



## 6. Consolidated Recommendations

## A GUIDE TO CHAPTER 6

This is a compilation of the recommendations from the 'Future directions' section at the conclusion of each of the three previous chapters.

### Topics covered

- 6.1 *Recommendations for marine and coastal ecosystems*
- 6.2 *Recommendations for terrestrial ecosystems*
- 6.3 *Recommendations for freshwater-dependent ecosystems*
- 6.4 *Recommendations for environmental governance*

## 6.1 MARINE AND COASTAL ECOSYSTEMS

### Research and information sharing

- M1 Prepare and implement a marine and coastal research strategy and action plan, and establish a website to provide public access to all information relevant to marine and coastal protection, planning and management.
- M2 Establish a long-term scientific research and monitoring program for marine national parks and sanctuaries and other coastal and marine environments, which includes:
  - completion of a systematic biodiversity assessment program across Victorian waters to map all marine and intertidal habitats at a fine scale
  - a state-wide 1:10,000 scale map showing predominant community types for reef and sediment areas and locations for seagrass beds, produced within two years.
- M3 Establish a marine and coastal research and information service to address high priority knowledge gaps, promote the value of research, and function as a clearing house for information and advice.

### National park and conservation system

- M4 Commission the Victorian Environmental Assessment Council (or other independent credible body) to conduct an inquiry into biodiversity across all Victorian marine and coastal ecosystems with the purpose of recommending new targets and new protected areas to achieve a comprehensive, adequate and representative national park and conservation system and to foster resilience to climate change. The latest science and expert opinions, taking into account the threats in Victorian ecosystems, suggest the following targets are warranted:
  - protection for at least 30% of each habitat type in each marine bioregion
  - protection of 100% of remnant coastal vegetation

- protection of additional areas that will assist in protecting biodiversity from the future impacts of climate change
- greater levels of protection for the habitat of threatened species and special features, including Ramsar wetlands and sites identified in the nature conservation review gap analyses (in sections 2.4 and 2.5)
- configuration to provide connectivity and secure movement pathways.
- M5 Implement all outstanding recommendations from the 2011 inquiry by the Victorian auditor general into the environmental management of marine protected areas.
- M6 Prohibit mining exploration in the marine national park estate.
- M7 Establish a coastal private land conservation program with a fund to buy, lease or covenant private land abutting coastal conservation reserves, coastal crown land reserves or the high water mark for restoration and inclusion in reserves or, in the case of leases and covenants, to be managed consistently with such reserves.
- M8 Strengthen protection of coastal crown land reserves for conservation and public purposes by:
  - developing regulations and coastal management plans specific to their purpose
  - applying a zoning scheme to coastal reserves consistent with the recommendations of the Land Conservation Council (1978), with the location of the zones to be identified by the Victorian Coastal Council through a project similar to the Coastal Spaces Initiative
  - progressively removing from coastal reserves infrastructure that is not dependent on a coastal location, and restoring the land with indigenous vegetation.
- M9 Improve protection for lighthouse reserves by incorporating them within adjoining national or state parks.

## Iconic bays and inlets

- M10 Establish a Two Bays Board for strategic oversight of the health of Port Phillip and Western Port and their catchments. The board should be an independent authority and amalgamate the catchment management functions of Melbourne Water, Central Coastal Board and the Port Phillip Westernport Catchment Management Authority.
- M11 Produce a stand-alone five-yearly *State of the Bays* report covering the four main bays and inlets (Port Phillip, Western Port, Corner Inlet and Gippsland Lakes) and the smaller bays of Victoria, to complement state of the environment reports. The first report should include a detailed condition study, comprehensively review all pressures and describe existing and planned responses.
- M12 Develop improvement targets for bays and inlets with water quality, ecosystem health and open space and recreation criteria that are easy to measure and include some highly visible outcomes (for example the return of whales and other flagship species to the bays and the recovery of threatened terrestrial fauna). Link the improvement targets to statutory planning instruments and controls on future development through local environmental improvement plans or similar instruments.
- M13 Set up a scientific monitoring program to assess and publicly report every two years on progress made towards meeting the bays and inlets improvement targets.
- M14 Establish an ongoing educational program to build awareness of and support for conservation measures proposed for the iconic bays and inlets.
- M15 Prepare and implement a state environment protection policy for estuaries.
- M16 Determine the boat carrying capacity of Port Phillip Bay, Western Port and other bays and estuaries in Victoria, and set limits on boat numbers consistent with carrying capacity.
- M17 Develop a shorebird protection strategy.

## Marine and coastal management

### Legislation and institutions

- M18 Develop a Victorian Marine and Coastal Planning and Management Act with objectives and strategies to implement ecosystem-based and ecologically sustainable management of all marine and coastal waters.
- M19 Establish a Victorian Marine and Coastal Authority (absorbing and expanding the functions of the existing Victorian Coastal Council) and regional marine and coastal boards (replacing the existing coastal boards).
- M20 Mandate processes that guarantee transparency and community participation in marine and coastal planning and decision-making.
- M21 Require that all coastal catchment management authorities have at least one-third of their board members with coastal or marine expertise.
- M22 Merge the many small committees of management along the following sections of coast into combined community committees of management:
- Narrawong to Port Fairy
  - Breamlea to Clifton Springs (Barwon Coast and Bellarine Bayside committees)
  - Mt Eliza to Mt Martha
  - Safety Beach to Portsea
  - Flinders to Hastings
  - Cannons Creek to Tooradin
  - Lang Lang to Coronet Bay
  - Seaspray to Loch Sport
  - San Remo to Inverloch
  - Walkerville to Sandy Point
  - Port Franklin to Woodside Beach
  - Gippsland Lakes.

### Strategies and plans

- M23 Develop a Victorian marine and coastal strategy, coordinated by the proposed Victorian Marine and Coastal Authority, to provide an over-arching framework for ecologically sustainable, ecosystem-based management of all human uses and impacts affecting Victoria's oceans and coast.

This strategy should take precedence over and inform regional catchment strategies and local planning policies for coastal areas.

- M24 In the longer-term, seek inter-governmental agreement for an over-arching national framework consisting of an Australian Oceans Act and National Oceans Commission established through a joint agreement between the federal government and state and territory governments. The commission would develop and coordinate a strong regional plan for Victorian oceans that incorporates the Victorian marine and coastal strategy.
- M25 Prepare and implement regional marine and coastal plans (which encompass the current multiple coastal action, estuary and boating action plans). Include strategies to prepare for the impacts of climate change on coastal and marine ecosystems by identifying areas at risk and measures to limit damage and promote adaptation.
- M26 Better integrate marine, coastal and catchment management by aligning the boundaries of coastal regions with those for catchment management authorities (splitting the three coastal regions into five regions) and by establishing close links between policies and plans for marine, coastal and terrestrial environments.
- M27 Develop ecosystem-based management plans for marine and coastal invasive species threats, including a strong focus on prevention and rapid responses to new incursions, and integration with management of other processes and threats (fire, nutrient enrichment, fishing, disturbance, hydrology included).
- M28 Ensure that protection of the environment and the marine and coastal national park estate are high priorities in oil spill prevention and response plans.

## Coastal protection and restoration

### Stewardship programs

- M29 Expand and strengthen the BushBroker, CoastalTender and saltmarsh protection projects, with an emphasis on protection and restoration of

vegetation on private land abutting the high water mark and coastal conservation and crown land reserves.

### Coastal infrastructure

- M30 Commission an independent review of infrastructure (including access tracks, car parks, roads, buildings and utilities) within and adjacent to the coastal national park estate and crown land reserves with the aim of relocating or removing infrastructure or better managing it to minimise impacts on natural values.
- M31 Amend the National Parks Act to rule out 99 year leases that allow commercial tourism development within national, state and coastal parks along the Victorian coast.
- M32 Establish a coastal infrastructure unit with an objective of ensuring that coastal infrastructure is assessed, designed, constructed and maintained within the principles of ecologically sustainable development and ecosystem-based management. The unit would carry out works, assess and manage boating infrastructure, coastal defensive/protection works, artificial reefs and the planned retreat of coastal infrastructure for all coastal locations except for the major ports of Portland, Geelong, Melbourne and Hastings.
- M33 Require rigorous environmental impact assessments of proposed development or upgrade of boat ramps, including the impacts of any recreational fishing enabled by the infrastructure.

### Climate change adaptation

- M34 Foster the capacity of coastal nature to adapt to sea level rise and other impacts of climate change by:
  - mapping current settlements, priority areas for coastal nature protection and enhancement, and predicted sea level rises
  - identifying where coastal settlements and nature can move to as a result of sea level rise
  - reviewing the zoning and conservation status of all identified priority areas for coastal nature protection and enhancement to determine

whether they will adequately protect coastal nature.

M35 Include in the Victorian planning provisions and the state planning framework an objective to protect coastal nature to help adaptation and retreat in response to sea level rise and other climate change impacts. Amend coastal statutory zoning and overlays to aim for in situ protection of coastal nature for as long as possible and assist inland retreat as sea levels rise.

## Vegetation

M36 Introduce a vegetation restoration overlay to the Victorian planning provisions, to protect a 100-200 metre buffer around vegetated coastal public land, including estuaries and wetlands. Within that buffer:

- prohibit development
- require management of harmful invasive species and encourage vegetation maintenance and restoration
- identify and progressively remove infrastructure at risk of erosion and inundation from sea level rises (rather than build defensive structures)
- encourage fencing of buffers and boundaries between private and public land to encourage vegetation restoration.

M37 Amend the Planning and Environment Act to require the planning minister to refer any changes in land use zones for coastal lands to the environment minister.

## Fishing

M38 Implement ecosystem-based management of commercial and recreational fisheries by:

- establishing a program to identify and declare 'key fishery habitat' to become part of marine and coastal planning and protection
- implementing whole-of-catchment plans to maintain coastal habitat and water quality
- establishing criteria to assess the ecological sustainability of individual commercial and recreational fisheries
- conducting location-specific ecological risk assessments of recreational and commercial

fisheries, mitigating identified risks and taking a precautionary approach where information is lacking

- developing a policy framework to follow up and manage important risks uncovered in environmental risk assessments
- monitoring the community ecology of important benthic and pelagic ecosystems.

M39 Assess recreational fishing catch and impacts by:

- conducting large-scale surveys of participation and catch every 3 to 5 years
- requiring all recreational fishers to be licenced, with no licence fees for current exempt groups, and with licences endorsed for particular coastal regions (to enable measurement of participation and catch levels)
- conducting onsite surveys at all major boat ramps
- expanding the angler diary program to focus on key species and major recreational estuaries
- implementing fisheries-independent monitoring for key recreational species
- re-establishing annual trawl surveys of Port Phillip Bay
- investigating the impacts of fishing discards on declining target species (eg sand flathead, dusky flathead) and non-target species of low abundance (eg rare rays and sharks).

M40 Improve enforcement of fishing laws, with a strong focus on protecting marine national parks and sanctuaries from illegal fishing.

M41 Reduce risks associated with stocking, movement of invasive species and fishing gear by:

- requiring all stock enhancement proposals to be subject to a public environmental impact assessment supported by a comprehensive, independent risk assessment
- prohibiting the transport of live invasive species (eg European green shore crabs) as bait
- phasing in over five years the use of biodegradable hooks and fishing lines.

M42 Allocate a substantial proportion of fishing licensing fees to support long-term fish habitat recovery projects.



## 6.2 TERRESTRIAL ECOSYSTEMS

### Victoria’s national park and conservation system

#### Comprehensive, adequate and representative protection

- T1 Commission the Victorian Environmental Assessment Council to investigate how to most effectively achieve a comprehensive, adequate and representative national park and conservation system in Victoria across both public and private lands. High priority areas for protection include:
- Central Victoria: 20 areas recommended in VNPA’s Small Parks report
  - Melbourne Metro and catchments: a Great Forests National Park, Wombat Forest, a western Melbourne grassland reserve and a network of smaller reserves
  - East Gippsland: forest reserves (transfer state forest to the national park estate)
  - South West Victoria: a Greater Glenelg National Park (west of the Grampians between the Princes Highway and Little Desert National Park)
  - South Gippsland and Strzelecki Ranges: forest reserves (transfer state forest to the national park estate)
  - Riverina: Red gum parks as previously recommended by the Environmental Assessment Council – the Murray River park and the Leaghur-Koorangie, Loddon and Avoca River floodplains.
- T2 Upgrade protection for conservation reserves listed in schedules of the Crown Land (Reserves) Act:
- Transfer nature conservation reserves to schedule 2C (with protection equivalent to that for properties under schedules 2, 2A and 2B) of the National Parks Act.
  - Transfer all other relevant reserves – cultural and natural heritage reserves, natural features reserves, historic and cultural features reserves, regional parks, miscellaneous reserves, water reserves and forest parks – to the National Parks Act, listing them temporarily as a new schedule.
  - Commission the Victorian Environmental Assessment Council to assess the most

appropriate future management arrangements for these properties.

- T3 Establish an acquisition fund for the purchase of high priority lands for addition to the national park estate.

#### Indigenous land conservation

- T4 Actively engage with Indigenous owners to develop land management agreements for biodiversity conservation.
- T5 Provide ongoing financial support for joint and co-operative management agreements over existing national parks and reserves.
- T6 Work with Indigenous representatives to determine how to better support Indigenous aspirations for conservation management.

#### Private land conservation

- T7 Commission the Victorian Environmental Assessment Council to conduct a review of private land conservation, with a focus on:
- the potential contribution of private land conservation to achieve a comprehensive, adequate and representative national park and conservation system
  - priorities for private land conservation and incentives needed to achieve these priorities
  - barriers to private land conservation and how to overcome them
  - the role of government in promoting private land conservation.
- T8 Implement measures and incentives to support conservation on private land:
- exempt properties with Trust for Nature covenants from local government rates
  - exempt sales of properties with Trust for Nature covenants from stamp duty
  - pay for Trust for Nature covenants in priority areas through the BushTender program
  - fund a base transaction fee for all new Trust for Nature covenants

- establish a land improvement fund to support landholders to maintain and improve the conservation values of covenanted properties.
- T9 Provide support for non-government organisations that manage large areas for conservation (eg Trust for Nature and Bush Heritage Australia) through capacity building, collaboration with Parks Victoria and other measures.
- T10 Ensure that conservation gains on private lands secured with public funds are monitored and maintained into the future, by mechanisms such as permanent conservation covenants.

### Planning and management

- T11 Develop a strategic plan to guide the future of Victoria's national park estate that also communicates its role and importance.
- T12 Improve community education to build broad support for national parks.
- T13 Promote conservation-compatible, broad community uses of national parks to encourage physical and mental well-being rather than high-end tourism uses.
- T14 Strengthen protection of the national park and conservation system from activities incompatible with the primary purpose of nature conservation:
- Amend the National Parks Act to prohibit mineral exploration and fossicking in the national park estate.
  - Maintain a ban on cattle grazing.
  - Rule out commercial-scale ecological thinning or logging by stealth.
  - Reverse the decision to allow private commercial developments and limit leases to existing structure in parks (no new buildings and structures for commercial purposes).
  - Amend the Nature Conservation Trust Act to prohibit mining and mineral exploration in areas under a perpetual conservation covenant and in Trust for Nature reserves.
- T15 Strengthen the focus on management planning for national parks and improve the policy development capacity within the parks agency.

- T16 Increase the scientific skills base of staff employed by the parks agency, including for monitoring.
- T17 Set up scientific advisory panels for specific national park management issues as they arise.
- T18 Upgrade and expand invasive plant and animal control programs, and monitor their effectiveness.
- T19 Conduct ecologically beneficial fire management with advice provided by an expert panel.
- T20 Provide dedicated funding for management and monitoring of national parks, with a specific budget line to allow tracking of spending levels.
- T21 Review existing state charges and levies, such as the parks and waterways levy, to identify funding options for improving management of the national park and conservation system.
- T22 Build the resilience of the national park and conservation system to climate change by improving the knowledge base, protecting climate refugia, connecting the national park estate along environmental gradients and including a climate adaptation focus in national park management plans (other recommendations in section 4).
- T23 Implement recommendations by the Victorian Environmental Assessment Council to facilitate stewardship agreements with organisations and individuals for small public land reserves, including voluntary and payment-based agreements. They should clarify appropriate public land uses, and provide training programs and additional resources if required for conservation outcomes.

### Native vegetation protection

#### Effective regulation

- T24 Develop new vegetation laws, as part of the proposed Victorian Environment and Conservation Act (described in chapter 5) that include the establishment of an independent Native Vegetation Regulator to assess clearing applications, oversee monitoring, conduct enforcement, administer offset schemes and provide expert advice for policy-making.



- T25 Strengthen the native vegetation management framework, including by the following measures:
- Revert to a clear state-wide objective of 'net gain'.
  - Reinstate the three-step hierarchical approach of (1) avoid adverse impacts, (2) minimise impacts and (3) offset impacts.
  - Assess the indirect impacts of agricultural activities (cropping, grazing) on vegetation and hydrology.
  - Develop a knowledge base to predict the likely responses of different vegetation types to climate change.

- T26 Implement a systematic approach to compliance monitoring and enforcement of vegetation rules at local and state levels:
- Establish a native vegetation monitoring program, with oversight by the Native Vegetation Regulator.
  - Audit the performance of permit-holders, including at offset sites.
  - Establish environmental monitors to ensure compliance with approval conditions, especially for large developments.
  - Publish online all relevant information, including permits, plans, assessment and monitoring reports, enforcement notices and actions.
  - Provide resources to local governments to perform their duties.
  - Regularly audit and report on the effectiveness of the system, including estimates of illegal clearing.

- T27 Improve the offsets framework to deliver genuine conservation gains:
- Commission an independent audit of offsets under the native vegetation management framework to assess the extent to which offset targets are being achieved, their degree of permanence, and improvements needed to deliver a state objective of 'net gain'.
  - Require offsets for all approved actions that are likely to be detrimental to species on the state government's advisory lists of threatened plants and animals.
  - Establish a long-term monitoring program for offsets.
  - For low risk activities in low value areas, require offset payments according to a fixed rate and where the funds can be used to support existing protected areas.

- Support the accreditation of pooled services that can bank offset credits and source required offset outcomes.
- Ensure that any offsets to provide for improved management of existing protected areas will achieve genuine 'additionality'.

### Biolinks and stewardship

- T28 Develop a statewide biolinks plan to enhance landscape connectivity and manage and restore conservation values at the landscape level:
- Build on the flagships and biolinks identified in the 2009 Securing Our Natural Future: A White Paper for Land and Biodiversity at a Time of Climate Change.
  - Incorporate focal landscapes and priority biodiversity zones identified in the Trust for Nature's Statewide Conservation Plan.
  - Supports the community to undertake detailed landscape, regional and local biolink ecological assessments and planning.
  - Include a framework for engaging the community, building land manager capacity and communication.

- T29 Expand the use of ecomarkets, such as BushTender and offsets, within a framework of delivering genuine, permanent conservation gains (by perpetual covenants).

- T30 Review the Land for Wildlife program to recommend how it can be expanded and its environmental outcomes improved.

- T31 Commission research on how to increase the ecological and evolutionary resilience of native vegetation in the face of climate change, including consideration of changes in local provenance requirements and the role of connectivity.

### Native forest protection

#### Timber harvesting and forest protection

- T32 Transition Victoria's wood products industry from native forests to plantations. For woodchip, pulp and paper customers complete the transition within five years and for sawn timber customers

within 10 years. Aim to be employment positive in five years and economically positive in 10 years. Provide security of supply to the restructured timber industry and support the use of leading-edge technology. Elements of this transition would include:

- an immediate moratorium on logging of high-value conservation sites, such as Leadbeater's possum habitat in the Central Highlands
- industry assistance and a regional development package to support the transition to plantations and investment in new technology
- additions to the national park and conservation system after detailed regional investigations by an appropriately qualified independent body such as the Victorian Environmental Assessment Council.

T33 Immediately ban logging in western Victoria and cancel the regional forest agreement applying to south-west Victoria.

T34 Apply the federal Environment Protection and Biodiversity Conservation Act to all relevant forestry activities by removing the exemption for forestry conducted under regional forest agreements.

T35 Reform forestry policies and guidelines including the regional forest agreements, the code of timber production and timber contracts to require that all threatened species are protected, and climate change and invasive species threats are properly considered.

T36 Establish Victoria as a world-leader in protecting forest-based carbon stores that assist the state in meeting carbon pollution reduction targets.

T37 Incorporate informal forestry reserves such as 'special protection zones' into the national park and conservation system by protecting them under the National Parks Act.

### Firewood collection

T38 Introduce a new approach to managing firewood in Victoria that ensures continued firewood supply and protection of native forests:

- Establish a regional development program to provide incentives to support private farm forestry growers to provide firewood.

- Phase out firewood collection from public land.
- In the interim, require all collection from public land to be licenced with stringent conditions to protect conservation values.

## Bushfire management

### Planning for public safety and biodiversity

T39 Assess the need for prescribed burning programs at a local level in the context of other potentially more useful public safety measures, such as building designs, public and private fire shelters, fire-wise planning provisions, building regulations, powerline maintenance and location and public education.

T40 Do cost-benefit assessments of a range of safety measures when planning fire management, acknowledging that strategies other than fuel reduction are likely to be more useful and cost-effective in some areas.

T41 Give priority in fuel reduction planning to prescribed burns that are (a) critical for public safety and (b) beneficial to both public safety and biodiversity.

T42 Replace any annual state-wide target (5% or otherwise) for prescribed burning by a risk-based approach, focussed on meeting local objectives in regional fire operation plans that reduce risks to life, property and biodiversity.

T43 Apply strong planning rules and building codes in bushfire prone areas to avoid placing homes and people at risk and to reduce the need to remove or modify native vegetation. Take climate change predictions for more frequent and more severe fire events into account.

### Ecologically beneficial fire regimes

T44 Establish a suitable range of age classes for each ecological vegetation division (or ecological vegetation class as appropriate) and incorporate this into long-term fire operations planning, making provision for wildfire events as well as planned burns. In particular, this applies to the retention of adequate long-unburnt areas as they cannot be recovered for decades or, in some

cases, centuries. Apply the precautionary principle to these decisions.

T45 Revise minimum and maximum tolerable fire intervals for each ecological vegetation division (and in critical cases, for each ecological vegetation class) allowing as far as possible for the full range of species likely to be affected. Develop clear guidelines for burn severity and patchiness for different ecological vegetation classes.

### Prescribed burning practices and responses to wildfire

T46 Plan fuel reduction across all land tenures, including private land, and include slashing and other methods as well as burning.

T47 Include both planned burns and wildfire, and the effectiveness of burns, in assessing whether fuel reduction aims and biodiversity protection have been achieved.

T48 Take account of the condition of ecological vegetation classes (such as drought stress) at the time of proposed burning.

T49 In fire plans require protection of a sufficient number and range of hollow-bearing trees for the long-term protection of hollow-dependent fauna. Apply this requirement also to tree clearing that is conducted for safety reasons in advance of prescribed burns.

T50 Include fire-sensitive species and ecological communities (eg rainforest) as 'assets' warranting protection from both wildfire and planned burns.

### Research, monitoring and adaptive management

T51 Include adaptive management, in response to short term and long-term monitoring, as an essential component of fire management planning.

T52 Develop rapid monitoring methods (such as DNA sampling) for invertebrates, non-vascular plants, fungi and microbes, to assess short and long-term impacts of fires on biodiversity.

T53 Conduct research and/or monitoring to investigate:

- the effectiveness of fuel reduction burns in different ecological vegetation classes
- whether fire regimes are trending towards or away from long-term maintenance of an appropriate range of age classes, with particular reference to old age classes
- the effects of different fire regimes (frequency, severity, patterns and scales of patchiness) on different species and ecological vegetation classes
- changes in vegetation composition after repeated fires, including changes in flammability
- seasonal differences in post-fire recovery, and post-fire pest plant and animal invasion
- how long seeds and eggs remain viable in soil
- the effects of below-ground fire.

### Education and communication

T54 Conduct ongoing public education on the following topics:

- the full range of options for increasing personal safety in the face of fire, especially local options for increasing safety
- the limitations of fuel reduction burn programs in relation to public safety, especially in severe fire weather
- an understanding of the impacts of different fire regimes on an area's natural values
- the need for adaptive management in the face of new knowledge.

### Invasive species management

T55 Develop stand-alone biosecurity legislation to strengthen the approach to harmful invasive organisms (details in section 4):

T56 Establish regional weed committees involving local governments, other land managers and community representatives to develop strategies and allocate resources for weed eradication and control.

T57 Develop training and certification systems for weed control to be required for all workers and contractors involved with weed control on public lands, modelled on the DPI Weedstop certification.

- T58 Expand programs facilitating community engagement in pest plant and animal management and ecological monitoring.
- T59 Reclassify deer, a 'game' species currently protected under the Wildlife Act, as a pest species, map current populations and implement coordinated control programs, eradicating populations where feasible.
- T60 Undertake a control program to rapidly reduce the population of feral horses in the alpine national parks and surrounding areas, primarily using aerial shooting under RSPCA-endorsed protocols.
- T61 Develop guidelines for managing native species whose distribution is changing dramatically as a consequence of climate change or other anthropogenic drivers and which may have adverse impacts on biodiversity.

## 6.3 FRESHWATER-DEPENDENT ECOSYSTEMS

### Environmental flows

- F1 Establish sustainable environmental flow targets based on ecological criteria for surface water and groundwater systems.
- F2 Purchase water entitlements in a staged program aiming to reliably achieve sustainable environmental flow targets.
- F3 In over-allocated rivers, accord high security and reliability to environmental water and use it to improve natural flow variability, including natural flood frequencies and high and low flows.
- F4 Remove legal and other barriers to environmental watering of wetlands on private land.
- F5 Establish a program to strategically remove barriers, such as artificial structures, that prevent environmental water from reaching high conservation value floodplains and downstream areas.
- F6 Undertake a systematic assessment of the condition of Victorian aquifers, including identification of linkages between groundwater and surface water, and establish base-level data for ongoing monitoring and to inform management.
- F7 Develop watering strategies to protect and recover flood-dependent natural values on floodplains, with priority sites including those with threatened taxa, high species richness, colonial breeding sites or corridors important for movement of biota, and sites in poor condition

with the potential to recover significant natural values.

### Riparian protection

More details are in the VNPA *Riverside Rescue* report.

- F8 Establish a 'special offer' assistance program to crown water frontage licence holders to fence boundaries, set up off-river watering and improve management for environmental outcomes.
- F9 Establish a 'waterway guardians' program to offer incentives to landholders with significant conservation assets on private land adjacent to crown water frontages or with privately owned frontages with high conservation values to manage these areas for conservation.
- F10 Strategically add riparian areas that meet conservation criteria (for biodiversity values, connectivity and management integrity) to the national park and conservation system, and manage them accordingly.
- F11 For areas in moderate to good condition, but not suitable for addition to the national park and conservation system, issue a conservation licence that specifies minimum management actions, such as fencing, stock removal or grazing regimes and weed control.
- F12 Enforce Victoria's laws to prevent unauthorised activities on riparian public land. Cancel licences where there is evidence of no improvement or action to improve conditions.
- F13 Cancel riparian grazing licences where there is evidence of significant damage or no

improvement or lack of action to improve conditions.

- F14 Provide funding of \$20 million per year for four years to accelerate the implementation of good management and assist landholders to take positive steps to repair, restore and protect riparian lands.

## Freshwater protected areas

- F15 Develop a state-wide process for classifying freshwater communities (akin to terrestrial vegetation communities) and systematically identify high priority areas for protection by applying criteria for assigning biodiversity and conservation value (such as in Table 4.12).
- F16 Systematically identify freshwater refugia likely to facilitate survival of organisms under threat from climate change and provide them with a high level of protection.
- F17 Create freshwater reference areas under the Reference Areas Act to optimise protection of freshwater ecosystems which are highly intact and have high biodiversity.
- F18 Review and revamp the Heritage Rivers Act, including by extending it to wetlands, improving its capacity to prevent damaging land use changes, and requiring monitoring.
- F19 Protect the 16 'representative rivers' recommended by the Land Conservation Council in 1991 by amending the Heritage Rivers Act or by protecting them in the national park and conservation system.

## Wetlands

- F20 Develop a Victorian wetlands strategy that sets policy goals, targets and reporting regimes.
- F21 Require land use planning schemes to contain wetland overlays to prohibit destruction or modification of high-value wetlands, as identified by catchment management authorities and including all Ramsar sites.

- F22 Use the Flora and Fauna Guarantee Act to protect high-value wetlands that provide habitat for threatened species by declaring them as critical habitat and, where they are under imminent threat, by issuing Interim Conservation Orders.

- F23 Protect all Ramsar wetland sites on public land within the national park estate.

- F24 Amend the Water Act to include all wetlands on private land in the definition of 'waterway'.

## Catchment management

- F25 Strengthen catchment management strategies, including by adopting an ecosystem-based approach, identifying clear targets and indicators, developing a long-term monitoring program and clearly linking catchment management to the health of marine and coastal environments and the Murray River.
- F26 Strengthen links between catchment management strategies and land-use planning.
- F27 Revise and strengthen the Victorian waterway management strategy to define clear indicators and targets for regional river health and restoration.
- F28 Recognise the important role played by streams and their environs in landscape connectivity and as carbon sinks by incorporating them into broader connectivity, restoration and carbon sequestration programs.
- F29 Minimise land use impacts on rivers and streams by removing grazing from sensitive areas, promoting low impact agriculture and controlling weeds and feral animals. Complement these measures with education to promote improved management practices.
- F30 Ensure that public land managers lead the way in complying with regional catchment strategies and their catchment condition targets developed by catchment management authorities.

## 6.4 ENVIRONMENTAL GOVERNANCE

### Environmental laws

#### Integration and modernisation

- G1 Develop new consolidated legislation – a Victorian Environment and Conservation Act – to provide a comprehensive framework for the conservation of biodiversity and native vegetation, and management of public lands. The new consolidated law should:
- function as a clear public statement about the importance of biodiversity conservation and ecologically sustainable management
  - provide clear overarching principles and a framework for developing, implementing and evaluating strategies and plans at appropriate temporal and spatial scales
  - establish effective instruments for implementing strategies and plans
  - provide clarity about the roles and responsibilities of different agencies and organisations
  - guarantee monitoring, evaluation, accountability and public participation
  - require public reporting on performance, including on outcomes for relevant regulations, policies and plans, and compliance and enforcement.

#### Biodiversity

- G2 Strengthen the Flora and Fauna Guarantee Act, including in ways recommended by the auditor general and the Environment Defenders Office (Victoria), and incorporate it into the new Environment and Conservation Act. Essential reforms include:
- an improved and accelerated process to identify and list threatened biodiversity and threatening processes, and to develop, implement and review action plans for recovery
  - a focus on protection of biodiversity at all levels – ecosystems and ecological processes as well as species and population
  - a procedure (including public consultation) and statutory timeline for developing and reviewing a state biodiversity strategy

- improvements to processes for critical habitat determinations, interim conservation orders and other conservation measures to ensure they are effectively used
- processes and tools to facilitate adaptation to rapid climate change.

#### Biosecurity

- G3 Develop new biosecurity legislation to more effectively prevent, eradicate, control invasive species that threaten the natural environment that includes:
- a lead role for the environment department and environment ministers in developing policy and administering legislation and policy for invasive species that threaten the natural environment
  - ecologically sustainable development as a guiding principle, which includes the precautionary principle, conservation of biodiversity, intergenerational equity, valuation and pricing and public participation
  - a permitted (safe) list approach to define which non-indigenous taxa (including species native to Australia but not to Victoria) can be introduced, sold, moved or kept in Victoria on the basis of risk assessment, with the precautionary principle applying where information is lacking
  - a requirement for systematic risk assessment and categorisation of already introduced species to optimise the potential to prevent establishment, eradicate, contain or control harmful species
  - an independent expert committee to advise on risk assessments, declarations and policy
  - a 'duty of care' obligation to require all biosecurity participants to exercise a general biosecurity obligation to take reasonable and practical measures to prevent and minimise biosecurity risks.

#### Enforcement and compliance monitoring

- G4 Strengthen the compliance framework for environmental laws by:
- developing whole-of-department and specific regulator compliance monitoring and enforcement policies,



- transparently identifying and monitoring high compliance risks across all legislation,
- improving oversight of compliance functions – by monitoring, regular external review and assigning clear accountability for compliance responsibilities, and
- publicly reporting on compliance monitoring and enforcement activities and outcomes for each relevant law and regulation.

## Institutional structures and processes

- G5 Restructure Victoria’s institutions for conservation and natural resource management to establish clear lines of accountability, to separate regulatory roles from policy setting and management and to maximise the independence of environmental regulators. The recommended structure includes the following bodies:
- Nature Victoria (statutory government agency): conservation management and delivery
  - Communities & Landscapes Victoria (statutory government agency): landscape management within an environmental framework
  - Production Victoria (statutory government agency): support for sustainable production within an ecological sustainability framework
  - Environmental Regulator (statutory government authority with independent board): compliance monitoring and enforcement of environmental regulations
  - Native Vegetation Regulator (independent authority): operational functions of native vegetation management
  - Marine and Coastal Authority (statutory independent body): integrated planning and management of marine and coastal areas
  - Victorian Environmental Assessment Council (independent council): investigations on the protection and sustainable use of public and private land
  - Environmental Audit Office (independent office of the parliament): reviews of environmental performance

- Catchment management authorities: facilitation and coordination of the integrated and sustainable management of catchments
  - Trust for Nature (independent statutory body): facilitation of conservation on private land.
- G6 Set targets to define a measurable pathway to improving the natural condition of Victoria:
- Focus targets on measurable outcomes for conservation priorities such as native vegetation (condition and extent), ecological vegetation classes, private land protection and protected areas management.
  - Incorporate five-year rolling targets into state budget portfolio service delivery targets and agency director performance agreements.
  - Independently audit agency performance against targets in each state of the environment report.
  - Embed ecological sustainability and biodiversity conservation as core principles for all departments through their enabling legislation, mission statements and strategic plans. Require high-level biodiversity objectives to be addressed in all relevant government programs and projects. Take an integrated whole-of-government approach to biodiversity management.

## Local government

- G7 Encourage local governments to prepare local biodiversity action plans and offer matching funds for implementation of these plans.
- G8 Provide a statutory mechanism under the planning system or local government laws for local governments to achieve permanent protection of council lands with high conservation values as ‘local conservation reserves’.
- G9 Strengthen the implementation of catchment management plans by aligning local government land-use planning with catchment management plans and priorities.

## Planning and priorities

### Nature conservation strategy

G10 Develop a Victorian nature conservation strategy that includes the following elements:

- long term, measurable targets that can be adapted as conditions change or as monitoring suggests changes are required
- outcome-focused performance indicators
- strategies to drive conservation at landscape and seascape scales (to avoid ad hoc decision making)
- a requirement for publicly accessible and independent auditing of program implementation and outcomes
- a mixture of conservation tools including regulation, enforcement and market-based initiatives
- strategies to integrate biodiversity conservation and ecologically sustainable development across public and private land tenures,
- a commitment to long-term allocation of resources to enable organisations to implement strategies
- a requirement for regular five-yearly reviews.

### Management plans and action plans

G11 Closely align departmental performance targets to the outcomes defined in the biodiversity strategy and subsidiary plans and strategies.

G12 Provide the resources necessary for the environment department to systematically list threatened species, ecological communities and threatening processes, and develop action plans for all listed entities within five years.

G13 Ensure that all protected areas have up-to-date management plans and publicly accessible web-based maps and information about their values.

### Climate change

G14 For climate change mitigation, identify carbon sequestration opportunities that complement biodiversity protection and restoration:

- Assign value to biodiversity assets that reflects sequestration opportunities and invest in biosequestration projects in rural landscapes.

- Identify carbon sinks such as forests, seagrass meadows and streams. Manage native forests to conserve carbon stocks instead of logging them.
- Recognise the important role played by streams and their environs in landscape connectivity and as carbon sinks by incorporating them into broader connectivity, restoration and carbon sequestration programs.
- Require assessment of the greenhouse gas implications of land use changes.

G15 To foster ecological resilience and promote adaptation to climate change:

- Develop regional climate adaptation plans (every 5 to 10 years) and incorporate measures into all relevant plans, strategies and programs, including the biodiversity strategy, coastal plans, regional catchment management strategies and national park plans.
- Develop statewide targets for biodiversity and land health that drive investment in resilience.
- Ensure that the condition of biodiversity assets is maintained at a very high level to ensure maximum resilience and adaptability to change, including by reducing invasive species threats, implementing ecologically appropriate fire regimes, and addressing the needs of priority taxa and communities.
- Put in place a systematic and long-term ecological monitoring program to monitor progress against biodiversity targets and ensure high quality data to assist with adaptive management.
- Incorporate climate change criteria into all relevant plans, strategies and programs, including the biodiversity strategy, coastal plans and regional catchment management strategies.
- Build the knowledge base about the impacts of climate change on biodiversity, and management approaches and techniques to foster resilience and adaptation.
- Adopt a 'foresighting' approach to planning for climate change; plan for possible outcomes taking account of potential interactions and worst-case scenarios.

G16 Investigate and implement measures to preserve the biodiversity values of the national park and conservation system under climate change:

- Expand the national park and conservation system area and improve management to foster resilience and adaptation (refer to recommendations in previous chapters).
- Identify important climate refugia and protect them within the national park estate.
- Link the national park estate along environmental gradients.

## Federal protected area policy

- G17 Amend the federal Environment Protection and Biodiversity Conservation Act to make national parks a matter of national environmental significance, requiring assessment of any activities likely to have a significant environmental impact.
- G18 Establish a Natural Icons Resilience Program with federal government funding for management of strictly protected areas on public or private lands that goes beyond 'duty of care or baseline management' or for special programs to improve the resilience and conservation value of protected areas. Funding could be directed to areas that meet one or more of the following criteria:
- their conservation values are of national conservation significance
  - management is cross-jurisdictional
  - they provide significant ecosystem services
  - they are highly vulnerable to climate change.

## Funding

- G19 Establish a Victorian Biodiversity Fund to improve environmental program delivery, management of public conservation reserves and measures to build the resilience of ecosystems. Investigate potential sources of revenue, including lotteries and new or expanded charges and levies such as a 'bed tax' from tourism.
- G20 Increase funding to the environment. To identify core funding needs, conduct an audit of essential environmental functions arising from national and international commitments, including recovery of threatened biodiversity and mitigation of threatening processes. Make long-term funding commitments to guarantee conservation

management over ecologically relevant timeframes.

- G21 In recognition that a healthy environment is essential to Victoria's future and underpins economic and social health, allocate a defined proportion of the state budget to maintaining and restoring Victoria's environment.
- G22 Increase the transparency of funding arrangements, including for management of the public reserve system and the allocation of resources for different functions such as visitor and facility management and conservation.

## Knowledge needs

### Skills

- G23 Conduct a training needs assessment by auditing the skills and expertise within the biodiversity sector, especially of state and local government personnel and contractors. Address the gaps identified, and improve skills and expertise at all levels.

### Research

- G24 Maintain a fixed proportion of departmental budgets to employ research staff and run research programs.

### Monitoring and reporting

- G25 Support the community to undertake scientifically robust monitoring by providing expert advice and feedback, protocols to ensure the data is effectively used and databases accessible to the public and researchers.
- G26 Ensure collection, storage and management of information is subject to standard protocols and guidelines and is freely accessible to all users.
- G27 Establish a long-term ecological monitoring network to monitor and report on conditions and trends in ecosystem components and processes, especially those most susceptible to climate change
- G28 Identify priority gaps in information collection and monitoring through consultation with the biodiversity sector, to include a focus on:

- systematic surveys prioritising poorly known and threatened biodiversity
  - interactions between taxa, and between taxa and the biotic and abiotic environments, ecological processes, and effective techniques for biodiversity conservation
  - systematic surveys for weeds and invasive animals that threaten biodiversity
- integrated and standardised data collection and management framework for biodiversity to facilitate evaluation of long-term trends.
- G29 Implement statewide standards to be developed by the Environmental Audit Office for the collection, management and dissemination of environmental data and reports.
- G30 Make greater use of Indigenous knowledge in conservation management.