

14 December 2012

Sophie Dunstone  
Committee Secretary  
Senate Standing Committee on Environment and Communications  
Parliament House  
CANBERRA ACT 2600

Dear Ms Dunstone

**Re: Submission to inquiry into the effectiveness of threatened species and ecological communities protection in Australia**

I write in response to the call for submissions to the Senate inquiry into the effectiveness of threatened species and ecological communities protection in Australia.

I am lawyer and a senior lecturer in environmental regulation at The University of Queensland. I hold a BSc in ecology, an LLB, LLM and PhD. The topic of my PhD was, "How to evaluate the effectiveness of an environmental legal system" and in my research I used a case study of the laws protecting the Great Barrier Reef.<sup>1</sup> As a lawyer I have acted as a barrister in litigation under various federal and state laws concerning the protection of threatened species and ecological communities, including litigation to protect species such as Spectacled Flying Foxes (*Pteropus conspicillatus*), Australian lungfish (*Neoceratodus forsteri*) and Southern Cassowary (*Casuarius casuarius*).<sup>2</sup> Much of my work has involved the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act) and in 2006 I was asked by the Australian State of the Environment Committee to evaluate the effectiveness of that Act.<sup>3</sup>

If requested by the Committee, I am able to discuss the matters listed in the terms of reference with respect to federal and Queensland laws in particular; however, after making an initial point regarding climate change and ocean acidification, I will focus my written submission on the operation of the EPBC Act.

As an initial point I note that climate change and ocean acidification represent the greatest threat to biodiversity and that Australia's current policy response is profoundly inadequate.<sup>4</sup> The recent Energy White

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<sup>1</sup> My thesis is published as McGrath C, *Does environmental law work? How to evaluate the effectiveness of an environmental legal system* (Lambert Academic Publishing, 2010), available at <http://www.envlaw.com.au/delw.pdf>

<sup>2</sup> Details of many of the cases in which I have acted are available on my website at <http://www.envlaw.com.au/case.html>

<sup>3</sup> McGrath C, "Review of the EPBC Act", paper prepared for the 2006 Australian State of the Environment Committee, Department of Environment and Heritage, Canberra, available at <http://www.deh.gov.au/soe/2006/emerging/epbc-act/index.html>

<sup>4</sup> See generally, McGrath, n 1, and McGrath C, "Carbon tax is politically astute but profoundly inadequate" (The Conversation, 14 July 2011), <https://theconversation.edu.au/carbon-tax-plan-is-politically-astute-but-profoundly-inadequate-1975>

Paper indicates that Australia plans to mine and burn all recoverable coal and gas reserves.<sup>5</sup> This is a irresponsible and unsustainable approach that will contribute to devastating global temperature rises.<sup>6</sup> Australia should not be allowing further coal and gas extraction unless all emissions are safely disposed of through carbon capture and storage.

However, the terms of reference indicate that Australia's climate and energy policies are not the focus of this inquiry. I mention climate change as a related matter that is fundamental to evaluating the effectiveness of threatened species and ecological communities protection in Australia.

The 2011 Australian State of the Environment Report found that many pressures on biodiversity suggest that many Australian species continue to decline.<sup>7</sup> It noted:

While all jurisdictions have appropriate goals in high-level plans, these are often not matched with implementation plans or levels of resourcing that are capable of achieving the goals. State of the environment reports from around the nation do not suggest any great improvement in biodiversity or reduction in pressures.<sup>8</sup>

This finding is applicable to the EPBC Act. There are examples of both good and poor implementation of it.

In terms of good implementation, one example is the Federal Court action in 2001 by a conservationist, Dr Carol Booth, under it and later decisions by the Minister to refuse an application to mass culling of Spectacled Flying Foxes using electric grids and to list the species as vulnerable to extinction under the Act.<sup>9</sup> The Queensland Government then outlawed the operation of electric grids. The EPBC Act was thereby instrumental in removing a large source of mortality for the species<sup>10</sup> that was driving a rapid decline in the species in the Wet Tropics.<sup>11</sup>

Another good example of the implementation of the EPBC Act is the refusal of the Traveston Crossing Dam in 2009 due to its expected impacts on threatened species such as the Mary River cod (*Maccullochella mariensis*) and Australian lungfish (*Neoceratodus forsteri*). That decision also highlights the value of federal oversight of state government projects. The Queensland Government was the proponent of the dam and the environmental impact statement (EIS) for it was approved by the Queensland Coordinator-General. The Commonwealth Environment Minister at the time, the Hon Peter Garrett MP, requested independent experts to review the EIS and they found major deficiencies in it. His subsequent decision to refuse the dam based on that independent expert advice was an example of good decision-making under the EPBC Act, which prevented a project that would have caused serious damage to several threatened species.

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<sup>5</sup> See McGrath C, "Energy White Paper plans to burn, burn, burn it all" (The Conversation, 9 November 2012), available at <https://theconversation.edu.au/carbon-tax-plan-is-politically-astute-but-profoundly-inadequate-1975>

<sup>6</sup> World Bank, *Turn down the heat: Why a 4°C warmer world must be avoided* (The World Bank, 2012), available at <http://climatechange.worldbank.org/>; Peters G, et al "The challenge to keep global warming below 2 °C" *Nature Climate Change* (2012) doi:10.1038/nclimate1783

<sup>7</sup> Australian State of the Environment Committee, *Australian State of the Environment Report 2011* (Department of Sustainability, Environment, Water, Population and Communities, 2011), available at <http://www.environment.gov.au/soe/2011/index.html>

<sup>8</sup> Australian State of the Environment Committee, n 7.

<sup>9</sup> See <http://www.envlaw.com.au/ffox.html>. Note: the author acted as a barrister for the conservationist in that case.

<sup>10</sup> See McGrath C, "Flying foxes, dams and whales: using federal environmental laws in the public interest" (2008) 25 EPLJ 324 at 342, available at <http://www.envlaw.com.au/PIEL.pdf>

<sup>11</sup> McIlwee AP and Martin L, "On the intrinsic capacity for increase of Australian flying-foxes (*Pteropus* spp, Megachiroptera)" (2002) 32 *Australian Zoologist* 76-100.

The EPBC Act is not a panacea for pressures on biodiversity and there have been many examples of poor implementation. The example that I will discuss in some detail is the approval and enforcement of conditions for the Paradise Dam.

### Paradise Dam

The Paradise Dam is a major dam with a storage capacity of 300,000 megalitres constructed on the lower Burnett River approximately 80 km southwest of Bundaberg in Queensland.

The Burnett River contains one of only two known endemic populations of the Australian lungfish, listed as vulnerable to extinction under the EPBC Act.

The Paradise Dam is located in the centre of the core lungfish distribution in the Burnett River and effectively splits the population in two. The dam reservoir destroyed large areas of macrophyte beds, which are critical breeding habitat for the species, and fragmented the population. To address concerns about loss of fish passage the dam proponent proposed to construct fishways to allow upstream and downstream fish passage, including for lungfish.

The dam was approved in 2002 and in 2003 the conditions of the approval were varied to include the following condition:

3. Burnett Water Pty Ltd must install a fish transfer device on the [Paradise] Dam suitable for the lungfish. The fishway will commence when the dam becomes operational.

Pursuant to this condition, an unstream fishway and separate downstream fishway were installed on the dam.<sup>12</sup>

In 2011 Logan J dismissed an application for an injunction concerning an alleged breach of that condition;<sup>13</sup> however, since that time considerable further information has become public regarding the impacts of the dam on lungfish.

On the information now available, since the dam commenced operation in November 2005 the fishways have operated for less than 30% of the total time and there are long periods (of years) when the fishways have not been operated at all (Figure 1 and Figure 2). Monitoring reports for the fishways released in 2012 and done by fisheries staff working for the then Queensland Government Department of Employment, Economic Development and Innovation (DEEDI) show that very few lungfish are using the upstream fishway<sup>14</sup> and no lungfish have been recorded using the downstream fishway.<sup>15</sup>

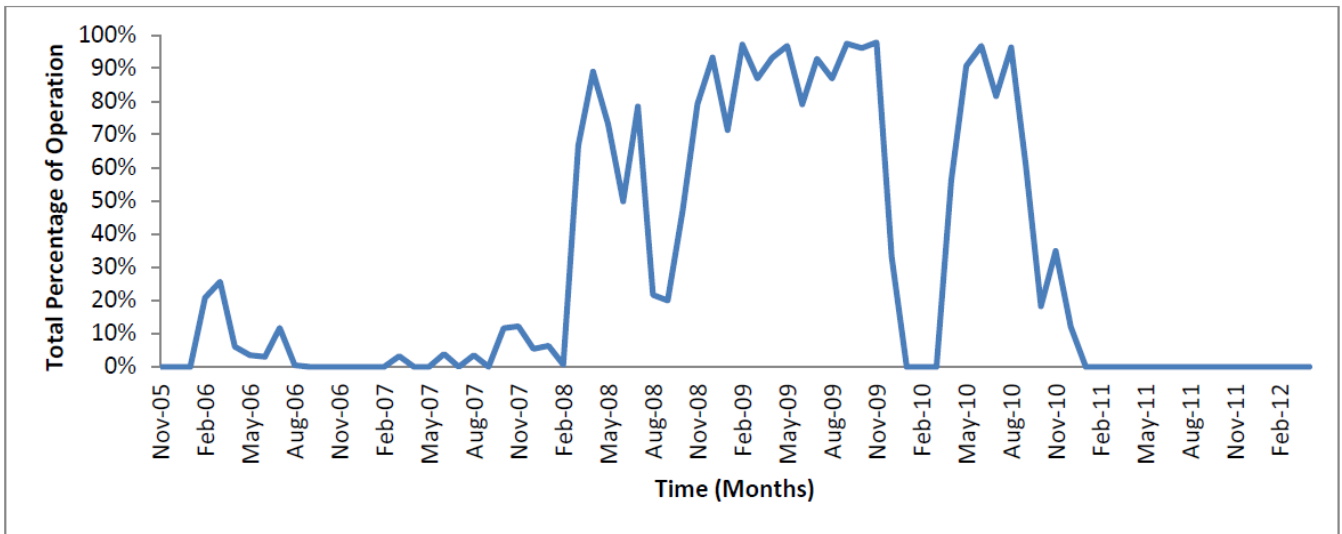
The available data indicates that less than 5% of lungfish attempting to move upstream or downstream of the dam wall have been able to use the fishways since the dam was constructed in 2003-2005.

<sup>12</sup> Photographs of the fishways are available at <http://www.envlaw.com.au/paradise.html>

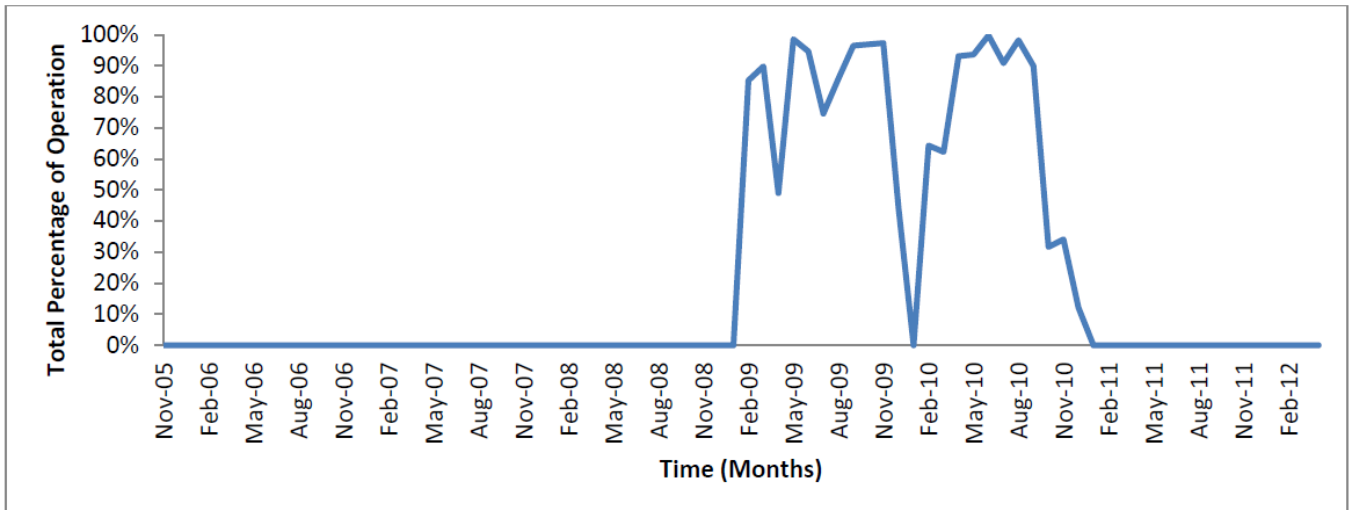
<sup>13</sup> *Wide Bay Conservation Council Inc v Burnett Water Pty Ltd (No 8)* [2011] FCA 175, see <http://www.envlaw.com.au/paradise.html>. The author was a barrister for the applicant in that case.

<sup>14</sup> DEEDI, Fisheries Queensland, *Paradise Dam Upstream Fishway Monitoring Program Final Report* (June 2011), [http://www.sunwater.com.au/\\_data/assets/pdf\\_file/0019/9226/Paradise\\_Dam\\_Upstream\\_Fishway\\_Monitoring\\_Program.pdf](http://www.sunwater.com.au/_data/assets/pdf_file/0019/9226/Paradise_Dam_Upstream_Fishway_Monitoring_Program.pdf)

<sup>15</sup> DEEDI, Fisheries Queensland, *Paradise Dam Downstream Fishway Monitoring Program Final Report* (February 2012), [http://www.sunwater.com.au/\\_data/assets/pdf\\_file/0018/9225/Paradise\\_Dam\\_Downstream\\_Fishway\\_Monitoring\\_Program.pdf](http://www.sunwater.com.au/_data/assets/pdf_file/0018/9225/Paradise_Dam_Downstream_Fishway_Monitoring_Program.pdf)



**Figure 1: The percentage of time that the upstream fishway on Paradise Dam was operational each month from November 2005-April 2012** (data from Caitlyn Draper (unpublished) based on fishway logs provided by SunWater).



**Figure 2: The percentage of time that the downstream fishway on Paradise Dam was operational each month from November 2005-April 2012** (data from Caitlyn Draper (unpublished) based on fishway logs provided by SunWater).

In addition to severely restricting lungfish movement, during flood events large numbers of lungfish have been killed or injured on the stepped spillway installed on the dam.<sup>16</sup> Adult lungfish grow to 1.5m in length and have no natural predators. They are long-lived and reproduce infrequently. The large number of lungfish being killed on the spillway during flood events is a major new source of mortality for the population.

DEEDI concluded in its 2012 final monitoring report on the operation of the downstream fishway that:

The cumulative affect of mortalities of fish passing over the spillway is likely to have a major impact on populations of fish over the longer term.<sup>17</sup>

To my knowledge, no action has been taken by the Minister of Department administering the EPBC Act (now the Department of Sustainability, Environment, Water, Population and Communities (SEWPaC)) in response

<sup>16</sup> DEEDI, n 15.

<sup>17</sup> DEEDI, n 15, p 9.

to these findings. I am not aware of the reasons for that but I am aware of the relatively limited resources available to SEWPaC.

The information now available indicates that the Paradise Dam is causing a major impact on the lungfish population in the Burnett River. How this can be mitigated or avoided is difficult to determine but requiring the fishways to be operated for much more than 30% of the time appears to be one obvious measure that is not currently being done. Removal of the steps on the spillway is another measure that needs to be considered to reduce mortality during floods.

The Minister and Department administering the EPBC Act have taken a number of successful enforcement actions for which they should be commended;<sup>18</sup> however, the Paradise Dam is an example where effective corrective steps have not occurred.

### **Conclusion and recommendation**

In summary, the EPBC Act has achieved some good outcomes for threatened species but the results are mixed. Implementation of the Act is often difficult and yet there is no substitute for the pains-taking and complex tasks of ongoing monitoring, investigation and enforcement. There are no simple, quick solutions to the problems of loss of biodiversity or implementation of the EPBC Act.

The limited number of enforcement actions taken by the Minister and Department administering the EPBC Act, and lack of enforcement in the Paradise Dam case, suggests that while the Ministers and Department are willing to take enforcement action they are limited by the resources available to them. A recommendation that flows from this in relation to the implementation of the EPBC Act is that further resources should be allocated to SEWPaC for monitoring and enforcement action.

I would be happy to expand on this submission orally if requested.

Kind regards

Dr Chris McGrath

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<sup>18</sup> Such as *Minister for the Environment & Heritage v Greentree (No 2)* [2004] FCA 741 and *Minister for Environment Heritage and the Arts v Lamattina* [2009] FCA 753.