AUSTRALIAN GOVERNMENT RESPONSE TO THE RECOMMENDATIONS OF THE CHRISTMAS ISLAND EXPERT WORKING GROUP

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AUSTRALIAN QUARANTINE AND INSPECTION SERVICE
DEPARTMENT OF REGIONAL AUSTRALIA, REGIONAL DEVELOPMENT AND LOCAL GOVERNMENT
DEPARTMENT OF IMMIGRATION AND CITIZENSHIP
DEPARTMENT OF ENERGY, RESOURCES AND TOURISM

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Expert Working Group recommendations to protect the integrity of Christmas Island ecosystems from further unwanted introductions, prevent additional detrimental changes to the landscape and establish better environmental governance and management frameworks for the island

Recommendation	Lead Responsibility[1]	Analysis and Implications	Response
Recommendation 1: (High priority) Biosecurity management on Christmas Island be upgraded urgently to a standard commensurate with the Island biodiversity values using Chevron Australia's Barrow Island Quarantine Management System as a model (see sections 3.3.4, 4.2, 4.5.4 and 4.6).	Shared (AQIS, DRARDLG)	**Risk of Not Accepting :** There is a high likelihood of future incursions of feral terrestrial and marine pests and exotic diseases without enhanced quarantine procedures **Timeframe:** Immediate **Feasibility:** Enhanced biosecurity management would involve development of specific quarantine protocols, rapid response capacity for controlling or eradicating new introductions and support for community procedures. These are measures in place at sites of commensurate conservation or social significance. **Current Approaches:** The equivalent of 1.5 AQIS staff currently employed to assess all arrivals to the island. AQIS seeks advice of Parks Australia staff in relation to import requests. WA Fisheries is developing and implementing an aquatic pest monitoring and management plan for the port under a Service Delivery Agreement with DRARDLG. DRARDLG also has a Service Delivery Agreement with WA Department of Agriculture and Food for the detection and management of the recently introduced weed parthenium. **Resourcing Status:** Any upgrade of biosecurity management would require provision of additional resources, based on an environmental risk assessment. The Barrow Island Quarantine Management System involves major restrictions on transport of people and equipment to Barrow Island eg prior quarantine cleaning of all machinery, vehicles and aircraft arriving on the island.	Enhancement of biosecurity management supported in principle, subject to availability of additional resources The Barrow Island Quarantine Management System in its entirety is not seen as suitable for Christmas Island due to the latter's much higher level of air and sea traffic and permanent habitation
Recommendation 2: (High priority) The governance of Christmas Island be modified so that environmental governance, including matters of biological protection, conservation management and quarantine, is brought under a single authority with both the power and the resources to be effective (see sections 4.2, 4.3.1 and 4.6).	Shared (DNP, DIAC, DRARDLG)	**Risk of Not Accepting:** Sub-optimal delivery of biodiversity recovery actions without improved governance arrangements and enhanced collaboration **Timeframe:** Long-term **Feasibility:** Low (complex jurisdictional issues which are difficult to resolve) **Current Approaches:** A collaborative approach is adopted by on-island representatives of agencies on key governance issues. A recovery team of key island stakeholders and appropriate scientific representation is proposed to oversee the implementation of the Christmas Island Regional Recovery Plan[2]. However, this does not alter governance arrangements. **Resourcing Status:** Not applicable	Not supported Improved coordination and collaboration among agencies involved in governance of Christmas Island is preferred to the establishment of a single mechanism

[1] Acronyms are defined as follows: AQIS – Australian Quarantine and Inspection Service; DIAC – Department of Immigration and Citizenship; DRARDLG – Department of Regional Australia, Regional Development and Local Government; DSEWPaC - Department of Sustainability, Environment, Water, Population and Communities; DNP - Director of National Parks, responsible for the administration, management and control of Commonwealth reserves and conservation zones and assisted by Parks Australia, a division of DSEWPaC

[2] The Christmas Island Regional Recovery Plan once adopted will be a formal national recovery plan for all terrestrial species on Christmas Island which are nationally listed as threatened under the EPBC Act and the proposed recovery team will assist in identifying priorities and adaptively identifying actions under the plan, in response to results of new research and management initiatives

Recommendation 3: (High priority) The pressures on the environment posed by the increasing use of the Island as an Immigration Detention Centre and the continuation of mining be recognised and minimised or adequately managed through new governance arrangements, with biodiversity conservation being the highest priority. This must include much better management of the roads between the Settlement and the IDC to greatly reduce the high level crab deaths due to vehicles (sections 3.2, 3.3.4, 4.5.7 and 4.11).	Shared (DIAC, DNP, DRARDLG)	**Risk of Not Accepting:** Continuing unacceptably high level of crab mortality due to vehicles **Timeframe:** Medium-term **Feasibility:** Medium (significant education, management and infrastructure issues to be addressed) **Current Approaches:** Road closures and crab crossings are in place during red crab migration periods to reduce mortality but are inadequate to address increased traffic arising from expanded use of the Immigration Detention Centre and associated facilities, particularly the resort. In addition, several crab crossings will be established on the East West Baseline road in 2011. DRARDLG has commissioned a feasibility study into sealing the road to the Centre which includes consideration of crab crossings. The upgrade of Linkwater road in 2011 which will greatly reduce crab mortality during migrations by providing alternative vehicle access to the resort. **Resourcing Status:** Additional resources are required to install more crab crossings in key areas	Supported in part Better management of roads between the Immigration Detention Centre and settlement is supported however major changes to governance arrangements are not required and are not supported
Recommendation 4: (High priority) The utilisation and management of surface and subterranean water and coastal marine waters be addressed as part of improved island governance (section 4.5.7). In practice this recommendation should include the following: 1. Urgent completion of a Service Delivery Agreement between the Attorney General's Department and the Western Australian Department of Water so that the water supply on Christmas Island can be properly regulated. 2. Proclamation of Christmas Island as a water reserve under relevant WA legislation and development of a Water Resource Management Plan ensuring that water allocation is dependent on a licence with suitable conditions issued by the Department of Water in consultation with the authority proposed in Recommendation 2. Water supply to be permitted only where it is sustainable for both human use and environmental needs. 3. Development of a groundwater model for Christmas Island and installation of new monitoring bores as required to ensure model calibration and the sustainability of water use. 4. Sharing of costs associated with implementation of the above recommendations between the Commonwealth government and the WA Water Corporation.	Shared (DNP, DRARDLG)	**Risk of Not Accepting:** Continued lack of understanding of the island's water resources leads to potentially unsustainable water extraction, reductions in water quality and negative impacts on biodiversity and groundwater dependent ecosystems, including Ramsar wetlands and subterranean cave systems **Timeframe:** Medium-term **Feasibility:** Medium (significant jurisdictional and administrative issues to be resolved) **Current Approaches:** Not being fully addressed. DRARDLG has a Service Delivery Agreement with WA Water Corporation to supply services and has directed the Corporation to provide advice on technologies that can be used to better understand water supply issues. The Report for Crown Land Management Plan, prepared for DRARDLG in 2009, includes a recommendation that the Island's basalt layer be mapped to determine groundwater resources but is yet to be implemented and is a priority. **Resourcing Status:** Additional resources required	Supported in principle, subject to availability of additional resources and further detailed consideration of appropriateness of proposed actions

Recommendation 5: Priority (High priority) Environmental management of the island, including quarantine, research, restoration, environmental approvals and associated compliance, be improved through a single line budget, an appropriate level of funding and management accountability supported by a scientific advisory system and an appropriate research facility (section 4.3.1, 4.5.3 and section 6)**.**	Shared (AQIS, DRARDLG, DNP)	**Risk of Not Accepting:** Budgetary allocations continue to be applied sub-optimally arising from overlaps and underlaps between agency programs **Timeframe:** Long-term **Feasibility:** Low (complex jurisdictional issues which are difficult to resolve) **Current Approaches:** Budgetary decision-making is handled by relevant agencies independently but would be improved through better cooperation and collaboration **Resourcing Status:** Not applicable	Not supported Improved coordination and collaboration among agencies involved in governance of Christmas Island is preferred to the establishment of a single budget mechanism
Recommendation 6: Priority (High priority) Where commercial leases or other commercial regulatory instruments exist or are proposed, their negotiation should include additional resources to research and manage areas or matters of high conservation importance (sections 4.5.6 and section 6 lesson 5).	Shared (DSEWPaC, DRARDLG)	**Risk of Not Accepting:** Commercial developments fail to take account of impacts on biodiversity **Timeframe:** Medium-term **Feasibility:** Medium (commercial and legislative issues to be considered) **Current Approaches:** Environmental impacts of commercial developments are subject to assessment via the EPBC Act. Additional research and management can form part of the conditions for approval of a particular development. **Resourcing Status:** To be met from existing resources	Supported Similar policy and practices consistent with those followed on mainland Australia will be implemented
Recommendation 7: (High priority) A science management strategy be developed for Christmas Island as a whole and the management lessons identified elsewhere in this report become part of this process and a Christmas Island Conservation Research Centre be established (sections 4.3.1, 4.5.3 and 4.13).	DNP	**Risk of Not Accepting:** Research effort is fragmented, does not provide improved biodiversity outcomes and receives insufficient support **Timeframe:** Medium-term **Feasibility:** High **Current Approaches:** Many recommended research/science related actions are or will be soon underway. Research and monitoring priorities are identified in the drafts of the Christmas Island National Park Management Plan and the Christmas Island Regional Recovery Plan and in the park's biodiversity monitoring strategies. Work is also proposed via the National Environmental Research Program to better identify research priorities. Formalisation via a science management strategy is a natural extension of this work and is being progressed through these strategies and the proposed recovery team. Minor upgrading of the existing Pink House research station is underway. **Resourcing Status:** Minor upgrade being met from existing resources. A Christmas Island Conservation Research Centre is not currently resourced.	Supported in principle, subject to availability of additional resources Preparation of a science management strategy is supported. The planned minor upgrade of existing research facilities is inadequate to support the necessary research effort. A Conservation Research Centre would require both establishment costs and ongoing running costs. A science management strategy should be cognisant of community needs and current and future economic development opportunities.

Expert Working Group recommendations for management of the island's ecological processes so as to prevent further loss of biodiversity

Recommendation	Lead Responsibility	Analysis and Implications	Response
Recommendation 8: (High priority) In the absence of any alternative, baiting Yellow Crazy Ant supercolonies with Fipronil continues as a short-term control measure, but with greatly enhanced monitoring of its non-target effects (sections 4.4 and 4.5.3).	DNP	**Risk of Not Accepting:** Failure to continue baiting with Fipronil will lead to widespread re-establishment of ant super-colonies **Timeframe:** Being implemented **Feasibility:** High **Current Approaches:** Baiting with Fipronil has been conducted since 2000 and has been shown to be highly effective. The baiting program is conducted on advice of the Crazy Ant Scientific Advisory Panel. In August 2009, research commenced into bio-accumulation of Fipronil and its potential effect on the Christmas Island ecosystem as part of aerial baiting; the results of the study indicate that Fipronil is not accumulating in the environment of Christmas Island, including water, soil, sediments and non-target invertebrate species. Trials of an alternative bait (borax) via fixed bait stations by Christmas Island Phosphates commenced in 2009. **Resourcing Status:** Existing resources have been continued until 2014-15	Supported
Recommendation 9: (High priority) The initial steps taken already to explore biological control of the introduced scale insects be accelerated and biological control trials be started as soon as possible (sections 4.4, 4.5.3, 4.11.1). In addition helicopter bait delivery trials be conducted over larger areas of the island with the aim of preventing rapid re-establishment of Yellow Crazy Ant supercolonies. These and other initiatives should be implemented within an adaptive management and integrated pest control framework (sections 4.4 and 4.11.1).	DNP	**Risk of Not Accepting:** Continued baiting with Fipronil is not an effective long-term control measure due to cost and potential long-term impacts on non-target species **Timeframe:** Being implemented **Feasibility:** Medium (feasibility of successful biological control unknown) **Current Approaches:** In November 2009 a three-year research program to develop biological control alternatives commenced via a partnership with LaTrobe University. In September 2009 aerial baiting of 784 hectares of super-colonies was conducted. Fipronil was applied with a lower component of active ingredient (0.01%) than previously (0.1%). Monthly monitoring at baited sites shows no evidence of ant population recovery at any of these sites. Baiting with Fipronil over larger areas is not being considered as the control strategy relies on baiting super-colonies in order to minimise off-target impacts. However, aerial baiting trials over larger areas may be considered if alternative baits with low off-target impact are developed. Aerial baiting avoids settled areas of the island in view of community concerns about human health. **Resourcing Status:** Existing resources have been continued until 2014-15	Supported, subject to the development of new baits
Recommendation 10: (High priority) Monitoring of biodiversity condition and trends be continued but with a high priority for continuous improvement and adaptive management that is informed by the independent scientific advisory system of Recommendations 5 and 7 (sections 4.3.2, 4.13).	DNP	**Risk of Not Accepting:** Inappropriate monitoring is inadequately informed by scientific advice and fails to identify significant trends in biodiversity and changes in Island ecosystems **Timeframe:** Being implemented **Feasibility:** High **Current Approaches:** Biennial island-wide surveys have been undertaken since	Supported subject to availability of additional resources Exact mechanism for provision of independent science advice requires further consideration

		2001 at 900 to 1,000 sites across the island, focussing on red crab and crazy ant distribution and abundance. In 2009, other key indicator species (birds, reptiles and feral pests and weeds) were added. Long-term ecosystem and species monitoring is also being established at a subset (50-100) of the sites to gather additional information not available through the biennial surveys. This will enable detection of changes in abundance of individual species and to species assemblages over time. The implementation of the monitoring regime will be subject to available resources. Although monitoring of the marine environment is not included in the surveys, independent researchers and/or WA Fisheries have conducted monitoring studies on coral bleaching, marine pests and hybrid fish. **Resourcing Status:** Existing resources have been continued until 2014-15. Except for surveys for marine pests by WA Fisheries (under a Service Delivery Agreement with DRARDLG) marine monitoring is not currently resourced.	
Recommendation 11: (Medium to High priority) Threats to the island's subterranean fauna and marine ecosystems be assessed and appropriate processes developed to address them (section 4.14).	Shared (DNP, DRARDLG)	**Risk of Not Accepting:** Marine pests lead to decline in marine biodiversity and pollution and excessive water extraction lead to decline in subterranean biodiversity **Timeframe:** Medium-term **Feasibility:** Medium (monitoring and assessment procedures require development) **Current Approaches:** DRARDLG has a Service Delivery Agreement with WA Fisheries to develop and implement a fisheries management strategy for the Indian Ocean Territories which includes some monitoring surveys for marine pest species at Christmas Island. Bag limits under WA fishing legislation are proposed and once adopted are likely to be adopted by DNP. **Resourcing Status:** Additional resources required to develop comprehensive monitoring and assessment procedures	Supported in principle, subject to availability of additional resources
Recommendation 12: (High priority) A comprehensive review that builds on this report be commissioned to determine gaps that must be filled in our understanding of the biology and population ecology of Red Crabs. Subsequently commissioned research needs to focus on informing adaptive management that concentrates on crab population enhancement and reestablishment in areas from which they have been eliminated (sections 4.4, 4.9.2 and 4.11.1).	DNP	**Risk of Not Accepting:** Insufficient information on crab biology and population ecology to support recovery of crab populations **Timeframe:** Medium-term **Feasibility:** High **Current Approaches:** Investigation of population genetics is being conducted in collaboration with several research institutes. Investigations of migration patterns for red crabs are being initiated. **Resourcing Status:** Additional resources required	Supported in principle, subject to availability of additional resources
Recommendation 13: (**Medium priority**) Red Crabs be re-introduced experimentally to ghost forests[3] (section 4.4).	DNP	**Risk of Not Accepting:** Recovery of island ecosystems is delayed by failure of red crabs to recolonise ghost forest areas **Timeframe:** Medium	Supported in principle, subject to availability of additional resources

[3] Ghost forests are forest from which the resident Red Crabs have been eliminated by the direct impact of Yellow Crazy Ants

		Feasibility: Medium (experimental design to be developed) **Current Approaches:** Not currently being addressed however experimental recolonisation of rehabilitated areas is planned. Collaboration with research institutions is desirable. **Resourcing Status:** Additional resources required	
Recommendation 14: (High priority) Robber Crabs be given a high conservation priority and a study of their population ecology and key threats be undertaken as soon as possible (section 4.11.2).	DNP	**Risk of Not Accepting:** Accelerated decline in robber crab populations **Timeframe:** Immediate **Feasibility:** High **Current Approaches:** An urgent need not currently being addressed. Research into aspects of robber crab biology is currently being conducted via the Max Planck Institute but does not address population size and other ecological information which is lacking. Monthly monitoring of robber crab mortality rates from vehicles is being conducted. **Resourcing Status:** Additional resources required	Supported in principle, subject to availability of additional resources
Recommendation 15: (High priority) Eradication of Black Rats and Feral Cats from Christmas Island be carried out as soon as possible in a coordinated project and research into rat eradication commence as soon as possible (sections 4.5.2.2 and 4.9.2).	Shared (Shire of Christmas Island, DNP, DRARDLG)	**Risk of Not Accepting:** Failure to address the impacts of cats and black rats will limit effectiveness of other recovery measures already undertaken or proposed **Timeframe:** Medium-term **Feasibility:** Questions remain as to the feasibility of eradicating cats and especially black rats from a large, inhabited island. A coordinated control program is required. **Current Approaches:** An island-wide management plan for the control of black rats and feral cats has been completed. The Shire of Christmas Island has introduced cat by-laws. Initial collaborative implementation of the plan has commenced with a de-sexing program for pet cats completed and a program for the control of stray and feral cats in settled areas initiated. **Resourcing Status:** A comprehensive and coordinated program to control or eradicate black rats and cats would require provision of additional resources	Supported in principle, subject to availability of additional resources
Recommendation 16: (High Priority) A comprehensive program of invertebrate biodiversity research be undertaken resolved to a high taxonomic level and that the definitive collection of Christmas Island invertebrates be housed in a recognised public fauna collection with only non-critical voucher specimens retained on Christmas Island (section 4.13).	DNP	**Risk of Not Accepting:** Insufficient knowledge to support conservation of endemic invertebrate populations and the ecological processes they underpin; loss of existing scientific invertebrate collections currently located on-island **Timeframe:** Medium-term **Feasibility:** Medium (significant constraints in terms of taxonomic knowledge and available researchers) **Current Approaches:** Not currently being addressed. Existing scientific invertebrate collection located on-island is housed under inadequate conditions and may deteriorate and be lost. Transfer of collection to the CSIRO Australian National Insect Collection is being investigated, with a reference collection to be retained on-island. **Resourcing Status:** Additional resources required	Supported in principle, subject to availability of additional resources

Recommendation 17: (Medium priority) Potential 'sleeper' species of both exotic plants and animals be identified and those species identified as being a high threat to the island's biodiversity be eradicated (section 4.5.1).	Shared (DNP, DRARDLG)	**Risk of Not Accepting:** Introduced species that are currently benign become significant threats to Island biodiversity from ecological and climate change, without suitable management responses being available **Timeframe:** Medium-term **Feasibility:** Medium (significant taxonomic and ecological constraints) **Current Approaches:** Not currently being adequately addressed. A weed management plan was partially implemented 2005-2009 but discontinued due to lack of funding. Siam weed was detected in 2010; the infestation is currently being managed by park staff and monitoring for further infestations continues including via the island-wide survey. The WA Department of Agriculture and Food conducts some weed management work, focused on parthenium control, under a Service Delivery Agreement with DRARDLG. **Resourcing Status:** Additional resources required	Supported in principle, subject to availability of additional resources A response unit to deal with new incursions while still controllable is necessary and may be partially achieved through the adaption of the current Service Delivery Agreement for control of parthenium
Recommendation 18: (High priority) Sampling take place to establish baseline levels of prevalence of pathogens, disease and parasites in selected endemic animals and plants (section 4.5.4).	DNP	**Risk of Not Accepting:** Lack of knowledge of disease status of endemic species hinders diagnosis of declines and implementation of recovery actions **Timeframe:** Being implemented **Feasibility:** High **Current Approaches:** Taronga Zoo was contracted in May 2010 to undertake disease assessments of native mammals and reptiles. The assessments did not identify any significant disease issues. **Resourcing Status:** Being met from existing resources. No additional resources required at this stage.	Supported (completed)
Recommendation 19: (High priority) Sampling take place to establish disease (including parasite) levels in exotic plants and animals now present on Christmas Island (specifically including Black Rats, Feral Cats, Dogs, Tree Sparrows, Java Sparrows, House Geckos, Wolf Snakes and Giant African Land Snails) (section 4.5.4).	DNP	**Risk of Not Accepting:** Lack of knowledge of disease status of introduced species hinders diagnosis of declines and implementation of recovery actions **Timeframe:** Being implemented **Feasibility:** High **Current Approaches:** Taronga Zoo was contracted in May 2010 to undertake disease assessments of selected introduced species. The assessments did not identify any significant disease issues. **Resourcing Status:** Being met from existing resources. No additional resources required at this stage.	Supported (completed)
Recommendation 20: (Medium priority) A program of regular and robust monitoring of these pathogen levels be developed (section 4.5.4). and **Recommendation 21: (Medium priority)** The development of a response protocol and framework associated with the monitoring program be undertaken (section 4.5.4).	DNP	**Risk of Not Accepting:** Undetected disease lead to declines in biodiversity **Timeframe:** Medium-term **Feasibility:** Medium (monitoring protocols to be developed) **Current Approaches:** Not currently being addressed **Resourcing Status:** Limited capacity to meet from existing resources if need for response is established	Supported in principle Future effort dependent on availability of additional resources

Expert Working Group recommendations for management actions that can be taken immediately to prevent or slow biodiversity loss

Recommendation	Lead Responsibility	Analysis and Implications	Response
Recommendation 22 (High priority) A program for checking for the presence of the Pipistrelle be continued for the next two years, with a response protocol in place for implementation should a detection occur (Section 4.7).	DNP	**Risk of Not Accepting:** Failure to detect the presence of a remnant pipistrelle population would reduce the chance to initiate a targeted recovery response **Timeframe:** Being implemented **Feasibility:** High **Current Approaches:** Anabat detectors remain at various locations around the island, including leased areas, as part of integrated ecosystem monitoring and will be maintained for the foreseeable future. A response protocol has been developed in the event that bats are detected. No bats have been detected since August 2009. **Resourcing Status:** Being met from existing resources	Supported (being implemented)
Recommendation 23 (High priority) All proposals for land clearance and resource extraction on the island be subject to rigorous assessment and amendment where necessary to prevent significant impact on Island biodiversity. Where land clearance and resource extraction is approved associated conditions should be locally monitored and enforced (section 4.5.6).	Shared (DSEWPaC, DRARDLG)	**Risk of Not Accepting:** Exacerbation of existing threatening processes for biodiversity through inappropriate land clearing **Timeframe:** Immediate **Feasibility:** High **Current Approaches:** Assessments of environmental impact are made under the EPBC Act and WA vegetation clearance legislation **Resourcing Status:** To be met from existing resources. No additional resources required.	Supported Status quo is supported; land clearing is already subject to rigorous conditions
Recommendation 24: **(High priority)** The costs / benefits and need for a flying fox captive breeding program be considered, for establishment, if recommended, by December 2010 (section 4.10).	DNP	**Risk of Not Accepting:** Any sudden decline in the flying-fox population demands urgent action which has not been adequately costed beforehand **Timeframe:** Medium-term **Feasibility:** High (feasibility of a captive breeding program unknown) **Current Approaches:** A flying-fox monitoring program has been put in place to provide an improved assessment of population status. Genetic samples collected as part of disease assessments undertaken by Taronga Zoo (see recommendations 18 and 19) will be used to clarify taxonomic status. **Resourcing Status:** Assessment of population status is being met from existing resources. Establishment of a captive breeding program would require additional resources (if pursued).	Supported in principle (longer timeframe required)

Recommendation 25: **(High priority)** Appropriate monitoring and targeted research be conducted to identify major threatening processes for the endemic flying fox (Section 4.10).	DNP	**Risk of Not Accepting:** Continuing decline in flying-fox population in the absence of improved diagnosis of threatening processes **Timeframe:** Immediate **Feasibility:** Medium **Current Approaches:** A flying-fox monitoring program has been put in place to provide an improved assessment of population status. Disease assessments undertaken by Taronga Zoo (see recommendations 18 and19) did not identify any significant disease issues for the flying-fox or the other species sampled, suggesting disease is unlikely to be a major threatening process. Identification of other major threats is not currently being adequately addressed. **Resourcing Status:** Additional resources required to identify major threats	Supported in principle, subject to availability of existing resources
Recommendation 26: (High priority) Measures be implemented immediately to exclude Cats from Red-tailed Tropicbird nesting areas along the Settlement shoreline (section 4.9.2).	Shared (Shire of Christmas Island, DNP, DRARDLG)	**Risk of Not Accepting:** Continued decline in nesting success for red-tailed tropicbirds is likely without effective protection from cat predation **Timeframe:** Immediate **Feasibility:** High **Current Approaches:** Cat control at the Settlement included in the island-wide management plan for the control of black rats and feral cats. Cat by-laws introduced by the Shire of Christmas Island include a cat prohibited area at the Settlement. A program for the control of stray and feral cats in settled areas, focused on the Settlement area, has been initiated. **Resourcing Status:** Cost of current program focusing on the Settlement area is being shared by DNP, DRARDLG, the Shire of Christmas Island and Christmas Island Phosphates. However, additional resources will be required to implement a successful long term program.	Supported, subject to availability of additional resources above those already committed
Recommendation 27: (High priority) The recently established captive breeding program for the Blue-tailed Skink, Lister's Gecko and Forest Skink be continued (section 4.8).	DNP	**Risk of Not Accepting:** On-going unknown threatening processes mean that captive insurance populations of declining reptile species are necessary to prevent extinction. Off-Island populations are desirable to guard against on-island catastrophic events. **Timeframe:** Being implemented **Feasibility:** High **Current Approaches:** The island-based breeding program has been successful however its continuation requires engagement of professional captive management expertise. In May 2011 Taronga Zoo and DNP signed a partnership agreement covering both on-island support and the maintenance of off-island populations. Secure populations of the blue-tailed skink and Lister's gecko have been established at Taronga Zoo under the agreement. **Resourcing Status:** Being met from existing resources	Supported (being implemented)

Recommendation 28: (High priority) Appropriate monitoring and/or targeted research be conducted to identify major threatening processes for endemic reptiles (section 4.8).	DNP	**Risk of Not Accepting:** Continuing decline in endemic reptile populations is likely without improved diagnosis of threatening processes **Timeframe:** Immediate **Feasibility:** High **Current Approaches:** Egeria Point (remaining stronghold of endemic reptile populations) monitoring sites have been established and have been regularly monitored; additional island-wide monitoring sites are also being established. Diagnosis of threats is being partially undertaken by park staff' Taronga Zoo and SA Museum, which is assessing threats posed by centipede and wolf snake predation. However, further resources are needed to assess other potential threatening processes in a more strategic manner. **Resourcing Status:** Additional resources required	Supported, subject to availability of additional resources
Recommendation 29: (High priority) Fundamental investigations continue and be augmented by adaptive management and aspects of Integrated Pest Control experimental work to develop cost-effective methods to break the scale insect – Yellow Crazy Ant mutualistic dependence (sections 4.4 and 4.5.3).	DNP	See Recommendation 9	Supported
Recommendation 30: (High priority) "Christmas Island and its surrounding seas" be considered for listing as a threatened ecological community under the Environment Protection and Biodiversity Conservation Act (section 5.1).	DSEWPaC	**Risk of Not Accepting:** Successful listing as a threatened ecological community would not significantly expand level of legislative protection since threatened species and Commonwealth land triggers already exist. Conversely, there is the risk that the resources required for assessment and listing may be diverted from assessments on the priority assessment lists or from on-ground threat reduction measures; local community and stakeholder opposition is also possible. **Timeframe:** Medium-term **Feasibility:** High **Current Approaches:** Not currently being considered. Assessment for listing under the heritage provisions of the EPBC Act is underway and, if approved with natural values, would provide further legislative protection. Implementation of the Christmas Island Regional Recovery Plan will address threatening processes. **Resourcing Status:** Additional resources required (if pursued)	Not supported Successful listing as a threatened ecological community would not significantly expand level of legislative protection and may divert resources from priority assessments or on-ground threat reduction measures
Recommendation 31: (High priority) An appropriate community communications program relating to the recovery of Christmas Island biodiversity and re-establishing key ecological relationships be planned and executed (sections 4.3.1 and 5.2).	Shared (Shire of Christmas Island, DNP, DRARDLG)	**Risk of Not Accepting:** Reduced level of community support hinders effective implementation of recovery actions **Timeframe:** Immediate (being implemented in part) **Feasibility:** High **Current Approaches:** Articles in local paper and some community and school educational activities are currently being undertaken. A community-based reptile watch program is in development. Induction programs are run for Australian Government staff and contractors arriving on the island. Good community response has been received in relation to education regarding management of red crab migration events. **Resourcing Status:** To be met from existing resources	Supported The community communications program should recognise the Australian Government's position on the social, environmental and economic priorities for the island including the need to raise awareness on pest management

Findings with wider applicability

Recommendation	Lead Responsibility	Analysis and Implications	Response
Recommendation 32: (High priority for DSEWPaC as a whole) 1. National recognition (and concomitant resourcing) of Australia's iconic islands, many of which have extraordinary conservation values and a high susceptibility to biodiversity loss. 2. Long continuity in conservation management, with appropriate monitoring and adaptive capacity. 3. Development and implementation of a management prioritisation framework. 4. More systematic and streamlined processes for identification and review of threatening processes and lists of threatened species, including those in conservation reserves. 5. The application of suitable conditions on developments to create additional resources to manage areas or matters of high biodiversity conservation importance. 6. Development and maintenance of a secure funding stream for the conservation management of all biodiversity aspects of Parks Australia reserves. 7. Development and maintenance of robust, integrated monitoring programs for Parks Australia reserves, including for threatened species, ecosystem health and other matters of particular conservation significance, the provision of annual reports on such monitoring and using monitoring as a basis for ongoing adaptive management. 8. Improved monitoring and stronger incorporation of adaptive management into Recovery Plans. 9. Development of explicit response protocols for intervention in recovery planning, including the option of precautionary establishment of captive breeding populations. 10. Establishment of conservation reserves is a useful step towards biodiversity conservation, but must be accompanied by appropriate management for biodiversity conservation outcomes; this must include direct assessment of threats (especially by introduced biota), biodiversity condition and trends, and of management effectiveness.	DSEWPaC	The recommended actions represent a broad and far-reaching set of measures which extend well beyond Christmas Island and have significant budgetary implications. These actions are being taken into account in the delivery of national initiatives such as *Australia's Biodiversity Conservation Strategy 2010-2030*.	Addressed in part via the aims of Australian Government strategies and programs