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Department of Biodiversity, Conservation and Attractions

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Science Strategic Plan 2018–21

Vision

Scientific excellence informing biodiversity conservation.

Purpose

This Strategic Plan describes the key goals that science will deliver to support the Strategic Directions of the Department of Biodiversity, Conservation and Attractions. The Plan directs the underlying scientific programs, and describes the priorities and approach for these programs and the supporting business processes.

Values

The Department of Biodiversity, Conservation and Attractions values our staff, community, and visitors by providing excellent customer service and ensuring a collaborative workforce based on integrity, diversity and accountability. Science undertaken in the department will be collaborative, innovative, ethical and outcome driven.

Strategic Intent

Science contributes to delivering the department's Strategic Directions for Biodiversity and Conservation, Natural and Cultural Values, Fire Management, Our Community and Partners, and Our People.
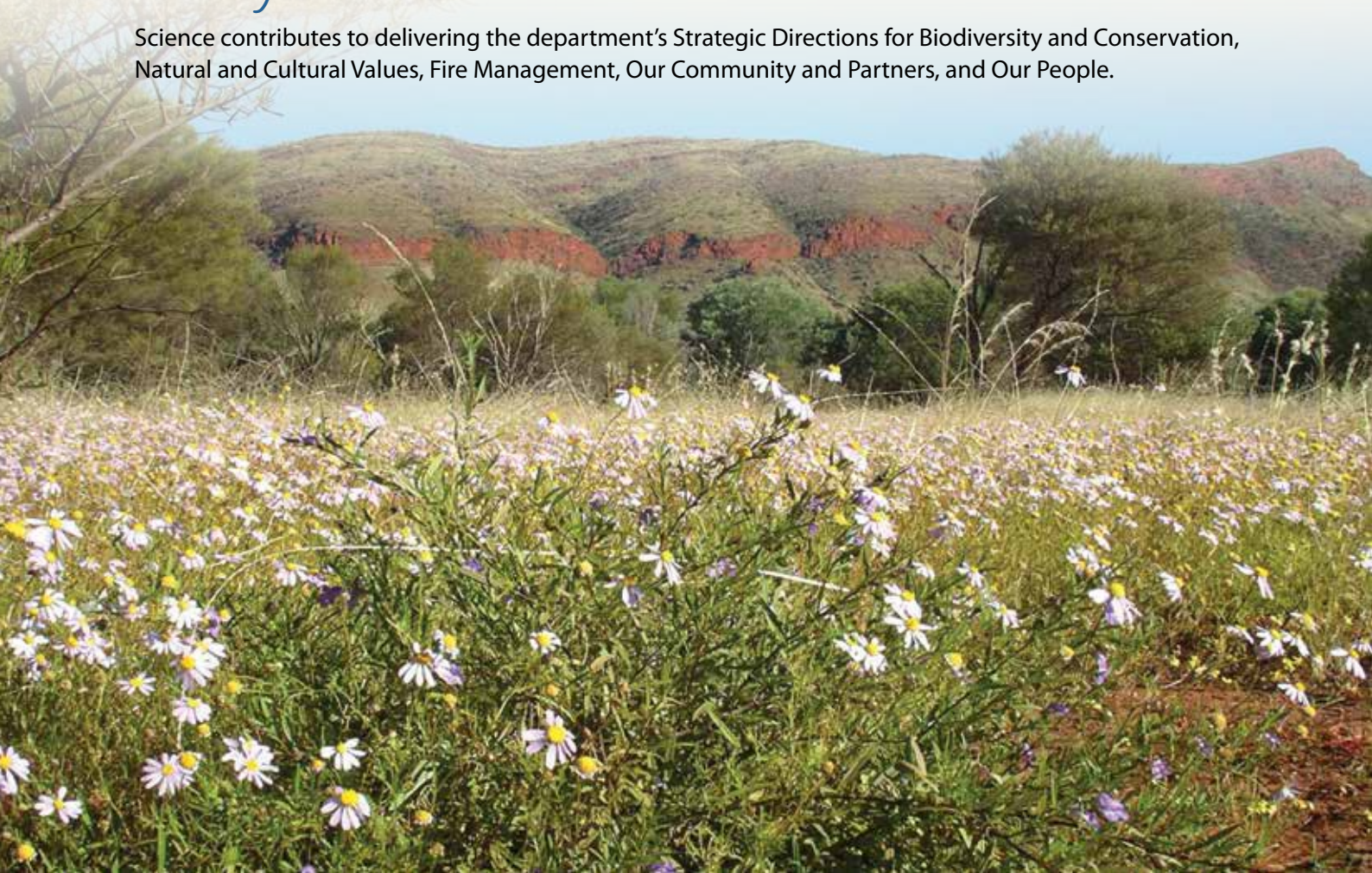
Biodiversity and conservation

Conserve, restore and manage flora and fauna, ecosystems and landscapes using world-recognised science and best practice management.

Strategic Theme	Strategic Goal	Approach
Biodiversity knowledge	Adequate knowledge of biodiversity is available to support the department's conservation and management of terrestrial, estuarine and marine ecosystems.	■ Conduct biological survey, including genetic survey, in priority management areas, and for key species and ecological communities. ■ Maintain collections and undertake taxonomic research to support biodiversity knowledge. ■ Effectively acquire and share knowledge of biodiversity.
Conservation of threatened species and ecological communities	Biodiversity conservation and recovery programs are based on scientific knowledge.	■ Undertake research to address knowledge gaps for threatened species and ecological communities. ■ Assess conservation status of species and ecological communities. ■ Provide scientific basis for monitoring of threatened species and ecological communities. ■ Undertake ex-situ conservation.
Management of invasive species and pathogens	Invasive species and pathogen management methods are evidence based and effective.	■ Assess risks and threats of invasive species and pathogens. ■ Improve effectiveness of monitoring and management of invasive species and pathogens. ■ Identify and pursue advances in effective invasive species and pathogen management methods.
Pressures and threats to ecosystem composition, function and values	Understanding of the effects and opportunities for mitigation of pressures and threats to terrestrial, estuarine and marine ecosystems and associated values.	■ Understand the pressures and threats acting on ecosystems, including altered fire and hydrological regimes, fragmentation, recreational activities, commercial operations, pollution, habitat loss, and grazing pressure. ■ Develop and evaluate effectiveness of mitigation strategies to inform management planning and conservation of species and ecosystems.
Impacts of climate change on biodiversity and ecosystem function	Impacts of climate change on biodiversity are better understood and adaptation strategies are incorporated into conservation management and planning.	■ Undertake research and monitoring to advance knowledge on the vulnerability of species and ecosystems to climate change. ■ Develop and evaluate effectiveness of adaptation strategies for incorporation into management planning, management of threatened species and communities, and sustainable use of natural resources.
Ecological restoration	Best practice scientific advice is available to inform restoration of degraded and disturbed ecosystems.	■ Develop knowledge and capability to undertake ecological restoration, including fauna reconstruction. ■ Develop best practice guidelines for use in restoration and rehabilitation.
Availability of scientific information for evidence-based decision making	Scientific knowledge is available to inform adaptive management and decision making. Conservation advice is based on scientific information.	■ Effective communication of scientific knowledge and information to policy and decision makers through appropriate processes. ■ Undertake research and monitoring to address gaps in biodiversity knowledge and support decision-making.
Innovative science and effective use of technology	Science is innovative and agile in assessing and adopting new technologies and methodologies, where appropriate.	■ Identify and realise opportunities for adoption of technical advances and innovative approaches for conservation.
Effective data management	Data is effectively captured, curated and accessible to support conservation, management and decision-making.	■ Continue development of up-to-date, integrated and accessible data catalogues and databases. ■ Implement best practice techniques for capture, storage and reuse of data.

Fire management

Protecting communities and natural values from bushfires.

Strategic Theme	Strategic Goal	Approach
Fire science to inform fire management and biodiversity conservation	Best available scientific information is used for integrated fire management to protect communities and natural values.	■ Undertake science to guide evidence-based decision making and develop approaches to integrated fire management. Develop fire behaviour models for priority ecosystems. ■ Understand effects of variation in fire regimes on species, ecosystems and landscapes. ■ Understand interactions between fire regimes and other threatening processes, including climate change. ■ Review prescribed burning and bushfire incidents to inform future decision making through scenario modelling.

Natural and cultural values

Connecting people and communities to parks, natural areas, Aboriginal culture, plants and animals.

Strategic Theme	Strategic Goal	Approach
Community engagement in science	Community is engaged, understands and supports biodiversity and conservation science.	■ Communicate the conservation outcomes of science to the general community and key stakeholders/partners. ■ Contribute science information to interpretive programs in national parks, protected areas and natural attractions. ■ Pursue opportunities for community engagement in science, including supporting citizen science projects.
Social science	Improve knowledge of how people respond to, and interact with, the natural environment.	■ Undertake research programs to understand community values, attitudes, and perceptions about biodiversity and conservation, and people's interactions with the natural environment. ■ Integrate social and biological sciences in investigations into visitor usage , risks and impacts.

Our community and partners

Building positive and meaningful partnerships to achieve results.

Strategic Theme	Strategic Goal	Approach
Engagement with traditional owners	Traditional owners are involved in knowledge sharing and delivering science projects.	■ Engage with traditional owners in joint management to undertake science projects. ■ Provide scientific input to the department's aboriginal engagement processes.
Collaboration with science providers, science users and other stakeholders	Effective science partnerships enhance provision of biodiversity and conservation science.	■ Collaborate with other science providers, government agencies, industry and NGOs to undertake science where it is aligned with the department's strategic directions.

Our people

Building a valued, collaborative and respectful workforce.

Strategic Theme	Strategic Goal	Approach
Science operates with a collaborative culture	Effective engagement among all staff to ensure science supports the department's conservation and management functions.	■ Undertake effective communication and engagement processes with all departmental staff to achieve departmental goals. ■ Engage with operational staff to identify and address knowledge gaps and ensure science outcomes are incorporated into management.
Corporate science knowledge	Corporate science knowledge is retained, shared and accessible.	■ Ensure staff input to corporate data systems to enable access for knowledge sharing. ■ Provide opportunities for mentoring, leadership and transfer of knowledge.
Highly skilled workforce	Delivery of high quality science by skilled staff.	■ Foster an innovative and agile culture among staff. ■ Provide training and career development opportunities for staff, and foster a respectful workforce where diversity is valued.

Science in the Department of Biodiversity, Conservation and Attractions is undertaken in accordance with the departmental Science Policy, where science refers to scientific research, scientific monitoring and science communication undertaken in relation to the biological, physical and social environments.

Biodiversity and Conservation Science coordinates and delivers science in the Department of Biodiversity, Conservation and Attractions, providing science and biodiversity knowledge to support the functions of the Parks and Wildlife Service, Botanic Gardens and Parks Authority, Zoological Parks Authority and Rottnest Island Authority.

Biodiversity and Conservation Science is structured into programs focused on key themes for the delivery of targeted science to support evidence-based decision making and the conservation and land management functions of the department. Science and research is undertaken using both WA Government and external funding sources.

Biodiversity and Conservation Science operates from a range of locations including Kensington, Kings Park, Perth Zoo, Woodvale, Manjimup, Busselton, Kununurra, and Albany, and includes the Western Australian Herbarium.

Biodiversity and Conservation Science staff have expertise in animal biology, animal breeding, aquatic ecology, biological survey, collections management, conservation biotechnology, conservation genetics, conservation medicine, conservation policy, ecology, ecological restoration, ecoinformatics, ecophysiology, fire behaviour, hydrology, marine biology, plant biology, remote sensing and spatial analysis, seed biology, systematics and taxonomy.

More information is available at www.dbca.wa.gov.au/science

Our key brands

PARKS AND WILDLIFE SERVICE

ROTTNEST IS

Perth Zoo
SAVING WILDLIFE

BOTANIC GARDENS & PARKS AUTHORITY

underpinned by

Biodiversity and Conservation Science