Senate Standing Committee on Environment and Communications
Legislation Committee
Answers to questions on notice
Sustainability, Environment, Water, Population and Communities portfolio
Budget Estimates, May 2012

Program: Division or Agency:	1.1: PAD	**Question No:**	020
Topic:	Caring for our Country – 2010-11 Departmental and Agency Contracts		
Proof Hansard Page and Date	Written		
or Written Question:			

Senator Edwards asked:

Financial Year 2010/11 Senate Order on Departmental and Agency Contracts Listing Relating to the Period 01 July 2010 – 30 June 2011 – DSEWPaC Procurement Contracts http://www.environment.gov.au/about/contracts/pubs/2010-11-fy-senate-order-list.pdf

1. Please provide the details of the Commonwealth funding provided for the following acquisitions by the South Australian Department of Environment and Natural Resources in South Australia in the 2010-2011 financial year:
    a. Hunthawang
    b. Naracoorte Caves National park
    c. Sceale Bay
    d. Rushy Swamp
    e. Kotthoff Grassland
2. For each of the acquisitions list the following:
    a. The amount of funding provided
    b. The reasons provided to the Commonwealth by Department of Environment and Natural Resources for the acquisition
    c. Any conditions the Commonwealth may have attached for the provision of funding.

Answer:

1. Funding has been provided to the South Australian Department of Environment and Natural Resources to include Naracoorte Caves, Sceale Bay and Rushy Swamp in the National Reserve System (NRS). Hunthawang is in New South Wales and Kotthoff Grassland lies in Victoria.

2.

a.

Project	**Commonwealth Funding provided for acquisition (GST inclusive) ($)**
Acquisition of Naracoorte Caves National Park	209,734
Acquisition of Sceale Bay	366,666
Acquisition of Rushy Swamp	582,780

b. These properties were purchased to protect significant biodiversity values, improve resilience and ecological connectivity in the landscape, add to the protection of under-represented bioregions and contribute to the conservation of matters of national environmental significance such as listed threatened species.

c. In addition to standard Commonwealth grant provisions, the following conditions are attached to the provision of funds through NRS funding agreements:

- provision of one third of the funds required to purchase the land and establish the protected area;
- provision of the resources to fund the management of the protected area in-perpetuity;
- purchase the (freehold and/or leasehold) land that was described in the application within six months of receiving the grant;
- preparation of interim management guidelines for the land, in consultation with a steering committee;
- submission of interim management guidelines for approval to the Department of Sustainability, Environment, Water, Population and Communities (the department) within three months of purchasing the land;
- establishment of a protected area over the land within two years of purchase;
- preparation of a plan of management for the land, in consultation with a steering committee;
- submission of a plan of management for approval to the department within two years of purchasing the land;
- management of the land as a protected area:

- in-perpetuity; and
- in accordance with the relevant IUCN Protected Area Management Category (which Grantees nominate in the application process), the interim management guidelines and then the Plan of Management; and

- evaluation of progress against milestones and regular reporting.

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Program: Division or Agency:	1.1: PAD	**Question No:**	021
Topic:	Camel numbers in Uluru National Park		
Proof Hansard Page and Date	37		
or Written Question:	(22/5/12)		

Senator Birmingham asked:

Senator BIRMINGHAM: What are your current estimates in terms of camel numbers in the park?

Mr Cochrane: I would have to take that on notice. I am not going to hazard a guess.

Answer:

Camels are highly mobile animals and as the park is small in the context of the wider central Australian landscape their numbers in the park will vary dramatically as they move into and out of the park.

The most recent estimate of camel abundance in this area was carried out by aerial survey in 2011 as a component of a much larger survey. At that time approximately one third of the park was estimated as having a camel density of 0.88 animals per square kilometre. The remaining two thirds of the park was estimated as containing 0.33 animals per square kilometre.

Therefore the estimate of camel abundance in the last survey for the park was approximately 700 camels across 1,325 square kilometres of the park. However, it is important to note that this is an estimate only and camel numbers will fluctuate markedly between days and depending on local environmental conditions.

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Program: Division or Agency:	1.1: PAD	**Question No:**	022
Topic:	Effect of increased carbon on ecosystems		
Proof Hansard Page and Date	39-40		
or Written Question:	(22/5/12)		

Senator Cameron asked:

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CHAIR: What other animals do you have that could be affected by CO2?

Mr Cochrane: We certainly have a number of browsers of vegetation, including eucalypt vegetation, such as wallabies, kangaroos and gliders that would eat sap from eucalypts and other species. As you point out, increased CO2 and increased growth rate can change the chemical composition of leaves and sap. I am not aware of any studies that are directly undertaken in our parks that address that particular question, but that is an interesting one. If I could take it on notice and I will ask the question.

CHAIR: We have had evidence about the effects on koalas, so I assume that other animals who rely on these eucalypt leaves may have the same problem. I could not say that for sure. So, given that they are in your parks and you have some responsibility, we would appreciate it, especially on the view that these animals would not notice a doubling of the CO2, if anyone has any views on that.

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CHAIR: For the proposition that animals would not notice a doubling of the CO2, you will come back to me on that?

Mr Cochrane: I will, but there are two issues there. One is the direct impact, which I think is what you are saying, but there are indirect impacts that would be very difficult to tease apart. I do know there has been work done on that.

Answer:

While increased concentrations of CO_2 in the atmosphere are expected to have an impact on many species globally, the more immediate threats to species and ecosystems are changes in temperature, weather patterns, water availability and fire regimes.

Potentially, all living things within Commonwealth reserves could be impacted by elevated concentrations of CO_2. With regard to whether animals may notice a doubling of CO_2 in the air that they breathe, this agency is not aware of any specific research investigating the direct consequences of animals breathing and adapting (or not) to elevated levels of CO_2 for example by changing physically, physiologically or behaviourally.

A range of research has been undertaken internationally and in Australia to investigate the impact of elevated concentrations of CO_2 on plants and the flow on effect to dependant insects and animals. Results so far indicate that plants generally respond by increased growth (producing more biomass) and with these changes there are variations in the concentrations of nitrogen, sodium, tannins and other chemicals within their tissues. As a consequence, dependant animals and insects may absorb less nitrogen and other essential nutrients in their diet. Some leaf eating animals and insects are able to supplement these deficiencies through increasing their intake of leaf material. Others may be physically unable to make such adjustments and will need to either move to other food sources or be physically impacted.[1]

Marine areas within the responsibility of the Director of National Parks contain many species that are likely to be impacted by the increased CO_2 that is taken up in sea water. A higher carbon dioxide content in sea water increases ocean acidity which can have a significant impact on species with external skeletons or that depend on structures that are derived from calcium minerals in salt water such as sea urchins, corals and coralline algae.[2] Higher acidity alters the capacity of these organisms to extract calcium compounds from sea water.

[1] Kanowski, J. (2001), *Effects of elevated CO2 on the foliar chemistry of seedlings of two rainforest trees from north-east Australia: Implications for folivorous marsupials*, Austral Ecology (2001) **26**, 165-172

[2] CSIRO http://www.csiro.au/Outcomes/Climate/Understanding/ClimateChangeCO2inOceans.aspx

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Program: Division or Agency:	1.1: PAD	**Question No:**	023
Topic:	Implementation of the Parks Australia Climate Change Strategic Overview 2009-2014		
Proof Hansard Page and Date	40-41		
or Written Question:	(22/5/12)		

Senator Cameron asked:

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CHAIR: You have five objectives, which I will just run through quickly. They are to understand the implications of climate change, to implement adaptation measures to maximise the resilience of the reserves, to reduce the carbon footprint of the reserves, to work with communities, industries and stakeholders to mitigate and adapt to climate change, and to communicate the implications and/or management response to climate change. Obviously these objectives were determined back in 2009. Is it possible for you to take on notice how you are moving to meet those objectives? Is that possible?

Mr Cochrane: Absolutely. We have used that overview and those five objectives to prepare climate change strategies for each of our parks now, and turned those general approaches into more specific approaches in each park.

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CHAIR: We get buried with paperwork at estimates. Is it possible for you to provide us with that in as concise a manner as possible?

Mr Cochrane: We will do our best to give you a concise answer.

Answer:

Parks Australia has been moving towards meeting the five objectives of the *Parks Australia Climate Change Strategic Overview 2009-2014* in the following ways:

Objective 1: To understand the implications of climate change

- The Director of National Parks has contributed to the development of the following relevant climate change reports:
    - The Impacts and Management Implications of Climate Change for the Australian Government's Protected Areas (*Hyder Consulting).*
    - Implications of Climate Change for the National Reserve System – A Preliminary Assessment (CSIRO).

- Interactions between Climate Change, Fire Regimes and Biodiversity in Australia – a Preliminary Assessment (CSIRO).

- Kakadu: Vulnerability to climate change impacts (BMT WBM for Department of Climate Change and Energy Efficiency).

- The Director of National Parks has undertaken the following projects towards better understanding of the implications of climate change:

  - Research and monitoring is undertaken in Commonwealth reserves in partnership with the CSIRO, a range of Universities and the scientific community to improve the understanding of climate change. A range of new projects towards this aim have been recently funded under the National Environmental Research Program.

  - Parks Australia in conjunction with the Department of Climate Change and Energy Efficiency recently funded a significant project for the remote sensing of much of Kakadu National Park's wetlands. Data was collected in October 2011 and will be used to develop a high resolution digital elevation model for this area of the park to enable the development of computer models that will help us understand the impact of sea level rise.

Objective 2: To implement adaptation measures to maximise the resilience of our reserves

- The Director of National Parks has undertaken the following actions to increase the resilience of Commonwealth reserves and the species that they protect:

  - In March 2011, the Australia National Botanic Gardens completed a non-potable water infrastructure project to supply water from Lake Burley Griffin to water the living collection, significantly reducing use of Canberra's potable water supply.

  - In partnership with neighbours and stakeholders, Commonwealth reserves undertake extensive and ongoing programs to control major invasive species to reduce pressures on native species and to increase ecosystem resilience.

  - Annual burning programs are undertaken in Commonwealth jointly managed reserves in partnership with traditional owners, neighbours and stakeholders. Carefully planned burning programs, such as the early season savannah burning in northern Australia, reduce the severity, extent and impact of wildfires and produce less carbon than uncontrolled or late dry season savannah fires. These fire regimes draw on current research and try to mimic fire frequency, seasonality, intensity and patchiness from pre-European times to maintain plant and animal communities as close as possible to their natural state.

  - The National Reserve System has been further extended, targeting underrepresented bioregions, improving connectivity between reserves and adding significant areas of land to the conservation estate through the Indigenous Protected Areas program. Since the introduction of the Caring for our Country program in July 2008, over 5.44 million hectares have been added to the National Reserve System.

Objective 3: To reduce the carbon footprint of our reserves

- The Director of National Parks is reducing the carbon footprint of Commonwealth reserves through:

    - Energy audits of a number of parks have resulted in many changes to the way they operate including the use of solar energy, changes in work arrangements, installation of energy and water saving devices and infrastructure. Specific examples include the transfer of all staff housing and campground amenities in Kakadu National Park to solar hot water systems and the installation of a 5 kilowatt grid connected solar panel system in Booderee National Park.

    - Kakadu has replaced a number of inefficient generators with each new unit saving approximately 85 litres of diesel per day.

Objective 4: To work with communities, industries and stakeholders to mitigate and adapt to climate change

- The Director of National Parks works with communities, industry and stakeholders to mitigate and adapt to climate change through:

    - Kakadu held a Climate Change Symposium in 2010 with the scientific community with the proceedings widely circulated. Areas discussed included landscape change, weed management and fire management.

    - A “ClimateWatch” trail is being developed at the Australian National Botanic Gardens this year to teach students about the importance of studying plants to gather information to assist scientists address and manage impacts of climate change. ClimateWatch (an initiative of EarthWatch) is a citizen science project to engage Australians to take notice of what happens in their neighbourhood – when plants start to flower, spotting of migratory birds and recording animal behaviour.

    - Uluru-Kata Tjuta National Park has been working with the Mutitjulu community to reduce its consumption of ground water.

Objective 5: To communicate the implications of, and our management response to, climate change

- The Director of National Parks has communicated the implications of climate change upon Commonwealth reserves through:

    - A Climate Change Education program is being provided by the Australian National Botanic Gardens in Canberra, available for visiting school groups.

    - Park level climate change strategies have been developed and published on the internet.

    - All new park management plans include a major section on climate change.

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Program: Division or Agency:	1.1: PAD	**Question No:**	024
Topic:	Prioritisation of funding for eradication programs on Christmas Island		
Proof Hansard Page and Date	41		
or Written Question:	(22/5/12)		

Senator Siewert asked:

Senator SIEWERT: Could you perhaps take on notice what your current programs are and the level of funding?

Mr Cochrane: For things like cat eradication?

Senator SIEWERT: Yes.

Mr Cochrane: Yes.

Answer:

There is an Island-wide management plan for the control of black rats and feral cats on Christmas Island. The Director of National Parks works in collaboration with: the Shire of Christmas Island; the Department of Regional Australia, Local Government, Arts and Sport; Christmas Island Phosphates; the Department of Immigration and Citizenship; and the Western Australian Department of Environment and Conservation; for cat and rat control.

For the period October 2010 until May 2012, Christmas Island National Park has provided $100,000 in funding, and an estimated $20,000 for in-kind staff and resources, to support the Island-wide management plan for the control of black rats and feral cats.

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Program: Division or Agency:	1.1: PAD	**Question No:**	025
Topic:	National Reserve System targets		
Proof Hansard Page and Date	42		
or Written Question:	(22/5/12)		

Senator Siewert asked:

Senator SIEWERT: I would like to move on to the NRS, where we are up to with meeting our targets and what was told next door to us in here about NRS funding from the next round of Caring for our Country. Firstly, can we go to where we are in meeting our targets?

Mr Cochrane: As you would appreciate, there is a little bit of a time lag in collecting the data because a large amount comes from the states. About 106 million hectares are now in the conservation estate, which is 13.77 per cent of Australia. You will recall that it is not just a question of adding area to the conservation estate. We are working in areas that are not well represented in the conservation estate. I would have to take on notice how we are tracking on that, because I did not bring those figures with me, but the progressive inclusion of bioregions that have more than 10 per cent—

Senator SIEWERT: If you could take that on notice that would be good.

Mr Cochrane: Yes.

Answer:

Of the total of 85 bioregions in the Interim Bio-geographic Regionalisation for Australia (IBRA6.1), 51 bioregions have greater than 10 per cent of their area protected in the National Reserve System.

Since Caring for our Country commenced, 7,698,725 hectares have been added to Australia's National Reserve System through support from Caring for our Country (at 10 April 2012). This comprises:

- 25 Indigenous Protected Areas covering 5,445,907 hectares, and
- 67 National Reserve System acquisitions covering 2,658,973 hectares (including four properties under contract but not yet settled).

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Program: Division or Agency:	1.1: PAD	**Question No:**	026
Topic:	Potential impacts of major projects on the National Reserve System		
Proof Hansard Page and Date	69		
or Written Question:	(22/5/12)		

Senator Waters asked:

Senator WATERS: What coordination is there between the Commonwealth and the Queensland governments, in particular, that either is being undertaken or could be undertaken to avoid the loss of taxpayer investment through the NRS where this so-called protected land is actually subsequently to be mined?

Mr Sullivan: With respect to that—and I assume that you are referring again to Bimblebox—I would have to take that on notice and get the details for you. As I said, it is not my area of responsibility and I am unaware of the negotiations or discussions that have been happening.

Senator WATERS: If you could take that on notice. Perhaps you might need to take this on notice also. I am interested in any other instances where this has occurred and essentially how much federal investment has been undermined literally as well as rhetorically to date.

Mr Sullivan: Again, I would have to talk to my colleague, but I think it is probably better that I just take that on notice and we will get that information to you.

Senator WATERS: Perhaps I can be a little more specific. Obviously the department would track the size and the composition of the NRS over time. I am interested in the last five years on all areas that have been part of the NRS that have either since been removed or altered or exempted or offset or otherwise subject to mining and quarrying activities. Can we get a proportion? Lastly, given the extensive percentage of Australia that is now subject to mining tenure of some description—or petroleum tenure, for that matter—is the department doing any assessment work to determine what the potential impact of the resources boom might be on the NRS?

Mr Sullivan: I am not aware of any, but I will take that on notice as well and look to see whether any analysis has been done.

Answer:

Coordination between the Commonwealth and the Queensland governments

The Commonwealth and Queensland governments are undertaking a joint environmental assessment of the impacts of the Waratah coal mining proposal on the privately owned Bimblebox Nature Refuge that is likely to have a significant impact on listed threatened species and ecological communities. The assessment is consistent with the requirements of State legislation and the *Environment Protection and Biodiversity Conservation Act 1999* (Cth).

Bimblebox Nature Refuge was partly funded by the Australian Government in 2000 for inclusion in the National Reserve System. As a 'nature refuge' under the *Nature Conservation Act 1992* (Qld), Bimblebox Nature Refuge is not exempt from mining.

National Reserve System changes over the last five years

Between July 2008 and 10 April 2012, Australian Government funding assistance has enabled public and private sector partners to add 67 properties to the National Reserve System covering 2,252,818 hectares. None of these properties, nor any parts of these properties, have been removed, altered, exempted or offset from the National Reserve System because of mining or quarrying development activities.

Impact of the resource boom on the National Reserve System

All applications for funding assistance are assessed in terms of risk to long term National Reserve System outcomes. Due diligence checks are made to identify any mining activities, mining tenure and the prospectivity of proposed reserves in consultation with state and territory resources agencies. Where appropriate, state and territory government agencies may establish crown reserves that extinguish mining leases, exclude areas of mining interest or restrict mining access. Conservation covenants that establish private protected areas generally do not exempt mining activities.

Impacts on National Reserve System properties resulting from mining activities are considered on a case-by-case basis consistent with the requirements of state and territory legislation and the *Environment Protection and Biodiversity Conservation Act 1999* (Cth). No broader assessment work is currently being undertaken.

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Program: Division or Agency:	1.1: PAD	**Question No:**	027
Topic:	National Heritage listing of Cape York – Acquisition of National Reserve System properties		
Proof Hansard Page and Date	12-13		
or Written Question:	(23/5/12)		

Senator Boswell asked:

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Senator BOSWELL: I have notes here that it is $20 million. I don‘t know where those notes came from. They may have come from my office.

Dr Dripps: There has been an investment of $20 million in the national reserve system up in Cape York. Mr Cochrane, who was here yesterday, would have the details and we can provide the response on notice, if you would like.

...

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Senator BOSWELL: So there has been $20 million spent.

Dr Grimes: That would have been for the acquisition of national reserve system properties. I can‘t confirm the specific number of $20 million, but we certainly could take that on notice to confirm it. But there was a considerable amount of money allocated for the acquisition for the national reserve system properties.

Answer:

$20 million (GST exclusive) of National Reserve System funding was allocated in 2011-12 for the voluntary acquisition and management of environmentally significant land identified through the Cape York land tenure resolution process.

- $16 million (GST exclusive) is allocated for the voluntary acquisition of Cape York properties. Properties acquired will be partitioned into jointly managed National Parks (Cape York Peninsula Aboriginal Land) and Aboriginal freehold land for the exclusive use of Traditional Owners. To date, a total of $8.92 million has been expended to acquire three properties. This program is ongoing and dependant on the availability of properties and the cost to acquire them.

- $4 million (GST exclusive) is allocated to assist Cape York Traditional Owners who have regained Aboriginal freehold land (from the tenure resolution process) for sustainable land management activities consistent with their long-term aspirations and the Australian Government’s natural resource management priorities. To date, approximately $2 million has been expended.

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Program: Division or Agency:	1.1: PAD	**Question No:**	028
Topic:	Australian National Botanic Gardens Non-Potable Pipeline Project		
Proof Hansard Page and Date	Written		
or Written Question:			

Senator Joyce asked:

1. How much did the Australian government contribute to the Australian National Botanic Gardens Non-Potable Pipeline Project? How much did the project cost in total?

Answer:

1. The Australian Government contributed all the funding for this project. The total cost was $2,953,622.