HUMANE SOCIETY INTERNATIONAL

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WILDLIFE LAND TRUST

Threatened

An overview of HSI's Threatened Species Program &

235

suggested Commonwealth policy actions

Many thanks to those who contributed to this policy paper:

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Cover image: Shy albatross *(Thalassarche cauta)*
Back cover: Mahogany glider, by Daryl Dickson and taken on WLT sanctuary Mungarru Lodge Sanctuary (Queensland)
Page 9: Grey-headed flying-fox, by Nick Edards
Page 15: Sparky the orphaned eastern quoll, by Tonia Cochran and taken on WLT sanctuary Inala (Tasmania)

The future

of our wildlife and wild places remains in the balance

The central bearded dragon *(Pogona vitticeps)* is still safe but 60 of his reptilian friends are listed under the EPBC Act.

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'Red Light Protection' for the Most Threatened Habitats *Evan Quartermain*

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Bioregional Conservation Strategies and National Priorities *Paul Sattler OAM*

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HUMANE SOCIETY INTERNATIONAL & HUMANE SOCIETY INTERNATIONAL WILDLIFE LAND TRUST

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policies and actions essential for wildlife and habitat protection

20+ years of action

This is the second in a series of overview publications examining HSI's biodiversity conservation programs over the last two decades. The first focussed on our efforts to protect Australia's threatened ecosystems, while this document conveys the breadth of our campaigns to directly protect Australia's threatened species.

In 1982, as Directors of The Fund for Animals Ltd Australia (FFA), we played a key NGO-role in the passage of the Commonwealth's *Wildlife Protection (Regulations of Import and Export) Act,* which comprehensively implemented Australia's obligations under CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora).

In a 1984 submission to the Senate Select Committee of Inquiry into Animal Welfare in Australia, we first called for the enactment of a **Federal Endangered Species Act** to protect the habitats of endangered species, and in 1986, under the banner of EcoFund Australia, published **A Threatened Species Conservation Strategy for Australia—Policies for the Future** (including model legislation). These actions and others were the seeds of a long-term effort on behalf of Australia's imperilled wildlife, with the 1986 strategy leading to a Prime Ministerial election promise in 1987, to establish Australia's first **National Endangered Species Program** and the passage of the Commonwealth's ***Endangered Species Protection Act*** in 1992.

In the 1980s, FFA also helped trigger negotiations for development of the **Convention on Biological Diversity;** gained a commitment from the Commonwealth to pursue such a treaty; and a pledge from the NSW Government to enact specific **threatened species legislation.**

Establishing Humane Society International (HSI) in Australia in 1994, it was our intent as directors to maintain the impetus for securing effective threatened species programs and laws in Australia. This publication reflects on HSI actions in the intervening 22 year period. **More importantly however, it also proposes 235 policies and actions essential in achieving the nation's long-term wildlife and habitat protection goals.**

HSI continues to fight for strong Commonwealth environmental management and responsibility, and to significantly improve national conservation policy and law. The future of Australia's wildlife and wild places remains in the balance.

Founding Directors:
Humane Society International (Australia)
Wildlife Land Trust (Australia)

Michael Kennedy *Verna Simpson*

HSI's Threatened Species Program

CHASING NEW AND BETTER LAWS

By its very nature as an advocacy organisation, Humane Society International focusses on what it can achieve through the promotion of adequate public policy and law at state, national and international levels.

The last 22 years has therefore seen us at the sharp end of campaigns to see the introduction of appropriate threatened species and biodiversity laws and, more latterly, spending inordinate amounts of time in their defence. We do not foresee this role changing in the near future.

We have been privileged to have been at the forefront of campaigns to see the introduction of the Commonwealth's *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act); subsequent EPBC Act wildlife trade amendments; the New South Wales *Threatened Species Conservation Act 1995* (TSCA); and the *NSW Fisheries Management Act 1994* (threatened species provisions).

With the passage of these new laws, HSI and all NGOs concerned with nature conservation were offered the opportunity to thoroughly test the legislations' potential to protect threatened species, a course of action which HSI set out purposely to do. In the period between the establishment of HSI in 1994 and the entering into force of the EPBC Act in 2000, HSI also utilised the far weaker Commonwealth *Endangered Species Protection Act 1992* to the extent that the law permitted.

With the enactment of the EPBC Act, for the first time the Federal Government was able to take responsibility for environmental impact assessment of actions affecting World Heritage sites, Ramsar wetlands, threatened species, Threatened Ecological Communities and migratory species, wherever they may occur in Australia, as well as the Commonwealth marine environment and nuclear actions. And for the first time, it would be the Federal Environment Minister (not, for example, a resources or transport minister) deciding whether these actions should go ahead and what conditions should be placed on them. The EPBC Act schedules now contain 1,794 plants and animals and 78 threatened ecosystems, while the TSCA lists 982 and 108 respectively.

In essence, our species program has four main directions: the pursuit of broad policy and law improvements for the sake of all of Australia's biological diversity; the listing of species, habitats and key threatening processes under all available environmental law (over 200 scientific nominations to date); direct campaigning for the protection of species where human/wildlife conflict issues are at the fore; and species under pressure in Australia's vast marine territories. Our achievements in protecting species habitats has been outlined in the 2014 HSI Special Bulletin, *Conserving Australia's Threatened Ecosystems—An overview of HSI's Habitat Protection Program*, with a climate change program review and policy proposals to follow next year.

Campaigns to protect Australian wildlife have not been restricted to domestic conservation programs, as we have also striven to seek protection for species under a number of international treaties where opportunities have existed, which have centred in large part on marine species protection.

HSI staff have therefore spent large amounts of time engaged in program activities that are essentially linked to legislative processes designed to protect and recover species and habitats. These activities have also included taking action in the courts when required and when it was legally and financially possible. Using the law we have clocked up over 50 legislative 'firsts' for conservation. These include listing the first commercial fish species under threatened species laws (and possibly anywhere in the world); the first legal recognition of 'climate change' as a key threatening

HSI has clocked up 50+ legislative 'firsts' for conservation—building blocks for recovery actions

process under Federal and state law; and the first successful legal challenge in the Federal court against a foreign company for 'taking' EPBC Act listed species.

We have provided advice on threatened species management to various governments at the highest levels, including as a member of the Commonwealth's 'Endangered Species Advisory Committee' (ESAC), the inaugural 'State of the Environment Reporting Council' (publishing Australia's very first State of the Environment Report in 1996), a range of species and threat abatement recovery teams and as official advisers to treaty meetings such as CITES, CMS, CBD, CCSBT and the IWC (see page 17) where we have successfully advocated for species protections.

We have used these multiple advisory roles (47 in total) to vigorously promote our long-term conservation agendas, with the majority of invitations resulting from policy initiatives we helped trigger in the first instance. *See Table 3 on page 16.*

The species

Table 4 lists the 73 species that HSI has either directly nominated for protection under Commonwealth, state or territory laws, or been indirectly involved in protecting; either by triggering review processes or convincing governments to nominate species for protection under international treaties. **Table 4** identifies nominations that have gained new or extended protection for a range of species, and also indicates where species have been subject to recovery plans or management action statements of one kind or another, while the last column comments on current conservation status.

A cursory glance at Table 4 will show that of the 73 species listed, 47 have Recovery Plans; 50 are subject to one or more Threat Abatement Plans; 3 species have been de-listed, 2 proposed for possible de-listing; 2 species have become extinct; 1 has been rediscovered; 3 species have been found to be more widespread but not de-listed; 8 species still await listing adjudication due to lack of scientific data (sharks); 4 marine fish are being commercially fished although still listed; and two species are still being persecuted by government and public alike (flying-foxes).

What this does not show is the many occasions when governments rejected our species nomination proposals, including for example for the koala, southern hairy-nosed wombat, Troughton's bat, 7 dingo populations, the dugong, Patagonian toothfish, flesh-footed shearwater, several shark species and many others. More often than not governments tend to fall back on the argument that there is insufficient data to make a determination, particularly in relation to nearly all commercially-taken shark species. Rarely do they utilise the EPBC Act's embedded 'precautionary principle'. A source of ongoing frustration and disappointment for HSI.

The table also shows where recovery programs have indicated or recognised species critical habitats, but strong legal protection for these places is sadly lacking. Throughout our scientific nomination program we have attempted to identify critical habitat requirements, while also making separate habitat protection proposals for a further 60 species, and with WWF Australia, provided governments with maps indicating over 300 critical habitat areas in Australia for 16 threatened marine species.

HSI's nomination program covers nearly 5,000,000 hectares and 27 TECs

The threats

Table 1 provides a list of Key Threatening Processes (KTPs) that HSI has nominated over time under various Commonwealth and state laws. **Table 4** indicates where an HSI nominated species is covered by one or more listed KTPs or one or more operational Threat Abatement Plans (TAPs).

While a number of our nominations were either rejected outright by government, failed to be added to priority assessment lists, or were not followed up with TAPs, the mere fact of our very public nomination often achieved the desired political effect, causing industry or governments to respond to threatening processes they might otherwise have continued to ignore.

Up until late 2016, HSI had successfully listed 17 KTPs under state and Federal law, had 10 rejected, while four are currently awaiting formal adjudication. Of the major threatening processes listed by HSI thus far, including '**land clearing**' and '**climate change**', only '**long-line fishing**' and '**marine debris**' have been the subject of consequential national Threat Abatement Plans.

Of these KTPs nominated over the last 20 years, we have been involved in significant campaigns in relation to land-clearing, climate change and marine debris; worked in cooperation with the Commonwealth and industry to see an end to marine turtle deaths in trawlers; and been integrally involved in Australia's most successful Threat Abatement Plan, mitigating the effects of long-line fishing on albatross and petrels in Australian waters.

Legal actions

Table 2 indicates the extent to which HSI has been prepared to use the courts under environmental law to pursue good conservation outcomes.

The passage of the EPBC Act in 1999 provided individuals and conservation NGOs the prospect of challenging decisions of the Federal Environment Minster affecting listed species and places, and HSI was among the very first environment organisations to seize the legal opportunity.

The legal challenges list would have been far, far longer if we had not been a partial victim of our own success. By 2006, a conservative Coalition cabinet constantly lobbied by big industry, moved to amend the EPBC Act to remove "merits appeals" from the operation of the Act—effectively curtailing HSI's plans for new legal actions on behalf of threatened species and places. The draconian EPBC Act amendments did not completely stop our court actions but certainly made life difficult for us and other NGOs.

HSI has been involved in 25 court cases as the primary litigant or as a financial supporter (contributing approximately $100,000 to other NGO court costs) including two cases in Papua New Guinea—with nearly all of our ventures into court ably directed by EDO NSW (Environmental Defenders Office). Some of these legal actions have set important legal precedents—see comments on page 104 by EDO Solicitor Stacey Ella for example.

The section after Table 4 shows the extent to which HSI's Threatened Ecological Community (TEC) nominations program, covering nearly 5 million hectares and 27 TECs, has provided listed species and critical habitats with additional protection. This section also highlights the role played by HSI's Wildlife Land Trust (WLT) network of over 400 member sanctuaries (covering in excess of 50,000 hectares) in conserving many listed species. Two other sections detail our marine species program and our campaigns in relation to steadily increasing threatened species/human conflict situations.

Worked

with government and industry to end turtle deaths from trawlers

Table 1 • HSI 'Key Threatening Process' (KTP) listings under Commonwealth and state law

Environment Protection and Biodiversity Conservation Act 1999 (and previously the Commonwealth _Endangered Species Protection Act 1992_)

'Loss of climatic habitat caused by anthropogenic emissions of greenhouse gasses'

'Land clearance' (with M. Krockenberger and Prof J. Kirkpatrick)

'Incidental catch (bycatch) of Sea Turtles during coastal otter-trawling operations within Australian waters north of 28 degrees south' **(Threat mitigated through mandatory use of TEDS—Turtle Exclusion Devices)**

'Incidental catch (or bycatch) of seabirds during oceanic longline fishing operations' **(TAP implemented—very significant reduction in albatross bycatch—zero goal)**

'Injury and fatality to vertebrate life caused by ingestion of, or entanglement in, harmful marine debris' **(TAP completed—continues to be implemented—low key)**

New South Wales _Threatened Species Conservation Act 1995_

'Anthropogenic Climate Change'

'Clearing of native vegetation'

'Death or injury to marine species following capture in shark control programs on ocean beaches'

'Entanglement in or ingestion of anthropogenic debris in marine and estuarine environments'

'Loss of hollow bearing trees'

New South Wales _Fisheries Management Act 1994_

'Human-caused climate change'

'Current shark meshing program in NSW waters'

'Hook and line fishing in areas important for the survival of threatened fish species'

Victorian _Flora and Fauna Guarantee Act 1988_

'Loss of terrestrial climatic habitat caused by anthropogenic emissions of greenhouse gases'

'Loss of hollow-bearing trees from Victorian native forests'

'Incidental catch (or bycatch) of seabirds during longline fishing operations'

'The discharge of human-generated marine debris into Victorian marine or estuarine waters'

HSI KTP nominations rejected under Commonwealth and state law

'Fatal injury to marine mammals, reptiles and other large marine species through boat strike on the Australian coast' (rejected by Commonwealth)

'Death or injury to marine species following capture in lethal shark control programs on ocean beaches' (rejected by Commonwealth)

'Loss of hollow-bearing trees in native forests and woodlands due to ecologically unsustainable forestry practices' (rejected by Commonwealth)

Ensuring 'land clearing' recognised as a Key Threatening Process in law

'Loss of hollow-bearing trees in native forests and woodlands due to firewood harvesting' (rejected by Commonwealth)

'Introduction of marine pests to the Australian environment by shipping' (rejected by Commonwealth)

'Clearing and degradation of lowland forest, feather palm springs, freshwater wetlands, grassland ecosystems, littoral rainforests and other ecosystems along the eastern seaboard (coastal lowland) bioregions of Queensland due to sugar cane farming and expansion' (with joint groups) (rejected by Commonwealth)

'1080 poison baiting used for the control of vertebrate 'pest' animals' (rejected by Commonwealth and New South Wales)

'The cascading effects of the loss or removal of the mammalian predator, the dingo (including wild dogs and dingo cross-dog hybrids) from Australian landscapes' (rejected by Commonwealth)

'Recreational game fishing—competition game fishing especially for sharks, tuna and marlins' (rejected by Commonwealth)

'Overfishing in the Southern and Eastern Scalefish and Shark Fishery (SESSF)' (withdrawn by HSI due to success of legal action)

HSI recently resubmitted/awaiting adjudication KTP nominations

'Death or injury to marine species following a capture in the lethal shark control programs on ocean beaches' (under EPBC Act)

'Alteration to the natural flow regimes of watercourses and their floodplains and wetlands' (under EPBC Act)

'The cascading effects of the loss or removal of dingoes from Australian landscapes' (under EPBC Act)

'Recreational fishing which results in the capture of top order predators such as sharks, tuna and marlin including competition game fishing, offshore fishing, line fishing and other fishing methods' (under EPBC Act)

Grey-headed flying-fox
Pteropus poliocephalus

Table 2 • HSI legal challenges and financial support for legal actions
Primarily under the provisions of the EPBC Act

Federal Court application seeking permission under *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) to mount case against a foreign company (Kyodo Senpaku Kaisha) for killing listed minke, humpback and fin whales in Australian Antarctic waters.

Successful appeal under the EPBC Act to Full Bench of the Australian Federal Court, appealing an earlier Federal Court decision not to grant HSI permission to challenge Kyodo Senpaku Kaisha under the EPBC Act.

Successfully challenging Kyodo Senpaku Kaisha under the EPBC Act in the Federal Court for taking listed whales in Australia's Whale Sanctuary in Antarctica. Granted an injunction to restrain.

Successful challenge in the Federal Court under the EPBC Act for Kyodo Senpaku Kaisha's contempt of court (against the 2008 Federal injunction) in continuing to kill whales in Australia's Antarctic waters, triggering a $1 million fine.

Challenging in the Commonwealth Administrative Appeals Tribunal, the Federal Environment Minister's approval of an export program for the endangered southern bluefin tuna (under the EPBC Act).

Successfully challenging the Commonwealth in relation to Australia's largest commercial fishery (Southern and Eastern Scalefish and Shark Fishery) in the Commonwealth Administrative Appeals Tribunal, and successfully negotiating a range of improved species management conditions (under the EPBC Act). Relating to orange roughy, eastern gemfish, school shark, Harrison's, endeavour and southern dogfish, Australian fur seal, Australian sea lion, shy albatross and many other species.

Challenging in the Commonwealth Administrative Appeals Tribunal, the Federal Minister's export plan for Tasmanian pademelons, Bennett's wallabies and brush-tail possums in Tasmania, resulting in successful out of court negotiations for improved management regime (under the EPBC Act).

Successfully challenging the Commonwealth in the Federal Court, under the EPBC Act, over inappropriate guidelines for the management and protection of threatened grey-headed flying-foxes.

Successful action in the Victorian Administrative Appeals Tribunal over an FOI application in relation to grey-headed flying-foxes.

Successful action in the NSW Administrative Appeals Tribunal over an FOI application in relation to listed grey-headed flying-foxes.

Application in the Victorian Supreme Court in relation to grey-headed flying-foxes to stop proposed shooting.

Federal Court action (in cooperation with Bat Advocacy) under the EPBC Act to stop the dispersal of a colony of listed grey-headed flying-foxes in Sydney's Botanic Gardens (a critical habitat).

Providing a modest financial contribution to help court challenges in Queensland by Carol Booth seeking to protect spectacled flying-foxes, leading to removal of inhumane electric grids used to kill this threatened species (under the EPBC Act).

Commenced proceedings in the NSW Land and Environment Court in relation to permitting habitat destruction (listed TEC) and the dispersal of more than 100,000 threatened grey-headed flying-foxes at Batemans Bay, NSW. However following last minute FOI from the Department, a decision was made to withdraw proceedings.

HSI has been involved in 25 court cases as a primary litigant or financial supporter

Challenging the Commonwealth in the Administrative Appeals Tribunal (with IFAW and RSPCA) over the importation of endangered Asian elephants, successfully gaining 22 new conditions relating to the welfare of the animals in Taronga Zoo (under the EPBC Act).

Successful NSW Land and Environment Court action (in cooperation with the Western Sydney Conservation Alliance) under the TSC Act, against Penrith City Council and two Lend Lease subsidiaries, challenging the validity of the Council decision to approve developments impacting listed TECs and species, including the Cumberland Plain Woodland (listed after HSI nomination). The court agreed that the Council had failed to consider the requirements of the Recovery Plan.

Financially supporting the actions of PNG Eco-Forest Forum and their legal team in the Supreme Court of Papua New Guinea, to successfully protect 800,000 hectares of virgin rainforest in the Kamula Dosa forest area in the Western Province of PNG from logging.

Further financial supporting of the PNG Eco-Forest Forum in the National Court of PNG, to successfully protect 800,000 hectares of forest in the Kamula Dosa area, after the Court issued an injunction to stop the Office of Climate Change from issuing rights over the forest.

Following a significant win in the Federal Court by Senator Bob Brown to protect threatened species in Regional Forest Agreement areas (and the Wielangta Forest, under the EPBC Act), HSI supported Bob Brown's court costs against an appeal in the Federal Court by Forestry Tasmania.

Financially supporting the Nature Conservation Council of NSW in their attempt to gain protection from impacting export fisheries upon the threatened grey nurse shark (under the EPBC Act).

Providing a modest financial contribution to the Queensland Conservation Council in their attempt to stop a new Xstrata coal mine approval, emitting large amounts of carbon gases (under the EPBC Act).

Providing a modest financial contribution to Wide Bay Burnett Conservation Council in its attempt to protect the Australian lungfish from a new dam development (under the EPBC Act).

Financially supporting the Tasmanian Conservation Trust (TCT) in the Tasmanian Supreme Court, in their action under the EPBC Act to stop the threat to listed species and habitats by the clearing of 1,804 hectares of high conservation forest (including the HSI nominated *Eucalyptus ovata* forests). The proponent eventually withdrew from the development in the face of EPBC Act requirements.

Providing a modest financial contribution to the Northern Territory Environment Centre for its preliminary costs hearing in relation to the Port Melville development.

Made application to the Commonwealth Administrative Appeals Tribunal for a review of a decision, by Information Commissioner (backing up Department of the Environment), not to release documents under the FOI Act regarding the NSW Major Projects Offsets Policy as part of the negotiations with the Federal Government in their One Stop Shop policy. HSI was acting for the Places You Love Alliance.

HSI has also been effective in the area of consumer law by utilising Australian Competition and Consumer Commission (ACCC) formal complaint procedures, triggering a number of successful ACCC court actions against offending corporations.

Table 3 • HSI government advisory roles (past and present)

Recovery Teams

National Marine Turtle Recovery Group

National Shark Recovery Group

Grey Nurse Shark Recovery Team

Great White Shark Recovery Team

National Albatross and Giant Petrel Recovery Team

Macquarie Island Wandering Albatross Recovery Team

National Whale Recovery Planning Group

Threat Abatement Teams

Stakeholder Group for the Threat Abatement Plan for the Incidental Catch (or Bycatch) of Seabirds during Longline Fishing Operations (TAP)

Marine Debris Threat Abatement Plan Team

Advisory Committees and Working Groups

Commonwealth Endangered Species Advisory Committee (ESAC)

Commonwealth Biological Diversity Advisory Council (BDAC)

Australian Heritage Council

Commonwealth Expert Committee on Biodiversity Hotspots

Commonwealth Regional Natural Heritage Program (RNHP)

Commonwealth State of the Environment Reporting Council

National Oceans Advisory Group

NSW Exhibited Animals Advisory Committee

ASTEC Study Group into the Ethical Conduct of Research in Protected and Environmentally Sensitive Areas (Australian Science, Technology and Engineering Council)

Commonwealth Exotic Birds Committee

Commonwealth Trade and Environment Working Group

Eastern Gemfish Assessment Group

Commonwealth Dugong Review Group

Dugong Rehabilitation Working Group

Great Barrier Reef Critical Issues Working Group on Fisheries

NSW Flying-fox Netting Sub-committee (NSW Environmental Trust)

NSW Flying-fox Consultative Committee (NSW OEH)

Australian Sea Lion Working Group / Marine Mammal Working Group (Australian Fisheries Management Authority—AFMA)

Bycatch Standards Project—stakeholder engagement team (FRDC/ABARES)

Advisory Committee for the Review of the Commonwealth Policy on Fisheries Bycatch (DAFF)

Commonwealth Fisheries Marine Mammal Working Group (AFMA)

Shark Plan Representative Group (DAWR)

National Shark Advisory Group for the National Plan of Action for the Conservation and management of Sharks (Shark Plan 2)

National Plan of Action for Seabirds Group

Helping protect Australian threatened species under global laws

Conservation treaty meetings—government advisory roles and working groups

HSI has provided the Australian Government with senior staff advisers to a range of conservation treaty meetings relating to species management over the past two decades. Below are listed the treaties and working groups of relevance. HSI advisers have attended most of these international gatherings as a member of Australian Government Delegations on multiple occasions.

Australian Government Delegation to the Commission for the Conservation of Southern Bluefin Tuna (CCSBT)

CCSBT Ecologically Related Species Working Group (ERSWG)

CCSBT Technical Seabird Working Group

Australian Government Delegation to the Convention on the Conservation of Migratory Species of Wildlife (CMS)

Australian Government Delegation to the CMS Agreement on the Conservation of Albatrosses and Petrels (ACAP)

ACAP Seabird Bycatch Working Group

ACAP Population and Conservation Status Working Group

Australian Government Delegation to the Negotiations for a Conservation and Management Plan (CMP) for Marine Turtles in the Indian Ocean and Southeast Asia (IOSEA) Region (under the auspices of the CMS)

Australian Government Delegation to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)

Australian Government Delegation to the International Whaling Commission (IWC)

Australian Government Delegation to the Convention on Biological Diversity (CBD)

Australian Government Delegation to the UNFCCC negotiations (with particular relevance to REDD)

Australian Government Delegation to the United Nations BBJN (Biodiversity Beyond National Jurisdiction) Preparatory Committee talks for the *'Development of an internationally legally binding instrument under UNCLOS on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction.'*

Australian Government Delegation to the Convention on the Conservation of Antarctic Marine Living Resources

Table 4 • HSI nominated species listings
Prepared by Jessica Morris*

This table lists the 73 species that HSI has either directly nominated for protection under Commonwealth, state or territory laws, or been indirectly involved in protecting; either by triggering review processes or convincing governments to nominate species for protection under international treaties.

Guide

Species = Species common and scientific name

Date nominated = (By HSI)

EPBC status = Environment Protection and Biodiversity Conservation Act 1999—species status (including whether listed separately as a marine and or migratory species)

ESPA = Commonwealth Endangered Species Protection Act 1992

TSCA = New South Wales Threatened Species Conservation Act 1995

FMA = New South Wales Fisheries Management Act 1994 (threatened species provisions)

FFG = Victorian Flora and Fauna Guarantee Act 1988

TSPA = Tasmanian Threatened Species Protection Act 1995

CMS = Convention on the Conservation of Migratory Species of Wild Animals

CITES = Convention on International Trade in Endangered Species of Wild Fauna and Flora

CH = Either listed in legislative critical habitat register or habitat is specified in recovery plan, conservation advice or guidelines

*HSI Program Officer

TEC = Species occurs in HSI nominated/listed Threatened Ecological Community

CA = Conservation advice provided at time of listing where conservation actions are recommended

GL = Indicates that conservation guidelines have been published relevant to species

RP = Recovery Plan has been prepared

KTP = Indicates a Key Threatening Process affecting the species is recognised in law for one or more key threats

TAP = Indicates a Threat Abatement Plan affecting the species is being implemented for one or more key threats

Comment = An indication of the species current status.
RP = Recovery Plan, AP = Action Plan, SP = Species Profile,
BP = Background Papers, LA = Listing Advice

Green dot = Species protected but not due to specific HSI nomination

Red dot = Species is on the EPBC critical habitat register

Reference

Australian Bird Action Plan 2010 used for population data on albatross and petrels.

Action Plan for Australian Mammals 2012 used for population data on mammals.

Species	Nominated	ESPA	EPBC Status	TSCA NSW	FMA NSW	FFG VIC	TSP TAS	CMS	CITES	CH	TEC	CA	GL	RP	KTP	TAP	Comments
Seabirds																	
Wandering albatross *Diomedea exulans*	1994	●	Vulnerable, Marine, Migratory	●		●	●	●		●				●	●	● [1]	Recovery Plan (RP) unable to determine population status at Macquarie and Heard Islands. All populations have shown decreasing trends over last 25 years. AP = critically endangered.
Sooty albatross *Phoebetria fusca*	1996	●	Vulnerable, Marine, Migratory	●		●	●	●						●	●	●	Bird Action Plan (AP) indicates population declines from all breeding islands surveyed. AP = endangered.
Black-browed albatross *Thalassarche melanophris*	1996	●	Vulnerable, Marine, Migratory	●		●	●	●		●				●	●	●	RP indicates stable population on Macquarie Island. Unknown in most other breeding sites. Global population is declining. AP = endangered.
Shy albatross *Thalassarche cauta*	1996	●	Vulnerable, Marine, Migratory	●		●		●		●				●	●	●	RP describes decreasing trends for shy albatross at all three breeding sites. AP = vulnerable.
Amsterdam albatross [2] *Diomedea amsterdamensis*		●	Endangered, Marine, Migratory	●				●						●	●	●	Species Profile (SP) shows low number of known individuals. However, general population is unknown.
Antipodean albatross *Diomedea antipodensis*		●	Vulnerable, Marine, Migratory											●	●	●	SP indicates population increase of 3% per annum. AP shows that some populations are still unstable. AP = endangered.
Tristan albatross *Diomedea dabbenena*		●	Endangered, Marine, Migratory											●	●	●	Background Papers (BP) suggests that population is unknown, while AP indicates a 5% annual decline. AP = Critically endangered
Southern royal albatross *Diomedea epomophora*		●	Vulnerable, Marine, Migratory					●						●	●	●	The numbers that occur in Australian waters is unknown. However, likely population increase on some islands in recent decades. AP = vulnerable
Gibson's albatross *Diomedea gibsoni*		●	Vulnerable, Marine, Migratory	●										●	●	●	Population status in Australia is unknown. Population decreases of >20% have been predicted due to bycatch mortality.
Northern royal albatross *Diomedea sanfordi*		●	Endangered, Marine, Migratory											●	●	●	Population unknown, likely suffered population decline however it has not yet become evident. AP = endangered.
Light-mantled albatross *Phoebetria palpebrata*		●	Marine, Migratory			●	●	●		●					●	●	AP data shows increasing population on Macquarie Is. and Heard Is. Unknown elsewhere. Global population likely declining. AP = endangered.
Buller's albatross *Thalassarche bulleri*		●	Vulnerable, Marine, Migratory					●						●	●	●	BP indicates population is stable. AP = near threatened.
Indian yellow-nosed albatross *Thalassarche carteri*		●	Vulnerable, Marine, Migratory			●								●	●	●	Current status unknown. However AP indicates population on Amsterdam Island is in decline. AP = endangered.

Species	Nominated	ESPA	EPBC Status	TSCA NSW	FMA NSW	FFG VIC	TSP TAS	CMS	CITES	CH	TEC	CA	GL	RP	KTP	TAP	Comments
Grey-headed albatross *Thalassarche chrysostoma*		•	Endangered, Marine, Migratory			•	•	•		•				•	•	•	RP population data shows decreasing population at Macquarie Island breeding site. Global trends show population decline. AP = critically endangered.
Chatham albatross *Thalassarche eremita*		•	Endangered, Marine, Migratory					•						•	•	•	BP indicates population is stable, but is yet to be confirmed.
Campbell albatross *Thalassarche impavida*		•	Vulnerable, Marine, Migratory											•	•	•	AP describes current population status as unknown. AP = vulnerable
Salvin's albatross *Thalassarche salvini*		•	Vulnerable, Marine, Migratory					•						•	•	•	AP indicates information required on population trends and changes. AP = vulnerable
Pacific albatross *Thalassarche nov. sp. (platei)*		•	Vulnerable, Marine, Migratory											•	•	•	No data population data for this species.
White-capped albatross *Thalassarche steadi*		•	Vulnerable, Marine, Migratory											•	•	•	AP indicates the species is in decline due to bycatch in longline fisheries, however this is not confirmed. AP = vulnerable
Northern giant petrel *Macronectes halli*	1999	•	Vulnerable, Marine, Migratory	•		•	•	•		•				•	•	•	Possible recommendation for delisting in action plan. Population trend shows decreasing population at Macquarie Island.
Southern giant petrel *Macronectes giganteus*	1999	•	Vulnerable, Marine, Migratory	•		•	•	•		•				•	•	•	Possible recommendation for delisting in action plan. Population trend shows decreasing population at Macquarie Island. Unknown for other breeding sites.
Manly Point population of little penguins[3]	1996			•						•		•		•	•	•	Latest figures indicate population may be stable however predation from foxes may have caused a decline in 2015.
Sharks[4]																	
White shark *Carcharodon carcharias*	1997	•	Vulnerable, Migratory	•	•	•	•	•	•			•	•	•	•	•	RP suggests NSW populations may be stable however no evidence of recovery of white shark numbers in Australia.
Grey nurse shark *Carcharias taurus*	2000	•	Critically endangered (East Coast Population)		•	•				•		•	•	•	•	•	RP shows no evidence that the east coast population has improved since its listing. There is even less evidence for the west coast population.
School shark *Galeorhinus galeus*	2003		Conservation Dependent[5]									•	•	A			SP states that there is no evidence of current population trends or data on whether current management measures are assisting rebuilding of stocks.

Species	Nominated	ESPA	EPBC Status	TSCA NSW	FMA NSW	FFG VIC	TSP TAS	CMS	CITES	CH	TEC	CA	GL	RP	KTP	TAP	Comments
Shortfin mako shark *Isurus oxyrinchus*	2009		Migratory		B			•									Population assessments of this species are extremely limited, and Listing Advice (LA) states there are no Australian fishery independent surveys or stock assessments for this species.
Longfin mako shark *Isurus paucus*	2009		Migratory		B			•									Commonwealth claims insufficient evidence for stock and population assessments.
Scalloped hammerhead shark *Sphyrna lewini*	2010		Awaiting listing approval		•			•	•								Studies currently underway to determine population size for this species within Australian waters.
Great hammerhead shark *Sphyrna mokarran*	2009		Awaiting listing approval		•			•	•								Studies currently underway to determine population size for this species within Australian waters.
Spotted wobbegong *Orectolobus maculatus*	2016		Awaiting listing approval														LA states that there are no population estimates available for this species. However, a substantial decline in numbers was documented in NSW.
Dusky shark *Carcharhinus obscurus*	2009				B												Australian population is genetically different from global stocks, although widely distributed there is little information on current abundance.
Bull shark *Carcharhinus leucas*	2010				B												NSW Fishery claim insufficient evidence for stock and population assessments.
Sandbar shark *Carcharhinus plumbeus*	2010				B												NSW Fishery claim insufficient evidence for population assessments.
Marine Turtles[6]																	
Olive Ridley *Lepidochelys olivacea*		•	Endangered, Marine, Migratory					•	•				•	•	•	•	There is no data to indicate Australian population size, nesting sites or foraging populations for this species.
Flatback turtle *Natator depressus*		•	Vulnerable, Marine, Migratory					•						•	•	•	SP states that there are no current population estimates for this species.
Pinnipeds																	
Southern elephant seal *Mirounga leonina*	1999	•	Vulnerable, Marine						•	•		•		•	•	•	Decreasing trends at Macquarie Is. Decreased population assumed for Heard Is.
Sub-antarctic fur seal *Arctocephalus tropicalis*	1999	•	Vulnerable, Marine				•			•		•		•	•	•	Abundance of this species has been hard to determine, however data from AP suggests that numbers are not increasing at either Macquarie Is. or Heard Is.

Species	Nominated	ESPA	EPBC Status	TSCA NSW	FMA NSW	FFG VIC	TSP TAS	CMS	CITES	CH	TEC	CA	GL	RP	KTP	TAP	Comments
Australian sea lion *Neophoca cinerea*[7]	2016		Vulnerable, Marine							●		●		●	●	●	Latest research shows a substantial decline in numbers.
Cetaceans																	
Sei whale *Balaenoptera borealis*	1996		Vulnerable, Cetacean, Migratory					●	●			●	●	●	●	●	Abundance and population trend unknown. No evidence of population increase.
Fin whale *Balaenoptera physalus*	1996		Vulnerable, Cetacean, Migratory				●	●	●			●	●	●	●	●	Abundance and population trend of this species is unknown. Evidence that some populations may be increasing.
Fish (Marine)																	
Orange roughy *Hoplostethus atlanticus*	2003		Conservation dependant									●	●				After a significant decline due to commercial fishing, current population estimates remain unclear. This species was re-opened for Commonwealth fisheries in 2015 as populations were believed to have shown some improvement. In our view there is little evidence to show that this species has sufficiently recovered enough to be commercially exploited.
Eastern gemfish *Rexea solandri*	2002		Conservation dependant									●	●	A			Two distinct breeding stocks in Australia. Projections indicate an upward population trend. After a significant decline due to commercial fishing, current population estimates remain unclear. This species was re-opened for Commonwealth fisheries in 2015 as populations were believed to have shown some improvement. In our view there is little evidence to show that this species has sufficiently recovered enough to be commercially exploited.
Southern bluefin tuna *Thunnus maccoyii*	2006		Conservation dependant		●*	●~						●	●				The TSSC advised the Federal Minister species was endangered. This species has a single global population with last estimates showing around 460,000 mature individuals.
Fish (Aquatic)																	
Dwarf galaxias *Galaxiella pusilla*	1994	●	Vulnerable			●	●						●	●			RP states population shows no reduction in range however populations have been substantially fragmented.
Elizabeth Springs goby *Chlamydogobius micropterus*	1994	●	Endangered							●	●		●	●	●	●	Range has significantly decreased, with current range size likely able to support 1000-2000 individuals.

Species	Nominated	ESPA	EPBC Status	TSCA NSW	FMA NSW	FFG VIC	TSP TAS	CMS	CITES	CH	TEC	CA	GL	RP	KTP	TAP	Comments
Oxleyan pygmy perch *Nannoperca oxleyana*	1994	●	Endangered		●						●		●	●	●	●	Naturally rare species however anthropogenic impacts have contributed to loss of abundance and patchiness of population.
Murray hardyhead *Craterocephalus fluviatilis*	1994	●	Endangered		●	●						●	●	●	●	●	Some locations indicate a decline in population, while others appear to be stable.
Red-finned blue-eye *Scaturiginichthys vermeilipinnis*	1994	●	Endangered							●	●		●	●	●	●	Population trends are unknown due to seasonal fluctuations of abundance. Current population estimate is around 3000 individuals.
Terrestrial Mammals																	
Grey-headed flying-fox *Pteropus poliocephalus*	1999		Vulnerable	●		●			●	●[8]	●	●	●				AP states population is estimated at between 300,000 and 700,000 individuals. Population trends are unknown; most studies consider the population to be in decline. AP = vulnerable
Spectacled flying-fox *Pteropus conspicillatus*	2016[9]		Vulnerable						●	●[8]		●	●	●			Currently population size is relatively large however continued threats are resulting in continued decline of the species. AP = Near threatened.
Pilbara leaf-nosed bat *Rhinonicteris aurantia*	1999		Vulnerable									●	●				Species has been found to be more widespread than previously known. No data for estimation of abundance. AP = vulnerable
Semon's leaf-nosed bat *Hipposideros semoni*	1999	●	Endangered										●	●	●	●	Some evidence of decline, but most data is poor. Small population size makes it vulnerable to threats. AP = near threatened/new knowledge.
Greater large-eared horseshoe bat *Rhinolophus robertsi*	1999	●	Endangered										●	●	●	●	No estimates of abundance are available. Likely a naturally rare species, however it is still subject to population decline. AP = near threatened/new knowledge
South eastern long-eared bat *Nyctophilus corbeni*	1999		Vulnerable		●	●					●		●				A substantial decrease in population has been determined due to habitat loss however there is no current data indicating population size or abundance. AP = vulnerable
Large-eared pied bat *Chalinolobus dwyeri*	1999	●	Vulnerable	●							●			●	●		AP states that population decline has been inferred for this species. AP = vulnerable
Christmas Island pipistrelle bat *Pipistrellus murrayi*	1999	●	Critically Endangered							●		●	●	●	●	●	Studies undertaken since August 2009 have failed to find any remaining pipistrelles. The AP now considers this species as extinct.
Bare-rumped sheathtail bat *Saccolaimus saccolaimus*	1999	●	Critically Endangered										●	●			Population size and trends are unknown. AP = near threatened, new knowledge and taxonomic change.

Species	Nominated	ESPA	EPBC Status	TSCA NSW	FMA NSW	FFG VIC	TSP TAS	CMS	CITES	CH	TEC	CA	GL	RP	KTP	TAP	Comments
Koala (Avalon population) *Phascolarctos cinereus*[10]	1996			●									●		●	●	Surveys conducted in 2003 found no animals left in Avalon, few remain in the extended area of Ku-ring-gai but these are also in decline.
Bramble Cay melomys *Melomys rubicola*	1996	●	Endangered							●				●	●	●	SP states that surveys conducted in 2011 and 2012 were unable to find any remaining Bramble Cay melomys, which may indicate the species is now extinct. May be the first casualty of climate change due to rising sea level.
Carpentarian rock-rat *Zyzomys palatilis*	1996	●	Endangered											●	●	●	There is no information on current population trends, with data estimating fewer than 2000 individuals. AP = critically endangered
Northern marsupial mole *Notoryctes caurinus*	1996	●	Endangered														Delisted in December 2015 being ineligible for listing as threatened under the EPBC Act. AP = least concern.
Southern marsupial mole *Notoryctes typhlops*	1996	●	Endangered														Delisted in December 2015 being ineligible for listing as threatened under the EPBC Act. AP = least concern.
Long-nosed bandicoot (North Head population) *Perameles nasuta*[11]	1996			●							●	●	●		●	●	While population is stable, low numbers of bandicoots in the North Head area is still a concern. AP = least concern.
Kangaroo Island dunnart *Sminthopsis aitkeni*	1996	●	Endangered											●	●	●	Total population size is unknown, however SP states that there has been significant population contraction due to habitat loss. AP = endangered
Boullanger Island dunnart *Sminthopsis boullangerensis*	1996	●	Vulnerable														Not recognised as distinct species. AP for full species = least concern
Reptiles																	
Allan's lerista *Lerista allanae*	1994	●	Endangered								●	●	●		●	●	Thought extinct until rediscovered in 2009.
Western spiny tailed skink *Egernia stokesii badia*	1994	●	Endangered								●			●	●	●	RP states that population trends are mostly unknown, however it is inferred that like other Australian skink populations this species is in decline.
Blue Mountains water skink *Eulamprus leuraensis*	1994	●	Endangered	●							●			●	●	●	There is no evidence to suggest that this species is in decline, however current population size is unknown.
Dreeite water skink *Eulamprus tympanum marnieae*	1994	●	Endangered			●					●			●	●	●	Population size has contracted, and in at least two areas this species is now extinct.

Species	Nominated	ESPA	EPBC Status	TSCA NSW	FMA NSW	FFG VIC	TSP TAS	CMS	CITES	CH	TEC	CA	GL	RP	KTP	TAP	Comments
Bellingen River emydura *Emydura signata*	1994		Delisted under the EPBC Act, taxonomic issues	C													Delisted following population improvement 2013 and taxonomy change.
Namoi River elseya *Wollumbinia belli*	1994	●	Vulnerable	●								●	●		●	●	There are very few records of this species available which makes it hard to determine population size and trends.
Mary River turtle *Elusor macrurus*	1994	●	Endangered									●			●	●	This species is rare throughout its known range. Little knowledge on population size. Reduction in breeding females. Hard to determine trends.
Amphibians																	
Green and golden bell frog *Litoria aurea*[12]	1996		Vulnerable	●							●	●			●	●	There have been many localised extinctions of this species, current data not explicitly showing a decline in population trends.

A Subject to rebuilding strategy B On hold pending new data C Delisted 2009 ∗ Endangered ~Threatened

[1] The Threat Abatement Plan for the "*Incidental catch (or bycatch) of seabirds during oceanic longline fishing operations*" (nominated by HSI) seeks to mitigate the impact of long-line fishing on 36 seabird species.

[2] HSI's successful early nominations for four albatross species under the ESPA triggered a Scientific Committee review of the status of all albatrosses in Australian waters, leading to the listing of a further 14 species. Our albatross nominations triggered similar reviews under Tasmanian and Victorian conservation law. HSI also worked with the Australian Government to see the listing of 14 albatross species under the Convention on the Conservation of Migratory Species of Wild Animals (CMS Convention).

[3] Nomination made jointly with the Manly Environment Centre and the NSW Threatened Species Network (TSN).

[4] In addition to the shark nominations made under specific threatened species laws, numerous nominations were made for a number of shark species listed in this table (and the whale and basking sharks) for protection under all state and territory fisheries legislation with varying degrees of success.

[5] Conservation Dependant—conservation dependent species means a listed threatened species that is included in the conservation dependent category of the list referred to in section 178. Such a listing generally only applies to marine fish species, and allows species to continue to be exploited commercially. Species recognised as 'Conservation Dependent' do not receive special protection, as they are not considered "matters of national environmental significance under the EPBC Act".

[6] HSI's successful nomination of "*Incidental catch (or bycatch) of Sea Turtle during coastal otter-trawling operations within Australian waters north of 28 degrees south*" triggered a national review of marine turtle conservation status in Australia, resulting in the listing of the two additional species.

[7] Awaiting result of HSI up-listing nomination from Vulnerable to Endangered.

[8] Nationally-important grey-headed and spectacled flying-fox camps are in HSI's view de-facto Critical Habitats and should be treated as such under law.

[9] Upgrade being assessed for Endangered based on 2016 HSI Nomination.

[10] Nomination made jointly with Manly Environment Centre and the NSW Threatened Species Network (TSN).

[11] Nomination made jointly with Manly Environment Centre and the NSW Threatened Species Network (TSN).

[12] Nomination made jointly with Greenpeace.

Conserving EPBC Act Listed Species Through De Facto Critical Habitat Protection

EVAN QUARTERMAIN[1] and LAURA MUIR[2]

The Critical Habitat Register has failed to adequately protect threatened species habitats as it was designed to under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). Due to explicit political and bureaucratic determination not to implement these essential conservation provisions, to what extent have Threatened Ecological Community (TEC) listings become a de facto EPBC Act critical habitat protection measure? While this publication heavily promotes the need for vastly stronger EPBC Act critical habitat clauses seeking 'red light' legislative provisions (see page 66), we also want to make the case that TECs are currently providing essential 'back-up' off-reserve habitat protection for a large number of species listed as threatened under the EPBC Act. As such, much stronger efforts are required for their protection.

HSI has been preparing scientific nominations to list TECs under Commonwealth and state law for over 20 years, and a review of that program was published as an HSI Special Bulletin launched at the IUCN World Parks Congress in Sydney in 2014. TECs first emerged in Commonwealth law in the *Endangered Species Protection Act 1992* (following on from their inaugural inclusion in the Victorian *Flora and Fauna Guarantee Act 1988*) and were fully ensconced in the EPBC Act as a '*Matter of National Environmental Significance'* in 1999. Even if the Critical Habitat Register was to be properly utilised by the Federal Government, the critical threatened species habitat protection role would remain restricted, as at present the Register can only be enforced on Commonwealth owned land and waters—TECs, on the other hand, provide legislative protection across all land tenures.

To date 78 TECs (broad groupings that represent hundreds of ecological communities or their equivalents recognised as threatened by states and territories) are listed under the EPBC Act, covering around 7 million hectares. HSI has successfully proposed the listing of 27 of these communities, amounting to approximately 35% of the total currently recognised at the Federal level. HSI has also successfully proposed the listing of 27 TECs under the NSW *Threatened Species Conservation Act 1995*. While an analysis of threatened species benefitting from these state listings was not undertaken, 10 of the NSW TECs are also listed under the EPBC Act (following HSI nominations).

A brief analysis of EPBC Act listed species occurring in HSI nominated TECs

The 27 HSI nominated TECs cover an area of approximately 4.8 million hectares or 67% of the total area of occupancy of all EPBC Act listed communities. The 13 Critically Endangered, 13 Endangered and 1 Vulnerable ecological communities represent a range of terrestrial, freshwater and marine environments across all states and territories (except the ACT) and a large number are multijurisdictional. For example, *Subtropical and Temperate Coastal Saltmarsh*, an Endangered Ecological Community, spans six jurisdictions (QLD, NSW, VIC, TAS, SA and WA). The following (opposite) chart indicates the current jurisdictional spread of HSI nominated EPBC Act listed TECs.

An analysis investigating the EPBC Act listed species that are components of and have habitat protected through Commonwealth TEC listings that were nominated by HSI, shows that a significant 280 species are provided additional protection. Table 1 on page 29 shows the number of faunal and floral species found in each of the 27 HSI nominated TECs, including an indication of the status and extent of each community, and the date it was listed as a *Matter of National Environment Significance*.

[1]HSI Senior Program Manager

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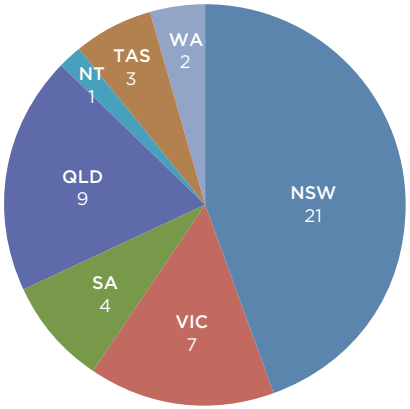
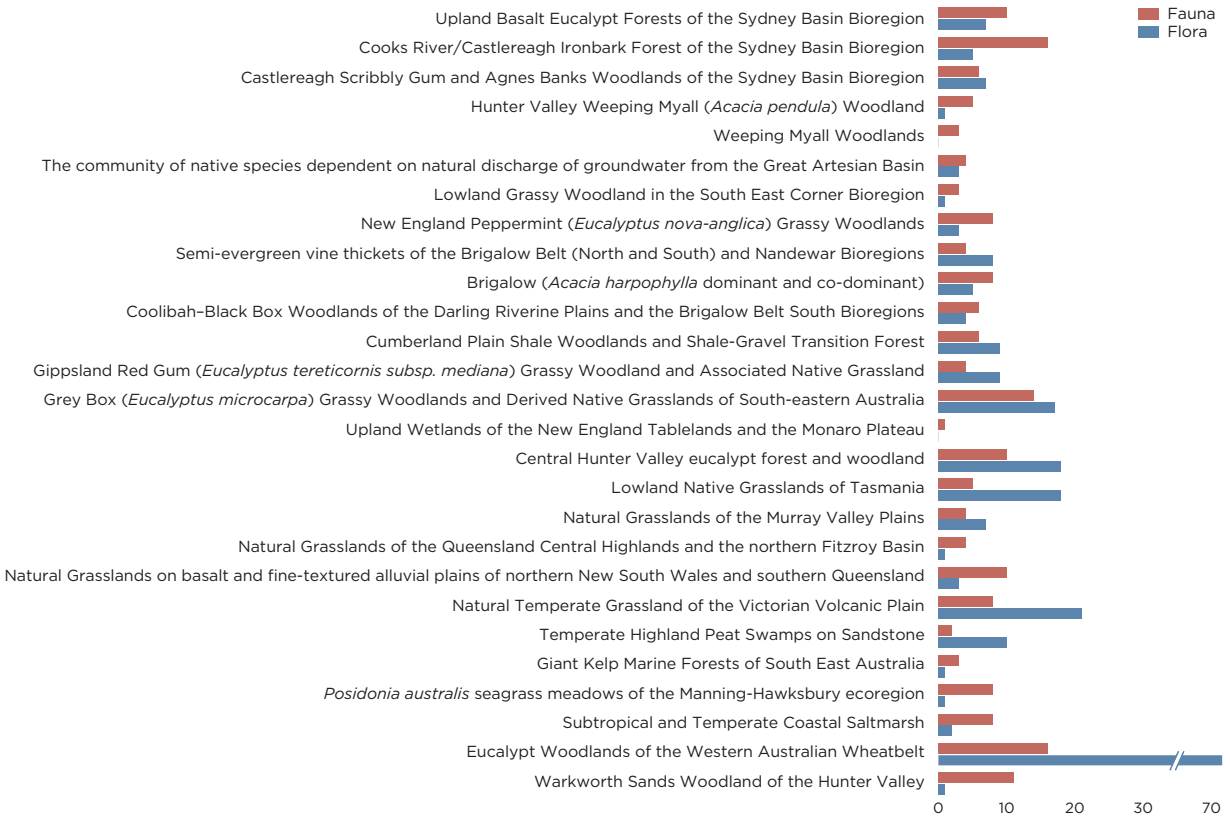


Chart 1. Jurisdictional range of HSI nominated TECs

Chart 2. EPBC Act listed flora and fauna in each HSI nominated TEC



Points of particular note that were extracted from HSI nominated TEC analysis include:

- A total of 186 threatened flora species occur as components of the TECs (see appendix I);
- The TECs provide and protect habitat for a total 94 threatened fauna species (see table on page 30);
- The TECs containing the highest number of Critically Endangered species were the *Eucalypt Woodlands of the Western Australian Wheatbelt* (7) and *Lowland Native Grasslands of Tasmania* (5);
- The TECs containing the highest total number of EPBC listed species were the *Eucalypt Woodlands of the Western Australian Wheatbelt* (87), *Grey Box (Eucalyptus microcarpa) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia* (30), and *Natural Temperate Grassland of the Victorian Volcanic Plain* (29);
- The EPBC Act listed species provided habitat by the highest number of HSI nominated TECs were:
  - Birds: painted honeyeater (10); swift parrot (9); regent honeyeater (8); hooded robin (7);

  - Mammals: spotted-tailed quoll (11); koala (9); grey-headed flying-fox (8); large-eared pied bat (7); squirrel glider (7);
  - Other fauna: growling grass frog (3); green and golden bell frog (4);
  - Flora: Austral Toadflax (6);
- Only one spider listed under the EPBC Act is provided habitat by an HSI nominated TEC, the shield-backed trapdoor spider (*Idiosoma nigrum*) (protected by the *Eucalypt Woodlands of the Western Australian Woodbelt*) and only two insects: *Synemon plana*—golden sun moth (*Natural Temperate Grassland of the Victorian Volcanic Plain*) and *Jaimenus evagoras ebulus*—northern imperial hairstreak butterfly (*Brigalow—Acacia harpophylla dominant and co-dominant*). These figures are reflective of the paucity of insects listed under the schedules to the EPBC Act;
- The *Subtropical and Temperate Coastal Saltmarsh* TEC comprises 26 species which fall under CMS, CAMBA, JAMBA or ROKAMBA, as well as 60 threatened species of fauna (52 protected under state legislation, 8 under the EPBC Act and 11 threatened species of flora (2 EPBC Act listed);
- *Posidonia australis seagrass meadows of the Manning-Hawkesbury ecoregion* has the largest number of listed EPBC Act listed `Marine Species' with 8.

As noted, the *Eucalypt Woodlands of the Western Australian Wheatbelt* ecological community contains the highest number of EPBC Act listed threatened species. This TEC has undergone a decline in extent of approximately 85%, and the clearance of native vegetation is identified in the community's Conservation Advice as the principal threat to its long-term survival. This is largely because the wheatbelt region is dominated by agricultural land uses and has been extensively cleared of native vegetation. Under the EPBC Act, routine farm activities can continue without approval if they began before July 2000. However, the threatened species present are provided an additional layer of protection through new or expanded farm activities that are likely to have a significant impact on a nationally protected matter requiring Federal referral and approval.

Among the eight 'Marine' species listed under the EPBC Act provided habitat by *Posidonia australis seagrass meadows of the Manning-Hawkesbury ecoregion* is the White's seahorse (*Hippocampus whitei)* which is classified as a Data Deficient species by the IUCN. *Subtropical and Temperate Coastal Saltmarsh* boasts the highest number of species benefiting from international, national and state protection, with 19 component species listed under the *Convention on the Conservation of Migratory Species of Wild Animals* (CMS), 23 under the *China-Australia Migratory Bird Agreement* (CAMBA) and 24 included under the *Japan-Australia Migratory Bird Agreement* (JAMBA). A further 20 species in this TEC are protected by the *Republic of Korea-Australia Migratory Bird Agreement* (ROKAMBA). Species listed under these treaties are included in the 'migratory species list' of the EPBC Act in section 209. However with a relatively low level of protection provided through these agreements, the corresponding EPBC Act TEC listings remain one of their best available chances of recovery.

Australia's smallest freshwater fish, the redfin blue eye (*Scaturiginichthys vermeilipinnis*), which grows to a maximum length of 3cm and is listed as Endangered under the EPBC Act, is endemic to the *Community of native species dependent on natural discharge of groundwater from the Great Artesian Basin*, a TEC listed in 2001. The habitats protected by this TEC which are critical to the survival of the species are spring fed

Table 1. HSI TEC listing details

Name	Status	Size (ha)	Effective since	NSW TSC Act	EPBC threatened species
Brigalow (*Acacia harpophylla* dominant and co-dominant)	Endangered	804,264	4 Apr '01		13
Castlereagh Scribbly Gum and Agnes Banks Woodlands of the Sydney Basin Bioregion	Endangered	3,190	17 Mar '15	Yes	14
Central Hunter Valley Eucalypt Forest and Woodland	Critically Endangered	37,000	7 May '15	Yes	10
Cooks River/Castlereagh Ironbark Forest of the Sydney Basin Bioregion	Critically Endangered	1,100	17 Mar '15	Yes	20
Coolibah–Black Box Woodlands of the Darling Riverline Plains and the Brigalow Belt South Bioregions	Endangered	1,321,103	1 Mar '11	Yes	10
Cumberland Plain Shale Woodlands and Shale-Gravel Transition Forest	Critically Endangered	12,300	9 Dec '09	Yes	16
Eucalypt Woodlands of the Western Australian Woodbelt	Critically Endangered	939,500	4 Dec '15		87
Giant Kelp Marine Forests of South Australia	Endangered	525	29 Aug '12		1
Gippsland Red Gum (*Eucalyptus tereticornis subsp. mediana*) Grassy Woodland and Associated Native	Critically Endangered	3,295	7 Jan '09		13
Grey Box (*Eucalyptus microcarpa*) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia	Endangered	534,500	1 Apr '10		32
Hunter Valley Weeping Myall (*Acacia pendula*) Woodland	Critically Endangered	4	1 Aug '05	Yes	5
Lowland Grassy Woodland in the South East Corner Bioregion	Critically Endangered	20,007	16 Feb '13	Yes	4
Lowland Native Grasslands of Tasmania	Critically Endangered	21,600	25 Jun '09		23
Natural Grasslands of the Murray Valley Plain	Critically Endangered	160,500	8 Sep '12		11
Natural Grasslands of the Queensland Central Highlands and the northern Fitzroy Basin	Endangered	241,584	7 Jan '09		5
Natural grasslands on basalt and fine-textured alluvial plains of northern New South Wales and southern Queensland	Critically Endangered	29,318	7 Jan '09		11
Natural Temperate Grassland of the Victorian Volcanic Plain	Critically Endangered	5,271	21 Jun '08		29
New England Peppermint (*Eucalyptus nova-anglica*) Grassy Woodlands	Critically Endangered	14,127	1 Mar '11	Yes	12
Posidonia australis seagrass meadows of the Manning-Hawkesbury ecoregion	Endangered	1,400	7 May '15		8 Listed Marine
Semi-evergreen vine thickets of the Brigalow Belt (North and South) and Nandewar Bioregions	Endangered	150,000	4 Apr '01		12
Subtropical and Temperate Coastal Saltmarsh	Vulnerable	121,500	10 Aug '13		10
Temperate Highland Peat Swamps on Sandstone	Endangered	3,000	12 May '05		12
The community of native species dependent on natural discharge of groundwater from the Great Artesian Basin	Endangered	100	4 Apr '01		7
Upland Basalt Eucalypt Forests of the Sydney Basin Bioregion	Endangered	4,198	25 Nov '11		17
Upland Wetlands of the New England Tablelands & Monaro Plateau	Endangered	3,195	17 Nov '05	Yes	1 Listed Marine
Warkworth Sands Woodland of the Hunter Valley	Critically Endangered	6,500	5 May '16	Yes	12
Weeping Myall Woodlands	Endangered	290,500	17 Nov '05		3
	Total	**4,729,581**			

Table 2. EPBC Act listed fauna protected under HSI nominated TECs

1	Spotted-tail quoll	20	Green and golden bell frog	39	Squatter pigeon	58	Retro slider	77	Port phillip pipefish
2	Brush-tailed rock-wallaby	21	Painted honey eater	40	Black-tailed godwit	59	Star finch	78	Yellow chat (dawson)
3	Koala	22	Plains-wanderer	41	Greater long-eared bat	60	Eastern hare-wallaby	79	Orange-bellied parrot
4	Long-nosed potoroo	23	Superb parrot	42	Five-clawed worm skink	61	Greater bilby	80	Australian fairy tern
5	Smoky mouse	24	Elizabeth Springs goby	43	Southern-brown bandicoot	62	Large bent-wing bat	81	Southern emu-wren
6	Grey-headed flying-fox	25	Red-finned blue-eye	44	Growling grass frog	63	Gould's mouse	82	False water rat
7	Giant burrowing frog	26	Boggomoss snail	45	Red-tailed black cockatoo	64	Masked owl	83	Woylie
8	Littlejohn's tree frog	27	Black throated finch	46	Spotted quail-thrush	65	Grassland earless dragon	84	Muir's corella (southern)
9	Stuttering frog	28	Booroolong frog	47	Chestnut-rumped heathwren	66	Corangamite water skink	85	Forest red-tailed black-cockatoo
10	Giant barred frog	29	Lined earless dragon	48	Malleefowl	67	Blue Mountains water skink	86	Baudin's black-cockatoo
11	Australasian bittern	30	Border thick-tailed gecko	49	Pilliga mouse	68	Red handfish	87	Carnaby's black-cockatoo
12	Crested shrike-tit	31	Blackbreasted button-quail	50	Flinders Ranges worm lizard	69	Weedy seadragon	88	Chuditch, western quoll
13	Swift parrot	32	Eastern long-eared bat	51	Latham's snipe	70	Ziebell's handfish	89	Western spiny-tailed skink
14	Australian painted snipe	33	Brigalow scaly-foot	52	Wedge-tail eagle (Tasmanian)	71	Little penguin	90	Shield-backed trapdoor spider
15	Painted button quail	34	Bridled nail-tail wallaby	53	Eastern-barred bandicoot	72	White's seahorse	91	Numbat
16	Large eared pied bat	35	Collared delma	54	Tasmanian devil	73	Spotted pipefish	92	Dibbler
17	New Holland mouse	36	Ornamental snake	55	Bass strait wombat	74	Widebody pipefish	93	Red-tailed phascogale
18	Regent honeyeater	37	Yakka skink	56	Striped legless lizard	75	Hairy pipefish	94	Quokka
19	Broadheaded snake	38	Dunmail's snake	57	Golden sun moth	76	Mother-of-pearl pipefish		

wetlands with a groundwater source from the Great Artesian Basin within a 5 km radius of Edgbaston Springs.[3] Currently, the fish is found in four springs with an estimated population of between 2,000 and 4,000 individuals.

This TEC is an indication of the considerable role listings can play in protecting critical habitat for threatened species, and led to a 2008 land purchase by Bush Heritage Australia. Bush Heritage has since operated a project to protect the redfin blue eye from predation by introduced species—the main threat facing the endangered species being the *Gambusia holbrooki* fish, introduced as a biological control for mosquitoes. The listing also led to a Recovery Plan being implemented by the Department of the Environment in 2009, targeting aquifer draw-down, excavation of springs, feral animal disturbance and exotic aquatic animals[4]. Consequently, HSI not only helped achieved protection of this critical habitat through the nomination of a TEC, but helped trigger considerable additional conservation efforts to prevent the extinction of this unique species.

A new approach focusing directly on threatened species: Faunal-based TECs

The 2015 round of HSI's EPBC Act TEC nominations program took a unique approach through the preparation of a faunal-based submission for the *Mallee bird community of the Murray Darling Depression bioregion*.

[3]http://www.environment.gov.au/cgi-bin/sprat/public/publicspecies.pl?taxon_id=56792 [4]http://www.environment.gov.au/biodiversity/threatened/publications/recovery/great-artesian-basin-ec

10 HSI nominated TECs provide habitat for the painted honeyeater

Departing from the traditional TEC based on vegetation assemblages, this unusual approach sought to secure habitat for dozens of threatened bird species with tied fates and was the first listing of its kind. The nomination was successful in being included on the 2015 EPBC Finalised Priority Assessment List with an assessment deadline for the Threatened Species Scientific Committee to provide its advice to the Minister for the Environment by 31 October 2018.

The *Mallee bird community of the Murray Darling Depression Bioregion* is an ecological community defined by an assemblage of more than 20 terrestrial avian species and is characterised by the presence of their habitat. Key component species include the Mallee emu-wren (*Stipiturus mallee*), malleefowl (*Leipoa ocellata*), regent parrot (*Polytelis anthopeplus monarchoides*), western whipbird (*Psophodes nigrogularis leucogaster*), and black-eared miner (*Manorina melanotis*), all of which are listed as threatened species under the EPBC Act. Our nomination recognises their mutualistic relationship and the need for all-encompassing conservation strategies and actions.

This TEC is an ecosystem in the balance, and our nomination seeks prioritisation of conservation investment to improve its resilience to threats and ensure the survival of the many threatened species that comprise it. Although a similar community is listed as threatened under the Victorian *Flora and Fauna Guarantee Act 1988* and many of the component species already have legislative protection, the ecological community as a whole would benefit from national listing due to the many shared threats and distributions of component species that span Victoria, South Australia and NSW. The umbrella protection provided by an EPBC Act TEC listing is simply the most appropriate and encompassing conservation mechanism for these threatened species. As a result, we now have several other faunal-based TECs in development.

Critical role of Threatened Ecological Communities

HSI argues that under the EPBC Act TECs are currently stronger than critical habitat provisions due to the huge disparity in area covered, an out of date and underutilised Critical Habitat Register, and its provisions relating only to Commonwealth areas. With several million hectares of threatened species habitat provided with a layer of legislative protection through TEC listings, their presence regularly comes into consideration during development assessment and the preparation of strategic plans.

However the treatment of EPBC Act TECs once listed still leaves much to be desired, and given their vital role in the protection of critical habitats for threatened species, their protective status must be ensured through the enforcement of 'red light' EPBC Act provisions. These issues and recommendations for improvement are discussed in greater detail on page 66.

The analysis outlined in this chapter focuses only on those species that are currently recognised as threatened under the EPBC Act, but beyond doubt, TECs provide protection for a number of threatened species that are yet to be listed/recognised. Additionally, our own internal estimates indicate that currently listed TECs represent only a third of the habitats that may be eligible for EPBC Act protection. Researching, nominating, listing and consequently protecting all remaining TECs is an essential conservation process, with a primary need for a highly funded and planned Commonwealth assessment process to be immediately engaged.

Heritage Listings: As a member of the inaugural Australia Heritage Council and through public nomination processes, HSI also helped build the list of approximately 70 natural area listings under the EPBC Act's 'National' and 'Commonwealth' Heritage schedules, giving further layered protection to a large number of listed threatened species.

Wildlife Land Trust—Protecting Listed Species

EVAN QUARTERMAIN[1]

The Wildlife Land Trust (WLT), Humane Society International's private land conservation program, supports and provides recognition of the wildlife species and habitat protection efforts of hundreds of landowners over tens of thousands of hectares across Australia. From Carnaby's black-cockatoos (*Calyptorhynchus latirostris*) in the west through to grey-headed flying-foxes (*Pteropus poliocephalus*) along the east coast, mahogany gliders (*Petaurus gracilis*) in the north, down to forty-spotted pardalotes (*Pardalotus quadragintus*) at the foot of Tasmania, the presence of threatened species on WLT sanctuaries throughout the country highlights the importance of conservation efforts on private land in protecting habitat for the wildlife species that need it most.

And this is achieved without any special focus on properties that cater for threatened species—working under the guiding principle of "humane stewardship", the WLT protects not only impressive landscapes, but also the smaller, humbler places that provide for the needs of all wildlife, rare and common species alike. The Australian WLT sanctuary network now has over 400 members and 50,000 hectares of wildlife-friendly land, and with biodiversity under increasing pressure nationally, there is no doubt that this rapidly growing network will play a progressively more important role in protecting threatened wildlife and their habitats.

In many cases the role of providing habitat for threatened species has already reached crisis point, a prime example being the colony of forty-spotted pardalotes (*Pardalotus quadragintus*)—listed as Endangered under the EPBC Act—at Inala, a 607 hectare WLT sanctuary on Bruny Island, Tasmania. A recent study estimated the total population of the Tasmanian endemic forty-spotted pardalote at a rapidly declining 1,500 individuals. Of the more than 100 colonies surveyed only five did not show a decline in abundance, with the largest of these at Inala—meaning the most significant stable population of forty-spotted pardalotes in the world occurs on this WLT sanctuary. Without the efforts and dedicated stewardship of Dr Tonia Cochran, who acquired Inala in the early 1990s, there is no doubt that the future of the forty-spotted pardalote would be looking considerably more dismal.

While all WLT sanctuaries may not provide quite such an individual contribution to threatened species protection, when considered collectively it is evident that they play an integral role in the bigger picture against a number of important measures including habitat connectivity, important sites for the recovery of species with restricted ranges, and a prominent presence within biodiversity hotspots. Regardless of how the importance to threatened species conservation is being measured WLT members are playing a crucial part, as demonstrated through the following examples:

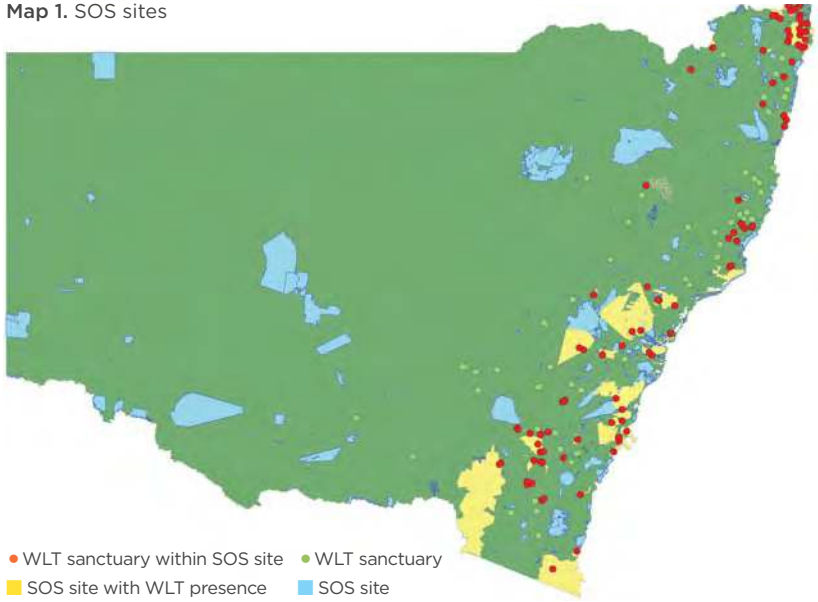
Site specifics: Alignment with the NSW Saving our Species program

Saving our Species (SOS) is a conservation program run by the NSW Office of Environment and Heritage that aims to maximise the number of threatened species that can be secured in the wild in the state. Through the program, threatened species are allocated one of six management streams depending on their distribution, ecology, security, and what is known about them—one of the priority streams being for site-managed species. Targeted conservation projects for this stream are being run at key management sites across the state in an attempt to secure species with discrete populations that can be geographically defined.

[1]HSI Senior Program Manager

WLT member sanctuaries overlap with 120 sites for listed NSW threatened species

Map 1. SOS sites



Comparing the locations of Wildlife Land Trust sanctuaries in New South Wales with those of SOS management sites, we found that 61.4% (105 of the current 171 WLT sanctuaries in the state) intersected with places identified as being key sites for the protection and recovery of threatened species such as the yellow-spotted tree frog (*Litoria castanea*), regent honeyeater (*Anthochaera phrygia*), eastern chestnut mouse (*Pseudomys gracilicaudatus*), Bathurst copper butterfly (*Paralucia spinifera*), and Minyon quandong (*Elaeocarpus sedentarius*).

Collectively covering approximately 5,900 hectares of land managed for the purposes of wildlife conservation, these WLT sanctuaries overlapped with sites for 120 species listed as threatened under the NSW *Threatened Species Conservation Act 1995* at a total of 152 separate locations. While they may not be directly involved with the NSW Government's Saving Our Species projects, the numerous WLT members significantly contribute to the recovery of the threatened species involved through the protection and conservation management of large amounts of proximal habitat.

Connectivity: Joining the dots along the Great Eastern Ranges

The Great Eastern Ranges (GER) initiative aims to bring people and organisations together to protect, link and restore healthy habitats over a 3,600 kilometre corridor running from western Victoria through to far north Queensland. The program is based on the principles of connectivity conservation and focuses on creating linkages between protected areas and other core habitats through the restoration and retention of existing vegetation.

The Wildlife Land Trust has been a National Partner of the GER for several years, with WLT member sanctuaries acting as important refuges for native flora and fauna and increasing connectivity between land represented under the National Reserve System along the east coast. Threatened species and biodiversity cannot be conserved by the public reserve system alone, with even the largest protected areas acting as 'islands' of habitat surrounded by lands managed for agriculture, industry or human settlement. The support of private landholders is needed to conserve and manage identified gaps in public reserve connectivity, and WLT sanctuaries provide the functional links between protected areas required throughout the GER corridor.

Map 2. GER presence

A strong presence of landholders who manage their properties for conservation purposes within the boundaries of the Great Eastern Ranges are united through their WLT membership. The distribution of WLT sanctuary owners is closely aligned to the GER, with 227 of the WLT's current 380 Australian member sanctuaries[2] (59.7%) inside the corridor, providing linkages through the preservation and management of 27,900 hectares of habitat for wildlife species, including threatened examples such as the spotted-tailed quoll (*Dasyurus maculatus maculatus*), koala (*Phascolarctos cinereus*), sugar glider (*Petaurus breviceps*) and glossy black-cockatoo (*Calyptorhynchus lathami*). 117 of these properties (11,250 hectares) are in the GER's core state of NSW, 89 (16,050 hectares) in Queensland, and the remaining 21 (600 hectares) in Victoria.

HSI and the WLT further contribute to the protection of threatened species in the GER corridor through Threatened Ecological Community (TEC) listings (for more, see page 26). We are responsible for nominating dozens of TEC listings within the bounds of the GER under the Federal *Environment Protection and Biodiversity Conservation Act 1999* and the New South Wales *Threatened Species Conservation Act 1995*, with WLT member sanctuary presence contributing to the preservation of the listed habitats in combination with the additional legislative protection gained.

Biodiversity: Member presence in Global *Hotspots*

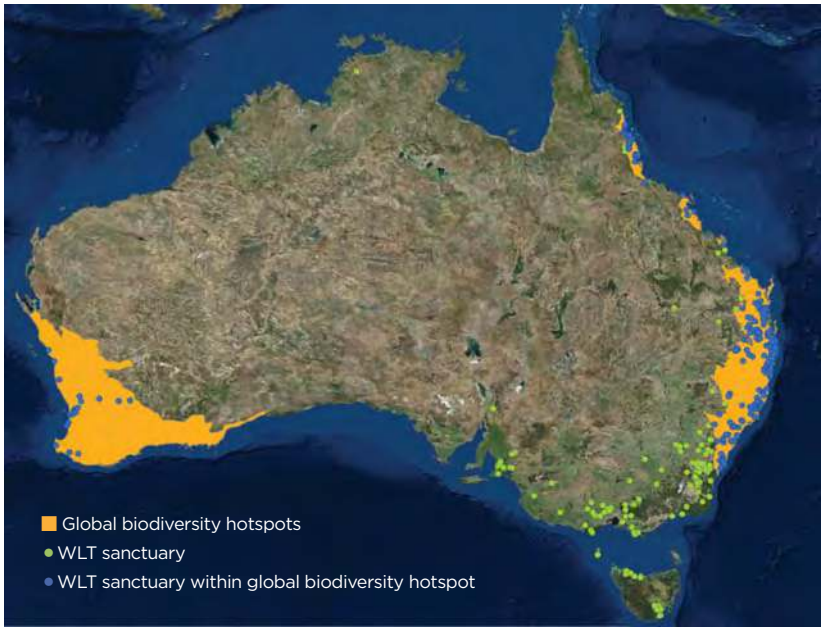
British biologist Professor Norman Myers introduced the concept of biodiversity hotspots in 1988 as a tool to prioritise biodiversity conservation efforts. They are the places on earth that are richest in biodiversity, but also the most threatened. At the global scale, Conservation International has identified 35 biodiversity hotspots which, while representing just 2.3% of the planet's land surface, collectively support more than half of the world's plant species as endemics and approximately 43% of bird, mammal, reptile and amphibian species. Each of these places is highly threatened and has lost at least 70% of its original habitat, and two are in Australia: the Forests of Eastern Australia; and Southwest Australia hotspots (see page 38).

The Wildlife Land Trust has a sizeable presence in these two areas identified as international priorities for conservation action, with 245 of the 380 current member sanctuaries (64.5%) protecting habitat within them. These WLT sanctuaries cover 22,000 hectares of land

[2]Although analysis in the chapter was conducted at 380 WLT member sanctuaries, there are now more than 400.

WLT member sanctuaries in the WA biodiversity hotspot protect the threatened Baudin's cockatoo

Map 3. Biodiversity hotspots



and are essential to the long-term survival of the many threatened and endemic species that have led to these places being considered of such international importance.

The Southwest Australia hotspot occupies some 356,717 km^2, and all 3,200 hectares of the 21 current Western Australian WLT sanctuaries fall within its bounds. These sanctuaries contribute to the preservation of habitat for a plethora of threatened species that caused the region to be recognised as globally significant. Among these are iconic animals such as the greater bilby (*Macrotis lagotis*), numbat (*Myrmecobius fasciatus*), quokka (*Setonix brachyurus*), chuditch (*Dasyurus geoffroii*)

and woylie (*Bettongia penicillata ogilbyi*), as well as birdlife including malleefowl (*Leipoa ocellata*) and forest red-tailed (*Calyptorhynchus banksii naso*), Baudin's (*Calyptorhynchus baudinii*), and Carnaby's (*Calyptorhynchus latirostris*) black cockatoos. WLT sanctuaries in the Southwest Australia hotspot also provide habitat for the tiny nectar and pollen-feeding honey possum (*Tarsipes rostratus*), which is the only member of its Family. With the impacts of historic clearing for agriculture still occurring and new threats such as urbanisation adding to pressures on the hotspot's biodiversity, threatened species habitat protected by the Western Australian WLT sanctuaries is vital.

Australia's other, and the most recently recognised Global Biodiversity Hotspot, the Forests of Eastern Australia, also has an impressive WLT presence of 224 sanctuaries covering approximately 18,800 hectares. About 18% of the land area of the hotspot is under formal protection for its natural values, however gaps in the protected area network include regions critical for the conservation of threatened species. Conservation programs complementary to this formal protection are all the more important as a result, enhancing connectivity and securing much-needed habitat.

At least 2,144 floral species found within the Forests of Eastern Australia hotspot are endemic to it, far exceeding the threshold of 1,500 endemic species required for recognition of a biodiversity hotspot. The region also contains 27.7% of the 1,263 plant species listed as threatened under the EPBC Act, including the Critically Endangered Wollemi pine (*Wollemia nobilis*), which is considered a living fossil due to all other members of its genus thought to have been extinct for more than 2 million years.

Threatened faunal species that WLT member sanctuaries are known to provide habitat for within the hotspot include the southern cassowary (*Casuarius casuarius*), green and golden bell frog (*Litoria aurea*), northern quoll (*Dasyurus hallucatus*), mahogany glider (*Petaurus gracilis*), spectacled flying-fox (*Pteropus conspicillatus*) and Coxen's fig-parrot (*Cyclopsitta diophthalma coxeni*).

Threatened Species and WLT Wildlife Rehabilitators

The owners of more than 100 Wildlife Land Trust sanctuaries are actively involved in the care of orphaned or injured wildlife, with the proportion set to increase with the imminent launch of the *WLT Wildlife Rehabilitators Release Network*. While many of the species commonly cared for, such as eastern grey kangaroos (*Macropus giganteus*), bare-nosed wombats (*Vombatus ursinus*) and brush-tailed possums (*Trichosurus vulpecula*) are relatively abundant, WLT members also play a key conservation role through the rehabilitation and release of threatened wildlife.

Among these species are Tasmanian devils (*Sarcophilus harrisii*), red-legged pademelons (*Thylogale stigmatica*), southern cassowaries (*Casuarius casuarius*), mahogany gliders (*Petaurus gracilis*), spectacled (*Pteropus conspicillatus*) and grey-headed (*Pteropus poliocephalus*) flying-foxes, and eastern quolls (*Dasyurus viverrinus*). The sole purpose of several WLT sanctuaries is to rehabilitate wildlife, including Jenny Maclean's Tolga Bat Hospital in northern Queensland which features world-class facilities and offers a volunteer program for the care of several bat and flying-fox species.

The biodiversity values of approximately a third of WLT sanctuaries are also protected in-perpetuity through conservation. To further the protection level of eligible WLT members interested in binding agreements, HSI has a Memorandum of Understanding with the NSW Office of Environment and Heritage which allows HSI staff to assess and prepare permanent Conservation Agreements. The first two WLT sanctuaries to go through this process were registered on title as per the NSW *National Parks and Wildlife Act 1974* in 2016.

Restricted Range Species: Southern cassowary

Several threatened species with restricted ranges benefit particularly significantly from the efforts of Wildlife Land Trust members and the efforts of our staff, one of which is the southern cassowary (*Casuarius casuarius*). More than a dozen WLT sanctuaries covering several hundred hectares in the Wet Tropics of Queensland provide habitat for southern cassowaries, and HSI has additionally financially assisted organisations such as Rainforest Rescue for the acquisition of cassowary habitat.

Furthermore HSI and WLT staff have successfully lobbied relevant local councils for simple but highly important southern cassowary conservation measures such as the installation of speed bumps in known road strike locations, and have supplied letters of support for member initiatives such as a cassowary rehabilitation facility at WLT member sanctuary Barrine Park Nature Refuge. Owners of the sanctuary, Carolyn and Phil Emms, now run a series of cassowary rehabilitation centres and sanctuaries through a partnership between the Queensland government and their organisation Rainforest Reserves Australia, considerably contributing to the survival of the threatened species.

HSI also manages the covenanted 120 hectare Warriwillah Sanctuary.

280

threatened species are afforded additional protection by HSI nominated TECs

Threatened Species and Biodiversity Hotspots

LAURA MUIR[1]

As discussed in the previous chapter, the Biodiversity Hotspots concept, first developed by Professor Norman Myers, attempted to identify geographic regions around the world where exceptional concentrations of endemic species were under immediate threat of habitat and species loss due to human activity.

Working with the office of Senator Robert Hill, Federal Minister for the Environment in 2001, HSI was able to help facilitate the enactment of the world's first national biodiversity hotspots policy. The Threatened Species Scientific Committee (TSSC) under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) was consequently directed to identify such national hotspots and, following a TSSC/HSI/ Australian Museum workshop, announced the 15 chosen areas.[2]

The multi-faceted biodiversity hotspots initiative, significantly expanded with the help of the Australian Wildlife Conservancy (AWC) and the Australian Democrats, included the establishment of the $36 million '*Maintaining Australia's Biodiversity Hotspots*' program. This program contributed to the purchase of seven high conservation value properties covering approximately 1.3 million hectares. Ten major stewardship programs were also funded covering some 180,000 hectares and 90 landholders. Including a small regional component and leveraged monies, the combined biodiversity hotspots initiative was worth around $125 million, making a significant contribution to the protection and recovery of threatened species and their habitats in Australia.

HSI has also helped purchase four other properties in Queensland and Tasmania containing threatened species and owned and managed by the AWC, Rainforest Rescue and Rainforest Trust Australia.

The seven sanctuaries that the Commonwealth biodiversity hotspots program was able to help purchase are listed below. These reserves provide protection for a substantial number of listed threatened species across Australia.

Mornington–Marion Downs–Western Australia (AWC) protects 15 threatened species including northern quolls (*Dasyurus hallucatus*), gouldian finches (*Erythrura gouldiae*), purple-crowned fairy-wrens (western subsp.) (*Malurus coronatus coronatus*) and red goshawks (*Erythrotriorchia radiatus*). It is within the West Kimberley National Heritage listing, which partially resulted from an HSI nomination and had its assessment prioritised through HSI presence on the Australian Heritage Council.

Pungalina–Seven Emus–Northern Territory (AWC) is a refuge for 20 threatened species including gulf snapping turtles (*Elseya lavarackorum*), freshwater sawfish (*Pristis microdon*), gouldian finches (*Erythrura gouldiae*), beach stone-curlews (*Esacus magnirostris*) red goshawks (*Erythrotriorchis radiatus*), green turtles (*Chelonia mydas*) and Carpentarian false antechinuses (*Carpentarian Pseudantechinus*).

Kalamurina–South Australia (AWC) counts elusive night parrots (*Pezoporus occidentalis*) and plains wanderers (*Pedionomus torquatus*) among its 44 threatened species of flora and fauna.

Brooklyn Holding–North Queensland (AWC) provides protection for 45 threatened plants and 40 threatened animals, including spectacled flying-foxes (*Pteropus conspicillatus*), yakka skinks (*Egernia rugose*) and masked owls (northern subsp.) (*Tyto novaehollandiae kimberli*) which are all listed as vulnerable under national environmental law.

The Commonwealth biodiversity hotspots program has helped protect AWC's Mornington–Marion Downs Sanctuary

Yourka Station–North Queensland (Bush Heritage Australia) is a safe haven for two nationally vulnerable bird species: red goshawks (*Erythrotriorchis radiatus*) and masked owls (northern subsp.) (*Tyto novaehollandiae kimberli*).

Edgbaston Station–North Queensland (Bush Heritage Australia) is renowned for its protection of species endemic to the spring-fed pools located there, including redfin blue eyes (*Scaturiginichthys vermeilipinnis*) and Edgbaston gobies (*Chlamydogobius squamigenus*) which are both nationally threatened fish. To date, fifteen previously unclassified plant species have been discovered on the property. Considerable conservation attention was brought to the area through *The community of native species dependent on natural discharge of groundwater from the Great Artesian Basin*, an HSI nominated TEC.

Vale of Belvoir–Tasmania (Tasmanian Land Conservancy)—eight nationally threatened species have been identified at the reserve to date, including ptunarra brown butterflies (*Oreixenica ptunarra*), Tasmanian devils (*Sarcophilus harrisii*), spotted-tailed quolls (*Dasyurus maculatus*), wedge-tailed eagles (*Aquila audax fleayi*), grassland paperdaisies (*Leucochrysum albicans var. tricolor*) and alpine candles (*Stackhousia pulvinaris*).

[1] HSI Project Officer

[2] Einasleigh and Desert Uplands (Queensland); Brigalow North and South (Queensland and New South Wales); Border Ranges North and South (Queensland and New South Wales); Midlands of Tasmania; Victorian Volcanic Plain; South Australia's South-East/ Victoria's South-West; Mt Lofty/Kangaroo Island (South Australia); Fitzgerald River Ravensthorpe (Western Australia); Busselton Augusta (Western Australia); Central and Eastern Avon Wheatbelt (Western Australia); Mount Lesueur-Eneabba (Western Australia); Geraldton to Shark Bay sand plains (Western Australia); Carnarvon Basin (Western Australia); Hamersley-Pilbara (Western Australia); North Kimberley (Western Australia).

Threatened Species Protection

POLICY AND PROGRAM DIRECTIONS FOR AUSTRALIA

This publication does not pretend to have a comprehensive answer to all of our threatened species protection woes. It is quite clear to all that we need to seriously up the ante on a range of conservation strategies, for example law reform, vastly increased resource allocation, significantly improved recovery program design and implementation, and ultimately broad and binding habitat protection measures.

Following the coming into force of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), HSI published a national 'Report Card' (prepared by Judy Lambert AM in 2000) which assessed Australia's implementation of the '*National Strategy for the Conservation of Australia's Biological Diversity*' and found the Commonwealth's performance sadly wanting. The Federal Government received a very poor **C minus** for "*recovery of species and ecological communities threatened with extinction*". In response to these independent consultant's findings, HSI published '*The Extinction Debt and how to deal with it—Implementing the National Biodiversity Strategy*' (prepared by Judy Lambert AM, Jane Elix and Andreas Glanznig in 2001), which contained 80 specific targets and priority actions relating to the recovery of threatened species and habitat protection. Most are as relevant today as they were 15 years ago, and it is sobering to note how many of those basic conservation actions have never been adopted or implemented by successive Commonwealth Governments.

Spread throughout this policy document are 235 action recommendations (primarily intended for the Commonwealth, emphasising the need for national leadership) that would go some way to improving our long-term chances for rescuing an increasing list of imperilled species from the brink. It is our view that the law must play a large part in achieving national conservation aims.

The following section deals primarily with Commonwealth law reform, both the immediate and long-term requirements, but also includes a wide-ranging set of biodiversity conservation actions to complement legislative evolution:

- Urgent EPBC Act reforms
- Access to the courts under Federal law
- 'Red light' protection for critical habitats and ecological communities
- 'Report Card' and actions for implementing the National Biodiversity Strategy
- Bioregional conservation strategies and national priorities
- Next generation environment laws

Commonwealth threatened species program

In 2014, the Commonwealth installed a new Threatened Species Commissioner, and in 2015 at the Government's Threatened Species Summit in Melbourne, the Minister launched the *Threatened Species Strategy* and *The 2015/16 Action Plan.* HSI supported the general intent and goals of the *Strategy* and its programs, and the establishment of the National Environment Science Programme (NESP). The *Strategy* and *Action Plan* primary goals of '*improved population trajectories by 2020*' for a good number of plants, mammals and birds, and tackling the feral cat problem are laudable, and we are particularly supportive of the Commonwealth's partnerships with the Australian Wildlife Conservancy and Birdlife Australia. However, by any reasonable comparison, the response does not match the problem.

At the very least, the Commonwealth should elevate the Commissioner's status to First Assistant Secretary level and triple their budget.

The Commonwealth must allocate a minimum of $200 million per annum for species recovery planning

An imbalanced equation

Moreover, while we clearly support the intent to increase the impact of the threatened species program, modest as it was, the other side of the recovery equation—management of proposed impacts of new developments referred under the EPBC Act—has been totally and dangerously inadequate.

Not only has the Federal Government been persisting in the disastrous proposal of devolving all of its Commonwealth environment powers (to protect *Matters of National Environmental Significance* (MNES) directly to the states and territories, but existing development approval, conditions compliance and enforcement procedures have been appalling, with an offsets policy calamitously applied across the board. The effect of these is that the Commonwealth is practicing devolution of powers by default.

The Business Council of Australia, with particular goading from the mining industry, maintain their strong lobby for a "one-stop-shop" policy, and the Commonwealth has been bending over backwards to accommodate them. Concurrently the states and territories are eagerly weakening their own environmental legislative laws, which, inexorably, will lead towards a recipe for an environmental disaster that Australia may never recover from.

The following pages are in large part devoted to legislative proposals[1] that are reliant upon the maintenance of Commonwealth approval powers under the EPBC Act and any successive laws. Without such a commitment to an overriding Commonwealth responsibility and legislative authority, we will be left with an intractable conservation dilemma.

An immediate start

Recommendation: To initiate a long-term recuperative process, the Federal Government could confidently begin today by: utilising the proposals put forward by the Wentworth Group of Concerned Scientists[2] (or a similar legislative formula) to implement a '*one-stop-shop*' process under the EPBC Act that maintains approval powers over MNES; immediately upgrade the Act, including the incorporation of land clearing and climate change triggers; provide for full public access to the courts; prioritise the development and implementation of enforceable Threat Abatement Plans for land clearing and climate change adaptation; allocate $200 million per annum (minimum) for recovery planning action (we had sought $50 million in 2001); and urgently review national recovery planning procedures through a transparent and vigorous public evaluation process.

These actions must inevitably involve the Commonwealth applying significant pressure on the states and territories to strengthen their own species conservation programs.

[1] A 2016 scientific review by the U.S Centre for Biological Diversity has shown how strong legislation backed by adequate resources and strong implementation can facilitate species recovery. The report: 'A Wild Success: A Systematic Review of Bird Recovery Under the Endangered Species Act' indicated that some "85 percent of bird populations in the continental United States increased while protected under the Act". The report noted that the "Endangered Species Act is the world's strongest law protecting animals and plants on the brink of extinction." It is an Act that Australia should strive to emulate.

[2] Statement on Changes to Commonwealth Powers to Protect Australia's Environment. Wentworth Group of Concerned Scientists, September, 2012.

The subsequent step is the development of 'next-generation environment laws' that should rival the power of the US *Endangered Species Act* in protecting Australian threatened species and habitats.

The Australia Labor Party and the Australian Greens have already made public commitments to pursuing the majority of these goals. If the present Coalition Government does not undertake a similar commitment, then they will assuredly go down in history as the Government that was solely responsible for dismantling a national environmental legislative and management system that has been evolving since Gough Whitlam's landmark conservation laws passed through the Parliament in the early 1970s.

HSI next steps

While pursuing the Commonwealth to implement appropriate policy and law, HSI will be working with the EDO NSW in developing specific EPBC Act drafting instructions for the threatened species, communities and critical habitat provisions outlined in the proposed amendments in the following sections, and drafting 'next generation environment laws' that identify specific threatened species and critical habitat provisions.

We have also embarked on the larger exercise of drafting a full 'next generation law' model with a focus on key biodiversity conservation provisions, access to the courts and the manner in which conservation treaties are implemented. We plan to feed this work into a bigger package of proposals through our membership of the Places You Love (PYL) alliance (of which we are a founding member) and the ongoing work of the PYL's Australian Panel of Experts on Environmental Law.

HSI will also be seeking access to the courts, primarily using the EPBC Act, looking at potential matters relating to flying-fox dispersals; the placement of shark drumlines in the Great Barrier Reef Marine Park; the legality of shark nets in NSW; pursuing Japanese whalers for their Federal Court imposed $1 million fine; halting the destruction of waterfowl in NSW; reducing seabird bycatch in trawling; protecting little penguin habitat and identifying test cases for the protection of listed Threatened Ecological Communities.

Seven

the hooded robin occurs on seven listed ecosystems nominated by HSI

EPBC Act Amendments—Protecting the National Environment

PRIORITY EPBC ACT AMENDMENTS

BRIEFING PAPER by NARI SAHUKAR*

Publisher's note: In the second half of 2015, HSI asked EDO NSW to "recommend key reforms to improve the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). In particular:

1) Proposals for a set of priority amendments to the EPBC Act
2) Suggestions for improved EPBC provisions to significantly strengthen protection for listed species and threatened ecological communities
3) A stand-alone briefing on access to the courts and related issues."

This section deals with the first two issues, with the third addressed in the following section. The proposed amendments are not meant to be a comprehensive overview of all required EPBC Act improvements, but a set of priority amendments designed to significantly improve the Act through an interim amendment Bill.

Prior to the most recent Federal election (these proposals having been sent to all relevant political parties) HSI received commitments from the Australian Labor Party and the Australian Greens Party to facilitate an amendment Bill, should they be in a position to do so after the election. The text below directly reflects EDO's written legal advice to HSI.

The problem

For the last 5 years Australia's environmental policy around the EPBC Act has foundered, for no substantive policy gain. The former Abbott Government's EPBC reform agenda—to hand over Federal *environmental approvals* to the states—has dominated the narrative. This so-called 'one stop shop' (actually eight jurisdictions trying to do the Commonwealth's job) has become complex and controversial, with no clear public benefit.

As the most recent State of the Environment Report (2011) concluded: *Our environment is a national issue requiring national leadership and action at all levels...The prognosis for the environment at a national level is highly dependent on how seriously the Australian Government takes its leadership role.*

*Senior Policy and Law Reform Solicitor, EDO NSW

The solution

This series of briefing papers seeks a circuit breaker to the negative trajectory of national environment policy. It sets out the key amendments to the EPBC Act, drawing on several balanced recommendations of the 10-year Independent Review of the Act in 2009 (**Hawke Report**). Enacting this series of reforms would demonstrate good faith in restoring national environmental policy to an even keel, improve efficacy and accountability, and ready Australia's environment and economy for inevitable change.

EPBC Act reform: Priority Legislative Amendments

This briefing paper proposes 10 priority reforms to support improved environmental effectiveness and decision making under national environmental law (the EPBC Act):

1) **Retain Federal approval powers over national impacts**
2) **National Environment Commission**
3) **Better strategic environmental assessment: maintain or improve outcomes**
4) **New trigger—major greenhouse emitting activities**
5) **New trigger—ecosystems of national significance**
6) **New trigger—national reserve system areas**
7) **New trigger—major land-clearing that threatens biodiversity**
8) **Protecting 'vulnerable' ecological communities under existing triggers**
9) **Protecting threatened species, ecological communities and critical habitat**
10) **Rectify oversight of Regional Forest Agreements**

Recommendation 1 Repeal EPBC Act provisions allowing Federal *approvals* to be handed to the states. The 'one-stop shop' reforms **must not hand over approval powers** under the Act. Opportunities to improve national environmental law efficiency and effectiveness include:

- clarifying the Act's objects to focus on Ecologically Sustainable Development (ESD) and improving the clarity of drafting;
- moving towards a single Federal-state threatened species listing process;
- *assessment* bilateral agreements to accredit equivalent impact assessment laws;
- reducing unnecessary project referrals via better guidance to proponents;
- improving Australia's capacity for robust *strategic environmental assessments*, to address cumulative impacts and maintain or improve environmental outcomes; and
- reforming and simplifying nomination processes to list species and other Matters of National Environmental Significance (MNES).

Recommendation 2 Establish a statutory **National Environment Commission**, responsible for advisory and oversight functions. The Commission would report to the Environment Minister or the Parliament, have its own staff, and be independent of departmental or ministerial direction.

Recommendation 3 Make EPBC **strategic assessment** more substantial and robust, including by:

- amending the Act to improve information requirements;
- requiring activities to achieve objective environmental outcomes such as a 'maintain or improve' environmental outcomes test;
- requiring cumulative impacts of past, present and future activities be considered;
- revoking the accreditation of the National Offshore Petroleum Safety and Emergency Management Authority (NOPSEMA) to approve significant impacts on MNES, or at a minimum providing a ministerial 'call-in' assessment and decision-making power;
- improving transparency, community confidence and public engagement; and
- ensuring robust oversight via new legislated performance audit and 'call-in' powers.

Recommendation 4 (i) Enact a **new EPBC Act trigger** in Part 3 to require Federal approval of projects with **major greenhouse pollution** footprints (e.g. over 250,000 to 500,000t CO_2-e); and (ii) Insert a requirement to **consider climate change mitigation and adaptation** opportunities as part of strategic assessments and regional planning processes.

Recommendation 5 Enact provisions for **Ecosystems of National Significance** to be listed under the EPBC Act (including a public nomination process), and a new trigger in Part 3 to require Federal approval of projects that may have significant impacts on them. The amendments should include an initial list of ecosystems for priority protection.

Recommendation 6 Enact a new trigger to require Federal approval of activities that may have significant impacts on areas under the **National Reserve System** (including state-based national parks) and other listed protected areas (such as private covenanted land).

Recommendation 7 Enact a new trigger to require Federal approval of **significant land clearing**. This would assess three things: activities over a certain scale; any clearing of threatened species habitat (or at a minimum, critical habitat); and an additional list of scheduled activities.

Recommendation 8 Amend the EPBC Act to include **vulnerable ecological communities** as a matter of national environmental significance protected under sections 18-18A.

Recommendation 9 Amend the EPBC Act to include a package of measures to strengthen protections for **threatened species, ecological communities and their habitats**, including specific measures to strengthen critical habitat protection. (See recommendation below.)

Recommendation 10 Amend the EPBC Act so that the Environment Minister must apply the full protection of the Act if the review of a **Regional Forest Agreement (RFA)** has not occurred in the specified timeframe; or indicates serious non-performance; or information is inadequate.

1. Retain Federal approval powers over national impacts

The Federal Environment Minister must retain the power to reject or approve (with conditions) significant impacts on Matters of National Environmental Significance (**MNES**).[1] This is consistent with Australia's international obligations and community expectations of the Federal Government's role. The former Abbott Government's controversial policy to hand over approval decisions to state and territory governments must therefore be abandoned.

The Environment Minister should not outsource key responsibilities. There are significant problems with handing over approval powers, and efficiencies can be gained elsewhere (see below).

The Environment Department already has new or revised *assessment* bilateral agreements in place with all states and territories (states). These permit the Federal Minister to rely on state impact assessment laws and processes.

Dropping the further stage of *approval* bilateral agreements need not necessarily affect existing assessment bilateral agreements. However, it is crucial that:

(i) state laws are amended to require equivalent assessment and public scrutiny; and

(ii) the Commonwealth retains the power to approve or refuse national impacts.

Problems with Approval Bilateral Agreements

Approval bilateral agreements would switch off the EPBC Act for assessment, approval and enforcement for activities with significant impacts on MNES.

Significant impacts on MNES would be left to state governments to *assess* and *approve*.[2] State planning agencies and departments (or even local councils[3]) would replace oversight from the Federal Environment Minister and expertise of the Department of Environment.

State governments are not elected or expected to represent the national interest. Nor should they (or local governments) be put in charge of Australia's international obligations. The one-stop shop also raises significant conflicts of interest, where state governments or their agencies *propose* the projects they will be approving, or stand to benefit from royalties etc.[4]

[1] These MNES include (among others):

- World Heritage Areas like the Great Barrier Reef, Daintree Rainforest, Uluru, NSW Blue Mountains and Tasmanian Wilderness;
- National heritage places, from Fraser Island to the Australian War Memorial;
- Nationally threatened species and communities, and migratory species including seabirds and whales;
- Internationally-protected wetlands (Ramsar Convention), and
- Nuclear actions including uranium mines.

[2] Only the following EPBC matters may remain in Federal hands: Commonwealth lands and marine areas in some jurisdictions (but not the Great Barrier Reef Marine Park), impacts of coal and gas projects on rivers, wetlands and groundwater ('water trigger' impacts), and emergency project 'call-in' powers.

[3] See further EDO NSW briefing note on the EPBC Amendment (Bilateral Agreement Implementation) Bill 2014.

[4] An example is the Traveston Crossing Dam proposal on the Mary River, proposed and recommended for approval by Queensland Government authorities but rejected by the Federal Environment Minister in 2009.

The Commonwealth must never hand-over project approval powers to the states and territories

Efficiency gains lie elsewhere

Project impact assessment and approval processes should be efficient, effective and properly resourced. Yet major projects are often inherently complex and their environmental impacts are significant. Unlike many state laws, the EPBC Act includes statutory timeframes for approval decisions. For this and other reasons delegating the *approval* stage will not actually save much time or money.[5]

Opportunities to improve the efficiency and effectiveness of national environmental laws lie elsewhere (see examples below). The Hawke Report identified many of these opportunities, as have other expert bodies such as the Wentworth Group of Concerned Scientists' 2012 *Statement on Changes to Commonwealth Powers to Protect Australia's Environment*.[6]

Recommendation 1 Repeal EPBC Act provisions allowing Federal approvals to be handed to the states.[7] The Australian Government **must not hand over approval powers** under the Act.

Opportunities to improve efficiency and effectiveness lie elsewhere. For example:

- clarifying the Act's objects to focus on ESD and improving the clarity of drafting;[8]
- moving towards a single Federal-state threatened species listing process;
- *assessment* bilateral agreements to accredit equivalent impact assessment laws;
- reducing unnecessary project referrals via better guidance to proponents;
- improving Australia's capacity for robust *strategic environmental assessments* and *regional plans*—to create efficiencies, address cumulative impacts and maintain or improve environmental outcomes; and
- reforming and simplifying nomination processes to list species and other MNES.

[5] Environment Department estimates of 'savings' from the one-stop shop (2014) are flawed. The report itself noted various uncertainties that made calculation difficult and presumably relied on proponent valuation of projects' net present value. The estimates explicitly did not consider:

- that states will require additional time and resourcing to take on Federal responsibilities of assessment, approval and enforcement (explicit assumptions included no additional assessment/approval time),
- the benefits of Federal oversight, economic or otherwise (such as arms-length decision making, environmental stringency of conditions and greater public trust), or
- ongoing costs of uncertainty, administration and implementation of the hand-over.

[6] See: http://wentworthgroup.org/2012/09/statement-on-changes-to-commonwealth-powers-to-protect-australias- environment/2012/.

[7] For example, repeal s. 46 and related provisions, whilst retaining power in s. 47 to accredit equivalent state assessment laws.

[8] The Act's objects should be amended to reflect Hawke Report recommendations 1-3.

2. National Environment Commission

Several recent inquiries have recommended a National Environment Commission to provide independent advice and strategic oversight on national environmental issues.

A National Environment Commission could perform a range of important functions, including:

- give expert advice to the Environment Minister on national policy priorities;[9]
- consult and report to Parliament on the *State of the Environment* every two years;[10]
- oversee compliance and audits of state/territory assessment bilateral agreements;
- advise on the adequacy of *strategic assessment* proposals (under Part 12 of the Act);
- include a specialist forum to expedite merit reviews of certain EPBC Act decisions; and
- work closely with governments to deliver National Environment Accounts by 2020.[11]

In 2009 the Hawke Report recommended establishing a National Environment Commission, and canvassed several potential models and roles it could fulfil.[12]

In 2012 the Government established a National Sustainability Council to advise on social, economic and environmental sustainability challenges. Its inaugural *Sustainable Australia Report 2013* began valuable conversations and brought together data on ageing, inequality, cities, economy and environment.[13] Initially slated to report every 2 years, the Council was disbanded in November 2013.

In 2013 the Productivity Commission proposed that a Federal Environment Protection Agency (**EPA**) could be considered, with the aim of separating departmental *policy-making* functions from EPA *enforcement* functions.

Also in 2013 a Senate Environment Committee report reiterated the Hawke Report proposal for a National Environment Commission.[14] The Committee majority also recommended *not to* proceed with approval bilateral agreements.

All of these proposals reflect the need for greater institutional capacity and independence in national environmental matters. This includes robust advice and oversight at arms-length from the government of the day and a platform for informed debate on sustainability.

[9] The Commission would fill an important gap, and could incorporate existing bodies under the EPBC Act:
- Independent Expert Scientific Committee on Coal and CSG (water trigger);
- Biodiversity Scientific Advisory Committee;
- Australian Heritage Council;
- Indigenous Advisory Committee;
- Threatened Species Commissioner (currently non-statutory), and
- the former National Sustainability Council.

[10] EPBC Act s 516B currently requires the Minister to commission State of Environment reports every 5 years.

[11] Consistent with the Aichi Biodiversity Targets (target 2) and building on the work of the ABS/BOM.

[12] Hawke et al., *Report of the Independent Review of the EPBC Act* (2009), recommendation 71.

[13] See: https://www.environment.gov.au/sustainability/publications/sustainable-australia-report-2013-conversations-future.

[14] Senate Standing Committee on Environment, *Report into Environment Protection and Biodiversity Conservation Amendment (Retaining Federal Approval Powers) Bill*, March 2013, recommendation 4: http://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Environment_and_Communications/Completed_inquiries/2010-13/epbcfederalpowers/report/index.

Improved laws must include comprehensive and accurate mapping data

Expert environmental advisory bodies exist in comparable jurisdictions including New Zealand, UK, US and Victoria.[15] Meanwhile, Australia's institutional capacity for dealing with complex environmental and economic challenges and opportunities has been eroded.[16]

Recommendation 2 Establish a statutory **National Environment Commission**, responsible for advisory and oversight functions. The Commission would report to the Environment Minister or the Parliament, have its own staff, and be independent of departmental or ministerial direction.

3. Better strategic environmental assessment: maintain or improve outcomes

Amendments are urgently needed to strengthen the rigour of the strategic assessment processes under Part 10 of the EPBC Act.

Current plans to increase the use of strategic assessments emphasise 'streamlining' of project approvals, without the additional safeguards recommended in the Hawke Report. This is significant because of the practical, long-term effects of strategic assessments, which switch off Federal approvals for activities under an accredited policy or in a geographic area.

We therefore support full implementation of Hawke recommendation 6 to make EPBC Act strategic assessment processes 'more substantial and robust'.

In our view, strategic (environmental) assessment must be underpinned by rigorous, objective and transparent legislative requirements to deliver good process, implementation and outcomes. To be specific, better strategic assessment should include:

- strong legislative standards and science-based tools;
- strong decision making criteria, including a 'maintain or improve' environmental outcomes test (such as for biodiversity, water quality, vegetation, carbon storage);
- requiring cumulative impacts of past, present and future activities to be considered;
- comprehensive and accurate mapping and data;
- undertaking strategic assessment at the earliest possible stage;
- requiring alternative scenarios to be considered;
- ground-truthing of landscape-scale assessment;
- mandating public participation at all stages; and
- strategic assessment complementing, not replacing, site-level assessment.

[15] **New Zealand's** Parliamentary Commissioner for the Environment reports on issues referred by Parliament, or of her own volition. The **United Kingdom** Natural Capital Advisory Committee advises government on protecting environmental assets and ecosystem services. The **United States** Council on Environmental Quality coordinates Federal agencies' environmental action, and issues directives and guidelines under the National Environmental Protection Act. **Victoria's** Commissioner for Environment and Sustainability reports and advises on the state of Victoria's environment.

[16] For example, abolition of the National Water Commission, National Sustainability Council and Climate Commission; abolishing the Grants to Voluntary Environment, Sustainability and Heritage Organisations, and community legal centre funding to Environmental Defenders' Offices; and funding cuts to CSIRO and Landcare.

Strategic assessments to date have involved a range of inadequacies, including the inadequate assessment of ecological impacts in the Melbourne Urban Growth Boundary, inadequate offset standards for the Western Sydney Growth Centres, and the hasty accreditation, limited transparency, external oversight and environmental criteria of NOPSEMA. These examples provide lessons for future improvements including on transparency of process, implementation and outcomes.[17]

Recommendation 3 Make EPBC strategic assessment 'more substantial and robust' (Hawke 2009, recommendation 6), including by:

- amending the Act to improve information requirements;
- requiring activities to achieve objective environmental outcomes such as a 'maintain or improve' environmental outcomes test;
- requiring cumulative impacts of past, present and future activities be considered;
- revoking accreditation of NOPSEMA to approve significant impacts on MNES, or at a minimum providing a ministerial 'call-in' power for assessment and decision-making;
- improving community confidence and public engagement; and
- ensuring robust oversight via new legal performance audit and 'call-in' powers.[18]

4. New trigger — major greenhouse emitting activities

The absence of a greenhouse trigger remains a major gap in the national environmental law. A national trigger is important because state laws do not set carbon budgets, nor do they cap or forecast cumulative emissions from proposed development.

Most sources of Australia's emissions will require some form of development approval.[19] Yet most state laws do not specifically require decision-makers to take into account a project's impacts on climate change, minimise these impacts, or plan for climate adaptation.

States continue to defer responsibility for climate mitigation to the Commonwealth. However, at present, EPBC Act assessment and conditions related to climate change can only be incidental to protecting listed matters, such as threatened species or world heritage areas.

When Environment Minister Robert Hill introduced the EPBC Bill in 1998, he noted his government's commitment to negotiate a greenhouse

[17] For example EDOs of Australia made a submission opposing NOPSEMA accreditation and listing 20 concerns: *Submission on streamlining of environmental approvals for offshore petroleum*, PDF (20 December 2013). See also EDO NSW, http://www.edonsw.org.au/petroleum_exploration_documents_released_for_public_scrutiny. See further: EDOs of Australia Submission on '*Our Cities...' Discussion Paper* (2011), p 7 (Melbourne Urban Growth Boundary) at http://www.edo.org.au/development1; EDO NSW, *Submission on the proposed Sydney Growth Centres Strategic Assessment* (2010), http://www.edonsw.org.au/planning_development_heritage_policy.

[18] On audit powers see Hawke rec 4(5): *creation of a Commonwealth monitoring, performance audit and oversight power to ensure that any process accredited achieves the outcomes it claims to accomplish*.

[19] For example, activities such as land-clearing, mining, new power stations and major transport infrastructure.

The Commonwealth should immediately add a new EPBC Act 'climate change' trigger

trigger once the Act was passed.[20] This is consistent with the Commonwealth's interest in reducing greenhouse gas emissions under the 1998 Council of Australian Governments (COAG) Heads of Agreement.

The Hawke Report proposed an interim greenhouse trigger until an economy-wide carbon price was in place, and a requirement for strategic-level mitigation (recommendation 10).

With the Paris Conference and Australia's 2030 emission reduction targets, a new opportunity emerges to enact a greenhouse trigger. Australia will need to renew its approach to a national carbon budget that is consistent with avoiding 2 degrees warming, taking into account Direct Action policy expenditures to date.

A new trigger would recognise the need to link Australia's carbon budget, accounting processes and targets with development conditions imposed under the EPBC Act.[21] The trigger could be set to assess, approve or reject projects with major greenhouse footprints (250,000 to 500,000t-plus CO_2-e) and apply conditions. This should include 'scope 3' emissions that come from the project but occur overseas, even if scope 3 emissions don't form part of the national carbon budget.

Recommendation 4:

(i) Enact a new EPBC Act trigger in Part 3 to require Federal approval of projects with major greenhouse pollution footprints (such as 250,000 to 500,000t+ CO_2-e); and

(ii) Insert a requirement to consider climate change mitigation and adaptation opportunities as part of strategic assessments and regional planning processes.[22]

5. New trigger—ecosystems of national significance

The need to shift focus beyond individual species to landscape-scale biodiversity protection is widely recognised. This includes a need to protect *ecosystems of national significance*—with importance for species richness, climate refuge and adaptation, but limited protection.

Currently the EPBC Act aims to conserve biodiversity through public reserve management, listing species, and listing *ecological communities*[23]—unique groupings of interdependent plant and animal species—that are nationally threatened with extinction. By contrast, *ecosystems* include the interaction of species and communities with physical or abiotic features.[24] Ecosystems are only protected indirectly via other triggers, such as protected heritage places, Ramsar wetlands or listed threatened species and ecological communities.

[20] Senate Hansard, *Environment Protection and Biodiversity Conservation Bill 1998* [1999], Second Reading Speech, 22 June 1999, at 5990.

[21] For example, the Climate Change Authority (2012) recommended that Australia adopt a national emissions budget of 10.1 billion tonnes CO_2-e for the period 2013 to 2050.

[22] Both arms of this recommendation are consistent with Hawke Report recommendation 10. The second arm refers to strategic assessments under Part 10 and (bio)regional plans under Part 12 of the Act.

[23] The Act defines **ecological community** as 'the extent in nature in the Australian jurisdiction of an assemblage of native species that: (a) inhabits a particular area in nature; and (b) meets the additional criteria specified in the regulations (if any) made for the purposes of this definition.' (EPBC Act s. 528.)

[24] The Act defines **ecosystem** as 'a dynamic complex of plant, animal and micro-organism communities and their non-living environment interacting as a functional unit.' (EPBC Act s. 528).

The Hawke Report proposed to:

> *...include 'ecosystems of national significance' as a new matter of national environmental significance. The 'matter protected' should be the ecological character of a listed ecosystem.*[25]

A new listing category and trigger to protect *ecosystems of national significance* would enable the protection of important ecosystems because of their significant ecological character—even *before* they are threatened. Activities with a significant impact on these ecosystems would require assessment and approval under the Act.

Landscape-scale approaches shift the focus from emergency management of individual species to holistic landscape health, resilience and climate-readiness. This is consistent with Australia's *Biodiversity Strategy 2010–30,* the Convention on Biological Diversity and the National Reserve System (**NRS**, see below). We note the recent Paris climate agreement recognised the need to build adaptive capacity and resilience in ecological systems.[26]

An ecosystems trigger would fill a significant policy gap identified in the Act's 10-year review. This recognises the benefits of protecting 'natural capital' to support resilient landscapes, ecosystem functions and services, which in turn benefit society and the economy. The trigger would also help to identify ecological needs in a changing climate, and promote efficient expenditure by governments, land managers and developers.

The Hawke Report proposed specific criteria for listing ecosystems of national significance. These are adapted from existing NRS and Ramsar approaches. Listing criteria would include high biodiversity and habitat values, critical ecosystem functions,[27] connectivity between ecosystems, and resilience-building to landscape threats such as climate change.

Hawke proposed giving priority to ecosystems that are under-represented in existing protection frameworks. For example, wetlands of national significance are not eligible for Ramsar listing but, like National Heritage places, deserve protection under the Act.

Recommendation 5 Enact provisions for Ecosystems of National Significance to be listed under the EPBC Act (including a public nomination process), and a new trigger in Part 3 to require Federal approval of projects that may have significant impacts on their ecological character. The amendments should include specific criteria for listing, and an initial list of ecosystems for priority protection (e.g. nationally significant wetlands).

6. New trigger—National Reserve System areas

A new trigger for areas under the NRS would provide Federal protection against significant impacts on national parks and other important protected areas. At a minimum, this trigger should apply to NRS areas designated as strict nature reserves, wilderness areas and national parks (IUCN Categories Ia, Ib and II[28]), as well as private conservation-covenanted lands (about 1,200 such lands are currently in the NRS).

[25] Hawke Report (2009), recommendation 8. *Ecological character* refers to the combination of an ecosystem's components, processes, benefits and services (see e.g. Ramsar Convention 2005a, Resolution IX.1 Annex A).

[26] For example, see Article 7, 7.9 (e).

[27] Such functions and services include food production, water purification, salinity control and climate adaptation.

[28] On IUCN categories see further the Department of Environment: https://www.environment.gov.au/node/20957.

The Commonwealth must enact a new 'land clearing' trigger under the EPBC Act

The Commonwealth manages 6 national parks (and 59 marine reserves),[29] but most national parks are state-based.

As the Department of Environment notes:[30]

> *The National Reserve System is Australia's network of protected areas... [and] the nation's natural safety net against our biggest environmental challenges...*
>
> *It is made up of Commonwealth, state and territory reserves, Indigenous lands and protected areas run by non-profit conservation organisations, through to ecosystems protected by farmers on their private working properties.*

The NRS is made up of over 10,000 protected areas and over 18% of the continent. Management responsibility is divided between:[31]

- Commonwealth, state and territory Governments (>47%);
- Indigenous Protected Areas (40%);
- joint management (≈7%); and
- private management (≈5%).

Alpine National Park and other protected areas that rely on state-based protection are under threat, as recent examples show including the former Victorian Government's attempts to allow grazing in alpine national parks; and pressure in other states to expand shooting, grazing and horse-riding in protected areas, often without proper consideration of ecological impacts or incompatible uses. However, Federal protection of these areas is only indirect, via existing triggers.

[29] On Commonwealth national parks see: Department of Environment: www.environment.gov.au/topics/national-parks. Commonwealth reserves are managed under Part 15 Division 4 of the EPBC Act. Many works cannot be carried out in a Commonwealth reserve unless permitted by a management plan (s 353). Activities on '*Commonwealth land*' with a significant impact on the environment require approval under Part 3 (ss 26-27A).

[30] Department of Environment, accessed Dec. 2015: https://www.environment.gov.au/land/nrs.

Recommendation 6 Enact a new trigger to require Federal approval of activities that may have significant impacts on **National Reserve System and other protected areas**. This should include at a minimum:

- strict nature reserves;
- wilderness areas;
- national parks (including where state-managed); and
- private conservation-covenanted lands.

7. New trigger—major land-clearing that threatens biodiversity

Clearing of native vegetation has a range of well recognised and serious consequences. These include destruction of biodiversity habitat, degradation of soil, degradation of water quality, increased salinity, release of greenhouse gas emissions, and adverse effects on ecosystem services and broader catchment health. Successive *State of the Environment* Reports highlight this threat[32] and land clearing has accelerated in some areas since 2011.[33]

[31] Department of Environment, accessed Dec. 2015: www.environment.gov.au/land/nrs/about-nrs/ownership.

[32] The SOE Report 2001 identified land clearing the single biggest threat to wildlife in Australia. The SOE Report 2006 found that the 'loss of native vegetation continues to be one of the greatest threats to Australia's biodiversity'. The SOE Report 2011 found that: 'Threats to our soil, including acidification, erosion and the loss of soil carbon, will increasingly affect Australia's agriculture unless carefully managed.'

[33] Land clearing in Queensland increased from 91,690 ha in 2010-11, to 153,640 ha in 2011-12, and to 296,324ha by 2013-14, resulting in significant levels of atmospheric CO_2 *emissions*. Source: Queensland Government, Statewide Landcover and Trees Study (SLATS) Reports, Land cover change in Queensland in 2012-14 and Land cover change in Queensland in 2011-12. The increase to 2013-14 coincided with the former Newman Government's amendments to the *Vegetation Management Act*, which removed some clearing restrictions and introduced self-assessable clearing codes and permits for 'high-value agriculture'.

A comprehensive Federal land clearing trigger would ensure that Federal efforts to preserve national biodiversity, reduce greenhouse gas emissions and landscape-scale conservation are not undermined by a constantly changing patchwork of state land clearing laws and policies.

State and territory laws have limited effectiveness and strategic oversight over land clearing. Significant levels of clearing are still lawful; illegal clearing continues, with limited resourcing for enforcement; and laws are being weakened further in some states. For example, land clearing rates in Queensland nearly doubled from 2012 to 2014 due to legal rollbacks, with impacts on biodiversity and carbon storage.[34] NSW is under similar pressure to expand clearing exceptions and self-assessment in its 2015-16 reforms.[35]

A land clearing trigger in the EPBC Act could include 3 elements (based on scale, habitat and activity):

- a trigger for clearing a certain scale of native vegetation in any *two year period* (for example, 100+ ha);
- a trigger for clearing any native vegetation that is habitat for listed threatened species or ecological communities (or at a minimum, listed *critical habitat*); and
- a schedule of activities that would trigger the Act regardless of the scale of clearing proposed (for example, major coastal resort developments).

In addition, we note that a key barrier to the adequate assessment of major land clearing proposals across Australia is the current exemption for logging in areas under Regional Forest Agreements. The RFA process continues to be a significant abdication of Federal responsibilities. Reforms related to RFAs are proposed at recommendation 10 below.

Recommendation 7 Enact a new trigger to require Federal approval of **significant land clearing**. This would assess three things:

- activities over a certain scale;
- any clearing of threatened species habitat (or at a minimum, critical habitat); and
- an additional list of scheduled activities with known land clearing impacts.

[34] Ibid. For example, SLATS data from the Queensland Government in 2008, shows Queensland still has extensive rates of clearing with 375,000 hectares being cleared during 2005-2006: *Land Cover Change in Queensland 2005-2006. Statewide Landcover and Trees Study Report, Department of Natural Resources and Water*.

[35] See NSW Independent Biodiversity Legislation Review Panel Final Report, December 2014 at: http://www.environment.nsw.gov.au/biodiversitylegislation/review.htm.

New approaches are needed to arrest the decline of Australia's unique biodiversity

8. Protecting 'vulnerable' ecological communities under existing triggers

A central function of the EPBC Act is to require approval of significant impacts to threatened species and ecological communities. Sections 18-18A include offences to protect:

- *species* that are vulnerable, endangered, critically endangered and extinct in the wild; and
- *ecological communities* that are endangered and critically endangered.

The Government notes that: 'The aim of listing is to prevent further decline and to promote recovery...' [36] Yet while ecological communities can be (and are) listed as *vulnerable* under the Act, the current offence provisions do not in fact protect them from harm.[37]

Protecting vulnerable ecological communities is the missing piece in these offence provisions. This was identified for correction in the Hawke Report (recommendation 14).

An ecological community is considered vulnerable if it is facing a high risk of extinction in the wild in the medium–term future (indicative timeframe being the next 50 years).[38] Existing pressures combined with accelerating climate change increase the need to protect them.

Recommendation 8 Amend the EPBC Act to include vulnerable ecological communities as Matters of National Environmental Significance protected from impacts under sections 18-18A.

9. Protecting threatened species, ecological communities and critical habitat

A headline finding of Australia's *State of the Environment 2011* Report was that: 'Our unique biodiversity is in decline, and new approaches will be needed to prevent accelerating decline in many species.'

A range of measures is needed to update and strengthen EPBC Act processes and outcomes to protect threatened species, ecological communities and their habitats. This includes, but is not limited to, measures recommended in the Hawke Report. Specific emphasis is needed on critical habitat to promote climate resilience and avoid extinctions.

Other jurisdictions have been more proactive in funding and conducting comprehensive assessments of ecosystems and natural areas for their values and benefits. An example is the UK's *National Ecosystems Assessment* (2011) and follow-up report (2014).[39]

It is widely acknowledged that the Act needs an emergency listing process for newly-discovered species and ecological communities under significant and imminent threat (Hawke recommendation 16).

[36] Department of Environment: www.environment.gov.au/biodiversity/threatened/communities/about.

[37] Section 18A(4)(b) specifically exempts vulnerable ecological communities from offences under s. 18A.

[38] See: https://www.environment.gov.au/biodiversity/threatened/communities/about.

[39] See: http://uknea.unep-wcmc.org/.

Such amendments were proposed in a 2011 Private Member's Bill, and supported by stakeholders and a Senate Inquiry.[40] The Government planned to introduce similar amendments in 2012, but these have not come to pass.

There is also a need to reform and simplify the nomination process for threatened species, ecological communities (and in future, ecosystems of national significance) to speed up the process and better engage local communities, indigenous groups and other stakeholders.

Critical habitat protections

Experts acknowledge the benefit of identifying habitat critical to the survival of threatened species.[41]

The Act requires the Minister to establish a Register of Critical Habitat (s. 207A) for threatened species and ecological communities. We support a central register of critical habitat. However, the provisions in the Act and Regulations are deficient.[42] In particular:

- The Register is a decade out of date (with no new additions since early 2005);
- The current list contains critical habitat for just five species;[43]
- Offences for knowingly damaging critical habitat are limited to Commonwealth areas;
- Identifying critical habitat via (non-mandatory) recovery plans is insufficient.[44]

The Hawke Report proposed a requirement to identify critical habitat at the time of listing threatened species (recommendation 12(1)), including description and spatial identification. While this is supported, there is also a need to address deficiencies in identification of critical habitat for species *already listed* as threatened with extinction.

We recommend further measures to improve the effectiveness of biodiversity protections.

[40] *Environment Protection and Biodiversity Conservation Amendment (Emergency Listings) Bill 2011*. See further Senate Environment Committee report (2012), recommendation 1, at para 3.37: http://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Environment_and_Communications/Completed_inquiries/2010-13/epbcemergencylistings/report/index.

[41] Hawke Report (2009), para 5.14.

[42] EPBC Act Part 13 Division 1 (ss 207A-207C); EPBC Regulation 2000, Part 7 Division 7.4 (clauses 7.09-7.10).

[43] These include albatross habitat on remote islands off Tasmania, black-eared miner habitat in remote South Australia, and one area in the ACT protecting the perennial herb, Gininderra peppercress. See: https://www.environment.gov.au/cgi-bin/sprat/public/publicregisterofcriticalhabitat.pl.

[44] See EPBC Act, s 270(2)(d).

[45] Section 139 currently requires the Minister to 'have regard to any approved conservation advice'; but 'must not act inconsistently with' other things—recovery plans, threat abatement plans and some international treaty obligations (Convention on Biodiversity, Apia Convention on Nature in the South Pacific, and CITES).

[46] See for example, UK National Ecosystems Assessment (2011 and 2014): http://uknea.unep-wcmc.org/.

[47] Listing decisions should be added to s 391: where the Minister must take account of the precautionary principle

[48] The Act previously contained such an obligation at section 185 (now repealed):
185 Maintaining the lists in up-to-date condition
(1) The Minister must take all reasonably practical steps to amend as necessary: (a) the list referred to in section 178 so that it contains in each category all native species that are eligible to be, or under subsection 186(3), (4) or (5) can be, included in that category; and (b) the list referred to in section 181 so that it contains in each category all ecological communities that are eligible to be included in that category.
(2) The Minister must decide whether to amend the list referred to in section 181 to include an ecological community that is described as critically endangered, endangered or vulnerable in a list that is: (a) kept by: (i) a State; or (ii) a self-governing Territory; or (iii) the body known as the Australian and New Zealand Environment and Conservation Council; and (b) identified by the Minister by a notice published in the Gazette.

[49] See http://www.environment.gov.au/protection/environment-assessments/conservation-agreements; and http://www.environment.gov.au/topics/biodiversity/biodiversity-conservation/conservation-covenants.

The Commonwealth should introduce strong priority and interim amendments to the EPBC Act

Recommendation 9 Amend the EPBC Act to include a package of measures to strengthen protections for threatened species, ecological communities and their habitats, including specific measures to strengthen critical habitat protection.

General measures should include the following:

- Amend section 139 of the Act so that the Minister:
  - must not approve an action with significant impacts on Critically Endangered Ecological Communities; and
  - must act consistently with any approved conservation advice for Endangered Ecological Communities (and other listed matters[45]) in deciding whether to approve a relevant controlled action;
- New provisions for emergency listing of species and ecological communities;
- Require the Minister to identify, assess and list all nationally-Threatened Ecological Communities (terrestrial and marine) over the next 5 years—such as via a comprehensive and collaborative National Ecosystems Assessment;[46]
- Apply the *precautionary principle* to listing decisions for species and ecological communities (where there is scientific uncertainty and threat of serious harm);[47]
- Require the Minister to maintain lists of threatened species and ecological communities in an up-to-date condition;[48]
- Mandatory development and implementation of recovery plans, including at regional scales where appropriate, and supported by credible funding options;
- Reform and simplify the public nomination process for listing species and ecological communities, taking the pre-2006 model as the starting point, i.e. Commonwealth must assess all nominations (within a 3 year period);
- New provisions to permit the public nomination of discrete populations; and
- Decisions not to list species/ecological communities should attract merits review.

Specific measures to strengthen critical habitat protection should include the following:

- Clarify that the Minister must not approve significant impacts or developments on *critical habitat* of Endangered (or Critically Endangered) species or ecological communities. The Minister must instead seek conservation agreements or covenants with private landholders (or relevant government authorities) to protect the critical habitat of all threatened species and ecological communities;[49]
- Require that critical habitat (incorporating climate refugia) is identified at the time a species or community is listed, along with published mapping;
- All new critical habitat should be automatically included on the Register of Critical Habitat, and all habitat should be protected as a MNES;
- Require the Minister to list the critical habitats of all 'Critically Endangered' species and ecological communities when the amendment Bill is tabled;
- Require the Minister to transfer all existing, identified critical habitat information (for all currently listed species and ecological communities) to the Register within 18 months of the amendments being passed; and
- Extend the Act's critical habitat provisions to protect habitats across all land tenures (i.e. beyond Commonwealth areas to state and territory lands and waters).

10. Rectify oversight of Regional Forest Agreements

Environment groups have long questioned the adequacy, scientific rigour and compliance oversight of Regional Forest Agreements (**RFAs**), based on years of on-ground experience. This is because RFAs controversially accredit state forestry management processes and 'switch off' requirements for EPBC Act assessment, approval and further Federal oversight. The Hawke Report (recommendations 28-29) noted several RFA reviews were outstanding.

An example of the inadequacy of state forestry regulations and processes is that, in NSW:

- there is evidence of systemic regulatory breaches throughout NSW public forests; The Land and Environment Court described the Forestry Corporation as showing 'a pattern of continuing disobedience… or [at least] a cavalier attitude to compliance';[50]
- penalties for some forestry licence offences relating to harming threatened species are 'exceedingly low compared to… other environmental offences'.[51] Other licence breaches under the Forestry Regulation attract penalty notices of as little as $100;
- the *Forestry Act 2012* is one of the only environmental laws that excludes members of the public from bringing civil enforcement proceedings when the law is broken.

Now is a critical point to assess the adequacy of RFA operations as the 10 state agreements (with Tasmania, Western Australia, Victoria and NSW) are due for five-yearly reviews. The EPBC Act should be amended to require that RFAs can only continue if they independently demonstrate high environmental compliance, continuous improvement and robust oversight.

Recommendation 10 Amend the EPBC Act so that the Environment Minister must apply the full protection of the Act if the review of a Regional Forest Agreement:

- has not occurred in the specified timeframe; or
- indicates serious non-performance; or
- information is inadequate to demonstrate high levels of performance, oversight and continuous improvement in Ecologically Sustainable Forest Management.[52]

[50] Justice Pepper, NSW Land and Environment Court, *Department of Environment, Climate Change and Water v Forestry Commission of NSW*, 8 June 2011, cited in EDO NSW, *If a Tree Falls: Compliance failures in the public forests of New South Wales* (2011), PDF.

[51] Justice Pepper, cited in EDO NSW (ibid), p 24.

[52] This recommendation is generally consistent with Hawke Report recommendation 28-29.

Green

and golden bell frog: HSI nominated under the EPBC Act with Greenpeace, it remains vulnerable to extinction

EPBC Act Amendments—Protecting the National Environment

IMPROVING ACCESS TO JUSTICE, COMMUNITY ENGAGEMENT AND PUBLIC CONFIDENCE

BRIEFING PAPER by NARI SAHUKAR*

Publisher's note: In the second half of 2015, HSI asked EDO NSW to "recommend key reforms to improve the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). In particular:

1) Proposals for a set of priority amendments to the EPBC Act
2) Suggestions for improved EPBC provisions to significantly strengthen protection for listed species and threatened ecological communities
3) A stand-alone briefing on access to the courts and related issues."

This section deals with the third issue above. Prior to the most recent Federal election (these proposals having been sent to all relevant political parties) HSI received commitments from the Australian Labor Party and the Australian Greens Party to facilitate an amendment Bill, should they be in a position to do so after the election. The text below directly reflects EDO's written legal advice to HSI.

The problem

Despite comprehensive independent review and recommendations for reform, for the last 5 years Australia's environmental policy around the EPBC Act has foundered, for no substantive policy gain. The former Abbott Government's EPBC reform agenda—to hand over Federal *environmental approvals* to the States—has dominated the narrative. This so-called 'one-stop-shop' (which is actually eight jurisdictions trying to do the Commonwealth's job) has become complex and controversial, with no clear public benefit.

The solution

This series of briefing papers seeks a circuit breaker to the negative trajectory of national environment policy. It sets out a series of key amendments to the EPBC Act, and draws on several balanced recommendations of the 10-year Independent Review of the Act in 2009 (**Hawke Report**).[1] Enacting this series of reforms would demonstrate good faith in restoring national environmental policy to an even keel, improve efficacy and accountability, and ready Australia's environment and economy to respond to challenges and opportunities of change.

EPBC Act reform: Access to justice, community engagement and public confidence

Our proposed reforms to the EPBC Act begin with 3 access to justice mechanisms:

1) public access to the courts via 'open standing' for judicial review;
2) merits review for a limited set of key decisions; and
3) public interest proceedings and costs orders.

We make 3 corresponding recommendations and explain their rationale below. Further background is provided at the end of this paper.

Access to justice improves decision-making, accountability and deters corruption

The EPBC Act protects Australia's most iconic natural places, unique species and communities threatened with extinction. The Australian public expects strong protections and accountable decisions. Access to justice is a crucial component of public confidence in environmental decision-making under the Act.

Australia is also a signatory to several international commitments promoting legal rights to participate in decision-making processes and to have access to the courts to ensure accountability.[2]

*Senior Policy and Law Reform Solicitor, EDO NSW

[1] Chapter 15 of the Hawke Report (2009) deals with review mechanisms and access to courts.

Open standing is a cornerstone of NSW environmental legislation and a similar provision should be enacted into Federal law

For decades in NSW, environmental and planning laws have provided 'open standing' for any person to seek judicial review. The benefits of these community appeal rights extend far beyond the few cases in which they are exercised; and 'floodgates' concerns have been disproved.[3]

Recommendation 1 Amend the EPBC Act to provide 'open standing' for judicial review of decisions under the Act and Regulations, so that any person can ensure that decisions are made according to the law.

As further accountability mechanism, the EPBC Act should provide standing for arms-length *merits review* of key decisions, as supported in the Hawke Report.

In NSW, merits review has been available for objectors to high-impact projects, providing some balance to proponents' rights. Indeed, ICAC supports further expansion of third-party (community) merits review in NSW planning laws. According to ICAC, third party appeal rights provide 'an important check on executive government', and reduce the likelihood of undue favouritism in the development approvals process. By contrast, the absence of third party appeal rights 'creates an opportunity for corrupt conduct to occur'.[4]

Recommendation 2 Amend the EPBC Act to provide for interested persons (including conservation groups) to seek **merits review of certain decisions**, including:

- permits affecting nationally-protected species;
- international movement of wildlife and advice about whether an action would breach a conservation order; and
- whether a proposed activity is a 'controlled action', and if so, the assessment method required.

[2] These include the *International Covenant on Civil and Political Rights*, the *Rio Declaration on Environment and Development* (1992) and related *UNEP Guidelines for the Development of National Legislation on Access to Information, Public Participation and Access to Justice in Environmental Matters* (2010) (see www.unep.org). In the EU, such rights are protected under the Aarhus convention: http://ec.europa.eu/environment/aarhus/.

[3] The Hon Justice Peter McClellan, 'Access To Justice In Environmental Law—An Australian Perspective', Commonwealth Law Conference 2005, London, 11–15 September 2005, p 2 (cited below). See further Justice Jerrold Cripps, "People v The Offenders", Dispute Resolution Seminar, Brisbane, 6 July 1990.

[4] NSW Independent Commission Against Corruption (2012) *Anti-Corruption Safeguards and the NSW Planning System*, p. 22.

Extended standing for judicial review and to restrain offences under the EPBC Act have played a critical role in facilitating public interest environmental law. However, in addition to the lack of merits review, the threat of adverse costs orders and the significant cost of legal action remain considerable barriers to public interest litigation.[5]

Recommendation 3 Amend the EPBC Act to provide for **protective costs orders**:

- so that the Federal Court is not to require an applicant to give an 'undertaking as to damages' as a pre-condition to granting an interim injunction to urgently protect Matters of National Environmental Significance;
- prohibit 'security for costs' orders in public interest proceedings under the Act; and
- empower the Federal Court to decide whether a case is a 'public interest proceeding' and, if so, determine the appropriate form of 'public interest costs order'.

BACKGROUND

We provide further background on each of these recommendations below.

Judicial review

By allowing the Courts to oversee activities of the Executive, judicial review is an important safeguard against legal errors and decisions that go beyond the decision-maker's powers.

The EPBC Act (section 487) specifically provides 'extended standing' for conservationists to seek judicial review of decisions under the Act and Regulations. This long-standing provision is a critical access to justice mechanism, and has been used very sparingly since 1999.[6]

The extended standing test is clearer and far preferable to the common law test for standing under the *Administrative Decisions (Judicial Review) Act 1977*. However, an even better option that is increasingly included in modern environmental laws is *open* standing.

There is a strong rationale to broaden standing for third parties to seek judicial review, including:

- a general public interest in ensuring that decision-makers comply with the law;
- where third party rights do exist, they are very rarely exercised. But the additional scrutiny promotes better decision-making, accountability and public confidence;
- broadened standing means that individual landholders don't bear the entire burden of protecting unique threatened species or World Heritage Areas like the Great Barrier Reef; and
- a number of expert reviews have emphasised the benefits of broad legal standing.

[5] Chris McGrath, 'Flying Foxes, Dams and Whales: using Federal Environmental Laws in the Public Interest' (2008) 25 *Environmental and Planning Law Journal* 324.

[6] In 2009, the Senate Environment Committee noted 'an extremely low level of litigation' under the EPBC Act, according to the Federal Department's statistics. The most recent figures compiled by Dr Chris McGrath reiterate this trend, with 22 judicial review cases out of around 5,400 Federal project referrals—less than 0.5%.

The ability to trigger third party merits reviews must be reinstated into the EPBC Act

Concerns that this will open the 'floodgates' to litigation, despite various safeguards, have been thoroughly disproven. As a former Chief Judge of the Land and Environment Court noted, reflecting on 25 years of open standing in NSW:

> *Any fears that open standing will encourage proceedings which have the potential to destabilise orderly government have been unfounded.*
>
> *...there has been no suggestion that the open standing provisions have led to litigation which adversely impacts upon the well-being of the whole community. The contrary is undoubtedly true.*[7]

Problems with the EPBC Amendment (Standing) Bill 2015

On 20 August 2015, the *EPBC Amendment (Standing) Bill 2015* was introduced to the House of Representatives. The Bill aims to remove extended standing for conservationists to seek judicial review of decisions made under the EPBC Act.[8] Standing would then be restricted to a person 'whose interests are adversely affected by the decision'.

This is problematic for community members who are seeking to review the legality of decisions in the *public interest*:

> *[environmental] objectives in bringing litigation—such as to prevent environmental impacts, raise issues for legislative attention and improve decision-making processes—reflect public rather than private concerns, such as protecting property and financial interests.*[9]

To ensure integrity and accountability, the national environmental law should provide open standing to review the legality of decisions, instead of narrowing standing to those who must demonstrate their interests are directly affected.

[7] The Hon Justice Peter McClellan, 'Access To Justice In Environmental Law—An Australian Perspective', Commonwealth Law Conference 2005, London, 11-15 September 2005, p 2.

Merits review

Some laws in Australia further increase accountability by allowing arm's length 'merits review' of key decisions (e.g. NSW planning law). Merits review allows a Court or tribunal to stand in place of the decision-maker and make a fresh decision based on the evidence and the law.

Merits review is not available for any key decisions about environmental impact assessment or project approval under the EPBC Act. To improve the rigour, consistency and transparency of decision-making, interested parties should be able to seek review of the merits of certain decisions in the Federal Court (including environment groups and people who made submissions during the consultation period).

This safeguard would also assist where there is greater reliance on state *assessments* under bilateral agreements (although EPBC Act *approvals* should be kept in Federal hands).

The lack of merits review effectively allows the Minister to make a subjective decision about Matters of National Environmental Significance, with no oversight or safeguards in place to ensure accountability or transparency other than judicial review (if standing is available).

As a safeguard additional to merits review, the Minister should also be supported by providing more guidance to the decision-maker on assessment considerations, including Ecologically Sustainable Development (ESD).

[8] The Bill would repeal s 487 of the EPBC Act. That section expands who has standing to challenge decisions under the Act and Regulations, recognising the broad public interest in conserving Australia's environment.

[9] A. Edgar (2011), 'Extended standing—Enhanced Accountability? Judicial Review of Commonwealth Environmental Decisions' FLR 38, 435-62; cited in Productivity Commission, *Major Project Development Assessment Processes* (2013), p 272.

Hawke Report supported additional merits review rights

The Hawke Report recommended reinstating merits review for ministerial decisions on wildlife permits. This involves reversing 2006 amendments to the Act that removed these rights for decisions made by the Minister personally (see section 303GJ).

Hawke also recommended that merits review of 'controlled action' decisions and/or 'assessment approach' decisions be extended to people who made formal comments during the decision-making process (see Hawke recommendations 48-50). As with the Hawke Report generally, these proposals have not been enacted to date.

Cost barriers to public interest proceedings

Despite the important role of extended standing under the EPBC Act in public interest environmental law, considerable barriers to public interest litigation remain—including lack of merits review (above), the significant cost of legal action, and the threat of adverse costs orders.[10] As Justice Toohey of the High Court has observed, "There is little point in opening the doors to the court if litigants cannot afford to come in."

The Productivity Commission's 2014 report on Access to Justice noted:[11]

> *The rationales for government support for environmental matters are well recognised. The impact of activities or actions that cause environmental harm typically extend beyond a single individual to the broader community. ...*
>
> *... If the costs of litigation are high and/or there are substantial costs to coordinating community interests, this can lead to situations where there may be environmental matters that are justiciable by the courts but individuals or communities are unwilling or unable to raise them.*

[10] Chris McGrath, 'Flying Foxes, Dams and Whales: using Federal Environmental Laws in the Public Interest' (2008) 25 *Environmental and Planning Law Journal* 324.

We recommend specific additional provisions to provide for protective costs orders and related measures. These changes would implement Hawke Report recommendations 51-53 on public interest proceedings and court costs. This would promote a balance of safeguards and oversight, increase public trust in decision-making, and remove significant barriers to public interest litigation in order to protect Australia's unique environmental assets.

CONCLUSION

Australia's environment policy regarding the EPBC Act needs strengthening. Reform is needed to ensure community access to justice, rigorous decision-making and public confidence in the sound administration of national environmental law.

First, the EPBC Act should be amended to provide 'open standing' for *any person* to seek **judicial review** of government decisions. There are strong arguments for broadening judicial review rights beyond existing rules.

Second, the Act should be amended to extend standing to **merits review** of certain decisions relating to permits and wildlife, controlled action decisions and assessment approach decisions. This would improve the rigour and oversight of these decisions.

Third, the Act should provide additional protections for **public interest environmental proceedings**. This includes limiting upfront cost orders that deter the community exercising legal rights; and improving clarity and certainty by allowing preliminary decisions on whether a matter is in the public interest, and public interest costs orders in those cases.

These access to justice mechanisms should be part of a broader suite of EPBC Act reforms.

[11] Productivity Commission, *Reforming Legal Assistance Services—Access to Justice Arrangements* (2014), pp 711-12.

22

albatross and petrel species in Australia protected with the help of HSI

‘Red Light Protection’ for the Most Threatened Habitats

THREATENED ECOLOGICAL COMMUNITIES AND THE EPBC ACT: STRENGTHENING PROTECTIONS

EVAN QUARTERMAIN*

The recognition of a damaged and at risk ecosystem as a Threatened Ecological Community (TEC), and thus a ‘Matter of National Environmental Significance’ (MNES) under the *Commonwealth Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) is a significant milestone in biodiversity conservation. Although remnants of these TECs can be degraded, listing allows for the protection of important habitat for many species, including efficiencies in threatened and migratory species protection, and encourages the targeting of scientific research, project funding and community efforts in areas of the environment in most need of threat abatement and restoration. It also can be a landscape (or seascape) approach to the protection of ecosystem functions and services.

However, it occurs only after a long and comprehensive process. First an ecological community needs to be identified and its likelihood of meeting threatened thresholds under the EPBC Act determined, before a detailed nomination is prepared—typically by a member of the public or an environmental organisation, but occasionally internally by the Threatened Species Scientific Committee (TSSC)—addressing how the community should be defined and why it should be listed as threatened against a set of six criteria. HSI has submitted close to 50 of these nominations over the last 20 years.

After the annual deadline for nominations closes, the Commonwealth Department of Environment assesses them for eligibility prior to the TSSC considering those that pass the first hurdle, and suggesting to the Commonwealth Minister for the Environment a Proposed Priority Assessment List. The Minister then decides on the Finalised Priority Assessment List (FPAL), typically containing three or four TECs each year, which is announced along with an assessment deadline normally between two and three years for the TSSC to compile and provide advice. These assessment deadlines are often extended, with advice taking up to five years in some cases, and once provided they require the Minister to make a listing decision within 90 business days.

*HSI Senior Program Manager

Condition Thresholds and Key Diagnostic Characteristics

During assessment of a nominated ecological community, the TSSC often determines ‘Key Diagnostic Characteristics’ and ‘Condition Thresholds’ which are included in Conservation and Listing Advices. These can be used for conservation planning, but more commonly come into play during proposed developments for proponents to determine if habitat to be impacted upon is first of all the listed TEC, and secondly whether it is of sufficient size and condition to be considered a MNES—thus warranting referral to the Minister for approval, or otherwise, and guiding any conservation conditions on the development.

The HSI nominated TEC *Coolibah-Black Box Woodlands of the Darling Riverine Plains and the Brigalow Belt South Bioregions*, listed as Endangered in 2011, offers an example of how these Key Diagnostic Characteristics and Condition Thresholds are used in the event of a listing. An information sheet was developed by the Department titled ‘*Farming and nationally protected Coolibah-Black Box Woodlands’*, which provides the following flowchart to assist landholders or developers in determining whether or not referral to the Minister of the Environment is required for the action they wish to take.

This information sheet goes on to state that “*Woodlands that do not meet these criteria are not protected by national environment law*”, meaning that in effect patches of this nationally Threatened Ecological

Threatened habitats of the highest quality must simply be off-limits to development

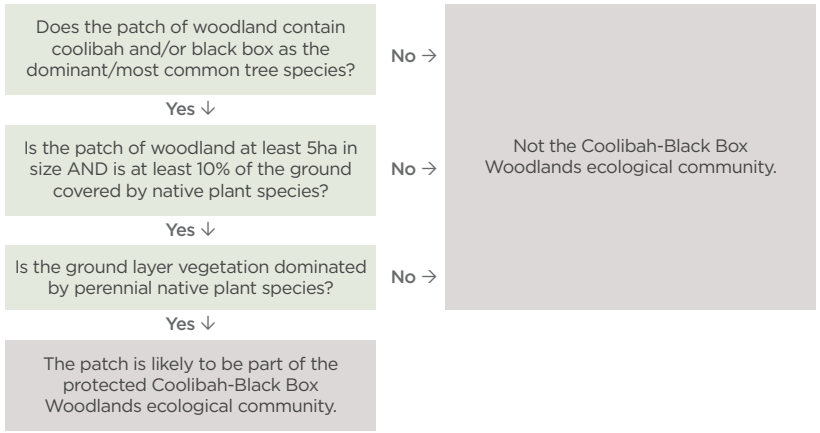


Figure 1. Condition thresholds from EPBC Act Information Sheet Farming and nationally protected Coolibah-Black Box Woodlands

Community that are under five hectares in size, or approximately seven football fields, even if in excellent condition, can be safely cleared without referral to see if EPBC Act approval is needed. A concerning situation when along with the Key Diagnostic Characteristics, the TSSC's Conservation Advice for the TEC also lists clearing and fragmentation as the primary threat to its existence, with more than 2,500,000 hectares of the community being cleared since European settlement.

In this way Key Diagnostic Characteristics see many patches of remnant habitats, as well as recovering vegetation where the TEC was previously known to exist, considered regular vegetation rather than a MNES. As a result only the very best bits move past this preliminary stage of determining whether a development is able to proceed, bringing into question the issue of long-term TEC recovery—how can severe declines even begin to be reversed when all small remnants and regrowth can be destroyed with impunity?

Test of Significance

The significance of those remnants that pass the above stage and are therefore likely to be a MNES is then to be considered by the proponent, who assess the project using the *Significant Impact Guidelines for EPBC Act Matters of National Environmental Significance* to decide whether or not they should submit a referral for a decision by the Minister for Environment on whether EPBC Act approval is required (state agencies can also refer proposals with potential impacts under section 69 of the Act). If the proponent comes to the conclusion that the development is unlikely to have a significant impact on the TEC then they may proceed without further scrutiny—recourse for an incorrect determination occurring only if investigated by the EPBC Act compliance unit.

If the development is referred to the Minister as potentially impacting on a MNES in a significant manner, the decision on whether further approval is required is at the Minister's discretion. Should the Minister decide that it is, they can request further assessment such as the development of Species and Environmental Impact Statements, which are put out for public consultation to assist the Minister in deciding whether to approve the development or not. This ministerial discretion is obviously problematic.

This Test of Significance is also only applied to Endangered and Critically Endangered TECs, as even the most important remnants of Vulnerable TECs are not considered MNES, a situation HSI has long argued against (see Recommendation 8 on page 55 for further information).[1]

[1] HSI wishes to acknowledge the tremendous and dedicated work of the staff in the Threatened Ecological Communities Section of the Commonwealth Department of Environment and Energy

Minister's Decision

If the Minister decided further assessment was required for approval and the process has passed through the public consultation phase, Section 139(2) of the EPBC Act states that if:

> *(a) the Minister is considering whether to approve, for the purposes of a subsection of section 18 or section 18A, the taking of an action; and*
>
> *(b) the action has or will have, or is likely to have, a significant impact on a particular listed threatened species or a particular listed threatened ecological community;*
>
> *the Minister must, in deciding whether to so approve the taking of the action,* ***have regard to any approved conservation advice*** *for the species or community.*

In HSI's view this wording allows far too much discretion, with almost all developments that go through the process and are found to significantly impact upon a MNES ***still*** being given approval at the end of the day (particularly in recent years). It could be argued that in effect the current situation treats MNES impacts as little more than a box ticking exercise, an unacceptable outcome considering the difficulty in such protection being obtained and the thoroughness of the scientific process to get it there.

The current process is too reliant on political will. Although past Environment Ministers have used the presence of TECs to reject or place conditions on developments, ***at present their occurrence and condition is simply used to determine offsetting requirements***. Even if a patch is high quality and Critically Endangered, it can still be destroyed in return for unsatisfactory and unacceptable offsets. It is clear to HSI that the Commonwealth Department of the Environment is under constant pressure from its political masters to deliver diagnostic tests to score TEC condition purely for offsetting metrics, which in our view is scandalous. (See flow chart opposite for proposed system)

Offsetting Conditions

Often used to soften or justify such approvals are offsetting conditions. However, these have been widely and internationally condemned due inevitably to the resulting net loss to biodiversity, and are quite simply inappropriate and dangerous mitigation measures for impacts on Endangered and Critically Endangered TECs. Furthermore there is no scientific evidence that offsets have been successful in producing an adequate compensation for the loss of biodiversity caused by approved actions.

HSI's proposal for strengthened protection under the EPBC Act

Amending EPBC Act Section 139

In order to properly protect the ecological communities that have gone through the long and thorough assessment and listing process and been assessed by the Threatened Species Scientific Committee to be Endangered or Critically Endangered—to effectively manage impacts to Australia's most severely threatened habitats—HSI has proposed the following amendments to EPBC Act s139 to all major political parties:

- *Amend Section 139 of the EPBC Act so that the Minister must not approve any action that has or will have, or is likely to have, a significant impact on a Critically Endangered ecological community* (in practice this means that project proposals would have to be amended to avoid

Simple legislative amendments can safeguard vital biodiversity

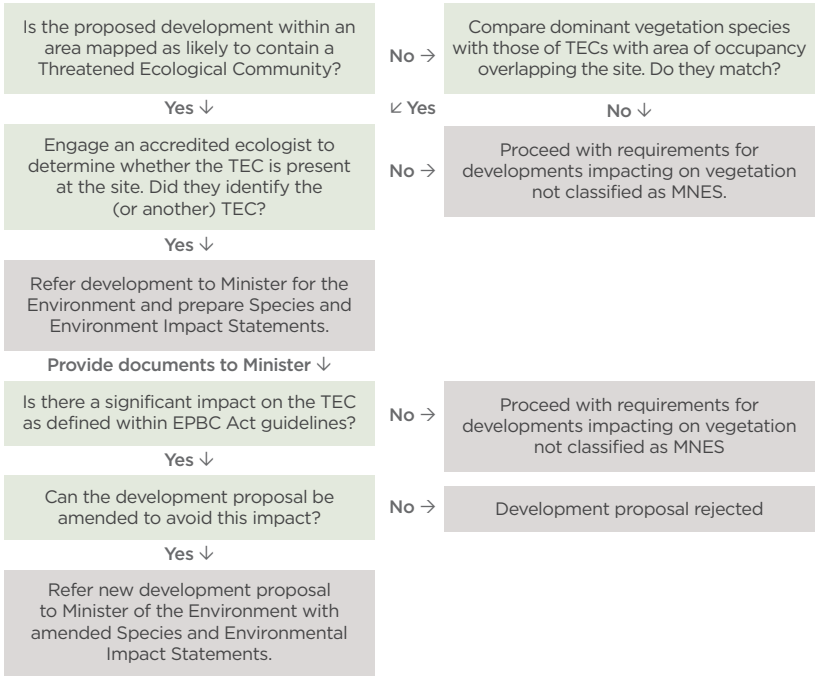


Figure 2 Outline of a strengthened assessment process for development applications impacting on TECs under HSI's proposed EPBC Act amendments

such a significant impact on the best quality areas of a Critically Endangered Ecological Community and offsets must not be approved);

- *Amend Section 139 of the EPBC Act so that the Minister must, in deciding whether to so approve the taking of an action impacting on an Endangered ecological community, not act inconsistently with any approved conservation advice for the community.*

While still relying on the (in HSI's view far too 'developer friendly') filtering process of Condition Thresholds and the Test of Significance, it is our belief that one of these simple, budget-neutral adjustments will go a long-way towards providing a much-needed "red flag" mechanism to protect remnants of Endangered and Critically Endangered TECs nationally.

Need for a well-resourced Department Unit

Such amendments to the EPBC Act, while essential, could still potentially see significant clearing of TECs, with threatened habitats continuing to suffer slow death by a thousand cuts—due to a combination of a lack of resources and Condition Thresholds, with many TEC remnants never considered as MNES. To ensure the rigorous scientific analysis leading to a TEC listing is effectively interpreted and the largest areas of critical habitats are protected, the Commonwealth Government must provide adequate resources to the TEC Unit within the Department of the Environment and Energy. Initial estimates indicate that only a modest addition of staff to increase capacity would be required.

Recommendation: Increased funding must be used to complete the list of the most threatened ecosystems in Australia (EPBC Act listed TECs) before they are lost to development, and allow for significant post-listing action. This would include ensuring recovery plans are developed and implemented in a timely fashion (at present only a third of TECs have recovery plans in place), and newly and already listed TECs are mapped in more detail following listing. This mapping would identify the community's regions of highest condition and connectivity, as well as areas that overlap with habitat of threatened species—those areas most important to retain—and place them absolutely off-limits to development.

Recommendation: In addition to these areas of highest conservation value being clearing '**no-go zones**', if a development is proposed within an area mapped as likely to contain a TEC, the vegetation to be impacted must be assessed by at least one accredited ecologist. If the TEC is identified as being present, and in any of the proposed categories below, then it must either avoid the community entirely or the application be denied.

Recommendation: These 'no-go zones' where offsetting is unacceptable and development must be rejected, should apply to all Endangered and Critically Endangered TEC remnants that are in:

- good condition or are old growth;
- medium condition and overlapping with known presence of a listed EPBC Act species; or
- any condition that forms a vital role in the landscape (e.g. wildlife corridor connectivity).

Recommendation: Associated stewardship funding should be provided to property owners with TECs present on their land to assist with land management actions to deliver increased productivity through the provision of ecosystem services. This Government investment would likely be relatively modest and provide very high value biodiversity conservation, and is a vital step to halt the decline of ecosystems on the brink.

A good model for such funding already exists through the highly successful but now halted Commonwealth Environmental Stewardship Programme, which provided long-term support for private landholders to maintain and improve the condition of MNES. A future stewardship programme should ensure that there is a funding cap per hectare set, with a focus on improving medium quality areas to high quality habitat, and that landscape connectivity beyond individual property boundaries is a key factor in determining successful projects.

Critical species habitats and the EPBC Act: time to get serious

While this chapter has so far addressed issues with, and suggested reforms for, Threatened Ecological Communities that would strengthen their protection as de facto critical habitat sites, there remain serious deficiencies within the EPBC Act regarding critical habitat protection—recognised as being essential to the survival of listed species. Strong critical habitat provisions within the US *Endangered Species Act 1973* have seen significant threatened species recovery success, with species with identified and protected critical habitat being twice as likely to recover as those without it (Taylor *et al.* 2005).

Section 207A of the EPBC Act requires the Minister for the Environment to establish a Register of Critical Habitat for threatened species and ecological communities "*in which the Minister may list habitat identified by the Minister in accordance with the regulations as being critical to the survival of a listed threatened species or listed threatened ecological community.*" HSI is very strongly supportive of the register, but successive Governments have ignored its presence, with no new additions since February 2005 and critical habitats for just five species listed: Ginninderra peppercress, the black-eared miner, and wandering, shy and grey-headed albatrosses. This represents a criminal waste of long-term conservation opportunity.

Critically Endangered and Endangered TECs must be absolute clearing 'no-go zones'

Offences for knowingly damaging critical habitat are also limited to Commonwealth areas, reducing the register's effectiveness, and we continue to advocate for the expansion of critical habitat provisions to apply across all land tenures. However even without such a broadening, critical habitat can play a vital role in protecting the most essential habitats and contributing to their recovery. For example if critical habitat for a threatened species or ecological community identified on Commonwealth land is included on the register, it would necessitate in-perpetuity protection through a conservation agreement if the land was ever sold, as well as provide a priority site for actions to be included in a recovery plan.

The 2009 Hawke Report of the EPBC Act proposed a requirement to identify critical habitat at the time of listing threatened items, including description and spatial identification, a proposition supported by HSI along with similar treatment for already listed species and ecological communities.

Recommendation: To ensure this recommendation is utilised as effectively as possible the EPBC Act requires an amendment to clarify that the Minister for the Environment must not approve impacts (significant or not) or developments on critical habitat of *Endangered or Critically Endangered species or TECs*, instead seeking conservation agreements or covenants with relevant landholders to protect the critical habitat of all threatened species and ecological communities.

Additional conservation recommendations

(for full recommendations on TEC and Critical Habitat amendments see the Priority EPBC Act Amendments Chapter beginning on page 44)

- Condition Thresholds for TECs are too easy to circumvent, allowing developments to progressively destroy remnants, and the criteria to trigger an EPBC Act referral require tightening;

- there should be no ministerial discretion on the requirement for further assessment if a development is referred as potentially significantly impacting on a MNES— in these cases Species and Environmental Impact Statements must be mandatory;
- if a development application has been assessed and it is determined that it would significantly impact on a MNES, approval must not be granted until the project plan is amended to avoid this impact. If this does not or cannot occur, the development application must be declined;
- offsetting is an inappropriate and inadequate mitigation measure for impacts on Endangered and Critically Endangered TECs, *and should not be used to facilitate development*;
- critical habitat must be required to be identified at the time a species or TEC is listed, with mapping published and publicly available;
- the Commonwealth Minister for Environment must commit to listing the critical habitats of all Critically Endangered species and ecological communities as a matter of priority;
- the EPBC Act's critical habitat provisions need to be amended to protect habitats across all land tenures.

References

Taylor, M. T., Suckling, K. S. & Rachlinski, R. R. (2005) The effectiveness of the Endangered Species Act: A quantitative analysis. *BioScience*. 55 (4): 360–367

National Biodiversity Conservation Strategy

REPORT CARD and REVISED GOALS

DR JUDY LAMBERT AM*

Australia's Biodiversity Conservation Strategy 2010-2030[1] **(the ABCS or the Strategy) is a high level document designed to provide "a guiding framework for conserving our nation's biodiversity over the coming decades for all sectors—government, business and the community". Prepared by the intergovernmental National Biodiversity Strategy Review Task Group, the ABCS provides a set of broad principles and priorities for action. While these are prerequisites to effective conservation and recovery of Australia's vast numbers of threatened species, they are, by themselves insufficient to achieve that outcome. Not only do the existing National Targets contained in the ABCS and measures to achieve them require revision. The more specific threatened species actions outlined in other sections of this policy paper must necessarily dovetail with the long-term goals addressed in this section. Threats to individual species leading to a risk of extinction, planning for effective recovery of species already at risk and mechanisms to protect habitat are integral to the conservation of biodiversity.**

In its opening section, the Australian Biodiversity Conservation Strategy 2010-2030 commits to "*10 interim national targets for the first five years*". The ABCS goes on to commit to a 2015 assessment of "*progress in implementing the Strategy, including its national targets*" together with consideration of "*whether the targets or other elements of the Strategy should be amended*"[2].

Independent assessment of progress in meeting 'interim' National Targets

In April 2015 HSI undertook an independent assessment of progress towards achievement of each of the 10 *'interim national targets'*. In doing its assessment HSI used information from government and from independent sources, with the results being reported[3] using a traffic light system as follows:

●	Target largely achieved
●	Making progress, but some considerable way to go to achieve the target
●	Little or no progress towards achieving this target and/or Serious impediments to progress

Table 1 (opposite) represents the results of that independent assessment. Each of these assessments is accompanied by a context-setting commentary, a brief statement on the performance rating and Recommendations for improvement.

[1] Natural Resources Management Ministerial Council (2010). *Australia's Biodiversity Conservation Strategy 2010-2030.* Australian Government Department of Sustainability, Environment, Water, Population & Communities, Canberra. p.8.

[2] ibid p.10.

[3] Humane Society International (April 2015). *Australia's Biodiversity Conservation Strategy 2010-2030: An Independent Review of Progress.* Submission to the Australian Government Department of the Environment, Canberra. http://hsi.org.au/assets/publications/ABCSreview2015.pdf

*Dr Lambert prepared this assessment as the principle investigator for 'Community Solutions'

In HSI's estimation, of the Biodiversity Strategy's ten 2015 National Interim Targets, only one was fully achieved

	National interim targets	Progress to date
1	By 2015, achieve a 25% increase in the number of Australians and public and private organisations who participate in biodiversity conservation activities.	🔴
2	By 2015, achieve a 25% increase in employment and participation of Indigenous peoples in biodiversity conservation.	🟢
3	By 2015, achieve a doubling of the value of complementary markets for ecosystem services.	🟠
4	By 2015, achieve a national increase of 600,000km^2 of native habitat managed primarily for biodiversity conservation across terrestrial, aquatic and marine environments.	🟠
5	By 2015, 1,000km^2 of fragmented landscapes and aquatic systems are being restored to improve ecological connectivity.	🟠
6	By 2015, four collaborative continental-scale linkages are established and managed to improve ecological connectivity.	🔴
7	By 2015, reduce by at least 10% the impacts of invasive species on threatened species and ecological communities in terrestrial, aquatic and marine environments.	🔴
8	By 2015, nationally agreed science and knowledge priorities for biodiversity conservation are guiding research activities.	🟠
9	By 2015, all jurisdictions will review relevant legislation, policies and programs to maximise alignment with Australia's Biodiversity Conservation Strategy.	🔴
10	By 2015, establish a national long-term biodiversity monitoring and reporting system.	🟠

Table 1. Progress towards achieving 'interim' national biodiversity targets

Two elements are important in reviewing the Strategy and its failure to date to turn around Australia's biodiversity crisis:

- Is satisfactory progress being made in implementing the Strategy and the actions set out in it?; and
- Are the targets set appropriate to measuring progress towards achieving "healthy and resilient biodiversity and providing a basis for living sustainably"?

Is satisfactory progress being made in implementing the Strategy?

As the traffic light assessment provided in Table 1 indicates, progress in implementing the Strategy has been disappointing to a point where both the targets and the processes for implementing them require major revision.

Are the targets set appropriate to measuring progress towards achieving "*healthy and resilient biodiversity and providing a basis for living sustainably*"?

It is important that the targets set enable tracking of progress towards desired biodiversity outcomes. The Department of the Environment[4] defines such measures as SMART indicators—indicators that are:

Simple (easily interpreted and monitored);

Measurable (statistically verifiable, reproducible and showing trends);

Accessible (regularly monitored, cost- effective and consistent);

Relevant (directly addressing issues or agreed objectives, such as those of the Matters for Target for biodiversity conservation); and

Timely (providing early warning of potential problems).

[4] Department of the Environment. Environmental indicators for Reporting. http://www.environment.gov.au [First published 2006 as part of Australia's State of the Environment reporting, most recently accessed 6/2/2015]

Few, if any, of the national targets contained in Australia's current Biodiversity Conservation Strategy, satisfy these criteria. Of particular significance is the need to provide a baseline measure against which progress towards each target can be assessed over time.

In January 2016 HSI recommended a revised set of national Biodiversity Conservation targets that better align with international responsibilities[5]. These new targets (see Tables 2 and 3) are consistent with the international Strategic Plan for Biodiversity[6] and its Aichi targets. The proposed new national targets are also guided by The UN General Assembly's 17 Global Sustainable Development Goals and the accompanying 169 targets adopted in September 2015[7].

Such an alignment would:

- Provide for more strategic and measurable assessment of progress towards biodiversity conservation;
- Make transparent to all sectors of the Australian community Australia's efforts to conserve biodiversity and the mechanisms for measuring that progress; and
- Streamline national and international reporting of Australia's progress towards biodiversity conservation, reducing duplication of effort and enabling the same datasets to address different needs.

Recommendations for improving the existing 'interim' national biodiversity targets

HSI recommends that:

1. The overarching national targets be reviewed to ensure that they meet the criteria set for 'SMART' targets;
2. The revision process include consultation and opportunities for input from all sectors, particularly the scientific community and those in the community with a strong understanding of the current and ongoing decline in Australia's biodiversity, and the approaches needed to arrest and reverse the crisis;
3. Both the national targets and the outcomes sought be better aligned with the Aichi Biodiversity Targets used to assess progress in implementing the UN's Strategic Plan for Biodiversity 2011-2020;
4. The Australian Government provide leadership in revising the national targets and the outcomes and actions that underpin them. The changes should be achieved working in collaboration with other jurisdictions, scientists, business and community interests, including non-government organisations with a demonstrated interest in the conservation of Australia's biodiversity;

In addition, HSI recommends that:

5. In order to track progress, consistent with sound adaptive management principles, further 5-yearly reviews be conducted throughout the life of the ABCS.

Furthermore, as described in Table 2 below, HSI recommends that the individual 'interim' national biodiversity targets be improved through the following:

[5] Humane Society International (Jan 2016). *Australia's Biodiversity Conservation Strategy 2010-2030: A Proposal for Revised Targets*. Submission to the Australian Government Department of the Environment, Canberra. http://hsi.org.au/assets/publications/ABCSreview2015.pdf

[6] Convention on Biological Diversity and UNEP (2010). *Strategic Plan for Biodiversity 2011-2020 and the Aichi Targets* http://www.cbd.int/sp/targets/

[7] UN General Assembly (Sept 2015). *Sustainable Development Goals 2015: Time for Global Action*. www.un.org/sustainabledevelopment/sustainable-development-goals/

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Australian species have received legal protection thanks to HSI

Table 2. HSI recommendations and preferred new national targets

Target 1 (2010-2015): By 2015, achieve a 25% increase in the number of Australians and public and private organisations who participate in biodiversity conservation activities.

Recommendation 6 That in reviewing the Australian Biodiversity Conservation Strategy and its interim targets, all jurisdictions collaborate to develop more meaningful national targets relating to the outcomes identified in the National Action Plan.

Recommendation 7 That the Target, and the Outcomes sought be more closely related to:

- Aichi target 1 (awareness of the values of biodiversity and the steps that people can take to conserve and use it sustainably);
- Aichi target 2 (integration of biodiversity values into development strategies, planning processes, national accounting systems and reporting systems);
- Aichi target 4 (Governments, business and stakeholders at all levels have taken steps to achieve... sustainable production and consumption...); and
- Aichi targets 17 to 20 (addressing enhanced implementation through participatory planning, knowledge management and capacity building). That the Australian Government revitalise its private land conservation covenanting program as an important strategy in increasing community engagement in rural landscapes.

Recommendation 8 That the guidelines for government funded projects for biodiversity conservation be amended to include explicit requirements for inclusion of an allocation to biodiversity awareness-raising and that final acceptance of project completion be contingent on evidence of such activities within each funded project.

Preferred new national targets *Replace 'interim' national target 1 with two new national targets:*

New National Target 1 By December 2017, government funded projects directed to biodiversity conservation include an explicit allocation to biodiversity awareness-raising and final acceptance of project completion is contingent on evidence of such activities within the project. (Relates particularly to Aichi Target 1).

New National Target 2 By December 2017, review of the Australian Biodiversity Conservation Strategy has been completed and the resulting Strategy and its Action Plan are based on scientific evidence and include substantial opportunities for participatory action by individuals, communities, public sector organisations and businesses. (Relates particularly to Aichi targets 4 and 17).

The Biodiversity Strategy has made some progress in increasing the value of complementary markets for ecosystems services

Target 2 (2010-2015): By 2015, achieve a 25% increase in employment and participation of Indigenous peoples in biodiversity conservation.

Recommendation 9 That the focus of the previous Working on Country program on promoting biodiversity and conservation of cultural resources be reinstated within the current Jobs, Land and Economy program[8].

Recommendation 10 That non-government organisations working with Aboriginal people to manage their country for conservation outcomes, through collaborative use of appropriate fire regimes, feral animal and weed control and other mechanisms, receive public and private sector support for such work.

Recommendation 11 That in reviewing national target 2 and actions to achieve it, greater attention be paid to:

- Aichi target 2 (biodiversity values integrated with development and poverty reduction strategies and planning processes and being incorporated in national accounts and reporting systems);
- Aichi target 14 (restoration of essential ecosystem services… taking account of Indigenous needs);
- Aichi target 15 (relating to ecosystem resilience and the contribution of biodiversity to carbon stocks); and
- Aichi target 18 (relating to traditional knowledge, innovations and practices and customary use of biological resources).

[8] Australian Government. Jobs, Land and Economy. www.indigenous.gov.au [accessed December 2015].

Preferred new national target *Retain 'interim' target 2 and update to become new national target 3.*

New National Target 3 (Previous Target 2, updated): By 2020, achieve a 25 per cent increase in employment and participation of Indigenous peoples in biodiversity conservation, using 2015 figures as a baseline. (Relates particularly to Aichi Targets 2, 14, 15 and 18).

Target 3 (2010-2015): By 2015, achieve a doubling of the value of complementary markets for ecosystem services.

Recommendation 12 That the Australian Government provides leadership in ensuring the successful application of market-based instruments to the conservation of ecosystem services by facilitating strategic dialogue within and among governments at state and national scales.

Recommendation 13 That the dialogue begin from a premise that the relationships between ecosystem processes, services benefits and beneficiaries provides a way to inform planning, rather than viewing ecological debates as a contest between biodiversity and socio-economic benefits.

Recommendation 14 That greater attention be paid to the design of programs providing payments for ecosystem services, to ensure that they do not result in perverse outcomes harmful to biodiversity. In this context Australian participation in the work of the UN Inter-governmental Platform on Biodiversity and Ecosystem Services should prove beneficial.

Recommendation 15 That where complementary markets are used in conserving biodiversity or ecosystem services, government commitments be to long-term support for their implementation through holistic actions.

Recommendation 16 That biobanking and offsetting schemes for the conservation of biodiversity and ecosystem services not be applied where Matters of National Environmental Significance are involved.

Recommendation 17 That in redefining target 3 of the ABCS greater account be taken of Aichi target 3, which relates to "elimination, phase out or reform" of "incentives, including subsidies, harmful to biodiversity".

Preferred new national target *Replace 'interim' national target 3 with the following:*

New National Target 4 Using 2015 as a baseline, by 2020, achieve a doubling of the value of biodiversity outcomes of complementary markets for ecosystem services, after first ensuring that incentives, including subsidies, which result in perverse outcomes harmful to biodiversity, have been eliminated, phased out or reformed in order to avoid or minimise negative impacts. (Relates particularly to Aichi target 3).

Target 4 (2010-2015): By 2015, achieve a national increase of 600,000km^2 of native habitat managed primarily for biodiversity conservation across, terrestrial, aquatic and marine environments.

Recommendation 18 That the Australian Government work in close collaboration with state and territory Governments and with non-government conservation organisations to ensure that the National Reserve System and the Marine Reserve System become "comprehensive, adequate and representative" of species, ecological communities and ecosystems, thus meeting long-standing national and international commitments.

Recommendation 19 That consistent with the recommendations provided by Taylor, Fitzsimons and Sattler (2014)[9], the Australian Government increase funding for the National Reserve System to $170 million per year and that appropriate funding be provided to enable the buy-out of fisheries operations needed to achieve a comprehensive, adequate and representative marine and coastal reserve system.

Recommendation 20 That the National Reserve System, Ecosystems of National Importance, Wetlands of National Importance and Wild Rivers become Matters of National Environmental Significance under the provisions of the EPBC Act, thus requiring the Commonwealth Minister for the Environment to approve any action that will have, or is likely to have, a significant impact.

[9] Taylor MFJ, Fitzsimons JA and Sattler PS (2014). *Building Nature's Safety Net 2014: A decade of protected area achievements in Australia*. WWF-Australia, Sydney.

Protected areas need to be fully representative of all Australia's ecosystems

Recommendation 21 That the current reviews of Marine Protected Areas be discontinued and instead the Australian Government embrace the substantial body of science already amassed in determining the composition of the national marine reserve system, and ratify a world class network of marine parks.

Recommendation 22 That governments increase funding allocations to enable greater provision of incentives to landholders adopting permanent conservation covenants on their properties, with emphasis placed on those parcels of land that are important in protecting Threatened Ecological Communities and those providing habitat connectivity across the landscape. In particular, that the Australian Government revitalise the national covenanting program and that places adopting an in-perpetuity conservation covenant be designated Matters of National Environmental Significance.

Recommendation 23 That state and local governments provide rate relief to landholders with in-perpetuity conservation covenants on their properties, thus providing additional incentives for entry into such agreements to protect high conservation value remnants, and to provide additional resources for management of that land.

Recommendation 24 That governments review relevant taxation laws, so that conservation is properly recognised as a legitimate land use, thus allowing owners of land managed for conservation outcomes to deduct non-capital expenditure on conservation works against income, and allowing land protected by in-perpetuity covenants to be exempt from capital gains tax on future sale or purchase of that land.

Recommendation 25 That activities such as mining and other activities causing substantial change to biodiversity values not be permitted on land that is under a permanent conservation covenant.

Recommendation 26 That in reframing ABCS target 4, greater account be taken of:

- Aichi target 5 (relating to loss, degradation and fragmentation of habitat);
- Aichi target 7 (relating to sustainable management of agriculture, aquaculture and forestry); and
- Aichi target 11 (relating to conservation of 17% of terrestrial and inland water and 10% of marine areas through "ecologically representative and well connected systems of protected areas...").

Preferred new national target *Replace 'interim' national target 4 with the following:*

New National Target 5 By 2020, at least 17 per cent of terrestrial lands and inland water, and 15 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed ecologically representative and well connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscape and seascape. (Relating directly to Aichi target 11).

Target 5 (2010-2015): By 2015, 1,000km^2 of fragmented landscapes and aquatic systems are being restored to improve ecological connectivity.

Recommendation 27 That a science-based whole-of-landscape approach be taken and rewarded in planning and managing for biodiversity conservation, with 'biodiversity hotspots', climate refugia and other places of high biodiversity significance given priority for support.

Recommendation 28 That the objectives of programs such as the National Landcare Programme, the Twenty Million Trees Programme and the Green Army Programme be clearly directed to restoration of fragmented landscapes and that the achievements of funded projects be measured against these objectives.

Recommendation 29 That a strong Environmental Stewardship Programme, targeting remnants of fragmented Threatened Ecological Communities, climate refugia and landscape connectivity, be established as a high priority for restoration of fragmented landscapes.

Recommendation 30 That state and Federal laws governing the conservation of biodiversity and, in particular, native vegetation be retained and strengthened to ensure that clearing be permitted only where it can be shown to "maintain or improve" the biodiversity of an area.

Recommendation 31 That, in revisiting ABCS target 5 greater account be taken of:

- Aichi target 5 (relating to loss, degradation and fragmentation of habitat);
- Aichi target 7 (relating to sustainable management of agriculture, aquaculture and forestry);
- Aichi target 11 (relating to conservation of 17% of terrestrial and inland water and 10% of marine areas through 'ecologically representative and well connected systems of protected areas…");
- Aichi target 14 (ecosystems providing essential services, taking into account the needs of women, indigenous and local communities, and the poor and vulnerable); and
- Aichi target 15 (ecosystem resilience through conservation and restoration of at least 15% of degraded ecosystems).

Preferred new national target *Replace 'interim' national target 5 with the following:*

New National Target 6 By 2020, at least 15 per cent of degraded ecosystems are being restored, and areas being used for agricultural or pastoral production, forestry and aquaculture are being managed sustainably, ensuring conservation of biodiversity and habitat connectivity. (Relates primarily to Aichi targets 4, 5, and 7).

Large-scale conservation connectivity projects significantly improve biodiversity resilience

Target 6 (2010-2015): By 2015, four collaborative continental-scale linkages are established and managed to improve ecological connectivity.

Recommendation 32 That the Australian Government provide leadership in re-establishing a national landscape-scale program supporting collaborative establishment and ongoing management of continental-scale linkages to improve ecological connectivity.

Recommendation 33 That enduring institutional arrangements be established to support the development of collaborative large-scale connectivity projects.

Recommendation 34 That high quality remnant habitat within recognised large-scale connectivity corridors be given priority in Australian Government funding programs.

Recommendation 35 That priorities for the landscape connectivity program be guided by science, noting the available information on project design, climate refugia, habitat fragmentation, and 'biodiversity hotspots'.

Recommendation 36 That the National Reserve System, and its expansion to a more comprehensive, adequate and representative system for Australian biodiversity conservation, provide a core of these projects.

Recommendation 37 That those large-scale connectivity projects that have already made significant progress be supported to progress their achievements to date.

Recommendation 38 That in reviewing this national target, greater account be taken of those aspects of Aichi target 11 which addresses "well connected systems of protected areas". ABCS target 6 should also have regard to:

- Aichi target 4, addressing sustainable production and keeping use of natural resources well within safe ecological limits;
- Aichi target 5 relating to rate of loss of all natural habitats; and
- Aichi target 7 relating to sustainable management of agriculture, aquaculture and forestry ensuring conservation of biodiversity.

Preferred new national target *Replace 'interim' national target 6 with the following:*

New National Target 7 By 2020, at least four collaborative large-scale linkages are established and managed to improve ecological connectivity, the areas of focus being determined by science-based assessment of the capacity of sites to provide landscape-scale connectivity between strictly protected areas, climate refugia and other sites of high biodiversity significance. (Relates most directly to Aichi targets 4, 5 and 7).

Target 7 (2010-2015): By 2015, reduce by at least 10% the impacts of invasive species on threatened species and ecological communities in terrestrial, aquatic and marine environments.

Recommendation 39 That the threats posed by invasive species to threatened species, ecological communities and ecosystems be elevated to a status equivalent to that given to species impacting on agricultural and other industries and that programs recognising this need be established and properly resourced.

Recommendation 40 That, consistent with the recommendations of the Hawke Report (2009)[10] on the EPBC Act, invasive species posing a risk to significant environmental aspects of Australia's biodiversity, be specifically addressed under the provisions of the Act, including triggers to conduct an environmental import risk assessment of both existing permitted imports and those proposed in the future.

Recommendation 41 That funding to address weed and feral animal control be allocated at the time of listing of Threatened Ecological Communities under the provisions of the EPBC Act.

Recommendation 42 That risk assessment processes determining permissible entry of new species to Australia be science-based, taking account of likely environmental impacts as well as impacts on industry, and that they be conducted through transparent processes open to public input.

Recommendation 43 That the capacity of local landholders and others in the community to recognise and report unusual plant and animal species is strengthened and that such community-based surveillance be supported by an enhanced network of NRM professionals trained in the biosecurity pathway.

Recommendation 44 That, as has repeatedly been called for in reviews of invasive species management and control, the Australian, State and Territory governments make every effort to better harmonise and build consistency between their various laws and programs governing invasive species.

Recommendation 45 That, as part of increasing the flow of information about biosecurity, national datasets be made available in the Atlas of Living Australia[11] or another readily accessible repository, on the occurrence, detection and new incursions of weeds.

Recommendation 46 That governments at all levels collaborate to ensure that Threat Abatement Plans are developed and implemented for all invasive-species related Key Threatening Processes recognised nationally under the provisions of the EPBC Act.

[10] Hawke A (Oct 2009). *The Australian Environment Act*. Report of the Independent Review of the Environment Protection and Biodiversity Conservation Act 1999. Report to the Minister for the Environment, Heritage and the Arts, Canberra.

[11] Atlas of Living Australia. www.ala.org.au

The important role of the dingo in controlling invasive species must be recognised

Recommendation 47 That, as part of a risk-based approach to invasive species control, the impact of proposed control measures on native species be considered prior to implementation of any particular control action.

Recommendation 48 That the Australian Government develop a National Dingo Conservation Strategy, in recognition of the important role dingoes play in suppressing populations of foxes and feral cats and therefore the conservation of numerous threatened species. The Strategy should include a dingo rewilding program and trial introductions of Maremma guard dogs to replace baiting controls in priority regions.

Recommendation 49 In addressing recommendations to reduce the impacts of invasive species on threatened species and ecological communities in terrestrial, aquatic and marine environments, HSI supports the full suite of recommendations made by the Invasive Species Council in its September 2014 submission to the Senate Inquiry into invasive species.

Recommendation 50 In reviewing this national target, full account should be taken of:

- Aichi target 9, in which alien species and pathways are identified and prioritised, priority species are controlled or eradicated, and measures are in place to manage pathways to prevent their introduction and establishment,
- Aichi target 10 relating to anthropogenic pressures on coral reefs and other vulnerable ecosystems; and
- Aichi target 12, relating to prevention of extinction of known threatened species is also relevant to ABCS target 7.

Preferred new national target *Replace 'interim' national target 7 with the following:*

New National Target 8 By 2020, coordinated, well-funded efforts are in place to (1) prevent the arrival of new potentially harmful species and (2) have achieved a net reduction in the impacts of existing invasive species on threatened species and ecological communities in terrestrial, aquatic and marine environments through prevention of entry, early detection and risk-based management of control and eradication. (Relates most directly to Aichi target 9).

Target 8 (2010-2015): By 2015, nationally agreed science and knowledge priorities for biodiversity conservation are guiding research activities.

Recommendation 51 That the six priority directions for the future of Australian ecosystem science outlined in the Ecosystem Science Long-Term Plan (2014)[12] be supported by governments, research scientists and the community.

Recommendation 52 That mechanisms to enhance collaboration between ecosystem scientists from different disciplines and between ecosystem scientists and end-users (at policy, program and on-ground levels) be developed, implemented and supported.

Recommendation 53 That, recognising the long-term nature of many ecological changes, dedicated long-term funding be committed for ecosystem research.

Recommendation 54 That systematic, continental-scale monitoring essential for ecosystem variables be established and maintained to identify trends in the health of our ecosystems.

Recommendation 55 That ecosystem science datasets be professionally archived and made easily accessible to the broad range of potential end-users who will benefit from that information.

Recommendation 56 That the science and datasets that underpinned the national Biodiversity Hotspots program be reviewed and updated as an important source of information on which to build conservation programs.

Recommendation 57 That processes be put in place to ensure that ecosystem science is provided to school students and the wider community in ways that inspire their knowledge and appreciation of Australia's ecosystems.

Recommendation 58 That governments, the Ecosystem Science Council and others provide leadership in ensuring greater collaboration and coordination of ecosystem science.

Recommendation 59 That government funding programs are established in ways that not only enable, but also facilitate the formation of partnerships and collaborations, rather than the current competitively-based funding models.

Recommendation 60 That community-based research and knowledge initiatives such as the Atlas of Living Australia, continue to be supported and promoted to potential users.

Recommendation 61 In reviewing national target 8, full account be taken of:

- Aichi target 19, which relates directly to ABCS target 8, addressing the role of knowledge, science base and technologies into biodiversity conservation and management;
- Aichi target 18, which relates to the integration of Indigenous knowledge into conservation and sustainable use of biodiversity (an area in which some progress has been made) is also relevant.

[12] Six 'priority directions': Enhancing relationships between scientists and end-users; Supporting long-term research; Enabling ecosystem surveillance; Making the most of data sources; Empowering the public with knowledge and opportunities; and Facilitating coordination, collaboration and leadership. From: Ecosystem Science Long-term Plan Steering Committee (2014). *Foundations for the Future. A long-term plan for Australia's ecosystem science*. www.ecosystemscienceplan.org.au

Secured

HSI helped protect 19 marine reserves for the Critically Endangered grey nurse shark

Preferred new national target *Replace 'interim' national target 8 with the following:*

New National Target 9 By 2020, the six priority areas for action identified within the Long-term Plan for Australia's Ecosystem Science have been accepted as nationally agreed science and knowledge priorities for biodiversity conservation and are guiding collaborative research activities, policy and programs to conserve Australia's ecosystems. (Relates primarily to Aichi targets 18 and 19).

Target 9 (2010-2015): By 2015, all jurisdictions will review relevant legislation, policies and programs to maximise alignment with Australia's Biodiversity Conservation Strategy.

Recommendation 62 That the Australian Government retain its powers to address all Matters of National Environmental Significance under the EPBC Act, recognising that:

- only the Australian Government can deliver on Australia's international environmental obligations;
- states have an inherent conflict of interest in assessing the environmental impacts of development proposals in the national interest, while also seeking to reap short-term economic benefits from such developments;
- national environmental issues often cross jurisdictional boundaries and thus need national leadership in determining their appropriateness; and
- states and territories have already demonstrated a lack of capacity to appropriately assess major projects.

Recommendation 63 That the Australian Government take a lead in coordinating a review of existing biodiversity legislation in all jurisdictions, with a view to better coordinating and harmonising efforts to conserve biodiversity and ecosystem functions, including the listing of threatened species and ecological communities, strengthening government obligations, increasing access to courts for public enforcement, and doing so while maintaining Commonwealth national legislative oversight.

Recommendation 64 That a revised and updated set of national targets within the ABCS provide the framework for a more consistent approach, and that the Aichi targets provide a basis for this update.

Recommendation 65 That in undertaking this review, all jurisdictions commit to new generation legislation, directed to improving legislative protection of biodiversity based on best available science, taking account of the likely impacts of climate change on Australia's biodiversity, and addressing the cumulative impacts and other systemic failures of current legislation.

Recommendation 66 That in undertaking this alignment process, greater consideration be given to sustainable agricultural, fisheries and forestry production in those areas of the landscape that are not reserved for biodiversity conservation outcomes.

The Commonwealth government must retain its powers to protect Matters of National Environmental Significance

Recommendation 67 That in seeking to improve the national targets for biodiversity conservation, the Australian, state and territory governments take account of:

- Aichi target 2 (integration of biodiversity values into development, poverty reduction and planning processes);
- Aichi target 4 (implementation of plans for sustainable production and consumption, keeping NRM use well within safe ecological limits); and
- Aichi target 17 (implementation of an effective, participatory and updated national biodiversity strategy and action plan).

Preferred new national target *Replace 'interim' national target 9 with the following:*

New National Target 10 By 2020, all jurisdictions will have reviewed relevant legislation, policies and programs and adopted and commenced implementation of an effective, participatory and updated biodiversity strategy, action plan and laws to maximise alignment with Australia's Biodiversity Conservation Strategy within a context of retention of Australian Government approvals powers. (Relates primarily to Aichi target 17).

Target 10 (2010-2015): By 2015, establish a national long-term biodiversity monitoring and reporting system.

Recommendation 68 That the Australian, state and territory governments support the development of science-based, nationally agreed indicators and monitoring protocols that enable analysis of trends in key biodiversity indicators at the species, population, ecological community, ecosystem and threat level, and that scientists, resource managers (including those in industry), community organisations involved in long-term biodiversity monitoring, and policy makers all have an opportunity to participate in the development of these indicators and protocols.

Recommendation 69 That, consistent with the recommendations of the Wentworth Group of Concerned Scientists, a national system of 'environmental accounts', with parallels in accountability to those applied to the economy, be developed and implemented in relation to the nation's biodiversity.

Recommendation 70 That private companies undertaking biodiversity monitoring be required to contribute their data to the 'national environmental accounts'.

Recommendation 71 That funding programs be reshaped to include provision for monitoring and reporting of outcomes beyond the funded life of a project.

Recommendation 72 That data curation and maintenance of records become a national priority accessible to all who have an interest in biodiversity.

Recommendation 73 That lessons learned from biodiversity monitoring be made widely available and their application to changed outcomes documented.

Recommendation 74 That ongoing support be provided both for maintaining long-term biodiversity monitoring and for community-based programs such as the Atlas of Living Australia and the Atlas of Australian Birds.

Recommendation 75 That in reviewing national target 10, full account be taken of:

- Aichi target 2 (integrating biodiversity values into development and poverty reduction strategies and planning processes and their incorporation into national accounting, as appropriate, and reporting); and
- Aichi target 19 (on use of knowledge and science base in relation to improving biodiversity status and trends).

Preferred new national targets *Replace 'interim' national target 10 with two new national targets:*

New National Target 11 By 2020, at the latest, biodiversity values have been integrated into national and local development strategies and planning processes and are being incorporated into national accounting, as appropriate, and reporting systems. (Relates most directly to Aichi target 2).

New National Target 12 By 2020, the science base and technologies relating to biodiversity, its values, functioning, status and trends, and the consequences of its loss, are improved, widely shared and transferred, and applied, using the priority areas for action identified in the Long-term Plan for Australia's Ecosystem Science as a basis for shared information. (Relates most directly to Aichi target 19).

New national biodiversity conservation targets

It is also HSI's recommendation that the ABCS would benefit from a more comprehensive revision and restructure that makes better use of both the **Aichi targets** and the global **Sustainable Development Goals** and their recognition of the "integrated and indivisible" nature of goals relating to the well-being of people and the planet.

However, in the interests of progressing the current review of the ABCS and its national targets, we have limited our attention to the national targets (see Tables 2 and 3) and ways in which they might best be restructured to strengthen their contribution to biodiversity conservation.

The proposed new national targets are placed in context in Table 3 below.

Table 3. Relevant priority action and a comparison of proposed national targets

ABCS Priority action 1: Engaging all Australians	ABCS 2015 National Target	Proposed National Target, 2016-2020 (HSI)
1.1 Mainstreaming biodiversity (awareness-raising, public participation, industry participation, and cross-sectoral integration in planning and management)	1. By 2015, achieve a 25% increase in the number of Australians and public and private organisations who participate in biodiversity conservation activities	1. By December 2017, government funded projects directed to biodiversity conservation include an explicit allocation to biodiversity awareness-raising and that final acceptance of project completion is contingent on evidence of such activities within the project
		2. By December 2017, review of the Australian Biodiversity Conservation Strategy has been completed and the resulting Strategy and its Action Plan are based on scientific evidence and include substantial opportunities for participatory action by individuals, communities, public sector organisations and businesses
1.2 Increasing Indigenous participation (employment and participation, use of knowledge, extent of land managed)	2. By 2015, achieve a 25% increase in employment and participation of Indigenous peoples in biodiversity conservation	3. By 2020, achieve a 25 per cent increase in employment and participation of Indigenous peoples in biodiversity conservation, using 2015 figures as a baseline
1.3 Enhancing strategic investments and partnerships (use of markets and other incentives, private expenditure, public-private partnerships)	3. By 2015, achieve a doubling of the value of complementary markets for ecosystem services	4. Using 2015 as a baseline, by 2020, achieve a doubling of the value of biodiversity outcomes of complementary markets for ecosystem services, after first ensuring that incentives, including subsidies, which result in outcomes harmful to biodiversity have been eliminated, phased out or reformed to avoid or minimise negative impacts
Priority action 2: Building ecosystem resilience in a changing climate		
2.1 Protecting diversity (secure protection, private land, listed threatened species and ecological communities, natural habitat condition)	4. By 2015, achieve a national increase of 600,000 km2 of native habitat managed primarily for biodiversity conservation across terrestrial, aquatic and marine environments	5. By 2020, at least 17 per cent of terrestrial lands and inland waters, and 15 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed ecologically representative and well connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscape and seascape
2.2 Maintaining and re-establishing ecosystem functions (connectivity, provision of environmental water allocations, improved ecological fire regimes)	5. By 2015, 1,000 km2 of fragmented landscapes and aquatic systems are being restored to improve ecological connectivity	6. By 2020, at least 15 per cent of degraded ecosystems are being restored, and areas being used for agriculture or pastoral production, forestry and aquaculture are being managed sustainably, ensuring conservation of biodiversity and habitat connectivity
	6. By 2015, four collaborative continental-scale linkages are established and managed to improve ecological connectivity	7. By 2020, at least four collaborative large-scale linkages are established and managed to improve ecological connectivity, the areas of focus being determined by science-based assessment of the capacity of sites to provide landscape-scale connectivity between strictly protected areas, climate refugia and other sites of high biodiversity significance
2.3 Reducing threats to biodiversity (threatening processes, impacts of invasive species, early interventions to manage threats)	7. By 2015, reduce by at least 10% the impacts of invasive species on threatened species and ecological communities in terrestrial, aquatic and marine environments	8. By 2020, coordinated, well-funded efforts are in place (1) to prevent the arrival of new potentially harmful species and (2) have achieved a net reduction in the impacts of invasive species on threatened species and ecological communities in terrestrial, aquatic and marine environments through prevention of entry, early detection and risk-based management of control and eradication

Table 3 (continued). Relevant priority action and a comparison of proposed national targets

Priority action 3: Getting measurable results	ABCS 2015 National Target	Proposed National Target, 2016-2020 (HSI)
3.1 Reducing threats to biodiversity (accessibility of science and knowledge, improved alignment of research with conservation priorities, increased application of knowledge by all sectors)	8. By 2015, nationally agreed science and knowledge priorities for biodiversity conservation are guiding research activities	9. By 2020, the six priority areas for action identified within the Long-term Plan for Australia's Ecosystem Science have been accepted as nationally agreed science and knowledge priorities for biodiversity conservation and are guiding collaborative research activities, policies and programs to conserve Australia's ecosystems
3.2 Delivering conservation initiatives efficiently (alignment with ABCS across jurisdictions, improved effectiveness and efficiency of programs and investments)	9. By 2015, all jurisdictions will review relevant legislation, policies and programs to maximise alignment with the ABCS	10. By 2020, all jurisdictions will have reviewed relevant legislation, policies and programs and adopted and commenced implementation of an effective, participatory and updated biodiversity strategy, action plan and laws to maximise alignment with Australia's Biodiversity Conservation Strategy within a context of retention of Commonwealth approval powers
3.3 Implementing robust national monitoring, reporting and evaluation (national accounts, use of MERI, information use in adaptive management)	10. By 2015, establish a national long-term biodiversity monitoring and reporting system	11. By 2020 at the latest, biodiversity values have been integrated into national and local development strategies and planning processes and are being incorporated into national accounting, as appropriate, and reporting systems 12. By 2020, the science base and technologies relating to biodiversity, its values, functioning, status and trends, and the consequences of its loss, are improved, widely shared and transferred, and applied, using the priority areas for action identified in the Long-term Plan for Australia's Ecosystem Science as a basis for shared information

By 2020 the Commonwealth should have conserved at least 17% of terrestrial lands and inland waters

Conclusion

As the NRM Ministerial Council identifies in its forward to the ABCS 2010-2030, "*Much effort has gone into arresting the loss of biodiversity and conserving what is left, nevertheless, biodiversity continues to decline... We need to take immediate and sustained action to conserve biodiversity".*

While progress towards achievement of the national targets set in the ABCS in 2015 has been poor, opportunities to reverse the decline are numerous. Submissions made by HSI in April 2015 and January 2016 together provide guidance on how progress can be made in setting an over-arching strategy commensurate with Australia's significant place in conserving biodiversity globally.

The proposed new set of **high-level national targets** and the recommendations relating to them will guide implementation of the Strategy in ways that enable improved biodiversity outcomes to be effectively planned, implemented and monitored at intervals throughout the life of the Strategy.

A diverse suite of inter-connected ecological communities rich in biodiversity offer the best opportunity for protecting individual species and enhancing their resilience to the pressures of human use and climate change.

When combined with more concrete actions discussed throughout the remainder of this policy document, particularly legislative reform, a revised ABCS will guide governments, business and the community together to turn around the increasing numbers of threatened species and the growing extent of habitat loss that continues to occur in Australia.

Bioregional Conservation Strategies and National Priorities

PAUL SATTLER OAM[1]

Publishers note: HSI has continued to effectively promote a range of biodiversity policy and law initiatives over the last 20 years aimed at prioritising and giving direction to Commonwealth programs for the long-term management and protection of Australia's megadiverse environment.

The brief text below is an edited version of that prepared by Paul Sattler for HSI a decade ago, as a part of our ***Future Proofing Australia***[2] conservation proposals, and remains as relevant today as it was then. It is essential that we have clear and up-to-date information of species and ecological community status, region by region, to permit effective recovery planning, and this can only be achieved by a systematic and fully-funded research effort similar to that described below.

Future Proofing Australia (through the development of national priorities and bioregional conservation strategies) —Bioregional Conservation Strategies Component

This is a submission developed by technical experts for Humane Society International, to address the urgent need to improve the framework within which nationally administered and funded biodiversity conservation initiatives and programs are delivered. We must ensure that known priorities efficiently and effectively drive investment in time, money and effort at all levels of government, by all sectors of the community and, most importantly, by landholders themselves.

To address biodiversity decline across Australia, there is an urgent need for conservation programs and other national initiatives for sustainable natural resource management to be focused on national biodiversity priorities properly articulated at the regional scale. This will require systematic assessment of the status of biodiversity, threats and the likely investment return for the cost of implementing a mix of biodiversity conservation and other management actions that are appropriate for each part of the continent.

In 2016, there is clearly still a need for programs to be more strategic and targeted to address national and consequently regional biodiversity priorities.

Development of Bioregional Conservation Strategies

A new initiative is called for to systematically develop technical regional biodiversity strategies for each part of Australia to inform and guide investment decisions and particularly, to develop the most cost effective mix of management responses to address biodiversity priorities for each region. This would be done by developing bioregional plans pursuant to Article 176 of the *Environment Protection and Biodiversity Conservation Act (EPBC Act)*.

This initiative would guide biodiversity conservation investment and management. A technical analysis of biodiversity would provide an evidence base on which to develop a biodiversity conservation strategy for each of Australia's 85 bioregions within the context of national priorities. [**HSI note:** These regions are already soundly scientifically based and defined areas for natural area and resource management. Many of these regions cross state/territory boundaries, and the process proposed below will enhance cooperative management of biodiversity in those regions].

[1] Paul Sattler was the co-author/editor of the Australian Terrestrial Biodiversity Assessment 2002, published by the Commonwealth's National Land & Water Resources Audit and the Natural Heritage Trust.

[2] Future Proofing Australia (through the development of National Priorities and Bioregional Conservation Strategies): Bioregional Conservation Strategies Component. (2006) P. Sattler. Report to Humane Society International.

The Commonwealth should establish an Inter-governmental Taskforce to develop national biodiversity priorities

The initiative can build on already significant investment into regional planning and delivery, which has incorporated significant stakeholder consultation over many years. For this reason the current proposal refers to developing bioregional strategies as part of establishing national priorities rather than preparing additional plans.

The bioregional and sub-regional case studies carried out by the National Land and Water Resources Audit's *Terrestrial Biodiversity Assessment 2002* provide a summary overview of some of the key parameters to be considered. These case studies, stratified across various regions with different management scenarios were specifically carried out by the Audit's partners in each state and territory to show that such bioregional planning is possible. Moreover, it was recognised that such planning is essential to build a business case for cost effective intervention in biodiversity conservation. A more expansive text of some case studies was provided on the Australian Natural Resources Atlas than that provided in the published report.

The bioregional strategies would be science-based, technically rigorous, pragmatic, and be developed co-operatively between state and territory governments and the Australian Government based on existing networks of experienced and expert conservation professionals and other stakeholders. The pragmatic nature of this proposal is reflected by the requirement that on average, each state and the Northern Territory would need to produce strategies for two bioregions per year to cover all bioregions in six years.

The development of bioregional strategies will provide the context and framework for investment at national, state and regional levels. This is an important aspect, as much needs to be done to develop more effective synergy between investment at both the Australian Government and state and territory government levels. Whilst it is recognised that good co-operation may exist between governments on specific conservation actions, this is not the same as a concerted joint effort to determine bioregional biodiversity priorities to inform regional investment strategies across various levels of government.

The decision of a previous Commonwealth Government, more than a decade ago, to base marine biodiversity conservation on a bioregional approach pursuant to s 176 of the EPBC Act provides an appropriate precedent, especially in engaging all relevant governments, agencies and stakeholders, particularly landholders.

This proposal has a number of elements:

1 Expert Inter-governmental Taskforce

2 Technical Bioregional Assessments

3 Cross cutting National Conservation Program Management

Expert Inter-governmental Taskforce

An expert taskforce should be established to oversee the development of national biodiversity priorities.

This national taskforce should contain senior representatives from state conservation agencies and representatives of the Commonwealth Department of Environment and Energy (Chair) as well as independent senior technical expertise. This taskforce composition is important to

build support for this initiative, particularly between the Australian and state/territory governments and to foster subsequent recognition of technical assessments. [**HSI note**: It could also contain representatives of other scientific bodies with appropriate expertise, i.e. TERN, CSIRO, TSSC, relevant CRCs, Ecological Society of Australia etc.]

It is envisaged that teams of conservation professionals will be established in each state and territory in partnership with the Australian Government to undertake rapid assessments of the biodiversity priorities in each bioregion.

The taskforce should also consider the prioritisation of bioregions for assessment over a six year period. Other approaches such as applying optimisation tools to determine bioregional investment priorities can help inform this process. Importantly, the bioregional strategies can provide the vehicle for incorporating the results derived from specialised assessment tools into implementation strategies.

The task of prioritising bioregions will need to be a negotiated process taking into account national/regional priorities and existing conservation planning initiatives. Again this iterative process will be important to build inter-governmental support for the role out of this initiative. This job could be quickly facilitated by the proposed taskforce. As well as considering the nature, status and condition of biodiversity, and threatening processes, consideration should also be given to the likely opportunities and the cost-effectiveness of conservation management across bioregions. **[HSI note**: we recommend that the assessments are prioritised to focus on Australia's identified 15 National Biodiversity *Hotspots* https://www.environment.gov.au/biodiversity/conservation/hotspots/national-biodiversity-hotspots.]

The national expert inter-governmental taskforce and expert bioregional teams could be called upon to comment on plans from the regional bodies/committees by assessing them against the bioregional priorities identified and provide advice to the Commonwealth Minister before such plans are accredited.

Technical Bioregional Assessments

Much data exists on biodiversity in each bioregion across much of Australia. A significant store of this data resides with the state and territory conservation agencies, which have been collecting such data for many decades. Unfortunately in many instances, this information has not been fully utilised to inform and guide investment in biodiversity conservation and particularly under new regional management arrangements.

This initiative would provide the external impetus for such data to be collated systematically, together with data held by the Australian Government in the development of bioregional strategies. In specific instances in poorly known parts of Australia, some limited data collection will be necessary.

Accordingly, these strategies will be pragmatic technical assessments based on existing data, though they should be subject to technical peer review. These technical assessments would inform planning across a range of regional delivery processes, e.g. regional Natural Resource Management (NRM) bodies and local governments as well as the delivery of conservation services by state/territory governments—where the public consultation takes place.

Each of Australia's 85 bioregions should be assessed prioritising the 15 national biodiversity hotspots

Appropriate levels of stakeholder involvement will be necessary in the development of bioregional strategies depending upon location, e.g. in some bioregions consisting mostly of Aboriginal lands—significant discussion with custodians will be needed to secure access and agreement to the strategies being developed. The breadth of stakeholder involvement will however, need to be balanced against the requirement to produce pragmatic technical assessments for 85 bioregions in a cost effective manner.

It is envisaged that more comprehensive public consultation would be undertaken at the next stage—i.e. at the regional planning level that these biodiversity strategies would feed into as well as through other statutory processes such as the subsequent formulation of recovery plans etc. which provide for stakeholder and public engagement.

Each bioregional assessment should consider:

- the status and trend of biodiversity;
- threatening processes;
- the most appropriate mix of conservation responses tailored for that bioregion, having regard to the likely effectiveness of responses and cost;
- limiting factors and future scenarios; and
- on-going monitoring, evaluation and reporting.

It is envisaged that in assessing status and priorities, and in developing the most appropriate mix of conservation responses for any bioregion, strategies will include initial consideration of all conservation management options, relating to, *inter alia*, consolidation and management of the national reserve system; critical habitats (all EPBC Act Matters of National Environmental Significance, particularly **threatened species** and **ecological communities**) and various natural resource management actions, particularly on private lands.

Bioregional teams of 4-5 experienced technical staff are envisaged to analyse biodiversity data and threats at a sub-bioregional and site scale, develop conservation options for biodiversity strategies including the assessment of cost-effectiveness of various conservation opportunities, map and report findings, and to advise on regionally relevant monitoring, evaluation and reporting.

Analysis at the sub-bioregional scale would enable information to be packaged for a range of regional delivery frameworks, including natural resource management regions, catchment and local government areas.

As technical documents, these bioregional strategies could stand alone for consideration in regional and other planning fora as distinct from inter-government land use planning documents which would require lengthy consultation mechanisms as part of official sign off.

Cross-cutting National Conservation Program Management

It is proposed that the **National Expert Taskforce** could initially, at least, assist in the review of national conservation programs that specifically cross-cut with the bioregional strategies, to assist in implementing identified bioregional priorities across various levels of government. This should also ensure that national priorities are addressed in regional natural resource management plans.

Included in the overall ***Future Proofing*** proposal was a new initiative to establish a reinvigorated **national 'stewardship payments'** funding program for private landholders. This could build on and, importantly, sustain the direct support being increasingly developed by regional bodies to landholders prepared to take additional management action to conserve biodiversity and maintain ecosystem services beyond their duty of care. However, caution is called for to ensure that stewardship investment is prioritised and targeted as part of proposed bioregional strategies and that the effectiveness of management is adequately monitored. While these aims are being partially achieved in varying degrees under ad hoc schemes, there is a requirement for a new, coherent, comprehensive and permanent national stewardship program that is focussed on bioregional priorities.

[**HSI note: We recommend the establishment of a Capital Funds Conservation Program** to receive capital contributions and thence generate stewardship payments (particularly for recovery management of listed Threatened Ecological Communities and critical habitat management) to landholders—both for initial remedial/recovery actions and ongoing payments to secure conservation management in perpetuity and as payments to maintain ecosystem services—to break the cycle of one-off or short-term payments for actions without any long term securing of ecosystem services payments (which should be defined to include biodiversity conservation outcomes).]

As noted earlier, assessment of priorities must be based on national biodiversity priorities such as all EPBC Act Matters of National Environmental Significance (threatened species, Threatened Ecological Communities, migratory species, wetlands of international importance, National, Commonwealth and World Heritage, and the marine environment) and critical habitats.

In conjunction with NRM bodies, it is necessary that a program structure be developed to achieve some permanency in staff employment and to guide the implementation of long-term strategies. The turnover and loss of staff that have just been trained in terms of biophysical and cultural factors in each locality represents a loss of corporate knowledge and weakening of biodiversity and NRM programs more generally.

Timing and Budget

Bioregional assessments could be a 6 year rolling program to systematically undertake rapid assessments for each of Australia's 85 bioregions.

Estimated cost: $750,000 average per bioregion.
Total cost: approximately $63 million over six years (2017-2023).

Ninety percent of this funding should go to the technical assessment, the formulation of strategies, any stakeholder consultation and extension of the final assessments into regional processes. Inter-government administrative costs above 10% would need to be funded separately.

[HSI note: HSI recommends that this proposal be incorporated as an item for action under any revised `National Biodiversity Conservation Strategy'.]

HSI

and colleague NGOs secured a second threatened species *population listing* under NSW law for Manly's little penguin colony

Next Generation Environment Laws

GLEN KLATOVSKY*

The Places You Love (PYL) alliance was established in 2012 to fight against a proposal from the Gillard Government, inspired by the Business Council of Australia, to gut the Federal *Environment Protection and Biodiversity Conservation Act* (EPBC Act) by handing decision making powers on Matters of National Environmental Significance to the state and territory governments.

The alliance grew quickly to become the largest ever coalition of environment groups in Australia and achieved its original goal of stopping the Gillard Government's attack on environmental protection.

By 2013 it became clear that this work would need to continue as the incoming Abbott Government promised the same "one stop shop" reform of the EPBC Act. Throughout the recent years of the Abbott/Turnbull Government we successfully halted this policy commitment becoming law and today the EPBC Act retains the requirement for the Federal government to make decisions on Matters of National Environmental Significance.

While fighting hard to oppose any attempts to weaken the existing laws, we knew we had to set a forward looking agenda as well. The truth is that the current laws are failing to fix the problems our environment faces.

In late 2014 the alliance released the *Australia We Love* report (www.placesyoulove.org/australiawelove/) which brought together data from the State of the Environment reports and many other conservative scientific publications to determine the current state of nature in Australia. And the findings were sobering.

The obvious conclusion was we needed a stronger set of laws and improved performance from government, business and individuals; laws that would also provide lasting protection for Australia's growing list of threatened species and places.

So, in late 2014 we established APEEL, the Australian Panel of Experts on Environmental Law. This extraordinary group of lawyers from around the globe were given a simple brief: *what would environmental law look like in Australia if we actually protected our natural world?*

With this brief they have begun to develop the principles and governance structures required to look after our natural resources, effectively manage the scale and impacts of climate change, transform our energy systems and provide Australians with real environmental democracy. We have also included a paper on how the business community can become integrally involved in fixing the problems.

Important questions APEEL is discussing include:

- Do we need to change the existing "cooperative federalism" approach to environmental law and replace it with one jurisdiction taking leadership (i.e. the Federal government)?
- Are the principles of Ecologically Sustainable Development (ESD) still relevant as a basis for integrating environmental protection into law?
- How do we separate private responsibility from public and share the burdens and benefits fairly?
- Should the right to a safe and healthy environment be established in Australian law?

APEEL is in the final stages of producing a range of discussion papers and undertaking a broad public consultation process. An Introductory Paper can be found at the APEEL website, www.apeel.org.au.

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We need stronger conservation laws that will provide lasting protection for Australia's threatened species

This will be followed by:

1. The Next Generation of Australia's Environmental Laws: *Foundations of Environmental Law*
2. The Next Generation of Australia's Environmental Laws: *Environmental Governance*
3. The Next Generation of Australia's Environmental Laws: *Terrestrial Biodiversity Conservation and Natural Resource Management*
4. The Next Generation of Australia's Environmental Laws: *Marine and Coastal Management*
5. The Next Generation of Australia's Environmental Laws: *Climate Law*
6. The Next Generation of Australia's Environmental Laws: *Energy Regulation*
7. The Next Generation of Australia's Environmental Laws: *The Private Sector, Business Law and Environmental Performance*
8. The Next Generation of Australia's Environmental Laws: *Environmental Democracy*

The fact is that we need stronger laws, not weaker ones. At best our current laws manage the decline of nature. At worst they facilitate it. We need a set of laws, and changes in behaviour, that place the protection of the environment as a primary societal goal. We need a set of laws that will ultimately conserve our endangered species and spaces.

[**Note**: HSI, along with The Wilderness Society, WWF and ACF CEOs, first gathered to discuss the crisis facing national environment law in Australia in 2012, leading to the establishment of the PYL.]

Marine Species Program Review

EDITOR, ALEXIA WELLBELOVE*

Protecting Cetaceans

HSI has been a vocal and uncompromising advocate for cetacean protection in the corridors of Federal Parliament, the media and international fora, ensuring successive Australian Governments advance and defend whale protection measures at the International Whaling Commission and other international gatherings.

One of our prime tools in the whale protection campaign has been the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). One of the key benefits of the passage of that Act for cetaceans was the establishment of the *Australian Whale Sanctuary* in Australia's Exclusive Economic Zone (EEZ) adjacent to the Australian Antarctic Territory. The Act also made it an offence for Australians to harm whales anywhere in the world.

The coming into force of the EPBC Act paved the way for **some key Australian court cases against Japan and its whaling company**, in which HSI was a lead NGO player.

Action at The Hague

Meanwhile, on the global stage, 31 March, 2014 will go down as an historic day for conservation. The United Nations International Court of Justice (ICJ) in The Hague, by a majority of 12 to 4, decided that by killing whales in Antarctic waters "*for purposes of scientific research*" Japan was in breach of the global whaling moratorium and called on Japan to cease whaling in the Southern Ocean immediately. In other words Japan was acting illegally and the ICJ ordered Japan to revoke all whaling permits for the JARPA II program. Japan had stated that it would abide by the ruling, but has since made efforts to prevent any future challenges under the ICJ, informing the United Nations Secretary General in 2015 that the court's jurisdiction "*does not apply to ... any dispute arising out of, concerning, or relating to research on, or conservation, management or exploitation of, living resources of the sea*"*.*

HSI had first raised the potential of taking action against Japan in the ICJ with the Australian Government in 2000, following an article in an Australian law review journal by HSI's Kitty Block and Lee Steffy Jenkins, advocating the use of the ICJ. Commonwealth Environment Minister Robert Hill led the Australian Delegation to the International Whaling Commission (IWC) meeting that year in Adelaide, and advising him officially on delegation was HSI's Nicola Beynon.

It was at this meeting that Australia formally raised the prospect of taking Japan to the ICJ. Beynon vividly recalls that when Australia had finished its presentation the Japanese Commissioner to the IWC responded strongly to the effect, "*Bring it on!"* After that day, Beynon recalls, *"HSI never let up on the Government to come good on the threat!*"

Ground-breaking legislative action in Australia

Some four years after the 2000 Adelaide meeting, continuing to pile on the political pressure, HSI brought its first legal action in the Federal Court against the Japanese whaling company, Kyodo Senpaku Kaisha Ltd (Kyodo), for slaughtering minke, humpback and fin whales in Australia's Antarctic Whale Sanctuary. Our case was ably prepared by the Environmental Defenders Office in NSW (EDO NSW) and expertly prosecuted in court by Stephen Gageler SC and Barrister Chris McGrath.

A number of court appearances (including an appeal) and three years

*HSI Senior Program Manager

HSI is pursuing its fifth legal action in the Federal courts against Japanese whalers

after first stepping into court, on 15 January, 2008, HSI won its battle against Kyodo. Federal Court Judge, Justice James Allsop declared the company's whaling activities in Antarctica to be in breach of Australian law and ordered a court injunction instructing the hunt to be stopped. The judgement helped erode the Japanese Government's tenuous claims that the hunt was legitimate. **The first guilty verdict!**

Japan however didn't comply with the Federal Court injunction as they did not recognise Australia's territorial claims over Antarctic waters. Hence, HSI stepped up its lobbying campaign and began to explore a '*contempt of court*' action against Kyodo for continuing to kill whales in Australian Antarctic waters, while continuing to urge the Commonwealth Government to enforce the injunction.

Meanwhile, the fearless actions of the Sea Shepherd Conservation Society in the Southern Ocean saw crew members board a Japanese whaling vessel, in part attempting to deliver the HSI court injunction papers, while HSI had earlier personally delivered the court papers to the Kyodo whaling company's offices in Tokyo.

Nonetheless, the successful Federal Court action helped bring considerable political and public pressure on the Australian Government, along with pressure from many other NGOs, to go to the International Court of Justice, which it finally did, commencing its application in 2010, and of course, eventually providing **a second guilty verdict!**

After a number of years of slow preparation, not wanting to jeopardise Australia's case at the ICJ by taking concurrent legal action, HSI filed an application for '*contempt of court*' against Kyodo in the Australian Federal Court in late 2015.

But this time, the Federal Court took just two hours and not three years to reach a decision. Justice Jayne Jagot spent very little time deliberating before finding against Kyodo, determining that they were indeed in contempt of the Australian courts. She found that Kyodo's conduct in breach of the injunction was "*deliberate, systematic and sustained*", and that she was satisfied beyond reasonable doubt that Kyodo had killed tens, if not hundreds of whales over four separate annual whaling campaigns in breach of the EPBC Act and the 2008 Federal Court injunction.

In penalising Kyodo, Justice Jagot said $1 million reflected the "*serious nature of the breaches*", and that the amount of the fine was intended to "*denounce Kyodo's conduct*" as well as to act as a deterrent to other whaling vessels. This was the very first '*contempt of court'* case under the EPBC Act and the largest fine ever handed down under the Act... **a third guilty verdict!**

The court action was a success once more in no small part because of the bullet-proof case prepared and presented by EDO NSW and legal counsel, Jeremy Kirk SC and Barrister James Hutton. Justice Jagot complemented the legal team for its thorough case development. We are now planning to return to the Federal Court in an effort to gain permission to seize any of Kyodo's whaling vessels that might be forced to venture into Australia's ports for emergency reasons.

Further conservation action

HSI has always fielded a strong team at annual meetings of the International Whaling Commission wherever they occur, where we are normally an adviser on Australian Government delegations—working to ensure the moratorium on commercial whaling remains intact and successfully fighting off pro-whaling state killing proposals. In 2005 HSI's Nicola Beynon was interviewed for an exposé of Japanese vote buying at the IWC by the ABC's Four Corners program, for which HSI provided much of the background.

We have also been successful at the Convention on International Trade in Endangered Species (CITES) working with governments like Australia to fend off moves from pro-whaling countries to downgrade bans on international trade in whale products, and working through the Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR).

We were a member of the Australian Government delegation that achieved protection for the orca and six species of great whale under the Convention for Migratory Species which in turn led to a regional agreement to conserve marine mammals in the South Pacific.

Our scientific nomination work led to new legal protection for the fin and sei whales under the *Endangered Species Protection Act 1992* and consequently the EPBC Act, which required the Federal Government to implement national recovery plans for these species. HSI also worked on drafting these plans as well as those for humpback, blue and southern right whales as a member of the National Whale Recovery Team.

This work is complemented by ongoing campaigns for cetacean habitat protection, epitomised by the declaration of the Australian Whale Sanctuary and our promotion of the need for specific area protections, highlighted in a publication by HSI and WWF in 2010 titled '*Protecting Critical Marine Habitats—The Key to Conserving our Threatened Marine Species'.* This work indicated the locations essential for the effective protection of critical habitats for the southern right, blue and humpback whales, and snubfin and Indo-Pacific humpback dolphins. We have also sought further protection for the Australian Whale Sanctuary as a *National Heritage* place under Commonwealth law. HSI continues to advocate for strong mitigation to prevent the bycatch of dolphins in Australian fisheries, most recently in the South Australian sardine fishery.

Jeremy Kirk SC, James Hutton, Michael Kennedy (HSI Director) and Stacey Ella (EDO Solicitor)

$1m fine for whaling company: Why is it so significant?

BY STACEY ELLA*

In November 2015 the Federal Court of Australia fined a Japanese whaling company $1 million for breaching an order requiring it to stop whaling in the Australian Whale Sanctuary. Despite this landmark win, the company announced in December that its ships were headed to the Southern Ocean to start the 2015/2016 summer whaling season under Japan's controversial new 'scientific' whaling program. It's likely the company will kill whales in the Sanctuary.

What is the significance of this case? How can the whaling continue despite the Court's decision? And what effect does this decision have?

About the case

In November 2015, the Federal Court of Australia found that Japanese whaling company Kyodo Senpaku Kaisha Ltd (Kyodo) was guilty of four counts of contempt of Court. Kyodo had breached a 2008 order of the Court requiring the company to stop whaling in the Australian Whale Sanctuary (the Sanctuary) off the coast of Antarctica.

EDO NSW, on behalf of our client Humane Society International Australia (HSI), presented evidence to the Court that Kyodo had whaled in the Sanctuary in four separate whaling seasons since it was ordered to stop in 2008.

The Court accepted our evidence, and fined Kyodo $250,000 for each of the four seasons in which Kyodo breached the 2008 order.

What is the significance of this case?

This case is legally significant for a number of reasons.

First, it is the first time that a fine has been imposed in contempt proceedings brought to protect biodiversity under the *Environment Protection and Biodiversity Act 1999* (EPBC Act).

Second, it is the largest fine in any contempt proceedings in Australian history, and the largest fine ever imposed in Court proceedings under national environmental law.

Third, and perhaps most significantly, the decision establishes a legal precedent for future biodiversity protection cases. Companies or individuals who might contemplate similar breaches of court orders under the EPBC Act or other environmental protection legislation will now be aware that the Court views such breaches to be very serious and will hopefully be deterred from committing such breaches.

The Court imposed the fine on the day of the hearing. It was completely unexpected that the Court would find in our favour so quickly and deliver a decision on the spot.

What effect does the Court's decision have?

In December 2015, EDO NSW arranged for the contempt orders to be served on Kyodo—this involved having the orders and evidence delivered in person and also by post to Kyodo's offices in Tokyo, Japan.

The court ruling in November was the result of an 11 year fight for HSI and EDO NSW. Now that this significant milestone has been reached, what happens next?

Generally speaking, enforcing an Australian court's decision outside of Australia is difficult. In this case it is extremely difficult for a number of reasons.

Though the Australian government has a claim over territories in Antarctica, which allows it to make laws to protect whales in the

*Solicitor, EDO NSW

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"I do not see that [the fine] as in any way excessive, having regard to the serious nature of the breaches which the applicant has established" – Justice Jagot

Sanctuary, Japan does not recognise Australia's claim over those territories. The Australian government has also signed an international treaty stating that it will not enforce its claim over its Antarctic territories against any other country, including Japan.

As Japan does not recognise Australia's claim over these Antarctic territories, it also does not recognise the Australian laws protecting whales in the Sanctuary. The effect of this is that Kyodo, as a Japanese company with permits for whaling issued by the Japanese government, does not recognise the Federal Court's jurisdiction over the Sanctuary and is likely to continue to disregard the orders of the Court requiring it to stop whaling in the Sanctuary.

Despite these difficulties, we are seeking further advice on behalf of HSI on possible alternative enforcement measures.

The international context

It's important to note that the Federal Court's fine is not related to a decision made by the International Court of Justice in 2014 that Japan's whaling program is illegal.

In purely legal terms, the whaling program is not illegal under international law. That's because after the ICJ's decision, the Japanese government simply changed the wording of its agreement on its obligations to the Court — the agreement now excludes 'any dispute arising out of, concerning, or relating to research on, or conservation, management or exploitation of, living resources of the sea.' It also relabelled its whaling program, though in substance the program remained the same.

This rewording prevents any further disputes on Japan's whaling program from being brought before the International Court of Justice.

A growing voice of condemnation

Despite the whaling program continuing, the $1m fine is an important milestone in our long-running legal battle.

The Federal Court's decision sends a strong message to the Japanese government and the international community — it reaffirms the Australian legal position in the ongoing international condemnation of Japan's 'scientific' whaling program.

Fisheries and Fisheries Bycatch: Policy and Management

One very important motivation for supporting the passage of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) was to see the introduction of environmental impact assessments for Australia's fisheries for the first time in the history of fisheries and environmental management.

As a result all Commonwealth fisheries and all Commonwealth, state and territory export fisheries now have to be approved by the Federal Environment Minister against standards for ecological sustainability and the protection of at risk species. This process has been widely credited with levering significant improvements in the way Australia's fisheries are managed and the process is ongoing. With bycatch an ongoing issue, most approvals are subject to regular review when further improvements are sought by HSI.

The threat now is that the Commonwealth government and its fisheries agency, the Australian Fisheries Management Authority (AFMA) want to wrestle back control of these fisheries' environmental assessments, and HSI has been engaged in a campaign to oppose such a move.

HSI takes on Australia's biggest fishery

The EPBC Act also gave third parties the power to challenge the merits of the Commonwealth Environment Minister's decisions to approve export through the courts. HSI made full use of these powers (until they were revoked by the Commonwealth Environment Minister in 2006) bringing two cases against the Federal government for approving the Commonwealth Southern Bluefin Tuna (SBT) Fishery and Australia's biggest fishery, the Commonwealth Southern and Eastern Scalefish and Shark Fishery (SESSF). Increasing concern for the negative effects of this fishery (and in particular albatross deaths) caused HSI to instigate a legal challenge against the Commonwealth Environment Minister and AFMA in the Federal Administrative Appeals Tribunal. HSI successfully argued the legal case against the adequacy of the conditions the Minister had attached to the original fisheries approval. HSI settled the case over the SESSF through out-of-court negotiations which resulted in nine new and stronger environmental conditions being added to the Minister's approval, including three new mandatory conditions for the protection of albatross species, requiring protective measures for Harrison's dogfish *(Centrophorus harrissoni)*, eastern gemfish *(Rexea solandri)*, Australian sea lions *(Neophoca cinerea)* and requirements for more statistically robust observer coverage of the fishery. The court action also eventually led to a number of fishery closures over large areas, where protected species bycatch limits were exceeded.

Acknowledging the cumulative impact the SESSF was having on the marine ecosystem of southern and eastern Australia, HSI nominated the entire fishery as a Key Threatening Process (KTP) under the EPBC Act in 2005.

And the southern bluefin tuna industry

Our case against the Minister's approval for the Southern Bluefin Tuna Fishery, though a critically endangered species at 3-8% of its pre-fishing biomass, was less successful. Depressingly, the Tribunal was persuaded by the government's argument that Australia had to carry on overfishing southern bluefin tuna *(Thunnus maccoyii)* in order to participate in the negotiations over international management of the species at the *Commission for the Conservation of Southern Bluefin Tuna* (CCSBT).

HSI took on Australia's largest export fishery in the courts

An argument for which HSI knew there is no justifiable legal basis and an opinion not supported by international law experts.

The loss in court over SBT is symptomatic of our long struggle to gain due legal protection for the critically endangered and highly lucrative southern bluefin tuna in the face of strong commercial interests. Repeated nominations to have the species listed as endangered under state and Commonwealth law were continually rejected on grounds HSI considered purely political, until finally in 2004 the NSW Fisheries Minister agreed to a listing under the NSW *Fisheries Management Act 1994*. We were also successful in gaining protection for the SBT under the Victorian *Flora and Fauna Guarantee Act 1988*.

The Commonwealth has always been prepared to go to extraordinary lengths to protect the SBT industry despite the best available science. Even before HSI challenged the SBT export plan in the Federal Court, the government's own Threatened Species Scientific Committee (TSSC) under the EPBC Act had determined that the SBT was an "endangered" species, following an HSI nomination. The Minister simply chose to ignore his own legislative and conservation obligations, but in November 2010 the SBT was listed as Conservation Dependent (CD) under the EPBC Act in an attempt by HSI to ensure some protection for this species under Commonwealth law.

HSI also came close to persuading the Commonwealth government to seek international protection for the SBT at the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). Following an effective working relationship with HSI, the then Federal Environment Minister, Senator Robert Hill, was set to launch a campaign for a CITES SBT listing, but was pipped to the post (and in Cabinet) by the less keen Department of Agriculture, Fisheries and Forestry who launched an international court case against Japan over SBT quotas which prevented the CITES nomination going forward.

HSI is one of only three NGOs to secure observer status at the CCSBT and we continue to attend the annual meetings to argue for quotas to be set at levels that would allow the species to recover—with all the scientific evidence pointing to the need for a complete respite from fishing for this to ever be achieved. In 2009 a small reduction in the global quota was agreed, and in 2011 a Management Procedure was agreed to determine future quotas and start to rebuild the stock. Further quota increases have since taken place in 2011, 2013, 2014 and 2015 in line with the Management Procedure. According to the Management Procedure the quota will continue to increase in 2016, which it subsequently did. HSI has fought these increases without associated mandatory mitigation measures to reduce albatross bycatch, so far unsuccessfully, as we calculate that one albatross is killed each year for every two tonnes of southern bluefin tuna caught, meaning that any increase in quota will mean hundreds more albatross deaths every year.

Patagonian toothfish

In the case of Patagonian toothfish *(Dissostichus eleginoi)*, HSI spear-headed a campaign funded by the Packard Foundation and in cooperation with TRAFFIC, WWF and Austral Fisheries (who fished for Patagonian toothfish legitimately) were able to instigate and back a 2002 Australian government nomination for Patagonian toothfish to be listed at CITES,

as a way to curb the rampant illegal poaching for the species in the Southern Ocean. The nomination, predictably controversial in that it would have been the first major commercial fish listed at CITES, was pulled on the floor of the meeting due to lack of support. HSI also prepared a nomination to list the toothfish under the EPBC Act which was rejected in 2009.

However, the Australian Government did secure a decision from CITES putting pressure on the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) to do more to combat poaching more successfully. This proved very beneficial for the waters around incredible Sub-Antarctic wonderlands like World Heritage listed Macquarie Island, home to Endangered species of albatross that fall victim to the poachers' longlines. HSI contributed to the campaign that saw a large sector of the waters around Macquarie Island closed to fishing. HSI consultant Alistair Graham, a long-time investigator of toothfish poaching operations, is a regular adviser on the Australian government delegation to annual CCAMLR meetings.

First conservation listing for a commercial fish—the orange roughy

Orange roughy *(Hoplostethus atlanticus)* is another over-fished species that has benefited from HSI advocacy. It was the first very commercial fish listed as threatened under the EPBC Act in 2006, following an HSI nomination in 2003, albeit in the Conservation Dependent category which gives the lowest level of protection and allows fishing to continue. The listing did require a recovery strategy to be put in place for the species, and stronger intervention from the Commonwealth Environment Minister in management. This and a strong public campaign for the

The ISOFISH initiative

While on Australian government delegation duty at CCAMLR in 1997, representing the conservation movement, HSI's Alistair Graham first conceived and then subsequently launched a major NGO/industry initiative called **ISOFISH** (International Southern Oceans Longline Fisheries Information Clearing House). Its aim was to expose toothfish poaching as a major threat to both commercial fish stocks and albatross populations. The project was a huge success and drove heightened interest by governments, international NGOs and the fishing industry, and made Illegal, Unreported and Unregulated Fishing (IUU) a famous acronym around the world. HSI was extremely privileged to be a member of the ISOFISH Board. The project led directly to the development of an International Plan of Action to eliminate IUU fishing by governments through the UN Food and Agricultural Organisation.

Alistair has been a 40 year champion for the oceans and all its creatures, and his work was recognised with an Australia Day Medal in 2008. He was also nominated for the internationally prestigious 'Goldman Prize' for his work with ISOFISH.

HSI secured the very first listings of commercially important fish species under threatened species laws

species by HSI and our colleagues, helped ensure orange roughy quotas were dramatically reduced. HSI also campaigned hard for the protection of the Tasmanian Seamounts, a marine biodiversity *hotspot* and core habitat for orange roughy, to be declared a Marine Protected Area, and gained National Heritage listing under the EPBC Act following an HSI nomination. AFMA reopened this fishery in 2015 due to data suggesting that the stock has recovered.

Eastern population of gemfish

Following in the wake of orange roughy, the eastern gemfish *(Rexea solandri)* was listed on the EPBC Act in 2009 as Conservation Dependent as a result of an HSI nomination. For many years HSI was a member of the NSW Eastern Gemfish Assessment Group arguing for an end to its over-exploitation. HSI has also made two attempts to list the eastern gemfish in 1999 and 2005 under the NSW *Fisheries Management Act 1994* but both were subsequently rejected. In 2014 however a proposed NSW Scientific Committee determination to list the eastern gemfish as Vulnerable under the *Fisheries Management Act* was proposed, which HSI strongly supported. The results of this consultation are still awaited.

School shark

In 2009 the school shark *(Galeorhinus galeus)* was also listed on the EPBC Act as Conservation Dependent following an HSI nomination in 2003.

HSI is extremely concerned however with the recent AFMA decision to re-open the orange roughy and school shark fisheries in southern and eastern Australia. Both the orange roughy and school shark are long-lived species, with a late sexual maturity and low recruitment rates. They are particularly vulnerable to over fishing and both species are recognised as globally threatened. With some recent studies conducted by CSIRO, Australian populations of orange roughy are believed to be showing some recovery since their closures in 2005 due to heavy over fishing in Australia in the mid 1980s.

HSI finds it disturbing that AFMA have decided to issue quotas for these species at the first sign of improvement, with annual quotas for orange roughy now set at 500 tonnes. HSI believes that a strong precautionary approach must be taken with these recovering populations to allow for full recovery before considering renewing commercial quotas.

Gulper sharks

In addition to our work on CITES and the Convention on Migratory Species (CMS) for gulper sharks, HSI has also been very much engaged in the process to have this family of sharks—Harrison's dogfish *(Centrophorus harrissoni)* and the southern dogfish *(Centrophorus zeehaani)*—listed as Conservation Dependent under the EPBC Act in 2013, participating in the development of a management plan and discussions of required closed areas to ensure their protection.

The successful listing under endangered species laws for the southern bluefin tuna, eastern gemfish, orange roughy, school fish and gulper sharks may, to the best of our knowledge, represent the first listings of commercially exploited marine fish anywhere in the world, beginning in 2006.

Tuna Bycatch Compendium

HSI took the opportunity to lobby all the tuna Regional Fisheries Management Organisations (RFMOs) when they came together in one

room for the very first time in Australia (Brisbane) in June 2010 for a joint Tuna RFMO Bycatch Working Group. HSI and partner organisations campaigned for the same strong mitigation measures to be adopted consistently by all the tuna RFMOs. Over the past 20 years HSI has concentrated its efforts on the CCSBT because of its particularly serious bycatch problem with seabirds and sharks, sending our own representatives to meetings in all corners of the Earth.

Following the Brisbane meeting HSI collaborated with a number of NGOs (including WWF and TRAFFIC) to produce a critical compendium of best practice conservation and management measures to address the impacts of species bycatch in tuna RFMOs, covering seabirds, sharks, sea turtles and marine mammals. The report, titled '*A Compendium of Conservation and Management Measures to address the impacts of species bycatch in tuna RFMOs'*, has been widely presented at national and international fisheries meetings, including the Western Central Pacific Fisheries Commission and the FAO Committee on Fisheries (COFI). We continue to promote the compendium at all RFMO meetings.

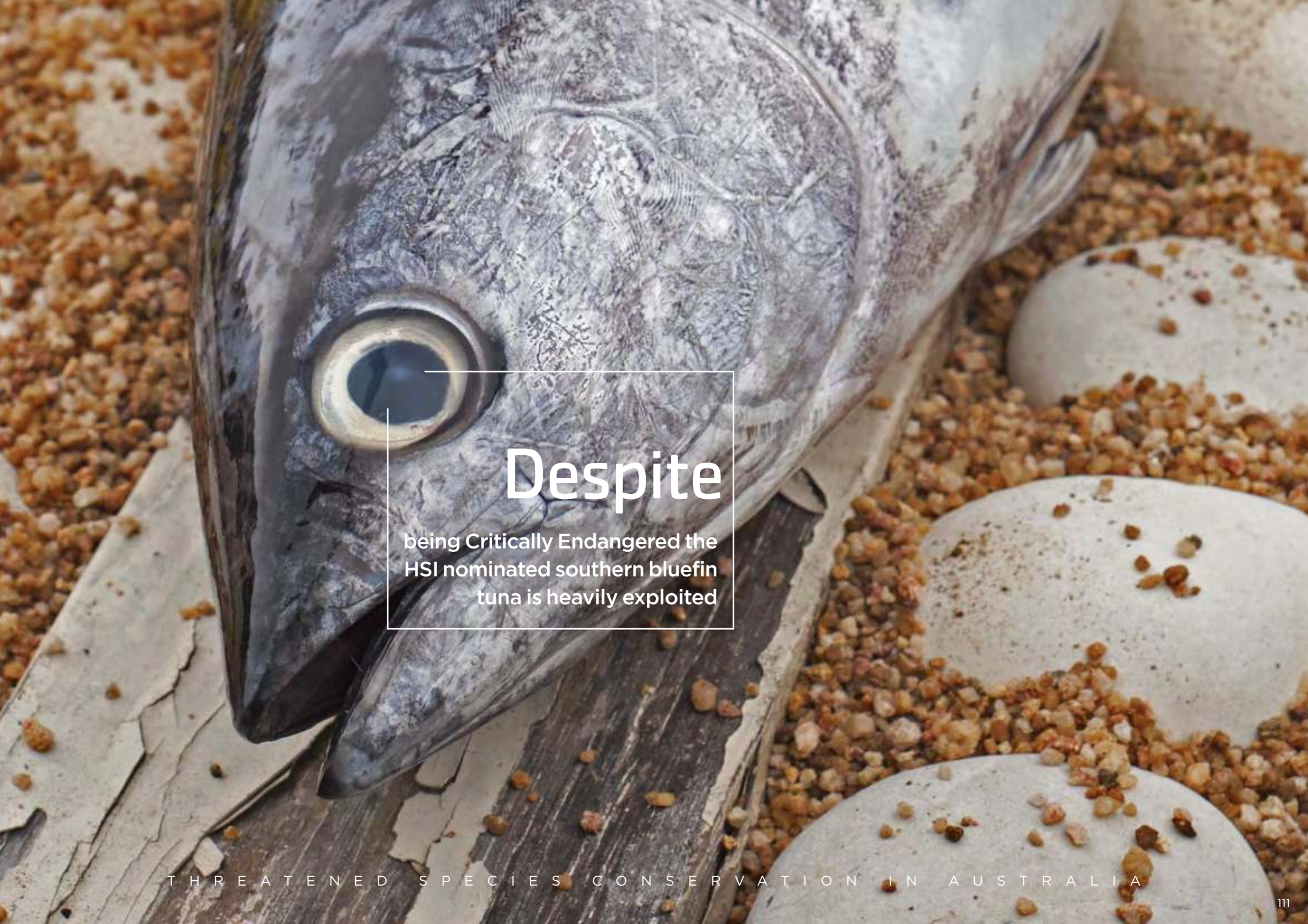
Fisheries policy work

With a strong focus on bycatch issues throughout HSI's work, it was only sensible that in 2012 we would get involved in the Review of the Commonwealth Policy on Fisheries Bycatch and the Review of the Commonwealth Fisheries Harvest Strategy Policy. In doing this work HSI collaborated closely with WWF Australia, Australian Marine Conservation Society (AMCS) and TRAFFIC, contracting specialist consultants to assist in pulling together substantive submissions to each of the consultations. In addition, HSI and TRAFFIC sat as the two NGO representatives on the stakeholder group reviewing the bycatch policy, and WWF and AMCS as the two NGO representatives on the harvest strategy policy stakeholder group, working together to ensure our positions were aligned and reflected in all discussions.

This strategy worked well, and it was noted that our submissions and input were some of the more detailed put into these processes. In addition our four organisations also submitted detailed comments into the Review of the *Fisheries Management Act 1991* and the *Fisheries Administration Act 1991* (the Borthwick Review). Subsequent to the publication of the results from these review processes, and with a change in Government, HSI is still waiting to find out next steps, but we plan to continue to engage in this important issue. It is expected that these policies will be taken forward by the new Government in 2017.

Campaign to stop the super trawler

More recently HSI has lobbied hard with other NGOs against the introduction into Australian waters of a new "super trawler" first proposed in 2012 to fish the Small Pelagic Fishery. Concerned about the impacts of such a vessel, in particular the effect upon seabirds and marine mammals due to their bycatch, HSI joined forces with a number of other conservation and recreational fishing groups to form the 'Stop the Trawler Alliance'. This led to a temporary, two year ban on large freezer trawlers whilst a review was undertaken to examine these impacts. HSI provided substantial evidence on the potential bycatch of such trawlers, particularly if the freezer trawler was used as a mothership. Seabirds, seals, sea-lions and dolphins are all species that could potentially be impacted by this fishing effort. Despite assurance from AFMA and boat owners, several albatrosses and dolphins were killed in early 2016, with the ship aborting its voyage and heading back to port as a result. HSI responded vigorously in the press and we continue to lobby against the operation of this vessel together with colleagues as part of the Stop the Trawler Alliance.



Despite

being Critically Endangered the HSI nominated southern bluefin tuna is heavily exploited

Protecting Seabirds

Protecting albatross, petrels and other seabirds has been one of HSI's great passions, and we have made considerable progress over the last 22 years for this group of giant marine wanderers, bringing to the attention of all Australians the plight of one of the most endangered birds on the planet. We have been at the forefront of political lobbying for the protection of these magnificent birds for a long time and our commitment remains as strong as ever.

HSI achieved the first national protection for an albatross species when our nomination in 1994 for the wandering albatross (Diomedea exulans) resulted in the species being listed as Vulnerable to extinction under the Commonwealth's *Endangered Species Protection Act 1992* (ESPA) and subsequently the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). This was followed by HSI nominations for the black-browed albatross (*Thalassarche melanophrys*), shy albatross (*Thalassarche cauta cauta*) and sooty albatross (*Phoebetria fusca*).

The nominations for these threatened albatross species triggered a review of the conservation status of all albatross species which subsequently led to protective listings for 14 albatross species (see Table 1 on page 116). The Tasmanian and New South Wales governments also agreed to undertake similar reviews. Albatross listings were also achieved by HSI under other state threatened laws (see Table 1 on page 116).

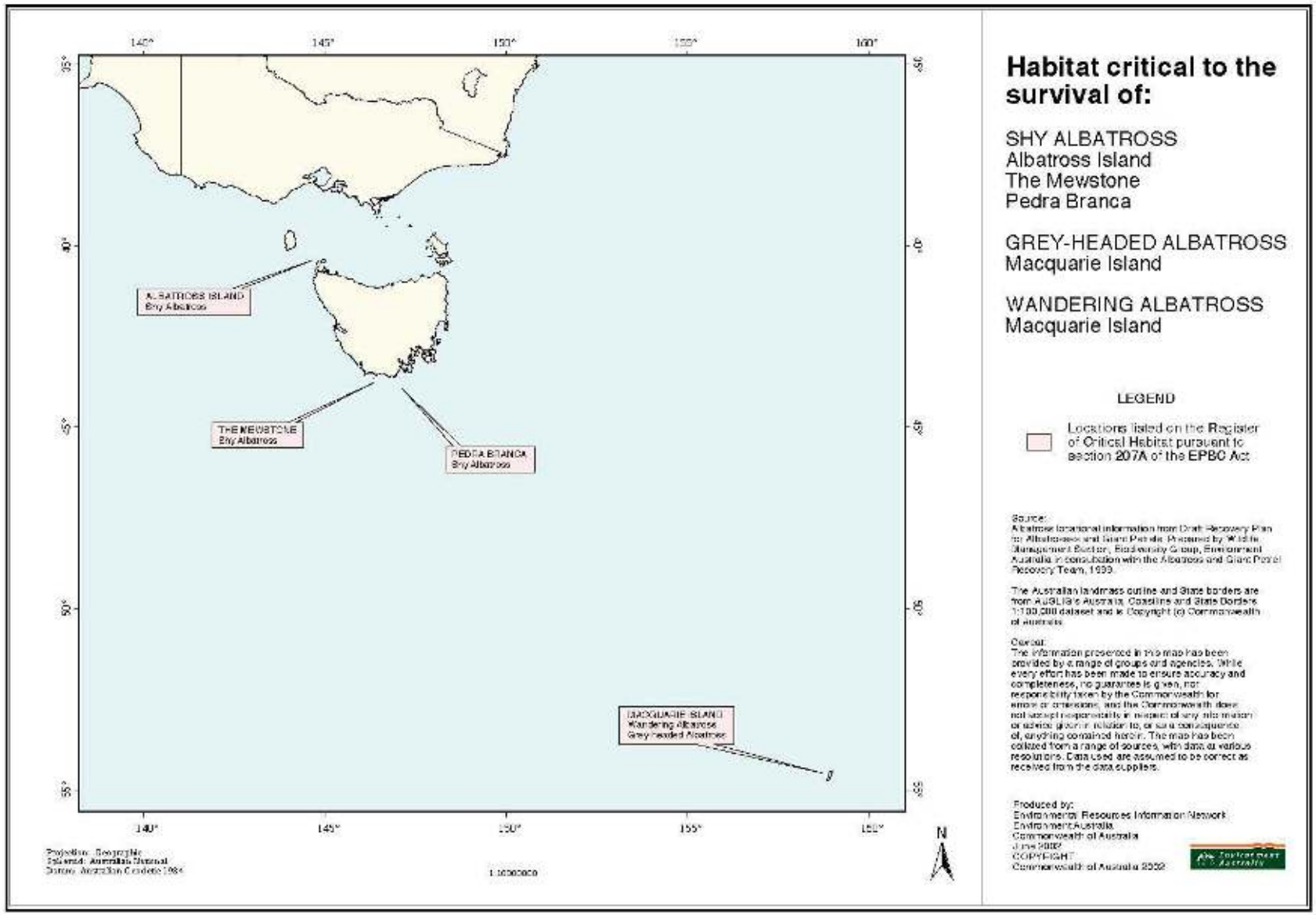
The listings required the development of a national recovery plan for threatened albatross and petrels. HSI played a key role in the recovery team that drafted and oversaw the implementation of the first 2001 recovery plan, and we were also involved in the two subsequent revisions, the first in 2009 which lead to the development of the 2011-2016 plan and the second in 2016 from which we await a revised recovery plan.

Our nomination program also secured the consequential listing and protection of 5 'critical habitats' for 3 species of albatross that breed in Australia through the EPBC Act *Critical Habitat Register* (these were the very first EPBC critical habitat listings under national legislation; see map on page 113).

HSI scientific nominations also secured national protection for the southern and northern giant petrels under the EPBC Act and some state laws.

Responding to revelations first globally exposed by renowned seabird scientist Nigel Brothers (see box on page 117) that longline fishing was killing tens of thousands of albatross and petrels, HSI nominated this fishing technique for listing as a 'Key Threatening Process' *(Incidental catch (or bycatch) of seabirds during oceanic longline fishing operations)* in 1995 under the ESPA. The nomination was also made under state legislation. The nomination was successful and Australia's first national Threat Abatement Plan (TAP) to mitigate the effects of longline fishing on seabirds was published under the ESPA in 1998.

Having a national plan to address this threat was also a world first, and HSI has been the one consistent NGO representative on the Threat Abatement Team negotiating improved mitigation methods with the longline industry and fisheries managers over the last 18 years. A revised edition of the 1998 TAP, implemented under the EPBC Act since 2000, was published in 2006 and further revised in 2014. With the current TAP due to sunset in early 2017 HSI is now working hard on ensuring a new TAP is in place without delay. The TAP has achieved a significant reduction in albatross and petrel deaths in Australia's longline fisheries, with the Australian Antarctic Division in 2010 estimating that the albatross and petrel bycatch in Australia had reduced by 90% in the previous 5 to 7 years, although zero albatross deaths in such fisheries remains our ultimate goal.


Habitat critical to the survival of:
SHY ALBATROSS
Albatross Island
The Mewstone
Pedra Branca
GREY-HEADED ALBATROSS
Macquarie Island
WANDERING ALBATROSS
Macquarie Island
LEGEND
Locations listed on the Register of Critical Habitat pursuant to section 207A of the EPBC Act
ALBATROSS ISLAND
Shy Albatross
THE MEWSTONE
Shy Albatross
PEDRA BRANCA
Shy Albatross
MACQUARIE ISLAND
Wandering Albatross
Grey-headed Albatross
140°
145°
150°
155°
160°
35°
40°
45°
50°
55°
N

Achieved the very first protection for an albatross species under Federal threatened species laws

The trawling threat

With the threat of longline fishing starting to come under better control, new evidence was emerging to show that trawling was overtaking it as a key threat in Australian waters. The Federal Bureau of Rural Sciences assessments estimated that the Commonwealth trawl sector killed 250 black-browed albatrosses and 861 shy albatrosses in 2006 (compared with a total figure of 53 killed by Commonwealth longline fleets). It became clear that trawl fishers operating around the Heard and Macdonald Island World Heritage site were also killing albatrosses, with HSI calling for immediate mitigation action (while HSI had also been vigorously opposing proposed longline fishing operations around World Heritage Macquarie Island).

In part response to pressure from HSI to the trawling dilemma, where birds are killed by the warp cables the trawl nets hang from, in November 2011 AFMA made it compulsory for every vessel in the problematic trawl sectors to have a Seabird Management Plan. This required vessels to take action to mitigate against seabird bycatch.

By far the best solution to seabird bycatch during trawling operations is to stop throwing offal over the side of the boat. It is the one simple, cost effective and proven mitigation measure to prevent albatross mortality. It removes the attraction of the boat as a source of food. HSI has consistently advocated strongly for this measure but AFMA and the fishing industry have so far refused to take this absolutely necessary step and make the retention of offal mandatory. HSI continues to pressure AFMA to take further action to ensure that the number of seabird deaths in trawl fisheries is reduced urgently. In late 2016 AFMA is planning to develop a Protected Species Strategy for seabirds which HSI hopes will ensure faster progress is made on seabird bycatch across all Australian fisheries.

International action

HSI was quick to promote this ground-breaking threat mitigation initiative around the world and conveyed information about the TAP to the United Nations Food and Agricultural Organisation (FAO) who in 1998 were in the process of drafting an international ‘Plan of Action’ for reducing seabird mortality in longline fishing. We have continued to press the Australian Government for a National Plan of Action for Seabirds (NPOA Seabirds) ever since. We are pleased to report that in 2016 the Department of Agriculture and Water Resources commenced the development of the NPOA Seabirds as a direct result of HSI’s advocacy efforts. HSI is a key stakeholder involved in the development of this plan which is due to be finalised by early 2017.

We also informed the Division for Ocean Affairs and the Law of the Sea (DOALOS) in New York, which was the Secretariat for the UN Straddling Fish Stocks Agreement, of our seabird bycatch concerns. The Secretary-General of DOALOS was at the time preparing a report on international and national fisheries and fisheries bycatch problems. HSI had further suggested that the Convention on Biological Diversity (CBD) consider developing a protocol on reducing seabird bycatch, preceded potentially by a resolution under the CBDs Article 5 (areas beyond national jurisdiction).

Another opportunity to address many countries on longline fishing together in one room was provided to us by former Federal Environment Minister Robert Hill, when he was Australia’s Ambassador to the United Nations. In 2011, he invited around 80 fellow UN Ambassadors to a luncheon at Australia’s Consulate in New York, where Hollywood star Sigourney Weaver and HSI’s Alistair Graham (with help from Birdlife International) addressed the meeting on the plight of the world’s oceans, outlining specific measures countries should be taking to protect albatrosses. Alistair Graham’s talk was backed up with albatross film

Helped protect dozens of albatross and petrel species under state, national and international law

footage provided by Australian documentary producer Greg Grainger, and the presentation helped gain many international friends in the fight to save the albatross.

Migratory species convention

Seeking to further export the progress Australia has made on albatross conservation, HSI worked closely with the Australian Government to see the listing of 14 albatross species under the Convention on Migratory Species (CMS) in 1997 (see Table 1 on page 116). Australia subsequently took the lead, through the 'Valdivia Group' (a coalition of southern hemisphere nations) in pursuing special "regional agreements" under the CMS, and at the 6th meeting of the conference of the parties to CMS in Cape Town in 1999, Australia successfully proposed a Resolution calling for a Regional Agreement to protect albatrosses of the Southern Hemisphere, with support from HSI and other NGOs. The HSI triggered longline TAP and the draft Recovery Plan for Albatross and Petrels were widely distributed to nations at the meeting, highlighting best practice standards.

These negotiations and other efforts championed by Australia led to the establishment of the *Agreement on the Conservation of Albatrosses and Petrels* (ACAP) under the auspices of CMS in 2004. ACAP is now in its 12th year with 13 member countries cooperating to conserve 31 species of albatrosses, petrels and shearwaters. HSI continues to actively engage in ACAP meetings attending these annually, including the Seabird Bycatch Working Group.

Regional fisheries management

HSI is one of the three conservation NGOs granted permanent observer status at the Commission for the Conservation of Southern Bluefin Tuna (CCSBT), a Regional Fisheries Management Organisation (RFMO) that oversees an appallingly high death toll of albatross species in the longline fishing fleets under its auspices, estimated to kill many thousands of albatrosses every year. We are working to persuade the member countries to agree to mandatory measures to weight their lines so that they sink out of the reach of the birds faster, or set their lines at night when fewer birds are foraging. HSI staff have been attending CCSBT meetings and working groups around the world for two decades, pushing hard for further critical changes to line weighting, and the introduction of effective compliance and reporting mechanisms. This has included attending meetings of the CCSBT Ecologically Related Species Working Group, sometimes jointly funded by the SBT Industry Association.

The Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR) is one RFMO that has proven it is possible to longline without having to kill albatrosses and other seabirds. CCAMLR has been managing to achieve minimal to zero albatross bycatch for many consecutive years showing what can be done with sufficient political will and technical know-how, testament to the remarkable work of many marine biologists working with the fishing industry, instigated by HSI's Nigel Brothers.

HSI's Alistair Graham has been at the forefront of the campaign within CCAMLR to reduce and stop seabird bycatch, including the terrible damage done by illegal longline fishers chasing Patagonian toothfish in CCAMLR waters. Alistair has been the NGO representative on the Australian Delegation to CCAMLR for many years and in 1997 established ISOFISH *(International Southern Oceans Longline Fisheries Information Clearing House)* to successfully fight illegal tooth fishers in the region (see box on page 108).

HSI has also supported strong conservation efforts to protect seabirds via its membership of the ASOC (Antarctic and Southern Ocean Coalition) Council and Board.

We are still a long way from ensuring that seabird bycatch is a thing of the past. There are still extremely serious problems with both domestic and international fisheries activities which will require HSI's continued vigilance.

Table 1. Albatross and petrel species listed on CMS/ACAP treaties—HSI was fully involved in the successful global NGO campaigns to see these species protected.

Common name	CMS	EPBC	RP	TAP
Antipodean albatross	II	V	•	•
Tristan albatross	II	E	•	•
Southern royal albatross	II	V	•	•
Wandering albatross	II	V	•	•
Gibson's albatross	ACAP	V	•	•
Northern royal albatross	II	E	•	•
Sooty albatross	II	V	•	•
Grey-headed albatross	II	E	•	•
Buller's albatross	II	V	•	•
Indian yellow-nosed albatross	ACAP	V	•	•
Shy albatross	II	V	•	•
Chatham albatross	II	E	•	•
Campbell albatross	ACAP	V	•	•
Black-browed albatross	II	V	•	•
Salvin's albatross	II	V	•	•
Amsterdam albatross	I	E	•	•
White-capped albatross	ACAP	V	•	•
Atlantic yellow-nosed albatross	II		•	•

Common name	CMS	EPBC	RP	TAP
Light mantled albatross	II		•	•
Black footed albatross	II			
Laysan albatross	II		•	•
Waved albatross	II			
Short-tailed albatross	I			
White-chinned petrel	I			•
White-bellied storm-petrel		V		
Northern giant petrel	II	V	•	•
Southern giant petrel	II	E	•	•
Great-winged petrel				•
Grey petrel	II			•
Wedge-tailed shearwater				•
Flesh-footed shearwater				•
Sooty shearwater				•
Short-tailed shearwater				•
Southern skua				•
Westland petrel	II			•
Black petrel	II			•

EPBC = EPBC Act; RP = Recovery Plan; TAP = Threat Abatement Plan

HSI is working to encourage innovative fishing gear and practices to reduce incidental seabird bycatch

Protecting albatross in Peru and Ecuador

HSI has been lucky enough to have the expert advice of Nigel Brothers in helping us pursue the implementation of effective mitigation devices in Australia and around the world for many years now. As an internationally renowned seabird scientist, Nigel exposed the fact that longline fishing techniques were killing tens of thousands of albatross and petrels every year, and remains instrumental in reducing its effects around the world.

Initially teaming up with the Australian Southern Bluefin Tuna Industry Association, HSI helped fund a project in Peru and Ecuador that took Nigel Brothers around the ports for the massive artisanal fishing fleets (some 20,000 boats) talking to fishermen about the adoption of bird friendly measures as they begin the process of upgrading to industrial scale vessels.

HSI has been working with Nigel on this project since 2010, in collaboration with the American Bird Conservancy (ABC) to assist local NGO groups to work with fishermen to develop and implement changes to fishing gear and practices, in order to avoid the incidental bycatch of the endangered waved albatross, pink-footed shearwater, Parkinson's petrel and other seabirds and marine turtles as well as cetaceans. Many species at risk on this coast also have breeding grounds in the Australasian region.

In 2013, Nigel and his colleagues finally discovered a way to prevent the deaths of critically endangered albatrosses, shearwaters and petrels in the artisanal longline fisheries.

A novel device has been invented which allows the fishermen to set their longline hooks for hake much more safely and considerably faster—so fast in fact that there isn't enough time for seabirds to get caught. The new system will be popular with fishermen not just because it helps to save birds, but because it enables them to now do what is traditionally a difficult, dangerous and time consuming job, safely and with ease.

Simplicity is the secret of the fast setting device which can be constructed at very little expense, from a combination of two long PVC pipes in a special configuration carefully cut from end to end, enabling hundreds of baited hooks to be kept in the correct setting sequence. This allows the fishermen to set his line at 13 knots compared to the conventional 5 knots.

Efforts are continuing in several other fisheries of Ecuador and neighbouring countries to prevent waved albatrosses and pink-footed shearwaters along with many other seabird species being killed, and the break-through in Ecuador demonstrates that this is truly achievable.

Protecting Sharks

Helping to protect sharks in Australia and globally has been one of HSI's mainstay campaigns for many years. Our activities have focused on utilising state, national and international law to provide broad protection for as many shark species as possible.

Our persistence helped lead to early prohibitions on the practice of finning sharks and throwing them back to sea alive in all jurisdictions in Australia, and we have vigorously pursued a policy which would see a prohibition of the sale of all shark fins and an end to all targeted shark fishing in Australian waters.

Setting precedents for marine fish protective listings

Our nominations set precedents in securing protection for the great white shark *(Carcharodon carcharias)* and grey nurse shark *(Carcharias taurus)* under national and state threatened species laws that HSI helped put in place. Since those early successes HSI has worked diligently to secure legislative recognition of the diminishing conservation status of an increasing number of shark species, including the school shark *(Galeorhinus galeus)*, great hammerhead shark *(Sphyrna mokarran)* and the scalloped hammerhead shark *(Sphyrna lewini)*.

Many other HSI shark nominations have been or are being assessed by Commonwealth and state governments, including for the dusky, short and long-fin mako, spotted wobbegong, oceanic whitetip, porbeagle, thresher, sandbar and bull sharks. Others are still being considered by HSI for nomination, including the tiger, bronze whaler, big thresher, pelagic thresher, ornate wobbegong, banded or gulf wobbegong, spotted wobbegong and silky, common blacktip, spinner, silver tip, blue and gummy sharks.

The listing of the great and scalloped hammerhead sharks under the threatened species provisions of the NSW *Fisheries Management Act 1994*—provisions that HSI was instrumental in achieving—were the very first conservation listings for hammerhead sharks in Australia. In response to these nominations, the NSW Fisheries Scientific Committee agreed to review the status of the smooth hammerhead shark *(Sphyrna zygaena)* on "look-a-like" grounds. Similarly, HSI's great and scalloped hammerhead nominations under the Commonwealth's *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) triggered an internal review of the status of the smooth hammerhead. Both NSW and the Commonwealth are still considering the final status of this species.

HSI also provided research monies as a partner in the Paddy Pallin Foundation Science Grant program to study the "biology, fishery and factors influencing the distribution of a potentially vulnerable sphyrnid species *(Sphyrna zygaena)* off NSW, Australia". Additionally, following on from HSI's nomination of the common thresher shark *(Alopias vulpius)* under the EPBC Act, we funded further research work with the Paddy Pallin Foundation, supporting a Flinders University PhD candidate to undertake an assessment of the vulnerability of thresher sharks *(Alopias spp.)* to commercial and recreational fisheries.

Migratory species convention

HSI worked closely with the Australian Government to see the great white shark protected under the Convention on Migratory Species (CMS) in 2002, and worked on early and successful global efforts for the porbeagle shark *(Lamna nasus)*, long fin mako *(Isurus paucus)*, short fin mako *(Isurus oxyrinchus)* sharks and spiny dogfish *(Squalus acanthias)* to be similarly protected by the CMS. We have also gone on to work

Helping gain global protection for 22 shark and ray species under international law

with Governments on negotiations for an international agreement to conserve migratory sharks, agreed through the CMS (Sharks MoU), which came into force in 2010, with HSI becoming a CMS cooperating partner in 2012.

In November 2014 unprecedented new conservation measures were agreed for key marine species at CMS when 22 shark and ray species were added to the CMS appendices. Member countries agreed to grant strict protection to the reef manta ray, nine species of devil rays, and five sawfish species, and also committed to work internationally to conserve all three species of thresher sharks, two hammerhead species, and the silky shark. This followed substantive efforts by HSI in the preceding years convincing governments of the need for greater protection for migratory sharks (see Table 2 on page 120).

Unfortunately the Australian Government immediately lodged a reservation against five of the shark species added to Appendix II of CMS—the bigeye thresher shark *(Alopias superciliosus)*, common thresher shark *(Alopias vulpinus)*, pelagic thresher shark *(Alopias pelagicus)*, scalloped hammerhead shark, and the great hammerhead shark. HSI has been working to get Australia to reverse this decision and withdraw the reservation, the first known reservation Australia has taken against an environmental treaty.

Fortunately, and in part thanks to pressure from HSI, Australia did not oppose the transfer of those 22 shark and ray species to the list of species that CMS Sharks MoU protects at the second Meeting of the Signatories in Costa Rica in early 2016. These threatened sharks will now be the subject of an international Conservation Plan.

HSI regularly attends the full CMS and Shark MoU meetings to fight for these magnificent animals.

More generally, in November 2011 HSI signed a Partnership Agreement with the CMS Secretariat, recognising those areas of our work where we could best work together.

CITES

HSI was behind Australian Government actions to have the great white shark protected under the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) in 2004.

In addition to the great white, our previous role as the Chair of the global *Species Survival Network* (SSN) Shark Working Group saw HSI take a lead in the successful campaigns for the breakthrough listings of the whale shark *(Rhincodon typus)* and basking shark *(Cetorhinus maximus)* on CITES in 2003. In 2013 after a successful campaign, the oceanic whitetip shark *(Carcharhinus longimanus)*, scalloped hammerhead shark (*Sphyrna lewini*), smooth hammerhead shark (*Sphyrna zygaena*), great hammerhead shark (*Sphyrna mokarran*), porbeagle shark (*Lamna nasus*) and manta rays *(Manta spp.)* were all listed in Appendix II of CITES (trade controlled by license). The freshwater sawfish *(Pristis microdon)* was also listed in Appendix I (trade banned).

These listings came into effect in September 2014 after an 18 month implementation delay, and during this time HSI participated in a number of workshops around the world to assist with implementation and continues to do so. Appendix II listing requires nations to provide export permits based on approved management plans.

Table 2. Shark and ray species listed on CMS and CITES treaties—HSI was fully involved in the successful global NGO campaigns to see these species protected

Common name	CMS	CITES
White shark	I & II	II
Shortfin mako shark	II	
Longfin mako shark	II	
Smooth hammerhead shark		II
Scalloped hammerhead shark	II	II
Great hammerhead shark	II	II
Oceanic white-tip shark		II
Thresher sharks (pelagic, bigeye, common)	II	
Whale shark	II	I & II
Silky shark	II	
Basking shark	I & II	II
Porbeagle	II	II
Spiny dogfish	II	
Manta ray	I & II	II
Reef manta ray	I & II	II

Common name	CMS	CITES
Pygmy devil ray	I & II	
Atlantic devil ray	I & II	
Spinetail mobula	I & II	
Shortfin devil ray	I & II	
Giant devil ray	I & II	
Munk's devil ray	I & II	
Lesser Guinean devil ray	I & II	
Box ray	I & II	
Bentfin devil ray	I & II	
Dwarf sawfish	I & II	I & II
Smalltooth sawfish	I & II	I & II
Largetooth (freshwater) sawfish	I & II	I & II
Green sawfish	I & II	I & II
Common sawfish	I & II	I & II

*At the CITES conference of the parties in South Africa in 2016, attended by a large HSI lobbying team, there was great success with the listing of three species of thresher sharks, the silky shark and eight species of mobula (devil) rays.

HSI maintains a number of concerns with Australia's published Non Detriment Finding (NDF) for hammerhead sharks and continues to pursue improvements in the NDF in light of domestic and international protection in place for these species.

HSI, in league with our Washington office and many other like-minded NGOs, has proposed a whole range of shark species for CITES protection over the years, and while we have not succeeded fully in all our endeavours, the long-term campaign continues. Other shark species we have lobbied for protection for under CITES include the entire gulper shark family *(Centrophoride spp.)*, whaler or requiem sharks *(Carcharhinidae spp.)*, tope, school or soupfin shark *(Galeorhinus galeus)* and guitarfishes/shovelnose rays *(Rhinobatidae spp.)* (see Table 2).

At the CITES conference of the parties in South Africa in 2016, attended by a large HSI lobbying team, there was great success with the listing of three species of thresher sharks, the silky shark and nine species of mobula (devil) rays.

Grey nurse shark

The highly imperilled grey nurse shark has needed even more help on the East Coast than the HSI instigated national threatened species listing in 2000 gave them, and so we have waged a campaign for many years to secure marine reserves for 19 of its aggregation sites along the east coast of Australia which continue to be threatened (see map opposite). HSI was particularly pleased, after a five-year campaign, to help secure protection for the 300 hectare Cod Ground Reserve in Commonwealth waters off the coast of northern New South Wales. A key aggregation site, the 1000m no-take sanctuary area, where all forms of commercial or recreational fishing are banned, finally came into effect on 28 May, 2007.

Map 1. Critical Habitat and other key grey nurse aggregation sites along the NSW coast

We have been working to encourage all governments to protect the critical habitats of shark populations, and in 2010 in league with WWF, produced maps showing the approximate locations of critical habitats for the great white shark, whale shark and grey nurse shark.

As part of our ongoing support for the grey nurse shark for example, we also provided funding assistance to the Nature Conservation Council of NSW when they went to court with concerns about the impact of a NSW export fishery on the grey nurse shark; helping arrange national grey nurse shark symposiums in September 2013 and planned for late 2016, bringing all stakeholders together to discuss programs to improve grey nurse shark conservation, and fighting to protect them from the effects of shark nets and drum-lines.

HSI also helped draft the National Recovery Plans for both great white and grey nurse sharks as a member of Australia's National Shark Recovery Group. The **National Plan of Action for Sharks** was also important in securing effective shark conservation measures. After many years of agitating for the preparation of a United Nations Food and Agricultural Organisation (FAO) required '*National Plan of Action for Sharks*", the Commonwealth has since compiled two National Plans of Action for Sharks (NPOA-Sharks), and HSI has been integrally involved with both including serving on the subsequent Committee. HSI has also prepared its own comprehensive shark policy and strategy, and a wide-ranging 'Compendium of Conservation Measures' addressing shark and other bycatch problems in commercial tuna fisheries (see above).

HSI's campaign against shark nets and drumlines

The death toll on wildlife, including threatened shark species, in the shark nets along NSW and Queensland's ocean beaches raises HSI's ire every summer and we have done much to demonstrate their cruelty to animals and ineffectiveness as a bather-protection measure in the media. Despite our scientific nomination securing a listing for the oceanic shark nets (the current shark meshing program in NSW waters[1]) in 2003 as a Key Threatening Process (KTP) under the *NSW Fisheries Management Act 1994*, both the NSW and Queensland governments remain far too concerned about a political backlash to require their removal.

HSI has repeatedly highlighted the unacceptable number of deaths of Critically Endangered grey nurse sharks, threatened turtles, whales and dolphins as well as other species such as dugongs and rays in the shark nets. Nevertheless, the legal and public pressure we have brought has seen improvements in the way the nets are managed, and in 2015 HSI submitted a new KTP nomination under the EPBC Act to cover the NSW and Queensland shark control programs (the Commonwealth had rejected an earlier HSI nomination in 2002). HSI also joined forces with like-minded organisations to campaign for the scientific trials of non-lethal alternatives to shark nets in NSW, in the hope that at a minimum, alternatives to the shark nets can start to be seriously considered. As a result of this work, HSI was invited to the September 2015 Shark Summit, hosted by the NSW government.

The Summit was where the NSW government made its announcement to implement non-lethal alternative technologies and avoid the extension of shark nets on the North Coast. HSI was disappointed however with the government's plan to introduce smart drumlines, a technology touted as non-lethal but which still places a threat on the marine environment and its inhabitants. The drumline works on the assumption that any animal captured on the line will be released within two hours. But the

[1] http://www.dpi.nsw.gov.au/fishing/species-protection/conservation/what-current/key/shark-meshing

We continue to seek legal remedies in the courts to government shark culling programs

two species of hammerheads protected in NSW (great and scalloped) are one of the most frequently caught non-target species in the NSW meshing and Queensland shark control programs. Hammerheads have a high post-release mortality rate after having been caught on a fishing or drumline line and our view is that utilising mechanisms such as aerial patrols, shark spotter programs and eco-barriers would offer a greater benefit to ocean users and marine species.

HSI is also working to put an end to the nets and drumlines in Queensland waters. 166 drumlines are currently present in Great Barrier Reef Marine Park Area (GBRMPA), with the Queensland government currently proposing an increase of drumlines to 213. HSI has made its extreme concern about this proposal known to government and our investigations have indicated that successive variations of the permit by government to place drumlines in the GBRMP and World Heritage Area have enabled a huge increase in drumlines in this internationally protected area.

If the latest proposal is approved, the number of drumlines in the GBRMPA will have increased by over 40% since 2004 when the original permit was granted—an increase of 7 drumlines a year. We are concerned that the effect on marine species in this area will only worsen. Over the course of the program more than 5,000 threatened marine turtles have been captured in nets and on drumlines and between 2001 and 2010 almost 30 humpback whales were caught. Important marine regions such as Cairns have seen the number of drumlines triple.

Therefore, we are in the process of seeking advice on the legality of several drumlines within the Great Barrier Reef Marine Park and World Heritage Area and the use of nets within the NSW shark meshing program. The NSW government has recently confirmed, thanks in part to pressure from HSI, that they are not legally able (without Commonwealth consent) to put in place any new shark nets in state waters.

However, the state government recently announced that it would be extending the number of smart drumlines used in NSW and that it would introduce new shark nets on the north coast. The Federal Environment Minister has approved the use of drumlines and will, no doubt, provide an "exemption" under the EPBC Act to NSW for the extension of its shark net program. HSI will be seeking some form of legal remedy.

WA shark debacle

HSI was fully engaged in the massive public debate about killing sharks on Western Australia's beaches around Perth. After substantive public backlash and condemnation of the killing of over a hundred tiger sharks and a number of protected great white sharks, the WA Environmental Protection Authority thankfully advised the Fisheries Minister not to proceed with the culling program. HSI worked at the time with the Environment Defenders Office (EDO) in NSW to seek an injunction against the WA government's shark control plans, but an anticipated bill of $250,000 should we have lost became prohibitive, and luckily such action was not needed.

Thousands of HSI supporters responded to our call to action, while our Washington office organised 33,000 emails to hit the desks of the Federal Environment Minister and the WA Premier. We also produced a spoof video highlighting the irony of the shark cull in light of the International Court of Justice ruling against Japanese whaling which went viral.

However the WA government continues to have a ‘Serious Threat Policy’ which they use to selectively catch and kill sharks, most recently killing a white shark in June 2016. Given that no sharks had been killed in WA since December 2014, HSI had hoped that this signalled a change in policy by the WA government but sadly this is not the case and we continue to seek legal advice on the WA policy. HSI is opposed to the killing of any sharks using baited drumlines in WA, and we have continued to speak out against any future cull.

HSI has also highlighted what we see as a direct link between past shark attacks in WA and the live export sheep vessels that regularly leave ports on the west coast, discarding sheep carcasses as they go. The WA government has been predictably unresponsive to our assertions, though one senior bureaucrat from the Department of Agriculture, Fisheries and Forestry (highlighted by a WA journalist FOI request) thought that the idea that the rise in shark attacks could be linked to the presence of sheep ships was “*intriguing*” and suggested specialists at the CSIRO pursue the issue.

We continue to monitor this situation closely and have called on the Federal Environment Minister to do more to protect the great white shark against such actions.

Great

white shark granted state, national and international protection following HSI advocacy

Of Seals, Sea Lions, Dolphins, Marine Turtles and Dugongs

Passage of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) brought strong national protection to all seal species occurring in Australian waters, setting fisheries that threaten seals and other marine species through bycatch on a more ecologically sustainable path. This has included the development of a national bycatch policy and its implementation in fisheries management, in which HSI has been fully involved.

High on HSI's marine mammal protection program has been the scandal of hundreds of seals drowning in trawl nets. During 2000, due to significant negative publicity generated by HSI on the number of seals being caught as bycatch in the South-East Trawl Fishery, the Commonwealth government required the trialling of Seal Excluder Devices (SEDS) to mitigate the problem, which became mandatory on large factory ships.

We also responded strongly to the large number of elephant seals on sub-Antarctic Macquarie Island where the species was suffering from the effects of "hot iron branding". The Commonwealth Environment Minister stopped the practice after pressure from HSI and a public furore, while we sought legal advice on possible prosecutions and a review of research ethics procedures. At the same time, we were lobbying governments hard over the issue of guns on boats, which are often used to shoot "nuisance" seals illegally.

We were successful in developing scientific nominations which were accepted by the Commonwealth Government in 2001, resulting in the protection of the sub-Antarctic fur seal and the southern elephant seal under the EPBC Act. We were similarly successful under Victorian law.

Such legal listings and protections also triggered the development of national recovery plans for both species, while all Australian seal species benefited from the listing of marine debris as a Key Threatening Process under the EPBC Act, following an HSI nomination (read more in marine turtle section below).

In 2010 a report from a leading marine mammal scientist revealed that an estimated 256 Australian sea lions are killed each year in the gillnet sector of the Southern and Eastern Scalefish and Shark Fishery (SESSF). This fishery operates off the coast of South Australia. The Australian sea lion is Australia's only endemic sea lion, protected as threatened under state and Commonwealth law, and an icon used extensively by the tourism industry which generates extensive revenue.

Strict conditions were imposed on the SESSF by the Federal Environment Minister to reduce the impact of the fishery on the Australian sea lion as a direct result of past litigation by HSI. Consequently, we called upon the Minister to take urgent action to protect the Australian sea lion and strictly enforce this condition.

HSI undertook substantial lobbying efforts which led to the development of a Management Strategy by the Australian Fisheries Management Authority (AFMA), finalised in late 2011. This involved the establishment of a number of zones with 'trigger limits' for the number of Australian sea lions that could be killed before that zone closed. This strategy has led to significant effort reduction in the SESSF gillnet fishery, mostly due to the fact that these triggers were quickly breached in 2011-12 and three zones closed. The first major closure ran to some 27,000 square kilometres, evicting all commercial gill netting operations from the entire area.

Working with our Washington DC office to force the use of Turtle Exclusion Devices on Australian trawlers

Thankfully since mid-2012 there have been very few reported fatalities of Australian sea lions and all zones are currently open to fishing.

This is evidence that this strategy is being successful, and HSI continues to monitor this issue closely as any relaxation of approach could lead to more fatalities. HSI has successfully nominated the Australian sea lion for an upgrade to 'Endangered' under the EPBC Act.

HSI has also been lobbying hard against other trawling problems involving seal and sea lion bycatch in Western Australia and Tasmania, with the latter state being the home base for the super trawler, the Geelong Star. Working with colleague NGOs we hope that progress will be made in WA in 2017 to ensure that greater protection will be put in place around Australian sea lion habitats similar to those already in place in SA. Concurrently we have been working with colleague NGOs and the South Australian Government to protect long-nosed fur seals from commercial fishermen in the Coorong who incorrectly believe that the seals are decimating their fish catches. HSI has welcomed the current SA government's position opposing a cull.

HSI has also consistently worked to reduce dolphin bycatch in Commonwealth and State fisheries, working with AFMA, Environment Departments, NGOs and other stakeholders to ensure that progress is made to minimise the deaths of dolphins. This work continues.

Marine mammal working group

HSI's Alexia Wellbelove has recently been invited to join AFMA's newly formed Commonwealth Fisheries Marine Mammal Working Group. The group held its first meeting in late 2016 and is aiming to provide advice to AFMA on marine mammal management arrangements in Commonwealth fisheries. It is a result of HSI's extensive work in this area that we have been accepted as the sole NGO representative on this group.

Marine turtles

We are very pleased to have been able to make what we hope is an important contribution to marine turtle conservation in Australia and internationally. Australia is lucky enough to have six of the world's seven species of marine turtle: loggerhead, green, hawksbill, leatherback, olive ridley and flatback, all of which are threatened to some degree.

One of the most serious threats to these ancient reptiles had been death caused by drowning in Australian prawn trawl nets. HSI instigated the development of a scientific nomination to list 'prawn trawling' as a KTP under national environmental law.

This action was critical to the campaign to see Turtle Excluder Devices (TEDS) implemented in prawn trawl fisheries around the country. The successful 2001 EPBC Act listing, coupled with the US prohibition on the import of prawns from foreign trawl fisheries that did not use TEDS (a ban gained by HSI's Washington office) placed serious pressure on the Australian prawn industry to address the problem of turtle bycatch. This situation saw Australian prawn exports temporarily banned from entering the US, pending the introduction of TEDS, which have now become mandatory in Australian prawn trawl fisheries (seeing a reduction of turtle capture and death by at least 95%).

HSI was also concerned that marine turtles were getting caught on longline fishing hooks used to catch tuna and billfish. We have been

lobbying for many years to have Regional Fisheries Management Organisations (RFMOs) adopt stronger avoidance measures including longline fishing closures in areas of high risk for turtles and this issue was included in our most recent Tuna Bycatch Compendium.

HSI's nomination of prawn trawling as a KTP also triggered a Commonwealth scientific review of the conservation status of all marine turtles in Australia, which resulted in the protection of the endemic flatback turtle and the olive ridley turtle under the *Endangered Species Protection Act 1992.* As a member of the national recovery plan team, HSI subsequently helped draft the national marine turtle recovery plan, pushing for strict protection for turtle critical habitat sites and better cooperation with Indigenous communities in relation to traditional harvesting. We have also highlighted the threats to marine turtles by boat-strike and shark netting, with the latter successfully recognised in NSW law as a KTP, thanks to an HSI nomination, while the Commonwealth is considering the assessment of a similar KTP nomination.

In 2010 HSI and WWF Australia published "*Protecting Critical Marine Habitats—the key to conserving our threatened marine species*" (written by Lydia Gibson and Alexia Wellbelove) which provided critical habitat maps in Australia for the leatherback, hawksbill, olive ridley, green, loggerhead and flatback turtles. This important data was presented to the Australian government.

Through the passage of strong environment laws, HSI has also helped increase marine turtle protection in general, including the successful nomination and listing of another key threat to marine turtles—marine debris. The listing promoted one of the Commonwealth's first financial responses to marine debris, which was the allocation of $2 million to reduce "ghost nets" in the Gulf of Carpentaria. The KTP was listed as *"Injury and fatality to vertebrate marine life caused by the ingestion of, or entanglement in, harmful marine debris"* and a National Threat Abatement Plan (TAP) was released in 2008, with a review of the TAP, in which HSI participated, undertaken in 2015**.**

HSI also helped with destructive marine debris in the Gulf of Carpentaria, financially supporting the Dhimurru people from North East Arnhem Land, through the Dhimurru Land Management Aboriginal Corporation, who have been working for many of years to reduce turtle deaths by undertaking helicopter-based monitoring, scouring the coastline of NE Arnhem Land, and disentangling and rescuing threatened marine turtles.

Further north, in Indonesia, HSI has been financially supporting a very effective conservation organisation called ProFauna since 2000. ProFauna campaigners work fearlessly in difficult political circumstances against the illegal trade in turtles, achieving trade bans, helping organise major turtle confiscations from smugglers, the capture and prosecution of smugglers (in cooperation with the police), and effective local and regional education programs. ProFauna undertook a particularly important study, funded by HSI, which looked at the illegal turtle egg trade flourishing in Kalimantan. Their work was able to be used to increase and improve the Indonesian Government's enforcement of the law.

For the last few years we have been supporting the Bali Sea Turtle Conservation Society. The Society protects nesting marine turtles along Kuta Beach in Bali and other prime tourist beaches, successfully relocating eggs and releasing tens of thousands of hatchlings back into the sea.

HSI helped protect dugongs through the legal recognition of 'marine debris' as a Key Threatening Process

Marine turtles also benefited from the dedication of significant resources under the Commonwealth's $10 million Regional Natural Heritage Program, an initiative HSI helped bring to fruition. Over $2 million was allocated to habitat protection in marine biodiversity *hotspots* in the region, such as the Coral Triangle, and specific turtle conservation work in Fiji, Vanuatu and Tuvalu.

HSI maintains its successful lobbying efforts, in cooperation with colleague organisations and conservation minded governments, in blocking numerous attempts by commercial wildlife traders to recommence global trade in turtles shells, debated at meetings of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).

We have also helped trigger the negotiations for a regional *Memorandum of Understanding (MoU) on turtle conservation between the countries of the Indian Oceans and South East Asia*, as activists and expert advisers on the Australian Government delegations. The MoU is an agreement for all signatory countries to cooperate to protect turtles from bycatch in fisheries, disease, marine debris, habitat degradation and unsustainable harvesting.

Dugongs

As a member of the Commonwealth's Dugong Advisory Group in the mid-nineties, HSI worked with the Office of the Federal Environment Minister and key NGOs in a Commonwealth/state review of dugong conservation in the southern part of the Great Barrier Reef, culminating in a decision by the Commonwealth to dedicate 16 Dugong Protected Areas along the Queensland coastline. HSI had earlier initiated, in cooperation with AMCS, a nomination to protect the dugong as a Vulnerable species under the Commonwealth's *Endangered Species Protection Act 1992*, which was unfortunately rejected by the government. While not a listed species requiring identification and protection of critical habitats, in co-operation with WWF, HSI identified 39 such critical dugong habitat sites across northern Australia and presented our findings to the Commonwealth and relevant state and territory governments.

Dugongs also benefitted from the completion and ad hoc implementation of the Commonwealth's 'Marine Debris' Threat Abatement Plan, following HSI's earlier KTP nomination and from the marine debris work of the Dhimurru in North East Arnhem Land. While ensuring the dugong was not removed from the protective schedules of CITES, we have also continued to urge all governments to take a close look at, and effectively control, illegal trade in dugong meat in northern Australia, and were also a member of the Dugong Rehabilitation Working Group.

Marine Species Conservation Recommendations

The following are a selection of recommendations that HSI believes provide basic conservation requirements for a range of marine species protective action.

1 Reinstate recovery teams for all listed threatened marine species and mandate that recovery plans are prepared and published within 2 years of species being listed

2 Significant new monies and research efforts should be invested in identifying the increasing impacts on threatened species by marine debris (fully implementing the current Marine Debris Threat Abatement Plan (TAP)—'*Injury and fatality to vertebrate life caused by ingestion of, or entanglement in, harmful marine debris*')

3 Maintain and improve national management and approval by the Commonwealth Environment Department under the EPBC Act of all Commonwealth and export fisheries

4 Prohibit the use of "super trawlers" in Australian waters

5 Significant new monies and research efforts should be invested in identifying the impacts on marine species (including seabirds, sharks, dolphins, sea lions) of all commercial fishing techniques in all state, territory and Commonwealth fisheries

6 All commercial fisheries must work towards (mandated) zero bycatch of all listed threatened Commonwealth and state marine species

7 Continue to publish required CITES Non-Detriment Findings (NDFs) for listed species (especially sharks) and take into account global and national conservation status

8 Australia must take a leadership role at CITES and CMS to identify and sponsor marine species nominations

9 Significant new monies and research efforts should be invested in identifying the impacts on and threats to sharks, large predatory fish and other listed marine species from recreational game fishing, and listing by the Commonwealth as a Key Threatening Process under the EPBC Act ('*Recreational fishing which results in the capture of top order predators such as sharks, tuna and marlin including competition game fishing, offshore fishing, line fishing and other fishing methods*') followed by implementation of a TAP

10 The issue of trawling/seabird bycatch in relevant Commonwealth, state and territory fisheries must be addressed and the discarding overboard of all offal must be banned by the end of 2017 and current research into impacts significantly stepped up

11 The government must commit to a *National Plan of Action for Seabirds* to include all commercial and recreational fisheries

12 Government must commit to the long-term renewal of the longline TAP ('*Incidental catch (or bycatch) of seabirds during oceanic longline fishing operations*') achieving zero bycatch as a matter of urgency

13 Significantly increase Australia's participation, commitment and resources in ACAP to ensure that full use of all required seabird bycatch mitigation devises are implemented by all RFMOs

14 Prohibit the use of lasers in all Australian commercial fisheries as a seabird bycatch mitigation measure and promote a non-use policy through ACAP

The Commonwealth must seek to ensure zero albatross bycatch in commercial and recreational fisheries

15 Significant new monies and research efforts should be invested in shark biology and conservation status for EPBC Act/IUCN listed species, and specific conservation assessment undertaken under the EPBC Act for all shark species (rays, sawfish etc.) including identification of critical habitat areas

16 List '*Death or injury to marine species following a capture in the lethal shark control programs on ocean beaches'* as a KTP under the EPBC Act and implement a TAP

17 Commonwealth and state governments must fully apply the Precautionary Principle in assessing shark species for conservation listings, and not continually refuse to protect based on the claim of "insufficient data"

18 A Data Deficient status listing should be adopted under the EPBC Act implying the need for caution in species management

19 End targeted commercial and recreational shark fishing in Australia (including relevant charter boat industries)

20 End the export and import of all shark products from Australia and prohibit domestic trade

21 Lift the Commonwealth's current CMS 'Reservation' over 5 listed shark species and refrain from any future 'Reservations'

22 Significant new monies and research efforts should be invested in dolphin biology and conservation status assessment for EPBC Act/IUCN listed species—to obtain a greater understanding of Australian populations

Threatened Species and Human Conflict

EDITOR, EVAN QUARTERMAIN*

PROTECTING AUSTRALIA'S FLYING-FOXES AND OTHER BATS

Over the past twenty years HSI has prioritised campaign efforts to help protect flying-foxes on the east coast of Australia and achieve national protection and conservation action for a number of other bat species. These efforts have often seen HSI take on governments head to head in the courts.

Legislative protection

HSI has utilised a range of laws to help protect flying-foxes and other bat species across Australia, including the *Endangered Species Protection Act 1992, Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), NSW *Threatened Species Conservation Act 1995* and the Victorian *Flora and Fauna Guarantee Act 1988* (FFG Act). Through our nomination program we were able to secure protection for eight threatened bat species under these laws.

These species included the bare-rumped sheathtail bat, Christmas Island pipistrelle, greater large-eared horseshoe bat, Semon's leaf-nosed bat, Pilbara leaf-nosed bat, large-eared pied bat, Corben's long-eared bat and the grey-headed flying-fox (see Table 4 on page 23).

As a result of the listings on the EPBC Act, recovery plans were required to be prepared and any action that may significantly impact on any of these species must be referred to the Federal Environment Minister for approval. To date, only six of the species listed have had recovery plans published, with one in draft form for several years. One species, the Christmas Island pipistrelle, is now presumed extinct (thought to be the first mammal to suffer this fate in Australia in 50 years), although its EPBC Act status is yet to reflect this (Consultants report to HSI in 2014; *"Review of the conservation benefits resulting from the listing of Australian Bat and Flying-fox species under the Environment Protection and Biodiversity Conservation Act, 1999"*, by J. Atherden).

The most recent species to have a recovery plan put in place was the spectacled flying-fox in 2010, and the Commonwealth released its *Referral guideline for management actions in Grey-headed and Spectacled flying-fox camps* in late 2015.

HSI has opposed the delisting of the Semon's leaf-nosed bat, greater large-eared horseshoe bat, and bare-rumped sheath-tailed bat, recently considered by the Australian government due to a lack of information about their status. We argued that any such move would be counter-intuitive considering recovery actions associated with their threatened statuses are the best method of attaining this knowledge.

Court action on behalf of flying-foxes

Over the years, HSI has found itself in court on a number of occasions defending flying-foxes or financially supporting other NGO flying-fox court actions. Our very first action was a successful foray into the New South Wales Administrative Appeals Tribunal over an HSI Freedom of Information request, where the court granted us access to critical information about the location of grey-headed flying-foxes shot by farmers in the state.

In Victoria, with the Melbourne Botanic Gardens wanting to cull their colony of grey-headed flying-foxes, the Minister initially rejected the advice of the FFG Act Scientific Advisory Committee to list the species in 2001. Fortunately the Minister eventually conceded to the necessary listing after the species was gazetted at a Federal level following an HSI nomination.

*HSI Senior Program Manager

HSI has been to court on six occasions to protect threatened flying-foxes

In March 2001 HSI went to the Victorian Supreme Court for an injunction to stop the shooting of 1,000 grey-headed flying-foxes in Melbourne's Botanic Gardens, who were seeking to do so due to the alleged damage being caused by the species to the vegetation of the Gardens. Unfortunately HSI's request for an injunction to stop the shooting was dismissed, due to the last minute alteration by the Botanic Gardens authorities of the permit which stated that animals were going to be euthanised by lethal injection. However, as a result of the legal and political pressure exerted by HSI and other groups in this case, the Botanic Gardens revised their plans, and in the end the entire colony was instead dispersed, relocating to another site along the Yarra River. Associated with the Victorian campaign, HSI had also taken successful action in the Victorian Civil and Administrative Tribunal, at the time known as the Administrative Appeals Tribunal.

In 2001 HSI also gave modest financial and much political support to a very important Federal Court case brought by Queensland conservationist Dr Carol Booth, where a north Queensland farmer (Bosworth) was electrocuting thousands of spectacled flying-foxes to protect his lychee crop. In a landmark ruling the farmer was consequently found to be in breach of the EPBC Act, the judge determining that even though the spectacled flying-fox was not yet protected under the EPBC Act, the killing of hundreds per night throughout the fruit season was having a 'significant impact' on the values of the adjacent World Heritage and EPBC Act listed rainforests. This ruling set an important precedent in interpreting the EPBC Act's considerable powers.

The spectacled flying-fox was finally listed under the EPBC Act in 2002, but its conservation status has unfortunately deteriorated in the intervening decade, prompting HSI to submit a nomination under the Act to upgrade the listing from Vulnerable to Endangered in 2015. This nomination was prioritised for further assessment, with the Threatened Species Scientific Committee due to provide advice to the Minister in 2017.

In 2003, HSI brought a case in the Federal Court against the Commonwealth Environment Minister for purporting to give an exemption—to persons proposing action to kill listed grey-headed and spectacled flying-foxes—from their obligation under the EPBC Act to *refer* those actions for approval. At the time Queensland and NSW authorities were issuing licences to fruit growers to shoot flying-foxes for crop protection. The purported exemption was given in the EPBC Act *Administrative Guidelines for the Grey-headed flying-fox*, with HSI arguing that they should not provide such an exemption.

The Federal Court Judge ruled that the guidelines did inappropriately exempt persons from their obligations under the EPBC Act, and the Commonwealth Minister was instructed to rectify the guidelines, which he subsequently did. As a result, every fruit grower was required to make a decision as to whether the proposed culling of flying-foxes may have, would have, or be likely to have, a significant impact on either of these listed species.

HSI was also involved in a long-term campaign to prevent the dispersal of a colony of grey-headed flying-foxes from Sydney's Royal Botanic Gardens (a critical habitat for the species), which the Botanic Gardens wanted removed due to the alleged damage being caused to heritage listed trees. Unfortunately, in May 2010 the dispersal was approved by the

Commonwealth Environment Minister, which triggered a Federal Court challenge under the EPBC Act by HSI (with Bat Advocacy NSW as the applicant). The first court action in this case against the Commonwealth Environment Minister was lost in 2010, as was the subsequent appeal to the full bench of the Federal Court in 2011. HSI has continued to monitor this situation since the dispersal was eventually achieved by the Botanic Gardens, with tracking of some of the grey-headed flying-foxes present showing splintering to a variety of roosting locations including Centennial Park.

As a footnote, although a number of drafts have been issued for consultation, there is sadly still no recovery plan for the grey-headed flying-fox despite the species being listed in 2001. HSI continues to fight for the finalisation of this plan, which, in 2016, finally passed the crucial stage of being presented to the Threatened Species Scientific Committee under the EPBC Act, and we will be scrutinising it for possible legal actions when issued.

Campaign to end shooting of flying-foxes

In recent years HSI has campaigned heavily to end the inhumane practice of shooting flying-foxes in NSW, allowed to occur through the state Government's issuing of licences to harm the threatened species for commercial crop damage mitigation. Although authorised shooting of grey-headed flying-foxes resulted in the reported killing of thousands of animals in some years, the conservation impact was less a driver of our objection than the cruelty involved—evidence showing that pregnant flying-foxes had starved to death after being immobilised by shotgun pellets perforating their wing membranes.

On the 15 May, 2008 the shooting of flying-foxes was made illegal in Queensland, when the Minister for the Environment announced an end to issuing permits from September. This was following advice from Queensland's Animal Welfare Advisory Committee, who found that the shooting of flying-foxes under Damage Mitigation Permits was inhumane. Sadly, in September 2012 the newly elected Queensland Government announced the resumption of shooting following an amended regulation exempting flying-foxes from humaneness requirements under Queensland's *Nature Conservation Act 1992*.

Following the 2008 Queensland decision HSI reignited its earlier campaign against the shooting of flying-foxes in NSW, working closely with other groups to achieve a ban in the state. In 2009 *Why NSW Should Stop Shooting Flying-foxes* was published, a document signed by 60 organisations, led by HSI, bringing the issue to the attention of government and the media. Subsequently, HSI also promoted an autopsy report by researchers from the University of Sydney, showing the significant level of cruelty involved in the shooting of flying-foxes. This was in addition to a number of Freedom of Information requests to gain data on the licences to shoot flying-foxes issued in NSW.

As a result of this pressure, the NSW government announced the establishment of an expert review panel to look into the issue. HSI presented to this panel, whose report was published in August 2009. The report concluded that the animal welfare issues arising from these shootings are '*unacceptable ethically and legally*'. HSI then worked with the NSW Government and other animal welfare and conservation groups to get a commitment for an end to the shooting practices. HSI has also gained allies in the fruit industry, developing good relationships with the

Thanks to the work of HSI, Commonwealth laws now recognise 43 nationally important grey-headed flying-fox camps

NSW Farmers Federation and having statements of support being issued by orchardists in the state.

In 2011, following a successful HSI campaign, the NSW government made an election commitment to end shooting of flying-foxes by 30 June, 2014. This commitment came as part of a broader package of funding of $5 million towards grants for the installation of full exclusion netting by orchardists in the Sydney Basin and Central Coast regions. HSI's representation on the NSW government's *Flying-Fox Consultative Committee* helped gain this commitment to phasing out the issuing of flying-fox shooting licences, along with our close work with orchardists.

HSI was subsequently asked to join the NSW *Flying-Fox Netting Program Sub-Committee* that advises on the delivery against the election commitment. We continue to play an active role on this committee and the *NSW Flying-Fox Consultative Committee* and were pleased to see the recent extension of the netting subsidy to cover the whole of NSW. A further $2.1 million was made available, bringing the total government investment in the scheme to $7.1 million.

We advocated strongly for the NSW government to meet their commitment to end licensed shooting by 30 June, 2014, however a further year's delay to the commitment was announced along with the news that from 1 July, 2015 the shooting would continue to be permitted under 'special circumstances' for another five years. While this delay to the end of shooting was extremely disappointing, HSI welcomed the government commitment to end shooting with the view that lethal take would be considerably reduced during the phase out due to just a handful of orchardists meeting the special circumstance requirements.

However in the season that followed 790 grey-headed flying-foxes were reported as being shot by five individuals, a figure similar to the average over the last decade. HSI is now working to ensure thousands more flying-foxes are not inhumanely shot prior to the 2020 cessation date.

The problem of flying-fox camps and critical habitats

Flying-fox camp management consistently remains an extremely contentious issue along Australia's east coast.

HSI is very concerned indeed at continued efforts by the Commonwealth government to delegate decisions about the protection and management of flying-fox camps containing EPBC Act listed threatened species to states and territories, and in effect local councils—with the Federal government seeking to streamline any assessment process to virtually ensure that state and local authorities are able to disperse even roosts that are considered nationally important (critical habitats). As a nomadic species, the grey-headed flying-fox requires a cooperative approach across state and territory borders, ideally with Commonwealth oversight, as opposed to decisions being made at a state or council level. HSI continues to provide comment to all such camp management processes currently underway in an attempt to ensure the best possible protection for these threatened species. The following cases in which HSI has been involved highlight the growing conservation dilemma:

Cannes Reserve, Avalon NSW

In 2015 the NSW government released its *Flying-fox Camp Management Policy*, intended to streamline the process of the Office of Environment and Heritage making regulatory decisions regarding local council management. HSI was critical of this policy at its release, with the focus on species conservation apparent in previous versions shifting to unfounded concerns surrounding health risks—prompted it seems by the negative publicity generated by the tabloid press.

Among the first camps to be subject to the new policy was the grey-headed flying-fox colony at Cannes Reserve on Sydney's Northern Beaches, with complaints about the noise and other impacts of the resident flying-foxes by neighbouring residents seeing Pittwater Council seek action. Although the policy set out a three-tiered approach of ideal camp management, the Cannes Reserve Flying-fox Camp Management Plan authorised by the NSW government quickly moved to the second tier of the creation of a vegetation buffer, along with the final stage of an attempted dispersal.

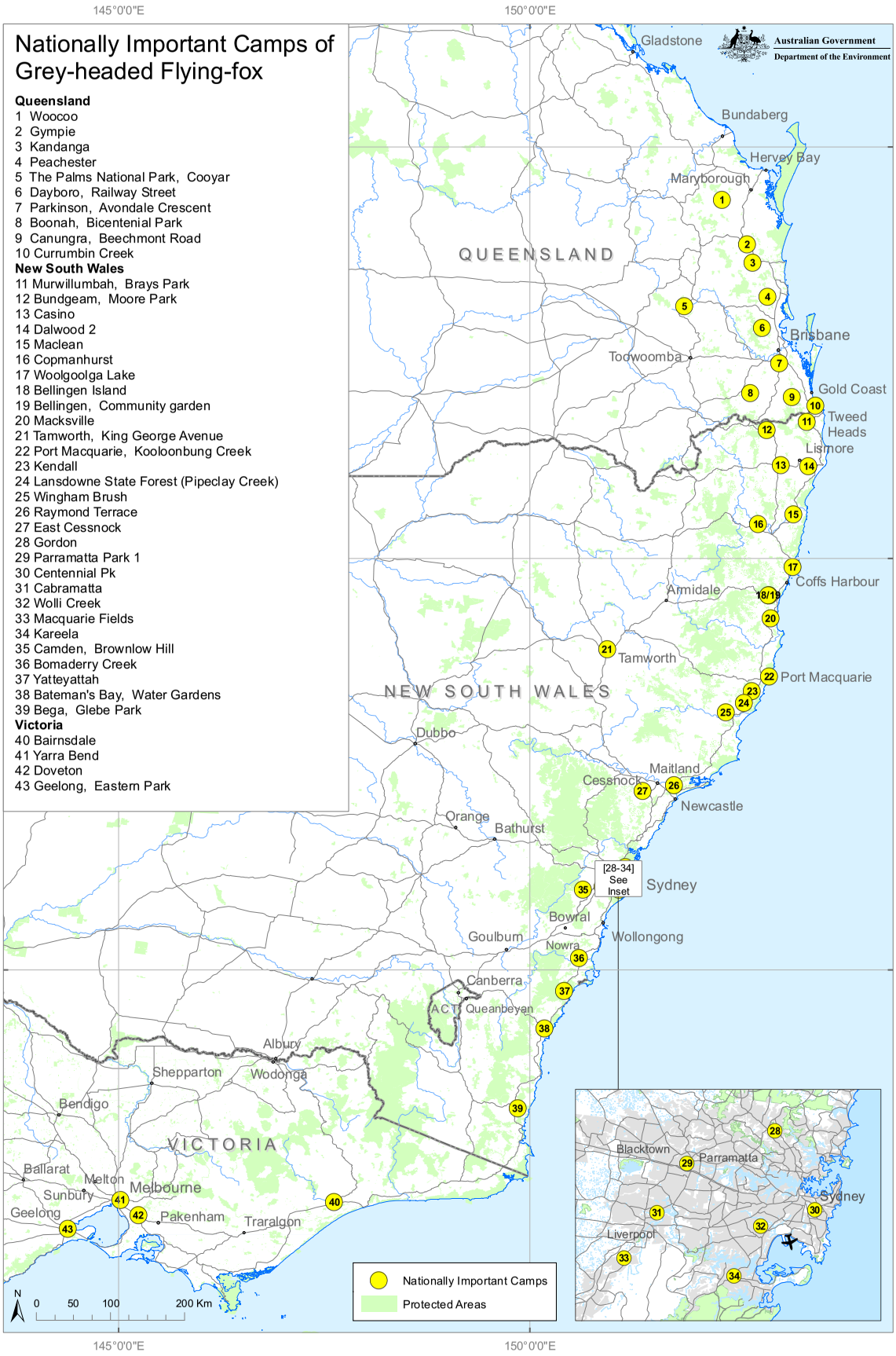
Despite the intention to streamline approvals a management mess eventuated, with several licences to harm threatened species being applied for and occasionally conflicting approvals being granted. When buffer creation and initial dispersals were ineffectual, the Council applied for and was granted extensions and variations that pushed the conditions beyond what was specified in the Camp Management Plan. Additionally, component species of a state-listed Threatened Ecological Community in the core area of the Reserve were lopped, again in conflict with the Cannes Reserve Camp Management Plan. This farcical approach has resulted in the devastation of the Reserve, with stressed grey-headed flying-foxes still clinging to what remnants they can.

HSI sought multiple process/legal answers from the Department, asking that they desist, while EDO NSW looked for chinks in the government's legal armour.

Water Gardens and Catalina, Batemans Bay NSW

2015 saw the release of the *Referral Guideline for Management Actions in grey-headed and spectacled flying-fox camps*, which while having plenty of room for improvement, was a positive outcome from the species' listings and importantly defined and recognised more than 30 'nationally important camps' along the east coast (see map on page 137). These nationally important camps are in effect **a representation of critical habitats** for these two threatened flying-fox species, particularly important in the continued absence of a recovery plan for the grey-headed flying-fox.

However this recognition is not as powerful as a critical habitat declaration, as shown by the 2016 management of the Water Gardens and Catalina camps. While the above example at Cannes Reserve occurred in a relatively small reserve, the colonies at Batemans Bay were identified within the referral guidelines as being nationally important for the conservation of the grey-headed flying-fox. This appeared to matter not to the Commonwealth Environment Minister, who following a temporary rise in flying-fox numbers at the camps to a significant 100,000–120,000 following a rare food source flowering event, exempted the Eurobodalla Shire Council from their EPBC Act requirements, declaring that it was in the "national interest"—during the caretaker period in the lead up to the July Federal election no less.


Nationally Important Camps of Grey-headed Flying-fox
Queensland
1 Woocoo
2 Gympie
3 Kandanga
4 Peachester
5 The Palms National Park, Cooyar
6 Dayboro, Railway Street
7 Parkinson, Avondale Crescent
8 Boonah, Bicentenial Park
9 Canungra, Beechmont Road
10 Currumbin Creek
New South Wales
11 Murwillumbah, Brays Park
12 Bundgeam, Moore Park
13 Casino
14 Dalwood 2
15 Maclean
16 Copmanhurst
17 Woolgoolga Lake
18 Bellingen Island
19 Bellingen, Community garden
20 Macksville
21 Tamworth, King George Avenue
22 Port Macquarie, Kooloonbung Creek
23 Kendall
24 Lansdowne State Forest (Pipeclay Creek)
25 Wingham Brush
26 Raymond Terrace
27 East Cessnock
28 Gordon
29 Parramatta Park 1
30 Centennial Pk
31 Cabramatta
32 Wolli Creek
33 Macquarie Fields
34 Kareela
35 Camden, Brownlow Hill
36 Bomaderry Creek
37 Yatteyattah
38 Bateman's Bay, Water Gardens
39 Bega, Glebe Park
Victoria
40 Bairnsdale
41 Yarra Bend
42 Doveton
43 Geelong, Eastern Park
Australian Government
Department of the Environment
145°0'0"E
150°0'0"E
25°0'0"S
30°0'0"S
35°0'0"S
QUEENSLAND
NEW SOUTH WALES
VICTORIA
ACT
Gladstone
Bundaberg
Hervey Bay
Maryborough
Brisbane
Toowoomba
Gold Coast
Tweed Heads
Lismore
Coffs Harbour
Armidale
Tamworth
Port Macquarie
Dubbo
Maitland
Cessnock
Newcastle
Orange
Bathurst
[28-34] See Inset
Sydney
Bowral
Goulburn
Nowra
Wollongong
Canberra
Queanbeyan
Albury
Wodonga
Shepparton
Bendigo
Ballarat
Melton
Melbourne
Sunbury
Geelong
Pakenham
Traralgon
Blacktown
Parramatta
Liverpool
Nationally Important Camps
Protected Areas
N
0 50 100 200 Km

This paved the way for vegetation removal at the camp and an attempted dispersal, with the only hurdle required for the Council being the NSW government Camp Management Policy—a policy disastrous for the small colony of Cannes Reserve was now to apply to potentially 25% of the population of a nationally threatened species. And with the NSW Premier's announcement of the provision of $2.5 million to attempt flying-fox dispersal at Batemans Bay, despite it being declared an action unlikely to succeed by all expert advice, the writing was on the wall. The Office of Environment and Heritage (OEH) proceeded to declare that the removal of 23% of vegetation at the camp and dispersal of the colony would not have a significant impact on the grey-headed flying-fox, and works immediately proceeded.

At the time of printing, HSI is investigating several potential legal actions pertaining to both Federal and NSW governments' management of the Batemans Bay grey-headed flying-fox colony. If such a scenario is the result of the combined threatened species protection legislation and policies of both Commonwealth and state governments (the grey-headed flying-fox being listed as threatened under both levels of law), it certainly doesn't bode well for the future of a species that plays a keystone ecological role along the entirety of Australia's east coast.

In 2015 HSI also worked with the Ku-ring-gai Bat Conservation Society to fight against Ku-ring-gai Council's application to destroy roost trees in prime grey-headed flying-fox habitat at Ku-ring-gai Flying-fox Reserve. The conservation of this camp is highly important to the species, leading to it being established as one of the first Voluntary Conservation Agreements (VCAs) in NSW. Due to the VCA's presence, we queried whether the Office of Environment and Heritage had obtained the necessary *National Parks and Wildlife Act 1974* approvals in addition to those already granted under the *Threatened Species Conservation Act 1995*, which required the proposed action to be consistent with the reserve's Plan of Management. Shortly after the works were completed, we were informed by OEH that the required approval regrettably hadn't been obtained.

Dispersals in other states

Meanwhile similar dispersals are occurring in other states within flying-foxes' distributions such as Queensland and Victoria. Highly questionable methods were used in the attempted dispersal of a grey-headed flying-fox camp in Cairns (including low-flying helicopters and paint guns), and recently a colony of what was thought to be approximately 1,000,000 little red-flying-foxes in Kilcoy was dispersed through the bulldozing of significant amounts of habitat. We have a long way to go with the humane treatment and conservation of flying-foxes nationwide, and the issue continues to be core business for HSI.

Probable extinction of the Christmas Island Pipistrelle

In May 2009 HSI became aware of the dire situation for the Christmas Island Pipistrelle, with surveys estimating that only 20 animals remained in the wild. This followed a successful nomination of the Christmas Island Pipistrelle as an Endangered species under the EPBC Act by HSI in 2001, and a subsequent uplisting to Critically Endangered in 2006. In response to this alarming news, HSI wrote to the Commonwealth Environment Minister together with our partner NGOs requesting he take urgent action and adopt the recommendations made by the Australasian Bat Society, one of which included launching a rescue mission to capture the remaining bats for a captive breeding program in a last ditch attempt

The Commonwealth must list all nationally important flying-fox camps under the EPBC Act's Critical Habitat Register

to save the species. This urgent call followed months of delay and inaction by the government and sadly by the time that they had agreed to fund the rescue effort, no bats were found in the field. It is now thought that the Christmas Island Pipistrelle is extinct, the first mammal extinction in Australia in 53 years.

Conservation recommendations

- Prioritise the immediate publication of and implementation of identified actions in the severely delayed Recovery Plan for grey-headed flying-foxes
- Improve the strength of the EPBC Act *Referral guideline for management actions in grey-headed and spectacled flying-fox camps* so that any management actions negatively impacting on animals in Nationally Important Camps require Department of Environment assessment and approval from the Minister
- Decisions on the removal of flying-fox camps recognised as nationally important under Federal guidelines must not be made by local councils / Environment Ministers may not delegate such powers
- Immediately list all nationally important camps described in the camp guidelines in the EPBC Act "Critical Habitat Register"
- Prohibit habitat destruction or significant vegetation modification in bat camps additionally identified as containing a state or EPBC Act listed Threatened Ecological Community
- Ensure cumulative impacts of any nationally important camp management actions/dispersals and shooting licences are considered during all impact assessment procedures
- Invest Commonwealth and state funding into long-term habitat restoration and expansion projects in appropriate areas to minimise ongoing wildlife-human conflicts
- Camp management in areas with wildlife-human conflict must focus on mitigation measures for affected residents (such as double-glazing and air conditioning) rather than dispersal and habitat destruction that harms bats and exacerbates conflicts by splintering camps
- Implement a national ban on all shooting licences and permits for crop protection, for both threatened and non-threatened bat species, due to high levels of suffering and cruelty involved
- The Commonwealth should call a national flying-fox conservation summit in early 2017 to agree upon an implementation plan for primary conservation actions
- A national recovery team should be established to oversee the implementation of the National Recovery Plan for grey-headed flying-foxes and provided adequate operating resources
- Commonwealth and state governments must allocate sufficient monies to see the full and long-term implementation of the National Recovery Plan, including the protection / purchase of critical habitats and camps
- Fund research into the range and population trends of all EPBC Act listed bat species, with methods developed by lead Australasian Bat Society scientists.

Conservation of the Dingo

Emerging conservation science is increasingly pointing to the importance of dingoes as Australia's top order mammalian predator, helping to control both introduced red foxes and feral cats, and fulfilling critical ecosystem functions. In turn this means that dingoes play an equally important role in protecting a long list of threatened and non-threatened Australian species preyed upon in almost incomprehensible numbers by these feral interlopers. And yet we continue to kill dingoes in large numbers even though a recent CSIRO analysis describes the dingo *(Canis dingo)* as 'near threatened', noting that lethal control programs, widespread across the country, are largely ineffective (Woinarski *et al*. 2014).

HSI has been working to improve national attitudes towards the protection of the dingo since we first opened our doors for conservation business two decades ago, recognising that a significant shift in how dingoes are viewed throughout the country is required before meaningful action is likely to occur.

The legal route

In 2002, HSI joined the Colong Foundation for Wilderness in holding the '*Dingo: Friend of Foe?*' national seminar at the Australian Museum in Sydney, with the conference's Resolutions calling for a range of measures (including legal actions) that were presented to Commonwealth and state Environment and Primary Industry Ministers. Dr Martin Denny of Mt King Ecological Surveys simultaneously undertook work for HSI which assessed the potential for legal protections for dingoes, concluding in his report '*Nomination of the Dingo as a Threatened Species—is it possible and is there an alternative?*' that a way of providing the dingo with additional protections may be to develop legislative nominations for 'threatened population' listings.

It was proposed that this could be accomplished through either a '*Threatened Ecological Community*' nomination under Commonwealth and state legislation, a nomination as a '*distinct population of biological entities*' under Commonwealth law, or as '*endangered populations*' under New South Wales law.

Dr Denny also provided examples of areas where dingo populations might be eligible for listing, which included Kakadu National Park, Barkly Tablelands, Northern Australia, Central Australia, Pilbara, Gibson Desert, Central Queensland, Fraser Island, Melville Island, Bathurst Island, and Groote Island. HSI acted upon his advice, and sought the help of dingo expert Dr Laurie Corbett, who subsequently advised HSI to seek protection for key dingo populations under the National Heritage provisions of the EPBC Act.

HSI had just helped (2004) ensure the passage of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) National Heritage amendments through the Australian Senate, and converted Dr Corbett's written advice into National Heritage nominations for seven of the most important places protecting the most outstanding examples of intact dingo populations in Australia. These were the populations residing in the Arafura Swamp, Bradshaw Training Area, and Kapalga in the Northern Territory, Fraser Island in Queensland, the Kimberley Islands in Western Australia, Kosciuszko in New South Wales, and the Simpson Desert in Central Australia. Due to its particularly outstanding dingo values, the Simpson Desert was re-nominated for a National Heritage listing by HSI in 2016, with other places to follow pending its success in being prioritised for further assessment and potential listing.

These nominations recognised, along with its ecological significance, that the dingo has become ingrained in the fabric of Australian society

HSI sought National Heritage Listings for seven of Australia's most important and intact dingo populations

for historical and cultural reasons. HSI had hoped that these landmark nominations of the dingo as a natural, cultural and Indigenous icon would help develop the concept of 'heritage *species*' listings under the new Commonwealth legislation.

Unfortunately, the government would not accept a heritage species proposal and rejected four of the nominations outright, although the Kimberley Islands nominated by HSI were included in the 2013 listing of the West Kimberley on the National Heritage List. Theoretically, any Commonwealth reassessments of the heritage values of World Heritage Kakadu or Fraser Island would include the resident dingo populations in the nationally and internationally recognised list of "values".

During all these attempts to gain legal protection for the dingo, we have kept up the political pressure where persecution of the dingo has been prevalent and promoted its conservation to our supporters and in the media. This has included ongoing opposition to the killing of dingoes on Fraser Island; seeking the referral of all major 1080 baiting programs across the country to the Commonwealth Minister under the EPBC Act; touring overseas wild predator conservation and control experts, including Dr John Hadidian from our Washington office (The Humane Society of the United States) and Suzanne Stone (Defenders of Wildlife wolf management programs in five US states); and countering industry initiatives such as the National Wild Dog Action Plan developed by Wool Producers Australia and other industry and government dog destruction programs.

Senior staff of HSI and our Wildlife Land Trust (WLT) program have recently been gaining international experience in relation to large predator management, and we are currently a member of an internal global organisational working group on wolves due in part to their ecological roles and management treatment being highly similar to that of dingoes.

HSI also had a look at the use of 1080, one of the tools used by authorities and landholders to kill wild dogs and dingoes, due to concerns regarding its indiscriminate nature and animal welfare implications. In 2001, a report was prepared for HSI, again by Dr Martin Denny, on the *"Application of Sodium Monofluorotoacetate (1080) as a Poison in Vertebrate Pest control in Australia: A review".* In an attempt to ensure better control of 1080 management nationwide, HSI subsequently developed and submitted Key Threatening Process nominations for assessment under Federal, New South Wales and Victorian conservation laws, but were unable to initiate government interest on all fronts. We also helped fund the successful work of the Tasmanian Conservation Trust in significantly reducing 1080 usage in that state, where the poison's abuse had been widespread in the killing of native wildlife.

Further legislative proposals

In early 2010 HSI submitted a threatened species nomination for the dingo to be listed as Endangered under the Federal EPBC Act. Sadly, despite the dingo being considered in both 2010 and 2011, and unusually, for a third year in 2012, the Federal Environment Minister did not agree to include the dingo on the Finalised Priority Assessment List (FPAL).

In late 2011, the Department of Sustainability, Environment, Water, Population and Communities (SEWPaC) wrote to HSI explaining why the predator had not been prioritised for assessment:

"The Committee notes that the dingo is a keystone species and, since European settlement, its range and population size has declined due to ongoing hunting, baiting, hybridisation and establishment of the dog fences. However limited data is available to determine the decline in the species' total population size and geographic distribution throughout its national extent. Additional population studies and surveys would be required to enable detailed assessment to be undertaken. If the species was eligible for listing, protection of the species across different government jurisdictions would be difficult, given the complex policy and legislative management issues across the species' national range. Current management plans do not encompass the entire range of the species. The Committee considers that the development and implementation of a National Conservation Plan, encompassing the entire geographic distribution of the dingo, could be an effective management response." (SEWPaC correspondence, 14/9/11).

Then in 2012, SEWPaC wrote again to HSI explaining that the dingo had not been included on the Finalised Priority Assessment List (FPAL) for the assessment period commencing 1 October 2012 as:

"The dingo presents a complex range of issues relating particularly to definition of species' bounds, cultural and ecological significance, interbreeding with wild dogs, and contested management and legislative requirements at regional, state and national levels. The Committee noted that no substantial additional information to inform an assessment of this species had become available since it last considered it and recommended not including this taxon on the FPAL." (SEWPaC correspondence, 29/8/12).

Noting this requirement of further information and a need for research in a range of areas including the nationwide conservation status of the dingo and even the definition of the species, HSI has continued to lobby for a comprehensive review to be conducted through government initiatives such as the National Environmental Science Programme (NESP).

We believe it is vital that the development of a national dingo recovery/conservation plan be initiated by the Commonwealth, recognising this iconic mammal's natural, Indigenous and cultural importance to Australia. It should incorporate alternative and humane mechanisms for managing livestock conflicts, seek to maintain the dingo's keystone role in Australian ecosystems, and consequently contribute to the recovery of our growing list of threatened native animals.

Our next step was the submission of a KTP nomination under the EPBC Act in March 2015 titled '*The cascading effects of the loss or removal of the mammalian predator, the dingo (including wild dogs and dingo cross dog hybrids) from Australian landscapes'.* This was undertaken as it was becoming clear to us that a major side effect of dingo killing programs was the significantly increased risk posed to threatened species that occur in areas wherever the dingo is subject to lethal controls due to decreased suppression of invasive predators such as foxes and feral cats (mesopredator release). Not only that, but increased risk to livestock as well, with research showing that intact dingo packs are able to hunt traditional prey, whereas individuals from fractured packs resulting from lethal control programs tend to be more opportunistic. As is the case with all HSI efforts pertaining to dingoes, we strongly framed this nomination based on the fact that it is not just 'pure' dingoes that should be conserved, but all dingoes and hybrids that perform the same ecological role.

HSI proposes the establishment of a dingo predator re-wilding program to help suppress feral cats and foxes

In 2015, HSI stressed the essential role of the dingo in supressing feral cat populations in our submission to the Commonwealth government's draft 'Threat Abatement Plan for Predation by Feral Cats', in which we stated, "*The weight of scientific evidence is now sufficient to warrant the establishment of a dingo predator re-wilding program as a broad-scale, cost-effective way of suppressing both cats and foxes to the benefit of literally hundreds of species of native wildlife. While it is fair to say that success of such a program is far from certain, its prospects are far more attractive than continued broad-scale 1080 baiting, which although cheap, lacks evidence of effectiveness."* The Commonwealth's final feral cat plan did not adequately reflect our advice, which we feel was an important opportunity lost.

Our KTP for the loss of dingoes under the EPBC Act was unfortunately not placed on the 2015 FPAL, with the Threatened Species Scientific Committee suggesting that "*While the detrimental effect of the removal of the dingo on ecosystems and species is a valid hypothesis, there is little direct evidence that the removal of dingoes will i) cause a species or ecological community to become eligible for listing; or eligible for listing in a higher threat category; or ii) that it will have an adverse affect on a listed threatened species or ecological community. The Committee would require more extensive data on the direct impact of the threatening process on biodiversity to be able to assess the nomination as a key threatening process. The removal of dingoes from ecosystems is at best an indirect threat to functional ecosystems. The outcomes of listing this threatening process would likely be ineffective in terms of the legislative, social and economic barriers to the successful implementation of abatement measures.*"

Based on this initial response, HSI updated and re-submitted a strengthened KTP nomination as '*The cascading effects of the loss or removal of dingoes from Australian landscapes'* in 2016, providing a greater focus on the positive effects dingo presence has on a variety of birds and small mammals listed as threatened. We also substantially re-drafted our nomination for the dingo as a nationally threatened species, this time under the Conservation Dependent category, while additionally providing evidence for Vulnerable populations to provide the Threatened Species Scientific Committee with flexibility as to the assessments potentially undertaken. As it is a legislative requirement that a national conservation program is in place for a species to be listed as Conservation Dependent, we outlined the need for such a plan to be developed in conjunction with any further assessment. Regrettably, these nominations were once again not prioritised for further assessment in 2016.

In a rare positive move for dingo conservation the Victorian government listed the dingo as a threatened species under state legislation in 2008 in response to a nomination by Dr Ernest Healy of the National Dingo Preservation and Dingo Recovery Program (NDPRP), of which HSI has been a member for several years. However post-listing conservation initiatives to implement new dingo management efforts are struggling, with the view that pure and hybrid dingoes should be treated differently hampering potential conservation gains to the point where they are effectively negated.

The conservation impact of the listing is diminished if there is any perceived degree of hybridisation, rendering the animal a "pest" rather than a protected species. Dingoes and hybrids can look so alike that in most instances it is debatable whether making such a distinction quickly in the field is possible, leading to a de facto regime where 'protected' dingoes are being 'controlled' across the landscape.

Drawing such a line in the sand on hybridisation is simply unnecessary, with evolutionary processes at work on the dingo still acting on hybrids today—dingo traits being those best suited to survival in the harsh Australian environment. The species should be given the benefit of the doubt in the field if it is to survive in the wild in Victoria.

HSI has been supporting the Victorian based NDPRP in running the campaign to improve the effectiveness of this state threatened listing, and we hope to maintain such support in the future. Most recently we have lobbied with the NDPRP to oppose the reintroduction of a 'wild dog' bounty in Victoria. Disappointingly, against all scientific evidence and their previous dingo conservation legacy, the Victorian Labor government announced a return to a misguided bounty program just prior to this publication being printed.

Concurrent actions

Other proposed program efforts encompass assessing the environmental impact and legality of dingo fences (and indeed the general proposition that various dingo control programs may be impacting negatively upon EPBC Act Matters of National Environmental Significance); an assessment of the potential to list the dingo under the United States *Endangered Species Act*; enlisting the support of key US NGOs; further research into dingo ecology (having already financed, in cooperation with the Paddy Palin Foundation and the NSW Zoological Society, work by Dr Aaron Greenville of the School of Biological Sciences at Sydney University in 2014 investigating the role of the dingo in protecting native species from being overhunted by foxes and cats); establishing a '*Dingo Protection Network'* across the HSI Wildlife Land Trust's 400 Australian sanctuaries (as well as HSI's Humane Choice Farms); looking at the legal possibilities for challenging laws that require landholders to bait with 1080 on properties against their will; promoting the establishment of a major Australian property trial with Maremma sheepdogs and stock protection; and seeking to make fresh nominations under all relevant state and territory laws for KTP and species listings, as well as reviewing the potential for '*discrete population*' and '*faunal'* Threatened Ecological Community nominations.

Conservation recommendations

- Commonwealth to initiate the development of a National Dingo Conservation Plan to ascertain population status and trends and ensure the growing body of research demonstrating the keystone role of the dingo is reflected in government policy
- List the dingo as a Conservation Dependent species and loss of dingoes from the landscape as a Key Threatening Process under the EPBC Act
- Trial non-lethal stock protection alternatives to 1080 baiting, such as Maremma dogs, alpacas and donkeys, on a large scale across different Australian landscapes and production regions
- Broaden the legal definition of the dingo to include a degree of hybridisation in all states and territories, but most importantly Victoria to enhance the threatened listing's effectiveness

The Commonwealth must develop a National Dingo Conservation Plan

- Urge the Victorian government to effectively implement legislative obligations to protect and recover the dingo in Victoria
- Move the dingo fence around Sturt National Park in western New South Wales and reintroduce dingoes into Murray-Sunset National Park in northwestern Victoria, and study the resulting impacts on ecosystem health and threatened species abundance
- Support re-wilding programs for dingoes generally, where scientifically sound and ecologically appropriate
- List key national dingo populations under the National Heritage List
- List discrete threatened populations of dingoes under Commonwealth and state threatened species laws' provisions
- Prioritise the assessment of dingo based faunal Threatened Ecological Community nominations
- Ensure the Feral Cat Threat Abatement Plan fully recognises and acts upon recognition of the role of dingoes in suppressing feral cat populations
- The Commonwealth should convene a National Dingo Conservation Workshop during 2017.

References

Woinarski J. C. Z., Burbidge A. A. & Harrison P. (2014) The Action Plan for Australian Mammals 2012. CSIRO Publishing, Melbourne.

Domestic and International Wildlife Trade

The burgeoning global trade in wildlife and wildlife products has always been a priority issue for HSI in Australia and for HSI globally. This includes the job of ensuring that Australia fully implements its trade obligations under CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora), the CBD (Convention on Biological Diversity) and a range of global commercial trade agreements.

HSI has dedicated a very large amount of its time and resources into international and domestic trade campaigns, and the following provides a short overview of this broad trade program.

As a member of the international Species Survival Network (SSN) an alliance of over 80 conservation and animal protection NGOs, HSI has continued to contribute to global campaigns aimed at curbing, controlling and prohibiting trade in the world's threatened species. Our aim has been two-fold: to do all we can to make sure that the Australian government acts in an appropriate conservation manner when voting to list or delist species at Conferences of the Parties (CoP) to CITES (which has often been problematic) and to pursue effective implementation of trade and environment (and animal welfare) protection rules.

HSI carefully monitors our government's attitude to such matters as the illegal trade in ivory and rhino horn, to be certain they are not supportive of any attempts to reignite a legal trade in either of these products—stranger things have happened. In advance of each CITES CoP, HSI Australia and SSN provide the Australian government with a complete analysis and voting recommendations for proposals and working documents to be considered at these meetings. This advice is widely respected and referred to by all CITES Parties during the CoP to inform their positions. Over the years we have helped see the listing of many dozens of species on CITES under threat from global trade, and stopped the commencement of new trade by dealers and nations eager to promote unsustainable wildlife trade programs.

In addition to its role within the SSN network, HSI has also been a long-term Board member of TRAFFIC Oceania (Trade Records Analysis of Fauna and Flora in Commerce) with the current TRAFFIC representative in Australia acting as the organisation's reference point on global fisheries trade. And fisheries trade has formed a major part of HSI's CITES work over the years.

As noted in other sections of this publication we have been successful in working with the Australian and many other governments to break the long-standing reluctance of CITES to list shark species, with institutions like the UN Food and Agricultural Organisation and nations such as Japan ferociously opposed to such listings. But after a very long fight, the blockage was eventually overcome and we are very pleased to have played a role in this critical leap forward for marine fish conservation (see Table 2 on page 120).

There are now 22 shark and ray species, the survival of which is threatened by uncontrolled international trade, listed on Appendix II of CITES (licensed trade) including the great white shark, the great and scalloped hammer-head sharks, and two species of manta rays. Additionally, the entire sawfish family (*Pristis spp.*), is listed on Appendix I of CITES (completely prohibiting trade), a campaign HSI was very much involved in, sparking a long-running battle with the Australian government.

The Commonwealth must implement the species protection provisions in the Environment Chapter of the TPP whether it comes into force or not

We have worked with the Australia Government and industry in attempting the listing of highly valuable and highly threatened marine fish species on CITES, such as the southern bluefin tuna and the Patagonian toothfish, but so far without luck. HSI also helped stop the delisting of the Australian population of the dugong, the broad-headed snake and the gastric brooding frog from CITES; fought successfully with colleague NGOs to halt any plans to trade again in sea turtles; and worked to stop the Japanese and other governments from removing any of the great whale species from CITES.

HSI Australia has attended every CITES CoP since the 1994 meeting in Fort Lauderdale, Florida, often providing expert advisers on the official Australian Delegation. But in the last decade, Australia's performance at these meetings has left a great deal to be desired.

In attempting to strengthen the enforcement of CITES obligations in Australia, HSI worked in 2001 with the Commonwealth government and the Australian Democrats to see the inclusion of new provisions in the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) dealing with wildlife trade. These new clauses dramatically increased the Commonwealth's capacity to enforce wildlife protection obligations, improved animal welfare provisions, and provided some of the toughest penalties in the world.

Our domestic trade work has seen us maintain our focus on marine exports, although not exclusively. We have been to the Federal Court and the Commonwealth Administrative Appeals Tribunal to stop the import of a family of endangered elephants from Thailand (with IFAW and the RSPCA) and to challenge the export of macropod products from Tasmania (pademelons, Bennett's wallabies and brushtail possums). The former resulted in a range of new conditions to vastly improve the welfare of the elephants in captivity, and the latter ended in successful out of court negotiations for an enhanced animal welfare and conservation regime.

We conducted a successful campaign to stop the export of live platypus from Taronga Zoo to a Japanese Zoo; have been holding off for 22 years the demand of the Northern Territory government to export saltwater crocodile trophies taken in organised safari hunts; stopped the export trade in pre-CITES owned rhino horn; pressured to have a ban on the importation of exotic savanah cats that would have posed a threat to Australia's wildlife; provided advice to NGOs on campaign and legislative options for fighting the kangaroo export program; and continued to work with our US offices to maintain US macropod product import bans. We also pushed the Federal government to implement tougher controls on Chinese medicines containing tiger, rhino and bear parts.

HSI has gained policy commitments from the Australian government to develop specific laws to prohibit illegal timbers, especially from Indonesia and Papua New Guinea, with such laws eventually passing through the Parliament. But we have remained unhappy about weaknesses in these current regulations, and are working closely with EDO NSW (Environment Defenders Office NSW) to develop much stronger controls, and to include provisions to prohibit the import of palm oil products.

HSI has also expended a large amount of energy over the last decade trying to ensure that during negotiations for new bilateral and multilateral trade agreements, pressure was maintained and recommendations proposed that promoted the strongest conservation and animal welfare provisions possible. This was particularly so for the Trans Pacific Partnership (TPP) Agreement where HSI worked for many years with our Washington office to help see the emergence for the first time of a stand-alone environment chapter in the final agreement. HSI has now engaged EDO NSW to prepare legislative recommendations that would see all the provisions of that environment chapter effectively enforced in Australia.

Back on the marine trail, we worked very hard to see effective export controls on seahorses; produced an investigative report on the trade in tropical aquarium fish; and are still pursuing a prohibition on the import and export of shark fins.

As noted in the marine chapters, we have found ourselves in the courts challenging the Commonwealth over the approval of an export trade programs for the endangered southern bluefin tuna and the Southern and Eastern Scalefish and Shark Fishery, negotiating a range of improved species management conditions to the latter fishery before export could occur.

HSI's extensive international NGO small grants program, financially supporting anti-wildlife trade and anti-poaching programs in dozens of countries around the world, will be reviewed in a future policy publication.

Dingo

despite HSI's numerous attempts for listing under Commonwealth threatened species and heritage laws, no action has been taken

Appendix I

EPBC Act listed flora protected under HSI nominated TECs

1 Daphandra
2 Buttercup Doubletail
3 Illawarra Irene
4 Cotoneaster Pomaderris
5 Mount Vincent Mintbush
6 Eastern Underground Orchid
7 Illawarra Ziera (Granulate)
8 Downy Wattle
9 Nodding Geebung
10 *Micromyrtus minutiflora*
11 *Pultenaea parviflora*
12 *Allocasuarina glareicola*
13 Tadgell's Bluebell
14 Bynoe's Wattle
15 *Dillwynia tenuifolia*
16 Small-flower Grevillea
17 Hairy-Joint Grass
18 Salt Pipewort
19 Blue Devil
20 Austral toadflax
21 McNutt's Wattle
22 *Picris evae*
23 Ooline
24 Stream Clematis
25 *Croton magneticus*
26 *Denhamia parvifolia*
27 Black Ironbox
28 *Pomaderris clivicola*
29 *Sophora fraseri*
30 *Zieria verrucosa*
31 Queensland White Gum
32 Belson's Panic
33 Spiny Pepper-cress
34 *Xerothamnella herbacea*
35 Mossgiel Daisy
36 Wingered Pepper-Cress
37 *Atriplex infrequens*
38 Slender Darling-Pea
39 White-Flowered Wax Plant
40 Camden White Gum
41 Narrow-Leaved Geebung
42 Spiked Rice-Flower
43 Sydney Plains Greenhood
44 River Swamp Wallaby-Grass
45 Matted Flax-Lily
46 Purple Glycine
47 Gaping Leek-Orchid
48 Maroon Leek-Orchid
49 Dwarf Kerrawang
50 Metallic Sun-Orchid
51 Spiral Sun-Orchid
52 Swamp Everlasting
53 *Philotheca ericifolia*
54 *Tylophora linearis*
55 Curly-Bark Wattle
56 Speargrass
57 Pink-lip Spider-Orchid
58 Woolcock's Spider-Orchid
59 Bluegrass
60 Striate Spike-Sedge
61 Leafless Indigo
62 Erect Pepper-Cress
63 Silver Daisy-Bush
64 Sandhill Greenhood Orchid
65 Menindee Nightshade
66 Roadside Wallaby Grass
67 Southern Ballantine
68 Black-Tipped Spider-Orchid
69 Curly Sedge
70 Curtis's Colobanth
71 Clover Soybean
72 Basalt Pepper-cress
73 Grassland Paper Daisy
74 Tunbridge Leek-Orchid
75 Fleshy Greenhood
76 Golfers Leek-Orchid
77 Pungent Leek-Orchid
78 Midland Greenhood
79 Leafy Greenhood
80 Arthur River Greenhood
81 Grassland Greenhood
82 Tunbridge Buttercup
83 Chariot Wheels
84 Ridged-Water Milfoil
85 Spiny Riceflower
86 Lowly Greenhood
87 Turnip Copperburr
88 Red Swainson-Pea
89 King Bluegrass
90 Small Scurf-Pea
91 Small Golden Moths Orchid
92 Sunshine Diuris
93 Trailing Hop-Bush
94 Adamson's Blown-Grass
95 Hoary Sunray
96 Gorae Leek-Orchid
97 *Prasophyllum frenchii*
98 Fragrant Leek-Orchid
99 Basalt Greenhood
100 Button Wrinklewort
101 Large-fruit Fireweed
102 Swamp Fireweed
103 Dense Cord-Rush
104 Deane's Boronia
105 *Eucalyptus aquatica*
106 *Eucalyptus copulans*
107 Wingecarribee Gentian
108 Tawny Leek-Orchid
109 Wingecarribee Leek-Orchid
110 Smooth Bush-Pea
111 Bantam Bush-Pea
112 Giant Kelp
113 Posidonia Seagrass
114 Baudin's Sea Lavender
115 Bead Glasswort
116 Leafless Rock Wattle
117 Orange-Flowered Wattle
118 Western Wheatbelt Wattle
119 Chapman's Wattle
120 Yornaning Wattle
121 Woolly Wattle
122 Chinocup Wattle
123 Chiddarcooping Wattle
124 Recurved Wattle
125 Bindoon Starbush
126 Kamballup Dryandra
127 Wagin Banksia
128 Southern Serrate Dryandra
129 Ironcap Banksia
130 Barbalin Boronia
131 Cluster Boronia
132 Ironcap Boronia
133 Dwarf Spider-Orchid
134 Cossack Spider-Orchid
135 Ballerina Orchid
136 Williams Spider Orchid
137 Hairy Mat Conostylis
138 Boscobel Conostylis
139 Mogumber Bell, Narrogin Bell
140 Remote Thorny Lignum
141 Keighery's Eleocharis
142 Fitzgerald Eremophila
143 Koobabbie Eremophila
144 Silky Eremophila
145 Pinnate-Leaf Eremophila
146 Resinous Eremophila
147 Rough Emu Bush
148 Lake King Eremophila
149 Wongan Eremophila
150 Whorled Eremophila
151 Campion Eremophila
152 Varnish Bush
153 Mukinbudin Mallee
154 Yandanooka Mallee
155 Scaly Butt Mallee
156 Midlands Gum, Jingymia Gum
157 Mt Yule Silver Mallet, Cadoux Mallet
158 Rose Mallee
159 Steedmans Gum
160 Bodallin Poison
161 Granite Poison
162 Cranbrook Pea
163 Christine's Grevillea
164 Zig Zag Grevillea
165 Lake Varley Grevillea
166 *Bertya ernestiana*
167 Corrigin Grevillea
168 Red Snakebush
169 Branched Hemigenia
170 Round-Leaf Lasiopetalum
171 Scarlet Leschenaultia
172 Woolly Lysiosepalum
173 Jerramungup Myoporum
174 *Paragoodia crenulata*
175 Narrogin Pea
176 Wongan Rhagodia
177 Underground Orchid
178 Mingenew Everlasting
179 Bancroft's Symonanthus
180 Cinnamon Sun-Orchid
181 Star Sun-Orchid
182 Sandplain Thomasia
183 Hill Thomasia
184 Green Hill Thomasia
185 Shy Featherflower
186 Long-Flowered Nancy

Grey-headed

flying-fox (federally protected after nomination by HSI) still faces state government persecution

Appendix II

Contributors' biographies (in order of appearance)

Jessica Morris is a Marine Scientist and Program Officer with Humane Society International. Prior to starting work with HSI in Sydney in 2014, Jess completed her Masters Research in Marine Biology and Fisheries Ecology in 2013 in far north Queensland. Jess' research focussed on mapping global marine turtle populations and nesting sites. Jess has also worked on a number of marine research and conservation projects on dolphins, whales and turtles both in Australia and overseas.

Evan Quartermain is a Senior Program Manager at Humane Society International and has been with the organisation since early 2010. He holds a Bachelor of Applied Science majoring in Ecology and Biomolecular Science from the Queensland University of Technology and is a member of the IUCN World Commission on Protected Areas. Evan is responsible for several of HSI's terrestrial habitat and wildlife protection campaigns and programs, having a particular focus on legislative reform, flying-foxes (including as a member of the NSW Flying-fox Consultative Committee), dingoes, and habitat protection through HSI's Heritage and Threatened Ecological Community nomination programs. As the coordinator of the Australian Wildlife Land Trust for more than six years, Evan has seen the program grow from 40 members to more than 400 at this point in time. He is an experienced speaker on wildlife protection and private land conservation matters, and has presented at several conferences including as the Keynote at the Australian Wildlife Rehabilitation Conference in 2014.

Laura Muir is a Project Officer with Humane Society International working primarily on the expansion of the Wildlife Land Trust, preparation of nominations and legal aspects of several habitat and wildlife protection campaigns. In 2015, Laura undertook an internship with HSI while completing her final year of a Bachelor of International Studies and Bachelor of Laws (Hons) and working as a research assistant with the Dean of Law at Macquarie University, with her research focussing on the international governance of sharks. Laura is currently completing a Graduate Diploma of Legal Practice which included supervised practical legal training as a volunteer at EDO NSW.

Nari Sahukar joined the EDO in 2011. He works with EDO NSW and Environmental Defenders Offices of Australia to promote good environmental regulation. Nari assists community groups, environment groups and government agencies with policy and law reform advice. This includes submissions to agencies and parliamentary inquiries, legal advice, briefing notes and discussion papers on planning and development law, biodiversity protection, mining law, and climate change and energy. Nari has a Bachelor of Arts and Bachelor of Laws (Hons) from Macquarie University, Sydney, and is admitted as a solicitor in NSW.

Judy Lambert AM, BPharm, BSc(Hons), PhD, Grad Dip Env Manag, Grad Dip Bus Admin has a particular interest in the interface between the social and environmental aspects of sustainable living in both rural and urban communities. Improving the links between scientific knowledge, policy and on-ground expertise in ways that enable transformational change is a major focus. Before she and her business partner, the late Dr Jane Elix, formed their consultancy business Community Solutions more than 20 years ago, Judy's career moved from research to community sector environmental advocacy, then government policy work as a fulltime ministerial consultant. Judy has considerable experience as a researcher, facilitator and consensus-builder working on the interactions between primary production, biodiversity protection and natural resource management.

HSI wishes to thank **everybody** involved in the production of this policy publication, we are eternally grateful

Paul Sattler OAM M Nat Res *UNE*, B App Sc (Rural Tech) *QAC*, FQA has a lifetime experience working professionally in nature conservation. He was the principal architect in doubling Queensland's National Park estate in the early 1990s whilst with the Queensland Department of Environment and Heritage. This expansion based on securing representation of biodiversity across all bioregions helped structure this comprehensive approach nationally through the National Reserve System program. Paul initiated and guided the comprehensive description of Queensland's bioregional ecosystems and assessment of their status, a vital planning tool for conservation and natural resource management. He was principal author of the National Land and Water Resources Audit's *Terrestrial Biodiversity Assessment of Australia*, the first detailed assessment of biodiversity at a range of scales nationally. This included the preliminary assessment of condition and trend of biodiversity elements across all bioregions and sub-regions. Paul assisted in the development of a number of national policies and guidelines including forest policy, vegetation management (Member of the Council for Sustainable Vegetation Management), and sustainable management of rangelands. He now manages his own specialised eco-consultancy business and is a part time apiarist. Paul has been awarded an OAM for his services to biodiversity conservation and in 2015 was awarded the University of Queensland Gatton Gold Medal.

Glen Klatovsky is currently the Director of the Places You Love alliance, the largest ever collaboration of Australian environment groups. The alliance represents more than 40 organisations with a combined financial membership of 1.5 million Australians. Previously Glen has been a National Campaigner for the Wilderness Society, the National Carbon Business Manager for Greening Australia and Director, Advocacy for WWF-Australia.

Alexia Wellbelove is currently a Senior Program Manager with Humane Society International. A zoologist by training, Alexia worked in the UK environmental sector for ten years, including a brief spell as an environmental consultant before moving into the NGO sector working for Bat Conservation Trust, Marine Stewardship Council and as the Director of Wildlife and Countryside Link, when she served on many government Committees. She returned to Australia at the end of 2008 and took up the position with HSI in early 2009. With over a decade's experience in the conservation arena, Alexia's work at HSI is currently focused on environmental policy with a particular focus on marine campaign issues, as well as broader conservation, wildlife trade and animal welfare issues.

Stacey Ella started work with EDO NSW in June 2015 as a Solicitor in the litigation team. She advises and represents clients in a broad range of environmental and planning law matters. Stacey has previously worked as a lawyer in the Environment and Planning team at commercial firm Corrs Chambers Westgarth and was a tipstaff to the Hon. Justice Malcolm Craig at the NSW Land and Environment Court. She is admitted as a Solicitor of NSW and the High Court of Australia and holds a Bachelor of Arts (with Distinction) from the University of New South Wales and a Juris Doctor from the University of Technology Sydney. Stacey is currently a member of the NSW Young Lawyers Environment and Planning Law Committee.

Threatened
Species Program

HUMANE SOCIETY INTERNATIONAL

HUMANE SOCIETY INTERNATIONAL
WILDLIFE LAND TRUST

mahogany glider

the first species listed by public nomination under Federal endangered species law, is protected by at least one HSI Wildlife Land Trust member sanctuary