

PCU038835

Macquarie River to Orange pipeline

Ref no. 10_0235

ATTENTION; Belinda Scott

A SUBMISSION OBJECTING AGAINST THE MACQUARIE RIVER TO ORANGE PIPELINE

On behalf of the Sofala branch of the Central Acclimatisation Society , we wish to bring to your attention our objection toward Orange City Council's (OCC) proposed pipeline from the Macquarie river. As an organisation which participates in Native fish recovery programs restocking the local rivers, Turon & Macquarie we strongly object to any attempt to the pipeline project on a number of points.

The fact that OCC propose to pump water at ridiculously low flows shows no regard for the riverine environment or the aquatic ecology it supports. 38 megalitre/day flows represent drought conditions OCC plan to use 38meg/day flows (439 litres/second) as a point to start extraction extracting 12 megalitres from this flow leaving a 26meg/day (300 litres/second) flow downstream of the off-take pump

OCC constructed a designated stormwater harvesting scheme on a creek where it is possible to divert harvested stormwater into their major storage facility Suma Park Dam. The environmental restrictions mean that water cannot be diverted unless the Suma park dam is below 50% of its capacity and the creek flow is in excess of 86.4 meg/day (1000 litres /second) This creek contains no endangered aquatic species listed under TSC act (Threatened Species Conservation Act). Prior to OCC giving the treated effluent to Cadia to use in the mine the effluent used to discharge into the same creek system then enter the Macquarie River via Ophir creek .They are currently supplying Cadia with 8.2 megalitres /day of treated effluent and are contracted to supply up to 10 megs of water / day to Cadia when they require it .Cadia do not pay for this water.

The Macquarie River upstream of Burrendong Dam to a location known as 'the Forge' contains Threatened fish species listed under the Threatened Species Conservation Act (TSC act) .It is part of The National Trout Cod Recovery Plan. About to receive the fourth years stocking of a five year program. Other fish species listed as threatened under the Environmental Protection and Biodiversity Act include murray cod, Macquarie Perch, southern purple spotted gudgeon, flatheaded galaxis .Silver Perch listed as vulnerable & totally protected in rivers exist in populations in the geographical area of the project as do a population of freshwater eel-tailed catfish which like the Silver perch are totally protected from fishing and listed as an endangered population in the Murray -Darling system.

Murray cod ranging in size from juveniles to fish over a metre in length are regularly caught and released in the study area by recreational anglers and along with golden perch are the main species encountered by lure anglers .Silver perch & eel tailed catfish are sometimes caught by lure – flyfishing anglers but predominately mainly caught with baits whilst fishing for Murray cod & Golden perch. Trout Cod from previous years releases have started showing up being caught by anglers



using lure & bait fishing methods & are in the 300mm range being photographed prior to release for positive identification & location.

Healthy populations of native fish species exist in the Gardiners Hole along with suitable habitat. The removal of any habitat has negative impacts on many threatened species in addition to many other aquatic species resulting in fewer spawning sites available for reproduction & habitat for benthic plants.

"Habitat protection enables the habitat that a species or population relies on for its survival. To be formally protected into the future the listing of species populations and ecological communities under the Fisheries Management act (FM Act) establishes penalties for damaging habitat & increases the level of protection."

"CRITICAL HABITAT is defined as the whole of any part or any part of the habitat of an endangered species, population or ecological community that is critical to the survival of the species population or ecological community."

The EA clearly states pumping will have an effect on habitat downstream of the pump site at the pump site and during construction & operation of the pump. The construction will involve removal of snags & other habitat as well as benthic material & structure, will require possible blasting to get the sump 5 metres below the invert of the river & change the flow in the waterhole. The EA clearly states 'The magnitude of extraction over consecutive days is difficult to assess because of a lack of information on the aquatic habitat in this section of the river & uncertainty of the length of extraction & magnitude of flows likely to prevail.' The reduction in flows would lead to a reduction in the availability of habitat for threatened fish species.'

Prior assurances by the proponents that to minimise the effects to migration and spawning events by not operating the pump at times that coincided with these events we are now advised by the EA that 'SEASONAL ADJUSTMENT OF PUMPING IS NOT VIABLE' meaning that pumping would continue at migration, recruitment and breeding times causing further DISRUPTION TO RECRUITMENT OF THREATENED & ENDANGERED SPECIES & ECOLOGICAL POPULATIONS & COMMUNITIES. An action WHICH IS TOTALLY IN CONFLICT WITH the TSC Act

Threatened species are animals or plants whose numbers or habitat have been reduced so much, or are facing such threats, that they're in danger of becoming extinct if we don't take action. Definition from TSC / NSW DEPARTMENT of PRIMARY INDUSTRIES There are several extra rules that apply to threatened species; people must not damage the habitat of threatened species; recovery & abatement plans developed for all threatened species & key threatening processes (KTP); the Director-General of I & I NSW must prepare & adopt a Priorities Action Statement setting out strategies to be adopted to promote the recovery of each threatened species, population and ecological community & to manage each KTP

NSW I & I has statutory responsibility for the management of areas that affect and/or are influenced by (either directly or indirectly) water quality and quantity. From a fisheries ecosystems perspective these functions include aquatic habitat protection & rehabilitation, threatened species conservation, management of commercial & recreational fisheries and aquaculture. KEY AREAS OF INTEREST include maintaining or improving sustainable flow regimes for aquatic habitats and fisheries

resources, INCLUDING THREATENED SPECIES in order to maintain or improve aquatic ecosystem health. (NSW OFFICE of WATER September 2011)

KTP ; Mechanisms that alter natural flow regimes include water extraction ,pumping & diversion & sand and gravel extraction .The installation of instream structures that alter natural flows has negative impacts on many threatened species, populations and ecological communities including all the threatened species in the geographical range of the study area and many other protected and unlisted species of invertebrates & fish also adversely impacted by changes to natural flow regimes.

Major changes to stream geomorphology such as streambed lowering (as in the case of the sump 5 metres below the invert of the river) can SIGNIFICANTLY ALTER STREAM CHARACTER & HENCE FLOW BEHAVIOR leading to changes in benthic stratification

Mitigation effectiveness must be well established through demonstrated applications, studies or surveys & demonstrate a high degree of certainty about the avoidance of impacts or the extent to which the impacts will be reduced. The EA for the project does not demonstrate this.

Significant Impact Guidelines regarding Matters of NATIONAL ENVIRONMENTAL SIGNIFICANCE clearly state ‘ beneficial impacts cannot be offset against adverse impacts. Only adverse impacts are relevant when determining whether approval is required under the EPBC Act.

The aquatic study by the admission of the EA Clearly lacked the local knowledge of the survey area and lacked knowledge of the species in the study area By their own admission the equipment used was insufficient for sampling the size of the pool locally known as Gardiners Hole where the proposed pump would be located Survey Guidelines for Australia’s threatened fishes clearly state “For any proposal, the timing of fieldwork is critical to the whole process of surveying & reporting, that it may be necessary to undertake surveys at different times of the year depending on the assemblages & species in the subject area, surveys may be required over multiple years where a single years data is not adequate to determine faunal assemblage or to address environmental factors. PROPONENTS SHOULD ALLOW FOR THIS WHEN PLANNING PROJECTS , Regular sampling during and throughout the time of the year when the taxa (species)are known to most likely occur in the study area is DESIREABLE. Temporal sampling & off-study sampling can determine existence in suitable habitat in the surrounding area. Many other methods are examined in the abovementioned guidelines that if applied to the GHD survey would have revealed the taxa present in the Gardiners Hole on the MACQUARIE RIVER

According to Significant Impact Guidelines , A POPULATION OF A SPECIES is defined under the EPBC Act as AN OCCURRENCE OF THE SPECIES IN A PARTICULAR AREA. In relation to critically endangered, endangered or vulnerable threatened species occurrences include but are not limited to ; A GEOGRAPHICALLY DISTINCT REGIONAL POPULATION or COLLECTION OF LOCAL POPULATIONS or a population, collection of local populations that occurs within a particular bioregion.

The EA states that no threatened species occur in the study area even though both GHD & Cardino recorded juvenile freshwater eel-tailed catfish at the pump site ,by definition these are part of a population of endangered species. The reason no Murray cod , Trout cod or silver perch were encountered relates to the methods & effort of their survey. Our members have regularly caught Murray cod on both lures and flies in Gardiners Hole & have both digital photos & video footage of

some of these captures and hard copy data of species & lengths, estimated weights & numbers of fish caught & released. I have personally caught silver perch as have other recreational anglers in the Macquarie river both upstream & below Gardiners hole & have catch and release records of fishing trips over the last decade . Freshwater catfish are frequently caught & released by our members ,mainly by baitfishing & on occasion by lure-fishing.

Reduction in habitat by reducing flows aids exotic pest species such as European carp & redfin perch which are established in the survey area as well as gambusia which attack the hatching larvae of the native fish. Redfin perch are carriers of EHN virus which is lethal to other fish and are ravenous killers of fish .European carp are bottom filter feeders & cause high levels of sediment particulate (muddying the water) causing low visibility in low flows which causes fine silt to cover the streambed reducing oxygen levels & harming aquatic plant life important to the ecology of the rivers health . By pumping at low flows the river below the pump site would become more suited to major pest species. This is well documented in NSW DPI Fisheries publications.

Other diseases like *Chilodonella cyprini* ,a worm like parasite & invisible to the naked eye and described to "may well be the most dangerous skin parasite there is." Which lie dormant until conditions become favourable, ie; Fish become stressed with poor water conditions then *chilodonella* parasites become a serious adversary & mover .They multiply by asexual division and swim freely from fish to fish Poor water conditions accelerate this disease. The last *chilodonella* outbreak in the Macquarie River started during drought conditions in 1982, during June with low water & cold, fish became stressed with the outbreak killing thousands of fish, Murray cod & freshwater eel tailed catfish populations suffering the greatest death rates. Fish were effected in the Turon ,Crudine and Macquarie rivers.

Water extraction & habitat destruction/degradation will not improve or maintain the endangered & threatened species that are currently present in healthy populations in the Macquarie river.

Modelling by Geolyse pty ltd endorsed by the proponents show effect of water extraction starting to affect river flows at approximately a 200meg/ day flow down to the major effect which the model shows between 20- 30 meg/day of flow

Local knowledge of the river suggests at 100meg / day flow it is impossible to float a canoe from the Turon Junction to well below Gardiners waterhole without walking it through long stretches of riffles and sand-drifts because of lack of flow. We do this on a regular basis during summer & autumn. Look at the photo of a 46 meg / day flow in December 2006.

The EA is saturated with misleading information as to the species of fish in the study area & mitigation measures & often refers to the lack of information available on the aquatic ecology & habitat of the study area. Principal consultant for GHD MR. Greg Marshall was asked at a public information presentation at the Orange Ex Services Club why couldn't the consultants locate the fish species in Gardiners hole when recreational anglers regularly catch them there? He replied "we don't have the benefit of local knowledge or the ability to access the river at different times that the local anglers do ." This implies the fact that sampling techniques, timing , frequency & effort involved in the EA was inadequate to produce a detailed collection of data.

Recovery Plans for Threatened Species require authorities such as local councils to encourage protection and rehabilitation of river reaches shown to support threatened species populations, to encourage community groups, relevant natural resource management agencies, local councils and landholders to protect & rehabilitate riparian vegetation and instream habitats along key river stretches where threatened species populations are known to occur. The responsibility of this action is given to NSW DPI, DNR,CMA's and local councils. Relevant information supporting this can be obtained from the Recovery plans of Trout cod, Murray cod and Silver perch.

The proponents ,OCC, display deficient behaviour in their responsibilities and obligations in regard to Threatened aquatic species and ecological aquatic habitat that occur in the study area & the local government area.

The proposed route of the proposed pipeline is through an area where all remnant vegetation is significant and supports habitat for threatened species that have been recorded and/or are likely to occur in the route. As the final route and/or extraction site has not been determined the EA is incomplete and should be considered as inadequate & as such approval for the project should be declined on the basis of the above information.

There is a history of slope instability in the geographic range of the project which can be supported by the natural landslide just downstream of the Gardiners hole at the head of the 'Boulder Hole' which blocked the river for a period of time. Due to the steep unstable terrain directly above the proposed extraction point and the need for clearing of an easement for the pipeline , powerline and access road wide enough for switchbacks , the threat of landslips and increased sedimentation due to weather events have not been adequately assessed or addressed in the EA.

References used for information obtained in this submission can be found at websites of, NSW DPI, TBSA Department of Environment and Conservation NSW, Australian Government Dept. of Sustainability, Environment, Water, Population & Communities, NSW Office of Water.

This submission was produced on behalf of the Sofala branch of The Central Acclimatisation Society by Colin Gordon , vice president of SCAS and is representative of the views of its members.

Colin Gordon

3015 Turondale rd. Turondale NSW 2795



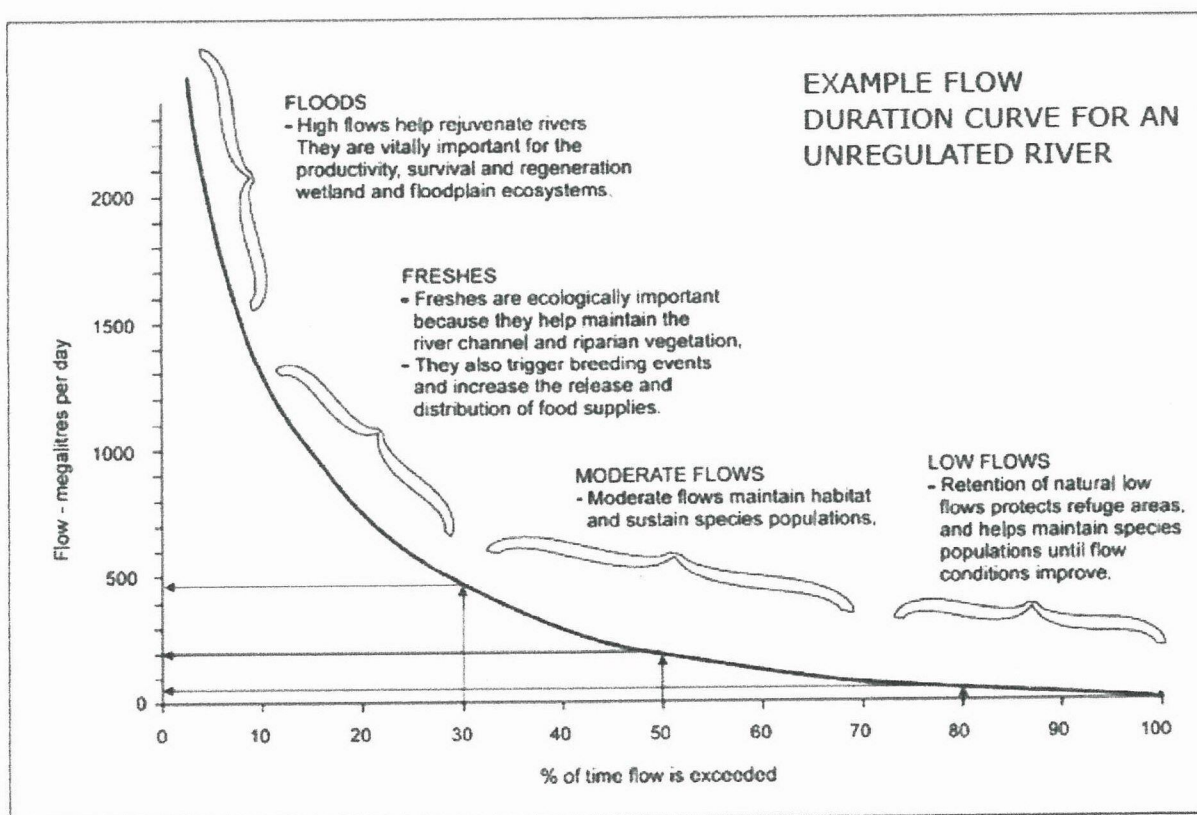
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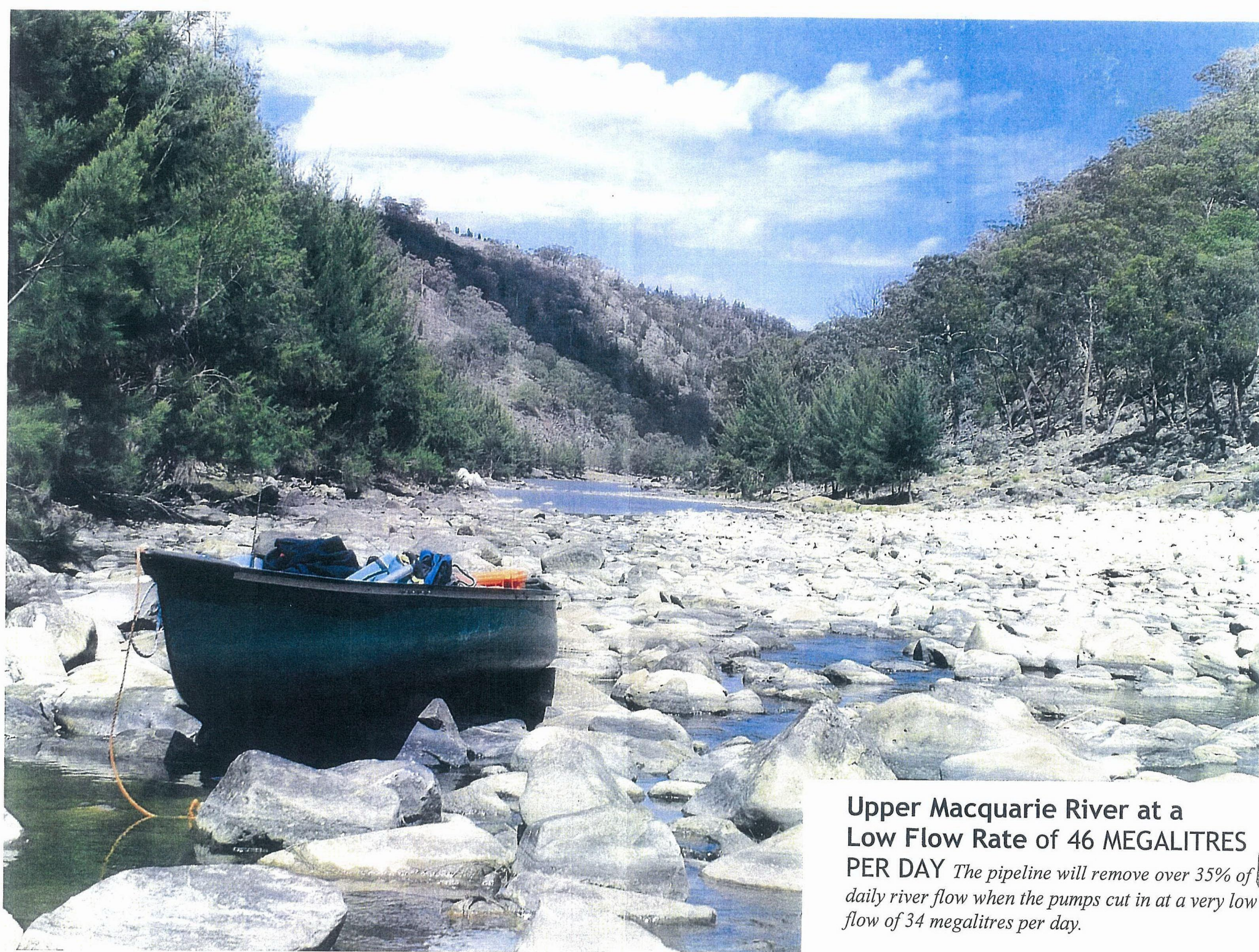
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Rivers

The environmental rules are designed to provide water for the environment across a range of flow events from floods to very low flows. The following diagram illustrates the importance of different flow ranges to a river's environment.



In addition to the cap on extractions in the Murray-Darling Basin, NSW has embarked on a process of allocating water to the environment. The economic and social development of NSW relies on the assured water supplies that are provided by our water storages. It is therefore not possible to return our rivers to their natural condition. However, in NSW we have now prepared statutory [water sharing plans](#) for most of the major river systems, protecting both the total volume of water for the environment and the natural variability in flows that is the low flows, moderate flows, freshes and floods. The environmental rules in the water sharing plans are designed to:



Upper Macquarie River at a Low Flow Rate of 46 MEGALITRES PER DAY *The pipeline will remove over 35% of daily river flow when the pumps cut in at a very low flow of 34 megalitres per day.*

Upstream View 46 megalitre flow



DOES THIS LOOK LIKE A SECURE WATER SUPPLY