



WIDE BAY BURNETT CONSERVATION COUNCIL INC

Applicant

BURNETT WATER PTY LTD (ACN 097 206 614)

Respondent

FURTHER AND BETTER PARTICULARS

The applicant provides the following further and better particulars in answer to the respondent's request, dated 12 November 2008:

Paragraph 1

1. Insofar as it is alleged that:

“(b) During the 2 years immediately before the conduct of the respondent to which the application relates and the making of the application, the applicants' objects or purposes included the protection or conservation of, or research into, the environment.”

(a) The period of the conduct of the respondent to which the application relates started at the date the Paradise Dam became operational in or about November 2005 and has continued to the present time.

(b) The objects or purposes of the applicant during the 2 years immediately before the conduct of the respondent to which the application relates and the making of the application, and at present, are set out in writing in the *Constitution and Rules – Wide Bay Burnett Conservation Council Inc*, as follows:

“3. The objects of the Council are:-

3:1. To provide a unified co-coordinating Council, to bring together all bodies and people interested in Environmental Conservation within the Region;

3:2. To make every effort to ensure by all lawful means, the ecologically sustainable use of the Earth's Biological, Mineral, Land and Marine Resources, especially within the Wide Bay Burnett Region, generally defined as the catchment and discharge areas of

FURTHER AND BETTER
PARTICULARS
Filed on behalf of the applicant

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the Mary River, the Burnett River and Baffle Creek, and associated coastal streams and coastline;

- 3:3. *To seek to uphold the laws relating to the conservation of the Flora and Fauna of the Region and of any Natural, Archaeological and Historical features therein and where necessary to seek to improve these laws and to encourage and assist in those pursuits;*
- 3:4. *To educate by all means possible all sections of the Community in understanding the principles of Conservation;*
- 3:5. *To assist any Person, Member, Government, University, other Teaching body or private organisation, in obtaining and disseminating information about the Environment and Conservation thereof;*
- 3:6. *To provide facilities for and to encourage members and other persons to provide facilities for the collection, evaluation, dissemination and exchange of information and other materials relating to Conservation;*
- 3:7. *To apply for, promote and obtain any Statute, Order, Regulation or other Authorisation or Enactment, which may seem calculated, directly or indirectly, to benefit the objects of the Council and to oppose any Bills, Proceedings or Application which may seem calculated, directly or indirectly, to prejudice the interests of Conservation and the objects of the Council;*
- 3:8. *To encourage land use and forward policy planning which gives full recognition to all Conservation values;*
- 3:9. *To discourage simplification of the Environment resulting in reduction of Biodiversity;*
- 3:10. *To discourage any wanton destruction of natural resources, or pollution of the land, waters or atmosphere;*
- 3:11. *To encourage the preservation of threatened Wildlife, Ecosystems and Geographical features, including those sites known to have sacred or cultural significance for the Aboriginal people; and*
- 3:12. *To establish a Public Fund under the Council's Constitution and Rules for all donations received for the specific purpose of supporting the Council's Environmental objects. The fund will be called 'Wide Bay Burnett Conservation Council Incorporated Public Fund' and must comply with all the requirements of sub-division 30-E of the Income Tax Assessment Act 1997."*

2. Insofar as it is alleged that:

"(c) During the 2 years immediately before the conduct of the respondent to which the application relates and the making of the application, the applicant engaged in a series of activities related to the protection or conservation of, or research into, the environment."

- (a) The period of the conduct of the respondent to which the application relates started at the date the Paradise Dam became operational in or about November 2005 and has continued to the present time.
- (b) The series of activities engaged in by the applicant during the 2 years immediately before the conduct of the respondent to which the application relates and the making of the application included:

- (i) Operating the Environment Centre in the Neighbourhood Centre at 99 Bazaar Street, Maryborough, and later at 25 Ellena Street, Maryborough, staffed by the applicant's coordinator and members to campaign and provide information to the public on matters of environmental concern affecting the Wide Bay Burnett Region.
- (ii) Campaigning against the respondent's proposal to construct and operate the Paradise Dam.
- (iii) Making submissions to the Minister and the Department administering the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) for compliance and enforcement action to be taken against the respondent for contravening condition 3 of the approval for the Paradise Dam under the Act.
- (iv) Campaigning against the Traveston Crossing Dam proposed to be built by Queensland Water Infrastructure Pty Ltd, a subsidiary of SunWater, on the Mary River due to its severe adverse impacts on lungfish and other parts of the environment in the Wide Bay Burnett Region.
- (v) Making submissions to the Minister administering EPBC Act against the proposed Traveston Crossing Dam on the Mary River, including its severe adverse impacts on lungfish.
- (vi) Campaigning on sustainable water use, vegetation retention, protection of endangered, vulnerable and rare species, sympathetic land management and curbing destructive development.
- (vii) Publishing a quarterly magazine, *Wambaliman*, produced jointly with the Bundaberg and Fraser Coast branches of the Wildlife Preservation Society. This magazine has been published continuously for 40 years. Topics covered during this time have been diverse including both local, regional and national matters concerning the protection or conservation of, or research into, the environment. In December 2001 *Wambaliman* was published for the first time in an electronic format to compliment the traditional paper edition which is still sent out to all members. Issues since Autumn 2006 are now published on the applicant's website at <http://wbbcc.wordpress.com/wambaliman/> and provide further details of the applicant's many activities during this period for the protection, conservation and research into the environment.

Paragraph 6

3. Insofar as it is alleged that:

“(a) The entrances to the upstream fishway and the downstream fishway are not likely to be found by lungfish attempting to move or migrate upstream or downstream of the dam wall.”

- (a) The facts, matters, and circumstances relied upon in support of the allegation that the entrance to the upstream fishway is not likely to be found by lungfish are:
- (i) The entrance to the upstream fishway is comprised of a single vertical slot located near the base of the Paradise Dam having a width of approximately 0.2 – 0.4 m and a height of several meters, part of which is submerged in the river channel.
 - (ii) A relatively small volume of water is intermittently released by the respondent through the upstream fishway for the purpose of attracting lungfish to enter it.
 - (iii) A larger volume of water is also intermittently released by the respondent adjacent to the upstream fishway from the Paradise Dam outlet works for the purpose of releasing water downstream from the dam and this water attracts lungfish attempting to move or migrate upstream away from the entrance to the upstream fishway.
 - (iv) The applicant accepts that some lungfish will locate and enter the upstream fishway but having regard to the physical characteristics of its entrance, the presence of a larger attractant flow from the outlet works, its intermittent operation, and the behaviour of the lungfish, it is not likely (i.e. more than 50% probable) that lungfish attempting to move or migrate upstream will locate the entrance.
- (b) The facts, matters, and circumstances relied upon in support of the allegation that the entrance to the downstream fishway is not likely to be found by lungfish are:
- (i) The entrance to the downstream fishway is comprised of a single vertical slot located on a vertically orientated concrete chamber attached to the dam's intake tower on the upstream side of the dam wall.
 - (ii) The entrance to the downstream fishway is approximately 0.2 – 0.4 m wide and 5.9 m high.
 - (iii) The entrance to the downstream fishway is very small in comparison to the dam wall and there is little to channel or direct lungfish attempting to move or migrate downstream towards it. The dam wall is comprised of a 285 m wide spillway and an additional wall area totalling approximately 400 m. This is extremely large in comparison to the entrance to the downstream fishway of 0.2 – 0.4 m.
 - (iv) The entrance to the downstream fishway is fitted with a sliding gate able to raise the minimum height at which water can enter the chamber of the downstream fishway from 62 m elevation (EL) to 67.9 m EL representing, respectively, water levels equivalent to 57% and slightly above 100% of the capacity of the dam.

- (v) The downstream fishway is not able to operate beneath water levels less than 62.5 m EL to allow 0.5 m of water to flow into the entrance sufficient for lungfish to enter it.
- (vi) Since the commencement of the operation of the dam and to the time of filing these further and better particulars, water levels in the dam have not been sufficient to enable the downstream fishway to operate and lungfish would be required to jump out of the water to locate the entrance (a behaviour the species is not known to exhibit).
- (vii) When water levels exceed 62.5 m EL, the downstream fishway is intended to be operated intermittently by lowering the sliding gate at its entrance to allow water to enter it and thereby attract lungfish into it.
- (viii) The water flow into the downstream fishway will be, at best, very small in comparison to the area of the dam wall and the larger volume of water entering the main water outlet for the dam. The dam wall is approximately 400 m wide by 37 m high which is much larger than the approximate 0.2 – 0.4 m wide and 0.5 m high flow of water into the downstream fishway. In addition, the inflow into the downstream fishway occurs only at the top of the water column and adjacent to the much larger intermittent flow into the main dam water outlet.
- (ix) The intermittent release of water from the main water outlet of the dam will attract lungfish attempting to move or migrate downstream away from the entrance to the downstream fishway.
- (x) The applicant accepts that some lungfish may locate and enter the downstream fishway if water levels in the future are sufficient to allow it to be operated but having regard to the characteristics of the entrance to the downstream fishway stated in previous paragraphs, its extremely intermittent and unreliable operation, and the behaviour of the lungfish, it is not likely (i.e. more than 50% probable) that lungfish attempting to move or migrate downstream will locate the entrance to the downstream fishway.

4. Insofar as it is alleged that:

“(b) The entrances to the upstream fishway and downstream fishway are too small for fully grown lungfish to enter.”

- (a) Lungfish may grow to approximately 2 m in length, 0.3 m in width, and weigh up to 48 kg. In the Burnett River the mean length of adult lungfish is approximately 0.9 m and their mean weight is approximately 8 kg.
- (b) The facts, matters, and circumstances relied upon in support of the allegation that the entrances to the upstream fishway and the downstream fishway are too small for fully grown lungfish to enter are:

- (i) The sizes of the entrances to the upstream fishway and the downstream fishway particularised above in paragraphs 3(a) and (b).
 - (ii) The size of fully grown lungfish particularised above in 4(a).
 - (iii) The water heights at which the upstream fishway and the downstream fishway are operated or intended to be operated, including the intended provision of 0.5 m of water flow into the downstream fishway.
 - (iv) The behaviour of lungfish attempting to move or migrate upstream or downstream.
- (c) The respondent's request to "identify the size that is alleged the entrance to the upstream fishway is required to be for fully grown lungfish to enter" misunderstands the case the applicant is required to prove. The applicant alleges that the upstream fishway and the downstream fishway are not "suitable for lungfish" within the meaning of condition 3. The respondent is responsible for installing and operating a fish transfer device that complies with this condition. The applicant is not required to prove, and does not allege, that any fish transfer device is "suitable for lungfish" within the meaning of condition 3 of the EPBC Act approval for the dam.
- (d) The respondent's request to "identify the size that is alleged the entrance to the downstream fishway is required to be for fully grown lungfish to enter" misunderstands the case the applicant is required to prove for the reasons set out in the preceding paragraph. The applicant is not required to prove, and does not allege, that any fish transfer device is "suitable for lungfish" within the meaning of condition 3 of the EPBC Act approval for the dam.

5. Insofar as it is alleged that:

"(c) The caged container in the upstream fishway is too small for fully grown lungfish."

- (a) The facts, matters, and circumstances relied upon in support of the allegation that the caged container in the upstream fishway is too small for fully grown lungfish include:
 - (i) The caged container used in the upstream fishway is approximately 7,500 litres in volume and measures approximately 4 m in length, 2 m in width, and 2 m in height.
 - (ii) The size of fully grown lungfish particularised above in 4(a).
 - (iii) The behaviour of lungfish attempting to move or migrate upstream, including their behaviour in choosing not to enter the caged container of the size and construction installed by the respondent.
- (b) The respondent's request to "identify the size that is alleged the caged container in the upstream fishway is required to be to accommodate fully grown lungfish" misunderstands the case the applicant is required to prove.

The applicant alleges that the upstream fishway and the downstream fishway are not “suitable for lungfish” within the meaning of condition 3. The respondent is responsible for installing and operating a fish transfer device that complies with this condition. The applicant is not required to prove, and does not allege, that any fish transfer device is “suitable for lungfish” within the meaning of condition 3 of the EPBC Act approval for the dam.

6. Insofar as it is alleged that:

“(d) The upstream fishway and downstream fishway do not operate continuously.”

- (a) The facts, matters, and circumstances relied upon in support of the allegation that the upstream fishway does not operate continuously include:
- (i) The upstream fishway is frequently and for extended periods not operated by the respondent.
 - (ii) Attractant water flows are not released from or through the upstream fishway continuously.
 - (iii) The caged container installed in the upstream fishway is not operated continuously.
 - (iv) During the periods when the attractant flows are released from the upstream fishway and the caged container is operated, there are extended periods when the caged container is lifted over the dam wall when lungfish cannot move through the fishway and it is, therefore, not “suitable for lungfish” within the meaning of condition 3 of the approval. Condition 3 requires the fish transfer device to be “suitable for lungfish” to pass through it at all times and the operation of the upstream fishway does not satisfy this requirement.
- (b) The facts, matters, and circumstances relied upon in support of the allegation that the downstream fishway does not operate continuously include:
- (i) The downstream fishway is constructed such that water levels in the dam must reach the base of the entrance of the fishway at 62 m EL and rise an addition 0.5 m before the downstream fishway can operate.
 - (ii) Water levels have not reached 62.5 m EL and the fishway has not operated since the commencement of the operation of the dam in November 2005 and the filing of these further and better particulars.
 - (iii) Even in future periods when water levels in the dam are above 62.5 m EL, the respondent intends to operate the downstream fishway only intermittently.
 - (iv) During future periods when water levels in the dam are above 62.5 m EL and attractant flows are allowed to enter the downstream fishway and the fishway is operated, there are extended periods when the attractant flows

will cease and the slide gates at the entrance to the fishway will be raised to allow the trap chamber in the fishway to be flushed and any fish within it released beneath the dam. During those periods lungfish in the dam reservoir attempting to move or migrate downstream cannot enter the downstream fishway and it is, therefore, not “suitable for lungfish” within the meaning of condition 3 of the approval. Condition 3 requires the fish transfer device to be “suitable for lungfish” to pass through it at all times and the operation of the downstream fishway does not satisfy this requirement.

- (c) The requirement for the upstream fishway to operate continuously is a matter of the proper construction of condition 3 of the approval for the dam.
- (d) The requirement for the downstream fishway to operate continuously is a matter of the proper construction of condition 3 of the approval for the dam.

7. Insofar as it is alleged that:

“(f) Lungfish are likely to be injured by the speed at which they are transported through the downstream fishway and the small dimensions of the pipes and downstream release pool.”

- (a) The speed at which the lungfish are or will be transported through the downstream fishway will vary and is a matter dependent upon the operation of the fishway by the respondent but is generally intended to operate at water velocities of 0.8 m per second at the entrance slot.
- (b) The facts, matters, and circumstances relied upon in support of the allegation that lungfish are likely to be injured by the speed at which they are transported through the downstream fishway include:
 - (i) The speed at which the downstream fishway is operated by the respondent as particularised in paragraph 7(a).
 - (ii) The small dimensions of the pipes relative to the size of fully grown lungfish particularised above in paragraph 4(a).
 - (iii) Once lungfish enter the downstream fishway they are in total or near total darkness.
 - (iv) The exit chute from the downstream fishway is position approximately 1 m above the water level in the release pool and lungfish are intended to fall that distance down the exit chute into the water.
- (c) The respondent’s request to “identify the speed at which it is alleged that lungfish may be transported by the downstream fishway to avoid likelihood of injury” misunderstands the case the applicant is required to prove. The applicant alleges that the upstream fishway and the downstream fishway are not “suitable for lungfish” within the meaning of condition 3. The respondent is responsible for installing and operating a fish transfer device that complies

with this condition. The applicant is not required to prove, and does not allege, that any fish transfer device is “suitable for lungfish” within the meaning of condition 3 of the EPBC Act approval for the dam.

- (d) The facts, matters, and circumstances relied upon in support of the allegation that lungfish are likely to be injured by the dimensions of the pipes through which the lungfish are intended to be transported by the downstream fishway include:
- (i) The size of fully grown lungfish particularised above in 4(a).
 - (ii) The behaviour of lungfish attempting to move or migrate downstream, including their behaviour in attempting to escape, swim against or avoid the current created when emptying the trapping chamber in the downstream fishway.
 - (iii) The fact that other fish, debris and aquatic plants may be present in the downstream fishway (including the exotic weed *Salvinia* spp. that has grown prolifically in the dam reservoir forming dense, free-floating mats).
 - (iv) The diameters of the pipes in the downstream fishway are approximately 1.2 m for the standpipe leading from the trapping chamber to near the base of the dam and 0.75 m for the flushing line leading through the dam wall to the release gate.
- (e) The respondent’s request to “identify the dimensions of the pipes it is alleged are required to avoid the likelihood of injury to lungfish” misunderstands the case the applicant is required to prove for the reasons set out above in paragraph 7(c). The applicant is not required to prove, and does not allege, that any fish transfer device is “suitable for lungfish” within the meaning of condition 3 of the EPBC Act approval for the dam.
- (f) The facts, matters, and circumstances relied upon in support of the allegation that lungfish are likely to be injured by the dimensions of the downstream release pool are:
- (i) The speed at which the downstream fishway is operated by the respondent as particularised in paragraph 7(a).
 - (ii) The size of fully grown lungfish particularised above in paragraph 4(a).
 - (iii) The exit chute from the downstream fishway is position approximately 1 m above the water level in the release pool and lungfish are intended to fall that distance down the exit chute into the water.
 - (iv) The downstream release pool is approximately 6 m in width and the exit chute is located within 1 m of its side.

- (g) The respondent's request to "identify the dimensions of the downstream release pool it is alleged are required to avoid the likelihood of injury to lungfish" misunderstands the case the applicant is required to prove for the reasons set out above in paragraph 7(c). The applicant is not required to prove, and does not allege, that any fish transfer device is "suitable for lungfish" within the meaning of condition 3 of the EPBC Act approval for the dam.
- (h) The extent of injury that it is alleged lungfish are likely to suffer by transportation through the downstream fishway include abrasions, bruising, cuts, and loss of sight due to collisions with the walls of the downstream fishway.

8. Insofar as it is alleged that:

"(g) Lungfish, particularly juveniles, are susceptible to predation while moving through the upstream fishway and the downstream fishway."

- (a) The facts, matters, and circumstances relied upon in support of the allegation that lungfish, particularly juveniles, are susceptible to predation while moving through the upstream fishway include:
 - (i) Species such as blue catfish and long-finned eel use the structure provided by vertical-slot fishways as shelter to ambush prey and lungfish, particularly hatchlings and juveniles, are susceptible to predation while moving through the fishway.
 - (ii) Having entered the upstream fishway, including while in the caged container, small lungfish have little or no places to hide from predators and are, therefore, susceptible to predation.
- (b) The facts, matters, and circumstances relied upon in support of the allegation that lungfish, particularly juveniles, are susceptible to predation while moving through the downstream fishway include:
 - (i) Species such as blue catfish and long-finned eel use the structure provided by vertical-slot fishways as shelter to ambush prey and lungfish, particularly hatchlings and juveniles, are susceptible to predation while moving through the fishway.
 - (ii) Having entered the downstream fishway, including while in the trapping chamber, small lungfish have little or no places to hide from predators and are, therefore, susceptible to predation.

9. Insofar as it is alleged that:

"(h) Lungfish exiting the upstream fishway or the downstream fishway are susceptible to predation at the release point."

- (a) The facts, matters, and circumstances relied upon in support of the allegation that lungfish exiting the upstream fishway are susceptible to predation at the release point include:

- (i) No fish aggregation device is provided at the release point and lungfish released from the caged container into the dam catchment are released at the surface into open water and away from shelter.
- (b) The facts, matters, and circumstances relied upon in support of the allegation that lungfish exiting the downstream fishway are susceptible to predation at the release point include:
 - (i) No fish aggregation device is provided at the release point and lungfish released from the exit chute beneath the dam are released at the surface into open water and away from shelter and are, therefore, vulnerable to predation.

10. Insofar as it is alleged that:

“(i) Due to the matters raised in paragraphs 6(a)-(h), the upstream fishway and the downstream fishway are not likely (more than 50% probable) to allow any normal sized lungfish to move upstream or downstream of the dam without injury irrespective of the water level in the dam.”

- (a) “Normal size” lungfish range from hatchlings of a few millimetres in length to fully grown adults of up to 2 m and 48 kg in size.
- (b) The particulars of the facts, matters, and circumstances relied upon in support of the allegation that due to the matters raised in paragraphs 6(a)-(h), the upstream fishway and downstream fishway are not likely (more than 50% probable) to allow any normal sized lungfish to move upstream or downstream of the dam without injury irrespective of the water level in the dam were set out above in these further and better particulars.
- (c) The 50% probability is a requirement imposed by the proper construction of condition 3 of the approval. The particulars set out above operate individually and cumulatively to reduce the likelihood to beneath 50% probability that lungfish will be able to move through either fishway without injury irrespective of the water level in the dam in comparison with unrestricted fish passage.
- (d) The matters in paragraphs 6(a)-(h) operate individually and cumulatively to reduce the likelihood to beneath 50% probability that any normal sized lungfish will be able to move through either fishway without injury irrespective of the water level in the dam; however, the matters raised in paragraphs 6(d) and (e) are the applicant’s principal complaints against the respondent’s conduct.
- (e) [This question appears to be a repeat of the previous question (10(d)) and the answer to it is the same as the preceding paragraph.]
- (f) [Again, this question appears to be a repeat of question 10(d) and the answer to it is the same as the answer to question 10(d).]

11. The applicant has difficulty understanding the request made by the respondent in paragraph 11 as it appears to repeat at a general level the specific questions asked in relation to paragraphs 6(a)-(h) in the preceding paragraphs. If this understand is correct, the answers to the request are set out in the specific responses given above. If there are further specific particulars that the respondent requires to understand the case it is required to meet the applicant is willing to provide them if requested to do so.

Paragraph 8

12. Insofar as it is alleged that:

“The respondent’s contravention of condition 3 set out in paragraph 6 constitutes an offence or other contravention of section 142A of the EPBC Act.”

- (a) The respondent is alleged to have contravened subsection 142A(1) of the EPBC Act.
- (b) The facts, matters, and circumstances relied upon in support of the allegation that the respondent’s alleged contravention of condition 3 has been reckless include:
- (i) The allegation of recklessness relates primarily to paragraphs 6(d) and (e) of the Statement of Claim, the facts that the upstream fishway and the downstream fishway do not operate continuously and that the downstream fishway was designed to only operate above 62 m EL.
 - (ii) Prior to the construction of the dam and since its commencement the respondent has intended to operate the upstream fishway and the downstream fishway intermittently depending on water availability and operational demands in contravention of condition 3.
 - (iii) At no time did the respondent intend to operate the upstream fishway or the downstream fishway continuously as required by condition 3.
 - (iv) Prior to the construction of the dam and since its commencement the respondent has known it would operate the upstream fishway and the downstream fishway intermittently depending on water availability and operational demands in contravention of condition 3.
 - (v) Since the commencement of the dam in November 2005 the respondent has known it was not operating the upstream fishway and the downstream fishway continuously and, therefore was in contravention of condition 3.
 - (vi) In planning the construction and operation of the dam and prior to the commencement of the dam in November 2005 the respondent knew that water levels would vary and would at times be beneath 62 m EL, thereby not allowing the downstream fishway to operate. The respondent designed the main water outlet works of the dam in such a way as to

allow release of water while storage levels are low, including allowing environmental flows to be maintained during dry periods that the respondent knew may occur during normal operation but failed to design the downstream fishway to operate in such conditions.

- (vii) At least since the Compliance Audit conducted by the Australian Government Department of the Environment and Water Resources in mid-2007, the respondent has known that the design and operation of the downstream fishway contravened condition 3 of the approval because water levels had not reached the operating height of 62 m EL and the condition required continuous operation from the commencement of the dam in November 2005.
- (viii) In relation to design of the downstream fishway such that the entrance required water in the dam to reach 62 m EL (and an additional 0.5 m of water) for the fishway to operate, prior to constructing the dam:
 - (A) the respondent was aware of a substantial risk that water would not reach that level for a considerable period after the commencement of the dam due to the highly variable rainfall in the Burnett River Catchment; and
 - (B) having regard to the circumstances known to the respondent, it was unjustifiable to construct the downstream fishway in such a manner.
- (ix) The allegation of recklessness relates to the respondent's conduct and no individual person within the respondent is alleged to have been reckless on behalf of the respondent.
- (c) It is not alleged that the respondent has been reckless as to the fact that the alleged contravention is likely to have a significant impact on the lungfish (i.e. a contravention of subsection 142A(3)).
- (d) The facts, matters, and circumstances relied upon in support of the allegation that the respondent's conduct:
 - (i) In fact results in each of the impacts in paragraph 8(b)(i) and (ii) are as follows (noting that a "significant impact" is an impact that is important, notable or of consequence having regard to its context or intensity, and the context or intensity of the impacts caused by the respondent's conduct includes the following facts):
 - (A) The lungfish species' known distribution, populations, life history, habitat requirements, migratory behaviour and migratory requirements, including the facts that:
 - (I) Lungfish undertake limited migrations of varying length both during the normal course of activities but more critically for breeding purposes.

- (II) Lungfish migrate up to 45 km and the longer migrations appear to be associated with movement upstream out of impoundments to suitable spawning habitats.
 - (III) Adult lungfish home ranges (the area of river where most time is spent) are relatively small (usually less than 5 – 10 km) and long migratory passages are therefore not critical for adult individuals to survive but are significant for breeding and maintaining genetic variability and viability in the population in the Burnett River.
- (B) The known behaviour of the lungfish relevant to design of fish passage through the Paradise Dam, including the fact that lungfish are known to move downstream in high-flow (flood) events.
 - (C) During flood events and at other times when the dam spillway operates lungfish are likely to attempt to move or migrate downstream over the spillway thereby increasing mortality in the lungfish population due to the death or injury of lungfish falling approximately 37 m in highly turbulent and fast flowing water down the large concrete steps constructed in the spillway to dissipate water velocity.
 - (D) The demographic variables that affect the natural movement or migration of lungfish, including age, sex, and size.
 - (E) Variations in the movement or migration of lungfish with seasons, river flow and other naturally variable factors.
 - (F) The evolutionary and ecological significance of the lungfish.
 - (G) Why the lungfish has been listed as vulnerable to extinction under the EPBC Act.
 - (H) The importance of connectivity in the lungfish population in the Burnett River and, in particular, the need for effective fish passage upstream or downstream on the Paradise Dam to provide breeding and feeding opportunities and to maintain the genetic variability and viability of the lungfish population.
 - (I) The impacts that would be expected on lungfish population in the Burnett River from the construction of the Paradise Dam without a fish transfer device, such as changes in habitat and changes in the genetic variability and viability of the lungfish population.
 - (J) Other than the Paradise Dam, the threats and impacts faced by the lungfish population in the Burnett River.
 - (K) Other threats and impacts faced by the lungfish species outside the population in the Burnett River, including the proposed

construction of the Traveston Crossing Dam on the Mary River using a fish transfer device modelled on the Paradise Dam.

- (L) The water flow regime, particularly periods of zero flow, at the site of the upstream fishway and the downstream fishway prior to the construction of the dam.
 - (M) The extent that water levels in the dam in the future will obtain and remain above 62m AHD (57% of the dam capacity), thereby allowing the downstream fishway as currently constructed to operate.
 - (N) The likelihood that the upstream fishway design will allow safe lungfish passage in comparison to unrestricted passage.
 - (O) The likelihood that the upstream fishway will allow safe lungfish passage as actually operated by the respondent in comparison to unrestricted passage.
 - (P) The likelihood that the downstream fishway design will allow safe lungfish passage in comparison to unrestricted passage.
 - (Q) The likelihood that the downstream fishway will allow safe lungfish passage as actually operated by the respondent in comparison to unrestricted passage.
 - (R) Restrictions in movement or migration of lungfish in the Burnett River caused by the design and operation of the upstream fishway and the downstream fishway causing changes in the genetic variability and viability of the lungfish population and the consequences of these impacts for the conservation of the lungfish species.
- (ii) The facts, matters, and circumstances relied upon in support of the allegation that the respondent's conduct will result in each of the impacts in paragraph 8(b)(i) and (ii), are the matters set out in paragraph 12(d)(i) of these Further and Better Particulars and noting that "will result" refers to future impacts that are more probable than not (i.e. more than a 50% chance).
 - (iii) The facts, matters, and circumstances relied upon in support of the allegation that the respondent's conduct is likely to result in each of the impacts in paragraph 8(b)(i) and (ii), are the matters set out in paragraph 12(d)(i) of these Further and Better Particulars and noting that "is likely to result" refers to future impacts the occurrence of which is a real chance or possibility regardless of whether or not it is more or less than 50% probable.

(e) The facts, matters, and circumstances relied upon in support of the allegation that the impacts in paragraph 8(b)(i) and (ii) will continue for the indefinite future unless the respondent is restrained include:

(i) The past and present conduct of the respondent, including:

(A) the respondent's response to the Compliance Audit conducted by the Australian Government Department of the Environment and Water Resources in mid-2007; and

(B) the respondent's response to these proceedings in the Court,

indicates that the respondent intends to continue to operate the dam in contravention of condition 3 of the approval and causing the impacts alleged in paragraph 8(b)(i) and (ii) for the indefinite future unless restrained by the Court.

(ii) The respondent intends that the nominal engineering design life of the Paradise Dam is 50 years, though the respondent expects that it is likely to be maintained after that period provided that it continues to meet dam safety requirements and remains an integral part of the regional water supply strategy.

(iii) The respondent intends that the dam will remain operational after its nominal engineering design life of 50 years but may be decommissioned during or after the initial engineering design life if:

(A) it suffers significant damage that cannot be remedied to meet safety standards; or

(B) it is no longer needed to provide water within the Burnett Region.

13. The requests in paragraph 13(a) to "provide particulars of the design and design features of the fish transfer device which the applicant seeks to have the respondent install and operate", and the related question in paragraph 13(b), misunderstands the case the applicant is required to prove. The applicant alleges that the upstream fishway and the downstream fishway are not "suitable for lungfish" within the meaning of condition 3. The respondent is responsible for installing and operating a fish transfer device that complies with this condition. The applicant is not required to prove, and does not allege, that any fish transfer device is "suitable for lungfish" within the meaning of condition 3 of the EPBC Act approval for the dam.

Dated 19 November 2008



 Jo-Anne Bragg (Principal Solicitor)
 Solicitor for the applicant