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MACQUARIE RIVER TO ORANGE PIPELINE PROJECT
Final Environmental Assessment

Submission on behalf of the NSW Council of Freshwater Anglers in respect of the final Environmental Assessment for the Macquarie River to Orange Pipeline Project.

The NSW Council of Freshwater Anglers ("CFA") is the largest and most active freshwater fishing organisation in Australia. Since 1958 it has been the recognised representative body for the State's freshwater anglers, focusing on fisheries management, conservation and regulatory matters, angler access, angling ethics, and animal welfare.

As such, the Council confines these submissions to the question of impact of the proposed water extraction aspect of the project on native fish species, and on fish habitat.

It is acknowledged that since the initial proposal the applicant has adopted appropriate mitigation of some of the potential impact of the project on native fish, especially as to screening of the intake and specifying an appropriate start-up regime for pumping. However:-

1. Intake screening – mesh size/period of operation - *Galaxias Rostratus*

The mesh in the screens is 2mm but the egg diameters of the **critically endangered** *Galaxias Rostratus* - Flathead Galaxias which may be present at the extraction point - are between 1.3 and 1.6 mm. According to the Fisheries Committee Final Determination under Part 7A of the *Fisheries Management Act 1994,* and somewhat contrary to the reference to "adhesive eggs" in table 13.2 of the Environmental Assessment, eggs are spawned randomly and left to settle on the bottom. Obviously, the eggs may be vulnerable to loss if the extraction operates during known spawning periods with exclusion mesh that is too coarse.

2. Flow profiles and known spawning periods

While there is some concession in the Assessment in respect of proposed extraction management principles to maintaining connectivity by adopting higher (than initially proposed) minimum flow conditions before extraction commences, the impact of the extraction on **flow profiles** (i.e., impact on the rate of rise of water levels, impact on water velocities etc), and the question as to whether special restrictions should apply to extraction at known **spawning periods**, require more attention:

(a) For example, the habitat requirements of the Trout Cod (listed as Endangered under the Australian Government *Environment Protection and Biodiversity Conservation Act* 1999), especially as to water velocity and spawning during spring, apparently triggered by increasing day length and increasing water temperatures (not noted in Tables 13.2 and 13.3 of the final Environmental Assessment - but see the National Recovery Plan for the Trout Cod - *Maccullochella macquariensis*) should be explicitly and specifically considered in setting management principles of the water extraction regime, including assessment and monitoring of downstream water temperatures which may be affected by reduced flows during extraction phases (see http://www.environment.gov.au/biodiversity/threatened/publications/recovery/trout-cod/pubs/trout-cod.pdf); and

(b) the same or similar may be said in respect of other native fish species which are present or likely to be present in the Macquarie River below, or which may need to migrate through, the extraction point; specifically:

- ***MACCULLOCHELLA PEELII PEELII* - MURRAY COD** - listed as **vulnerable** under the *Environment Protection and Biodiversity Conservation Act* 1999. Murray Cod spawn in spring-summer, in response to rising water temperatures of 16.5-23.5^{o}C. Reproduction appears largely dependent upon water temperature, with flooding or a rise in water level apparently not required to initiate spawning. Hence monitoring of the potential affect of extraction on water temperature downstream of the extraction point may needed.

- ***BIDYANUS BIDYANUS* - SILVER PERCH -** listed as **vulnerable** under Schedule 5 of the *Fisheries Management Act 1994*. Spawning requires upstream migration and occurs in spring and summer. Water flow profiles are significant. According to the MDBA fact sheet relating to Silver Perch, "Whilst spawning can occur during non-flood conditions, spawning activity was significantly increased during a flood and environmental water release in 2005 in the mid-Murray River." (See also the NSW Silver Perch Recovery Plan 2006). The issue of connectivity and the spawning period, and the triggering effect of an upward spike in flow are not explicitly acknowledged in Table 13.2 of the Final EA, nor is the need to avoid extraction regimes which would take the top off a "fresh" going down the Macquarie during a period critical to spawning by silver perch.

- ***TANDANUS TANDANUS*** - the **MURRAY DARLING FRESHWATER CATFISH -** MDB population of *T. tandanus* is listed under the *Fisheries Management Act 1994* as an **endangered population**. Spawning is temperature dependent and altered flow regimes are identified in the Fisheries Scientific Determination to list the species as key threatening processes.

- ***GALAXIAS ROSTRATUS* - FLATHEAD GALAXIAS** – listed Part 1 of Schedule 4A **critically endangered** Species of the *Fisheries Management Act 1994*.

- **SOUTHERN PURPLE-SPOTTED GUDGEON - *MOGURNDA ADSPERSA* -** listed as **threatened** under the *Environment Protection and Biodiversity Conservation Act* 1999 (nb. the MDBA Fish Fact Sheet notes that a new population was recently discovered in the Macquarie catchment in NSW)

3. Documented presence of TROUT COD - *MACCULLOCHELLA MACQUARIENSIS*

The actual presence of trout cod is not acknowledged in the Assessment (simply being conceded as "may be present"), yet the presence of *Maccullochella macquariensis* in reaches of the Macquarie River which will be affected by the operation of the water extraction facility has been well documented by anglers. Please see Appendices 1-4; photographs taken of trout cod inadvertently caught in early 2012 but photographed prior to release, and commentary thereon by Ken Smith, Secretary, Sofala Branch of the Central Acclimatisation Society , in an email of 13 July 2012 sent to the Secretary of the Central Acclimatisation Society:

> *I attach some pics that you may like to pass on to Fisheries. The first fish was caught by Chris Kerr at Pine Ridge above " Broadwater "*
> *2nd fish was caught at the head of Gardiners Hole , Paul Smith land owner has details .*
> *3rd fish was caught by Rod Harrison at " The Pump Hole " at Uren's / Kimm's*
> *4th fish was caught by Angus Gordon and is one of many they have caught , location opposite "Oaky Mount " down stream of the RSL Fishing Hut*
> *There is one other picture of a trout cod that was caught by Martin Murphy also at Pine Ridge above " Broadwater " I have seen the picture and have no doubt it is a TC , Martin took the picture because it was a " different " fish to what they had been catching.*
>
> (n.b. photographs reproduced in the Appendix hereto)

For whatever reason these photographs do not appear to have been provided to the consultants who prepared the final Assessment, although they were to be forwarded to Fisheries and to Orange City Council. The CFA wishes to emphasis the fact that Trout Cod are certainly present in the vicinity of the extraction point and in contiguous reaches of the Macquarie.

The documented presence of the Trout Cod also confirms the limited nature of the field sampling undertaken by the consultants in preparing the Final Environmental Assessment.

Don Barton
President
NSW Council of Freshwater Anglers

APPENDIX

1

first fish was caught by Chris Kerr at Pine Ridge above " Broadwater "

2nd fish was caught at the head of Gardiners Hole

3rd fish was caught by Rod Harrison at " the Pump Hole " at Uren's / Kimm's

4th fish was caught by Angus Gordon and is one of many they have caught, location opposite "Oaky Mount " down stream of the RSL Fishing Hut