

The Secretary  
Senate Rural and Regional Affairs and Transport  
Parliament House  
Canberra ACT 2600

Dear Sir/Madam

**Re: Inquiry into Additional Water Supplies for South East Queensland -  
Traveston Crossing Dam Information**

The purpose of this letter is to provide information for the Senate Inquiry to  
“the examination of all reasonable options, including increased dam capacity,  
for additional water supplies for South East Queensland, including:

- a) the merits of all options, including the Queensland Government’s  
proposed Traveston Crossing Dam as well as raising the Borumba  
Dam; and
- b) the social, environmental, economic and engineering impacts of the  
various proposals.

Please find attached an information sheet about **Aquatic Weeds Issues**  
pertaining directly to this matter.

Yours faithfully

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## Aquatic weed issues

### Relating to the proposed Traveston crossing dam.

Aquatic weeds have numerous negative effects on our waterways. They can create dense shade which prevents light and oxygen entering the water, shading out native aquatic plants. As large amounts of vegetative matter breaks down, dissolved oxygen levels decrease, which leads to poor water quality, and in some cases, fish kills. Recreational activities are often severely affected. Public safety is severely compromised by most aquatic weed infestations. The danger of drowning is equally great for livestock and humans. Infestations create ideal conditions for mosquito breeding. Pipes, intakes and pumps are regularly blocked by aquatic weed growth. Water losses from transpiration are greatly increased, in some cases by up to three times normal levels. Aquatic weeds are extremely difficult to deal with, and in most cases, when you have an aquatic weed infestation, you will have it forever. Here are some of the major threats to any large impoundment on the Mary River...

Firstly, there is *Salvinia molesta*, or Salvinia. Salvinia is a Weed of National Significance [WoNS] because of its severe environmental, economic and social impacts. This plant is a free-floating aquatic fern, deliberately introduced into Australia from Brazil in 1952 as an ornamental aquatic plant. This plant reproduces solely by vegetative means...it does not set seed in Australia. This does not stop its astonishing rate of reproduction. At Lake Moondarra in Queensland, Salvinia was recorded as doubling its area in just 2.7 days...and can reach densities of 400 tonnes of fresh weight per hectare. Control measures include biological control, physical removal using harvesters, and herbicides. CSIRO staff from Brisbane lead the research into a biological control agent, and the result was a small brown weevil called *Cyrtobagous salviniae*. This weevil was released in 1980, and proved to be a success in controlling Salvinia. No bio-control is a 'silver bullet', and the weevils have to be monitored and re-released regularly to maintain control. It is most effective in the sub-tropics, and is less effective in cooler climates. A recent infestation of Salvinia in the Hawkesbury River in NSW illustrates the problems that this aquatic weed causes. In May 2004, approximately 347 hectares of the Hawkesbury River was infested, with multi layered Salvinia covering 88 kilometers of river. The River from Sackville to South Windsor was officially closed for 3 months to allow control measures to be conducted. Three aquatic harvesters were used to remove 140,000 t of compacted Salvinia over a 14 month period.

The cost of this exercise is conservatively estimated at 1.8 million dollars. This coordinated approach did result in the reduction of the problem however Salvinia is still present in large amounts and will continue to be in the system for the foreseeable future.

Salvinia is in the Mary River now.

Secondly, there is *Eichhornia crassipes*, or Water hyacinth. This plant was introduced from the Amazon River into Australia way back in 1894. It was introduced as an ornamental plant because of its pretty purple/pink flowers and attractive shiny foliage. This plant reproduces both vegetatively and from seed. Two parent plants can produce 30 offspring in 23 days, and 1200 in 4 months. The seed remain viable for 15 years! I remember seeing Water hyacinth completely clogging the Brisbane River in 1973. Again bio-control came to the rescue, in the form of the weevil *Neochetina eichhorniae*, which was released in 1975. Mechanical harvesting and spraying with herbicide are also being used. These control measures have had some success; however Water hyacinth is still a huge problem, particularly in South East Queensland. Thousands of dollars are being spent currently by the Burnett-Mary Regional Group to reduce the devastating effects of this aquatic weed.

Water hyacinth is in the Mary River now.

*Cabomba caroliniana*, Cabomba, [or Fanwort] is from South America, and is a relative new comer. Cabomba is also a Weed of National Significance. Until recently Cabomba was thought to reproduce vegetatively, however seeds have been found in infestations in the Darwin River in the Northern Territory, and more recently in Lake Benalla in Victoria. A popular aquarium plant, which was still available for sale in Victoria two years ago, was thought to have been introduced into Lake Macdonald in the Noosa Shire in 1993. It now covers 70% of the lake and Noosa Council is removing up to 90 tonnes of Cabomba per hectare. Mechanical removal is the only current way to combat this weed. The current harvester at Lake Macdonald cost \$287,000 to purchase, and costs approximately \$120,000 per year to maintain and operate. CSIRO is conducting research into a suitable biological control. Cabomba also

occurs in Ewen Maddock Dam in Caloundra Shire. Here, they are using an underwater vacuum cleaner to deal with Cabomba. This is a more selective method, and allows the operators to keep as many native aquatic plants as possible. Caloundra does not have the tonnages that they have to deal with in Noosa. New infestations of Cabomba have been found recently in Grafton, around Sydney and in Maryborough. The proposed Traveston dam is less than 20 kilometers from Lake Macdonald, which has 36% of all Australia's Cabomba.

Special mention should be made of two more emerging aquatic and semi aquatic weeds that are very likely to become established in this new dam.

First there is *Egeria densa* or Dense water weed. This is fast becoming a problem in many of our Sunshine Coast waterways, including Kin Kin Creek and the Obi Obi. [This flows into the Mary River].

Secondly there is the Class One Pest Plant *Hygrophila costata* or Glush weed. This is a semi aquatic weed that has been found in several new locations recently including Maryborough and around Brisbane. The largest infestation of this pest plant is again in Lake Macdonald, in Noosa Shire.

Aquatic weeds are most likely to occur in large slow moving or stationary water bodies.  
Areas with high nutrient input are especially susceptible.  
If the water is in full sun, and  
Relatively shallow, you are guaranteed to get aquatic weeds.

Phillip Moran  
2<sup>nd</sup> April 2007