NSW National Parks and Wildife Service

NPWS Task Force on Climate-related Financial Disclosures Statement

2021–2022

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Preface

As committed under the *NSW Government Net Zero Plan Stage 1: 2020–2030 Implementation Update*, the National Parks and Wildlife Service (NPWS) has prepared this inaugural Task Force on Climate-related Financial Disclosures (TCFD) Statement, which sets out the economic, financial and physical impacts, risks and opportunities of climate change and planned future priorities for NPWS operations.

This Statement has been developed to be consistent with the framework established by the TCFD (see 'TCFD Recommendations' in Section 5 below).

NPWS' first Statement aims to:

- communicate its commitment to understanding and managing the impact of climate change on the natural, cultural and social values of the lands under its management, and on its people and infrastructure (assets)
- demonstrate NPWS actions already underway in climate change risk management and adaptation
- support the efficient allocation of resources for the transition to a zero emissions, climate-ready economy and community.

To support NPWS' progress, the Statement has been peer reviewed by an appropriately qualified auditor, who has provided an assurance statement.

NPWS manages 889 national parks and reserves across NSW, playing a vital role in the conservation of the state's irreplaceable biodiversity and cultural heritage and providing opportunities for visitors and communities to safely and stainability enjoy the NSW national parks estate. NSW national parks also represent one of the largest carbon stores in NSW, covering over 10% of the state, equating to 40% of the total NSW forest carbon stock. Providing secure, long-term protection for these carbon stocks is a vital contribution to managing climate change risk.

However, NPWS is on the frontline of the impacts of climate change and recognises the need for urgent mitigating action, as well as adaptation. This has never been more apparent than following the devastation of the 2019–20 'Black Summer' bushfires and subsequent multiple flooding events in 2020–21, which have impacted nature, culture, people and infrastructure.

NPWS, together with Aboriginal joint management partners, is uniquely experienced and skilled in managing risks to national parks, and will draw upon this experience, coupled with its strong risk management culture, to respond to emerging climate risks.

NPWS recognises the unique and important role of Aboriginal people as land custodians and has committed to expanding the Aboriginal joint management model for NSW national parks, to pave the way for the transfer of the entire estate (10% of the state) to traditional owners over the next 2 decades.

NPWS has clearly stated its action on climate change, making a public commitment to becoming carbon positive by 2028. This requires actions to reduce its operational footprint, increase the rate of carbon sequestration and actively manage the climate change risk across the national parks estate. This TCFD Statement sets out NPWS' current and future actions to meet these challenges.

Contents

Taskforce for Climate-related Financial Disclosures Statement requirements

This document is structured according to the 4 thematic areas recommended by the TCFD.

1. **Governance** – covering NPWS' governance structure and processes to identify and manage climate risks and opportunities.

   TCFD recommended disclosure:

   a. Describe the board's oversight of climate-related risk and opportunities.

   b. Describe management's role in assessing and managing climate-related risk and opportunities.

2. **Strategy** – disclosing the expected climate risks and opportunities to NPWS, its management of the cultural, built and natural assets, and to its staff and local communities.

   TCFD recommended disclosure:

   a. Describe the climate-related risks and opportunities the organisation has identified over the short, medium and long term.

   b. Describe the impact of climate-related risks and opportunities on the organisation's business, strategy and financial planning.

   c. Describe the resilience of the organisation's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.

3. **Risk management** – covering NPWS' governance structure and processes to identify and manage climate risks and opportunities.

   TCFD recommended disclosure:

   a. Describe the organisation's processes for identifying and assessing climate-related risks.

   b. Describe the organisation's processes for managing climate-related risks.

   c. Describe how processes for identifying, assessing and managing climate-related risks are integrated into the organisation's overall risk management.

4. **Metrics and targets** – covering NPWS proposed metrics and targets for monitoring and achieving against climate risks and opportunities.

   TCFD recommended disclosure:

   a. Disclose the metrics used by the organisation to assess climate-related risks and opportunities in line with its strategy and risk management process.

   b. Disclose Scope 1, Scope 2 and, if appropriate, Scope 3 greenhouse gas (GHG) emissions and the related risks.

   c. Describe the targets used by the organisation to manage climate-related risks and opportunities, and performance against targets.

1. Governance

1.1 Governance framework for risk management

NPWS is an entity located within the Environment and Heritage Group (EHG), which is part of the Department of Planning and Environment (the department). Accountability for all enterprise risks, including climate risks, within the department is mapped in Figure 1. Risk registers are established at the department, group (e.g. EHG) and directorate (e.g. NPWS) levels. In addition, NPWS prepares branch-level risk registers.

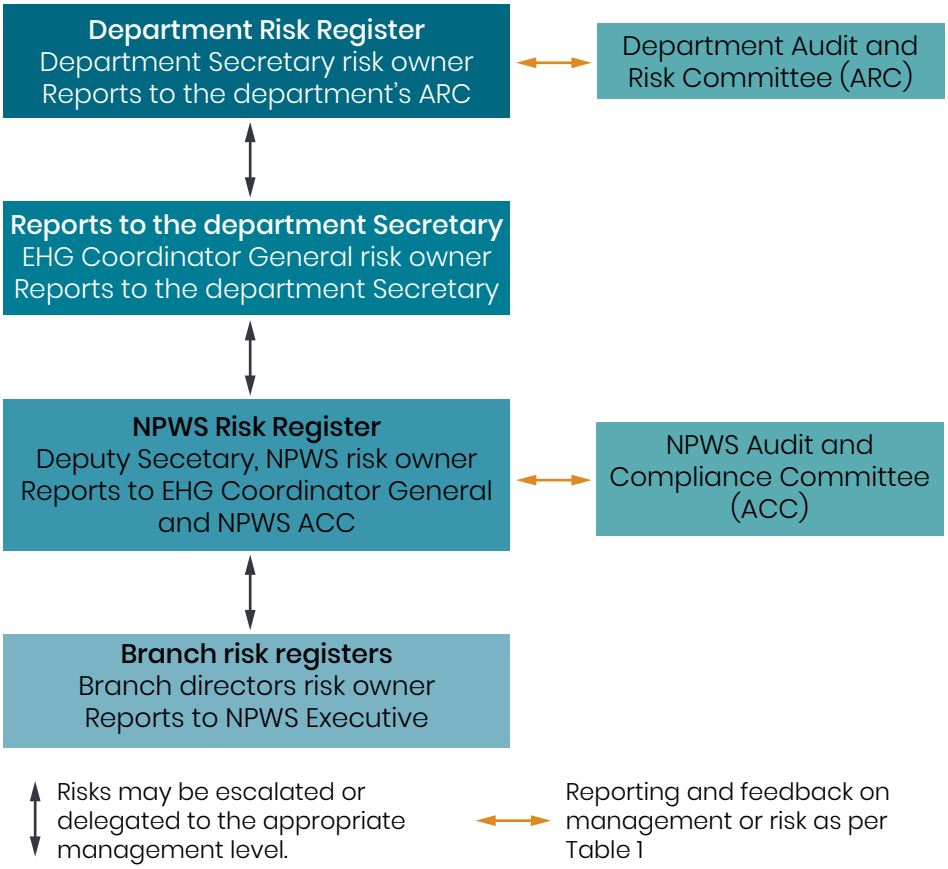

Figure 1 Enterprise risk governance framework

Department and NPWS Executives conduct quarterly reviews of the risk registers. These reviews test risk relevance and risk ratings, and control effectiveness and monitor progress of treatment plans.

Consistent with NSW Treasury's *Internal Audit and Risk Management Policy for the General Government Sector TPP20-08*, NPWS and the department apply the Institute of Internal Auditors (IIA) 'Three Lines Model' for risk management, effective governance and informed decision-making (Figure 2).

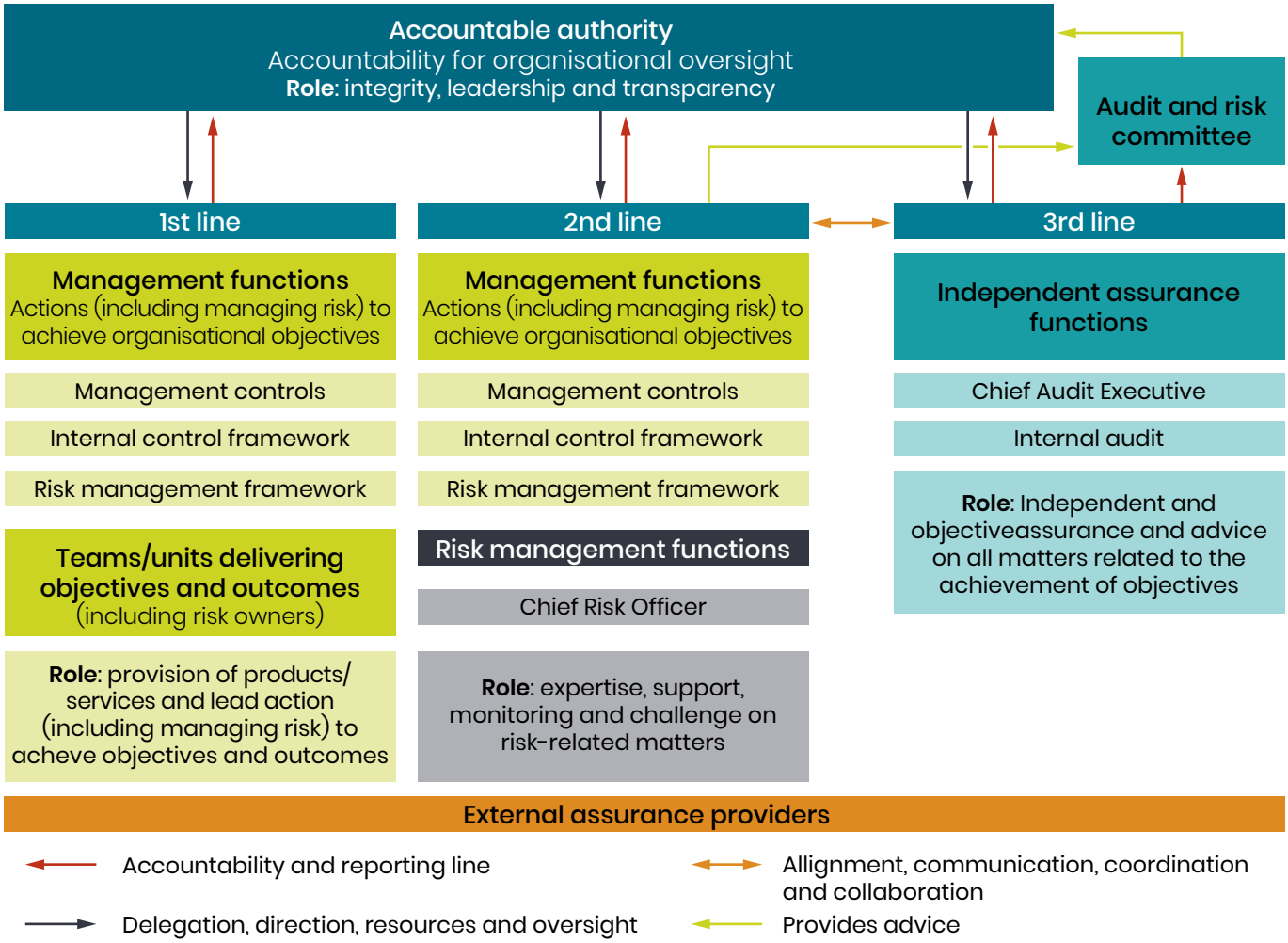

Figure 2 Governance Three Lines Model (adapted from NSW Treasury, 2020)

Risk (line 2) and internal audit (line 3) work closely together and share risk registers when developing the department's internal audit calendar and individual audit scopes. Similarly, audit findings are provided to risk managers for business improvement and to review content of risk registers and treatment plan coverage. All audit reports and risk registers are reviewed and approved by the relevant department or NPWS Executives.

1.2 Role of the Executive in climate risk management

The role of the department's Executive in assessing and managing climate risks and opportunities, and all other enterprise risks and opportunities, is prescribed in the department's enterprise risk governance framework (Figure 1). The Executive approves updates to risk registers, including the addition of new climate risks, allocates resources to address risks, and reports on progress and risk exposure to the department's Audit and Risk Committee (ARC) and NSW Treasury and, from 2022–23, the NPWS Audit and Compliance Committee (ACC).

The Executive currently reviews and reports on climate risks to biodiversity and infrastructure across the NSW national parks system.

1.3 Regular risk reporting

Monitoring and reporting on risks is routine business for NPWS and the department. Scheduled risk reporting, and its purpose, is outlined in Table 1.

Table 1 Department/NPWS enterprise risk reporting schedule

Risk report	Reporting on
Quarterly reporting to the department's ARC and Quarterly reporting to EHG and NPWS Executives	• Progress on risk treatments • Any significant shifts in likelihood, consequence or overall residual risk rating • Any new risks identified during the quarter • Very high or high risks • Any other information relevant to the risk profile of the entity/ group
Annual reporting to the department's ARC and Annual reporting to the NPWS ACC[1]	• Progress on implementing treatments to address risks rated as high or very high • An overview of the EHG and NPWS risk profiles • Commentary and explanations for any significant shifts in risks • Notification of significant incidents, risk events and environmental changes • Notification of planned changes that will impact the risk profile including reference to emerging risks
Annual reporting to NSW Treasury	The Secretary of the department provides NSW Treasury with an attestation regarding compliance with TPP20-08.

[1] From 2022–23 the NPWS Executive will report on risk management to the ACC.

1.4 Medium-term governance priorities (2–5 years)

The department will strengthen its oversight of climate risks and opportunities by:

- updating the department's Risk Management Policy and Procedures to provide more guidance on managing climate risks
- NPWS will develop a new Climate Change Policy, specific to its current operations and commitments.

2. Strategy

The TCFD framework recommends a disclosure of actual and potential impacts of climate-related risks and opportunities on NPWS operations, strategy and financial planning where such information is material.

2.1 Climate-related risks

In May 2022, NPWS conducted a climate change risk assessment in accordance with the *Climate Risk Ready NSW Guide*. NPWS has a complex risk profile with risks covering the following categories:

1. Physical – the increasing intensity and severity of weather events may have consequences for assets
2. Financial – climate change may impact the safety and soundness of the agency and have broader financial stability implications for NPWS
3. Reputational – the agency's management of the impacts of climate change may threatens its brand and community expectation of its services
4. Liability – risks arise when people or businesses hold NPWS responsible for not acting on climate change and seek compensation
5. Transitional – there are risks associated with transitioning to a decarbonised economy
6. Policy – potentially conflicting government priorities may impact on climate change policy.

NPWS identified 13 climate risks (Table 2) covering impacts to natural and cultural values, built assets, finance, the workforce, visitors, priority programs, reputation, future generations, and local communities and economies. The scale, frequency and range of climate impacts on NPWS operations will be significant, vast, costly and potentially transformative, and is already occurring. Medium-term risk mitigation priorities were identified and are listed in Section 2.4. As NPWS better understands these risks across the organisation, it will assess how these risks will manifest across the short (1–2 years), medium (2–10 years) and long term (>10 years) and incorporate management of these risks into its financial planning processes.

NPWS will continue to monitor the rapidly changing climate change policy landscape in NSW and Australia, and adjust its strategy accordingly.

Table 2 NPWS climate-related risks

Risk type	Risk impacts
Physical	Risk 1: Changes in climatic patterns, sea level rise and increasing extreme events cause extinctions and environmental loss, including marine wildlife
Physical	Risk 2: Changes in climatic patterns, sea level rise and increasing extreme events cause impacts to cultural assets, Country and practice
Physical	Risk 3: Changes in climatic patterns, sea level rise and increasing extreme events cause impacts to historic heritage
Physical	Risk 4: Safety of workers and visitors is compromised due to increased extreme events (e.g. fires, floods, landslides, rockfalls) or increased visitation in high-risk areas (e.g. swimming at beaches and inland waterways)
Physical and financial	Risk 5: Changes in climatic patterns and increasing extreme events cause asset failure, damage and economic loss
Financial	Risk 6: Park revenue is impacted by extreme events and recovery (e.g. warming climate will change visitation patterns such as the ski season)
Financial	Risk 7: NPWS is unable to deliver the financial and human resources needed for increasing repair and recovery works
Financial	Risk 8: Responding to natural disasters diverts efforts from the delivery of other priority programs
Reputational	Risk 9: Community perception that NPWS is not actively managing national parks for climate change risk
Liability	Risk 10: NPWS' assets and service delivery liabilities are increasing due to climate impacts
Liability	Risk 11: NPWS has an intergenerational liability for the conservation of cultural and natural values within reserves
Transitional	Risk 12: NPWS is unable to take advantage of, or is impacted by, the transition into a low carbon economy
Policy	Risk 13: The impact of conflicting policies and priorities within NPWS and government hinders effective climate action

2.2 NPWS current climate strategies

Over the past decade, NPWS has experienced increasing impacts from climate-related events and is already taking direct action to manage climate change risks and build the resilience and adaptability of the organisation and the lands it manages. NPWS is also playing an active role in the solution by reducing emissions and finding opportunities for the advancement of Country and people. Many risks are cross-cutting in NPWS planning and operations and each strategic priority action addresses multiple risks. The core strategic areas are:

1. embedding climate change risk into organisational planning and operations
2. commitment to using best available research
3. prioritising Aboriginal partners through the development of a new management model
4. increasing our recovery and response capacity
5. building resilience, and adapting and increasing protection of nature and culture

6. adapting how we manage fire
7. building back better
8. protecting visitors and staff
9. building our risk management culture
10. climate-related opportunities – being part of the solution.

Case Study 1

North Coast: multiple climate-related events

The NSW North Coast, particularly the Northern Rivers region, has experienced unprecedented frequency and magnitude of climate change driven natural disasters over the past decade. These include Tropical Cyclone Oswald in 2013, ex-tropical cyclone Debbie in 2017 and several significant east coast low pressure systems, as well as the 2019–20 fires and more recently significant floods in 2021 and 2022.

In recent decades there has been a trend towards a greater proportion of high-intensity, short-duration rainfall events across northern Australia.

This is impacting on NPWS' reserve management capabilities, conservation of natural and cultural values and assets, delivery of visitor experiences, and the wellbeing of staff and the communities in which they live.

Physical impacts range from tree falls, floods, landslips and road damage to loss of forest through fire, including core koala habitat and World Heritage-listed rainforest. The 2019–20 bushfires burnt 283,000 hectares, affecting 46% of the NSW North Coast's national parks estate.

The financial cost of these events is increasing exponentially (Table 5). Repair costs are becoming unsustainable and, in some cases, unjustifiable, and a review of infrastructure is required to adapt to the new climate realities.

Recovery works in response to the 2022 floods are expected to take at least 5 years.

Table 5 Financial cost estimates for recent climate-related events in North Coast national parks

Year	Event	Financial cost
2013	Cyclone Oswald	Not recorded
2017	Cyclone Debbie	$3.6 million
2019–20	Bushfires	$6.7 million
2021	Floods	$4.8 million
2022	Floods	$14.1 million (only 20% assessed)

1. Embedding climate change risk into organisational planning and operations

NPWS has conducted a climate change risk assessment and incorporated these risks into the NPWS Enterprise Risk Register. It has also conducted a climate maturity check, and factors climate change risk into its planning and operations, including park plans of management and asset renewal works. To better understand and budget for financial risks arising from climate impacts, NPWS is committing to undertaking a financial risk assessment of its key operations.

2. Commitment to using best available research

NPWS' decision-making on climate change action is underpinned by the best available research and science including the NSW and ACT Regional Climate Model (NARCLIM) projections and NSW Bushfire Risk Management Research Hub. The NSW Government has increased its investment in climate change research, which NPWS will continue to utilise.

3. Prioritising Aboriginal partners through the development of a new management model

NPWS is enhancing and expanding its Aboriginal joint management program through the development of a new model that will strengthen the role of Aboriginal communities in decision-making and enhance the protection of cultural heritage. This will be applied across the national parks system in NSW over the next 15–20 years. NPWS also works with local Aboriginal communities to implement cultural fire management in accordance with its Cultural Fire Management Policy.

4. Increasing our recovery and response capacity

The national parks system is experiencing unprecedented impacts from multiple extreme events such as the 2019–20 bushfires, the 2021 and 2022 floods and the earlier Millennium Drought (between 1997 and 2009) – see Case Studies 1 and 2. In recognition of this, NPWS has committed to increasing the capacity for the agency to respond to and recover from the increasing impacts of extreme events, including:

- rapid response teams – a new Landscape Scale Assessment Team consisting of experts in soils, assets and ecology. It will deliver a rapid risk assessment to provide high-level recommendations for areas that have been significantly impacted by extreme events
- implementation of state-wide systems for emergency management
- insurance – NPWS has overhauled its insurance management practice to incorporate landscape-scale events. Working with iCare, NPWS has committed to a streamlined process for insurance and validation to ensure funds are available when needed in extreme event scenarios. NPWS and iCare have recognised in policy a commitment to build back better by using modern engineering designs to address extreme and multiple impact events, and to provide increased asset resilience. NPWS is reviewing all insurance schedules to maximise cover for assets of high value and public relevance. Assets of low relevance or with poor safety (heritage assets excluded) may be removed and replaced where needed with more resilient assets.

5. Building resilience, and adapting and increasing protection of nature and culture

As well as its built assets, the natural and cultural values of the Country under NPWS management are under pressure from increasing climatic impacts. NPWS has committed to the following measures:

- under the Zero extinctions – threatened species framework, ground-breaking initiatives are being implemented to protect threatened species such as:
    - declaration of important threatened species habitat as Assets of Intergenerational Significance (AIS)
    - acquisition of key threatened species habitat for addition to the national parks estate and strategic priority areas and expanded NSW Land Acquisition Strategy
    - establishment of a network of feral predator-free areas to support the return of more than 25 locally extinct species
    - delivery of the largest feral animal control program in national parks history
    - delivery of key actions of the NSW Koala Strategy
- establishment of a dedicated fire risk unit to ensure threatened and significant species, cultural and historical assets are considered in new fire plans

- rolling out a world-class ecological health monitoring program (Ecological Health Performance Scorecards) across several key national parks, recognising that increased conservation and health of ecosystems is the first step to climate change resilience. The ecological health monitoring program gathers data on key measures of ecological threats, conservation assets and ecosystem processes. The data will be used for park evaluations and reserve planning to adaptively guide decision-making and increase transparency and trust in management of the NSW national parks system in the face of climate change
- between 2016 and 2018, NPWS invested in developing the *NSW National Parks Climate Change Adaptation Strategy* to address the increasing impact climate change is having on national parks, including biodiversity, Aboriginal and historic heritage, assets and park visitors. The strategy applies an adaptation planning tool to strategic planning, asset management, operational action and communication, to identify proactive solutions to protect key park values. It enables planning for both high and low emissions pathway scenarios
- NPWS recognises the threat to World Heritage values from climate change and the need to develop adaptation strategies. Recommendations from a pilot climate change adaptation project for Gondwana Rainforests, including site-based management, translocation and securing ex-situ populations of significant species, are currently being implemented (see Case Study 3)
- the Aboriginal Climate Change Adaptation program is piloting working with 3 joint management boards to make proactive and informed decisions about how to respond to climate change impacts, both now and into the future. Adaptation pathways have been used to identify options for protecting cultural values and to develop an adaptation plan
- declaration of areas with important cultural values as AIS
- international commitments – RAMSAR, World Heritage, *Protected and Conserved Areas Joint Statement on Climate Change and Biodiversity*
- collaborating with conservation partners – Biodiversity Conservation Trust, Saving our Species, Marine Estate Management Authority.

6. Adapting how we manage fire

Climate change is increasing the frequency and intensity of bushfires and the duration of fire seasons. NPWS adopts a strategic approach to managing fires in national parks and undertakes an array of planning, preparedness, hazard reduction, rapid response firefighting and research-related activities. NPWS works cooperatively with other NSW fire agencies and actively engages with communities and neighbours to ensure there is a coordinated approach to bushfire management across the state. In response to the unprecedented 2019–20 ‘Black Summer’ bushfire season (see Case Study 1), NPWS has significantly bolstered its bushfire management program to address the increasing risk from climate change. This includes:

- a 20% increase in NPWS hazard reduction targets for high-risk areas (i.e. Asset Protection Zones and Strategic Fire Advantage Zones)

- employing 200 firefighters in permanent roles to deliver on the increased hazard reduction targets and strengthen the existing rapid response capability
- procuring an additional helicopter in 2021–22 to support hazard reduction and rapid response firefighting
- upgrading the NPWS fleets of firefighting vehicles and appliances, incorporating additional safety measures for firefighters
- enhancing access for firefighting operations on national parks, including upgrading fire trails in accordance with the *NSW RFS Fire Trail Standards* and RFS fire access fire trail plans
- working with the Rural Fire Service (RFS) and local Bushfire Management Committees to ensure impacts on natural and cultural assets (such as threatened ecological communities, threatened species and their habitat, and Aboriginal sites) are addressed in Bushfire Risk Management Plans. This involves the use of the best available bushfire risk management science and modelling
- improving integration of natural, cultural and heritage assets into bushfire planning and response arrangements. For example, protection of AIS will form part of the NPWS reserve fire-planning process and has been imbedded in multi-agency operational systems (i.e. ICON) so that information on the AIS's values response to bushfire is available to Incident Management Teams and informs response activities

- actively engaging in research and innovation initiatives including Natural Hazards Research Australia, the NSW Bushfire and Natural Hazards Cooperative Research Centre, the Applied Bushfire Science Program and the NSW Bushfire Technology Pilots Program. Specific outcomes from these initiatives will be adopted into the NPWS Bushfire Management Program to ensure NPWS policies, procedures, practices, supporting systems and tools reflect the latest research and technology.

7. Building back better

NPWS infrastructure supports the NPWS vision of inspiring everyone to love their national parks. Its assets facilitate park operations, support staff to do their work and enable engaging community experiences that foster appreciation of a vibrant natural culture and heritage. Climate change resilient infrastructure is planned, designed, constructed and operated in a way that anticipates, prepares for and adapts to changing climatic conditions.

Case Study 2

The 2019–20 'Black Summer' bushfires

The 2019–20 bushfire season was the worst in the history of NPWS, with around 11,000 fires across NSW. NPWS responded to 519 bushfires, contributing over 43,000 staff days in fighting the fires.

Climate was a significant contributor to this bushfire event. Lightning strikes started 48% of the bushfires and caused 89% of the area burnt on the national parks estate.

The losses of built assets and infrastructure, cultural and World Heritage values, habitats and the species they support were immense. Financial losses to NPWS ran to $97 million. Overshadowing these financial losses, the 2019–20 bushfires had a profound impact on the NSW environment:

- 2.7 million hectares (approximately 50% of the total burn area in NSW) of national park land burnt, representing around 38% of national parks and reserves
- almost 3 billion native animals were killed or displaced across Australia
- 22% of all high to very high suitability koala habitat in eastern NSW was burnt
- 46 threatened species have at least 90% of their recorded sites within the mapped fire ground
- 40% of the NSW section of the Gondwana Rainforests of Australia World Heritage property was in the mapped fire ground
- at least 71% of the Greater Blue Mountains Area World Heritage property was in the mapped fire ground.

NPWS has committed in its Infrastructure Replacement Strategy and Climate Change Policy to provide greater visibility to the current and future needs of assets. This is delivered through the NPWS Asset Stewardship Strategy and Management Framework, developed in accordance with the NSW Government Asset Management Policy. Infrastructure replacement aligns with asset management plans, which outline activities, resources and timescales required to achieve the defined service level with consideration of climate change.

The current review of the NPWS Rockfalls and Landslides Policy recognises the increasing risk of rockfall and landslides caused by climate change induced high rainfall events.

NPWS is considering climate change in the management of historic heritage assets by developing a state-wide heritage priorities process to support the Heritage Asset Management Plan, implementing the digital cataloguing of moveable heritage collections onto Ehive (Hill End, Fort Denison, Quarantine Station, Royal National Park, Me-Mel (Goat) Island, Yanga National Park and Ku-Ring-Gai Chase National Park) and seeking involvement in the post-fire assessment strategies and post-fire management plan of the International Council on Monuments and Sites' (ICOMOS).

NPWS has also committed to ensuring its asset management meets the needs of park visitors, businesses and neighbours by mapping visitor use and asset use and the relevance of economic benefit to communities, to prioritise repairs and re-opening following damage and closures from extreme climatic events.

8. Protecting visitors and staff

With over 60 million visits annually, managing visitor safety risks is a priority for NPWS. It has a duty of care to park visitors and will manage, but not eliminate, risks in parks, including increasing risk from climate change. Park visitors must take some responsibility for their own safety.

The NPWS Visitor Safety Policy provides guidance to park managers on managing visitor safety risks, which includes the increasing incidence of natural hazards in national parks from climate change. The Visitor Safety Framework (draft) will provide a structured planning and decision-making framework to identify how NPWS addresses visitor safety risks, meets its legislative obligations, and establishes a system consistent with international safety system standards. Visitor and public safety hazards and incidents are recorded and assessed in CAMMS (Work Health and Safety incident management system).

NPWS has updated the safety management system, procedures and associated framework, as well as increased staff safety training to improve the safety culture across the organisation through the Zero in Parks initiative. NPWS now has infrared capability to improve the safety of homeless people residing in its parks in case of fire, a public notification system for visitors – Park Closure and Alert System – and digital contactless fee services that enable park visitors to be contacted. NPWS is increasingly using its digital platforms (*Naturescapes* newsletter, website and social media) to share visitor safety information and provide digital park experiences without the need for travel.

9. Building our risk management culture

NPWS and its Aboriginal partners in park management have a long history of managing risks to the parks estate – bushfires, extreme or prolonged weather events (such as floods, storms or droughts), landslides, pest species and, most recently, COVID-19 travel restrictions. NPWS' risk management culture is embedded in its processes, management and workforce. This is one of the agency's greatest strengths.

However, adapting this knowledge and skills to climate risks requires new thinking, longer planning cycles and the ability to interpret and apply climate predictions. In response, NPWS has included the climate risks in the NPWS Enterprise Risk Register and will manage these risks through treatment plans and regular reporting. Additionally, NPWS is training staff across key business areas in climate risk assessment, and working with the department to update its risk procedures in line with the NSW Government's *Climate Risk Ready NSW Guide*.

10. Climate-related opportunities – being part of the solution

In October 2021, NPWS released the Carbon Positive by 2028 plan. This plan sets out the framework for ensuring NPWS is carbon positive by 2028 by ensuring the removal of carbon dioxide from the atmosphere by the ecosystems in its parks will exceed the emissions generated by NPWS in managing those parks. NPWS is the first national park agency in Australia to commit to such an ambitious target.

NPWS is increasing the number of carbon sequestration projects in the national parks system to enable offsetting of NPWS' unmitigable emissions. These projects both increase revenue for NPWS and increase conservation outcomes.

Case Study 3

Protecting carbon stores: Gondwana World Heritage Rainforests

The Gondwana World Heritage rainforests contain some of NSW's most significant biodiversity and the largest carbon stores. Climate change is progressively impacting these ecosystems through increased fire frequency, changes to seasonality, drought and storms.

In response, NPWS has delivered the first-ever holistic adaptation plan that seeks to protect the Outstanding Universal Value of part of the Gondwana Rainforests of Australia World Heritage property from climate change impacts. The project identified the Tweed Caldera, which is one grouping of parks within the larger World Heritage property.

The project used world-leading research from the Biodiversity Node of the NSW Adaptation Research Hub to identify ways to protect climate refugia, genetically rescue populations at risk, and support the climate transition of habitats to maximise the protection of Gondwana biodiversity. The actions include climate refugia fire management strategies and translocating native species to lower-risk locations for insurance.

For areas around climate refugia, the Macquarie University Climate-ready Revegetation guide has been applied to identify seeds and species for revegetation of buffers, which will build resilience against fires and maintain habitat structure while protecting the refugia.

This is the first on-ground application of holistic climate change adaptation measures undertaken in NSW, reflecting the importance the state places on these treasured World Heritage values and the carbon stored within them.

NPWS has already reached a 55% reduction of Scope 1 and 2 emissions by becoming the first agency in NSW to procure 100% renewable electricity from the grid. It is also testing new technologies to reduce its use of petrol and diesel-powered generators through innovative technology such as hydrogen power cells.

NPWS is committed to making sure it keeps up with the low carbon economic transition of its stakeholders and will have pilot electric vehicle charging points in some of its parks by 2026.

2.3 Resilience of NPWS strategy

NPWS has used NARCliM projections that use the A2 (high emissions) scenario to help inform its climate risk management strategies and operations. NPWS also uses the method of dynamic risk management to enable proactive planning and effective impact response when climate impacts occur, utilising the data management systems to prioritise, for example, the Asset Management System. This enables effective planning for both low and high emissions scenarios, which is particularly important in the protection of the natural and cultural values of national parks, where significant impact will still occur in the low emissions scenario. NPWS will continue to update as more research and modelling comes on board.

2.4 Medium-term strategy priorities (2–5 years)

NPWS has identified medium-term strategic priorities for the climate risks. As it matures, NPWS will be able to determine more immediate and future (5-10 year) priorities.

Risk type	Risk impacts	Medium-term priorities (to be delivered by NPWS within 2–5 years)
Physical	Changes in climatic patterns, sea level rise and increasing extreme events cause extinctions and environmental loss, including marine wildlife	NPWS will identify high-risk/high conservation value sites and develop an adaptation and implementation plan, including sites impacted by the 2019–20 fires or 2021–22 floods, World Heritage and AIS sites NPWS will consider high priority sites for inclusion in the Ecological Health Monitoring Program.
Physical	Changes in climatic patterns, sea level rise and increasing extreme events cause impacts to Cultural assets, Country and practice	NPWS will identify high-risk/high conservation value cultural areas and develop an adaptation and implementation plan, including sites impacted by the 2019–20 fires and 2021–22 floods, plus World Heritage and AIS sites NPWS will coordinate a community designed virtual/digitation strategy for high-risk cultural assets to enable cultural continuity
Physical	Changes in climatic patterns, sea level rise and increasing extreme events cause impacts to historic heritage	NPWS will identify high-risk/high conservation value historic assets and investigate adaptation options, prioritising world, national and state significance NPWS will identify high-risk/high conservation value movable collections and develop adaptation strategies
Physical	Safety of workers and visitors is compromised due to increased extreme events (e.g. fires, floods, landslides, rockfalls) or increased visitation in high-risk areas (e.g. swimming at beaches and inland waterways)	NPWS will review natural hazards policies with consideration of climate change scenarios NPWS will investigate and apply new technologies to better inform and alert visitors to climate hazards (e.g. real-time hazard warning signs, or push notifications) and provide virtual experiences for high-risk sites NPWS will adapt seasonal tourism promotional campaigns to reflect changing climate conditions
Physical and financial	Changes in climatic patterns and increasing extreme events cause asset failure, damage and economic loss	NPWS will deliver adaptation planning for high impact regions, high-risk and high relevance assets – piloting the Northern Rivers Adaptation Action Plan by 2024 NPWS will review natural hazards policies with consideration of climate change scenarios NPWS will update the Park Faciliities Manual to provide direction on building back better with more resiliant materials
Financial	Park revenue is impacted by extreme events and recovery (e.g. warming climate will change visitation patters such as the ski season)	NPWS will conduct a financial risk assessment of climate change impacts on changes to predicted NPWS revenue, including potential losses to park businesses and local economies NPWS will consider climate risks when entering or renewing commercial leases and licences for park businesses

Risk type	Risk impacts	Medium-term priorities (to be delivered by NPWS within 2–5 years)
Financial	NPWS is unable to deliver the financial and human resources needed for increasing the repair and recovery works	NPWS will conduct a financial risk assessment of climate change impacts on NPWS operations
Financial	Responding to natural disasters diverts efforts from the delivery on other priority programs	NPWS will support the implementation of the NSW Adaptation Strategy and any whole-of-government review of resourcing natural disaster response
Reputational	Community perception that NPWS is not actively managing national parks for climate change risk	NPWS will develop a public affairs and education campaign on climate change-related closures, recovery and response NPWS will actively engage with stakeholders on climate risks and opportunities through the Advisory Council, regional advisory committees and park planning forums NPWS will continue to implement the *Carbon Positive by 2028* plan
Liability	NPWS' assets and service delivery liabilities are increasing due to climate impacts	NPWS will implement mitigation activities for climate change-related risks on the NPWS Enterprise Risk Register NPWS will implement the TCFD recommendations NPWS will develop and implement an NPWS climate change communication strategy
Liability	NPWS has an intergenerational liability for the conservation of cultural and natural values within reserves	NPWS will implement strategic priorities under 'Building resilience, adapting and increasing protection of nature and culture'
Transitional	NPWS is unable to take advantage of, or is impacted by, the transition into a low carbon economy	NPWS will expand carbon sequestration projects on park NPWS will implement actions to reach net zero and Scope 3 emissions reduction targets
Policy	The impact of conflicting policies and priorities within NPWS and government hinders effective climate action	NPWS will commit to advising on best practice for climate action within NPWS and to government NPWS will develop a revised NPWS Climate Change Policy, including a climate risk appetite statement to guide policy and planning NPWS will train key staff in climate change risk assessment NPWS will establish an NPWS climate change working group

3. Risk management

3.1 Risk assessment process

NPWS implements the department's risk management framework to manage enterprise risks, including climate risks, arising from management of NSW national parks. Consistent with this framework, NPWS recognises that proactive identification of risks resulting from climate change-driven events and the transition to a low carbon economy are crucial to effective risk management.

The department is currently updating its Risk Management Policy and Procedures to better articulate the process for assessing climate risks. Nevertheless, climate risks are currently, and will continue to be, assessed through the risk assessment process (Figure 3), which is modelled on ISO 31000:2018.

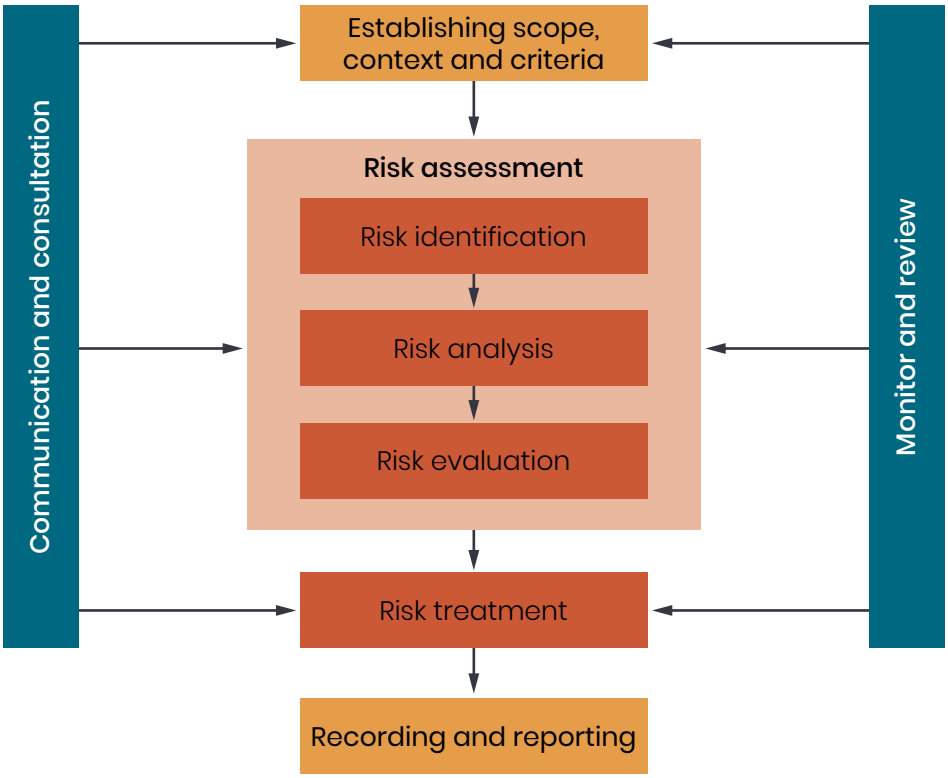

Figure 3 Department/NPWS risk assessment process

To accommodate future risks arising from the impacts of climate change and the transition to a low carbon economy, NPWS has adapted the department's risk management approach of assessing current risks within a 12-month window to also assessing long-term risks to 2030 and beyond. This new approach will assist NPWS to plan and budget for future climate risks.

Climate risks are being considered at the establishing scope and the risk identification, analysis and treatment stages of the risk assessment process.

3.2 Risk profile

NPWS has a complex risk profile arising from its many functions (Figure 4) and the geographic spread and size of the lands under its management. The national parks system covers 7.75 million hectares, comprising 10% of NSW. NPWS is the primary custodian of the state's natural and cultural heritage, and responsible for built assets worth $3.5 billion. It hosts over 60 million domestic visits per year and manages a workforce of more than 2,000 full-time equivalent staff.

Climate change risks to NPWS operations largely come from external influences – namely its roles as an asset and land manager, custodian of natural and cultural heritage, and a provider of tourism and recreational opportunities (see Figure 4).

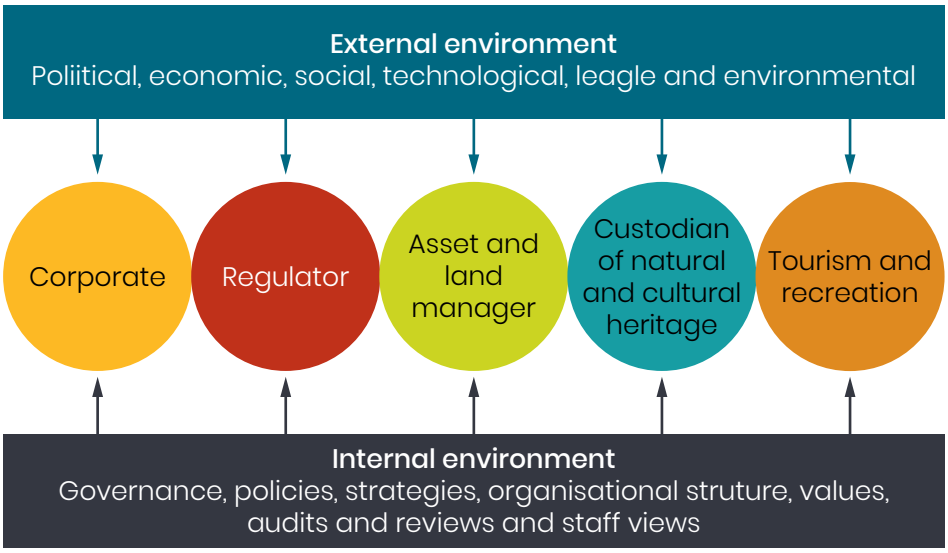

Figure 4 Sources of risk impacting on NPWS operations

3.3 Identifying and assessing climate risks

In 2021–22, NPWS sought to strategically identify climate risks by:

- undertaking a climate change health check, in accordance with the Climate Risk Ready NSW Guide
- providing accredited climate risk assessment training to key staff
- applying a climate lens, and a 2030 timeframe, to the existing risks on the NPWS Enterprise Risk Register, and reassessing these risks
- consulting with internal and external park management and climate change experts to identify and assess new climate risks and opportunities.

Risk identification and assessment processes used are described in Section 3.1.

Identified risks are recorded and monitored through business risk registers (refer to Section 1). Both risks and opportunities are considered during annual business planning.

Preparation of an updated NPWS Enterprise Risk Register is well advanced and will reflect the outcomes of the climate risk review.

In November 2021, NPWS performed a climate change health check according to the *Climate Risk Ready NSW Guide* to determine its climate risk maturity against the systematic target. The results (Figure 5) show that NPWS has considerable opportunity for growth. NPWS is well advanced in managing climate risks in some of its business operations (e.g. asset management), but the health check results reflect a lack of a formalised agency-wide climate change strategy at the time.

Following the health check, NPWS conducted a high-level climate risk assessment in May 2022 to identify additional climate risks. These risks are described in Section 2.1.

3.4 Managing and monitoring climate risks

Climate risk management and monitoring processes used by NPWS are described in Section 1, specifically in Figure 1 and Table 1.

Decisions on treatment of climate risk are based on the risk rating, and the likely effectiveness of treatment solutions in accordance with the department's Risk Management Policy and Procedures. Higher rated risks will receive priority for mitigation action. Lower rated risks, or those inherent risks for which cost-effective solutions have not yet been identified, may be accepted. Some risks will be transferred to other organisations with capacity to act or absorb the risk; for example, insurers.

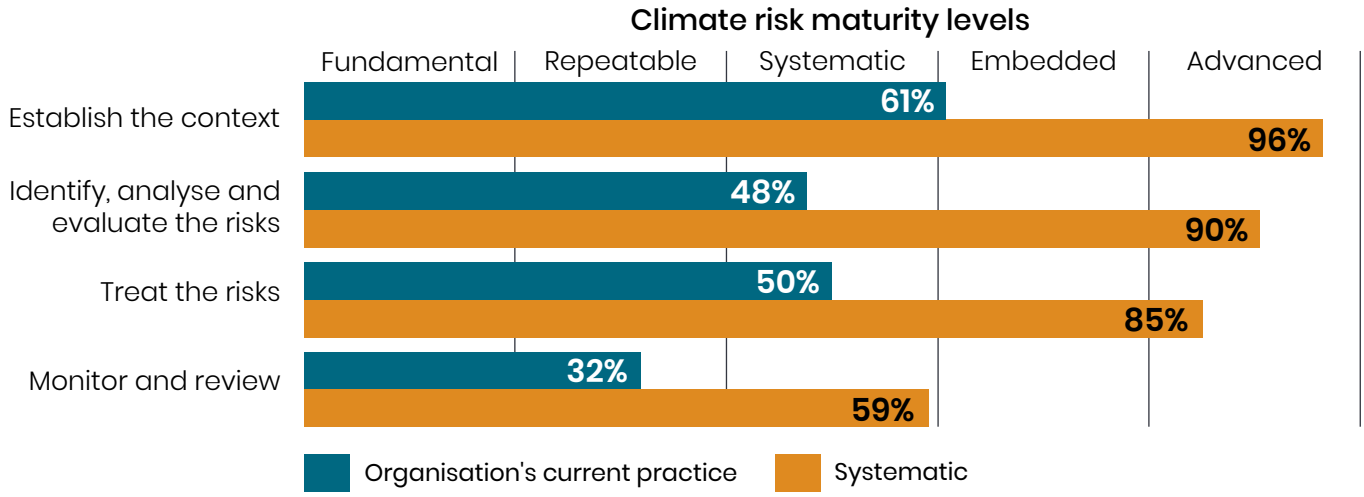

Figure 5 Current climate risk practice compared to the systematic maturity level (NPWS climate risk health check results, November 2021)

3.5 Medium-term risk management priorities

NPWS will strengthen its climate risk management capabilities and processes by:

- preparing a climate risk appetite statement to guide policy and planning
- continuing to embed climate risk considerations in key NPWS planning, implementation and monitoring processes
- training key staff in climate change risk assessment
- establishing an NPWS climate change working group to share knowledge and work collaboratively to mitigate climate risks and develop climate opportunities.

4. Climate-related metrics

A process for identifying metrics and targets will be developed and will include a regular review process to ensure they are relevant and provide a useful metric for tracking NPWS' performance against its climate change strategic priority outcomes.

As NPWS builds in maturity, financial metrics or indicators of how climate change risks are manifesting over time will be considered and reported on in future statements.

Metrics and targets – where we are today	Medium-term priorities (to be delivered within 2–5 years)
Carbon Positive by 2028 NPWS has set a target of net zero by 2026 and carbon positive by 2028	NPWS will report on the commitments and actions listed under the *Carbon Positive by 2028* plan in the annual TCFD Statement
Emissions from NPWS NPWS has identified all Scope 1, 2 and 3 emissions sources from its own operations NPWS is increasing its carbon sequestration potential and carbon stocks	NPWS will publish its Scope 1, 2 and 3 emissions and sequestration data in future annual TCFD Statements
Impacts on systems and services NPWS has established systems that monitor and report on its core functions and responsibilities, including: • Asset Management System • Eco Health Indicator Program • Work Health and Safety CAMMS • annual financial reporting	NPWS will continue to report on climate-related impacts to assets, the environment and people through the established reporting mechanisms. Following the financial risk assessment, financial metrics will be developed

5. More information

- Assets of Intergenerational Significance
- Carbon Positive by 2028
- Climate Risk Ready NSW Guide: Practical guidance for the NSW Government sector to assess and manage climate change risks [3.8MB]
- Cultural fire management policy
- Ecological Health Performance Scorecards
- Feral predator-free areas
- Managing bush fire risk
- Natural Hazards Research Australia
- NSW and Australian Regional Climate Modelling (NARCliM)
- NSW Bushfire and Natural Hazards Cooperative Research Centre
- NSW Bushfire Risk Management Research Hub
- NSW Bushfire Technology Pilots Program
- NSW Government Net Zero Plan Stage 1: 2020–2030 Implementation Update
- NSW Koala Strategy
- NSW Land Acquisition Strategy
- NSW RFS Fire Trail Standards [PDF 5.6MB]
- TCFD Recommendations – Governance, Strategy, Risk Management, and Metrics and Targets
- TPP20-08 Internal Audit and Risk Management Policy for the General Government Sector
- Zero extinctions – threatened species framework

6. Appendix

Independent Limited Assurance Statement to the Board and Management of NSW National Parks and Wildlife Services

Assurance Conclusion

Based on the scope of our independent limited assurance engagement, nothing has come to our attention that causes us to believe that selected performance data and disclosures included in the NSW National Parks and Wildlife Service (NPWS) Task Force on Climate-related Financial Disclosures (TCFD) Statement for the year ended 30 June 2022, have not been prepared and presented fairly, in all material aspects, in accordance with the Criteria defined below.

Scope

We, Point Advisory Pty Ltd ('Point Advisory'), performed a limited assurance1 engagement over selected performance data and disclosures presented in NSW NPWS TCFD Statement for the year ended 30 June 2022 ('Statement').

Criteria

We have used the Financial Stability Board's TCFD Recommendations as criteria against which to evaluate the content of the Statement.

Respective responsibilities

NPWS management is responsible for the preparation and presentation of information within the Statement. NPWS management is also responsible for the design, implementation, maintenance, and effectiveness of internal controls over information relevant to Statement preparation, so that it is free from material misstatement. NPWS management is also responsible for setting internal control performance monitoring targets, and reporting on effectiveness.

Point Advisory's responsibility, in accordance with the terms of the agreement with the NSW Treasury (Office of Energy and Climate Change) dated 21 June 2022, is to express a limited assurance conclusion as to whether selected performance data, and associated disclosures, presented in the Statement have been made in accordance with the Criteria. Our assurance engagement has been planned and performed in accordance with the Australian Standard on Assurance Engagements ASAE 3000 Assurance Engagements Other Than Audits or Reviews of Historical Financial Information (ASAE 3000). We do not accept or assume any responsibility for any other purpose or to any other person or organisation. Other stakeholders should do their own due diligence before taking any action from this Assurance Statement.

Our Methodology

The assurance procedures we performed were based on our professional judgement and included:

- Interviews with key staff to understand NPWS' internal control environment, processes, and information systems, relevant to the Statement's preparation;
- Reviewing and assessing data, and disclosures, included in the draft Statement against the Criteria;
- Reviewing documentation with respect to NPWS' climate-related governance, strategy, risk management, metrics and targets processes;
- Performed limited substantive testing over selected performance data and disclosures within the Statement and reviewed supporting information; and
- Reviewed the selected performance data and disclosures in the Statement included in the NSW NPWS' Annual Report to ensure the information is accurately presented.

Inherent limitations

Our evidence gathering procedures were designed to obtain a 'limited level' of assurance (as set out in ASAE 3000) on which to base our conclusions. The extent of evidence gathering procedures performed is less than that of a reasonable assurance engagement (such as a financial audit) and therefore a lower level of assurance is provided. As such, we did not evaluate the design of control activities, obtain evidence about their implementation, or test their operating effectiveness.

Our independence and competencies

We are not aware of any issues that could impair our independence or objectivity for this assurance engagement. Point Advisory's independence policy and supporting measures apply to management and professional staff. This policy also prohibits any financial interests in our clients that would or might be seen to impair independence.

Led by a Lead Certified Sustainability Assurance Practitioner (CSAP), our assurance team has qualifications and experience in applying the ASAE 3000 and TCFD Recommendations relevant for this assurance engagement.

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[1]Defined by ASAE3000 - "Limited Assurance Engagement" means an assurance engagement where the assurance practitioner's objective is a reduction in compliance engagement risk to a level that is acceptable in the circumstances of the assurance engagement but where that risk is greater than that for a reasonable assurance engagement, as the basis for a negative form of expression of the assurance practitioner's conclusion.

Our detailed conclusions and observations

Our detailed observations and areas for improvement have been raised in a report to the NSW NPWS' management.

Use of our Assurance Statement

We do not accept any responsibility for any reliance on this Assurance Statement to any person(s) or organisation(s) other than the Board and management of NSW NPWS. Other stakeholders should do their own due diligence before taking any action as a result of this Assurance Statement.

On behalf of the assurance team

Alan Dayeh
Managing Principal,
NSW Point Advisory, Sydney
25 October 2022

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