Water for Australia
Re. Submission 23 to the ECITA Committee
Inquiry into the extent and economic impact of salinity

Additional supplementary information
Concerning the Establishment of a Water Grid Pilot Project

Robin Gaskell
61 Laurence St
Lithgow NSW 2790
7 November 2005

Dr Jacqueline Dewar
Secretary (References Committee)
ECITA
Senate
Parliament House
Canberra ACT 2600

Dear Dr Dewar,

At the Senate ECITA Hearing in Sydney on 14th October, I handed in to the Committee, as a supplementary submission from the Water for Australia group, a single A4 page showing the map of a potential Pilot Study of the desalination Water Grid.

The Critical Path Analysis and Financial Flow Chart were prepared by Laurie Hogan, Principal of the Water for Australia Project, and they follow a sequence of events starting with:

1. Search for suitable 10km x 10km parcel of salinated land
2. Collecting together a key team of WfA participants
3. Discussions with major governmental stake-holders
4. Purchase of land
5. Fencing the Project area
6. Establishing site for Salt Factory, and start of building
7. Area allocated as wildlife sanctuary and suitably fenced
8. Tree planting commenced
9. Laying of Water Grid pipes commenced
10. Construction of Water Flow Collectors commenced
11. Solar ponds sited, and construction started
12. (etc)

The full sequence of events is given in the Critical Path Analysis and Flow Chart. The cost estimates are given as year totals, and a cumulative figure is not given because of the difficulty with combining costs from different years.

While the first major income will follow the first harvesting of timber, there will be crop, animal and some timber yields prior to this; the Flow Chart conservatively shows the first major rotation between trees and crops at thirty-five

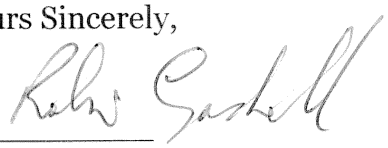
years; however, it could even be ten years prior to this. The inclusion from the timber expert, John Gwalter, suggests a faster growth of forest; and, to this effect, the use of quick-growing hybrid Saltgrow Trees was mentioned in our submission.

A significant factor in the economy of WfA's desalination plan is the production of electric power within the Water Grid, and, here, the roofed Water Flow Collectors play a major role. While the design for the solar generators on the WFC roofs has been patented, and will supply the necessary power - for water pumps, bores and reverse osmosis - the technology of this power production process needs further development research.

A research grant to bring this low-cost, solar power system to fruition will ensure that the Water Grid concept can be shown to be fully feasible, economically. While The WfA group has had a long history of presenting the scheme to official inquiries, it has not, as yet, sought grant money to finalise its power production system. If the ECITA Committee can direct WfA to the most suitable sources of grant money for the completion of its solar power production process, this would be greatly appreciated, and would also make this solution to the problem of salinity fully available.

The solar power unit that is developed for Water Flow Collectors will also be suitable, in terms of roof dimensions and power output, for supplying electricity to remote homesteads.

Yours Sincerely,



Robin Gaskell

SETTING UP A TRIAL AREA TO EVALUATE THE PROPOSED USE OF THE WATER GRID SYSTEMS TO COMBAT THE FLOOD, DROUGHT AND SALINITY PROBLEMS.

Water for Australia's people present this additional information to the Senate's Inquiry into the extent and economic impact of salinity: we hope to give the Senators an idea of how we would go about setting up a trial area if sufficient funding was made available for the project.

An area that would be suitable for the 100 square kilometre (10km x 10km) evaluation site would be reasonably flat, salt-affected, and have a high water-table; it would also be an area of land that had become useless for agriculture. There are several suitable sites in the Darling basin. The Water for Australia team would be ready to go into action once the site had been chosen, the go-ahead given, and the funding in place.

The attached information presents a broad outline of what would be required to implement the construction of an up-to-date evaluation facility for Water for Australia's plan; it covers the broad range of segments to be evaluated. When the education facility was fully established, it would showcase Australia's sustainable approach to rural science: it would attract not only students, but also people who are searching for sustainable answers to the flood/drought/salinity cycle; as well as that, it would draw in people seeking new ideas for farm production. The construction of the evaluation facility would not only serve to assess the Water for Australia plan, but would also provide an ongoing educational, and hands-on, laboratory for the assessment of research in the many areas that are crucial to the finding of improvements, which contribute to rural industry's progress.

List of documents;
1/Plan and description of the facility (already supplied).
2/Construction critical path.
3/Cost to set up and operate. Note 1997 costing. A $
4/Support letter for tree plantations.
(Engineering planning and costings by L. Hogan)

John Gwalter B.Sc.(for.)

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WATER FOR AUSTRALIA

I have examined the timber values forecast in WATER FOR AUSTRALIA and find that the result is highly pessimistic regarding returns to the community.

The Basic calculations are:

AREA	= (4000 X 4000)/10000 ha X **50%**	= **800 ha**
Increment	= 6.5 m^3/ha/annum	= 5,200 m^3/annum
Rotation length	= 30 years	
Total harvested volume (log volume)		= 156,000 m^3 Log
Recovery	= 50% sawn/round	= 78,000 m^3 Sawn
Value @ $1,500 m^3		= **$ 117,000,000**

20% of this could be expected to be returned to the producer as Royalty at stump,
(50% of 20% @ $1500 m^3 Sawn = $150/$m^3$ Log) or **$ 23,400,000**

The balance would be manufacturing cost, harvesting costs and haulage costs, all of which benefit the community, thus the value to the community is $ 117,000,000

This would have to be discounted at a suitable rate to the present day

The Present Worth of these sums is given below for various interest rates

Table of Present Worth @ **30 yr** discount

Discount rate	End Worth 117,000,000	End Worth 20% of 117,000,000
1%	86,804,984	17,360,996
2%	**64,592,296**	**12,918,459**
3%	48,202,452	9,640,490
4%	36,073,284	7,214,657
5%	27,071,160	5,414,232

At Government cost discount rate of 2%. the project would be estimated to be worth approximately S64.500.000 in timber generated value to the community or approximately S13.000.000 in timber value to the producer.

The CSIRO report presented at *Plantations and Farm Forestry* 9-12 Sept 1996 indicates that **growth rates greatly in excess of 6.5 m^3/annum can be expected.**

COMMUNITY RETURNS

A Growth rate of at least 18m^3+/ha/annum, or three times that used in the estimate of value to the community could be expected. thus a total value return to the Community of **$ 351,000,000** (S194.000.000 present worth @ 2%) for 800 ha over 30 years is reasonable .

GROWER RETURNS

It is normal for a grower to receive 20% of the **wholesale** price in sawn cubic metres, in cubic metres log volume. Assuming that the figure of $1500/$m^3$ sawn is retail price. then the value return to the grower of $23,400,000 would be only $ 11,700,000 (100% mark up to retail) @ 6.5 m^3/ha/annum .
However at 18 m^3– ha annum a return of **$35,100,000** ($19,400,000 Present worth @ 2%) is reasonable @ 30 years on 800 ha.

INTERMEDIATE YIELDS

The Value of Thinnings has not been taken into account. Thinnings for pulp and poles would greatly enhance the present worth value of the project and have minimal effect on the end worth.

MULTIPLIER EFFECT

A multiplier of 4-5 should be applied for those supported by the timber industry, reflecting employment in services. Such benefit would be directly attributable to the timber industry. This benefit has not been taken into account.

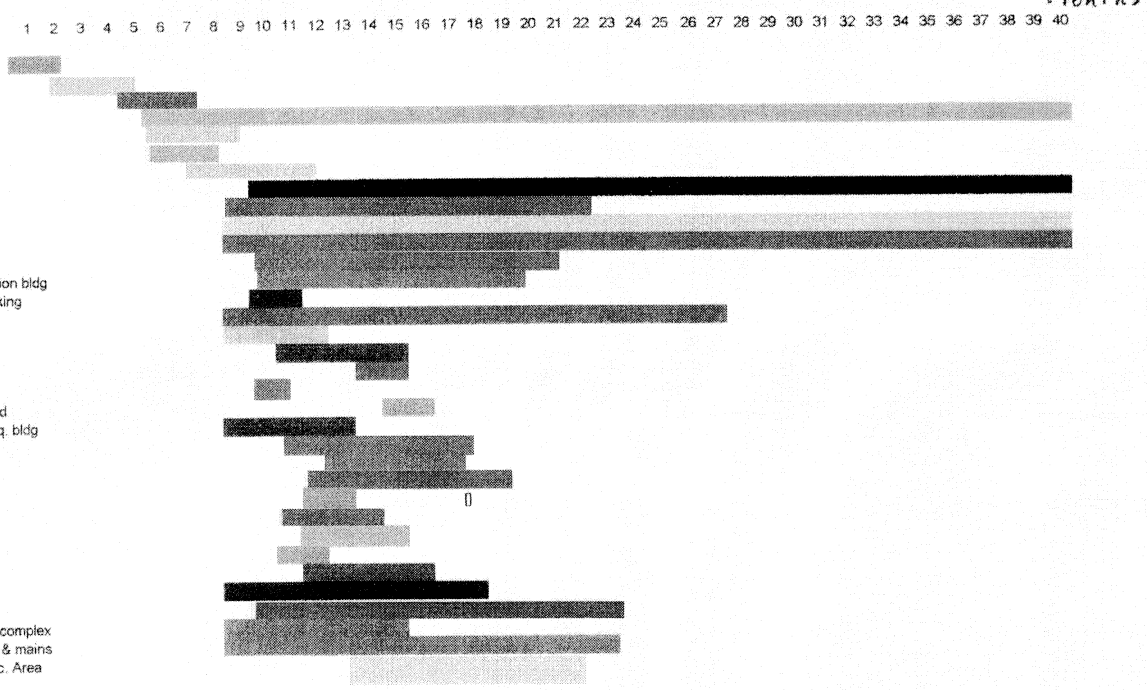
SUMMARY

I find that the Timber returns estimated in the WATER FOR AUSTRALIA report are conservative in terms of Community value.

John Gwalter

JOHN GWALTER B.Sc.(for.) 29/1/97

Critical Path Analysis WfA Pilot Project



1 Executive Search
2 Think Tank
3 Purchase of Land
4 Tree Plantations
5 Wildlife Sactuary Area
6 Boundary Fence
7 Salt Product Factory
8 Solar Ponds
9 Pipe Grid Mains
10 Water Flow Collectors
11 Formed fire access roads
12 Two airstrips
13 Aircraft hangar and reception bldg
14 Aircraft hard stand for parking
15 Sealed roads
16 Carpark areas
17 Trades workshop bldg
18 Fish hatchery building
19 Plant unsealed hard area
20 Farm product packing shed
21 General store and farm req. bldg
22 Power station bld & plant
23 Solar Stills
24 Fish breeding ponds
25 Hydroponic gardens
26 Water supply
27 Crustacean ponds
28 Fire/ambulance bldg
29 Lecture area& Classroom
30 Administration bldg
31 WfA Motel bldg
32 Nursery & service station complex
33 Sewage Treatment works & mains
34 Caravan Park & Temp acc. Area