

Gerroa Environment Protection Society

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Please consider this submission to the public consultation for the State Coastal Management Policy. The suggestions below relate to Coomonderry Swamp and Foys Swamp wetlands in the Shoalhaven/Kiama area on the south coast.

1. Consider an additional category of wetland protection in the Coastal Management Policy for Coomonderry Swamp.

Coomonderry Swamp is a unique, large coastal freshwater wetland located on the NSW South Coast between Kiama and Nowra LGAs. There is a strong argument to create a category of 'sensitive wetland' in the Coastal Management Policy to recognise the unique values of this wetland or give it a special category of its own that protects its outstanding environmental values.

Coomonderry Swamp is identified in the Coastal Management Policy as a *coastal wetlands and littoral rainforests area*. The *proximity area* adjoining the wetland is insufficient to protect it against catchment impacts from development. It is particularly vulnerable to sediment, nutrient and chemical impacts from development that is encroaching on its small catchment and threatening its sustainability.

Surprisingly this wetland is relatively unknown, probably because it is hidden from view and reasonably difficult to access. There have been few studies of its biological values however some comments by scientists who have undertaken studies of the wetland indicate concern about its sustainability. These include:

Increasing urban and agricultural development could result in an altered hydrological regime and diminished water quality, as well as increases in the incidence of fire, weeds, and feral animal invasion. Comprehensive faunal surveys have not been carried out although various unpublished surveys and the report of Lawler and Porter (1991) indicated that Coomonderry Swamp forms, with other wetlands of the Shoalhaven River system, an extremely valuable avian environment and a significant refuge for migratory birds in times of drought. While rigorous faunal assessment is overdue, the present study demonstrate the primary standing of Coomonderry wetland as a reference site for restoration of freshwater wetland plant communities in the southern region of NSW. Scientist, Dr. Nicholas de Jong (1997)¹

*There have been several attempts to drain the wetland in order to convert the area to other land uses including dairying, a golf course and housing. Currently there is a proposal to rezone part of the wetland's catchment from rural to rural residential. All such proposals would compromise to some extent the habitat value of this significant wetland. If regional biodiversity is to be maintained planning authorities need to adopt local environmental planning instruments that protect habitats identified as significant for rare and endangered species such as *L. aurea* (Green and Golden Bell Frog) (Daly 1996).²*

Since these statements were made the development within the immediate Coomonderry wetland catchment and its periphery has increased and development proposals in this highly sensitive catchment continue to be approved.

The extraordinary values of Coomonderry Swamp.

Coomonderry Swamp covers an area of approximately 670 hectares and is the largest coastal freshwater wetland in NSW. It represents 34% of coastal freshwater wetlands in the state, and almost 90% of this ecosystem type on the south coast. It is a natural, non-flushing drainage basin, although a constructed drainage canal enables some discharge. Most of the surface water entering the wetland occurs after rainfall events and groundwater discharges from springs and underground sub-surface water flows.

This wetland is an integral part of the Seven Mile Beach ecosystem, which forms a vulnerable, disconnected

¹ 1 An Analysis of plant communities at Coomonderry Swamp with comparisons to other wetlands on the South Coast of NSW - 1997

² Australian Zoologist 1996 30(2)

island of biologically significant vegetation both within and outside the National Park. Recently the state government awarded a large grant to the Berry Wildlife Corridor landcare project to re-establish vegetation links between escarpment forests and this vegetation island.

The unique scale and biological complexity of Coomonderry Swamp makes it a rare habitat for scientifically important vegetation communities that support a number of endangered and vulnerable species.

Endangered Ecological Communities at Coomonderry Wetland, listed under the NSW Threatened Species Conservation Act, include:

1. ***Swamp Oak Floodplain Forest of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions***
The Office of Environment and Heritage lists threats to this community as: *pollution from urban and agricultural runoff, weed invasion, overgrazing, activation of acid sulphate soils, and anthropogenic climate change.*
2. ***Swamp Sclerophyll Forest on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions***
The Office of Environment and Heritage lists threats to this community as: changes in water quality, particularly increased nutrients and sedimentation, weed invasion, climate change, activation of acid sulfate soils and landfilling and earthworks associated with urban and industrial development.
3. ***Freshwater Wetlands on Coastal Floodplains of the New South Wales North coast, Sydney Basin and South East Corner***
The Office of Environment and Heritage lists threats to this community as: *invasion of native plant communities by exotic perennial grasses; predation, habitat destruction and anthropogenic climate change.*
4. ***Bangalay Sand Forest of the Sydney Basin and South East Corner bioregions***
The Office of Environment and Heritage lists threats to this community as: loss from coastal development, loss of habitat from sea level rise, loss of habitat from wildfire

The wetland is also a significant habitat for endangered fauna species, including the Australasian Bittern, Black Bittern, Powerful Owl and Green and Golden Bell Frog.

1. Australasian Bittern³: listed at NSW and Commonwealth levels as Endangered. The Office of Environment and Heritage lists threats as: reduced water quality due to siltation and pollution, predation by foxes, pigs and cats and use of herbicides, pesticides and other chemicals near wetland areas.
2. Black Bittern⁴: listed as Vulnerable in TSC Act 1995. The Office of Environment and Heritage lists threats as: predation by feral cats, siltation and pollution of wetlands.
3. Powerful owl⁵: listed as Vulnerable in TSC Act 1995. The Office of Environment and Heritage lists threats as: Predation of fledglings by foxes, dogs and cats.
4. Green and Golden Bell Frog⁶: listed as Endangered under the TSC Act 1995 and Threatened under the EPBC Act (1999). The Office of Environment and Heritage lists threats as: predation by feral animals such as foxes, herbicides and other weed-control measures, alteration of drainage patterns and storm water runoff,⁷ *The Green and Golden Bell Frog Key Population at Coomonderry Swamp Management Plan* identifies threats as: feral and domestic cats, introduction of mosquito fish, runoff including sediments and chemicals from urban and agriculture, including the application of chemical Glyphosate for weed control, mowing or other vegetation management, the opening, closing or emptying of water bodies, and too frequent or high intensity fire. In this Management Plan Daly states that Coomonderry wetland is the most extensive wetland in which the GGBF is found and may be crucial for its survival.⁸

3 Birdlife Shoalhaven, Coomonderry Swamp Biodiversity Project. Pdf/ Seven Mile Beach and Comerong Island Nature Reserve Management Plan - National Parks and Wildlife Service 1998

4 Seven Mile Beach and Comerong Island Nature Reserve Management Plan - National Parks and Wildlife Service 1998

5 Seven Mile Beach and Comerong Island Nature Reserve Management Plan - National Parks and Wildlife Service 1998

6 The Green and golden Bell Frog Key Population at Coomonderry Swamp Management Plan, Daly

7 <http://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=10483>

8 The Green and golden Bell Frog Key Population at Coomonderry Swamp Management Plan, Daly

Blackbutt forests that are contingent with and occupy the fringes of the wetland are primary habitat for the Greater Glider population. The Seven Mile Beach Greater Glider population was listed as an endangered population in 2016 under TSC Act 1995 and the GG is nationally listed as 'vulnerable species' under the Environment Protection and Biodiversity Conservation Act.

Coomonderry Wetland is recognised as nationally important in the Directory of Nationally Important Wetlands in Australia (Environment Australia 2001)⁹

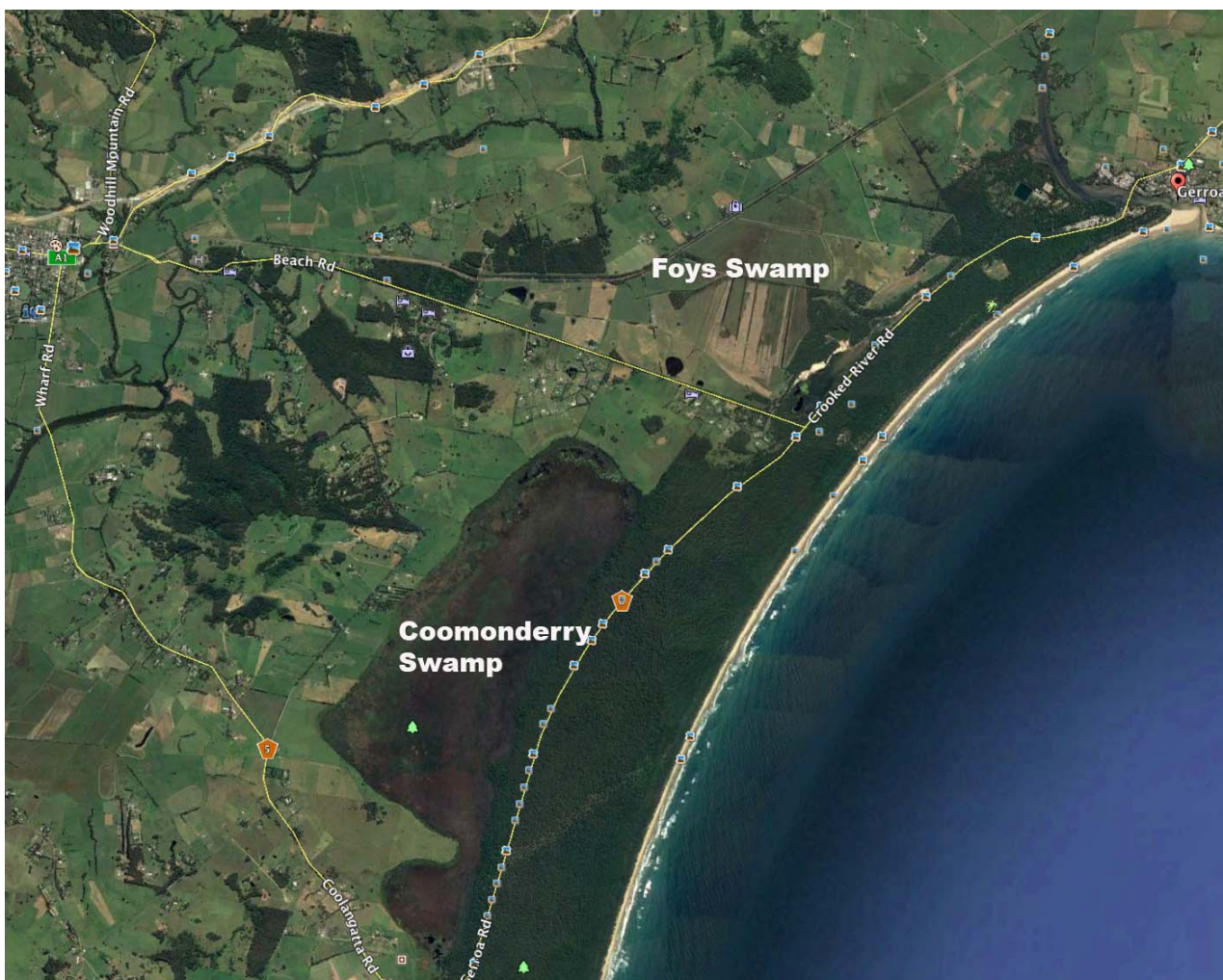
The Illawarra Regional Landscape and Environment Study (Department of Planning 1981) categorises the wetland as 11c-priority Protection requiring protection against polluting land uses.¹⁰

The wetland is also listed on the register of the National Trust of Australia (NSW)

We note that some coastal lagoons have been given a higher level of protection due of their higher values and vulnerability in the Coastal Management Policy. A more consist planning approach should also recognise other ecosystem types, including wetlands, for higher protection where their values warrant it.

Coomonderry Swamp is unique in scale and ecological value and is also highly vulnerable. Its wetland vegetation is largely intact and it confronts ongoing threats of clearing, pollution and development in its small catchment.

This huge, ecologically complex wetland is not replicated elsewhere in the state and the current *proximity area* buffer will not protect its values because it is not catchment sensitive. We suggest a category of higher protection be created to protect this wetland and its catchment against inappropriate development impacts in the Coastal Management Policy.



⁹ Directory of important Wetlands in Australia, page 41

¹⁰ The Green and golden Bell Frog Key Population at Coomonderry Swamp Management Plan, Daly 2.1

2. Include a provision for wetland retreat and rehabilitation and consider identifying Foys Swamp as a wetland suitable for rehabilitation.

Considering the historic loss of coastal wetlands in the state and the inevitability that rising sea levels will lead to further losses as wetlands retreat inland, provision needs to be made to plan for wetland retreat and compensatory wetland rehabilitation. This well understood climate change related loss of wetlands will result in habitat loss, impacting on wetland species survival across the state. Wetlands are one of the few ecosystem types that can be rehabilitated relatively easily provided appropriate sites are available.

From my memory early public consultation sessions on the Coastal Management Policy¹¹ referred to climate change impacts on the coastal zone and the need to plan for climate change related impacts on wetlands. According to the CSIRO and Bureau of Meteorology sea levels are rising at over 2mm per year and the rate of rise is increasing. They also state that this *rise in mean sea level amplifies the effects of high tides and storm surges*.¹² These facts have to be considered if wetlands are to be protected in any Coastal Management policy.

Identification of appropriate degraded wetlands that could be rehabilitated to provide habitats for wetland species as wetlands retreat should be identified and mapped and included as a special category in the policy as a priority.

Foys Swamp, which adjoins Coomonderry Swamp south of Gerroa would be an appropriate wetland to identify for future rehabilitation. It covers an area of 120 hectares and drains north along Blue Angle Creek to Crooked River Gerroa. This unprotected freshwater swamp, although cleared and modified by drainage canals, retains its soil profile and some hydrological functions. Importantly its intact soil profile prevents the further oxidation of acid sulphate soils. Fragments of EEC Swamp Sclerophyll forest exist at its margins.

The Crooked River Estuary Management Plan identifies *Foys Swamp as a significant freshwater wetland worthy of conservation*.

The Illawarra Wetlands Action Plan states that *Foys Swamp has been extensively drained and has little wetland habitat value at present. However it has good potential for rehabilitation into a wetland equivalent to the adjacent Coomonderry Swamp*. It recommends investigating feasibility of rehabilitating at least part of the swamp.¹³

The periodic clearing of drainage canals in Foys Swamp is most likely associated with acid sulphate contamination of Blue Angle Creek and Crooked River when it coincides with high rainfall and this has been ongoing.

The benefits of restoration of the hydrological regime and re-establishing wetland vegetation would be immense:

1. It would reduce acid sulphate contamination down stream because periodically exposed acid sulphate soils would be covered - it would also reduce acid sulphate contamination associated with stream bank erosion, as water flows would be more gradual.
2. The water retention capability of the wetland would be enhanced.
3. Intensity of water flows down Blue Angle Creek would be reduced
4. Sedimentation of Crooked River would be reduced due to reduced intensity of water flows
5. The natural regime of recharging groundwater would be restored
6. There would be greater mitigation of downstream flooding.
7. Aquatic biodiversity would be enhanced due to better water quality

¹¹ Public consultation session at Kiama

¹² State of the Climate Report 2016

¹³ Illawarra Action Plan 4.6.4, page 20

8. Terrestrial biodiversity would be enhanced due to reestablishment of swamp vegetation and strengthening of habitat corridors.
9. Potential increasing threats associated with increased intensity and frequency of storm events associated with climate change would be ameliorated to some extent due to improved hydrological functions of the wetland.
10. It would compensate for wetland losses resulting from sea level rise.

It is understood that this modified wetland has agricultural values and is located on private land. We believe that overall hydrological and biodiversity improvements would however outweigh the agricultural values given the improved biodiversity and hydrological outcomes, particularly as wetlands migrate inland. An aspirational goal to rehabilitate the wetland, if an opportunity arises in the future, could result in the most significant improvement to the health of the catchment and sustainability of NSW wetland habitats and species.

Provision for wetland migration and rehabilitation will be necessary if the government is intent on planning for climate change impacts in the coastal zone. If sea level rise impacts are not a planning consideration this policy couldn't achieve its aim to *manage development in the coastal zone and protect the environmental assets of the coast*. ☐ Foys Swamp is an appropriate degraded wetland suitable for rehabilitation.

Howard H Jones
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