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26 May 2021

To: Hon. Glen Butcher
Minister for Regional Development and Minister for Water

Re: Basin-wide management of the Burdekin River

Dear Mr Butcher,

We appreciated the opportunity of meeting with your staff, Mr Ian Hutcheon and Ms Linda Dobe, DDG for Dept Natural Resources – Water, during the Community Cabinet in Townsville (29 Jan). The main points we raised at that meeting were the very substantial environmental impacts on the Burdekin River due to the Burdekin Falls Dam. These are briefly:

- a) **The turbidity of the Burdekin for the full 12 months of the year below the dams.** Construction of HGD would result in 50% of the Burdekin being turbid all year.
- b) **Increased water application in the Lower Burdekin River Irrigation Area.** Rising water table and salinization threatens current agricultural production in the Lower Burdekin, designated as a “Priority Agriculture Area” in the North Queensland Regional Development Plan 2020.
- c) **Coarse sediment starvation and erosion of Cape Bowling Green.** This threatens to cause a breach in the Cape which would result profound damage to the Ramsar site of Bowling Green Bay, (see attachment).
- d) **Increased nutrient flows to the Great Barrier Reef,** which continue to damage the reef.

Unlike rivers in temperate zones fed by steady winter rains, our rivers in the north are fed by extreme weather events *as the norm* (i.e. tropical cyclones). This results in very high sediment loads. All but one of the issues outline above (i.e. rising water table) are associated with the ways that dams interact with high sediment loads in tropical rivers.

There are currently proposals for construction of four new dams and weirs on the Burdekin which would exacerbate and accelerate these impacts. The impacts noted above are generally not well known, and so we continue to see pressure being put on the Queensland Government to proceed with new dam construction.

NQCC was concerned by these multiple proposals and in 2020 formed the Burdekin Basin Sub-Committee¹ to work towards the development of a mechanism for basin-wide management of the Burdekin. We have been working to raise awareness of these issues by conducting high level seminars, submissions on the ToR's for the EIS of the dams, and responding to the Productivity Commission's draft National Water Reform 2020 report.

In this letter I would like to draw your attention to two possible strategies to prevent the Burdekin becoming a second Murray-Darling Basin.

#1 Productivity Commission's Draft National Water Reform 2020 – Water Efficiency

The report *inter alia* emphasises achieving water efficiency rather than construction of new water storage infrastructure, given the reduction in surface water due to climate change (-15% for Queensland).

During our meeting on 29 January we suggested investing in modernizing the irrigation system in the Lower Burdekin to create a world class irrigation precinct. This would address the issue of rising water table and so appeal to farmers, and make a concrete contribution to the Government's Regional Development Plan. At the same time, it would: (a) save as much water as would be produced by raising the Burdekin Falls Dam, (b) reduce costs to farmers and (c) reduce nutrients flowing on to the Great Barrier Reef. In this way public fund expenditure could be justified.

This suggestion would also align well with the recommendation from the Productivity Commission for Australia to achieve water efficiency nationally. In this regard it is worth noting that the Connections Project on the Goulburn-Murray system saved 400,000 ML/yr with public fund investment from both State and Federal budgets.

#2 Burdekin Water Management Plan (BWMP) Revision (Sept 2023)

The BWMP was established as a simple water allocation mechanism following construction of the Burdekin Falls Dam. It is an imperfect mechanism for river management which focusses on water allocation and water flows, with little attention given to water quality. The BWMP is due to be revised in Sept 2023. This would be an opportune time to take further steps towards a basin-wide mechanism for management of the Burdekin Basin.

We believe that a basin-wide management mechanism for the Burdekin is necessary if we are to avoid the Burdekin suffering the same fate as the Murray-Darling. Indeed, this is already overdue given the rising demands for Burdekin water for agriculture, industry and domestic use, combined with the stresses of climate change

Your twin portfolios place you in a key position to both address the serious environmental impacts facing the Burdekin, and foster constructive interventions that will ensure sustainable development in the Lower Burdekin.

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Mr John G. Connell; BEng.
Prof. Eric Wolanski: FTSE, DSc *Hon. Causa* (Louvain & Hull)
Dr. Alastair Birtles: Adjunct Assoc. Prof. Marine Biology, JCU
Mr. David S Cassells: BSc (forestry), MSc
Mr. Peter Hanley, MEng, MEd
Ms Linda Davis; BSc, MEd.

As concrete steps towards this we would request that you:

- (a) have baseline data collected for areas that would be affected by development proposals on the Burdekin under the Nature Conservation act
- (b) contact the Federal Minister for the Environment to conduct a strategic assessment of the Burdekin River under the EPBC Act

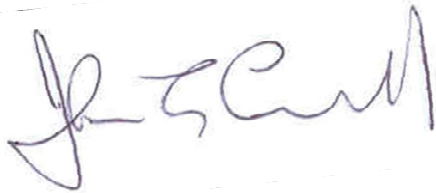
To mobilise the development of the Lower Burdekin as a modern irrigation precinct that will bring significant environmental benefits, we request that you:

- (c) launch an assessment of the feasibility of a scheme to modernise irrigation in the Lower Burdekin
- (d) work with relevant Ministers at state and federal levels to ensure funds within the National Water Infrastructure Development Fund are made available for water efficiency projects, as is called for in the Productivity Commission's Draft National Water Reform Report.

We realise that these issues are relevant to a number of portfolios. During the Townsville Community Cabinet we also raised these issues with the Minister for Environment and the Great Barrier Reef, and the Minister for Resources. We will be following up these issues with them separately.

We will be happy to provide further information on the points raised in this letter with you or your staff.

Yours sincerely

A handwritten signature in blue ink, appearing to read 'J G Connell', is written over a faint, dashed horizontal line.

John G. Connell
Head Burdekin Basin sub-committee
North Queensland Conservation Council

ATTACHMENT: Bowling Green Bay – maps and images



Fig 1. Bowling Green Bay Ramsar site, with the eastern border of Cape Bowling Green



Fig. 2. BOWLING GREEN BAY RAMSAR SITE: wetlands; Bowling Green Bay; Cape Bowling Green sandspit. (courtesy john G. Connell)




Fig 3. CONDITION OF CAPE BOWLING GREEN (mid-way along). Shows beach erosion, erosion of clay core and mangrove die-back (Courtesy: John G. Connell)



Fig. 4. CAPE BOWLING GREEN EROSION: ongoing erosion (Courtesy John G. Connell)

Coastal morphology and erosion of Cape Bowling Green



Prof. Eric Wolanski
TropWATER adjunct Professor
(catchment to reef processes)

Coastal morphology and erosion of Cape Bowling Green


Eric Wolanski, FTSE

*TropWATER and College of Science and Engineering,
James Cook University, Townsville, Qld., Australia*

With many thanks to Chris Hopper for his invaluable help.

14 September 2020

NQCC seminar "Ensuring a viable Burdekin Basin"



Burdekin Seminar
14 Sept. 2020

Fig. 5. DESCRIPTION OF EROSION PROCESSES; Prof Eric Wolanski (screen shot: <https://www.youtube.com/watch?v=IBHfv4eMue8>)

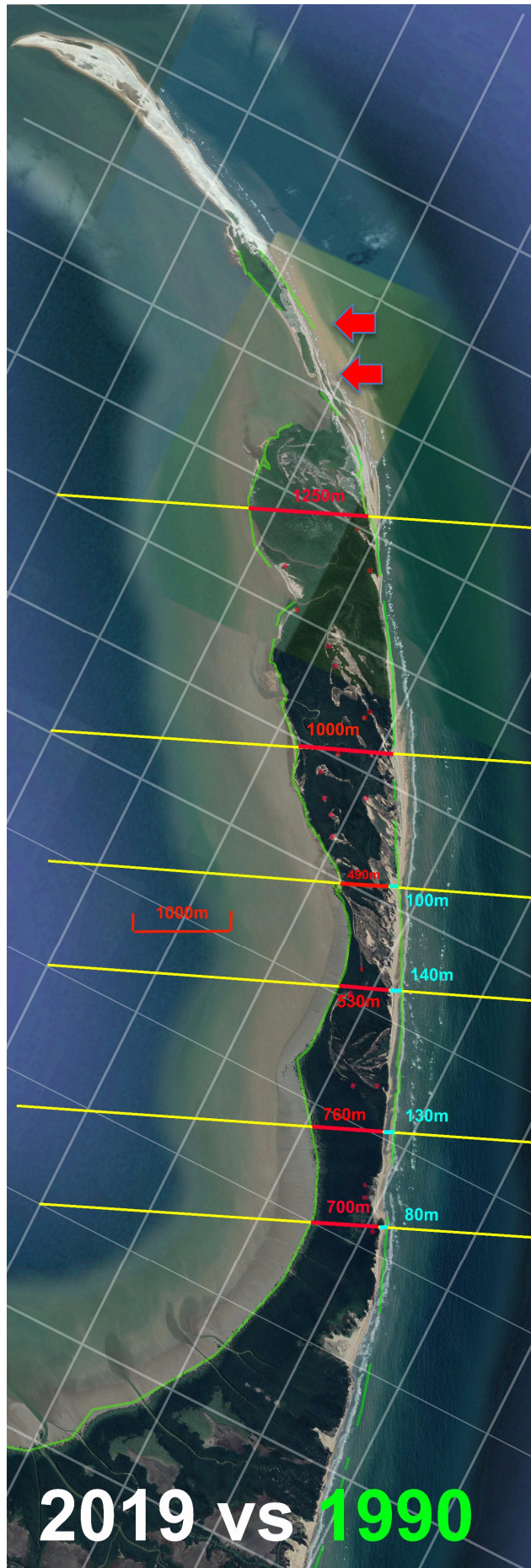


Fig. 6. ESTIMATE OF EROSION along Cape Bowling Green (measurements in blue) and vulnerable breach points (red arrows). From Burdekin Seminar; Prof Eric Wolanski <https://www.youtube.com/watch?v=IBHfv4eMue8>