recovery programmes personnel and partners.** | · Taking positive steps to avoid, prevent and resist illegal and/or dishonest behaviour and corruption within the programme and in its relations with others.<br>· Taking positive steps to ensure that personnel and partners behave appropriately and respect human rights and dignity.<br>· Taking appropriate action to investigate problems and respond where necessary.<br>· Creating a system to process reports and concerns regarding illegal/dishonest/unethical activities for management and other personnel.<br>· Supporting personnel and partners in reporting and addressing illegal/dishonest/unethical activities. | · Prevalent forms of illegal/dishonest/unethical behaviour likely to affect TSR and its personnel and partners.<br>· National and international legislation and principles regarding corruption and human rights.<br>· Methods of preventing/avoiding/resisting illegal/dishonest/unethical behaviour.<br>· Practices for addressing dishonest and/or illegal practices (see also FPC 09). |
| **PER 3.5** | **Develop and direct capacity development for personnel within a threatened species recovery programme.** | · Establishing an internal capacity development strategy that is in line with the organisation's overall conservation strategy with resources made available.<br>· Enabling an environment conducive to inclusivity in which people feel free to share their experiences, ideas, challenges and concerns without fear of criticism.<br>· Conducting structured assessments of capacity development needs by adopting competence based approaches.<br>· Fostering a learning environment within TSR programmes and providing access to relevant learning and training for all personnel.<br>· Collecting and evaluating results and impacts of capacity development. | · Capacity needs assessment and analysis procedures.<br>· Capacity development principles and practices.<br>· TSR competence frameworks.<br>· Opportunities for building individual capacity (formal and informal).<br>· Options for workplace learning (in addition to training).<br>· Review and adaptive management techniques (see also PSP 3.5). |
| **PER 3.6** | **Direct the development of a threatened species recovery training strategy.** | · Directing the specification, planning, design and implementation of educational programmes (e.g. curricula, teaching resources, accreditation etc.).<br>· Implementing multiple cross-learning methods (e.g. mentoring, coaching, peer-learning, knowledge exchange programmes, etc.).<br>· Communicating the training strategy and plan to TSR staff and stakeholders.<br>· Incorporating the training strategy into the overall management strategy/plan for TSR.<br>· Collecting and evaluating impacts and effectiveness of training programmes. | · Principles of adult learning.<br>· Principles and practices of training and education.<br>· Participatory planning processes.<br>· Options for designing and delivering training programmes.<br>· Communication and collaboration (see also CAC 3.1, CAC 3.3).<br>· Review and adaptive management techniques (see also PSP 3.5). |

| PER. LEVEL 2 | Lead and support teams and individuals conducting threatened species recovery work | | |
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| **CODE** | **COMPETENCE STATEMENT**<br>***The individual should be able to:*** | **RANGE STATEMENT**<br>***A brief explanation of the competence.*** | **KNOWLEDGE REQUIREMENTS**<br>***Main specific knowledge requirements for the competence.*** |
| **PER 2.1** | **Prepare work plans and monitor their implementation.** | · Developing detailed work plans and rotas of tasks and goals for teams and individuals.<br>· Identifying personnel and resources required to implement work plans.<br>· Monitoring and guiding performance of staff and checking results.<br>· Providing feedback to teams and individuals.<br>· Providing reports to senior staff.<br>· Ensuring work plans are linked to the overall management strategy/plan for TSR. | · Personnel procedures of the TSR programme.<br>· Line management techniques.<br>· The goals, objectives and required outputs of the management plan and work plans of the TSR programme.<br>· Structured approaches to work planning. |
| **PER 2.2** | **Deliver on-the-job instructional training and learning.** | · Conducting inductions for all new personnel following a standardised checklist.<br>· Instructing and training on how to do required tasks.<br>· Providing feedback and support to help colleagues learn and improve their skills.<br>· Delivering training to all relevant personnel (e.g. peer colleagues, students, trainees, volunteers, local communities etc.).<br>· Repeating training as required. | · Basic instructional techniques.<br>· Teaching/training skills.<br>· Communicate effectively (see also CAC 2.2, FPC 04). |
| **PER 2.3** | **Supervise, motivate and evaluate performance of individuals and teams.** | · Implementing measures for formal line management of personnel following set procedures and ensuring their health, safety and welfare.<br>· Conducting formal appraisals and performance reviews with feedback and guidance for improvement (e.g. regular one-to-ones, probation reviews, annual reviews, etc.).<br>· Identifying reasons for substandard performance by individuals and teams.<br>· Identifying causes of workplace conflict and taking steps to act on and rectify issues.<br>· Providing reports to senior management and initiating formal procedures if required. | · Personnel procedures of the TSR programme.<br>· Line management techniques.<br>· Maintaining personnel records (see also DDR 2.1).<br>· Motivational and instructional techniques (see also APC 08).<br>· Effective Performance Improvement Plans (PIP).<br>· Communication skills (see also CAC 2.2, FPC 04)<br>· Conflict resolution techniques (see also CAC 2.6). |

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| **PER 2.4** | **Demonstrate effective guidance and teamwork in the workplace.** | · Promoting inclusive, team-based approaches to work through the sharing of skills, knowledge and experience.<br>· Encouraging and enabling colleagues and subordinates to contribute to planning and decision making.<br>· Providing professional and personal advice and guidance to colleagues and subordinates (e.g. mentoring).<br>· Delegating tasks and responsibilities, providing support and feedback.<br>· Supporting colleagues and subordinates to learn and practice skills. | · Principles and practices of effective teamwork and collaboration (see also APC 08).<br>· Interpersonal skills (see also CAC 2.2, FPC 04).<br>· Transparency and participation skills (see also APC 07).<br>· Mentoring and coaching skills and techniques (see also APC 09). |
| **PER 2.5** | **Maintain suitable working conditions, welfare, health, safety and security for threatened species recovery personnel and others.** | · Conducting risk assessments for physical work activities and personnel security/welfare/mental health.<br>· Monitoring safety, reporting new incidents, security threats, near misses, or hazards, and adapting measures accordingly.<br>· Providing training to relevant personnel, to the required level (e.g. first aid, self-defence, emergency rescue, evacuation, mental health, etc.)<br>· Ensuring that infrastructure and equipment are safe and well maintained.<br>· Ensuring that first aid and safety equipment is provided and maintained.<br>· Ensuring the security of staff, stakeholders and visitors against physical threats. | · Major likely threats/hazards and suitable responses (see also FLD 2.6, FPC 08, APC 03).<br>· Relevant standard operating procedures for threats and physical attacks (see also UHL 1.10, UHL 1.11).<br>· Relevant types and levels of first aid (see also FLD 1.9).<br>· Methods for maintaining personal health and wellbeing (see also FPC 10).<br>· Pressure management skills (see also APC 04). |
| **PER 2.6** | **Conduct assessments of training and professional development needs within threatened species recovery pro-grammes.** | · Conducting learning needs assessments with all personnel within a TSR programme.<br>· Identifying training and development needs, in line with the capacity development strategy.<br>· Liaising with relevant training providers based on identified needs.<br>· Identifying barriers to the application of skills in the workplace.<br>· Implementing monitoring and evaluation systems for training and professional development.<br>· Integrating feedback into training programme development | · Learning needs assessment techniques.<br>· Assessment techniques for training and learning impacts.<br>· Personal and professional development opportunities (see also APC 06). |
| **PER 2.7** | **Plan and deliver structured training activities.** | · Identifying learning objectives and developing linked course programmes, lesson plans, teaching materials, etc.<br>· Implementing a range of delivery and learning techniques, materials and platforms (e.g. theoretical, practical, workplace, external training providers, etc.).<br>· Providing a supportive and dynamic learning environment by identifying personal learning objectives, participation barriers, learning lifecycles etc.<br>· Implementing post-training capacity development mechanisms, pastoral care, feedback mechanisms etc.<br>· Monitoring and evaluating learning sessions and programmes. | · Theory of adult learning.<br>· Educational curricula and requirements for educational programmes and activities.<br>· Aspects of TSR relevant to educational curricula.<br>· Teaching, instructional and practical training skills and techniques.<br>· Methods for assessing the impact of training and learning.<br>· Monitoring and reporting techniques (see also PSP 2.3). |

| PER. LEVEL 1 | Contribute to team work | | |
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| **CODE** | **COMPETENCE STATEMENT**<br>***The individual should be able to:*** | **RANGE STATEMENT**<br>***A brief explanation of the competence.*** | **KNOWLEDGE REQUIREMENTS**<br>***Main specific knowledge requirements for the competence.*** |
| **PER 1.1** | **Assist and motivate work groups in completing practical tasks.** | · Ensuring that small work groups complete assigned practical tasks (fieldwork, clerical, administrative, etc.) in an effective and efficient way, according to instructions. | · Basic supervisory and motivational techniques (see also APC 08).<br>· Personnel procedures of the organisation.<br>· Details of technical tasks to be completed.<br>· Working in compliance with organisation or instruction (see also FPC 12). |

# CATEGORY FRM:
# FINANCE AND RESOURCE MANAGEMENT

Ensuring that threatened species recovery programmes are adequately and responsibly financed and resourced

| FRM. LEVEL 4 | Ensure adequate physical and financial resources and management systems are in place for threatened species recovery organisations and programmes | | |
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| **CODE** | **COMPETENCE STATEMENT**<br>***The individual should be able to:*** | **RANGE STATEMENT**<br>***A brief explanation of the competence.*** | **KNOWLEDGE REQUIREMENTS**<br>***Main specific knowledge requirements for the competence.*** |
| **FRM 4.1** | **Coordinate mobilisation and management of funding and resources for threatened species recovery programmes.** | · Overseeing the preparation of financial analyses, long-term financial plans and financial forecasts for the management and expansion of TSR programmes.<br>· Ensure appropriate financial and resource management systems are in place.<br>· Securing adequate/improved funding for TSR.<br>· Preparing and presenting justified arguments for investment in a TSR system.<br>· Developing new approaches to sustainable TSR financing.<br>· Identifying innovative ways to secure adequate resources. | · Legislation, regulations and norms regarding financial planning, resource procurement and management.<br>· National policy for budgeting and financing TSR.<br>· Opportunities for donor support for TSR.<br>· Options for payments for ecosystem services from TSR.<br>· Range of possible self-funding methods for TSR. |
| **FRM 4.2** | **Influence the direction of (inter)national initiatives for financing and resourcing threatened species recovery.** | · Instigating international or multi-organisational initiatives for financing and resourcing major, long-term TSR programmes.<br>· Making a significant and recognised contribution internationally to TSR financing (e.g. through publication of specialist guidance, conference presentations, provision of high level training, etc.). | · Examples of financing and resourcing in TSR.<br>· Recognised best practice guidelines.<br>· Representation and contributions within high level meetings (see also CAC 4.2, CAC 4.3).<br>· Methods of participation (see also APC 07). |

| FRM. LEVEL 3 | Identify and secure adequate financial and physical resources for delivery of a threatened species recovery programme and ensure their effective and efficient use | | |
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| **CODE** | **COMPETENCE STATEMENT**<br>***The individual should be able to:*** | **RANGE STATEMENT**<br>***A brief explanation of the competence.*** | **KNOWLEDGE REQUIREMENTS**<br>***Main specific knowledge requirements for the competence.*** |
| **FRM 3.1** | **Prepare financial plans, budgets and reports.** | · Preparing financial plans and reports for TSR (e.g. sustainable financing, financing and resourcing plans, budgets, audits, etc.).<br>· Identifying requirements for recurrent costs, purchases, investments, procurements, etc.<br>· Identifying any 'funding gap' between available and required funds and strategies and options for filling the gap.<br>· Preparing annual financial reports e.g. internal or donor, according to institutional and legal requirements. | · Theory and practice of financial sustainability planning.<br>· Current policies and practices for funding TSR.<br>· Options and sources for increasing/diversifying funding.<br>· Financial planning and accounting procedures.<br>· Details of the TSR management plan and business plan.<br>· Legislation, regulations and procedures regarding financial reporting and auditing. |
| **FRM 3.2** | **Identify and secure funding for threatened species recovery programmes.** | · Presenting justified annual budget requests, based on rational analysis of management requirement, to parent organisations and funding agencies.<br>· Identifying and mobilising new donors and sources of funding for TSR (e.g. from donors, projects, partnerships, locally generated income, etc.).<br>· Identifying funding gaps and shortfalls. | · Legislation, regulations and norms relevant to funding of TSR.<br>· Policies and criteria used by funding agencies and donors. |
| **FRM 3.3** | **Identify and procure physical resources required for threatened species recovery.** | · Preparing resource needs assessments based on obligations and needs of TSR programmes.<br>· Identifying requirements for physical and digital infrastructure, materials and equipment and recurrent costs.<br>· Identifying where and how to secure the required resources (e.g. through government, external grants, resource sharing, etc.).<br>· Overseeing procedures for procurement of goods and services.<br>· Ensuring that resources are inventoried, monitored and maintained. | · Legislation, regulations and norms regarding resourcing for TSR programmes.<br>· Sources of support for acquisition of resources.<br>· Procurement procedures of supporting organisations and donors.<br>· Opportunities for improving efficiency of use of resources.<br>· Options for sponsorship and donation of physical resources. |

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| **FRM 3.4** | **Ensure compliance with legislation and required procedures for financial management and use of resources.** | · Introducing adequate procedures for financial management and management of material assets.<br>· Ensuring correct accounting and preventing/addressing all forms of mismanagement or misuse.<br>· Ensuring correct management and documentation of material assets (equipment and infrastructure).<br>· Ensuring compliance with regulations for managing and reporting income and for taxation.<br>· Meeting all requirements for reporting, for audit/inspection and for maintenance of inventory records. | · Legislation, regulations and norms relevant to the management of finances and assets of TSR programmes.<br>· Professional procedures for accounting, bookkeeping and inventory management. |
| **FRM 3.5** | **Negotiate and oversee contracts and financial terms for constructions, concessions and management agreements.** | · Contracting for services, supplying, individual, concessions, construction, management agreements etc.<br>· Ensuring compliance with all requirements for transparency and fairness in negotiation and awarding of contracts. | · Legislation, regulations and norms regarding contracts and concessions in TSR.<br>· Details of polices and options for contracting in TSR (see also PER 3.2).<br>· Methods for conducting and documenting negotiations (see also CAC 3.4,DDR 3.4). |

| FRM. LEVEL 2 | Manage, monitor and account for the use of financial and other resources required for the delivery of threatened species recovery programmes | | |
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| **CODE** | **COMPETENCE STATEMENT**<br>***The individual should be able to:*** | **RANGE STATEMENT**<br>***A brief explanation of the competence.*** | **KNOWLEDGE REQUIREMENTS**<br>***Main specific knowledge requirements for the competence.*** |
| **FRM 2.1** | **Identify costs and material requirements for work activities.** | · Accurately calculating/estimating the resource requirements for implementing programmes and operational plans.<br>· Preparing basic budgets and procurement plans.<br>· Maintaining accurate financial records and documentation. | · Basic budgeting principles and practices.<br>· Material needs for common management tasks.<br>· Estimation of needs for materials. |
| **FRM 2.2** | **Ensure availability and maintenance of assets, equipment, stores and supplies.** | · Managing and updating inventories (infrastructure, equipment and supplies).<br>· Identifying purchasing, replacement and maintenance needs.<br>· Maintaining required documentation.<br>· Maintaining insurance cover. | · Asset and inventory management procedures of the programme.<br>· Recurrent needs of the programme for equipment and supplies.<br>· Maintenance of equipment and supplies (see also FLD 2.2).<br>· Limited resource management skills (see also APC 05). |
| **FRM 2.3** | **Conduct procurement and purchasing according to prescribed procedures.** | · Following specified procedures for procuring and purchasing goods and services according to budgets and financial plans and using standard methods.<br>· Acquiring quotes for services required.<br>· Ensuring all procedures are conducted honestly and transparently.<br>· Maintaining accurate records and documentation. | · Legislation regarding procurement and purchasing.<br>· Procurement and purchasing procedures of the programme and of donors.<br>· Sustainable options (see also APC 05). |
| **FRM 2.4** | **Keep books, accounts and monetary records.** | · Entering financial information into a standard bookkeeping system (computerised or manual).<br>· Managing payroll processes and documentation.<br>· Managing and recording cash payments, advances, expenditure and transactions.<br>· Maintaining 'petty cash' and associated records.<br>· Working with auditors where applicable. | · Required accounting legislation and practices.<br>· Book keeping and accounting system of the organisation.<br>· Cash management procedures. |
| **FRM 2.5** | **Prepare reports on finances and assets.** | · Producing reports and forecasts on income and expenditure.<br>· Preparing required financial reports and reports on assets and inventory.<br>· Completing all requirements for preparation for audit and inspection.<br>· Preparing materials for donor management and communication. | · Accounting system of the organisation.<br>· Audit and inspection requirements and procedures.<br>· Report writing requirements (see also DDR 2.5). |

| FRM. LEVEL 1 | Account for money and resources provided for specific activities | | |
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| **CODE** | **COMPETENCE STATEMENT**<br>***The individual should be able to:*** | **RANGE STATEMENT**<br>***A brief explanation of the competence.*** | **KNOWLEDGE REQUIREMENTS**<br>***Main specific knowledge requirements for the competence.*** |
| **FRM 1.1** | **Collect and present evidence of expenditure and other financial transactions.** | · Keeping simple records of transactions (e.g. collecting receipts).<br>· Managing and accounting for small amounts of cash.<br>· Providing basic summary reports on expenditure. | · Basic financial record-keeping procedures and requirements of the organisation. |
| **FRM 1.2** | **Maintain records of materials, equipment and supplies.** | · Following procedures for record keeping of equipment, supplies, consumables, etc.<br>· Following procedures for the reporting of damaged or lost equipment.<br>· Reporting on requirements for purchase, replacement and maintenance. | · Basic inventory/stores and maintenance procedures of the organisation. |

# CATEGORY DDR:
# DOCUMENTATION, DATA AND REPORTING

## Establishing and implementing systems and procedures for information and data management, documentation and reporting

| DDR. LEVEL 4 | Enable the establishment of comprehensive systems for data management, documentation and reporting across threatened species recovery organisations and programmes | | |
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| **CODE** | **COMPETENCE STATEMENT**<br>***The individual should be able to:*** | **RANGE STATEMENT**<br>***A brief explanation of the competence.*** | **KNOWLEDGE REQUIREMENTS**<br>***Main specific knowledge requirements for the competence.*** |
| **DDR 4.1** | **Compile and prepare formal (inter)national reports on large-scale threatened species recovery activities.** | · Leading compilation of major reports on system-wide TSR activities (e.g. to the Government, major donors, etc.).<br>· Ensuring systems are in place for accurate and up-to-date information sharing with global data holders (e.g. UNEP WCMC, IUCN, etc.). | · Reporting and information sharing requirements and formats.<br>· Methods of information synthesis and prioritisation.<br>· Information research (e.g. literature reviews, sources of information, online searches, information requests, etc.) (see also RAM 3.5). |
| **DDR 4.2** | **Ensure establishment of effective organisation or programme-wide data management and documentation systems.** | · Leading the development of systems for the comprehensive recording of programmes and all related activities and data.<br>· Ensuring resources and capacity are available for systems to be maintained and updated centrally.<br>· Ensuring that suitable systems of storage, access, security and back up are in place. | · Methods for large scale data management (see also TEC 3.1, TEC 2.3).<br>· Developing digital systems (see also TEC 4.1).<br>· Systems of documentation and reporting used by TSR programmes.<br>· (Inter)national tools and processes for documenting and reporting TSR activities. |
| **DDR 4.3** | **Influence the direction of (inter)national initiatives for data management, documentation and reporting.** | · Contributing to sector-wide policies, systems and standards for reporting, data and knowledge management.<br>· Making a significant and recognised contribution internationally to collecting and collating information about TSR (e.g. through publication of specialist guidance, conference presentations, provision of high level training, etc.). | · Examples of data management, documentation and reporting in TSR.<br>· Recognised best practice guidelines.<br>· Representation and contributions within high level meetings (see also CAC 4.2, CAC 4.3).<br>· Methods of participation (see also APC 07). |

| DDR. LEVEL 3 | Ensure that a system of documentation, data management and reporting is in operation across threatened species recovery programmes | | |
|---|---|---|---|
| **CODE** | **COMPETENCE STATEMENT**<br>***The individual should be able to:*** | **RANGE STATEMENT**<br>***A brief explanation of the competence.*** | **KNOWLEDGE REQUIREMENTS**<br>***Main specific knowledge requirements for the competence.*** |
| **DDR 3.1** | **Ensure that activity records and documentation are effectively maintained and secured.** | · Developing capacity for the management of activity records and documentation.<br>· Maintaining documented systems and protocols (electronic and/or paper-based) for recording, storage and retrieval of information, activities, maps, images, etc. from personnel and stakeholders.<br>· Meeting data protection and security obligations of country, organisation and partners.<br>· Ensuring all relevant staff are conversant and competent in required information and data management practices. | · Information management approaches and methods (see also TEC 3.1).<br>· Options for security and back up (see also TEC 3.1).<br>· Legal requirements for data protection and security (see also TEC 3.1).<br>· Uses of and requirements for information technology (computers, peripherals, networks, etc.) (see also TEC 2.1). |
| **DDR 3.2** | **Ensure that data resulting from, or related to, threatened species recovery is processed, stored and made widely available.** | · Establishing and implementing Data Management Plans for all programmes in line with protocols.<br>· Establishing comprehensive management systems for maintaining long-term and critical datasets (e.g. online databases).<br>· Ensuring supported IT (including software and hardware) systems with appropriate storage, archiving, access and information backup.<br>· Enabling sharing and use of data and knowledge at a global, regional or thematic level (e.g. data sharing agreements, national databases, etc.).<br>· Submitting documentation to central archives and management information systems (e.g. national biological record centres). | · Processes for writing data management plans.<br>· (Inter)national central data archives.<br>· Information security protocols (see also TEC 3.1).<br>· Relevant laws and regulations for data protection, management, access and use. |
| **DDR 3.3** | **Direct preparation of formal reports on threatened species recovery programmes and projects.** | · Identifying appropriate contributors to formal reports.<br>· Compiling comprehensive reports to managing authorities, donors, partners, governance bodies etc.<br>· Collating information from a range of sources (internal reports, research reports, evaluations, etc.) into single comprehensive reports.<br>· Setting reporting intervals based on programme requirements (e.g. monthly, quarterly, annually, etc.).<br>· Ensuring reports are validated using 'check and balance' by external bodies, where relevant. | · Reporting requirements and formats.<br>· Analytical interpretation (see also RAM 2.9).<br>· Techniques for clear writing and presentation of information (see also CAC 2.4, RAM 2.9). |
| **DDR 3.4** | **Ensure documentation of meetings, consultations and negotiations.** | · Ensuring correct documentation of meetings, agreements and decisions are made by relevant personnel (through minutes, back to office reports, information files, etc.).<br>· Ensuring distribution, storage and filing of documentation. | · Meeting protocols.<br>· Systems for document storage and retrieval. |

| DDR. LEVEL 2 | Prepare and manage documentation, data and reporting of management activities according to required procedures | | |
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| **CODE** | **COMPETENCE STATEMENT**<br>***The individual should be able to:*** | **RANGE STATEMENT**<br>***A brief explanation of the competence.*** | **KNOWLEDGE REQUIREMENTS**<br>***Main specific knowledge requirements for the competence.*** |
| **DDR 2.1** | **Maintain personnel records.** | · Collating and storing time sheets, attendance records and activity records.<br>· Keeping updated records of individual personnel employed by the organisation (full time, part time, contract staff, consultants, volunteers, etc.).<br>· Keeping records, which may include individuals' employment history, accomplishments, goals, feedback, disciplinary action (if any), capacity development, recognition and promotions.<br>· Ensuring that records are secure and comply with data protection legislation. | · Personnel file procedures and systems of the organisation.<br>· Data protection and security legislation and requirements. |
| **DDR 2.2** | **Ensure and maintain accurate and secure documentation of activities and events.** | · Ensuring that accurate, retrievable and formatted records are kept of work activities, projects, research, administrative procedures, meetings, etc. (digital and/or hard copy records).<br>· Ensuring that documentation is secure and backed up.<br>· Using electronic record-keeping systems if required. | · Use of information storage, data bases, management information systems used within TSR.<br>· Computer and database uses (see also TEC 2.2, TEC 2.3).<br>· Legal requirements for data protection and security. |
| **DDR 2.3** | **Ensure and maintain accurate and secure management and documentation of data.** | · Ensuring data and records are of high quality, up-to-date and appropriately formatted and organised.<br>· Ensuring prescribed procedures in a Data Management Plan are followed for filing, security, storage, transfer, etc. | · Use of information storage, data bases, management information systems used within TSR.<br>· Computer and database uses (see also TEC 2.2, TEC 2.3).<br>· Legal requirements for data protection and security. |
| **DDR 2.4** | **Prepare analytical and technical reports and publications.** | · Researching and preparing written scientific/technical/research reports, including presentation of information, analysis, conclusions, achievements and recommendations.<br>· Publishing and communicating reports on relevant platforms (e.g. scientific journals, government reports, organisational portals or webpages, etc.).<br>· Identifying an impartial committee to validate/review reports or publications, where required. | · Structure and content of scientific and technical reports.<br>· Analytical techniques and interpretation (see also RAM 2.7, RAM 2.8,RAM 2.9).<br>· Techniques for clear writing and presentation of information (see also CAC 2.4, RAM 2.9).<br>· Publication systems of scientific journals. |
| **DDR 2.5** | **Prepare reports on project activities and meetings.** | · Accurately documenting meetings (minute taking).<br>· Collating and preparing detailed, structured periodic reports of TSR activities, using prescribed structures and formats if needed.<br>· Following reporting time-line for preparing reports or compiling information.<br>· Reporting which could include quarterly reports from a section or work team, reports to project donors, management plan implementation reports, etc. | · Reporting requirements and formats used within TSR.<br>· Techniques for clear writing and presentation of information (see also CAC 2.4, RAM 2.9). |

| DDR. LEVEL 1 | Keep basic records of, and report on, activities as required by the threatened species recovery programme | | |
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| **CODE** | **COMPETENCE STATEMENT**<br>***The individual should be able to:*** | **RANGE STATEMENT**<br>***A brief explanation of the competence.*** | **KNOWLEDGE REQUIREMENTS**<br>***Main specific knowledge requirements for the competence.*** |
| **DDR 1.1** | **Maintain records of work activities.** | · Maintaining records of activity (e.g. through ranger notebooks, work records/logs, data sheets, etc.).<br>· Using digital record-keeping systems if required (e.g. GPS, SMART, etc.). | · Familiarity with record-keeping forms and documents used within TSR (RAM 1.1).<br>· Use of digital devices (e.g. GPS, SMART, etc.) (see also TEC 1.4, FLD 1.11).<br>· Use of software and systems (see also TEC 1.1). |
| **DDR 1.2** | **Prepare basic written or verbal reports of work activities.** | · Completing written reports (using prescribed formats).<br>· Generating reports from digital devices.<br>· Verbally reporting results and/or findings to appropriate personnel. | · Familiarity with reporting requirements and formats within TSR.<br>· Use of digital devices (e.g. GPS, SMART, etc.) (see also TEC 1.4, FLD 1.11).<br>· Basic data summaries (see also RAM 1.4).<br>· Communication skills (see also CAC 1.1). |
| **DDR 1.3** | **Maintain data records and adhere to data management and security policies.** | · Maintaining digital data records (using prescribed formats).<br>· Adhering to data management policies and procedures (e.g. security, backups, archiving, passwords, handling of sensitive data, etc.).<br>· Abiding by organisational secrecy acts, policies or procedures. | · Familiarity with filing systems and formats within TSR.<br>· Relevant documentation and data management protocols (see also RAM 1.4).<br>· Use of data capture software and applications (e.g. Excel, access, online, etc.) (see also TEC 1.1, TEC 1.4). |

# CATEGORY CAC:
# COMMUNICATION AND COLLABORATION

## Building and using the skills required to communicate and collaborate effectively

| CAC. LEVEL 4 | Contribute effectively in high-level meetings and form alliances for threatened species recovery | | |
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| **CODE** | **COMPETENCE STATEMENT**<br>***The individual should be able to:*** | **RANGE STATEMENT**<br>***A brief explanation of the competence.*** | **KNOWLEDGE REQUIREMENTS**<br>***Main specific knowledge requirements for the competence.*** |
| **CAC 4.1** | **Develop and maintain (inter)national alliances and partnerships.** | · Networking and establishing contacts through (inter)national platforms (e.g. conferences, conventions, etc.).<br>· Identifying potential partners.<br>· Convening and arranging side events, sessions, meetings and associated administration (e.g. agendas, objectives, etc.).<br>· Engaging people based on mutual terms and enabling discussions. | · The range of participants and interests represented at high level meetings and negotiations.<br>· Formal communication protocols required for high level interactions.<br>· Communication, networking and partnership skills (see also CAC 3.2, CAC 3.3). |
| **CAC 4.2** | **Represent the threatened species recovery programme or organisation in the public domain.** | · Representing the organisation/TSR programme to a wide group of people/ stakeholders, members, partners, donors, general public, etc.<br>· Developing a communication plan.<br>· Communicating position statements for the organisation/TSR programme. | · Formal communication protocols required for high level interactions.<br>· Processes for developing communication strategies/plans.<br>· Principles of effective communication. |
| **CAC 4.3** | **Contribute effectively to high level meetings, conferences and negotiations.** | · Participating effectively and publicly contributing to high level meetings and conferences (e.g. CITES, IUCN World Conservation Congress, etc.).<br>· Participating in (inter)national or regional groups/alliances/coalitions associated with TSR.<br>· Participating in high level negotiations.<br>· Ensuring high standards of professionalism, preparation, presentation and observance of protocols. | · Technical knowledge of the topics and issues under consideration.<br>· Core applied communication skills.<br>· Formal communication protocols required for high level interactions.<br>· Documentation of meetings, conferences and negotiations (see also DDR 3.4). |
| **CAC 4.4** | **Influence the direction of (inter)national initiatives for improving communication and participation within threatened species recovery programmes.** | · Making a significant and recognised contribution to communication and participation for threatened species recovery (e.g. through publication of specialist guidance, research and development of new approaches, conference presentations, provision of high level training, etc.).<br>· Ensuring an (inter)national presence.<br>· Promoting approaches to communicating and participating effectively within TSR. | · Examples of communication and participation in TSR.<br>· Recognised best practice guidelines.<br>· Representation and contributions within high level meetings (see also CAC 4.2, CAC 4.3).<br>· Methods of participation (see also APC 07). |

| CAC. LEVEL 3 | Develop effective communications by and within a threatened species recovery programme and build partnerships | | |
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| **CODE** | **COMPETENCE STATEMENT**<br>***The individual should be able to:*** | **RANGE STATEMENT**<br>***A brief explanation of the competence.*** | **KNOWLEDGE REQUIREMENTS**<br>***Main specific knowledge requirements for the competence.*** |
| **CAC 3.1** | **Develop and maintain effective communications within the threatened species recovery programme.** | · Making appropriate use of a range of communication techniques, systems, tools and aids to support good communication.<br>· Establishing an organisational culture of good communication, transparency and responsiveness.<br>· Recognising the diversity and needs of individuals within TSR programmes and adapting communication approaches accordingly.<br>· Enabling regular communication and flow of information within and between TSR programmes (e.g. through staff meetings, circulars, exchange visits, etc.).<br>· Sourcing interpreters, where required, and ensuring appropriate training and ability. | · A wide range of communication techniques and their application in management and efficient running of the organisation.<br>· Communication tools and aids (see also TEC 2.5).<br>· Communication and network building principles and methods (see also CAC 3.2, CAC 3.3).<br>· Supportive techniques (see also APC 09).<br>· Transparency and participatory skills (see also APC 07).<br>· Maintaining good relations (see also FPC 03). |
| **CAC 3.2** | **Identify and engage stakeholders to develop partnerships for threatened species recovery.** | · Identifying stakeholders among other TSR programmes, authorities and agencies, local communities and civil society organisations, private sectors, etc.<br>· Negotiating agreements and resolutions and drafting formal partnership documentation (e.g. MOUs, etc.).<br>· Producing terms of reference between stakeholders.<br>· Producing codes of ethics between all stakeholders (e.g. behaviour, safety, conflicts of interest, publication of sensitive data, media coverage, etc.). | · The full range of stakeholders with an interest in TSR.<br>· Methods for communication, networking and partnership building.<br>· The mandates, functions, roles and rights of all relevant institutions.<br>· Negotiation procedures and approaches (e.g. accommodating, avoiding, collaborating, competing, compromising) (see also CAC 3.4, DDR 3.4). |
| **CAC 3.3** | **Coordinate and maintain effective communications with stakeholders.** | · Ensuring regular and direct communication and maintenance of positive working relations between a TSR programme and stakeholders.<br>· Recognising the diversity of individuals and groups among stakeholders and adapting communication approaches accordingly to effectively address equity and inclusion.<br>· Maintaining information sharing and remain open to viewpoints, enabling trust, respect and dignity.<br>· Addressing barriers between stakeholders using stakeholder conflict resolution techniques.<br>· Ensuring equitable and appropriate attribution. | · Stakeholder analysis techniques (see also CAC 2.1).<br>· Range of stakeholders and partners and their different communication styles and needs.<br>· Techniques for justice, equity, diversity and inclusion (JEDI) (see also PER 3.3).<br>· Communication techniques for maintaining of good relations and two-way communication.<br>· A wide range of conflict resolution approaches e.g. negotiation, mediation, arbitration and adjudication (see also CAC 3.4). |
| **CAC 3.4** | **Negotiate agreements and resolve disputes and conflicts.** | · Using a range of techniques for enabling equitable agreements and for resolving major conflicts with/between stakeholders and partners or within the organisation.<br>· Ensuring documentation and formalisation of agreements and resolutions. | · Negotiation approaches (e.g. accommodating, avoiding, collaborating, competing, compromising).<br>· Conflict resolution approaches (e.g. negotiation, mediation, arbitration and adjudication).<br>· Procedures for documenting negotiations (see also DDR 3.4).<br>· Maintaining good relations (see also FPC 03, FPC 04). |

| CAC. LEVEL 2 | Communicate effectively with programme personnel, partners and other stakeholders | | |
|---|---|---|---|
| **CODE** | **COMPETENCE STATEMENT**<br>***The individual should be able to:*** | **RANGE STATEMENT**<br>***A brief explanation of the competence.*** | **KNOWLEDGE REQUIREMENTS**<br>***Main specific knowledge requirements for the competence.*** |
| **CAC 2.1** | **Conduct stakeholder analysis and develop a stakeholder engagement plan.** | · Conducting a structured stakeholder analysis to identify stakeholders, their needs and interests.<br>· Conducting interviews and consultations and managing expectations.<br>· Assigning roles, where applicable, and preparing partnership agreements.<br>· Developing appropriate engagement strategies and approaches through stakeholder inclusive planning processes.<br>· Incorporating results and plans into the overall TSR strategy. | · A range of communication techniques and their uses.<br>· Stakeholder analysis techniques.<br>· Procedures and approaches to partnership agreements/ negotiations (see also CAC 3.4, DDR 3.4). |
| **CAC 2.2** | **Demonstrate effective interpersonal communication.** | · Demonstrating a range of essential skills for effective formal and informal communication with managers/supervisors, colleagues, subordinates, stakeholders, public, local communities, etc.<br>· Using a range of methods (e.g. face to face, listening, questioning, instructing, providing feedback, etc).<br>· Using and understanding non-verbal communication.<br>· Providing clear information, instruction and explanations verbally and in writing.<br>· Listening, understanding and assimilating information. | · A range of communication techniques and their uses.<br>· Awareness of different communication approaches required for different groups and individuals.<br>· Supportive techniques (see also APC 09).<br>· Maintaining good relations (see also FPC 03).<br>· Relationship building with IPs and with LCs (see also PEO 2.7). |
| **CAC 2.3** | **Communicate effectively through verbal presentations.** | · Preparing and delivering effective verbal presentations in formal and informal settings.<br>· Adapting content, materials and presentation styles to different audiences.<br>· Keeping to time limits.<br>· Making effective use of presentation and visual aids (e.g. PowerPoint).<br>· Giving verbal presentations, which could include talks, meetings, conferences, media, public events, etc. | · A range of verbal communication techniques and their uses and limitations (see also FPC 04).<br>· Use of visual aids to support presentations (see also AWA 2.2, TEC 1.1).<br>· Communication approaches required with different groups. |
| **CAC 2.4** | **Communicate effectively in writing.** | · Demonstrating a range of skills for effective written communication for various audiences and purposes, using appropriate language and styles (e.g. for formal reporting, scientific writing, letters, emails, press, social media, etc.).<br>· Writing for non-expert audiences. | · A range of written communication techniques and their uses (see also AWA 2.4, AWA 2.5, TEC 2.5).<br>· Awareness of different communication approaches required with different groups and individuals.<br>· Good spelling and grammar. |

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| **CAC 2.5** | **Facilitate meetings, discussions and workshops.** | · Using a range of techniques for effective and inclusive facilitation of meeting, discussions and workshops, both virtually and in person.<br>· Following recognised best practice guidelines where available.<br>· Steering discussion to an adequate and timely outcome with neutral facilitation, remaining impartial and unbiased.<br>· Making effective use of participatory tools and interpersonal skills/activities.<br>· Ensuring the best available information and contributing where required/ appropriate. | · Recognised best practice guidelines (e.g. IUCN/SSC CPSG Principles and Steps to Species Conservation Planning).<br>· Facilitation techniques.<br>· Formats and procedures for formal meetings.<br>· Principles and practices of participation.<br>· Profiles, interests and needs of those engaged in events.<br>· Online communication tools (see also TEC 2.4).<br>· Listening skills (see also APC 09).<br>· Documenting and reporting on meetings (see also DDR 2.5). |
| **CAC 2.6** | **Identify and address interpersonal conflicts.** | · Identifying current and potential conflicts and disputes within a TSR programme or with or between stakeholders.<br>· Using a range of approaches and methods to prevent/reduce/avoid conflict and identify solutions. | · A range of conflict resolution approaches and practical techniques, such as negotiation, mitigation, seeking compromise and win-win solutions, etc.<br>· Maintaining good relations (see also FPC 03). |

| CAC. LEVEL 1 | Communicate effectively with colleagues and stakeholders | | |
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| **CODE** | **COMPETENCE STATEMENT**<br>***The individual should be able to:*** | **RANGE STATEMENT**<br>***A brief explanation of the competence.*** | **KNOWLEDGE REQUIREMENTS**<br>***Main specific knowledge requirements for the competence.*** |
| **CAC 1.1** | **Communicate effectively with others in the workplace.** | · Maintaining effective two-way communication with co-workers, supervisors, stakeholders or the public.<br>· Using a range of basic techniques to maintain good relations, avoid conflict, reduce tension, resolve arguments and prevent escalation of disputes.<br>· Effectively and clearly communicating sensitive or controversial information (e.g. lethal control of species, removal of trees, stopping illegal activity, etc.). | · Basic communication techniques and their uses, advantages and disadvantages (see also FPC 03, FPC 04, FPC 07).<br>· Techniques for de-escalating arguments and verbal conflicts and for presenting and defending unpopular positions and arguments. |

# GROUP B
# THREATENED SPECIES RECOVERY

**Applying specialist technical skills to threatened species management**

## SUBGROUP SPECIES MANAGEMENT

Direct threatened species recovery practices

# CATEGORY INM:
# IN-SITU MANAGEMENT

Delivering direct and indirect in-situ conservation measures
to conserve and recover threatened species

| INM. LEVEL 4 | Make significant contributions to (inter)national initiatives and policies on in-situ species management measures | | |
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| **CODE** | **COMPETENCE STATEMENT**<br>***The individual should be able to:*** | **RANGE STATEMENT**<br>***A brief explanation of the competence.*** | **KNOWLEDGE REQUIREMENTS**<br>***Main specific knowledge requirements for the competence.*** |
| **INM 4.1** | **Coordinate cross-sectoral initiatives and collaboration for (inter)national in-situ threatened species recovery.** | · Developing strategies and partnerships for the establishment of landscape/seascape ecological networks and connectivity.<br>· Developing strategies and partnerships with other sectors for multifunctional landscape/seascape and ecosystem scale conservation.<br>· Collaborating across multiple scales where required.<br>· Ensuring initiatives and plans of partners align for effective TSR. | · One-plan approach to conservation management (see also PSP 4.2).<br>· Best practice regarding connectivity and ecological networks.<br>· Communication and collaboration skills (see also CAC 4.1).<br>· Needs and rights of IPs and LCs (see also PEO 4.1). |
| **INM 4.2** | **Influence the direction of (inter)national initiatives for in-situ threatened species management.** | · Actively participating in relevant international initiatives or groups (e.g. IUCN Species Survival Commission Specialist Groups, global reviews or strategies, etc.).<br>· Promoting the role of in-situ conservation management for TSR on an (inter) national platform (e.g. conference presentations).<br>· Initiating and promoting international reports and publications. | · Species status, ecology, threats and conservation requirements.<br>· (Inter)national socio-political context of the species.<br>· Relevant (inter)national agreements, conventions, initiatives, etc.<br>· Relevant recognised best practice examples for TSR programmes.<br>· Communication within high level meetings (see also CAC 4.2, CAC 4.3).<br>· Methods of participation (see also APC 07). |

| INM. LEVEL 3 | Develop strategies and direct programmes for in-situ species threatened species recovery | | |
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| **CODE** | **COMPETENCE STATEMENT**<br>***The individual should be able to:*** | **RANGE STATEMENT**<br>***A brief explanation of the competence.*** | **KNOWLEDGE REQUIREMENTS**<br>***Main specific knowledge requirements for the competence.*** |
| **INM 3.1** | **Direct feasibility assessments and the prioritisation of in-situ conservation measures.** | · Identifying known, emerging or potential population limiting factors and/or threats for the focal species, modelling their impact under future scenarios.<br>· Reviewing in-situ conservation measures available to tackle identified limiting factors and/or threats.<br>· Assessing the feasibility of different management measures, both long-term and short-term (e.g. logistics, cost, resources, capacity, anthropogenic impacts, etc.).<br>· Prioritising identified in-situ conservation measures using decision and prioritisation tools.<br>· Identifying potential collaborations to increase capacity and success and enable long-term succession. | · Ecology of the focal species.<br>· Feasibility assessments (see also PSP 3.1).<br>· Threat assessments (see also RAM 3.3).<br>· Prioritisation tools (see also PSP 3.2).<br>· Population modelling techniques (see also RAM 2.8)<br>· Interpreting and implementing scientific evidence (see also RAM 3.4).<br>· Collaboration skills (see also CAC 3.2). |
| **INM 3.2** | **Direct the development of in-situ species threat reduction strategies.** | · Leading the development of a justified strategy to mitigate threats that negatively impact the recovery of threatened species (e.g. poaching, invasive species, disease, human-wildlife conflict, etc.).<br>· Ensuring the strategy is in line with existing TSR programmes/action plans and recognised best practice guidelines where available.<br>· Basing the strategy on threat assessment results, research and evidence from other projects and interventions.<br>· Ensuring the strategy accounts for the ecology and biology of the focal species, at all life stages.<br>· Reviewing the strategy and adapting management. | · Ecology, biology, limiting factors (threats), and conservation ('the actions') requirements of the focal species.<br>· Recognised best practice guidelines.<br>· Existing programmes/action plans for the focal species.<br>· One-plan approach to conservation management (see also PSP 3.2).<br>· Threat assessments (see also RAM 3.3).<br>· Literature review techniques (see also RAM 3.5).<br>· Review and adaptive management techniques (see also PSP 3.4). |
| **INM 3.3** | **Direct the development of in-situ species restoration strategies.** | · Leading the development of a justified strategy to mitigate population limiting factors that negatively affect health, survival and sustainability (e.g. supplementary feeding, breeding refugia, sustainable use, etc.).<br>· Ensuring the strategy is in line with existing TSR programmes/action plans and recognised best practice guidelines where available.<br>· Basing the strategy on population viability analysis, research and evidence from other projects and interventions.<br>· Ensuring measures account for species ecology and biology, at all life stages.<br>· Reviewing the strategy and adapting management. | · Ecology, biology and population level conservation measures for the focal species.<br>· Recognised best practice guidelines.<br>· Existing programmes/action plans for the focal species.<br>· One-plan approach to conservation management (see also PSP 3.2).<br>· Population modelling techniques (see also RAM 2.8).<br>· Literature review techniques (see also RAM 3.5).<br>· Review and adaptive management techniques (see also PSP 3.4). |

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| **INM 3.4** | **Direct the development of habitat and ecosystem recovery strategies.** | · Leading the development of a justified strategy in line with existing TSR programmes/action plans and recognised best practice guidelines where available.<br>· Collaborating with relevant authorities, Indigenous peoples, local communities, land owners, etc. to identify critical habitat and ensure protection or designate protected areas.<br>· Identifying the minimum area required for population viability to guide the protection of critical habitats and ecosystems.<br>· Ensuring measures account for species ecology and biology, at all life stages.<br>· Reviewing the strategy and adapting management. | · Ecology and conservation requirements of key ecosystems for the focal species.<br>· Recognised best practice guidelines.<br>· Existing programmes/action plans for focal species or key habitats.<br>· One-plan approach to conservation management (see also PSP 3.2).<br>· Communication and collaboration skills (see also CAC 3.2, CAC 3.3).<br>· Needs and rights of IPs and of LCs (see also PEO 3.1).<br>· Principles of protected area planning and management.<br>· Population modelling techniques (see also RAM 2.8).<br>· Review and adaptive management techniques (see also PSP 3.4). |
| **INM 3.5** | **Direct the development of a strategy to link large scale landscapes/ seascapes to enable species movement and dispersal.** | · Leading the development of a justified strategy in line with existing TSR programmes/action plans and recognised best practice guidelines where available.<br>· Collaborating with relevant authorities, Indigenous peoples, local communities, land owners, etc. to identify critical habitat and ensure protection or designate protected areas.<br>· Ensuring measures account for species ecology and biology, at all life stages, and existing or potential human-wildlife conflict.<br>· Developing awareness and engagement campaigns with relevant sectors and communities regarding the role of movement or dispersal routes.<br>· Assessing and reviewing success and effectiveness to guide adaptive management. | · Ecology and conservation requirements of key ecosystems for the focal species.<br>· Recognised best practice guidelines.<br>· Existing programmes/action plans for focal species or key habitats.<br>· One-plan approach to conservation management (see also PSP 3.2).<br>· Communication and collaboration skills (see also CAC 3.2, CAC 3.3)<br>· Needs and rights of IPs and of LCs (see also PEO 3.1)<br>· Principles of protected area planning and management.<br>· Human-wildlife conflict mitigation techniques (see also PEO 3.4).<br>· Awareness and engagement techniques (see also AWA 3.1).<br>· Review and adaptive management techniques (see also PSP 3.4). |

| INM. LEVEL 2 | Plan, lead and report on the practical implementation of measures for in-situ species management | | |
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| **CODE** | **COMPETENCE STATEMENT**<br>***The individual should be able to:*** | **RANGE STATEMENT**<br>***A brief explanation of the competence.*** | **KNOWLEDGE REQUIREMENTS**<br>***Main specific knowledge requirements for the competence.*** |
| **INM 2.1** | **Demonstrate a detailed knowledge and understanding of the species, habitats and ecosystems related to the threatened species.** | · Knowing the ecology, behaviour, status and habitat requirements of the focal species.<br>· Knowing the conservation status of and threats faced by the threatened species and the subsequent population limiting factors.<br>· Recognising and describing the ecosystem requirements and/or functions of the threatened species.<br>· Knowing the movement patterns and needs of migratory, dispersing and nomadic species.<br>· Knowing and identifying key relationships with other species. | · Available identification aids and sources of information and knowledge.<br>· Threat assessments (see also RAM 3.3). |
| **INM 2.2** | **Plan, lead and report on the provision of supplementary resources to support in-situ reproduction and/or survival of threatened species.** | · NOTE: 'Supplementary resources' refers to resources required by and not currently available to the focal species in-situ (e.g. food, water, shelter, breeding sites, protection from predation, etc.).<br>· Identifying specific needs for supplementary resources in line with recognised best practice guidelines where available.<br>· Providing nutritional supplements according to conservation measures and species needs, at all life stages.<br>· Designing required artificial structures and works based on species ecology and biology, accounting for all life stages.<br>· Monitoring and evaluating the impact and effectiveness of interventions. | · Ecology, biology and limiting factors of the focal species, at all life cycles.<br>· Recognised best practice guidelines.<br>· Nutritional, health and welfare requirements, at all life stage (see also EXM 2.3).<br>· Design and construction methods and materials (see also FLD 2.3).<br>· Programme implementation skills (see also PSP 2.2).<br>· Monitoring and evaluation techniques (see also PSP 2.3). |
| **INM 2.3** | **Plan, lead and report on management/ manipulation of threatened species populations to ensure their health, survival and sustainability.** | · Managing species at a population level in line with recognised best practice guidelines where available (e.g. demographics, sex ratios, inbreeding, hybridisation, problem animals, etc.).<br>· Identifying breeding/propagation measures to manipulate reproductive success (e.g. foster parenting, head starting, birth control, artificial insemination, assisted pollination, soil disturbance, etc.).<br>· Selecting individuals/groups for culling/translocation to manage population size, demographics, genetics, hybridisation, human-wildlife conflict, etc.<br>· Collaborating with other conservation sectors and experts for the implementation of identified measures (see INV, SHW, CTR, EXM).<br>· Monitoring and evaluating the impact and effectiveness of interventions. | · Biology and behaviour/phenology of the focal species, at all life stages.<br>· Recognised best practice guidelines.<br>· Reproductive management techniques (see also SHW 2.4).<br>· Species control measures (see also INV 2.2).<br>· Conservation translocation measures (see also CTR 2.2).<br>· Ex-situ management measures (see also EXM 2.4).<br>· Collaboration skills (see also CAC 2.1).<br>· Programme implementation skills (see also PSP 2.2).<br>· Monitoring and evaluation techniques (see also PSP 2.3). |

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| **INM 2.4** | **Plan, lead and report on habitat management, creation and restoration designed to aid threatened species recovery.** | · Identifying habitat locations and implementing management based on population viability, existing/historical range, habitat requirements, human infrastructures, etc.<br>· Ensuring management is in line with recognised best practice guidelines where available.<br>· Using the translocation of extant or ecological replacement species to restore or enhance ecosystem functions.<br>· Identifying existing cultural management practices and incorporating or accounting for them.<br>· Collaborating with other conservation programmes and sectors for landscape/seascape-scale approaches.<br>· Monitoring and evaluating the impact and effectiveness of interventions. | · Ecology of the focal species, at all life stages.<br>· Ecosystem dynamics and landscape/seascape impacts.<br>· Recognised best practice guidelines.<br>· Conservation translocation techniques (see also CTR 2).<br>· Traditional practices of IPs and of LCs (see also PEO 2.8).<br>· Collaboration skills (see also CAC 2.1).<br>· Programme implementation skills (see also PSP 2.2).<br>· Monitoring and evaluation techniques (see also PSP 2.3). |
| **INM 2.5** | **Plan, lead and report on measures to facilitate wildlife population connectivity.** | · Identifying and prioritising wildlife corridors and/or dispersal routes in line with recognised best practice guidelines where available, including relationships with other species (e.g. wide ranging species, recovery areas, migratory routes, etc.).<br>· Identifying barriers to species movement and connectivity (e.g. human settlements/infrastructure, hunting, harvesting, absence of interdependent species, etc.).<br>· Linking wildlife corridors with existing habitats, populations, etc. where possible and using artificial corridors where required.<br>· Collaborating with authorities and stakeholders where routes cross boundaries (land ownership, cultural, (inter)national border, etc.).<br>· Monitoring and evaluating the impact and effectiveness of interventions. | · Ecology and behaviour/phenology of focal species, at all life cycles.<br>· Key relationships with other species.<br>· Recognised best practice guidelines.<br>· Species monitoring and movement tracking skills (see also RAM 2.1, RAM 2.5).<br>· Collaboration skills (see also CAC 2.1).<br>· Programme implementation skills (see also PSP 2.2).<br>· Monitoring and evaluation techniques (see also PSP 2.3). |

| INM. LEVEL 1 | Conduct practical tasks for managing species in-situ (not general field craft) | | |
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| **CODE** | **COMPETENCE STATEMENT**<br>***The individual should be able to:*** | **RANGE STATEMENT**<br>***A brief explanation of the competence.*** | **KNOWLEDGE REQUIREMENTS**<br>***Main specific knowledge requirements for the competence.*** |
| **INM 1.1** | **Recognise threats affecting species in the field.** | · Identifying the presence and signs of threats (e.g. direct/indirect, physical, behavioural, anthropogenic, etc.).<br>· Identifying changes in species behaviour and/or ecology or unusual factors that may indicate threats or problems (e.g. sick animals, dying vegetation, bleaching, movement, etc.).<br>· Noting when significant change is taking place.<br>· Accounting for threats which could impact varying factors (e.g. survival, recruitment, regeneration, dispersal, nutrition, etc.). | · Ecology and behaviour/phenology of focal species, at all life stages.<br>· Main threats to the focal species, their signs and impacts (see also INV 1.1, UHL 1.1).<br>· Use of field guides, keys or specimens to identify species.<br>· Basic taxonomy, to at least genus level.<br>· Record-keeping (see also RAM 1.1). |
| **INM 1.2** | **Recognise and identify focal species, their signs and typical habitats and ecosystems.** | · Recognising focal species at all life stages.<br>· Recognising main ecosystems and habitats.<br>· Recognising relevant, typical and important species of fauna or flora.<br>· Recognising interspecific or symbiotic species and their signs in the field.<br>· Where identification is uncertain collecting evidence and seeking expert advice (e.g. photograph, track prints, specimens, samples, etc.). | · Available identification aids and sources of information.<br>· Typical and important species associated with focal species.<br>· Basic taxonomy, to at least genus level.<br>· Sampling skills (see also SHW 1.4).<br>· Use of field monitoring equipment (see also FLD 1.6). |
| **INM 1.3** | **Assist in the in-situ management of species reproduction.** | · Participating, under supervision, in the management of species reproduction; interventions could include foster parenting, harvesting of eggs/young/seeds/specimens, birth control, artificial insemination, assisted pollination, soil disturbance, etc.<br>· Recognising species breeding behaviour/phenology, breeding sites and relationships with other species.<br>· Following recognised best practice guidelines where available.<br>· Recording the management in place and its impacts for reporting. | · Biology and behaviour/phenology of focal species.<br>· Key relationships with other species.<br>· Reproductive management techniques (see also EXM 1.4).<br>· Species capture and handling skills (see also SHW 1.5).<br>· Recognised best practice guidelines.<br>· Record-keeping (see also RAM 1.1). |
| **INM 1.4** | **Assist with population management measures.** | · Participating, under supervision, in the management of species populations; interventions could include the culling/translocation of surplus or problem individuals, invasive species management, etc.<br>· Contributing to or creating genetic resource banks (e.g. seed banks).<br>· Ensuring protection of reproduction sites against competition, disturbance or depredation (e.g. species control, fencing, patrols, etc.).<br>· Following best practice guidelines where available.<br>· Recording the management in place and its impacts for reporting. | · Ecology and behaviour/phenology of focal species, at all life stages.<br>· Key relationships with other species.<br>· Conservation translocation techniques (see also CTR 1.1).<br>· Care of flora species (see also EXM 1.2).<br>· Species control measures (see also INV 1.2, INV 1.3, INV 1.4).<br>· Surveillance and patrolling (see also UHL 1.2).<br>· Recognised best practice guidelines.<br>· Record-keeping (see also RAM 1.1). |

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| **INM 1.5** | **Provide supplementary nutrition and water in the field.** | · Delivering nutrition and water in response to an identified or predicted need in line with recognised best practice guidelines (e.g. survival, reproduction, post-release etc.).<br>· Installing structures for provisioning.<br>· Ensuring all provisioning and structures account for species biology and behaviour/phenology at all life stages.<br>· Ensuring unintentional introductions from supplementary food are avoided (e.g. invertebrates, fish, plants, etc.).<br>· Recording the management in place and its impacts for reporting. | · Nutritional requirements and feeding behaviour/phenology of focal species, at all life stages.<br>· Provisioning techniques (see also EXM 1.1, EXM 1.2).<br>· Species health and welfare measures (see also SHW 1.2).<br>· Biosecurity measures against introduced species (see also INV 1.1).<br>· Basic construction skills and tool use (see also FLD 1.4, FLD 1.5).<br>· Recognised best practice guidelines.<br>· Record-keeping (see also RAM 1.1). |
| **INM 1.6** | **Build and maintain shelter and/or breeding refugia.** | · Creating refugia based on species behaviour and biology (e.g. roosts, boxes, platforms, burrows, ponds, plant guards, hibernacula, domiciles, etc.).<br>· Ensuring all refugia account for species biology and behaviour/phenology at all life stages.<br>· Accounting for and managing against non-target species which may utilise the refugia.<br>· Following recognised best practice guidelines where available.<br>· Recording the management in place and its impacts for reporting. | · Ecology and behaviour/phenology of focal species, at all life stages.<br>· Species health and welfare measures (see also SHW 1.2).<br>· Basic construction skills and tool use (see also FLD 1.4, FLD 1.5).<br>· Recognised best practice guidelines.<br>· Record-keeping (see also RAM 1.1). |
| **INM 1.7** | **Create and maintain species habitat.** | · • Creating and maintaining habitat based on species biology and behaviour/phenology at all life stage.<br>· • Improving habitat by reducing pressures (e.g. domestic animals, grazers, unsustainable use, poaching, responsible tourism, etc.).<br>· • Maintaining habitat through the use of working animals.<br>· • Collecting and disposing of litter/garbage/fly tipping.<br>· • Following recognised best practice guidelines where available.<br>· • Recording the management in place and its impacts for reporting. | · Ecology, biology and behaviour/phenology of focal species at all life stages.<br>· Planting techniques and aftercare (see also CTR 1.2-1.4, EXM 1.2).<br>· Practical landscaping/seascaping skills.<br>· Safe use of tools and machinery (see also FLD 1.4).<br>· Sustainable use practices (see also PEO 2.4, PEO 2.5).<br>· Surveillance and patrolling (see also UHL 1.2).<br>· Care and management of working animals (see also FLD 1.12).<br>· Recognised best practice guidelines.<br>· Record-keeping (see also RAM 1.1). |

# CATEGORY EXM: EX-SITU MANAGEMENT

## Delivering ex-situ species programmes and management as part of wider conservation strategies

| EXM. LEVEL 4 | Make significant contributions to (inter)national initiatives and policies on ex-situ species management measures | | |
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| **CODE** | **COMPETENCE STATEMENT**<br>***The individual should be able to:*** | **RANGE STATEMENT**<br>***A brief explanation of the competence.*** | **KNOWLEDGE REQUIREMENTS**<br>***Main specific knowledge requirements for the competence.*** |
| **EXM 4.1** | **Coordinate (inter) national ex-situ species management efforts as part of wider conservation strategies.** | · Adopting a one-plan approach to ex-situ management efforts.<br>· Developing (inter)national partnerships with relevant stakeholders.<br>· Ensuring initiatives and plans of partners align for effective TSR.<br>· Examples of partnerships could include transferring species between ex-situ facilities, sourcing founder individuals for breeding programmes, transferring species for release back into the wild, housing confiscations, etc. | · One-plan approach to conservation management (see also PSP 4.2).<br>· Best practice guidelines (e.g. IUCN Guidelines for the Use of Ex-situ Management for Species Conservation).<br>· Communication and collaboration skills (see also CAC 4.1). |
| **EXM 4.2** | **Influence the direction of (inter)national initiatives for ex-situ threatened species management.** | · Actively participating and providing leadership in relevant (inter)national initiatives or groups (e.g. IUCN Species Survival Commission Specialist Groups, WAZA, global reviews or strategies, private breeder and hobbyist groups, etc.).<br>· Promoting the role of ex-situ management in TSR on an (inter)national platform (e.g. conference presentations)<br>· Initiating and promoting international reports and publications. | · Species status, ecology, threats and conservation requirements.<br>· (Inter)national socio-political context of the species.<br>· Relevant (inter)national agreements, conventions, initiatives, etc.<br>· Relevant recognised best practice examples for TSR programmes.<br>· Communication within high level meetings (see also CAC 4.2, CAC 4.3).<br>· Methods of participation (see also APC 07). |

| EXM. LEVEL 3 | Develop strategies and direct programmes for ex-situ species management | | |
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| **CODE** | **COMPETENCE STATEMENT**<br>***The individual should be able to:*** | **RANGE STATEMENT**<br>***A brief explanation of the competence.*** | **KNOWLEDGE REQUIREMENTS**<br>***Main specific knowledge requirements for the competence.*** |
| **EXM 3.1** | **Direct and coordinate an evaluation of ex-situ conservation needs for a species.** | · Assessing the needs, options, suitability, benefits and risks of adopting ex-situ management for a species, following recognised best practice guidelines where available.<br>· Accounting for species' chances of future in-situ persistence (e.g. habitat destruction, climate change, disease, illegal trade, invasive species etc.).<br>· Assessing the suitability of ex-situ facilities for managing the species' optimal living conditions/requirements.<br>· Ensuring the inclusion of species within an ex-situ facility is in line with existing in-situ and ex-situ TSR programmes and strategies.<br>· Assessing resource needs and their possible availability. | · Conservation status and management requirements of the focal species.<br>· Ecology and biology/phenology of the focal species, at all life stages.<br>· Recognised best practice guidelines (e.g. IUCN Guidelines for Determining When and How Ex Situ Management Should Be Used in Species Conservation).<br>· One-plan approach to conservation management (see also PSP 3.2).<br>· Financial and resource planning techniques (see also FRM 3.1). |
| **EXM 3.2** | **Direct the design and delivery of an ex-situ conservation strategy as part of a species recovery plan.** | · Ensuring the strategy is in line with existing TSR programmes/action plans and recognised best practice guidelines (e.g. IUCN Technical Guidelines on the Management of Ex-situ Populations for Conservation).<br>· Collaborating with relevant stakeholders to ensure the strategy is effective and inclusive.<br>· Ensuring that the strategy addresses all relevant technical aspects of ex-situ management (e.g. species/specimen collection, genetics, population demographics, breeding/propagation, in-situ release/planting, etc.).<br>· Ensuring strategy measures meet legal and ethical requirements, including respecting the rights of legal and traditional custodians.<br>· Reviewing the strategy and adapting management. | · Ecology and biology of the focal species, at all life stages.<br>· Existing ex-situ and in-situ TSR programmes.<br>· Recognised best practice guidance (e.g. IUCN Guidelines for the use of Ex-situ Management of Species).<br>· One-plan approach to conservation management (PSP 3.2).<br>· Principles of ethical and responsible specimen collection (see also CTR 3.2, CTR 2.1, PEO 3.1).<br>· Communication and collaboration skills (see also CAC 3.3).<br>· Review and adaptive management techniques (see also PSP 3.5). |
| **EXM 3.3** | **Direct the management of ex-situ facilities.** | · Directing the technical and operational management of ex-situ facilities, in line with recognised best practice guidelines (e.g. human resources, budgeting, equipment, infrastructure, administration, etc.).<br>· Ensuring that species are correctly curated in regards to biology and behaviour/phenology at all life stages.<br>· Collaborating with partner organisations and/or experts on the husbandry, reproduction and movement of species between facilities (e.g. genetic/demographic management, captive breeding/propagation, non-breeding individuals, etc.).<br>· Ensuring all management meets legal and ethical requirements.<br>· Reviewing the strategy and adapting management. | · Biology and behaviour/phenology of focal species, at all life stages.<br>· Recognised best practice guidance (e.g. IUCN Technical Guidelines on the Management of Ex-situ Populations for Conservation).<br>· Human resource management (see also PER 3).<br>· Finance and resource management (see also FRM 3).<br>· Communication and collaborations (see also CAC 3.3).<br>· Laws, regulations and required permits (e.g. CITES, vet certification, transportation, etc.).<br>· Health, welfare and disease management measure (see also SHW 3.1, SHW 3.2).<br>· Review and adaptive management techniques (see also PSP 3.5). |

| EXM. LEVEL 2 | Plan, lead and report on the practical implementation of ex-situ species management measures | | |
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| **CODE** | **COMPETENCE STATEMENT**<br>***The individual should be able to:*** | **RANGE STATEMENT**<br>***A brief explanation of the competence.*** | **KNOWLEDGE REQUIREMENTS**<br>***Main specific knowledge requirements for the competence.*** |
| **EXM 2.1** | **Plan, lead and report on the development of protocols for ex-situ management.** | · Creating management protocols for ex-situ species practices (e.g. husbandry, breeding/propagation, behavioural enrichment, enclosure design, treatment, etc.).<br>· Following recognised best practice where available.<br>· Collaborating with official bodies to amend and improve existing protocols. | · Day-to-day maintenance and care of focal species.<br>· Writing skills (see also CAC 2.4, DDR 2.4).<br>· Collaboration skills (see also CAC 2.1).<br>· Processes for developing or updating best practice guidance (see also PSP 3.5). |
| **EXM 2.2** | **Plan, lead and report on the design of species enclosures or storage facilities.** | · Creating enclosures/storage for both long-term and temporary holding in line with recognised best practice guidelines (e.g. zoos, aquaria, botanical gardens, rehabilitation, quarantine, during eradications, transportation, release housing, head-starting, etc.).<br>· Ensuring species-specific environmental and habitat conditions are met for all life stages, including seed bank storage.<br>· Ensuring species-specific behavioural requirements are met for all life stages.<br>· Ensuring enclosures meet all legal and ethical requirements.<br>· Monitoring and evaluating the impact and effectiveness of interventions. | · Ecology and behaviour/phenology of focal species at all life stages.<br>· Health and welfare management measures (see also SHW 2.2).<br>· Design and construction methods and materials (see also FLD 2.3).<br>· Relevant laws and regulations.<br>· Programme implementation skills (see also PSP 2.2).<br>· Monitoring and evaluation techniques (see also PSP 2.3). |
| **EXM 2.3** | **Plan, lead and report on the day-to-day care of species.** | · Following the 'five domains' to ensure animals thrive (behaviour, nutrition, environment, health, mental).<br>· Ensuring appropriate species-specific nutrition, water and required supplements and continuous suppliers/sources are available.<br>· Ensuring species health and welfare are monitored and addressed.<br>· Ensuring measures are in line with safety, legal and ethical requirements.<br>· Monitoring and evaluating the impact and effectiveness of interventions. | · Biology and behaviour/phenology of focal species.<br>· Programme implementation skills (see also PSP 2.2).<br>· Species health and welfare measures (see also SHW 2.1).<br>· Relevant laws and regulations.<br>· Monitoring and evaluation techniques (see also PSP 2.3). |
| **EXM 2.4** | **Plan, lead and report on the management of species reproduction.** | · Managing or contributing to studbooks, liaising with other ex-situ facilities.<br>· Managing species reproduction/propagation in line with recognised best practice guidelines (e.g. preventing reproduction, manipulating the environment, hand rearing/pollination, etc.).<br>· Sourcing external experts for specialist techniques (e.g. artificial insemination, hormone treatment, biobanking, cloning, etc.).<br>· Accounting for genetic and demographic variation within both in-situ and ex-situ populations and maintaining records.<br>· Monitoring and evaluating the impact and effectiveness of interventions. | · Biology and behaviour/phenology of focal species, at all life stages.<br>· Studbook management and software (e.g. ZIMS, PMx, etc.) (see also RAM 2.7, TEC 2.3).<br>· Reproductive management techniques.<br>· Specialist reproduction techniques (see also SHW 2.4).<br>· Data management skills (see also DDR 2.3).<br>· Programme implementation skills (see also PSP 2.2).<br>· Monitoring and evaluation techniques (see also PSP 2.3). |

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| **EXM 2.5** | **Plan and deliver emergency protocols for escapes.** | · Identifying the major threats and risks associated with escaped species.<br>· Assessing and evaluating the impacts from those threats and risks using a structured process.<br>· Preparing mitigation plans for minimising the threats and risks and for dealing with escaped species.<br>· Implementing emergency plans for dealing with escapes (e.g. evacuation procedures, acquiring equipment, design of infrastructure, training staff, etc.). | · Behaviour of focal species.<br>· Threat and risk assessment and contingency planning techniques (see also PSP 3.3).<br>· Safety and security procedures (see also PER 2.5, APC 03).<br>· Personnel training techniques (see also PER 2.2).<br>· Procedures for firearms use (see also UHL 2.8). |
| **EXM 2.6** | **Plan, lead and report on animal movements between ex-situ facilities and institutions.** | · Coordinating transportation of individuals between ex-situ facilities in line with wider TSR programmes and strategies and recognised best practice guidelines.<br>· Ensuring appropriate husbandry and welfare to minimise stress (e.g. container, environmental conditions, nutrition and water, substrate, training, etc.).<br>· Maintaining logistical and communication networks throughout the transportation (e.g. transportation, veterinarians, ex-situ facilities, etc.).<br>· Planning contingency measures in the event of an emergency.<br>· Ensuring measures are in line with legal and ethical requirements. | · Biology and behaviour/phenology of focal species.<br>· Transportation techniques.<br>· Relevant (inter)national) laws, regulations and permits required.<br>· Species health and welfare measures (see also SHW 2.1).<br>· Species husbandry techniques (see also EXM 1.1, EXM 1.2).<br>· Capture and handling techniques (see also SHW 2.5).<br>· Communication skills (see also CAC 2.2).<br>· Programme implementation skills (see also PSP 2.2).<br>· Problem solving and decision making skills (see also APC 01, APC 02, FPC 02). |

| EXM. LEVEL 1 | Conduct practical tasks for ex-situ species husbandry | | |
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| **CODE** | **COMPETENCE STATEMENT**<br>***The individual should be able to:*** | **RANGE STATEMENT**<br>***A brief explanation of the competence.*** | **KNOWLEDGE REQUIREMENTS**<br>***Main specific knowledge requirements for the competence.*** |
| **EXM 1.1** | **Conduct day-to-day care of animals.** | · Feeding and watering in line with species nutritional requirements.<br>· Maintaining species health and welfare, reporting and addressing problems in a timely manner.<br>· Following safety and biosecurity measures where required.<br>· Assisting in the transportation of animals.<br>· Recording the management in place and its impacts for reporting. | · Biology and behaviour of focal species, at all life stages.<br>· Recognised best practice guidelines, where available.<br>· Nutritional and husbandry requirements at all life stages.<br>· Health and welfare measures (see also SHW 1.1, SHW 1.2).<br>· Capture and handling techniques (see also SHW 1.5).<br>· Security and safety measures (see also FPC 08).<br>· Transportation techniques (see also CTR 1.1).<br>· Record-keeping (see also RAM 1.1). |
| **EXM 1.2** | **Conduct the day-to-day care of plants and fungi.** | · Fertilising, watering or storing in line with species requirements.<br>· Maintaining species health and welfare and controlling pests, reporting and addressing problems in a timely manner.<br>· Preparing seeds for storage (e.g. cleaning, germination and viability checks, etc.).<br>· Assisting in the transportation of plants or fungi.<br>· Recording the management in place and its impacts for reporting. | · Biology and phenology of focal species, at all life stages.<br>· Recognised best practice guidelines, where available.<br>· Nutritional and husbandry requirements at all life stages.<br>· Health and welfare measures (see also SHW 1.1, SHW 1.2).<br>· Handling and transportation techniques (see also CTR 1.1, SHW 1.5).<br>· Record-keeping (see also RAM 1.1). |
| **EXM 1.3** | **Maintain enclosures or storage facilities.** | · Ensuring enclosures/storage are maintained to required health, welfare and safety standards.<br>· Ensuring all materials/equipment are in safe working order, reporting and addressing problems in a timely manner.<br>· Following safety and biosecurity procedures where required.<br>· Conducting vermin/pest control and waste disposal.<br>· Recording the management in place and its impacts for reporting. | · Ecology and behaviour/phenology of focal species, at all life stages.<br>· Health and welfare measures (see also SHW 1.2).<br>· Safe use and maintenance of tools and equipment (see also FRM 1.2, FLD 1.4).<br>· Basic construction tasks (see also FLD 1.5).<br>· Security and safety measures (see also FPC 08).<br>· Vermin/pest control techniques (see also INV 1.2 - INV 1.5).<br>· Record-keeping (see also RAM 1.1). |

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| **EXM 1.4** | **Provide practical assistance for species reproduction.** | · Using appropriate species-specific techniques to enable reproduction (e.g. assisted breeding/propagation, environment manipulation, enabling natural behaviours, imprinting avoidance, etc.).<br>· Using appropriate species-specific techniques to prevent reproduction (e.g. separation, single sex cohorts, contraceptives, etc.).<br>· Assisting in the transportation of animals/specimens.<br>· Recording the management in place and its impacts for reporting. | · Biology and breeding behaviour/phenology of the focal species at all life stages.<br>· Recognised best-practice guidelines where available.<br>· Reproductive management techniques and studbooks.<br>· Transportation techniques (see also CTR 1.1).<br>· Health and welfare measures (see also SHW 1.1 and SHW 1.2).<br>· Capture and handling techniques (see also SHW 1.5).<br>· Record-keeping (see also RAM 1.1). |
| **EXM 1.5** | **Conduct training and habituation of species.** | · Providing training and assistance for innate behaviours (e.g. socialising, feeding skills, flying, anti-predator behaviour, etc.).<br>· Providing training and assistance for taught behaviours (e.g. supplementary feeding, call response, transportation, health checks, etc.).<br>· Conducting habituation for environmental conditions (e.g. human presence, exposure to temperatures or drought tolerance for plants, etc.).<br>· Using appropriate techniques to avoid human imprinting, where required.<br>· Recording the management in place and its impacts for reporting. | · Biology and behaviour/phenology of focal species at all life stages.<br>· Recognised best-practice guidelines where available.<br>· Animal training and horticulture techniques.<br>· Health and welfare measures (see also SHW 1.1).<br>· Record-keeping (see also RAM 1.1). |

# CATEGORY CTR:
# CONSERVATION TRANSLOCATION

Reintroducing, reinforcing and introducing living organisms to a site for species and/or ecosystem restoration

| CTR. LEVEL 4 | Make significant contributions to (inter)national initiatives and policies for conservation translocations | | |
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| **CODE** | **COMPETENCE STATEMENT**<br>***The individual should be able to:*** | **RANGE STATEMENT**<br>***A brief explanation of the competence.*** | **KNOWLEDGE REQUIREMENTS**<br>***Main specific knowledge requirements for the competence.*** |
| **CTR 4.1** | **Coordinate cross-sectoral initiatives and collaboration for (inter) national conservation translocations.** | · Developing (inter)national translocation network plans.<br>· Developing partnerships with other sectors and authorities for translocation and species requirements (e.g. expertise, logistics, transboundary, species/habitat connectivity, etc.).<br>· Ensuring initiatives and plans of partners align for effective TSR. | · Relevant agreements or legislation (e.g. EU Conservation of Birds Directive, Ramsar, Bonn Convention, etc.).<br>· (Inter)national best practice guidelines (e.g. IUCN Guidelines for Reintroductions and Other Conservation Translocations).<br>· One-plan approach to conservation management (see also PSP 4.2).<br>· Communication and collaboration skills (see also CAC 4.1). |
| **CTR 4.2** | **Influence the direction of (inter) national initiatives for conservation translocations.** | · Actively participating in relevant international initiatives or groups (e.g. IUCN Species Survival Commission Specialist Groups, global reviews or strategies, conference presentations, provision of high level training, etc.).<br>· Promoting the role of conservation translocations for TSR on an (inter) national platform (e.g. conference presentations).<br>· Initiating and promoting international reports and publications. | · Species status, ecology, threats and conservation requirements.<br>· (Inter)national socio-political context of the species.<br>· Relevant (inter)national agreements, conventions, initiatives, etc.<br>· Relevant recognised best practice examples for TSR programmes.<br>· Communication within high level meetings (see also CAC 4.2, CAC 4.3).<br>· Methods of participation (APC 07). |

| CTR. LEVEL 3 | Develop strategies and direct programmes for conservation translocations | | |
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| **CODE** | **COMPETENCE STATEMENT**<br>***The individual should be able to:*** | **RANGE STATEMENT**<br>***A brief explanation of the competence.*** | **KNOWLEDGE REQUIREMENTS**<br>***Main specific knowledge requirements for the competence.*** |
| **CTR 3.1** | **Direct a conservation translocation feasibility and risk assessment.** | · Assessing species suitability and/or requirement for translocation and the risks involved.<br>· Assessing the risk to the focal species and release/planting site ecosystem.<br>· Assessing feasibility against anthropogenic threats (e.g. consult on human perspectives, socio-economic, etc.).<br>· Assessing feasibility against known or potential threats and their mitigation (e.g. disease risks, ecological factors, predation, poaching, etc.).<br>· Assessing feasibility against programme capacity and resource availability (e.g. rearing facilities, source population, transportation equipment, etc.). | · Principles and practice of species translocation (e.g. IUCN Guidelines for Reintroductions and Other Conservation Translocations).<br>· Ecology and biology of the focal species, at all life stages.<br>· Feasibility assessments.<br>· Threat assessments (see also RAM 3.3).<br>· Financial and resource planning (see also FRM 3.1). |
| **CTR 3.2** | **Direct the development and delivery of a conservation translocation strategy.** | · Developing a conservation translocation strategy in line with recognised best practice guidelines (e.g. IUCN Guidelines for Reintroductions and Other Conservation Translocations, Animal Transport Association guidelines, etc.).<br>· Ensuring strategy measures meet legal and ethical requirements.<br>· Respecting the rights of legal and traditional custodians.<br>· Collaborating with stakeholders and maintaining communication.<br>· Reviewing the strategy and adapting management.<br>· Translocation scenarios could include the movement of species between in-situ sites or from in-situ sites to ex-situ facilities and vice versa. | · Principles and practice of species translocation (e.g. IUCN Guidelines for Reintroductions and Other Conservation Translocations, Animal Transport Association Guidelines, etc.).<br>· Ecology and biology of the focal species, at all life stages.<br>· Species health and welfare requirements (see also SHW 3.1, SHW 3.2, SHW 3.3).<br>· Relevant (inter)national agreements or regulations.<br>· Needs and rights of IPs and of LCs (see also PEO 3.1).<br>· Communication and collaboration skills (see also CAC 3.2, CAC 3.3).<br>· Review and adaptive management techniques (see also PSP 3.4). |
| **CTR 3.3** | **Direct the development and delivery of a species planting or release strategy.** | · Developing a release strategy in line with recognised best practice guidelines (e.g. IUCN Guidelines for Reintroductions and Other Conservation Translocations).<br>· Coordinating the infrastructure and resources required (e.g. captive holding, release techniques, veterinary support, etc.).<br>· Collaborating with stakeholders and raising awareness and engagement.<br>· Ensuring strategy measures meet legal and ethical requirements.<br>· Reviewing the strategy and adapting management. | · Principles and practice of species translocation (e.g. IUCN Guidelines for Reintroductions and Other Conservation Translocations).<br>· Ecology and behaviour/phenology of focal species, at all life stages.<br>· Relevant (inter)national laws and regulations.<br>· Species health and welfare requirements (see also SHW 3.1, SHW 3.2, SHW 3.3).<br>· Collaboration skills (see also CAC 3.2).<br>· Awareness and engagement techniques (see also AWA 3.2).<br>· Review and adaptive management techniques (see also PSP 3.4). |

| CTR. LEVEL 2 | Plan, lead and report on the practical implementation of conservation translocations | | |
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| **CODE** | **COMPETENCE STATEMENT**<br>***The individual should be able to:*** | **RANGE STATEMENT**<br>***A brief explanation of the competence.*** | **KNOWLEDGE REQUIREMENTS**<br>***Main specific knowledge requirements for the competence.*** |
| **CTR 2.1** | **Plan, lead and report on field assessments of the source populations for translocation.** | · Identifying and assessing source populations in line with recognised best practice guidelines.<br>· Identifying which life stage is most likely to maximise translocation success.<br>· Ensuring that collection of specimens/individuals is conducted legally and ethically.<br>· Ensuring that the collection of specimens/individuals accounts for genetic and demographic requirements, where relevant (e.g. genetic diversity, studbook recommendations, etc.).<br>· Ensuring the source population is not endangered by the translocation of specimens/individuals, using appropriate tools for the assessment (e.g. population viability analysis). | · Principles and practice of species translocation (e.g. IUCN Guidelines for Reintroductions and Other Conservation Translocations).<br>· Ecology, biology and behaviour/phenology of focal species, at all life stages.<br>· Principles and practice of population genetics (see also EXM 2.4).<br>· Population modelling techniques (see also RAM 2.8). |
| **CTR 2.2** | **Plan, lead and report on species movement/ transportation.** | · Coordinating the transportation of specimens/individuals between in-situ sites or from ex-situ facilities for release/planting, in line with recognised best practice guidelines.<br>· Ensuring appropriate husbandry and welfare to minimise stress (e.g. container, environmental conditions, nutrition and water, substrate, training, etc.).<br>· Maintaining logistical and communication networks throughout the transportation (e.g. transportation, veterinarians, ex-situ facilities, etc.).<br>· Planning contingency measures in the event of an emergency.<br>· Monitoring and evaluating the impact and effectiveness of interventions. | · Principles and practice of species translocation (e.g. IUCN Guidelines for Reintroductions and Other Conservation Translocations).<br>· Biology and behaviour/phenology of focal species, at all life stages.<br>· Transportation techniques.<br>· Legal, ethical and security requirements (see also SHW 2.2.).<br>· Species husbandry techniques (see also EXM 2.1, EXM 2.2).<br>· Capture and handling techniques (see also SHW 2.5).<br>· Monitoring and evaluation techniques (see also PSP 2.3).<br>· Problem solving and decision making skills (see also APC 01, APC 02, FPC 02). |

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| **CTR 2.3** | **Plan, lead and report on the planting/release of species.** | · Identifying sites and planning species planting/releases in line with recognised best practice guidelines, accounting for all life stages and potential negative impacts (e.g. planting/release sites, cohorts/groupings, infrastructure, etc.).<br>· Implementing pre-release identification or tracking devices, assessing impacts on species survival prior to release (e.g. ringing, tagging, marking, loggers, radio collars, etc.).<br>· Maintaining logistical and communication networks throughout the planting/release.<br>· Collaborating with awareness and engagement teams regarding media and outreach activities (e.g. press release, stakeholder events, community participation, etc.).<br>· Monitoring and evaluating the impact and effectiveness of interventions. | · Principles and practice of species translocation (e.g. IUCN Guidelines for Reintroductions and Other Conservation Translocations).<br>· Biology and behaviour/phenology of focal species, at all life stages.<br>· Identification/tracking devices and technology (see also RAM 2.5)<br>· Communication and engagement techniques (see also AWA 2.4, AWA 2.5).<br>· IP and LC participation skills (see also PEO 2.7).<br>· Monitoring and evaluation techniques (see also PSP 2.3).<br>· Problem solving and decision making skills (see also APC 01, APC 02, FPC 02). |
| **CTR 2.4** | **Plan, lead and report on post-release management of species.** | · Implementing post-release management to support species or control threats (e.g. supplementary feeding, watering, refugia/shading, predator/grazing control, etc.).<br>· Implementing post-release monitoring (e.g. health checks, behaviour, survival, productivity, dispersal, etc.).<br>· Planning contingency measures in the event of an emergency (e.g. temporary holding, disease outbreak, inter-specific conflict, injury, environmental disaster, etc.).<br>· Monitoring and evaluating the impact and effectiveness of interventions. | · Principles and practice of species translocation (e.g. IUCN Guidelines for Reintroductions and Other Conservation Translocations).<br>· In-situ species management techniques (e.g. INM 2.2, INV 2.2, PEO 2.4, etc.).<br>· Species monitoring techniques (see also RAM 2.1, RAM 2.2).<br>· Monitoring and evaluation techniques (see also PSP 2.3). |

| CTR. LEVEL 1 | Conduct practical tasks to implement conservation translocations | | |
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| **CODE** | **COMPETENCE STATEMENT**<br>***The individual should be able to:*** | **RANGE STATEMENT**<br>***A brief explanation of the competence.*** | **KNOWLEDGE REQUIREMENTS**<br>***Main specific knowledge requirements for the competence.*** |
| **CTR 1.1** | **Assist in the transportation of translocated individuals.** | · Participating under supervision in the transportation of specimens in accordance with transportation strategy.<br>· Preparing transport cages/containers for the relevant life stage.<br>· Conducting preliminary training and/or habituation to the transport cage/container.<br>· Provisioning nutrition, water and environmental conditions as required.<br>· Maintaining species security, health and welfare throughout transportation. | · Biology and behaviour/phenology of focal species.<br>· Species training techniques (see also EXM 1.5).<br>· Species husbandry techniques (see also EXM 1.1, EXM 1.2, EXM 1.3).<br>· Capture and handling techniques (see also SHW 1.5).<br>· Security and safety measures (see also FPC 08).<br>· Specie health and welfare monitoring techniques (see also SHW 1.1). |
| **CTR 1.2** | **Prepare and maintain release sites.** | · Building and maintaining pre-release enclosures/storage (e.g. holding pens, nurseries, etc.).<br>· Preparing post-release refugia (e.g. nest boxes, hibernation sites, burrows, water bodies, etc.).<br>· Preparing planting sites (e.g. soil improvement, vegetation removal, fencing, etc.). | · Biology and behaviour/phenology of focal species.<br>· Enclosure design (see also EXM 1.3).<br>· Species refugia design (see also INM 1.6).<br>· Planting techniques (see also INM 1.7).<br>· Safe use and maintenance of required tools and equipment (see also FRM 1.2, FLD 1.4).<br>· Basic construction tasks (see also FLD 1.5). |
| **CTR 1.3** | **Care for and prepare translocated individuals prior to release or planting.** | · Conducting day-to-day care and husbandry of captive species (e.g. feeding, watering, enclosure hygiene, health checks, etc.).<br>· Training and habituating species, where required, and avoiding human imprinting.<br>· Assisting in quarantine, disease screening and treatment measures.<br>· Assisting in the collection of samples and conducting measures to restrict post release dispersal (e.g. wing clipping, blood sampling, disease swabs, etc.).<br>· Keeping daily records of observations. | · Species husbandry techniques (see also EXM 1.1, EXM 1.2).<br>· Species training techniques (see also EXM 1.5).<br>· Capture, handling and sampling techniques (see also SHW 1.4, SHW 1.5).<br>· Species health, welfare and treatment measures (see also SHW 1.1, SHW 1.2, SHW 1.3).<br>· Record-keeping skills (see also RAM 1.1). |
| **CTR 1.4** | **Care for and monitor translocated individuals following release or planting.** | · Conducting monitoring following set protocols (e.g. daily register, behaviour, reproduction, health, impact of release, seedling survival and growth rates, post mortems, etc.).<br>· Providing artificial nutrition, water or refugia, where required.<br>· Conducting threat management (e.g. invasive species management, patrols, health monitoring, etc.). | · Monitoring and data collection techniques (see also RAM 1.1, RAM 1.2).<br>· Nutritional provisioning techniques (see also INM 1.5).<br>· Species refugia design (see also INM 1.6).<br>· Threat management techniques (e.g. INV 1.2, SHW 1.1, UHL 1.2, etc.). |

# CATEGORY INV:
# INVASIVE SPECIES MANAGEMENT

Ensuring invasive species are identified and their impacts prevented, removed or mitigated in line with threatened species recovery goals

| INV. LEVEL 4 | Make significant contributions to (inter)national initiatives and policies for invasive species management | | |
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| **CODE** | **COMPETENCE STATEMENT**<br>***The individual should be able to:*** | **RANGE STATEMENT**<br>***A brief explanation of the competence.*** | **KNOWLEDGE REQUIREMENTS**<br>***Main specific knowledge requirements for the competence.*** |
| **INV 4.1** | **Coordinate cross-sectoral initiatives and collaboration for (inter) national management of invasive species.** | · Developing initiatives and plans with multiple sectors, decision-makers and perspectives, ensuring consensus.<br>· Accounting for existing protocols, conventions and organisations (e.g. IUCN, UNEP, FAO, CITES, SPS Agreement, CBD, BMW Convention, etc.).<br>· Communicating and mainstreaming initiatives and plans (e.g. through high-level planning, meetings, decision-making processes, etc.).<br>· Ensuring initiatives and plans of partners align for effective TSR. | · Relevant agreements or legislation (e.g. IUCN, UNEP, FAO, CITES, SPS Agreement, CBD, BMW Convention, etc.).<br>· One-plan approach to conservation management (see also PSP 4.2).<br>· Communication and collaboration skills (see also CAC 4.1). |
| **INV 4.2** | **Influence the direction of (inter)national initiatives for invasive species management.** | · Actively participating in relevant (inter)national initiatives or groups (e.g. IUCN Species Survival Commission Specialist Groups, regional initiatives/ committees, cross-sectoral exchanges, skill sharing mechanisms, global reviews or strategies, etc.).<br>· Promoting the role of invasive species management for TSR on an (inter) national platform (e.g. conference presentations).<br>· Initiating and promoting international reports and publications. | · Species status, ecology, threats and conservation requirements.<br>· (Inter)national socio-political context of the species.<br>· Relevant (inter)national agreements, conventions, initiatives, etc.<br>· Relevant recognised best practice examples for TSR programmes.<br>· Communication within high level meetings (see also CAC 4.2, CAC 4.3).<br>· Methods of participation (see also APC 07). |

| INV. LEVEL 3 | Develop strategies and direct programmes for invasive species management | | |
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| **CODE** | **COMPETENCE STATEMENT**<br>***The individual should be able to:*** | **RANGE STATEMENT**<br>***A brief explanation of the competence.*** | **KNOWLEDGE REQUIREMENTS**<br>***Main specific knowledge requirements for the competence.*** |
| **INV 3.1** | **Direct the identification and quantification of invasive species threats and impacts.** | · Establishing the status and distribution of all known, potential or emerging invasive species, and their pathways (e.g. horizon scanning, range changes, emerging impacts, etc.).<br>· Identifying the threat, impact and economic costs of known, potential or emerging invasive species (e.g. EICAT).<br>· Adopting recognised best practice guidelines where available.<br>· Communicating findings within the conservation community and relevant stakeholder/sectors. | · Principles and practice of invasive species management (e.g. IUCN Guidelines for Invasive Species Planning and Management on Islands).<br>· Known, merging or potential invasive species.<br>· Impacts of invasive species on ecosystem function.<br>· Communication and collaboration (see also CAC 3.3, RAM 3.4). |
| **INV 3.2** | **Direct invasive species risk assessments and management feasibility assessments.** | · Assessing invasive species suitability and/or requirement for management and the risks involved.<br>· Assessing the risk of known, potential or emerging invasive species on the focal species or their associated environments.<br>· Assessing feasibility against anthropogenic factors (e.g. consult on human perspectives, socio-economic, etc.).<br>· Assessing feasibility against programme capacity and resource availability (e.g. scale, management, equipment, personnel availability, etc.).<br>· Prioritising management responses based on findings using prioritisation tools. | · Principles and practice of invasive species management (e.g. IUCN Guidelines for Invasive Species Planning and Management on Islands).<br>· Known, emerging or potential invasive species.<br>· Impacts of invasive species on ecosystem function.<br>· Feasibility assessments.<br>· Threat assessments (see also RAM 3.3).<br>· Financial and resource planning (see also FRM 3.1). |
| **INV 3.3** | **Direct the development and delivery of a biosecurity strategy.** | · Developing a biosecurity and rapid response strategy in line with recognised best practice guidelines and building on existing measures, where available (e.g. IUCN Guidelines for invasive species planning and management on islands).<br>· Ensuring strategy measures meet legal and ethical requirements.<br>· Collaborating and communicating with all relevant stakeholders and sectors.<br>· Coordinating awareness and education campaigns for known or emerging invasive species.<br>· Reviewing the strategy and adapting management. | · Principles and practice of invasive species management (e.g. IUCN Guidelines for Invasive Species Planning and Management on Islands).<br>· Invasive species and pathways of introduction.<br>· Relevant (inter)national agreements or regulations.<br>· Communication and collaboration skills (see also CAC 3.2, CAC 3.3).<br>· Awareness raising, education and campaigns (see also AWA 3.1, AWA 3.4).<br>· Review and adaptive management techniques (see also PSP 3.5). |

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| **INV 3.4** | **Direct the development and delivery of an invasive species management strategy.** | · Developing a management strategy for established invasive species in line with recognised best practice guidelines and building on existing measures, where available (e.g. IUCN Guidelines for Invasive Species Planning and Management on Islands).<br>· Ensuring strategy measures meet legal and ethical requirements.<br>· Collaborating and communicating with relevant experts, stakeholders and sectors (private and public) to increase capacity and support.<br>· Reviewing the strategy and adapting management.<br>· Measures could include eradication, biological control, genetic management, containment, exclusion, physical-chemical control, or impact mitigation. | · Principles and practice of invasive species management (e.g. IUCN Guidelines for Invasive Species Planning and Management on Islands).<br>· Invasive species management techniques.<br>· Existing and relevant invasive species action plans.<br>· Relevant (inter)national agreements or regulations.<br>· Species health and welfare requirements (see also SHW 3.1).<br>· Communication and collaboration skills (see also CAC 3.2, CAC 3.3).<br>· Outreach skills (see also AWA 3.1).<br>· Review and adaptive management techniques (see also PSP 3.5). |

| INV. LEVEL 2 | Plan, lead and report on the practical implementation of measures for invasive species management | | |
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| **CODE** | **COMPETENCE STATEMENT**<br>***The individual should be able to:*** | **RANGE STATEMENT**<br>***A brief explanation of the competence.*** | **KNOWLEDGE REQUIREMENTS**<br>***Main specific knowledge requirements for the competence.*** |
| **INV 2.1** | **Plan, lead and report on the implementation of biosecurity and rapid response measures.** | · Developing invasive species-specific biosecurity protocols in line with recognised best practice guidelines, where available (e.g. border control, inspections, searches, cleaning, treatment, etc.).<br>· Implementing effective systems to detect incursions of invasive species and mount rapid responses (e.g. monitoring, surveillance, citizen sightings, outreach, rapid reporting, response protocols, etc.).<br>· Collaborating and maintaining communications with all relevant experts, stakeholders and sectors for effective and streamlined measures.<br>· Monitoring and evaluating the impact and effectiveness of interventions. | · Principles and practice of invasive species management (e.g. IUCN Guidelines for Invasive Species Planning and Management on Islands).<br>· Invasive species biology and behaviour/phenology at all life stages.<br>· Communication and collaboration skills (see also CAC 2.1, CAC 2.2).<br>· Relevant (inter)national laws and regulations.<br>· Species health and welfare assessments (see also SHW 2.1).<br>· Monitoring and evaluation techniques (see also PSP 2.3).<br>· Problem solving and decision making skills (see also APC 01, APC 02, FPC 02). |
| **INV 2.2** | **Plan, lead and report on the implementation of invasive species management measures.** | · Reducing or eliminating the impacts of established invasive species in line with recognised best practice guidelines, where available (e.g. eradication, biological control, containment, exclusion, physical-chemical control or impact mitigation).<br>· Ensuring required capacity and resources are available (e.g. disposal of biological waste, temporary ex-situ management for non-target species, multiple invasive species management, scale of management, etc.).<br>· Collaborating with other sectors where specialist expertise is required (e.g. introduction of biological control, infrastructure construction, transportation, etc.).<br>· Monitoring and evaluating the impact and effectiveness of interventions. | · Invasive species biology and behaviour/phenology at all life stages.<br>· Principles and practice of invasive species management (e.g. IUCN Guidelines for Invasive Species Planning and Management on Islands).<br>· Legal, ethical and security aspects of control measures (e.g. for firearms, tranquillisers, poisons, animal handling, etc.) (see also UHL 2.8, SHW 2.5).<br>· Species health and welfare assessments (see also SHW 2.1).<br>· Species ex-situ management techniques (see also EXM 2.2, EXM 2.3).<br>· Species translocation techniques (see also CTR 2.2).<br>· Monitoring and evaluation techniques (see also PSP 2.3).<br>· Problem solving and decision making skills (see also APC 01, APC 02, FPC 02). |

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| **INV 2.3** | **Plan, lead and report on awareness and outreach activities to support invasive species and biosecurity measures.** | · Raising awareness of the impacts of invasive species on biodiversity, human health, livelihoods, society, etc. and generating support for management measures.<br>· Engaging and collaborating with stakeholders and sectors related to invasive species management measures (e.g. customs, agriculture, pet/horticulture trade, tourism, etc.).<br>· Promoting participation by local communities and citizens to increase capacity (e.g. citizen science, community engagement, campaigns, etc.).<br>· Providing information, training, and resources for all involved in management measures.<br>· Collaborating with awareness and engagement teams regarding media and outreach activities (e.g. social media, press releases, events, etc.). | · Communication and collaboration skills (see also CAC 2.1, CAC 2.2).<br>· Awareness raising and engagement techniques (see also AWA 2.1).<br>· Media outreach techniques (see also AWA 2.4, AWA 2.5).<br>· Community engagement techniques (see also PEO 2.6).<br>· Training, event and workshop techniques (see also PER 2.7, AWA 2.2, CAC 2.5). |
| **INV 2.4** | **Plan, lead and report on restoration measures following invasive species management.** | · Collaboratively plan and implement post-management restoration projects with existing in-situ TSR programmes, where required (e.g. conservation translocations, planting, habitat restoration, etc.).<br>· Ensuring the collection of baseline data prior to and during management interventions.<br>· Ensuring management interventions are followed by long-term monitoring and evaluation of outcomes.<br>· Ensuring that biosecurity and rapid response measures are in place to prevent future invasions or resurgences. | · In-situ habitat and population restoration measures (see also INM 2.2, INM 2.4).<br>· Conservation translocation techniques (see also CTR 2).<br>· Collaboration skills (see also CAC 2.1).<br>· Monitoring and surveying techniques (see also RAM 2.1).<br>· Monitoring and evaluation techniques (see also PSP 2.3). |

| INV. LEVEL 1 | Conduct practical tasks for managing invasive species | | |
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| **CODE** | **COMPETENCE STATEMENT**<br>***The individual should be able to:*** | **RANGE STATEMENT**<br>***A brief explanation of the competence.*** | **KNOWLEDGE REQUIREMENTS**<br>***Main specific knowledge requirements for the competence.*** |
| **INV 1.1** | **Implement invasive species detection measures.** | · Following and/or implementing species-specific biosecurity protocols in accordance with biosecurity strategy.<br>· Reporting incursions detected following set protocols.<br>· Responding with rapid response management following set protocols.<br>· Adhering to safety, ethical and welfare requirements.<br>· Recording the management in place and its impacts for reporting. | · Invasive species identification skills (see also INM 1.1).<br>· Invasive species biology and behaviour/phenology.<br>· Species-specific recognised best practice techniques.<br>· Record-keeping (see also RAM 1.1). |
| **INV 1.2** | **Conduct invasive species control/removal measures.** | · Applying species-specific physical removal, chemical control or habitat manipulation techniques, following protocols and in accordance with the invasive species management strategy.<br>· Using species-specific methods of capture, where required.<br>· Assisting in the implementation of biological control measures alongside species translocation experts.<br>· Adhering to safety, ethical and welfare requirements.<br>· Recording the management in place and its impacts for reporting. | · Invasive species biology and behaviour/phenology.<br>· Species-specific recognised best practice techniques.<br>· Legislation and permit requirements.<br>· Capture and handling techniques (see also SHW 1.5).<br>· Species health and welfare techniques (see also SHW 1.2).<br>· Species translocation techniques (see also CTR 1).<br>· Record-keeping (see also RAM 1.1). |
| **INV 1.3** | **Control invasive species using lethal control measures.** | · Applying species-specific methods for eradication or lethal control following protocols and in accordance with the invasive species management strategy (e.g. aerial poisoning, ground-based poisoning, kill traps, shooting, etc.).<br>· Using specialist equipment/technology, where relevant.<br>· Working alongside experts for specialist techniques, where required.<br>· Adhering to safety, ethical and welfare requirements.<br>· Recording the management in place and its impacts for reporting. | · Invasive species biology and behaviour.<br>· Species-specific recognised best practice techniques.<br>· Legislation and permit requirements (e.g. firearms use; see also UHL 1.8).<br>· Capture and handling techniques (see also SHW 1.5).<br>· Communication skills (see also CAC 1.1).<br>· Species health and welfare techniques (see also SHW 1.2).<br>· Species euthanasia techniques (see also SHW 1.3).<br>· Record-keeping (see also RAM 1.1). |
| **INV 1.4** | **Implement invasive species exclusion measures.** | · Maintaining structures to specifications (e.g. predator-proof fencing, deer guards, gas permeable barriers, netting, wire mesh, etc.).<br>· Monitoring structures and reporting damage following set protocols.<br>· Maintaining biosecurity measures and reporting detections following set protocols.<br>· Adhering to safety, ethical and welfare requirements.<br>· Recording the management in place and its impacts for reporting. | · Invasive species biology and behaviour/phenology.<br>· Species-specific recognised best practice techniques.<br>· Safe use and maintenance of tools and equipment (see also FLD 1.4, FRM 1.2).<br>· Basic construction skills (see also FLD 1.5).<br>· Species health and welfare techniques (see also SHW 1.2).<br>· Record-keeping (see also RAM 1.1). |
| **INV 1.5** | **Safely store and dispose of biological or chemical waste.** | · Conducting in accordance with regulation and legislation.<br>· Ensuring storage capacity meets demand.<br>· Following health and safety measures where required. | · Storage or disposal techniques of species-specific biological waste.<br>· Legislation and permit requirements. |

# CATEGORY TRA:
# SPECIES TRADE AND USE

Ensuring species trade and use is appropriately managed and regulated to permit the recovery of a threatened species

| TRA. LEVEL 4 | Make significant contributions to (inter)national initiatives and policies for regulating use and trade of threatened species | | |
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| **CODE** | **COMPETENCE STATEMENT**<br>***The individual should be able to:*** | **RANGE STATEMENT**<br>***A brief explanation of the competence.*** | **KNOWLEDGE REQUIREMENTS**<br>***Main specific knowledge requirements for the competence.*** |
| **TRA 4.1** | **Coordinate cross-sectoral initiatives and collaboration for (inter) national trade and use of species.** | · Developing initiatives and plans with multiple sectors and across relevant boundaries, ensuring consensus.<br>· Accounting for existing protocols and agreements.<br>· Contracting all parties to relevant international conventions (e.g. IUCN, CITES, WHO, CBD, etc.).<br>· Ensuring initiatives and plans of partners align for effective TSR. | · Relevant (inter)national legislation or agreements.<br>· Recognised best practice guidelines.<br>· One-plan approach to conservation management (PSP 4.2).<br>· Communication and collaboration skills (see also CAC 4.1, UHL 4.2). |
| **TRA 4.2** | **Support the development of (inter)national policy, legislation and regulation for the trade and use of species.** | · Working with CITES to inform policy and management of species at risk of illegal/unsustainable trade and use on an (inter)national level.<br>· Collaborating on the global analysis and review of the focal species, identifying gaps and improving regulations in protection (e.g. what can be traded and how on an (inter)national level, quotas for sustainable use, etc.).<br>· Capacity building/awareness raising for law enforcement agencies and the judiciary.<br>· Accounting for the protection of focal species but also the trade and use of interdependent species. | · Ecology of focal species.<br>· Species status and threat assessments (see also RAM 3.2, RAM 3.3, UHL 3.1).<br>· (Inter)national socio-political context of the species.<br>· Relevant policy, laws and regulations.<br>· (Inter)national law enforcement techniques (see also UHL 4.1, UHL 4.2).<br>· Relevant private sector commitments and policies.<br>· Communication and collaboration skills (see also CAC 4.1).<br>· Awareness raising techniques (see also AWA 4.1). |
| **TRA 4.3** | **Influence the direction of (inter) national initiatives for the regulation and sustainable management of species trade and use.** | · Actively participating in relevant international initiatives or groups (e.g. IUCN Species Survival Commission Specialist Groups, CITES, global reviews or strategies, conference presentations, provision of high level training, etc.).<br>· Promoting the role of appropriately planned, managed and regulated species trade and use for TSR on an (inter)national platform (e.g. conference presentations).<br>· Initiating and promoting international reports and publications. | · Species status, ecology, threats and conservation requirements.<br>· (Inter)national socio-political context of the species.<br>· Relevant (inter)national agreements, conventions, initiatives, etc.<br>· Initiating and promoting international reports and publications.<br>· Communication within high level meetings (see also CAC 4.2, CAC 4.3).<br>· Methods of participation (see also APC 07). |

| TRA. LEVEL 3 | Develop strategies and direct programmes for regulating use and trade of threatened species | | |
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| **CODE** | **COMPETENCE STATEMENT**<br>***The individual should be able to:*** | **RANGE STATEMENT**<br>***A brief explanation of the competence.*** | **KNOWLEDGE REQUIREMENTS**<br>***Main specific knowledge requirements for the competence.*** |
| **TRA 3.1** | **Design and negotiate strategies for the sustainable harvesting of species.** | · Developing a justified strategy for sustainable harvesting between all market linkages (harvesters/traders/users), accounting for species conservation status and the rights and needs of Indigenous peoples or of local communities.<br>· Negotiating parameters for harvesting and developing regulations with authorities and experts (e.g. harvesting/trading techniques and periods, quotas, means of monitoring, etc.).<br>· Specifying different approaches for subsistence, local and commercial harvesting and trading (e.g. hunting agreements, no take zones, etc.).<br>· Accounting for indirect impacts to the focal species from the harvesting of habitats or other species with key relationships (e.g. prey, pollinators, etc.).<br>· Reviewing the strategy and adapting management. | · Ecology of the focal species and key relations with other species.<br>· Range of products, uses and harvesting techniques and groups involved.<br>· Rights and needs of IPs and of LCs (see also PEO 3.1).<br>· Access and benefit sharing practices (see also PSP 3.6).<br>· Sustainable harvesting techniques (see also PEO 3.3, PEO 2.5).<br>· Communication and collaboration skills (see also CAC 3.2, CAC 3.3).<br>· Negotiation skills (see also CAC 3.4).<br>· Review and adaptive management techniques (see also PSP 3.4). |
| **TRA 3.2** | **Design and negotiate a strategy with trade for authorised and regulated markets.** | · Developing a justified strategy for authorised and regulated trading in line with recognised best practice guidelines, scientific evidence and (inter) national policy, laws and regulations.<br>· Collaborating with all relevant (inter)national sectors and authorities.<br>· Supporting certification schemes for species sourced sustainably and monitoring compliance (e.g. Fair Trade, MSC, RSPO, FLEGT, etc.).<br>· Incorporating awareness and engagement campaigns targeting both traders and consumers.<br>· Reviewing the strategy and adapting management. | · Impact of trade on focal species or associated species/habitats (see also UHL 3.2).<br>· Focal species value in illegal wildlife trade.<br>· Consumers and drivers of purchase of focal species (see also UHL 3.7).<br>· Recognised best practice guidelines.<br>· Relevant policies, laws and regulations.<br>· Campaigning techniques (see also AWA 3.4).<br>· Communication and collaboration skills (see also CAC 3.2, CAC 3.3).<br>· Negotiation skills (see also CAC 3.4).<br>· Review and adaptive management techniques (see also PSP 3.4). |

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| **TRA 3.3** | **Direct a demand reduction strategy for illegal and/or unsustainable species use.** | · Developing or facilitating the development of a justified strategy for reducing illegal/unsustainable species use (e.g. incentive, alternative livelihoods/resources, sustainable use/practices, etc.).<br>· Accounting for existing strategies, recognised best practice, (inter)national laws and regulations and the rights and needs of Indigenous peoples or of local communities.<br>· Ensuring demand reduction measures target the relevant levels (e.g. local, national, international, etc.), focus (rural/urban, physical/online audiences, etc.) and people (e.g. harvesting source, trading sites, end users, online influencers, etc.).<br>· Collaborating with relevant (inter)national sectors and authorities and engaging with perpetrators.<br>· Reviewing the strategy and adapting management. | · Demand for and uses of the focal species (see also UHL 3.2).<br>· Social and cultural role of the focal species.<br>· Illegal activity investigation techniques (see also UHL 3.7).<br>· Recognised best practice guidelines.<br>· Relevant policy, laws and regulations.<br>· Rights and needs of IP and of LCs (see also PEO 3.1 and UHL 3.4).<br>· Communication and collaboration skills (see also CAC 3.2, CAC 3.3, UHL 3.5).<br>· Review and adaptive management techniques (see also PSP 3.4). |
| **TRA 3.4** | **Direct a strategy for managing confiscated species or specimens.** | · Developing a justified strategy for dealing with confiscated live animals, specimens or products, accounting for species heath and welfare (e.g. skills, resources, protocols, infrastructure, operational plans, etc.).<br>· Accounting for laws, regulations, existing strategies and recognised best practice guidelines (e.g. IUCN Guidelines for the Management of Confiscated, Live Organisms).<br>· Accounting for invasive species potential or human health risk (e.g. biosecurity, quarantine, health monitoring for zoonotic diseases, etc.).<br>· Ensuring legal requirements for the seizure, storage and documentation of confiscated animals, specimens or products.<br>· Developing partnerships with all relevant sectors and authorities (e.g. vets, ex-situ facilities, law enforcement, health agencies, etc.).<br>· Reviewing the strategy and adapting management. | · Biology and behaviour/phenology of focal species.<br>· Recognised best practice guidelines (e.g. IUCN Guidelines for the Management of Confiscated, Live Organisms; IUCN Decision Tree/ Confiscated Animals).<br>· Relevant policy, laws and regulations (e.g. CITES).<br>· Species health and welfare requirements (see also SHW 3.1, SHW 3.3).<br>· Disease risk assessments (see also SHW 3.2).<br>· Invasive species biosecurity techniques (see also INV 3.3, INV 2.1).<br>· Procedures for seizing evidence (see also UHL 2.6).<br>· Communication and collaboration skills (see also CAC 3.2, CAC 3.3).<br>· Review and adaptive management techniques (see also PSP 3.4). |

| TRA. LEVEL 2 | Plan, lead and report on the practical implementation of conservation translocations | | |
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| **CODE** | **COMPETENCE STATEMENT**<br>***The individual should be able to:*** | **RANGE STATEMENT**<br>***A brief explanation of the competence.*** | **KNOWLEDGE REQUIREMENTS**<br>***Main specific knowledge requirements for the competence.*** |
| | **Trade chain investigations and enforcement operations.** | · See UHL 2.1, UHL 2.2 and UHL 2.3. | |
| | **Surveying and monitoring the use of species.** | · See RAM 2.4 | |
| | **Sustainable use and harvesting of species.** | · See PEO 2.5 | |
| | **Species demand/impact reduction measures.** | · See PEO 2.3 and PEO 2.4 | |
| | **Management of confiscated species.** | · See EXM 2.2, EXM 2.3 and EXM 2.6. | |

| TRA. LEVEL 1 | Conduct practical tasks for regulating use and trade of threatened species | | |
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| **CODE** | **COMPETENCE STATEMENT**<br>***The individual should be able to:*** | **RANGE STATEMENT**<br>***A brief explanation of the competence.*** | **KNOWLEDGE REQUIREMENTS**<br>***Main specific knowledge requirements for the competence.*** |
| **TRA 1.1** | **Surveillance of illegal/ unwanted species trade and use.** | · See UHL 1.2. | |
| **TRA 1.2** | **Transportation of confiscated live animals or specimens.** | · See CTR 1.1. | |
| **TRA 1.3** | **Recognising and identifying target species and unauthorised activities.** | · See INM 1.2 and UHL 1.1. | |

# CATEGORY SHW:
# SPECIES HEALTH AND WELFARE

## Assessing and managing species health and welfare as part of wider threatened species recovery programmes

| SHW. LEVEL 4 | Make significant contributions to (inter)national initiatives and policies for species health and welfare | | |
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| **CODE** | **COMPETENCE STATEMENT**<br>***The individual should be able to:*** | **RANGE STATEMENT**<br>***A brief explanation of the competence.*** | **KNOWLEDGE REQUIREMENTS**<br>***Main specific knowledge requirements for the competence.*** |
| **SHW 4.1** | **Coordinate cross-sectoral initiatives and collaboration for (inter)national disease management.** | · Developing strategies and planning across multiple sectors and disciplines associated with disease and pathogen pathways, both known and emerging, legal and illegal (e.g. agriculture, fisheries, trade, aquaculture, horticulture, collections, pet trade, species (re)introductions, etc.).<br>· Developing policies and strategies across multiple sectors to identify and mitigate impacts from disease at a species, environment and zoonotic level (e.g. Government, OIE, World Health Organization, etc.). | · Relevant laws and legislation.<br>· Disease threats and known or emerging pathways.<br>· Collaboration skills (see also CAC 4.1).<br>· Developing initiatives and partnerships (see also PSP 4.2). |
| **SHW 4.2** | **Influence the direction of (inter)national initiatives for species health and welfare.** | · Actively participating and providing leadership in relevant (inter)national initiatives or groups (e.g. IUCN Species Survival Commission Specialist Groups, WAZA, global reviews or strategies, etc.).<br>· Promoting species health and welfare management in TSR on an (inter) national platform (e.g. conference presentations).<br>· Initiating and promoting (inter)national reports and publications.<br>· Contributing to welfare/ethics committees and reviews. | · Species status, ecology, threats and conservation requirements.<br>· (Inter)national socio-political context of the species.<br>· Relevant (inter)national agreements, conventions, initiatives, etc.<br>· Relevant recognised best practice examples for TSR programmes.<br>· Communication within high level meetings (see also CAC 4.2, CAC 4.3).<br>· Methods of participation (see also APC 07). |

| SHW. LEVEL 3 | Develop strategies and direct programmes for species health and welfare management | | |
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| **CODE** | **COMPETENCE STATEMENT**<br>***The individual should be able to:*** | **RANGE STATEMENT**<br>***A brief explanation of the competence.*** | **KNOWLEDGE REQUIREMENTS**<br>***Main specific knowledge requirements for the competence.*** |
| **SHW 3.1** | **Set standards and operational procedures for species health and welfare.** | · Reviewing recognised best practice, laws and regulations.<br>· Ensuring all TSR programme activities are assessed through an ethical review.<br>· Establishing emergency response procedures.<br>· Consulting personnel and other experts, where required.<br>· Identifying capacity and resource requirements for implementation.<br>· Documenting and disseminating standards and procedures for planning, implementation and adaptive management. | · Processes for developing or updating best practice guidance (see also PSP 3.5).<br>· Relevant (inter)national laws and regulations.<br>· Ethical review process.<br>· Literature review techniques (see also RAM 3.5).<br>· Contingency planning techniques (see also PSP 3.3).<br>· Financial and resource planning (see also FRM 3.1).<br>· Review and adaptive management techniques (see also PSP 3.4). |
| **SHW 3.2** | **Direct disease risk evaluations and identify mitigation procedures.** | · Establishing expert teams to conduct and update disease risk assessments of known and emerging diseases.<br>· Accounting for multiple disease risk scenarios such as source and destination population during translocation, invasive host/reservoir species, infection pathways, infection sources, etc.<br>· Leading the development of standard operating procedures for disease risk mitigations and their implementation. | · Disease control strategies.<br>· Veterinary public health.<br>· Known and emerging diseases.<br>· Epidemiological skills.<br>· Risk analysis techniques.<br>· Contingency planning techniques (see also PSP 3.3). |
| **SHW 3.3** | **Set standards and operational procedures for the capture, handling, sampling and marking of species.** | · Leading the planning and implementation of protocols for the focal species and/or associated species.<br>· Ensuring all procedures are assessed through an ethical review.<br>· Acquiring agreements and permits (e.g. CITES, veterinary certificates, species ownership, etc.).<br>· Assisting in the development of non-invasive technologies and methodologies.<br>· Developing local capacity for sample analysis through partnerships. | · Processes for developing or updating best practice guidance (see also PSP 3.5).<br>· Relevant (inter)national laws and regulations.<br>· Permit application processes.<br>· Ethical review process.<br>· Needs and rights of IP and of LCs (see also PEO 3.1).<br>· Capture, handling, sampling and marking techniques.<br>· Identifying and mobilising new technology (see also TEC 3.2).<br>· Collaboration skills (see also CAC 3.2). |

| SHW. LEVEL 2 | Plan, lead and report on the practical implementation of species health and welfare measures | | |
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| **CODE** | **COMPETENCE STATEMENT**<br>***The individual should be able to:*** | **RANGE STATEMENT**<br>***A brief explanation of the competence.*** | **KNOWLEDGE REQUIREMENTS**<br>***Main specific knowledge requirements for the competence.*** |
| **SHW 2.1** | **Plan, lead and report on the implementation of species health and welfare assessments.** | · Conducting heath, welfare and quality of life assessments, both in captivity and in the field, in line with recognised best practice guidelines, laws and regulations (e.g. 'the five domains').<br>· Coordinating required responses or treatment to assessments conducted.<br>· Contribute to end of life decisions for individuals both in-situ and ex-situ, alongside qualified personnel (e.g. vets).<br>· Collaborating with qualified personnel where specific or expert skills are required (e.g. vets, nutritionists, behaviourists, etc.).<br>· Ensuring assessments and protocols are assessed through an ethical review. | · Biology and behaviour/phenology of focal species, at all life stages.<br>· Disease and injury risks to the species.<br>· Legal requirements for species health and welfare.<br>· Legal requirements for end of life decisions.<br>· Collaboration skills (see also CAC 3.2).<br>· Ethical review processes. |
| **SHW 2.2** | **Plan, lead and report on the management of species health and welfare.** | · Developing care plans and biosecurity protocols.<br>· Developing welfare plans and protocols to prevent/mitigate stress (e.g. behavioural enrichment, environmental conditions, appropriate human behaviour, habituation to human presence, etc.).<br>· Establishing and maintaining infrastructure and resources (e.g. quarantine enclosures/areas, vet facilities, holding cages, first aid kits, medication, etc.).<br>· Collaborating with experts and qualified personnel (e.g. vets, behaviourists, etc.).<br>· Ensuring the legal euthanasia of individuals.<br>· Ensuring all procedures are assessed through an ethical review. | · Biology and behaviour/phenology of the focal, at all life stages.<br>· Diseases affecting the focal species and their symptoms.<br>· Signs of stress or stereotypical behaviour.<br>· Enclosure design and construction (see also EXM 2.3).<br>· Maintenance and procurement of resources (see also FRM 2.2, FRM 2.3).<br>· Relevant laws, regulations or recognised best practice guidelines.<br>· Collaboration skills (see also CAC 2.1).<br>· Euthanasia techniques for the focal species.<br>· Ethical review processes. |
| **SHW 2.3** | **Plan, lead and report on the implementation of disease mitigation procedures.** | · Developing protocols in response to disease risk analysis results, for both in-situ and ex-situ populations, and in line with recognised best practice guidelines, laws and regulations.<br>· Monitoring for, preventing and responding to outbreaks (e.g. disease screening/surveillance, vaccinations, disease impact, dealing with sick or dead individuals, post mortems, etc.).<br>· Collaborating with experts and qualified personnel (e.g. vets, researchers, epidemiologists, etc.).<br>· Ensuring all procedures are assessed through an ethical review.<br>· Monitoring and evaluating the impact and effectiveness of interventions. | · Biology and behaviour/phenology of the focal species, at all life stages.<br>· Relevant laws, regulations or recognised best practice guidelines.<br>· Diseases affecting the focal species and their symptoms.<br>· Techniques for disease management.<br>· Health and safety measures for the protection of personnel (see also PER 2.5).<br>· Collaboration skills (see also CAC 2.1).<br>· Ethical review processes.<br>· Monitoring and evaluation techniques (see also PSP 2.3). |

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| **SHW 2.4** | **Plan, lead and report on specialist reproductive procedures.** | · Organising and leading on specialist reproductive procedures, for both in-situ and ex-situ species, in line with recognised best practice guidelines, laws and regulations.<br>· Using appropriate species-specific techniques (e.g. environmental/seasonal adjustments, artificial insemination, hormone treatment, sterilisation, cloning, etc.).<br>· Collaborating with experts and qualified personnel (e.g. vets).<br>· Ensuring all procedures are assessed through an ethical review.<br>· Monitoring and evaluating the impact and effectiveness of interventions. | · Biology and behaviour/phenology of the focal species, at all life stages.<br>· Relevant laws, regulations or recognised best practice guidelines.<br>· Reproductive management techniques.<br>· Collaboration skills (see also CAC 2.1).<br>· Ethical review processes.<br>· Monitoring and evaluation techniques (see also PSP 2.3). |
| **SHW 2.5** | **Plan, lead and report on species capture and handling.** | · Ensuring the safe and humane capture and handling of individuals/ specimens, using appropriate techniques and in line with recognised best practice guidelines, laws and regulations.<br>· Ensuring measures are in place to minimise stress, injury and disease transmission.<br>· Collaborating with experts and qualified personnel (e.g. vets).<br>· Ensuring all procedures are assessed through an ethical review.<br>· Monitoring and evaluating the impact and effectiveness of interventions. | · Biology and behaviour/phenology of the focal species, at all life stages.<br>· Relevant laws, regulations or recognised best practice guidelines.<br>· Species-specific techniques for capture and handling.<br>· Husbandry requirements of focal species (see also EXM 2.3)<br>· Required qualifications, licences, vaccines, permits, etc.<br>· Collaboration skills (see also CAC 2.1).<br>· Ethical review processes.<br>· Monitoring and evaluation techniques (see also PSP 2.3). |
| **SHW 2.6** | **Plan, lead and report on the sampling and marking of specimens.** | · Ensuring the safe and humane sampling (e.g. environmental, biological, morphometric, photographic, post mortem, etc.) and marking (e.g. engraving, ringing/banding, tags, etc.), of individuals/specimens, in line with recognised best practice guidelines, laws and regulations.<br>· Ensuring samples are stored appropriately, accounting for risks associated with known and emerging zoonotic diseases.<br>· Collaborating with experts and qualified personnel (e.g. vets).<br>· Ensuring all procedures are assessed through an ethical review.<br>· Monitoring and reporting on all procedure impacts and effectiveness. | · Biology and behaviour/phenology of the focal species, at all life stages.<br>· Relevant laws, regulations or recognised best practice guidelines.<br>· Capture and handling techniques (see also SHW 2.5).<br>· Species-specific techniques for sampling and marking.<br>· Required qualifications, licences, vaccines, permits, etc.<br>· Health and safety measures for the protection of personnel (see also PER 2.5).<br>· Collaboration skills (see also CAC 2.1).<br>· Ethical review processes.<br>· Monitoring and evaluation techniques (see also PSP 2.3). |

| SHW. LEVEL 1 | Conduct practical tasks for catching, handling, marking and treating organisms | | |
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| **CODE** | **COMPETENCE STATEMENT**<br>***The individual should be able to:*** | **RANGE STATEMENT**<br>***A brief explanation of the competence.*** | **KNOWLEDGE REQUIREMENTS**<br>***Main specific knowledge requirements for the competence.*** |
| **SHW 1.1** | **Recognise health or welfare issues affecting species.** | · Recognising signs of injury to or disease in the focal species.<br>· Recognising signs of malnutrition or poor condition.<br>· Recognising signs of stress to the focal species (e.g. disturbance, stereotypic behaviours, feather plucking, etc.).<br>· Following set procedures for monitoring and reporting to senior personnel (e.g. vets). | · Biology and behaviour/phenology of the focal species, at all life stages.<br>· Disease and injury risks to the species.<br>· Species-specific signs of stress.<br>· Monitoring and reporting procedures (see also DDR 1.2, FPC 12, FPC 04). |
| **SHW 1.2** | **Implement health and welfare management measures.** | · Improving health and welfare conditions in line with plans and protocols (e.g. hygiene protocols, enrichment plans, etc.).<br>· Following biosecurity protocols, where required.<br>· Ensuring nutritional requirements are met (e.g. water, supplements, live food, etc.).<br>· Ensuring enclosure design meets the species' behavioural needs (e.g. shelter, behavioural enrichment, off display areas, size, vegetation, substrates, noise levels, lighting, etc.). | · Ecology, biology and behaviour/phenology of the focal species, at all life stages.<br>· Species care and husbandry techniques (see also EXM 1.1, EXM 1.2, EXM 1.3).<br>· Behavioural enrichment techniques.<br>· Plan/protocol implementation skills (see also FPC 12). |
| **SHW 1.3** | **Assist in veterinary procedures for the treatment or euthanasia of species.** | · Participating, under the supervision of qualified personnel, in veterinary procedures for the treatment of individuals/specimens.<br>· Assisting the administration of treatments for injury, disease or parasites to an individual or the environment (e.g. breeding refugia, soil, water body, etc.).<br>· Assisting the administration of preventative treatments as routine or in response to outbreaks (e.g. vaccinations, population-wide treatment, etc.).<br>· Using safe, humane and legal species-specific euthanasia techniques (e.g. lethal injection, chloroform, cranial concussion, shooting, etc.).<br>· Ensuring biological waste is disposed of legally and safely. | · Ecology, biology and behaviour/phenology of the focal species, at all life stages.<br>· Species-specific first aid techniques.<br>· Legislation and permits required for pharmaceutical drug storage and use.<br>· Legal, safe and humane euthanasia techniques.<br>· Required qualifications, licences, permits, etc.<br>· Firearm requirements (see also UHL 1.8).<br>· Storage and disposal of chemical/biological waste (see also INV 1.5).<br>· Instruction implementation skills (see also FPC 12). |

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| **SHW 1.4** | **Assist in the sampling of individuals or their environments.** | · Following safe, humane and legal species-specific protocols for sampling, labelling and data recording, under the supervision of qualified personnel.<br>· Ensuring stress, injury and disease transmission is minimised.<br>· Ensuring samples are stored and transported appropriately.<br>· Ensuring biological waste is disposed of legally and safely.<br>· Sampling techniques include post mortems, swabbing, clipping, intravenous, biopsies, cuttings, fur, faeces, urine, environmental, morphometric, photographic, etc. | · Anatomy and biology of focal species.<br>· Species-specific sampling techniques.<br>· Species health and welfare measures (see also SHW 1.2).<br>· Required qualifications, licences, permits, vaccinations, etc.<br>· Storage and disposal techniques for chemical/biological waste (see also INV 1.5).<br>· Instruction implementation skills (see also FPC 12).<br>· Record-keeping (see also RAM 1.1). |
| **SHW 1.5** | **Conduct the safe capture, handling and marking of individuals.** | · Following safe, humane and legal species-specific protocols, under the supervision of qualified personnel.<br>· Ensuring stress, injury and disease transmission is minimised.<br>· Capturing techniques include darting, trapping, hand collecting, netting, etc.<br>· Handling techniques could include ringers grip, handling cones, snake hook, fish landing mat, handling vials, etc.<br>· Marking techniques could include tagging (e.g. ear, flipper, VIE, PIT, radio/satellite tagging), engraving, ringing/banding, microchipping, tattooing, clipping (fur, toes, ear), etc.<br>· Ensuring all required vaccinations are obtained by handlers. | · Biology and behaviour of focal species.<br>· Legal, safe and humane techniques.<br>· Species health and welfare measures (see also SHW 1.2).<br>· Required qualifications, licences, permits, vaccinations, etc.<br>· Instruction implementation skills (see also FPC 12). |

# GROUP B
# THREATENED SPECIES RECOVERY

**Applying specialist technical skills to threatened species management**

## SUBGROUP PEOPLE AND BEHAVIOUR

Indirect threatened species recovery practices through human behavioural change

# CATEGORY AWA: AWARENESS AND EDUCATION

Ensuring that programme stakeholders, decision-makers and the wider public are aware of the need for, and benefits of, threatened species recovery

| AWA. LEVEL 4 | Promote (inter)national awareness and education of threatened species recovery, its purpose and values | | |
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| **CODE** | **COMPETENCE STATEMENT**<br>***The individual should be able to:*** | **RANGE STATEMENT**<br>***A brief explanation of the competence.*** | **KNOWLEDGE REQUIREMENTS**<br>***Main specific knowledge requirements for the competence.*** |
| **AWA 4.1** | **Promote (inter) national awareness and understanding of threatened species recovery and its values.** | · Explaining, representing and maintaining the profile of TSR on an (inter) national level (e.g. events, media work, conferences, policy forums, campaigns, etc.).<br>· Coordinating national awareness campaigns focusing on TSR and behavioural change interventions, where relevant.<br>· Establishing mechanisms for dialogue and information exchange between all relevant sectors and stakeholders.<br>· Presenting detailed arguments and justifications for support of TSR programmes. | · Details of the TSR system.<br>· Relevant stakeholders to TSR management.<br>· (Inter)national opportunities and for awareness raising.<br>· Media communication techniques (see also TEC 2.5).<br>· Communication and collaboration skills (see also CAC 4.1, CAC 4.2, FPC 04).<br>· Developing initiatives and partnerships (see also PSP 4.2). |
| **AWA 4.2** | **Promote the inclusion of threatened species recovery and biodiversity issues in educational curricula.** | · Facilitating access by educational authorities to information and materials for curriculum development.<br>· Promoting development of university and college courses and curricula in applied conservation and TSR management.<br>· Promoting the inclusion within all relevant sectors and levels (e.g. age, ability, qualifications, etc.). | · Structure and functioning of the educational sector.<br>· Requirements for developing educational curricula and programmes.<br>· Techniques for justice, equity, diversity and inclusion (JEDI) (see also FPC 07).<br>· Communication and collaboration skills (see also CAC 4.1, CAC 4.2). |
| **AWA 4.3** | **Influence the direction of (inter) national initiatives for improving awareness of threatened species recovery and associated education measures.** | · Making a significant and recognised contribution internationally to initiatives for improving education and awareness within TSR (e.g. through publication of specialist guidance, conference presentations, provision of high level training, etc.).<br>· Initiating and promoting international reports and publications. | · Species status, ecology, threats and conservation requirements.<br>· (Inter)national socio-political context of the species.<br>· Relevant (inter)national agreements, conventions, initiatives, etc.<br>· Relevant recognised best practice examples for TSR programmes.<br>· Communication within high level meetings (see also CAC 4.2, CAC 4.3).<br>· Methods of participation (see also APC 07). |

| AWA. LEVEL 3 | Direct the development and implementation of an awareness and education strategy for threatened species recovery | | |
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| **CODE** | **COMPETENCE STATEMENT**<br>***The individual should be able to:*** | **RANGE STATEMENT**<br>***A brief explanation of the competence.*** | **KNOWLEDGE REQUIREMENTS**<br>***Main specific knowledge requirements for the competence.*** |
| **AWA 3.1** | **Direct the development of an outreach and educational strategy for a threatened species recovery programme.** | · Developing a justified strategy for a diverse programme of awareness, interpretational and educational activities, in line with existing TSR programmes and recognised best practice guidelines.<br>· Directing the specification, planning, design and implementation (e.g. themes and messages, target groups, providers, methods, etc.).<br>· Collaborating with stakeholders, sectors, external bodies, etc. to ensure the strategy is effective and inclusive and incorporates cross-learning programmes.<br>· Identifying behavioural change techniques to support strategies at a broader scale.<br>· Ensuring evaluation of the impact and effectiveness of the programmes. | · Details of focal groups for outreach and education.<br>· Principles and practices of awareness raising and social marketing.<br>· Recognised best practice guidelines.<br>· Existing outreach or educational programmes/action plans.<br>· Behavioural change theory.<br>· Communication and collaboration skills (see also CAC 3.2, CAC 3.3).<br>· Review and adaptive management techniques (see also PSP 3.4). |
| **AWA 3.2** | **Direct the design, production and deployment of awareness-raising and educational materials.** | · Working with specialists to develop a unique image and brand for the TSR programme (e.g. an image, logo, theme, etc.).<br>· Working with designers to produce attractive and effective interpretive, awareness and engagement materials (e.g. digital/social media, leaflets, posters, displays, audio-visual installations, etc.).<br>· Overseeing development of concepts, scripts, designs, drafts, etc. and the production of materials.<br>· Collaborating with programme stakeholders and relevant sectors to create and disseminate/circulate materials.<br>· Ensuring evaluation of the impact and effectiveness of the materials. | · Principles and practices for effective design of communication materials.<br>· Eco-friendly and culturally appropriate design techniques (see also FPC 07).<br>· Media communication techniques (see also TEC 2.4).<br>· Written communication skills (see also CAC 2.5).<br>· Communication and collaboration skills (see also CAC 3.2, CAC 3.3).<br>· Review and adaptive management techniques (see also PSP 3.4). |

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| **AWA 3.3** | **Direct the design, production and deployment of educational or awareness-raising facilities and installations.** | · Working with programme teams, stakeholders, Indigenous peoples and with local communities to specify the function, content and layout of facilities and installations.<br>· Working with designers and architects to design facilities and installations, where required (e.g. education centres, interactive areas or exhibits, learning hubs, etc.<br>· Working with specialists to develop digital content, where required.<br>· Overseeing the construction of facilities and installations.<br>· Ensuring evaluation of the impact and effectiveness of facilities and installations. | · Principles and practices for effective design of educational facilities and installations.<br>· Eco-friendly and culturally appropriate design techniques (see also FPC 07).<br>· Rights and needs of IPs and of LCs (see also PEO 3.1, PEO 3.2).<br>· Procedures for external contracts (see also FRM 3.5).<br>· Small-scale construction techniques (see also FLD 2.3).<br>· Communication and collaboration skills (see also CAC 3.2, CAC 3.3).<br>· Review and adaptive management techniques (see also PSP 3.4). |
| **AWA 3.4** | **Direct the design and implementation of local issues-based/advocacy campaigns.** | · Identifying topics, issues, target audiences and messages for campaigns.<br>· Designing and coordinating campaigns involving a range of media/social media and techniques.<br>· Collaborating with programme stakeholders and relevant sectors.<br>· Ensuring evaluation of the impact and effectiveness of the programmes. | · Major threats and issues related to the TSR.<br>· Campaigning techniques and approaches.<br>· Online communication tools (see also TEC 2.5).<br>· Communication and collaboration skills (see also CAC 3.2, CAC 3.3, CAC 2.4).<br>· Review and adaptive management techniques (see also PSP 3.4). |

| AWA. LEVEL 2 | Plan, lead and report on the delivery of awareness-raising and educational activities using appropriate methods and media | | |
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| **CODE** | **COMPETENCE STATEMENT**<br>***The individual should be able to:*** | **RANGE STATEMENT**<br>***A brief explanation of the competence.*** | **KNOWLEDGE REQUIREMENTS**<br>***Main specific knowledge requirements for the competence.*** |
| **AWA 2.1** | **Plan, lead and report on interpretive, awareness and educational programmes.** | · Developing and leading an appropriate, diverse and effective range of interpretive, awareness and educational messages and activities based on the outreach and educational strategy.<br>· Collaborating with all relevant stakeholders, programme personnel, local communities, etc.<br>· Supervising and building capacity of awareness personnel.<br>· Managing and maintaining awareness facilities and tools (e.g. social media, visitor centres, museums, interpretive trails, etc.).<br>· Monitoring and evaluating the impact and effectiveness of interventions. | · Details of focal groups for awareness and education.<br>· Interpretation, education and awareness techniques.<br>· Facility and tool maintenance (see also FLD 2.4, FRM 2.2).<br>· Online communication tools (see also TEC 2.5).<br>· Line management techniques (see also PER 2.3).<br>· Communication and collaboration skills (see also CAC 2.1, CAC 2.2).<br>· IP and LC participation skills (see also PEO 2.7).<br>· Programme implementation skills (see also PSP 2.2).<br>· Monitoring and evaluation techniques (see also PSP 2.3). |
| **AWA 2.2** | **Plan and lead 'person-to-person' awareness and engagement events.** | · Planning, organising and overseeing events based on the outreach and educational strategy (e.g. design, budgeting, marketing, logistics, personnel, advertising, insurance, etc.).<br>· Collaborating with stakeholders, specialists, local communities, etc. where required.<br>· Preparing required 'props', audio-visual aids and other materials.<br>· Monitoring and evaluating the impact and effectiveness of events.<br>· Events could include lectures, talks, guided walks, stalls at larger events, conferences, meetings, open days, etc. | · Principles and practices for event planning and management.<br>· Details of focal groups for awareness and engagement.<br>· Awareness and engagement activities.<br>· Verbal presentation skills (see also CAC 2.3, TEC 2.1).<br>· Communication and collaboration skills (see also CAC 2.1, CAC 2.2).<br>· IP and LC participation skills (see also PEO 2.7).<br>· Programme implementation skills (see also FRM 2.1, PSP 2.2).<br>· Monitoring and evaluation techniques (see also PSP 2.3). |
| **AWA 2.3** | **Plan, draft and oversee production of exhibits and signage.** | · Developing concepts and content for exhibits and signs based on the outreach and educational strategy (e.g. panels, educational displays, live cameras, films, touch screen displays, interactive exhibits, etc.).<br>· Drafting and editing suitable text and content (e.g. graphics, photos, videos, etc.).<br>· Working with designers and printers/producers on the design, build and installation of the finished product.<br>· Operating and maintaining exhibits.<br>· Monitoring and evaluating the impact and effectiveness of installations. | · Principles and practices for exhibit and sign development.<br>· Details of focal groups for exhibits and signs.<br>· Principles of educational writing and media content (see also CAC 2.4).<br>· Operation and maintenance of technological exhibits (see also TEC 2.5).<br>· Communication skills (see also CAC 2.2).<br>· Monitoring and evaluation techniques (see also PSP 2.3). |

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| **AWA 2.4** | **Manage and maintain internet and social media presence for the threatened species recovery programme.** | · Maintaining and updating online presence for the TSR programme, outreach and education programmes or specific events (e.g. TSR programme updates, news, talks, courses, guided walks, etc.).<br>· Collaborating with personnel, stakeholders, local communities, etc. to source and promote media events.<br>· Interacting effectively with the target audience and users.<br>· Working with specialists, where required, to design and develop websites, social media pages, blogs, etc.<br>· Monitoring and evaluating the impact and effectiveness of activities. | · Details of the TSR programme and associated events.<br>· Details of focal groups for media and outreach.<br>· Principles of writing for media content (see also CAC 2.4).<br>· Online communication tools (see also TEC 2.5).<br>· Communication and collaboration skills (see also CAC 2.1, CAC 2.2).<br>· IP and LC participation skills (see also PEO 2.7).<br>· Monitoring and evaluation techniques (see also PSP 2.3). |
| **AWA 2.5** | **Work with media outlets to communicate information and stories about the threatened species recovery programme.** | · Identifying stories, messages and opportunities (e.g. ex-situ breeding success, in-situ releases, emerging threats, illegal trade, fundraising campaigns, citizen science campaigns, etc.).<br>· Disseminating information for the media (e.g. press releases, online announcements, etc.).<br>· Organising events and conducting interviews with media groups (e.g. press, radio, TV interviews, film, etc.).<br>· Collaborating with internal communication teams for social media coverage (e.g. webinars, live broadcasts, live cameras, videos, etc.).<br>· Monitoring and evaluating the impact and effectiveness of media events. | · Details of the TSR programme and associated events.<br>· Relevant media outlets for target audiences.<br>· Internal social media platforms (see also AWA 2.4).<br>· Principles of writing for media content (see also CAC 2.4).<br>· Verbal communication skills (see also CAC 2.3).<br>· Communication and collaboration skills (see also CAC 2.1, CAC 2.2).<br>· IP and LC participation skills (see also PEO 2.7).<br>· Monitoring and evaluation techniques (see also PSP 2.3). |

| AWA. LEVEL 1 | Conduct face-to-face awareness-raising and education activities | | |
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| **CODE** | **COMPETENCE STATEMENT**<br>***The individual should be able to:*** | **RANGE STATEMENT**<br>***A brief explanation of the competence.*** | **KNOWLEDGE REQUIREMENTS**<br>***Main specific knowledge requirements for the competence.*** |
| **AWA 1.1** | **Engage effectively with different audiences using a variety of information delivery techniques.** | · Providing verbal explanations to the public and stakeholders about a TSR programme (e.g. values, functions, culture, regulations, importance, etc.).<br>· Collating media/social media content throughout working activities (e.g. photographs, videos, quotes, etc.).<br>· Responding appropriately to questions.<br>· Participating in media/social media coverage, where required.<br>· Assisting in the development/creation of new or alternative forms of communication. | · Focal species and overall TSR programme.<br>· Online communication tools (see also TEC 1.2).<br>· Basic communication techniques (see also CAC 1.1, FPC 04).<br>· Skills for communicating ideas (see also APC 07, FPC 01). |
| **AWA 1.2** | **Conduct outreach and extension activities with local communities.** | · Working under supervision on practical joint implementation of outreach and extension activities with Indigenous peoples and with local communities.<br>· Relevant activities include basic surveys, education, sustainable use, agriculture techniques, construction of infrastructure, health and welfare, etc.<br>· Working in a participatory, inclusive and sensitive manner.<br>· Recording and reporting on activities and results. | · Diversity of IP, LCs and cultures.<br>· Local customs, traditions, languages, practices, etc. (see also FPC 07, FPC 11).<br>· Communication skills (see also CAC 1.1, FPC 04).<br>· Culturally sensitive communication skills (see also PEO 1.1).<br>· Record-keeping (see also RAM 1.1). |

# CATEGORY PEO:
# PEOPLE, COMMUNITIES AND CULTURES

**Ensure knowledge, rights and needs of Indigenous peoples and of local communities are integrated in threatened species recovery practice, policy and programmes**

| PEO. LEVEL 4 | Promote knowledge, rights and needs of Indigenous peoples and of local communities in threatened species recovery practice and policy | | |
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| **CODE** | **COMPETENCE STATEMENT**<br>***The individual should be able to:*** | **RANGE STATEMENT**<br>***A brief explanation of the competence.*** | **KNOWLEDGE REQUIREMENTS**<br>***Main specific knowledge requirements for the competence.*** |
| **PEO 4.1** | **Coordinate (inter) national cross-sectoral initiatives and collaborations to ensure full consideration of Indigenous peoples and of local communities in threatened species recovery policies and initiatives.** | · Ensuring informed consideration of Indigenous peoples' and of local communities' knowledge, needs and rights in TSR policies and planning processes<br>· Promoting adoption of the principles of free prior informed consent, access and benefit sharing.<br>· Promoting compliance with (inter)national conventions and other agreements. | · Relevant policy and legislation.<br>· Relevant (inter)national conventions and agreements.<br>· Main individuals/organisations representing IPs and LCs.<br>· Relationships between IPs, LCs and TSR programmes (see also FPC 07).<br>· Participation and good governance techniques (see also PSP 3.6).<br>· Communication and collaboration skills (see also CAC 4.1)<br>· Developing initiatives and partnerships (see also PSP 4.2). |
| **PEO 4.2** | **Influence the direction of (inter)national initiatives for improving engagement of Indigenous peoples and of local communities in threatened species recovery.** | · Making a significant and recognised contribution (inter)nationally to the positive engagement of Indigenous peoples and of local communities in TSR (e.g. through publication of specialist guidance, active membership of an IUCN specialist group, conference presentations, provision of high level training, etc.).<br>· Initiating and promoting international reports and publications. | · Species status, ecology, threats and conservation requirements.<br>· (Inter)national socio-political context of the species.<br>· Relevant (inter)national agreements, conventions, initiatives, etc.<br>· Relevant recognised best practice examples for TSR programmes.<br>· Communication within high level meetings (see also CAC 4.2, CAC 4.3).<br>· Methods of participation (see also APC 07). |

| PEO. LEVEL 3 | Direct the integration of the knowledge, rights and needs of Indigenous people and of local communities in threatened species recovery programmes | | |
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| **CODE** | **COMPETENCE STATEMENT**<br>***The individual should be able to:*** | **RANGE STATEMENT**<br>***A brief explanation of the competence.*** | **KNOWLEDGE REQUIREMENTS**<br>***Main specific knowledge requirements for the competence.*** |
| **PEO 3.1** | **Ensure that threatened species recovery programme proposals and plans respect policies and agreements and the rights and knowledge of Indigenous people and of local communities.** | · Ensuring personnel are aware of and observe the rights of Indigenous peoples and of local communities and relevant policies and agreements (e.g. free prior informed consent).<br>· Acknowledging and making use of traditional knowledge, experience, management practices, decision making, etc.<br>· Supporting the fair and equitable sharing of benefits arising from the use of genetic resources (access and benefit sharing).<br>· Taking appropriate action to prevent and address problems and incidents.<br>· Encouraging a sense of ownership, responsibility and benefit from actions that support TSR. | · Relevant policies, laws and regulations affecting IPs and LCs.<br>· Specific rights and agreements of IPs and of LCs.<br>· Culture and cultural practices of IPs and of LCs.<br>· Traditional beliefs and concepts of IPs and of LCs.<br>· Participation and good governance techniques (see also PSP 3.6).<br>· Communication and collaboration skills (see also CAC 3.2, CAC 3.3, FPC 07).<br>· Resolving disputes and conflicts (see also CAC 3.4). |
| **PEO 3.2** | **Co-develop strategies with Indigenous peoples and with local communities for their engagement in threatened species recovery programmes.** | · Identifying needs, opportunities and mechanisms for building support for the TSR programmes.<br>· Identifying the means for participation by Indigenous peoples and by local communities in TSR programmes (e.g. meetings, workshops, planning, decision-making, monitoring, etc.).<br>· Negotiating and planning agreements for specific mechanisms (e.g. access benefit sharing, incentives, etc.).<br>· Communicating the strategy between all TSR personnel and local stakeholders.<br>· Reviewing the strategy and collaboratively adapting approaches. | · Relevant policies, laws and regulations affecting IPs and LCs.<br>· Rights, priorities and needs of IPs and of LCs.<br>· Recognised best practice guidelines.<br>· Participation and good governance techniques (see also PSP 3.6).<br>· Collaboration and stakeholder engagement skills (see also CAC 3.2, CAC 2.1).<br>· Communication skills (see also CAC 3.3, FPC 07).<br>· Negotiation skills (see also CAC 3.4, DDR 3.4).<br>· Resolving disputes and conflicts (see also CAC 3.4).<br>· Review and adaptive management techniques (see also PSP 3.4). |
| **PEO 3.3** | **Facilitate sustainable development interventions with Indigenous peoples and with local communities.** | · Promoting development activities for and by Indigenous peoples and by local communities that are compatible with TSR programme objectives.<br>· Supporting communities to access assistance, support and finance for development projects, enterprise development, alternative livelihoods, etc.<br>· Promoting and enabling the establishment of local networks and organisations to lead the sustainable use of resources, ensuring agreements are linked to TSR programme objectives.<br>· Incorporating plans into the overall management strategy for a TSR.<br>· Reviewing the strategy and collaboratively adapting approaches. | · Rights, priorities and needs of IPs and of LCs.<br>· Recognised best practice guidelines.<br>· Sources of development assistance and support for IPs and LCs.<br>· Customary practices and decision-making processes.<br>· Participation and good governance techniques (see also PSP 3.6).<br>· One-plan approach to conservation management (see also PSP 3.2).<br>· Communication and collaboration skills (see also CAC 3.2, CAC 3.3, FPC 07).<br>· Negotiation skills (see also CAC 3.4, DDR 3.4).<br>· Review and adaptive management techniques (see also PSP 3.4). |

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| **PEO 3.4** | **Facilitate strategies to prevent and resolve wildlife conflict.** | · Identifying and understanding conflict issues and their causes (e.g. human-wildlife impacts, human-human conflicts, etc.).<br>· Working with those affected to develop practical and sustainable solutions to wildlife impacts (e.g. compensation schemes, fencing, farming practices, etc.).<br>· Facilitating the identification of mutually beneficial and sustainable solutions to conflict (e.g. allow access, enable traditional practices, access benefit sharing, incentive schemes, etc.).<br>· Encouraging activities that support people's livelihoods alongside wildlife (e.g. certification schemes, alliances, wildlife branding on products, jobs within TSR programmes, etc.).<br>· Accounting for capacity requirements, risks and sustainability of solutions.<br>· Reviewing the strategy and collaboratively adapting interventions. | · Rights, priorities and needs of IPs and of LCs.<br>· Conflicts and threats affecting the focal species (see also PEO 3.5).<br>· Recognised best practice guidelines (e.g. IUCN SSC Guidelines on Human-Wildlife Conflict and Coexistence).<br>· Relevant policies, laws and regulations affecting IPs and LCs.<br>· One-plan approach to conservation management (see also PSP 3.2).<br>· Participation and good governance techniques (see also PSP 3.6).<br>· Communication and collaboration skills (see also CAC 3.2, CAC 3.3, FPC 07).<br>· Negotiation skills (see also CAC 3.4, DDR 3.4).<br>· Resolving disputes and conflicts (see also CAC 3.4, PEO 3.5).<br>· Review and adaptive management techniques (see also PSP 3.4). |
| **PEO 3.5** | **Facilitate strategies to develop and maintain good relations between Indigenous people or local communities and threatened species recovery programmes.** | · Conducting consultations with Indigenous peoples and with local communities to identify perspectives and potential conflict areas.<br>· Evaluating socioeconomic impacts of the TSR programme or species and alternative management options.<br>· Facilitating the development of solutions with indigenous peoples and with local communities.<br>· Reviewing and collaboratively adapting solutions. | · Participation and good governance techniques (see also PSP 3.6).<br>· Communication and collaboration skills (see also CAC 3.2, CAC 3.3, FPC 07).<br>· Facilitation techniques (see also CAC 2.5).<br>· Socioeconomic research techniques (see also RAM 2.4).<br>· Resolving disputes and conflicts (see also CAC 3.4).<br>· Review and adaptive management techniques (see also PSP 3.4). |
| **PEO 3.6** | **Advocate for and support the development of official local regulations and by-laws relating to sustainable local natural resource use and rights.** | · Consulting over the need for and potential impact of local regulations and by-laws.<br>· Researching the local legal and regulatory framework.<br>· Assisting the drafting of and obtaining approval for local rules and regulations (where possible) with appropriate authorities. | · Rights, priorities and needs of IPs and of LCs.<br>· Relevant policies, laws and regulations affecting IPs and LCs.<br>· Procedures for developing, passing and imposing local regulations, by-laws, etc. (see also PSP 4.1).<br>· Upholding local and traditional laws, rules and regulations (see also UHL 3.3). |

| PEO. LEVEL 2 | Plan, lead and report on the practical implementation of measures for the engagement of Indigenous peoples and of local communities in threatened species recovery programmes | | |
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| **CODE** | **COMPETENCE STATEMENT**<br>***The individual should be able to:*** | **RANGE STATEMENT**<br>***A brief explanation of the competence.*** | **KNOWLEDGE REQUIREMENTS**<br>***Main specific knowledge requirements for the competence.*** |
| **PEO 2.1** | **Facilitate the establishment of community or traditional regulations for activities in threatened species recovery.** | · Consulting with Indigenous peoples and with local communities over the need for local rules and regulations.<br>· Facilitating the need for or reinstating of community regulations (e.g. traditional, cultural, religious, taboo, etc.).<br>· Developing methods of enforcing community regulations.<br>· Securing recognition of these regulations by authorities. | · Rights, priorities and needs of IPs and of LCs.<br>· Relevant policies, laws and regulations affecting IPs and LCs.<br>· Upholding local and traditional laws, rules and regulations (see also UHL 3.3). |
| **PEO 2.2** | **Collaboratively plan, lead and report on wildlife conflict mitigation actions.** | · Working with those affected to implement agreed, practical and sustainable solutions to wildlife impacts and conflict in line with strategies and recognised best practice guidelines (e.g. exclusion, deterrence, capture, relocation, culling, etc.).<br>· Working with local authorities and sectors to manage land use planning, livestock management, encroachment, etc. alongside TSR programmes.<br>· Enabling community engagement and awareness and education campaigns.<br>· Monitoring and evaluating the impact and effectiveness of interventions. | · Conflicts and threats affecting the focal species.<br>· Programme implementation skills (see also PSP 2.2).<br>· Conservation translocation/relocation techniques (see also CTR 2)<br>· Species exclusion/culling techniques (see also INV 1.2 - INV 1.4).<br>· Communication and collaboration skills (see also CAC 2.1, CAC 2.2, FPC 07).<br>· Campaigning techniques (see also AWA 3.4).<br>· Awareness and education techniques (see also AWA 2.1).<br>· Community engagement techniques (see also AWA 2.2; PEO 2.6).<br>· Monitoring and evaluation techniques (see also PSP 2.3). |
| **PEO 2.3** | **Collaboratively plan, lead and report on incentive schemes.** | · Working with those affected to mobilise non-monetary incentives to reduce species demand and reduce conflict (e.g. providing education, creating infrastructure, strengthening cultural traditions, etc.).<br>· Working with those affected to mobilise monetary incentives to reduce species demand and reduce conflict (e.g. subsidies, informing on species use, preventing indirect damage, releasing bi-catch, etc.).<br>· Compensating those affected for losses incurred by conflict species, according to fair and transparent procedures.<br>· Mobilising schemes in line with wildlife conflict strategies.<br>· Monitoring and evaluating the impact and effectiveness of schemes. | · Conflicts and threats affecting the focal species.<br>· Principles and practices of incentive schemes.<br>· Principles and practices of compensation schemes.<br>· Communication and collaboration skills (see also CAC 2.1, CAC 2.2, FPC 07).<br>· Programme implementation skills (see also PSP 2.2).<br>· Monitoring and evaluation techniques (see also PSP 2.3). |

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| **PEO 2.4** | **Collaboratively plan, lead and report on alternative livelihood and resource schemes.** | · Working with those affected to implement initiatives for alternative livelihoods (e.g. farming, ecotourism, rangers, etc.) or resource use (e.g. alternative food sources, fuel-efficient/paraffin stoves, commercial medicines, etc.).<br>· Supporting the sourcing and/or provision of training and resources.<br>· Collaborating with Indigenous peoples and with local communities when implementing all initiatives to ensure mutually beneficial solutions.<br>· Conducting awareness campaigns to educate end users about the impacts of trade/persecution and alternative options available.<br>· Monitoring and evaluating the impact and effectiveness of schemes. | · Ecology and exploitation of or conflict with focal species.<br>· Rights, priorities and needs of IPs and of LCs.<br>· Principles and practices to alternative livelihoods and resources.<br>· Programme implementation skills (see also PSP 2.2).<br>· Communication and collaboration skills (see also CAC 2.1, CAC 2.2, FPC 07).<br>· Resource requirements (see also FRM 2.1).<br>· Training techniques (see also PER 2.7).<br>· Awareness and education techniques (see also AWA 2.1).<br>· Campaigning techniques (see also AWA 3.4).<br>· Monitoring and evaluation techniques (see also PSP 2.3). |
| **PEO 2.5** | **Provide practical support and advice for local sustainable use programmes.** | · Providing advice on and equipment for sustainable practices (e.g. fishing, farming, bushmeat hunting, firewood collection, using bi-catch, etc.).<br>· Supporting the implementation of approved quota levels for larger industries, based on research findings.<br>· Assisting the adoption of certification systems for sustainable sources or industry practices (e.g. farming, mining, fishing, pet trade, food, etc.).<br>· Collaborating with Indigenous people and with local communities when implementing all initiatives to ensure mutually beneficial solutions.<br>· Conducting awareness campaigns for encouraging sustainable practices and educating end users about sustainable options.<br>· Monitoring and evaluating the impact and effectiveness of schemes. | · Ecology and use of focal species by industries, IPs and LCs.<br>· Rights, priorities and needs of IPs and of LCs.<br>· Principles and practices for sustainable use.<br>· Certification schemes available.<br>· Communication and collaboration skills (see also CAC 2.1, CAC 2.2, FPC 07).<br>· Awareness and education techniques (see also AWA 2.1).<br>· Campaigning techniques (see also AWA 3.4).<br>· Monitoring and evaluation techniques (see also PSP 2.3). |
| **PEO 2.6** | **Facilitate and support establishment of community action projects.** | · Enabling access for communities to specialist knowledge, advice and support (e.g. education, training, funding/credit, equipment, affiliations, etc.).<br>· Supporting the establishment of compatible activities identified by/with Indigenous peoples and with local communities.<br>· Aligning projects with overall TSR programme and existing strategies.<br>· Monitoring and evaluating the impact and effectiveness of projects. | · Range of potential sources of assistance, funding, resources, etc.<br>· Rights, priorities and needs of IPs and of LCs.<br>· Project development skills (see also PSP 2.1, RAM 2.2).<br>· One-plan approach to conservation management (see also PSP 3.2).<br>· Participation and encouragement skills (see also APC 07 - APC 09).<br>· Communication and collaboration skills (see also CAC 2.1, CAC 2.2, FPC 07).<br>· Monitoring and evaluation techniques (see also PSP 2.3). |

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| **PEO 2.7** | **Maintain productive and equitable working relationships with Indigenous peoples and with local communities.** | · Maintaining regular formal and informal contact with Indigenous peoples and with local communities.<br>· Building and maintaining constructive working relationships with local leaders and influential people.<br>· Understanding and addressing differences of opinion and potential conflicts.<br>· Participating actively and constructively in meetings, workshops and community events.<br>· Coordinating and facilitating community engagement activities and events. | · Rights, priorities and needs of IPs and of LCs.<br>· Relevant policies, laws and regulations affecting IPs and LCs.<br>· Transparency and participation skills (see also APC 07).<br>· Communication and collaboration skills (see also CAC 2.1, CAC 2.2, FPC 07).<br>· Facilitation skills (see also CAC 2.5).<br>· Organising engagement events (see also AWA 2.2).<br>· Identifying and resolving disputes and conflicts (see also CAC 2.6). |
| **PEO 2.8** | **Harness and support the cultural identity and traditional knowledge and practices of Indigenous peoples and of local communities.** | · Acknowledging and making use of traditional knowledge, experience, forms of management and decision making, etc.<br>· Proactively encouraging and supporting local traditional practices compatible with TSR objectives. | · Culture and cultural practices of IPs and of LCs.<br>· Traditional beliefs and concepts of IPs and of LCs.<br>· Sensitivities of IPs and of LCs local communities with respect to traditional knowledge.<br>· Communication skills (see also CAC 2.2).<br>· Techniques in awareness and sensitivity (see also FPC 07). |

| PEO. LEVEL 1 | Engage appropriately with Indigenous peoples and with local communities | | |
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| **CODE** | **COMPETENCE STATEMENT**<br>***The individual should be able to:*** | **RANGE STATEMENT**<br>***A brief explanation of the competence.*** | **KNOWLEDGE REQUIREMENTS**<br>***Main specific knowledge requirements for the competence.*** |
| **PEO 1.1** | **Communicate and interact appropriately with Indigenous peoples and with local communities.** | · Demonstrating awareness of and sensitivity to local cultures and practices.<br>· Complying with policies and guidance on relations with Indigenous peoples and with local communities.<br>· Providing information about the TSR programme, its functions, regulations and approaches for working with Indigenous peoples and with local communities.<br>· Demonstrating awareness of and sensitivity to cultural issues in all aspects of work. | · Policies, regulations and actions of TSR affecting local people.<br>· Diversity of local stakeholders, communities and cultures.<br>· Local customs, rules, traditions, languages, practices, livelihoods (see also FPC 11.)<br>· Communication skills (see also CAC 1.1).<br>· Techniques in awareness and sensitivity (see also FPC 07). |

# CATEGORY UHL:
# UPHOLDING LAWS AND REGULATIONS

Ensuring that laws, regulations and rights affecting threatened species recovery are upheld

| UHL. LEVEL 4 | Promote the establishment of (inter)national policy and legal frameworks for reducing illegal activity | | |
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| **CODE** | **COMPETENCE STATEMENT**<br>***The individual should be able to:*** | **RANGE STATEMENT**<br>***A brief explanation of the competence.*** | **KNOWLEDGE REQUIREMENTS**<br>***Main specific knowledge requirements for the competence.*** |
| **UHL 4.1** | **Coordinate development and implementation of standards and operating procedures for law enforcement, crime prevention and security in threatened species recovery.** | · Working with law enforcement authorities, directors, managers and stakeholders to identify and develop priorities, strategies and approaches.<br>· Developing norms, standards and operating procedures and ensuring that programmes adopt them.<br>· Ensuring that responses to illegal activities are legal, appropriate and ethical.<br>· Allocating adequate resources, training and support for law enforcement and TSR personnel. | · Major threats to focal species and their sources and root causes.<br>· Relevant policy, law and regulations.<br>· Principles and practice of law enforcement and security operations.<br>· Techniques for developing standards (see also PSP 4.1).<br>· One-plan approach to conservation management (see also PSP 4.2).<br>· Communication and collaboration skills (see also CAC 4.1).<br>· Identifying organisational capacity needs (see also PSP 4.3). |
| **UHL 4.2** | **Coordinate law enforcement strategies and operations with other agencies.** | · Working with the judiciary and with (inter)national agencies for law enforcement and security to enforce legislation regarding TSR.<br>· Establishing mechanisms for law enforcement collaboration (e.g. sharing of intelligence, coordinated international operations, etc.).<br>· Establishing mechanisms for (inter)national and transboundary cooperation.<br>· Other agencies may include organisations, police, border guards, military and security services, etc. (e.g. TRAFFIC, INTERPOL, etc.). | · National law enforcement and security agencies and their mandates and responsibilities.<br>· (Inter)national initiatives, agreements and conventions.<br>· One-plan approach to conservation management (see also PSP 4.2).<br>· Information and data sharing techniques (see also DDR 3.2).<br>· Communication and collaboration skills (see also CAC 4.1, CAC 4.2). |
| **UHL 4.3** | **Influence the direction of (inter)national initiatives for policy, legal or enforcement responses to major threats affecting threatened species recovery.** | · Actively participating in (inter)national initiatives or groups (e.g. IUCN SSC Specialist Groups, CITES, global reviews or strategies, conference presentations, provision of high level training, etc.).<br>· Promoting the role of appropriately controlled and regulated wildlife and environmental crime for TSR on an (inter)national platform (e.g. conference presentations).<br>· Initiating and promoting international reports and publications. | · Species status, ecology, threats and conservation requirements.<br>· (Inter)national socio-political context of the species.<br>· Relevant (inter)national agreements, conventions, initiatives, etc.<br>· Initiating and promoting international reports and publications.<br>· Communication within high level meetings (see also CAC 4.2, CAC 4.3).<br>· Methods of participation (see also APC 07). |

| UHL. LEVEL 3 | Direct the development and implementation of programmes for crime prevention, law enforcement and compliance | | |
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| **CODE** | **COMPETENCE STATEMENT**<br>***The individual should be able to:*** | **RANGE STATEMENT**<br>***A brief explanation of the competence.*** | **KNOWLEDGE REQUIREMENTS**<br>***Main specific knowledge requirements for the competence.*** |
| **UHL 3.1** | **Coordinate analyses of law enforcement, compliance, crime prevention and security issues affecting threatened species.** | · Reviewing current policies and legislation related to environmental crime and law enforcement.<br>· Reviewing and analysing system-wide threats and trends related to law enforcement (e.g. organised environmental crime, international wildlife trade, etc.).<br>· Conducting security and threat assessments for the focal species identifying those involved (e.g. perpetrators, beneficiaries, victims, etc.).<br>· Reviewing and analysing system-wide results of law enforcement and compliance activities.<br>· Identifying patterns, trends, successes and challenges. | · (Inter)national initiatives and agreements to combat wildlife and environmental crime.<br>· Relevant policies and practices for upholding laws and regulations.<br>· Security assessment methods.<br>· Species threat assessment techniques (see also RAM 3.3).<br>· Literature review techniques (see also RAM 3.5). |
| **UHL 3.2** | **Direct the development of strategies for threatened species crime prevention and law enforcement.** | · Developing a justified strategy and standard operating procedures for crime prevention and law enforcement activities, in line with recognised best practice guidelines, intelligence and existing measures.<br>· Collaborating with stakeholders, Indigenous peoples and local communities to engage with and support crime prevention and law enforcement.<br>· Ensuring that law enforcement personnel (staff or community participants) understand their roles and are adequately and appropriately trained, equipped and supported.<br>· Ensuring that law enforcement activities are professionally and responsibly led, conducted and documented.<br>· Reviewing the strategy and adapting management. | · Main security threats to the focal species (see also UHL 3.1).<br>· Principles and practices of law enforcement and crime prevention (e.g. problem-orientated policing, situational crime prevention, etc.).<br>· Relevant recognised best practice guidelines.<br>· Relevant policies, laws and regulations.<br>· Planning and prioritisation tools (see also PSP 3.2).<br>· Participation and good governance techniques (see also PSP 3.6).<br>· Communication and collaboration skills (see also CAC 3.2, CAC 3.3, FPC 07).<br>· Rights and needs of IPs and of LCs (see also PEO 3.1, PEO 3.2).<br>· Review and adaptive management techniques (see also PSP 3.4). |
| **UHL 3.3** | **Direct community-based activities to uphold local and traditional laws, rules and regulations and coordinate with official law enforcement activities.** | · Clarifying the scope of local and traditional laws, rules and regulations.<br>· Establishing mandates and limits of authority for community members to act as upholders of laws, rules and regulations.<br>· Establishing collaboration and coordination with official law enforcement agencies.<br>· Establishing appropriate mechanisms for upholding laws, rules and regulations (surveillance, monitoring, awareness raising, traditional beliefs, cultural norms etc.). | · Rights and needs of IPs and of ICs (see also PEO 3.1).<br>· Official local regulations and by-laws (see also PEO 3.6).<br>· Strategy co-development techniques (see also PEO 3.2).<br>· Communication and collaboration skills (see also CAC 3.2, CAC 3.3, FPC 07).<br>· Awareness raising techniques (see also AWA 3.1).<br>· Surveillance and monitoring techniques (see also UHL 1.2). |

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| **UHL 3.4** | **Coordinate law enforcement and security activities with other responsible agencies and with the judiciary.** | · Ensuring coordination of law enforcement related activities with police, military, forest guards, border control, etc.<br>· Enabling active collaboration (e.g. through information sharing, joint patrols, joint investigations, etc).<br>· Ensuring that judiciary are informed about the crime issues related to the species and their impacts.<br>· Contributing to multi-agency law enforcement committees on wildlife and environmental crime and advocating for them. | · Main security threats to the focal species (see also UHL 3.1).<br>· Roles, responsibilities and rights of the various law enforcement agencies and the judiciary.<br>· One-plan approach to management (see also PSP 3.2).<br>· Communication and collaboration skills (see also CAC 3.2, CAC 3.3). |
| **UHL 3.5** | **Direct the development and management of voluntary reporting mechanisms for wildlife crime.** | · Developing mechanisms and standard operating procedures for voluntary reporting (e.g. phone hotlines, mobile apps, informants, etc.).<br>· Developing verification processes for information received.<br>· Ensuring information received is acted on in a timely and appropriate manner.<br>· Supporting personnel working alongside reporting volunteers. | · Relevant Laws and Regulations<br>· Data and information security (see also DDR 3.1, TEC 3.1).<br>· Personnel management techniques (see also PER 3.3).<br>· Communication skills (see also CAC 3.3). |
| **UHL 3.6** | **Direct major investigations into wildlife crime and/or security threats.** | · Directing complex investigations over a long period, including: directing the work of field staff; working with managing volunteer reporting and their security and ensuring their security; collecting and examining a range of intelligence and evidence; liaising with other agencies; identifying and investigating instigators, intermediaries, end-users and trade chains, etc.<br>· Coordinating operations in both physical and online environments.<br>· Ensuring confidentiality and security of operations.<br>· Analysing and preparing reports and recommendations and sharing with relevant stakeholders where appropriate. | · A range of appropriate investigative techniques.<br>· Roles of law enforcement agencies.<br>· Report writing skills (see also DDR 3.3).<br>· Dissemination of results (see also RAM 3.4).<br>· Managing informants (see also UHL 3.5).<br>· One-plan approach to management (see also PSP 3.2).<br>· Personnel and technical security (see also PER 3.3, TEC 3.1).<br>· Communication and collaboration skills (see also CAC 3.2, CAC 3.3, UHL 3.4). |

| UHL. LEVEL 2 | Plan, lead and report on activities for crime prevention, law enforcement and compliance | | |
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| **CODE** | **COMPETENCE STATEMENT**<br>***The individual should be able to:*** | **RANGE STATEMENT**<br>***A brief explanation of the competence.*** | **KNOWLEDGE REQUIREMENTS**<br>***Main specific knowledge requirements for the competence.*** |
| **UHL 2.1** | **Gather information to support law enforcement and security operations in the field.** | · Ensuring that information and evidence are gathered and managed legally and using culturally-sensitive methods.<br>· Ensuring that law enforcement personnel are fully conversant with relevant operating procedures.<br>· Collating and reporting on information and evidence gathered, ensuring security of sensitive data from corruption or information leaks.<br>· Monitoring and evaluating the impact and effectiveness of practices.<br>· Information gathering could include evidence collected from field patrols (e.g. GIS, SMART, etc.), law enforcement data, remote sensing data (e.g. trail cameras, CCTV, etc.), communication with stakeholders, the public, volunteer reporting, etc. | · Relevant standard operating procedures.<br>· Relevant laws and regulations.<br>· Procedures for voluntary reporting (see also UHL 2.5).<br>· Intelligence gathering techniques (see also RAM 2.2, RAM 2.6, TEC 2.4).<br>· Programme implementation skills (see also PSP 2.2).<br>· Relationship building with IPs and LCs (see also PEO 2.7).<br>· Communication and collaboration skills (see also CAC 2.1, CAC 2.2, FPC 07).<br>· Data security techniques (see also DDR 2.3, TEC 2.1).<br>· Report writing skills (see also DDR 2.5).<br>· Monitoring and evaluation techniques (see also PSP 2.3). |
| **UHL 2.2** | **Conduct investigations into wildlife crime and/ or security threats.** | · Gathering evidence using a range of means (e.g. working with volunteer reporting, conducting covert observations, conducting trade chain investigations, etc.).<br>· Collaborating with law enforcement authorities.<br>· Understanding the role of each authority during wildlife and environmental crime investigations.<br>· Monitoring and evaluating the impact and effectiveness of investigations. | · Relevant standard operating procedures.<br>· Relevant laws and regulations.<br>· A range of appropriate investigative techniques.<br>· Roles of law enforcement agencies.<br>· Programme implementation skills (see also PSP 2.2).<br>· Communication and collaboration skills (see also CAC 2.1, CAC 2.2).<br>· Monitoring and evaluation techniques (see also PSP 2.3). |
| **UHL 2.3** | **Plan, lead and report on wildlife crime prevention/law enforcement operations in the field.** | · Coordinating crime prevention/law enforcement operations, either covert or overt (e.g. patrols, inspections, checkpoints, etc.).<br>· Collaborating with stakeholders, authorities, Indigenous peoples and local communities to support operations.<br>· Identifying and managing personnel and/or community participants based on their defined roles and responsibilities.<br>· Ensuring that all involved are fully conversant with the field safely, operation plans, established rules and standard operating procedures.<br>· Monitoring and evaluating the impact and effectiveness of operations. | · Relevant standard operating procedures.<br>· Relevant laws and regulations.<br>· Crime prevention techniques e.g. Structured Crime Prevention.<br>· Programme implementation skills (see also PSP 2.2).<br>· Personnel safety and security procedures (see also PER 2.5).<br>· Partnership building with IPs and LCs (see also PEO 2.7, UHL 2.4).<br>· Communication and collaboration skills (see also CAC 2.1, CAC 2.2, FPC 07).<br>· Monitoring and evaluation techniques (see also PSP 2.3). |

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| **UHL 2.4** | **Work with local communities to resist and prevent illegal activities.** | · Developing contacts and relations with Indigenous peoples and with local communities to cooperate in law enforcement.<br>· Working to identify concerns regarding threats, security and other issues and responding to requests for law enforcement and security support.<br>· Providing information and guidance concerning laws and regulations.<br>· Using a range of 'soft' techniques to encourage and enable behaviour change and cooperation, where required.<br>· Monitoring and evaluating the impact and effectiveness of techniques. | · Relevant laws and regulations.<br>· Threats and issues affecting IPs and LCs.<br>· Rights, priorities and needs of IPs and of LCs (see also PEO 3.1, PEO 3.2).<br>· Behaviour change techniques/schemes (see also PEO 2.3-2.5).<br>· Partnership building with IPs and LCs (see also PEO 2.7).<br>· Communication and collaboration skills (see also CAC 2.1, CAC 2.2, FPC 07).<br>· Monitoring and evaluation techniques (see also PSP 2.3). |
| **UHL 2.5** | **Manage the voluntary reporting of information.** | · Ensuring the safety and anonymity of reporting volunteers is maintained.<br>· Engaging with volunteers to maintain and verify information received.<br>· Ensuring voluntary reporting is conducted within a pre-designed scope of activities.<br>· Following correct procedures for recording information received. | · Relevant standard operating procedures.<br>· Relevant laws and regulations.<br>· Information and data management techniques (DDR 2.3).<br>· Personnel safety and security procedures (see also PER 2.5).<br>· Communication skills (see also CAC 2.2, FPC 04, FPC 07). |
| **UHL 2.6** | **Manage crime scenes and seized evidence using correct procedures.** | · Ensuring that correct procedures are followed for: searches of people, vehicles, property, baggage; securing crime scenes; preserving evidence at the scene; noting and collecting evidence; recording, labelling, storage and retrieval of evidence (written and physical).<br>· Ensuring that law enforcement personnel are fully conversant with relevant operating procedures, laws and court procedures to protect the crime scene, documenting evidence etc. | · Relevant laws and regulations.<br>· Relevant standard operating procedures. |
| **UHL 2.7** | **Process and track legal cases related to violations.** | · Pursuing cases through all the required stages (e.g. formal reporting of events, follow up investigations, collecting further evidence, securing witness testimony, presenting a case, providing formal testimony, etc.).<br>· Collaborating with law enforcement agencies and the judiciary.<br>· Tracking and monitoring local court cases resulting from arrests from or linked to the TSR programme. | · Details of legal processes.<br>· Relevant laws and regulations.<br>· Relevant standard operating procedures.<br>· Communications and collaboration skills (see also CAC 2.1, CAC 2.2). |
| **UHL 2.8** | **Ensure that correct procedures are followed for use of firearms.** | · Ensuring that correct and legally required procedures are complied with for all aspects of firearms use (e.g. registration of firearms, storage of arms and ammunition, maintenance and checking, training and certification of authorised users, issuing of firearms and ammunition, correct use, observance of standard operating procedures and rules of engagement, reporting and documentation of incidents, etc.).<br>· Providing a high level of training and supervision. | · Laws and regulations related to possession and use of firearms and ammunition.<br>· Permit/licence requirements.<br>· Relevant standard operating procedures and rules of engagement. |

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| **UHL 2.9** | **Ensure effective and legal apprehension of suspects and violators.** | · Ensuring that procedures for detaining, searching or arresting suspects are followed correctly and that their rights are fully respected.<br>· Ensuring that law enforcement personnel are fully conversant with relevant operating procedures.<br>· Securing the support and cooperation of law enforcement agencies in apprehending and detaining suspects. | · Relevant laws and regulations.<br>· Rights of detainees.<br>· Relevant standard operating procedures.<br>· Personnel safety and security procedures (see also PER 2.5). |
| **UHL 2.10** | **Question and secure statements from suspects and witnesses effectively and legally.** | · Using a range of legal and appropriate techniques to gather information from detainees, suspects and witnesses.<br>· Taking full and detailed notes of interviews.<br>· Following correct procedures for taking written statements and for recording interviews.<br>· Ensuring that rights are fully respected. | · Relevant laws and regulations.<br>· Rights of detainees, suspects and witnesses.<br>· Questioning techniques.<br>· Correct documentation of interviews and statements.<br>· Relevant standard operating procedures. |

| UHL. LEVEL 1 | Conduct supervised wildlife crime prevention, law enforcement and compliance activities | | |
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| **CODE** | **COMPETENCE STATEMENT**<br>***The individual should be able to:*** | **RANGE STATEMENT**<br>***A brief explanation of the competence.*** | **KNOWLEDGE REQUIREMENTS**<br>***Main specific knowledge requirements for the competence.*** |
| **UHL 1.1** | **Identify signs and evidence of unauthorised activities and security threats in the field.** | · Recognising and identifying signs and evidence relevant to the threats and legal issues faced by a TSR programme.<br>· For example: signs of illegal harvesting (cut stumps, sawmill sites, extraction routes, chainsaw noise); poaching (different types of snare and trap, gunshots, remains of poached animals); use of poisons; unauthorised access, unauthorised resource use; unexploded ordnance; security threats (incursions, traps, potential confrontations). | · Basic species identification skills (see also INM 1.2).<br>· The main threats faced by the focal species (see also INM 1.1).<br>· Signs of illegal activity. |
| **UHL 1.2** | **Participate in the surveillance of illegal/ unwanted activities around threatened species.** | · Identifying, monitoring and inspecting crime locations, in line with standard operating procedures (e.g. online, markets, shops, restaurants, transport routes, access points, etc.).<br>· Conducting field patrols as a deterrent or to intercept illegal activity (e.g. snare/trap removal, catch poachers, stop illegal harvesting, etc.).<br>· Conducting covert monitoring using surveillance at key sites for illegal activity (e.g. stakeouts, trail cameras, undercover, etc.).<br>· Implementing ethical and legal stop and search protocols (e.g. road blocks, etc.).<br>· Recording the activities in place and the results for reporting. | · Basic species identification skills (see also INM 1.2).<br>· Identification of illegal activity (see also UHL 1.1).<br>· Relevant standard operating procedures (see also UHL 1.4).<br>· Monitoring and surveillance tools (see also RAM 1.2, TEC 1.4).<br>· Procedures for public relations (see also UHL 1.6).<br>· Procedures for seizing evidence (see also UHL 1.5).<br>· Procedures for apprehending suspects (see also UHL 1.9-1.11).<br>· Record-keeping (see also RAM 1.1, UHL 1.7). |
| **UHL 1.3** | **Provide information to relevant parties about laws, rights and regulations affecting a threatened species recovery programme.** | · Providing verbal information and guidance about laws and regulations to stakeholders and the public (e.g. local residents, visitors, tourists, authorised users, violators, etc.).<br>· Explaining and answering questions. | · Laws and rights affecting the focal species, users, stakeholders and TSR personnel.<br>· Communication skills (see also CAC 1.1, FPC 04, FPC 07, PEO 1.1).<br>· Outreach and engagement techniques (see also AWA 1.1, AWA 1.2). |
| **UHL 1.4** | **Participate in supervised law enforcement operations in compliance with standard operating procedures.** | · Following correct and legal procedures for typical law enforcement operations (information gathering, inspections, patrols, single species guarding, raids, searches, checkpoints, etc.).<br>· Following instructions and relevant standard operating procedures. | · Laws and rights affecting the focal species, users, stakeholders and TSR personnel.<br>· Relevant standard operating procedures.<br>· Working in compliance with instructions (see also FPC 12). |

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| **UHL 1.5** | **Follow correct procedures for protecting crime scenes and for seizing, securing and documenting evidence.** | · Securing crime scenes in order to enable detailed documentation and investigations.<br>· Preserving, collecting and documenting evidence related to violations, legally and in accordance with instructions and established procedures.<br>· Storing evidence correctly and securely to ensure it can be used in courts and prosecutions. | · Laws and procedures related to evidence and crime scenes.<br>· Relevant standard operating procedures.<br>· Record keeping skills (see also DDR 1.1, RAM 1.1, UHL 1.7).<br>· Sample management techniques (see also SHW 1.4). |
| **UHL 1.6** | **Treat suspects and members of the public correctly and legally during law enforcement activities.** | · Ensuring that all contacts with suspects, local people and the general public are conducted legally, professionally and respectfully.<br>· Executing culture-sensitive crime prevention measures and respecting rights and values of indigenous peoples and of local communities.<br>· Refraining from and preventing mistreatment of the public and of suspects.<br>· Refraining from and preventing corrupt behaviour. | · Laws and rights affecting the focal species, users, stakeholders and TSR personnel.<br>· Relevant standard operating procedures.<br>· Communication skills (see also CAC 1.1, FPC 04, FPC 07, PEO 1.1).<br>· Maintaining relationships with the public (see also FPC 03).<br>· Techniques for preventing corruption (see also FPC 09). |
| **UHL 1.7** | **Follow correct procedures for basic documenting and reporting on law enforcement activities.** | · Providing formal evidence (written and verbal).<br>· Providing accurate verbal and written statements, accounts and reports according to the law and to prescribed procedures.<br>· Using digital aids for recording information in the field if required (e.g. handheld computers, smart phones, applications such as SMART, etc.).<br>· Providing accurate and reliable verbal evidence in official investigations and court procedures. | · Relevant standard operating procedures.<br>· Verbal communication skills (see also CAC 1.1, FPC 04).<br>· Written communication skills (see also DDR 1.2, FPC 05).<br>· Use of electronic data collection devices (see also TEC 1.3, TEC 1.4).<br>· Court procedures and rules for providing evidence. |
| **UHL 1.8** | **Maintain and use firearms legally, correctly and safely.** | · Checking, maintaining, safely handling and storing firearms and ammunition according to established rules and procedures.<br>· Using firearms to prevent or respond to life threatening attacks by wildlife or people according to the law and standard procedures.<br>· Using firearms for the control of animals (e.g. invasive species management, escaped animals from captivity, problem animals, etc.).<br>· Cooperating in investigations and reporting following use of firearms. | · Law regarding handling and use of firearms.<br>· Specific use of the firearms issued.<br>· Standard procedures for dealing with violent confrontations.<br>· Rules of engagement determining the use of firearms.<br>· Permits or licences required. |
| **UHL 1.9** | **Follow legal, ethical and safe procedures for apprehending suspects, violators and detainees.** | · Apprehending, detaining or arresting suspects (if permitted) legally, ethically and in accordance with instructions and established procedures.<br>· Taking steps to ensure apprehension by law enforcement personnel (e.g. police) if required.<br>· Respecting the rights of suspects and the general public. | · Laws and rights affecting the focal species, users, stakeholders and TSR personnel.<br>· Relevant standard operating procedures.<br>· Procedures for contacting law enforcement agencies if required. |

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| **UHL 1.10** | **Respond correctly to non-violent disputes and confrontations.** | · Using a range of non-violent, legal and ethical techniques for avoiding conflict and defusing hostile situations (e.g. dealing with disputes, threats, non-cooperation or intimidation, etc.).<br>· Following instructions and standard operating procedures in threatening situations.<br>· Response techniques may include using correct language, using and reading body language, showing good listening skills, providing clear and consistent responses, staying calm under provocation, and knowing when to withdraw and when to summon assistance. | · Laws and rights affecting the focal species, users, stakeholders and TSR personnel.<br>· Relevant standard operating procedures.<br>· Conflict avoidance and reduction techniques.<br>· Communication skills (see also CAC 1.1, FPC 04). |
| **UHL 1.11** | **Respond correctly and appropriately to physical threats and attacks.** | · Use of self-defence techniques, equipment and appropriate force in response to physical attacks.<br>· Following instructions and use of standard operating procedures in threatening situations and physical confrontations. | · Laws and rights affecting the focal species, users, stakeholders and TSR personnel.<br>· Concept of appropriate response and force.<br>· Standard operating procedures for dealing with violent confrontations. |

# GROUP B
# THREATENED SPECIES RECOVERY

**Applying specialist technical skills to threatened species management**

## SUBGROUP SCIENCE, TECHNOLOGY AND FIELDWORK

Practices for implementing and guiding threatened species recovery

# CATEGORY RAM:
# RESEARCH, ASSESSMENT AND MONITORING

Ensuring that adequate evidence and information is available to guide and evaluate threatened species recovery

| RAM. LEVEL 4 | Make significant contributions to (inter)national initiatives and policies for threatened species research, assessment and monitoring | | |
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| **CODE** | **COMPETENCE STATEMENT**<br>***The individual should be able to:*** | **RANGE STATEMENT**<br>***A brief explanation of the competence.*** | **KNOWLEDGE REQUIREMENTS**<br>***Main specific knowledge requirements for the competence.*** |
| **RAM 4.1** | **Coordinate cross-sectoral initiatives and collaboration for (inter)national research related to threatened species recovery.** | · Developing major (inter)national partnerships for species research of regional and global importance.<br>· Working with multiple sectors to ensure all skills and knowledge required are included.<br>· Developing major (inter)national partnerships with research institutions. | · One-plan approach to conservation management (see also PSP 4.2).<br>· Communication and collaboration skills (see also CAC 4.1). |
| **RAM 4.2** | **Promote and enable management-oriented assessments and research to support (inter)national threatened species recovery.** | · Making significant contributions to (inter)national frameworks and policies for research and assessment.<br>· Identifying research priorities for improving and enabling management-orientated research on an (inter)national and site-specific basis.<br>· Ensuring dissemination of research results through (inter)national platforms (e.g. scientific publications, conferences, specialist groups, workshops, etc.).<br>· Ensuring research results are incorporated into strategic planning of major TSR programmes, policy and decision-making processes. | · Species status, ecology, threats and research requirements.<br>· Principles and practices of management-orientated research.<br>· Details of relevant (inter)national research institutions.<br>· Communication and collaboration skills (see also CAC 4.1).<br>· Communication within high level meetings (see also CAC 4.2, CAC 4.3). |

| RAM. LEVEL 3 | Develop strategies and direct programmes for research, assessment and monitoring | | |
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| **CODE** | **COMPETENCE STATEMENT**<br>***The individual should be able to:*** | **RANGE STATEMENT**<br>***A brief explanation of the competence.*** | **KNOWLEDGE REQUIREMENTS**<br>***Main specific knowledge requirements for the competence.*** |
| **RAM 3.1** | **Direct the development and delivery of research, assessment and monitoring programmes related to threatened species recovery.** | · Leading the developing of and overseeing the scientific design, goals and objectives of research, assessment and/or monitoring programmes in line with existing TSR programmes and recognised best practice guidelines.<br>· Identifying information gaps and research priorities across TSR programmes.<br>· Collaborating with research institutions, stakeholders and local communities associated with the TSR programme or study site.<br>· Establishing an organisational 'culture' of evidence-based conservation management.<br>· Ensuring all research activities meet legal and ethical requirements.<br>· Reviewing programmes and collaboratively adapting methods. | · Species status, ecology, threats and conservation requirements.<br>· Principles and practices of environmental research practices.<br>· Relevant laws and regulations.<br>· Ethical review process.<br>· Communication and collaboration skills (see also CAC 3.2, CAC 3.2).<br>· Relevant (inter)national research collaborators.<br>· Review and adaptive management techniques (see also PSP 3.4). |
| **RAM 3.2** | **Lead or contribute to (inter)national conservation status assessments.** | · Taking a significant and active role in the development and updating of national, regional or global species status assessments or ecosystem assessments (e.g. Red List, Green Status, or equivalent).<br>· Liaising with the TSR programme personnel to obtain and collate all required data to conduct the assessment.<br>· Liaising with statutory agencies and other relevant stakeholders on results of conservation assessments to review species legal protection. | · Relevant specialist knowledge of species/taxonomic group(s)/ ecosystems.<br>· Criteria and protocols for IUCN Red Listing (according to the IUCN Species Survival Commission).<br>· Principles and practice of other conservation assessment frameworks.<br>· Processes for development and passing of policy and legislation (see also PSP 4.1). |
| **RAM 3.3** | **Direct species threat assessments.** | · Conducting or liaising with experts to conduct risk analyses/assessments.<br>· Conducting a species threat assessment using established frameworks (e.g. Conservation Standards, BirdLife International threat scores, etc.).<br>· Assessing threats towards the focal species and caused by focal species (e.g. illegal wildlife crime or human-wildlife conflict, etc.).<br>· Ensuring results are communicated and integrated into the overall TSR strategy. | · Species status, ecology, threats and conservation requirements.<br>· Risk and/or threat assessment techniques.<br>· Research communication skills (see also RAM 3.4). |

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| **RAM 3.4** | **Direct the communication of research, assessment and monitoring results, and their use in management decision-making.** | · Writing and communicating research, assessment and monitoring results at a sufficiently high standard to influence the broader conservation science community (e.g. publications, guidelines, technical reports, etc.).<br>· Participating on review and/or advisory committees for reports, publications, etc.<br>· Communicating results regularly within the TSR programme, with stakeholders and the wider public, both top-down and bottom-up.<br>· Implement systems within TSR programmes to ensure conservation evidence is used to guide adaptive management of conservation actions. | · Technical and scientific writing skills (see also DDR 3.3, DDR 2.4).<br>· Communication skills (see also CAC 3.1, CAC 3.3).<br>· Review and adaptive management techniques (see also PSP 3.4). |
| **RAM 3.5** | **Direct desk-top reviews of available evidence and information.** | · Conducting a review, or scoping exercise, of all available evidence and information.<br>· Ensuring all relevant and/or available information sources are utilised (e.g. literature review, expert elicitation, knowledge exchange, etc.).<br>· Examples of information sources may include published literature, scientific publications, grey literature, best practice guidelines, personal knowledge (e.g. expert, local, traditional, etc.). | · Relevant sources of information.<br>· Online search techniques (see also TEC 2.5).<br>· Information management/storage techniques (see also DDR 3.1, TEC 2.3).<br>· Traditional and cultural knowledge of IPs and of LCs (see also PEO 2.8).<br>· Communication skills (see also CAC 3.3, FPC 04). |

| RAM. LEVEL 2 | Plan, lead and report on the practical implementation of research, assessment and monitoring | | |
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| **CODE** | **COMPETENCE STATEMENT**<br>***The individual should be able to:*** | **RANGE STATEMENT**<br>***A brief explanation of the competence.*** | **KNOWLEDGE REQUIREMENTS**<br>***Main specific knowledge requirements for the competence.*** |
| **RAM 2.1** | **Plan, lead and report on monitoring and surveys of threatened species.** | · Designing and implementing data collection protocols, in line with existing TSR programmes and best practice guidelines.<br>· Determining timescales, operational planning and resource requirements.<br>· Determining appropriate survey and monitoring techniques, scoping emerging methods/tools and sourcing external experts for specialist techniques (e.g. line transects, point counts, distance sampling, plot-sampling, breeding success, capture-mark-recapture, etc.).<br>· Ensuring techniques meet all legal and ethical requirements.<br>· Ensuring results are communicated and integrated into the TSR programme. | · Principles and theory of surveying and monitoring.<br>· Population, habitat and threat monitoring techniques.<br>· Relevant laws and regulations.<br>· Ethical review process.<br>· Recognised best practice guidelines.<br>· Programme implementation skills (see also PSP 2.2).<br>· Collaborations for expert skills (see also CAC 2.1, APC 01).<br>· Dissemination of knowledge and findings (see also RAM 2.9). |
| **RAM 2.2** | **Facilitate the development of field-level monitoring and citizen science.** | · Working with field personnel, community members and/or volunteers to co-design culturally and socially-relevant surveys, monitoring and citizen science schemes, in line with existing TSR programmes.<br>· Ensuring surveys and monitoring are replicable and sustainable over time, taking into account social and cultural contexts.<br>· Implementing incentive schemes, were required (e.g. financial, job opportunities, etc.).<br>· Providing support for the implementation, data collection and analysis of data, etc.<br>· Ensuring results guide TSR programmes and local decision-making. | · Principles and theory of surveying and monitoring.<br>· Population, habitat and threat monitoring techniques and indicators<br>· Citizen science monitoring techniques.<br>· Relevant social and cultural factors.<br>· Incentive schemes (see also PEO 2.3).<br>· Developing community action projects (see also PEO 2.6).<br>· Programme implementation skills (see also PSP 2.2).<br>· Communication and collaboration skills (see also CAC 2.1, CAC 2.2).<br>· Dissemination of knowledge and findings (see also RAM 2.9). |
| **RAM 2.3** | **Plan, lead and report on ecological and behavioural research.** | · Determining experimental/sampling design and implementing data collection protocols, in line with analytical requirements and recognised best practice guidelines.<br>· Determining timescales, operational planning and resource requirements.<br>· Determining appropriate ecological and/or behavioural research methods, sourcing external experts for specialist techniques (e.g. dietary studies, feeding ecology, behavioural observations, activity budgets, predator-prey relationships, etc.).<br>· Ensuring techniques meet all legal and ethical requirements.<br>· Ensuring results are communicated and integrated into the TSR programme. | · Ecological and behavioural research techniques and methods<br>· Relevant laws and regulations.<br>· Ethical review process.<br>· Recognised best practice guidelines.<br>· Programme implementation skills (see also PSP 2.2).<br>· Collaborations for expert skills (see also CAC 2.1, APC 01).<br>· Dissemination of knowledge and findings (see also RAM 2.9). |

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| **RAM 2.4** | **Plan, lead and report on social and socio-ecological research.** | · Determining experimental/sampling design and implementing data collection protocols, in line with analytical requirements and recognised best practice guidelines.<br>· Determining timescales, operational planning and resource requirements.<br>· Determining appropriate research methods, sourcing external experts for specialist techniques (e.g. focus groups, stakeholder analysis, household surveys, semi-structured interviews, questionnaires, local ecological knowledge surveys, etc.).<br>· Ensuring techniques meet all legal, ethical and cultural requirements and standards.<br>· Ensuring results are communicated and integrated into the TSR programme. | · Social and social-ecological research techniques and methods (see also TEC 2.5).<br>· Relevant laws and regulations.<br>· Ethical review process.<br>· Recognised best practice guidelines.<br>· Maintaining relationships with IPs and with LCs (see also PEO 2.7, FPC 07).<br>· Communication skills (see also CAC 2.2, FPC 04).<br>· Collaborations for expert skills (see also CAC 2.1, APC 01).<br>· Programme implementation skills (see also PSP 2.2).<br>· Dissemination of knowledge and findings (see also RAM 2.9). |
| **RAM 2.5** | **Plan, lead and report on the tracking of species.** | · Tracking species to understand movement, migration, post-release survival, etc. in line with recognised best practice guidelines.<br>· Identifying suitable animal tracking technology and techniques, sourcing external experts for specialist techniques or skills (e.g. radio-tracking, satellite-tags, GPS tags, radar, vessel monitoring systems, etc.).<br>· Ensuring techniques meet all legal and ethical requirements and standards.<br>· Monitoring animal health and welfare implications of tagging and tracking.<br>· Monitoring and evaluating the impact and effectiveness of techniques. | · Biology and behaviour of focal species.<br>· Relevant laws and regulations.<br>· Recognised best practice guidelines.<br>· Ethical review process.<br>· Animal tracking techniques and technology.<br>· Species health and welfare assessments (see also SHW 2.1).<br>· Capture and handling skills (see also SHW 2.5).<br>· Collaborations for expert skills (see also CAC 2.1, APC 01).<br>· Monitoring and evaluation techniques (see also PSP 2.3). |
| **RAM 2.6** | **Plan, lead and report on remote sensing and surveillance activities.** | · • Conducting the remote sensing or surveillance of wildlife or associated activities, in line with recognised best practice guidelines (e.g. elusive species, remote locations, illegal activity, etc.).<br>· • Identifying suitable monitoring/surveillance technology and techniques, sourcing external experts for specialist techniques or skills (e.g. satellite imagery, trail cameras, drones, facial recognition, drop-cams, non-invasive genetic monitoring, etc.).<br>· • Ensuring storage capacity and security for data gathered.<br>· • Ensuring techniques meet all legal and ethical requirements and standards.<br>· • Monitoring and evaluating the impact and effectiveness of techniques. | · • Biology and behaviour of focal species.<br>· • Relevant laws and regulations.<br>· • Recognised best practice guidelines.<br>· • Ethical review process.<br>· • Remote sensing and surveillance techniques and technology.<br>· • GIS equipment and software (see also TEC 2.4).<br>· • Data management and security (see also DDR 2.3).<br>· • Collaborations for expert skills (see also CAC 2.1, APC 01).<br>· • Monitoring and evaluation techniques (see also PSP 2.3). |

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| **RAM 2.7** | **Conduct scientific data analysis.** | · Collating, processing and formatting data for analysis, managing data in specialist software programmes where required (e.g. PMx, ZIMS, Access, etc.).<br>· Conducting statistical analysis with the appropriate software package (e.g. R, SPSS, Minitab, Python, DISTANCE, MARK, etc.).<br>· Conducting statistical analysis with the appropriate method (e.g. occupancy, GLM, GLMM, RRT, etc.).<br>· Implementing novel statistical methods and sourcing external experts for specialist techniques.<br>· Producing materials to summarise and communicate results to inform conservation strategies and management (e.g. graphs, charts, tables, etc.). | · Analytical and statistical techniques and programmes (see also TEC 2.5).<br>· Understanding the fundamentals of statistics.<br>· Understanding data limitations and statistical uncertainty.<br>· Data management skills (see also DDR 2.3).<br>· Analytical and technical reporting skills (see also DDR 2.4).<br>· Written communication skills (see also CAC 2.4).<br>· Collaborations for expert skills (see also CAC 2.1, APC 01).<br>· Dissemination of knowledge and findings (see also RAM 2.9). |
| **RAM 2.8** | **Conduct specialist modelling of data.** | · Conducting relevant population modelling using available modelling tools (e.g. Vortex, R, etc.).<br>· Conducting habitat suitability or species distribution modelling using available modelling tools (e.g. Maxent, etc.).<br>· Conducting land cover and habitat classifications.<br>· Collaborating with experts to inform model parameters and for specialist techniques.<br>· Producing materials to summarise and communicate results to inform conservation strategies and management (e.g. graphs, charts, tables, etc.). | · Relevant modelling programmes (see also TEC 2.5).<br>· Theory and principles of population dynamics.<br>· Data management skills (see also DDR 2.3).<br>· Analytical and technical reporting skills (see also DDR 2.4).<br>· Written communication skills (see also CAC 2.4).<br>· Collaborations for expert skills (see also CAC 2.1, APC 01).<br>· Dissemination of knowledge and findings (see also RAM 2.9). |
| **RAM 2.9** | **Interpret and share research, assessment and monitoring results.** | · Interpreting scientific results of research, assessments, and/or monitoring and drawing justifiable conclusions, hypotheses, recommendations, arguments, etc.<br>· Communicating the results and findings to all relevant personnel, stakeholders and wider conservation communities.<br>· Preparing and delivering written and verbal reports of results at the appropriate level.<br>· Submitting results and findings for peer-review where required (e.g. scientific publication, committees, project boards, etc.).<br>· Incorporating results and findings into overall TSR programme, adaptive management and/or decision-making. | · Principles and practices of scientific analysis techniques.<br>· Verbal and written communication skills (see also CAC 2.2, CAC 2.3, CAC 2.4).<br>· Peer-review and publication processes (see also DDR 2.4).<br>· Analytical and technical reporting skills (see also DDR 2.4).<br>· Review and adaptive management techniques (see also PSP 3.4, PSP 2.1). |

| RAM. LEVEL 1 | Collect and record basic information for research, assessment and monitoring | | |
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| **CODE** | **COMPETENCE STATEMENT**<br>***The individual should be able to:*** | **RANGE STATEMENT**<br>***A brief explanation of the competence.*** | **KNOWLEDGE REQUIREMENTS**<br>***Main specific knowledge requirements for the competence.*** |
| **RAM 1.1** | **Conduct record-keeping and information-gathering.** | · Recording field notes and recording routine observations of species and/or field activities.<br>· Recording basic field information (e.g. locations, dates, field conditions, etc.).<br>· Following pre-designed record-keeping protocols.<br>· Ensuring records and information are recorded accurately and in required detail. | · Procedures for collecting and recording information in the field.<br>· Use of standard data collection and record-keeping forms and recording systems and devices (see also DDR 1.1, TEC 1.4).<br>· Use of maps and GPS (see also FLD 1.10, FLD 1.11). |
| **RAM 1.2** | **Conduct ecological, biological and behavioural data collection.** | · Conducting systematic observational data collection on populations and their environments, in line with existing protocols and recognised best practice guidelines (e.g. transects, counts, distance sampling, habitat surveys,<br>· Deploying and maintaining field equipment (e.g. pitfall traps, tracking tunnels, artificial cover objects, barrier fence surveys, etc.).<br>· Assisting in the capturing, handling, sampling and marking of individuals and their environments, where required (e.g. genetics, morphometrics, capture-mark-recapture, radio transmitters, tagging/ringing, etc.).<br>· Assisting in the use of devices for tracking and monitoring species (e.g. radio tracking, trail cameras, drones, etc.).<br>· Using digital field recording systems where required (e.g. GPS, smartphones, personal digital recording devices, etc.). | · Biology and behaviour/phenology and focal species and habitats.<br>· Principles and practices of species specific data collection techniques.<br>· Capture, handling, sampling and marking skills (see also SHW 1.4, SHW 1.5).<br>· Species tracking techniques (see also SHW 1.5).<br>· Remote monitoring and surveillance techniques (see also TEC 1.4).<br>· Digital recording techniques (see also FLD 1.11, TEC 1.4).<br>· Maintenance of field equipment (see also FLD 1.6). |
| **RAM 1.3** | **Conduct social and socio-ecological data collection.** | · Conducting and assisting with systematic psychology data collection (e.g. interviews, questionnaires, assisting with focus groups, etc.).<br>· Using digital field recording systems where required (e.g. GPS, smartphones, tablets, personal digital recording devices, etc.).<br>· Following pre-designed data collection protocols.<br>· Communicating and interacting appropriately. | · Use of standard data collection and record-keeping forms and recording systems and devices (see also DDR 1.1, TEC 1.4).<br>· Communication skills (see also CAC 1.1, FPC 04).<br>· Awareness of and sensitivity skills (see also PEO 1.1, FPC 07). |
| **RAM 1.4** | **Conduct basic data manipulation and summaries.** | · Carrying out simple manipulations of digital data to provide summaries.<br>· Entering field data and species records into spreadsheets and databases.<br>· Carrying out data quality checks.<br>· Preparing simple data summary outputs (e.g. tables, plots, charts, etc.). | · Basic computer skills (see also TEC 1.1).<br>· Digital data entry and storage techniques (see also DDR 1.3, TEC 1.1).<br>· Techniques for summarising data (see also DDR 1.2). |

# CATEGORY TEC: TECHNOLOGY

## Mobilising and using technology to support threatened species recovery programmes

| TEC. LEVEL 4 | Promote digital technology to support threatened species recovery | | |
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| **CODE** | **COMPETENCE STATEMENT**<br>***The individual should be able to:*** | **RANGE STATEMENT**<br>***A brief explanation of the competence.*** | **KNOWLEDGE REQUIREMENTS**<br>***Main specific knowledge requirements for the competence.*** |
| **TEC 4.1** | **Coordinate the development of digital strategies for threatened species recovery programmes.** | · Developing digital strategies to improve operational effectiveness of TSR programmes, in line with recognised best practice guidelines where available.<br>· Accounting for operational needs, resource availability and legal requirements.<br>· Collaborating with IT professionals where specific or expert skills are required.<br>· Promoting the adoption of IT tools, systems and practices with all personnel.<br>· Ensuring strategies are communicated and integrated across the organisation or TSR programme. | · Role of digital technology within TSR programmes.<br>· Relevant laws and regulations.<br>· Recognised best practice guidelines.<br>· Communication and collaboration skills (see also CAC 4.1). |

| TEC. LEVEL 3 | Mobilise technology to support threatened species recovery programmes | | |
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| **CODE** | **COMPETENCE STATEMENT**<br>***The individual should be able to:*** | **RANGE STATEMENT**<br>***A brief explanation of the competence.*** | **KNOWLEDGE REQUIREMENTS**<br>***Main specific knowledge requirements for the competence.*** |
| **TEC 3.1** | **Ensure adequate IT systems are in place for efficient management of threatened species recovery programmes.** | · Liaising with IT professionals to identify, develop and maintain IT systems and equipment for TSR programme teams.<br>· Developing standards and protocols for use of IT equipment, software and networks.<br>· Liaising with IT professionals to ensure data security and resilience (passwords, encryption, virus checks, firewalls, back up, updates, etc.).<br>· Ensuring all data management is in line with recognised best practice guidelines and laws and regulations. | · Use of main software platforms and packages.<br>· Principles and legal requirements of data management.<br>· Recognised best practice guidelines.<br>· Relevant laws and regulations. |
| **TEC 3.2** | **Direct the mobilisation and integration of new technologies to support threatened species recovery programmes.** | · Coordinating the identification and mobilisation of useful, appropriate and compatible technology.<br>· Conducting horizon scanning to identify new and emerging technologies.<br>· Supporting and contributing to the development and testing of new devices and technology.<br>· Establishing and promoting partnerships to develop technological innovations. | · Relevant technology and systems for TSR programmes (e.g. SMART, Cybertracker, Wildlabs, Miradi, Miradi Share, etc.).<br>· Areas of TSR which could be aided by technological solutions.<br>· Advantages, disadvantages and risks of technological solutions.<br>· Collaborations and partnerships for technological solutions (see also CAC 3.2).<br>· Innovation and adaptive skills (see also FPC 02). |

| TEC. LEVEL 2 | Use and adapt technology to support threatened species recovery | | |
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| **CODE** | **COMPETENCE STATEMENT**<br>***The individual should be able to:*** | **RANGE STATEMENT**<br>***A brief explanation of the competence.*** | **KNOWLEDGE REQUIREMENTS**<br>***Main specific knowledge requirements for the competence.*** |
| **TEC 2.1** | **Support and enable programme personnel to correctly use IT systems and tools.** | · Using and maintaining available IT platforms (e.g. PC, laptop, tablet, smartphone, etc.) and peripherals (e.g. printers, scanners, projectors, etc.).<br>· Providing support and on the job training to programme personnel in the use of IT systems and tools.<br>· Ensuring programme personnel comply with set protocol and data security and resilience (e.g. passwords, encryption, virus checks, firewalls, back up, updates, etc.). | · Hardware and software systems, including open source products.<br>· Use of relevant IT platforms (PC, laptop, tablet, smartphone, etc.).<br>· Relevant laws and regulations for system and data security. |
| **TEC 2.2** | **Identify and implement technology and systems for data collection.** | · Using hardware devices and software applications for primary data collection in the field (e.g. picture-based apps for language barriers, personal digital recording devices and smartphone apps for fieldwork, etc.).<br>· Establishing new working practices within the TSR programme for digital data collection.<br>· Liaising with experts to implement specialist digital data collection technologies and systems, delivering training and support where required. | · Available technology and systems and their uses and limitations.<br>· Specifications and operation of relevant technological tools.<br>· Relevant legal and ethical requirements of data management.<br>· Collaborations for expert skills (see also CAC 2.1, APC 01). |
| **TEC 2.3** | **Manage digital data and information resources.** | · Managing and updating digital databases using generic or specialised applications, ensuring protocols are appropriately documented (e.g. excel, Access, etc.).<br>· Ensuring secure and reliable access to data for all personnel (e.g. analysis, planning and management, reporting, etc.).<br>· Using online resources and systems to host information and databases, sourcing external experts for specialist techniques (e.g. cloud storage, online databases, etc.).<br>· Developing and/or using shared data repositories alongside stakeholders and/or external users.<br>· Ensuring data management is conducted in line with laws and regulations (e.g. GDPR). | · Principles and practices of database design and use (see also DDR 2.2, DDR 2.3).<br>· Methods for information management, storage, cataloguing and retrieval.<br>· Protocols for data repositories (e.g. data formats, documentation, etc.).<br>· Protocols for data sharing agreements (see also DDR 3.2).<br>· Collaborations for expert skills (see also CAC 2.1, APC 01). |

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| **TEC 2.4** | **Operate geographic information systems (GIS) and related applications.** | · Operating GIS packages for day-to-day use.<br>· Adding spatial information.<br>· Analysing information.<br>· Preparing maps and reports.<br>· NOTE: this competence relates to operating and updating existing GIS systems, not to establishing, programming and customising GIS systems. | · Principles of GIS and database use.<br>· GIS software packages<br>· Potential uses of GIS as a tool for TSR programmes. |
| **TEC 2.5** | **Use online tools for data gathering, management and communications.** | · Using and maintaining online tools and related peripherals, in line with set protocols and sourcing external experts for specialist techniques.<br>· Designing and developing websites, social media pages, blogs, etc. to establish an online presence.<br>· Using online communication tools (e.g. Microsoft Teams, Skype, ZOOM, WhatsApp, etc.).<br>· Using online tools and services for data sharing, enabling accessibility and collaboration.<br>· Using online systems to support research (e.g. questionnaires, literature searches, analytical packages, etc.).<br>· Using online search engines (e.g. Google). | · Available online tools and their uses for TSR programmes.<br>· Collaborations for expert skills (see also CAC 2.1, APC 01).<br>· Online data management techniques (see also TEC 2.3).<br>· Recognised best practice guidelines for use of online tools and platforms.<br>· Relevant legal and security aspects of online technology (see also TEC 2.1).<br>· Ethical review processes for online activity and research. |

| TEC. LEVEL 1 | Use basic technology to support threatened species recovery | | |
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| **CODE** | **COMPETENCE STATEMENT**<br>***The individual should be able to:*** | **RANGE STATEMENT**<br>***A brief explanation of the competence.*** | **KNOWLEDGE REQUIREMENTS**<br>***Main specific knowledge requirements for the competence.*** |
| **TEC 1.1** | **Operate and maintain computers for basic offline functions.** | · Using available platforms (e.g. Mac, PC, smartphone, tablet, etc.).<br>· Using basic offline applications for word processing, entering data and presentations (e.g. Word, Excel, PowerPoint, etc.).<br>· Using common peripherals (printer, scanner, projector, etc.).<br>· Uploading, downloading and saving data (e.g. from GPS or other mobile technology).<br>· Following set protocols for data management, basic maintenance, security, etc. | · Principles of basic computer and software operation.<br>· Procedures for secure computer use.<br>· Data management protocols.<br>· Use of a GPS (see also FLD 1.11).<br>· Basic day-to-day maintenance and problem solving (see also FPC 02).<br>· Working in compliance with procedures (see also FPC 12). |
| **TEC 1.2** | **Use online and other connected communication equipment and media.** | · Using online/connected electronic equipment for correspondence and gathering information (e.g. internet, email, smartphone, etc.).<br>· Using social media platforms.<br>· Using online communication tools (e.g. Teams, Skype, ZOOM, WhatsApp, etc.). | · Operation of online communication tools.<br>· Procedures for safe and secure online activity.<br>· Basic day-to-day maintenance and problem solving (see also FPC 02).<br>· Working in compliance with procedures (see also FPC 12). |
| **TEC 1.3** | **Correctly use and maintain field communication equipment.** | · Using radio or other electronic communication equipment (e.g. handset, smartphone, base station, etc.).<br>· Upgrading, maintenance and care for devices and peripherals (e.g. batteries, chargers, cleaning, protection, changing consumable parts, checking for faults, security, upgrading software, etc.).<br>· Using required procedures/protocols for communication. | · Functioning, checking and maintenance of equipment.<br>· Communication protocols. |
| **TEC 1.4** | **Use technology for data collection.** | · Using technological devices for data capture (e.g. trail cameras, drones, audio recorders, smartphones, video, etc.).<br>· Using specialist software/apps on mobile devices for data capture in the field (e.g. ODK software, Cybertracker, SMART, I2, etc.).<br>· Using specialist devices for data collection (e.g. PIT tag readers, remote devises, trackers, etc.).<br>· Operating and maintaining devices/equipment/software.<br>· Following set protocols for surveillance, data collection and data management. | · Operating relevant technology/apps/software for data collection.<br>· Remote monitoring/surveillance techniques (see also RAM 1.2).<br>· Data transfer and storage (see also TEC 1.1).<br>· Basic day-to-day equipment maintenance and problem solving (see also FPC 02).<br>· Working in compliance with procedures (see also FPC 12). |

# CATEGORY FLD:
# FIELD/WATERCRAFT AND SITE MANAGEMENT

## Conducting fieldwork and practical tasks correctly and safely

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| **FLD. LEVEL 4** | **Competences are not relevant at the professional level, however, some knowledge of the category may be required** |
| **FLD. LEVEL 3** | **Competences are not relevant at the professional level, however, some knowledge of the category may be required** |
| **FLD. LEVEL 2** | **Plan, lead and report on field-based activities** |

| CODE | COMPETENCE STATEMENT<br>*The individual should be able to:* | RANGE STATEMENT<br>*A brief explanation of the competence.* | KNOWLEDGE REQUIREMENTS<br>*Main specific knowledge requirements for the competence.* |
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| **FLD 2.1** | **Plan, lead and report on field excursions and activities.** | · Planning all logistical aspects of field trips, expeditions, patrols, etc.<br>· Incorporating standard operating procedures for emergencies.<br>· Ensuring that transport, food, camping, field equipment and safety arrangements are suitable for the number of participants and the duration and purpose of the field trip.<br>· Leading field trips and ensuring welfare and safety of participants.<br>· Monitoring activities and preparing reports. | · Details of the terrain of the area and associated hazards and equipment needs (see also APC 03).<br>· Emergency and first aid procedures (see also PER 2.5).<br>· Suitable working conditions for personnel (see also PER 2.5).<br>· Standard operating procedures for emergencies.<br>· Monitoring and evaluation techniques (see also PSP 2.3). |
| **FLD 2.2** | **Maintain stores of field equipment and supplies.** | · Ensuring secure storage and maintenance of equipment, materials and supplies for fieldwork.<br>· Maintaining systems of signing out/signing in for equipment and supplies.<br>· Maintaining inventory records and requesting replenishment of equipment and supplies. | · The operational needs of the TSR programme for field equipment and supplies.<br>· Material and equipment requirements for common work tasks.<br>· Procurement and purchasing procedures (see also FRM 2.3).<br>· Inventory techniques (see also FRM 2.2). |
| **FLD 2.3** | **Plan, lead and report on small-scale construction and maintenance works.** | · Planning and organising correct installation of non-engineered structures (e.g. ex-situ enclosures, holding cages, breeding structures, boundary markers, buoys, paths, etc.).<br>· Interpreting drawings and specifications.<br>· Specifying and obtaining required materials and equipment.<br>· Supervising correct and safe construction and maintenance.<br>· Specifying maintenance and repair requirements and maintaining schedules of checks. | · Interpretation of drawings and plans.<br>· Construction techniques.<br>· Safety and security good practice (see also FPC 08).<br>· Basic site surveying and marking out.<br>· Calculating required quantities of materials.<br>· Procurement and purchasing procedures (see also FRM 2.3).<br>· Maintenance documentation techniques (see also FRM 2.2). |

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| **FLD 2.4** | **Plan, lead and report on field site maintenance.** | · Planning and organising structural and landscaping works as required (e.g. building, structures, erosion control, drainage works, etc.).<br>· Interpreting drawings and specifications.<br>· Specifying and obtaining required materials and equipment.<br>· Supervising correct and safe construction and maintenance.<br>· Specifying maintenance and repair requirements.<br>· Organising regular monitoring and collection of hazardous waste and responding to pollution incidents. | · Interpretation of drawings and plans.<br>· Construction techniques.<br>· Hard and soft landscaping techniques.<br>· Basic site surveying and marking out.<br>· Calculating required quantities of materials.<br>· Procurement and purchasing procedures (see also FRM 2.3).<br>· Maintenance documentation techniques (see also FRM 2.2).<br>· Procedures for waste disposal/pollution control.<br>· Safety and security good practice (see also FPC 08). |
| **FLD 2.5** | **Direct the planning, implementation and monitoring of major construction projects.** | · Preparing plans for the location and specifications of physical infrastructure.<br>· Working with designers, architects and developers to ensure appropriate specifications for major structures and installations (e.g. zoo enclosures, breeding centres, field stations, roads, bridges, etc.).<br>· Ensuring that environmental, landscape and social impacts are minimised.<br>· Ensuring that infrastructure and construction projects by other neighbouring parties conform to agreements and regulations and are subject to required impact assessments. | · Laws and regulations for urbanisation and construction.<br>· Design and construction parameters, principles and practices.<br>· Official processes for tendering and awarding contracts (see also FRM 3.5).<br>· Main stages and actors in design and construction process.<br>· Safety and security good practice (see also FPC 08). |
| **FLD 2.6** | **Plan, lead and report on search and rescue and emergency response.** | · Organising search parties, logistics and procedures.<br>· Coordinating with emergency services and other search and rescue teams.<br>· Using special techniques according to the site conditions (e.g. mountainous, aquatic).<br>· Following standard operating procedures in the event of an emergency (e.g. natural disaster, pandemic, etc.).<br>· Preparing reports and required documentation. | · Main risks to users within the TSR programme.<br>· Good knowledge of the terrain and waters.<br>· Search and rescue techniques and procedures.<br>· First aid and casualty management procedures (see also PER 2.5).<br>· Organisational standard operating procedures for emergencies (see also PSP 3.3). |
| **FLD 2.7** | **Manage vehicles/crafts and their use.** | · Ensuring appropriate use and maintenance of vehicle and craft fleets (land, water or air transport).<br>· Ensuring that adequate insurance is in place and drivers/users are suitably qualified and trained.<br>· Preventing misuse of vehicles/crafts.<br>· Dealing with accidents and breakdowns.<br>· Ensuring that log books and fuel purchases are correctly documented.<br>· Identifying purchasing, replacement and maintenance needs. | · Vehicle/craft use policies and procedures of the organisation.<br>· Legislation regarding vehicle condition and use.<br>· Purchasing procedures (see also FRM 2.3).<br>· Maintenance procedures (see also FRM 2.2). |

| FLD. LEVEL 1 | Conduct field-based activities safely and securely | | |
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| **CODE** | **COMPETENCE STATEMENT**<br>***The individual should be able to:*** | **RANGE STATEMENT**<br>***A brief explanation of the competence.*** | **KNOWLEDGE REQUIREMENTS**<br>***Main specific knowledge requirements for the competence.*** |
| **FLD 1.1** | **Set up and operate field camps.** | · Organising overnight accommodation in the field (e.g. camps, bivouacs, ranger stations, etc.).<br>· Deploying required equipment.<br>· Establishing and maintaining good standards of safety and hygiene.<br>· Managing preparation of meals.<br>· Setting up latrines and washing facilities. | · Basic camp craft and hygiene.<br>· Safety and security good practice (see also FPC 08). |
| **FLD 1.2** | **Drive, operate and conduct basic maintenance for vehicles/crafts.** | · Acquiring a permit/licence.<br>· Operating safely and responsibly.<br>· Conducting routine required checks and operator maintenance.<br>· Examples of vehicles and crafts include large trucks, motor bikes, boats, microlight aircraft, helicopters, etc. | · Requirements of driving test.<br>· Laws and regulations for use.<br>· Knowledge of handling and/or maintenance.<br>· Safe use procedures (see also FPC 12).<br>· Maintaining records of maintenance (see also FRM 1.2). |
| **FLD 1.3** | **Detect, prevent, fight and control fires.** | · Maintaining fire watches and following procedures for reporting fires.<br>· Following prescribed procedures (under supervision) for avoiding fire risks, fire prevention (e.g. clearing firebreaks, controlled burns), dealing with wildfires.<br>· Operating fire-fighting and control equipment safely and correctly. | · Fire watch system and procedures for the TSR programme.<br>· Fire hazards, safety procedures and fire management techniques (see also FPC 12).<br>· Range of equipment used for fire management. |
| **FLD 1.4** | **Safely use and maintain equipment, hand/power tools and machinery with small engines.** | · Safely and correctly using and caring for non-powered equipment (tools, materials, etc.).<br>· Safely and correctly using machinery with engines or electric motors (e.g. brush cutters, mowers, chainsaws, power tools, etc.).<br>· Following maintenance procedures.<br>· Correctly using and caring for safety and protective equipment. | · Range of equipment and materials regularly used.<br>· Requirements for use of safety equipment.<br>· Basic engine operation.<br>· Operation and maintenance of commonly used machinery.<br>· Maintenance procedures (see also FPC 12).<br>· Maintaining records of maintenance (see also FRM 1.2).<br>· Safety and security good practice (see also FPC 08). |
| **FLD 1.5** | **Complete basic construction tasks.** | · Ensuring/carrying out safe and durable installation and maintenance of ex-situ enclosures, holding cages, supplementary feeding stations, trails, bridges, fences, signs, mooring buoys and other basic infrastructure required by a TSR programme.<br>· Using wood, basic masonry, local materials, etc. | · Safe use of required tools and equipment (see also FPC 12).<br>· Interpretation of simple construction plans.<br>· Measuring and counting (see also FPC 06).<br>· Basic construction techniques.<br>· Safety and security good practice (see also FPC 08). |

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| **FLD 1.6** | **Correctly use and care for basic field surveying instruments.** | · Correctly using and maintaining for basic instruments regularly used in the field (binoculars, telescope, camera, measuring equipment, etc.).<br>· Reporting any loss or damage. | · Operation, maintenance and cleaning requirements of commonly used equipment.<br>· Maintaining records of maintenance (see also FRM 1.2).<br>· Reporting damage or loss (see also FRM 1.2). |
| **FLD 1.7** | **Work safely in aquatic environments.** | · Swimming competently.<br>· Crewing of small craft.<br>· Using safety equipment.<br>· Diving safely using SCUBA equipment. | · Hazards of working in and on water (see also APC 03).<br>· Safety procedures in and on water (see also FPC 12).<br>· Requirements of SCUBA qualification awarding body. |
| **FLD 1.8** | **Safely use and maintain field access equipment.** | · Following set protocols and using safety equipment.<br>· Conducting routine required checks and operator maintenance.<br>· Acquiring a licences, where required.<br>· Using equipment safely and responsibly.<br>· Reporting any loss or damage.<br>· Examples of field access equipment includes climbing, paragliding, hand gliding, microlight aircraft etc. | · Hazards of working in extreme environments (see also APC 03).<br>· Safety procedures associated with equipment (see also FPC 12).<br>· Requirements of qualification awarding body.<br>· Laws and regulations for equipment use.<br>· Knowledge of handling and maintenance of equipment.<br>· Maintaining records of maintenance (see also FRM 1.2).<br>· Reporting damage or loss (see also FRM 1.2). |
| **FLD 1.9** | **Conduct first aid and provide appropriate responses in accidents and emergencies.** | · Obtaining Red Cross, Red Crescent or equivalent basic first aid skills (adapted to the specific needs of a TSR programme).<br>· Ensuring procedures for reporting accidents and dealing with casualties are followed.<br>· Administering first aid. | · Knowledge required for achieving first aid certification.<br>· Emergency procedures for TSR programme. |
| **FLD 1.10** | **Use map and compass/ charts for orientation and navigation.** | · Reading a topographic map or sea chart.<br>· Using a compass and map/chart for orientation and navigation in the field. | · Topographic maps and principles and practice of land navigation (without GPS).<br>· Charts and principles and practice of navigation on water (without GPS). |
| **FLD 1.11** | **Use a Global Positioning System (GPS) for navigation.** | · Care and maintenance of GPS.<br>· Using GPS in the field for basic functions (orientation, tracking, recording waypoints, location, etc.).<br>· Setting up GPS and downloading/uploading routes and waypoints, etc. | · Map, compass and navigation skills (see also FLD 1.10).<br>· Principles of GPS.<br>· Care and maintenance of GPS units.<br>· Maintaining records of maintenance (see also FRM 1.2). |
| **FLD 1.12** | **Care for and manage working animals in the field.** | · Ensuring welfare and safety of working animals in the field (e.g. feeding, watering, checking, responding to health and welfare issues, etc.).<br>· Examples of draft or assistance animals include sniffer dogs, horses, donkeys, mules, camels, buffalo, elephant, etc. | · Practical animal care and husbandry (see also EXM 1.1)<br>· Species health and welfare management (see also SHW 1.2)<br>· Species transportation techniques (see also CTR 1.1)<br>· Using and maintaining associated equipment and materials. |

# GROUP C
# GENERAL PERSONAL COMPETENCES

## Individual attributes for use in all areas on work

# CATEGORY FPC:
# FOUNDATION PERSONAL COMPETENCES

Demonstrate fundamental personal skills and behaviours required for day-to-day threatened species recovery work (Applies to all professional levels)

| CODE | COMPETENCE STATEMENT<br>*The individual should be able to:* | RANGE STATEMENT<br>*A brief explanation of the competence.* | KNOWLEDGE REQUIREMENTS<br>*Main specific knowledge requirements for the competence.* |
|---|---|---|---|
| **FPC 01** | **Demonstrate professionalism and a positive personal attitude at work.** | · Maintaining good time keeping.<br>· Prioritising workloads.<br>· Completing tasks in a timely and competent manner.<br>· Demonstrating willingness to learn and develop personally.<br>· Taking the initiative and working constructively.<br>· Having an understanding of the overall programme objectives.<br>· Demonstrating independent, critical thinking and sharing ideas. | · Expectations and standards of the employer.<br>· Techniques for self-motivation. |
| **FPC 02** | **Demonstrate a flexible and adaptable approach to work.** | · Responding constructively and adapting to changing circumstances, problems and altered priorities and workloads.<br>· Adopting a positive attitude to new technologies, tools and working practices.<br>· Identifying innovative approaches to work activities.<br>· Adopting a positive attitude to working in challenging and/or remote environments. | · Communication techniques.<br>· Procedures for addressing difficulties in the workplace.<br>· Techniques for dealing with stress and overworking.<br>· Techniques for adapting to and coping in challenging environments<br>· Procedures for lone working |
| **FPC 03** | **Maintain good relations with others in the workplace.** | · Treating stakeholders, Indigenous peoples, local community members, co-workers, junior and senior colleagues courteously, professionally and respectfully.<br>· Communicating diplomatically, openly and honestly with others.<br>· Actively and positively participating in team work and collaborative activities. | · Techniques for effective and constructive communication, collaboration and teamwork (see also APC 08).<br>· Communication skills (see also CAC 4.1, CAC 3.1, CAC 3.3, CAC 2.2, CAC 1.1).<br>· Relationship building with IPs and with LCs (see also PEO 3.5, PEO 2.7, PEO 1.1). |
| **FPC 04** | **Communicate effectively verbally.** | · Providing clear, correct and appropriate person-to-person information, explanations, instructions and responses.<br>· Demonstrating ability to listen and understand communication from others.<br>· Demonstrating awareness of non-verbal aspects (body language, modes of expression, etc.).<br>· Ensuring respect for oneself as well as for others within interpersonal communications. | · Techniques and approaches for respectful, clear and effective interpersonal communication (see also FPC 03).<br>· Awareness of different communication approaches required with different groups and individuals.<br>· See also CAC. |
| **FPC 05** | **Demonstrate basic literacy (reading and writing).** | · Providing clear, simple, written accounts of activities.<br>· Understanding written guidance and instructions. | · Basic literacy. |

| | | | |
|---|---|---|---|
| **FPC 06** | **Demonstrate basic numeracy.** | · Measuring and counting.<br>· Conducting basis arithmetic calculations and other basic mathematics appropriate to role.<br>· Using calculators. | · Basic numeracy and mathematical knowledge. |
| **FPC 07** | **Demonstrate awareness of and sensitivity to cultural, ethnic, gender and ability issues.** | · Awareness of and respect for Diversity, Equity, Inclusion, Access and Justice issues.<br>· Appropriate treatment of co-workers, stakeholders, visitors, students, public etc. in all aspects of work. | · Basic principles for fair and ethical treatment of minority and disadvantaged groups.<br>· Specific issues and needs with respect to minority and disadvantaged groups. |
| **FPC 08** | **Maintain good practice for security, safety and environmental protection in the work place and in the field.** | · Aware of security/safety requirements.<br>· Ensuring facilities are properly maintained and secure at all times.<br>· Following protocols based on recognised best practices.<br>· Encouraging and maintaining a culture of safety.<br>· Demonstrating environmental responsibility in the workplace (e.g. conserving energy, preventing pollution, reducing fire risks, minimising and managing waste, recycling, minimising damage and disturbance during work, etc.). | · Health and safety requirements and procedures of the TSR programme (see also PER 2.5).<br>· Main environmental hazards associated with work and means of preventing or reducing them. |
| **FPC 09** | **Avoid, prevent and report dishonest and/or illegal practices.** | · Taking steps to avoid and prevent illegal activity, corruption, collusion, nepotism, breaches of confidentiality.<br>· Reporting illegal and corrupt practices.<br>· Maintaining confidentiality of information when required. | · Laws and regulations and policy of the employer regarding illegal, dishonest and corrupt conduct.<br>· Techniques for avoiding and preventing illegal behaviours.<br>· Options for reporting illegal behaviour. |
| **FPC 10** | **Maintain personal health, hygiene and fitness.** | · Paying attention to keeping fit and healthy, both physically and mentally, for your required activities.<br>· Managing stress.<br>· Following set programme good practice for health and hygiene in relation to self and others. | · Basic principles and practices for maintaining personal health and hygiene.<br>· Stress management and reduction techniques (see also PER 2.5).<br>· Health and safety requirements (see also PER 2.5). |
| **FPC 11** | **Communicate in primary and other languages and/or dialects.** | · Communicating (speaking/understanding/reading/writing) in locally used languages and/or international languages (as required) | · Knowledge of native/local languages |
| **FPC 12** | **Work in compliance with instructions, briefings, laws, regulations and procedures.** | · Demonstrating awareness of and compliance with requirements of the employer and the job.<br>· Paying attention to information, guidance and instructions.<br>· Demonstrating awareness of regulations governing activities, health, safety, welfare, etc. | · Requirements of the job and expectations and standards of the employer.<br>· Skills and techniques for listening and understanding (see also APC 09).<br>· Legal rights and obligations of employees. |

# CATEGORY APC:
# ADVANCED PERSONAL COMPETENCES

Demonstrate personal skills and behaviours required for effective performance and leadership
(Applies to all professional levels, but mainly 2-4)

| CODE | COMPETENCE STATEMENT<br>*The individual should be able to:* | RANGE STATEMENT<br>*A brief explanation of the competence.* | KNOWLEDGE REQUIREMENTS<br>*Main specific knowledge requirements for the competence.* |
|---|---|---|---|
| **APC 01** | **Address complex problems.** | · Taking a positive approach to dealing with problems.<br>· Dealing with problems in a rational and systematic way.<br>· Developing and exploring alternative approaches and strategies for problem solving.<br>· Exploring creative and innovative solutions to problems.<br>· Seeking support and expertise where needed. | · Techniques for problem identification and analysis.<br>· Techniques for identification and analysis of alternative solutions.<br>· Negotiation and conflict resolution skills (see also CAC 3.4, CAC 2.6). |
| **APC 02** | **Make effective decisions.** | · Working strategically towards defined goals.<br>· Identifying best courses of action based on analysis of alternatives, rational assessments and experience.<br>· Consulting with and listening to others when making decisions.<br>· Assessing the effectiveness and impact of decisions.<br>· Taking responsibility for decisions made.<br>· Learning from successes, mistakes and failures and adapting plans and activities accordingly. | · Strategic planning.<br>· Work planning and organisational techniques.<br>· Planning and decision making techniques.<br>· Monitoring and evaluation techniques.<br>· Principles of adaptive management (see also PSP 3.4). |
| **APC 03** | **Cope with hazardous working environments.** | · Prioritising safety and welfare of people.<br>· Understanding preparedness in working environments: Prevention, Protection, Mitigation, Response, and Recovery.<br>· Being aware of hazards and risks associated with the working environment.<br>· Strictly observing risk reduction plans, procedures and measures.<br>· Avoiding and preventing reckless and impulsive actions.<br>· Learning and rehearsing emergency responses and procedures. | · Hazards and risks affecting the TSR programme.<br>· Strategies, plans and procedures for risk reduction and response.<br>· Sources of advice and help on risk assessment.<br>· First aid training (see also FLD 1.9). |
| **APC 04** | **Work effectively under pressure.** | · Demonstrating efficient time management and multi-tasking skills.<br>· Prioritising and delegating tasks in order to balance workloads.<br>· Persevering in times of difficulty and adversity and remaining calm and in control.<br>· Recognising the signs of stress and 'burnout' (in oneself and others).<br>· Adopting measures for dealing with/reducing personal stress. | · Techniques for analysing and prioritising problems and tasks.<br>· Sources of personal support and counselling.<br>· Health and welfare management techniques (see also PER 2.5). |
| **APC 05** | **Make best use of limited resources.** | · Adopting creative approaches to implementing plans with limited resources (human, financial, technical).<br>· Being economical and avoiding waste and unnecessary use of resources.<br>· Seeking low cost, sustainable solutions. | · Sources of low cost/free resources and support.<br>· Options for waste minimisation. |

| | | | |
|---|---|---|---|
| **APC 06** | **Adopt a positive attitude to learning and personal development.** | · Seeking and learning new information and skills and learning from others.<br>· Pursuing personal and professional development opportunities.<br>· Being an active participant in training and learning activities.<br>· Engaging in 'non-formal' learning activities such as mentoring and communities of practice. | · Sources of information and knowledge (including online).<br>· Opportunities for learning and training. |
| **APC 07** | **Demonstrate commitment to transparency and participation.** | · Adopting an open and inclusive approach to work.<br>· Sharing information openly wherever possible.<br>· Sharing feedback and opinion with colleagues at all levels.<br>· Being transparent about decisions and decision making.<br>· Identifying and engaging stakeholders with an interest in resources, plans and decisions.<br>· Being approachable and accessible to colleagues and stakeholders. | · Stakeholders with an interest in the TSR programme (see also CAC 2.1).<br>· Participatory approaches and techniques. |
| **APC 08** | **Enable and encourage team work.** | · Demonstrating strong leadership skills.<br>· Developing and motivating teams and encouraging teamwork.<br>· Ensuring that team members understand their roles and tasks.<br>· Creating a 'team spirit' and common purpose.<br>· Encouraging sharing of ideas and creative and critical thinking. | · Principles of team work and team leadership. |
| **APC 09** | **Support and encourage individuals.** | · Listening to others.<br>· Providing constructive advice and criticism.<br>· Supporting colleagues and staff in times of stress and difficulty.<br>· Delegating tasks to people with the appropriate skills.<br>· Providing mentoring and coaching support and encouraging others to learn, develop and thrive. | · Principles and practice of supervisory management.<br>· Principles and practice of professional and personal counselling. |

# References


Akçakaya, H.R., Bennett, E.L., Brooks, T.M., Grace, M.K., Heath, A., Hedges, S., Hilton-Taylor, C., Hoffmann, M., Keith, D.A., Long, B., Mallon, D.P., Meijaard, E., Milner-Gulland, E.J., Rodrigues, A.S.L., Rodriguez, JP., Stephenson, P.J., Stuart, S.N. and Young, R.P. (2018). 'Quantifying species recovery and conservation success to develop an IUCN Green List of Species'. *Conservation Biology* 32: 1128-1138. https://doi.org/10.1111/cobi.13112.

Appleton, M.R. (2016). *A Global Register of Competences for Protected Area Practitioners*. Gland, Switzerland: IUCN. https://portals.iucn.org/library/node/46292

Appleton M.R., Ionită A. and Stanciu, E. (2017). *Pathways to professionalisation: developing individual and organisational capacities for protected area management. Lessons from Eastern Europe*. Bonn, Germany: Bundesamt für Naturschutz. Available at: https://propark.ro/images/uploads/file/publicatii/Professionalising%20PAM%202017%20-%20English.pdf (Accessed: 6 January 2021)

Beatty, C.R., Cox, N. A. and Kuzee, M.E. (2018). *Biodiversity guidelines for forest landscape restoration opportunities assessments*. Gland, Switzerland: IUCN. https://doi.org/10.2305/IUCN.CH.2018.10.en

Beers, B. (2021). Checks and Balances. Available at: https://www.investopedia.com/terms/c/checksand-balances.asp (Accessed 20 February 2021).

Bolam, F.C., Mair, L., Angelico, M., Brooks, T.M., Burgman, M., Hermes, C., Hoffmann, M., Martin, R.W., McGowan, P.J.K., Rodrigues, A.S.L., Rondinini, C., Westrip, J.R.S., Wheatley, H., Bedolla-Guzmán, Y., Calzada, J., Child, M.F., Cranswick, P.A., Dickman, C.R., Fessl, B., Fisher, D.O., Garnett , S.T., Groombridge, J.J., Johnson, C.N., Kennerley, R.J., King, S.R.B., Lamoreux, J.F., Lees, A.C., Lens, L., Mahood, S.P., Mallon, D.P., Meijaard, E., Méndez-Sánchez, F., Reis Percequillo, A., Regan, T.J., Miguel Renjifo, L., Rivers, M.C., Roach, N.S., Roxburgh, L., Safford, R.J., Salaman, P., Squires, T., Vázquez-Domínguez, E., Visconti, P., Woinarski, J.C.Z., Young, R.P. and Butchart, S.H.M. (2020). 'How many bird and mammal extinctions has recent conservation action prevented?' *Conservation Letter* 14(1): e12762. https://doi.org/10.1111/conl.12762

Cambridge Dictionary (2021). *Cambridge Dictionary*. Cambridge, UK: Cambridge University Press. Available at: https://dictionary.cambridge.org/dictionary/english/ (Accessed 20 February 2021).

Chartered Institute of Personnel and Development (CIPD) (2020). *Competences and Competence Frameworks*. Available at: https://www.cipd.co.uk/knowledge/fundamentals/people/performance/competency-factsheet (Accessed: 21 December 2020)

Chartered Management Institute (2015). *Understanding Organisational Culture.* Available at: https://www.managers.org.uk/~/media/Files/PDF/Checklists/CHK-232-Understandingorganisational-culture.pdf (Accessed: 21 December 2020)

Chao, N., Loffeld, T.A.C., Mastro, K., Willcox. D.H.A., Guthrie, V. and Rao, M. (forthcoming). 'Strengthening capacity for species conservation in Southeast Asia: a provisional assessment of needs and opportunities for the Asian Species Action Partnership.' *Oryx*.

Conservation Planning Specialist Group (CPSP) (2020). *Species Conservation Planning Principles & Steps*, Ver. 1.0.. Apple Valley, Minnesota: IUCN/SSC Conservation Planning Specialist Group.

Conservation Measures Partnership (CMP) (2016). *CMP Conservation Actions Classification* v 2.0. Available at: https://docs.google.com/spreadsheets/d/1i25GTaEA80HwMvsTiYkdOoXRPWiVPZ5l6KioWx9g2zM/edit#gid=1144804238 (Accessed: 6 January 2021)

Convention on Biological Diversity (CBD) (2011). *Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits.* Montreal, Canada: Secretariat of the Convention on Biological Diversity.

Englefield, E., Black, S.A., Copsey, J.A. and Knight, A.T. (2019). 'Interpersonal competencies define effective conservation leadership'. *Biological Conservation* 235: 18-26. https://doi.org/10.1016/j.biocon.2019.03.043

Hemming, V., Burgman, M.A., Hanea, A.M., McBride, M.F. and Wintle, B.C. (2017). 'A practical guide to structured expert elicitation using the IDEA protocol'. *Methods in Ecology and Evolution* 9(1): 169-180. https://doi.org/10.1111/2041-210X.12857

Hilty, J., Worboys, G.L., Keeley, A., Woodley, S., Lausche, B., Locke, H., Carr, M., Pulsford I., Pittock, J., White, J.W., Theobald, D.M., Levine, J., Reuling, M., Watson, J.E.M., Ament, R., and Tabor, G.M. (2020). *Guidelines for conserving connectivity through ecological networks and corridors*. Best Practice Protected Area Guidelines Series No. 30. Gland, Switzerland: IUCN. https://doi.org/10.2305/IUCN.CH.2020.PAG.30.en

Hinkle, J.C., Weisburd, D., Telep, C.W. and Petersen K. (2020). 'Problem-oriented policing for reducing crime and disorder: An updated systematic review and meta-analysis'. *Campbell Systematic Reviews* 16(2): e1089. https://doi.org/10.1002/cl2.1089

International Labour Organization (ILO) Regional Skills and Employability Programme in Asia and the Pacific (2009). *Making full use of competency standards: a handbook for governments, employers, workers and training organizations.* Bangkok: International Labour Organization. https://www.ilo.org/asia/publications/WCMS_112589/lang--en/index.htm

ILO Regional Skills and Employability Programme in Asia and the Pacific (2015). *Regional Model Competency Standards: Core competencies*. Bangkok: International Labour Organisation.

International Union for Conservation of Nature (IUCN) (2002). *IUCN Guidelines for the Placement of Confiscated Animals.* Gland, Switzerland: IUCN. https://portals.iucn.org/library/node/8021

IUCN (2018). *Guidelines for invasive species planning and management on islands*. Cambridge, UK and Gland, Switzerland: IUCN. https://doi.org/10.2305/IUCN.CH.2018.15.en

IUCN (2019). *Guidelines for the management of confiscated, live organisms*. Gland, Switzerland: IUCN. https://doi.org/10.2305/IUCN.CH.2019.03.en

IUCN (2020). Summary Statistics. Available at: https://www.iucnredlist.org/resources/summary-statistics (Accessed: 5 January 2021)

IUCN (n.d.). IUCN Glossary of Definitions – English. Available at: https://www.iucn.org/resources/publications/publishing-iucn (Accessed: 2 February 2021)

IUCN Species Survival Commission (SSC) (2013). *Guidelines for Reintroductions and Other Conservation Translocations.* Gland, Switzerland: IUCN Species Survival Commission. https://portals.iucn.org/library/node/10386

IUCN SSC (2014). *Guidelines on the Use of Ex Situ Management for Species Conservation*. Gland, Switzerland: IUCN Species Survival Commission. https://portals.iucn.org/library/node/44952

IUCN SSC (Forthcoming). *IUCN SSC Guidelines on Human-Wildlife Conflict and Coexistence*. Gland, Switzerland: IUCN Species Survival Commission.

Julé, A., Furtado, T., Boggs, L., van Loggerenberg, F., Ewing, V., Vahedi, M., Launois, P. and Lang T. (2017). 'Developing a globally applicable evidence informed competency framework to support capacity strengthening in clinical research'. *BMJ Global Health* 2: e000229.https://doi.org/10.1136/bmjgh-2016-000229

Loffeld, T.A.C., Humle, T., Cheyne, S.M. and Black S.A. (2021). 'Professional Development in Conservation: An Effectiveness Framework'. *Oryx*. http://doi.org/10.1017/S0030605321000648

McGowan, P.J.K., Traylor-Holzer, K. and Leus, K. (2017). 'IUCN Guidelines for Determining When and How Ex Situ Management Should Be Used in Species Conservation'. *Conservation Letters* 10(3): 361–366. https://doi.org/10.1111/conl.12285

Mulder, M. (2014). 'Conceptions of Professional Competence'. In Billett, S.,Harteis, C., and Gruber, H. (eds.) *International Handbook of Research in Professional and Practice-based Learning*, pp. 107-137. Dordrecht, the Netherlands: Springer. https://doi.org/10.1007/978-94-017-8902-8_5

ODK (2020). *The standard for offline data collection*. Available at: https://getodk.org/ (Access 20 February 2021).

Osita, I.C., Onyebuchi R., I and Justina, N. (2014). 'Organization's stability and productivity: the role of SWOT analysis an acronym for strength, weakness, opportunities and threat'. *International Journal of Innovative and Applied Research* 2(9): 23-32.

Rao, M., Loffeld, T., Mastro, K., Chao, N. and Guthrie, V. (2019). *Building capacity for species conservation: An assessment of needs and opportunities for ASAP*. Singapore: IUCN SSC Asian Species Action Partnership/Wildlife Conservation Society https://www.speciesonthebrink.org/about-us/reports/

Stepherdson, D.J., Mellen J.D. and Hutchins, M. (eds.) (1999). *Second Nature: Environmental Enrichment for Captive Animals* (Zoo and Aquarium Biology and Conservation Series). Washington, DC, USA: Smithsonian Books.

Tamelander J., Riddering L., Haag F. and Matheickal J. (2010). *Guidelines for Development of a National Ballast Water Management Strategy*. London, UK: GEF-UNDP-IMO GloBallast and Gland, Switzerland: IUCN. https://portals.iucn.org/library/node/9491

Taylor, J. (2007). 'In praise of the feasibility study'. *Journal of Clinical Nursing* 16(10): 1789-1791. https://doi.org/10.1111/j.1365-2702.2007.01989.x

United Nations Educational, Scientific and Cultural Organization (UNESCO) Centre for Technical and Vocational Education and Training (TVET) (2021). TVETipedia Glossary. Available at: http://www.unevoc.unesco.org/go.php?q=TVETipedia+Glossary+A-Z&filt=all&id=109 (Accessed: 20 February 2021).

Webster, J. (2016). 'Animal Welfare: Freedoms, Dominions and "A Life Worth Living"'. *Animals* 6(6): 35. https://doi.org/10.3390/ani6060035

World Health Organization (WHO) (2021). *Zoonoses*. Available at: https://www.who.int/news-room/factsheets/detail/zoonoses (Accessed 20 February 2021).

World Organisation for Animal Health (OIE) and IUCN (2014). *Guidelines for Wildlife Disease Risk Analysis*. Paris, France: OIE and Gland, Switzerland: IUCN. https://portals.iucn.org/library/node/43385

Young, J.C., Marzano, M., White, R.M., McCracken, D.I., Redpath, S.M., Carss, D.N., Quine, C.P. and Watt, A.D. (2010). 'The emergence of biodiversity conflicts from biodiversity impacts: characteristics and management strategies'. *Biodiversity and Conservation* 19: 3973-3990. https://doi.org/10.1007/s10531-010-9941-7

# Glossary of terms

**Access benefit sharing.** The fair and equitable sharing of the benefits arising out of the utilization of genetic resources, see the Nagoya Protocol for details (CBD, 2011).

**Activities.** Specific objectives within a project associated with Level 1-2.

**Adaptive management.** A systematic process of continually improving management policies and practices by learning from the outcomes of existing programmes (IUCN, n.d.).

**Attitude.** A stable, long-lasting, learnt predisposition to respond to certain things in a certain way. Attitudes are formed on the basis of beliefs, feelings and intentions (adapted from EU Commission in UNESCO Centre for Technical and Vocational Education and Training, 2021).

**Behavioural enrichment.** Also referred to as environmental enrichment, it recognises the complexity of animals physical, social and psychological lives. It aims to enhance the quality of captive animal care by simulating natural behaviours which can result in healthier, relaxed and better breeding individuals (Stepherdson, Mellen & Hutchins, 1999).

**Biocontrol.** Controlling an invasive species by introducing a natural enemy, such as an insect or biological control fungus, that specifically attacks the target species and does not attack native or economically important species (IUCN, 2018).

**Biosecurity.** The control of risks derived from the transference, manipulation and utilization of living organisms modified as a result of biotechnology and its effects on the environment and human health. According to the Cartagena Protocol, biosecurity should guarantee: an adequate level of protection regarding the safe transference, manipulation and utilization of living organisms modified as a result of modern biotechnology, that may have adverse effects on the conservation and sustainable utilization of the biological diversity, including the risks posed to human health, and specifically focusing on trans-bordering activities (IUCN, 2018)

**Capacity Development/ Capacity Building.** Capacity development commonly refers to the overall process of creating and building capacities and their (subsequent) use, management and retention. Capacity building more commonly refers to the specific processes and activities that create capacities (adapted from United Nations Development Programme in UNESCO Centre for Technical and Vocational Education and Training, 2021).

**Certification schemes.** Watershed services payment schemes in which payments are embedded in the premium price paid for a certified traded product (IUCN, n.d.).

**Check and Balance.** Procedures to reduce mistakes, prevent improper behaviour, or ensure that no one person or department has absolute control over decisions, report content, management actions, etc. (Beers, 2021).

**Competence/Competency.** The ability, encompassing knowledge, skills and attitudes, of an individual to perform adequately in a job (adapted from International Labour Organization in UNESCO Centre for Technical and Vocational Education and Training, 2021).

**Co-management.** restriction (by human hand) in area or range of a species that is spreading – possibly to become invasive – with intention to stop the spread to new areas (IUCN, n.d.).

**Containment.** The restriction (by human hand) in area or range of a species that is spreading – possibly to become invasive – with intention to stop the spread to new areas (IUCN, n.d.).

**Corridor.** Way to maintain vital ecological or environmental connectivity by maintaining physical linkages between core areas (IUCN, n.d.).

**Corruption.** The abuse of public power for private benefit; or, behaviour that deviates from the formal rules of conduct governing the actions of someone in a position of public authority because of private -regarding motives such as wealth, power, or status (IUCN, n.d.).

**CyberTracker.** A GPS field data collection system.

**Demographics**. The statistical description of the size and composition of populations (IUCN, n.d.).

**Eradication.** The complete removal of all living representatives of a species that is becoming (or is likely to become) invasive in a specified area or country (IUCN, n.d.).

**Evidence-based.** The idea that practices ought to be based on scientific evidence.

***Ex-situ* Conservation.** The conservation the components of the biological diversity outside of their natural habitats (IUCN, n.d.).

**Expert elicitation.** The synthesis of information from experts in a subject where data is absent or insufficient (Hemming et al., 2017).

**Facilitator.** An independent third party who guides the way a group identifies and solves problems and makes decisions to increase the group‘s effectiveness. The facilitator should be acceptable to all members of the group. A facilitator has no decision-making authority (IUCN, n.d.).

**Fauna.** The community of animals particular to a region, area, specified environment or period (IUCN, n.d.).

**Feasibility studies.** A preliminary study undertaken to ascertain the likelihood of a project's success, generally including assessments of technical and financial viability (Taylor, 2007).

**Flora.** The community of plants particular to a region, area, specified environment or period (IUCN, n.d.).

**Genebank.** Facility established for the ex-situ conservation of seeds, tissues or reproductive cells of animals or plants (IUCN, n.d.).

**Genus.** (plural: genera) One of the taxonomic groups of organisms, containing related species; related genera are grouped into families (IUCN, n.d.).

**Human-wildlife impact.** The direct interactions between humans and other species e.g. crop raiding for livestock depredation (Young et al., 2010).

**Human-human conflict.** Human interactions between those seeking to conserve biodiversity and those with other goals e.g. restricting traditional access of local communities to natural resources (Young et al., 2010).

**Husbandry.** The proper management and care of animals or plants, including the regulation of water, food, environment, and breeding/propogation.

**Incentives.** A material reward in return for acting in a particular way, which is beneficial to a set goal (IUCN, n.d.).

**Indigenous Peoples.** The existing descendants of the peoples who inhabited the present territory of a country wholly or partially at the time when persons of a different culture or ethnic origin arrived there from other parts of the world, overcame them and, by conquest, settlement, or other means reduced them to a non-dominant or colonial situation; who today live more in conformity with their particular social, economic and cultural customs and traditions than with the institutions of the country of which they now form a part, under State structure which incorporates mainly the national, social and cultural characteristics of other segments of the population which are predominant (working definition adopted by the UN Working Group on Indigenous Peoples) (IUCN, n.d.).

***In-situ* conservation.** The conservation of ecosystems, natural habitats and the maintenance and recovery of viable populations of species in their natural surroundings and, in the case of domesticated or cultivated species, in the surroundings where they have developed their distinctive properties (IUCN, n.d.).

**Interdiction.** The act of stopping and taking illegal goods that are being transported somewhere, or an occasion when this happens (Cambridge Dictionary, 2021).

**Introduction**. Introduction of an organism is the intentional or accidental dispersal by human agency of a living organism outside its historically known native range (IUCN, n.d.).

**Invasive species.** An introduced species that becomes destructive to the environment or human interests (IUCN, 2018).

**Knowledge.** The outcome of the assimilation of information through learning. Knowledge is the body of facts, principles, theories and practices that is related to a field of study or work (adapted from EU Commission in UNESCO Centre for Technical and Vocational Education and Training, 2021).

**Landscape/seascape.** A geographical mosaic composed of interacting ecosystems resulting from the influence of geological, topographical, soil, climatic, biotic and human interactions in a given area (on land or in the sea) (IUCN, n.d.).

**Learning culture.** An environment in which opportunities for learning are openly valued and supported and are built, where possible, into all activities (adapted from Wahba in UNESCO Centre for Technical and Vocational Education and Training, 2021).

**ODK Software.** ODK is open-source software for collecting, managing, and using data in resource-constrained environments. It allows for offline data collection with mobile devices in remote areas. The submission of the data to a server can be performed when Internet connectivity is available (ODK, 2020).

**One-plan approach.** The development of management strategies and conservation actions by all responsible parties for all populations of a species, whether inside or outside their natural range (CPSG, 2020).

**Organisational Culture**. The way that things are done in an organisation, the unwritten rules that influence individual and group behaviour and attitudes (CMI, 2015)

**Personnel.** Personnel include permanent and temporary staff, volunteers, helpers and regular collaborators.

**Problem-orientated policing.** A policing strategy that involves the identification and analysis of specific crime and disorder problems, in order to develop effective response strategies (Hinkle et al., 2020).

**Programmes.** Long-term planning associated with Level 3-4

**Projects.** Specific plans for short-term goals associated with Level 2-3

**Provision.** The act of giving or making resources available to those who need it e.g. supplementary feeding, artificial refugia, etc.

**Skill.** The ability to perform tasks and solve problems (adapted from European Centre for the Development of Vocational Training in UNESCO Centre for Technical and Vocational Education and Training, 2021).

**Stakeholder.** From a corporate perspective, a stakeholder can be defined as any group or individual who can affect or is affected by the achievements of the company's objectives (IUCN, n.d.).

**SWOT analysis**. A technique for assessing the strengths, weaknesses, opportunities, and threats within a programme or organisation (Osita, Onyebuchi R. & Justina, 2014).

**Taboo.** A subject, word, or action that is avoided for religious or social reasons (Cambridge Dictionary, 2021).

**The five domains.** A structure for assessing animal welfare of all species, they include nutrition, environment, health, behaviour and mental domains (Webster, 2016).

**Transboundary.** Represents jurisdictional units e.g. international, regional, national, states, provinces, cultural, etc.

**Zoonotic diseases.** An infection or disease that is naturally transmissible from vertebrate animals to humans (WHO, 2021).

# Collaborator affiliations

**Governments**

Bureau of Land Management, USA

Central Zoo Authority, India

DEFRA Illegal Wildlife Trade Challenge Fund Advisory Group, UK

Forest and Wildlife department, Provincia Autonoma di Trento, Italy

Government Science College, Gujarat, India

Kenya Wildlife Service

Ministerio de Medio Ambiente Y Recursos Naturales de la República Dominicana

Natural England, UK

South African National Parks

SFC National Parks and Wildlife, Malaysia

US Fish and Wildlife Service, USA

US Forestry Service, USA

Wildlife Institute of India

**Universities and Institutes**

American University of Madaba, Jordan

Ben-Gurion University of the Negev, Israel

Calicut University, Botany Department, India

Caribbean Netherlands Science Institute, Caribbean Netherlands

Centre for Crocodile Research, Australia

Chinese Academy of Forestry, China

Consiglio Nazionale delle Ricerche, Instituto di Ricerca sugli Ecosistemi Terrestri, Italy

Council of Scientific and Industrial Research, Centre for Cellular and Molecular Biology, India

El Colegio de la Frontera Sur, Mexico

Florida International University, Institute of Environment, USA

Guangxi Academy of Sciences, Guangxi Beibu Gulf Marine Research Center, China

Indonesian Institute of Sciences, Research Centre for Biology, Indonesia

Institute of Zoology, Zoological Society of London, UK

Instituto Venezolano de Investigaciones Científicas, Venezuela

International Institute for Environment and Development, London

King Abdulaziz University, Saudi Arabia

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National Agricultural Research Center, Pakistan

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National University of Singapore, Singapore

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Nottingham Trent University, UK

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Tanzania Wildlife Research Institute, Tanzania

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Universidad Michoacana de San Nicolás de Hidalgo, Mexico

Universidad Nacional Autónoma de México, Mexico

Universidad Nacional del Comahue, INIBIOMA, Argentina

Universiti Malaysia Kelantan, Global Entrepreneurship Research and Innovation Centre, Malaysia

Universiti Malaysia Terengganu, Institute of Tropical Biodiversity and Sustainable Development, Malaysia

University of Agriculture, Faisalabad, Pakistan

University of Edinburgh, UK

University of Florida, USA

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University of Hull, International Fisheries Institute, UK

University of Johannesburg, South Africa

University of Kent, Durrell institute of conservation & Ecology, UK

University of Lagos, Nigeria

University of Lisbon, Faculty of Sciences, Portugal

University of Otago, New Zealand

University of Oxford, UK

University of Patras, Department of Biology, Greece

University of Potsdam, Germany

University of Wisconsin-Milwaukee, USA

Western Philippines University, Palawan

**Non-Governmental Organisations**

Allies for Wildlife

Asociación Herpetologica Española

Association of Zoos and Aquariums

Association pour le cheval de Przewalski

Calgary Zoo Foundation

Charles Darwin Foundation

Charles Darwin Foundation for the Galapagos Islands

Cheetah Conservation Fund

Costa Rica Wildlife Foundation

EcOceanica

EDGE of Existence

Fauna and Flora International

Frontline

Fundacion Condor Andino Ecuador

Giraffe Conservation Foundation

Indonesia Environment Information Center

International Ornithologists' Union Working Group of Psittaciformes

Island Conservation

Jordan BirdWatch

JUSTSEA Foundation

Kent Wildlife Trust

Malaysian Nature Society

Mara-Meru Cheetah Project

Mauritian Wildlife Foundation

Museums Victoria

Natural History Museum

New Mexico BioPark Society

Omuta City Zoo

On the Edge Conservation

Origin Vets

Panthera

Parque Zoológico Buin Zoo

Polar Bears International

Ranger Campus

Red Mesoamericana y del Caribe para la Conservación de anfibios y reptiles

Rescue the Nature

Royal Botanic Gardens, Kew

Royal Society for the Prevention of Cruelty to Animals International

Royal Zoological Society of Scotland

Save Vietnam's Wildlife

Seychelles Island Foundation

Shoal

Small Mammal Conservation Organisation

Small Mammals Conservation and Research Foundation

Smithsonian National Museum of Natural History

The Peregrine Fund

The Scientific and Cultural Society of Pakistan

WILDCAST - Wider Caribbean Sea Turtle Conservation Network

WILD-CER

Wild Team

Wildlabs

Wildlife Conservation Society

Wildlife Preservation Canada

Wildlife Research and Conservation Society

Wildlife Vets International

WildTrack

World Wide Fund for Nature

Zoo Industry

Zoological Society of London

**IUCN**

Commission on Ecosystem Management

Commission on Education and Communication

Freshwater Conservation Committee

International Institute for International Development

Marine Conservation Committee

Red List Committee

Snake and Lizard Red List Authority

Species Conservation Success Task Force

Species Survival Committee

World Commission on Environmental Law

World Commission on Protected Areas

**IUCN SSC Specialist Groups**

African Elephant SG
African Rhino SG
Afrotheria SG
Amphibian SG
Anguillid Eel SG
Antelope SG
Aquatic Plants SG
Asian Rhino SG
Asian Songbird Crisis SG
Asian Species Action Partnership
Asian Wild Cattle SG
Bat SG
Bear SG
Bird Red List Authority
Bison SG
Boa and Python SG
Bumblebee SG
Cameleon SG
Canid SG
Cat SG
Cave Invertebrates SG
Cetacean SG
Conifer SG
Conservation Genetics SG
Conservation Planning SG
Conservation Translocation SG
Corals SG
Crocodile SG
Deer SG
Duck SG
Equid SG
Flamingo SG
Freshwater Fish SG
Freshwater Plants SG
Fungi – mushrooms and brackets SG
Galapagos Plant SG
Giraffe SG
Global Tree SG
Great Apes SG
Green Status SG
Heron SG
Horseshoe Crab SG
Human-Wildlife Conflict Task Force
Iguana SG
Invasive Species SG
Lagomorph SG
Large Carnivore Initiative Group
Marine Turtle SG
Medicinal Plant SG
Okapi SG
Orchid SG
Otter SG
Pangolin SG
Penguin SG
Primate SG
Seagrass SG
Sirenian SG
Skink SG
Small Carnivore SG
Small Mammal SG
Sustainable Use and Livelihoods SG
Swan SG
Tapir SG
Threatened Waterfowl SG
Tortoise and Freshwater Turtle SG
Western Ghats Plant SG
Wildlife Health SG
Wild Pig SG
Viper SG
Vulture SG

# About the authors

**Gwen Maggs**

Dr. Gwen Maggs has worked in threatened species recovery for 15 years, specifically in species reintroductions, in-situ species management and invasive species management. She is especially interested in driving evidence-based management of threatened species and ecosystems, by bridging the research-management gap through developing collaborations and capacity building.

**Mike Appleton**

Mike Appleton is Director of Protected Area Management at Re:wild (formerly Global Wildlife Conservation) and is Vice-Chair for capacity development with the IUCN World Commission on Protected Areas. He led the compilation of the *IUCN-WCPA Global Register of Competences for Protected Area Practitioners*, published in 2016.

**Barney Long**

Dr. Barney Long is Senior Director of Conservation Strategies at Re:wild (formally Global Wildlife Conservation). He works on the conservation of endangered species and the thematic approaches required to achieve the recovery of their populations. He has wide experience in species conservation including baseline surveys, community-based approaches, protected area management effectiveness, prevention of poaching, human-wildlife conflict, species conservation planning, and recovery programs. He is a member of various IUCN SSC Specialist Groups and co-chairs the task force developing and managing the Green Status of Species.

**Richard Young**

Dr. Richard Young has worked in international wildlife conservation for the past 20 years and has a keen interest in evidence-based conservation and the professional development of conservation practitioners. He is currently Director of Conservation Knowledge at Durrell Wildlife Conservation Trust, where he leads the Science, Effectiveness, Training and Education teams.

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