ISSUE The Traveston Crossing Dam proposal.

To Federal Environment Minister Peter Garret,
From The Southern Sandy Straits Marine Environment Group

We would like to put our opposition to the building of the Traveston Crossing Dam on the Mary Rive on public record. We believe the Dam will have impacts on RAMSAR wetlands in the Great Sandy Straits and on World Heritage values on the boundaries of Fraser Island. We also believe there will be impacts on marine mega fauna and both state and Commonwealth fish stocks. We put our case it may sound repetitive.

We ask the federal government why the Queensland government has failed to link ecological functions between catchments, flood plumes, fresh water pooling in the marine regions of the Greater Hervey Bay marine biodiversity areas and the Great Sandy Region in the proposed Traveston Crossing Dam application?

This is what they the experts have achieved with the same tactics over the years in this region. We will start the Burnett catchment, these days fresh rarely ever supports the marine areas of these regions with flood plumes or environmental fresh water flows because of the vast network of over 30 major Dams, the Walla Weir and the Paradise Dam along with a tidal weir only 25K from its mouth. These have all had an impact on many fisheries.

There is major water extraction from this whole region. Dams on the Kolan and Burrum rivers catchments plus weirs and tidal Barriers and heavy ground water extraction from these areas have caused major subterranean groundwater salinity problems. The Tuan arm of the Mary R has three weirs and a history of heavy water use. The lower Mary's tidal barrage can go for a few years with nil or only minimal discharge and water levels over long periods can be below the fish way.

So just how much water is needed from the Mary catchment to do the job of all these catchments that once flowed into the greater Hervey Bay's bioregions and to satisfy marine production requirements for the sustainability of both state and Commonwealth fish populations and environmental requirements is any ones guess. No one I know has this information. We put to you that the accumulated impact of little or no flow on marine productivity and sustainability has never been studied.

The fact is that it may take all of the Mary Rivers flow now to make up ANY shortfalls in the other catchments that have had their flows over manipulated to maintain and reduce hyper-saline conditions that others claim now exists in the large areas of Hervey Bay. The accumulative impact of the loss of fresh water discharge and the neglect by assessing authorities has not been considered to have any impact in the broader marine ecosystems.

If the Mary River, which is the last major river and catchment, goes the same way with water manipulation and utilisation and little regard to marine ecological functions then these values will be lost forever.

This legacy lies before you, the principle agency, if the go a head is given. If you manipulate the last of the larger river catchments in the southeastern Queensland, you would have then castrated the ecological flows in to some of the most heavily listed marine ecosystems of world importance downstream.

This is why we are asking you the Federal government to save this, the last of the larger rivers in SE Queensland, being the Mary River and keep it, in perpetuity for Bio-assessment and further generations.

The Federal Environment Minster Peter Garret needs to invoke a precautionary action to enforce a moratorium and put a halt to the Traveston Crossing Dam and to carry out much need scoping studies, to access the current impacts within marine ecosystems with the existing water inter-structures, on the greater Hervey Bay's marine areas.

The state government has failed to accept that any accumulative impact of the heavily impounded regions rivers and water extractive activities of the other catchments which once had delivered regular flood plumes and flows

into this regions marine ecosystems, too maintain sustainability and marine productivity.

One must understanding these values and cues of the flood plumes that once flowed into the Greater Hervey Bay, Fraser Island (K'gari) and the Great Sandy Straits regions along with offshore bioregions and ocean currents if the Traveston Crossing Dam goes a head.

It was not looking at the accumulative impact that caused major problems in the Murray Darling River System. People in the Coorong area at the rivers mouth are now waking up.

It is important to understand the linking of Limnology, Oceanography, and the role this region's catchments play in the Greater Hervey Bay, Great Sandy Straits and (K'gari) Fraser Island areas.

We believe that there are flow pathways and that a carbon blueprint from within a catchment to an estuary and ocean was the lifeblood that would, in itself, link far greater coastal and offshore environments. This was the case with the other river catchments that once flowed into the greater Hervey Bay region.

We believe flooding rivers and Hervey Bay's currents are interconnected to Australia's eastern ocean current and ask whether they themselves are linked to coastal pathways that stretch from catchment to catchment on the East Coast of Australia.

We are not limnologists or oceanographers but we believe we have an empirical understanding of how things in these rivers worked in days gone by before their environmental castration.

The tributaries of rivers and streams that flow from the Region's catchment are more than just pathways to send pollution, top soil and debris downstream. They are pathways linking the waterways with genetic diversity, developed over millions of years. Not only within the catchment but also providing fish-ways (not manmade one's) for the coastal fish migration, inshore and offshore grow out salinity links areas, feeding areas and corridors for coastal fish movement to some of the most productive biomass areas within Hervey Bay's low salinity ocean current areas.

These pathways may link waterways over many thousands of kilometres and provide the essence for salinity niches to allow successful recruitment for larval to post-larval stages of many of our marine species. How much the equilibrium, instincts and niches have already been eroded is anybody's guess. We need you to find out.

There are problems that exist now in marine areas from the current regions water infrastructure because of poor government agency assessment and approval with too narrow terms of reference.

The Kolan, Burnett, Burrum, Mary and Tuan Rivers, which once had uninterrupted flow in to the areas of Hervey Bay and the Great Sandy Strait¸ have all been heavily modified.

One of Queensland's largest coastal catchments, the Burnett now rarely ever flows to the estuary, little to nothing flows to Hervey Bay and the large marine areas that were once fed by the river. It has over 30 major dams on it plus the 40-meter high Walla Weir and the new Paradise Dam.

The 75k estuary area of the river also has the Bucca Weir and then the large Ben Anderson tidal barrier, only 25ks from its mouth, have completely cut the estuary from its once most productive marine up stream low salinity areas.

The Kolan River to the north of the Burnett has a major dam, the Fred Hague, which has never filled, as well as weirs and other barriers.

The Burrum River has the large Lenthals Dam and weirs plus tidal barriers. The other arms the Gregory and Isis Rivers have tidal barriers and heavy ground water extraction. They now suffer from salt intrusion in their once large underground fresh water reserves to more then 50k's inland across from the Burrum to the Burnett.

This has all had an impact on The Greater Hervey Bay marine Bio- regions.

We are not aware of any research into the fresh water wonky holes and their role in the marine ecosystem in Hervey Bay or the many areas where you could see the fresh water bubbling to the surface and where the areas of springs and slump holes were on the sea floor. We believe many of these slumps originate from fresh water inflow. These days' marine salt-water flows back in the underground springs because of land clearing and overuse of ground water for irrigation.

So what was the wonky holes fresh water role in Hervey Bay's marine areas?

Has all this lead to hyper-saline conditions in the RAMSAR wet lands?

The Mary River's Tuan arm to the south has three weirs. One of these is a major storage for the city of Maryborough and cuts off a large area of that estuary on the Tuan reach.

The Mary River has a tidal barrier that cuts off more than 45k's of the estuary and has several water storages upriver not counting gauging weirs plus heavy upstream water extraction.

What is left of the flows is the lifeblood of the RAMSAR wet lands, fish habitat areas and the marine parks which has a very high conservation value.

We have great difficulty understanding the manipulation of average flow data where water authorities and the Queensland CG report stand by the percentages and statements that they will only take 5% of flow from the Mary R. They are fully aware that the flow rate is averaged. This means the river system could be dry for several years and can still be supported by the percentage flow data.

This has happened on the Burnett and now you will apply the same methodology to the Mary River. Well, the Mary R. flows into world listed wet lands and world heritage Fraser Is and the impacts will be much harder to hide then what has happened on the Burnett river catchment and marine ecosystems.

Now add to this the proposed Traveston Crossing Dam.

We ask what the accumulated affects on the broader Hervey Bay's marine Bioregion's will be if you approve this Dam?

The accumulative impact of water infrastructure in the Mary-Burnett region has never been looked at in conjunction with the proposed Traveston Crossing Dam with regard to the marine environment.

By not looking at the accumulative impacts, the proposed Traveston Crossing Dam EIS fails to protect the Marine ecosystems in the Great Sandy Marine Park Region and the broader Hervey Bay areas.

The accumulative impact is the problem in the Murray- Darling and these combined effects highlights the continued tunnel vision of the Queensland water authorities and fish managers and federal compliance agencies.

The state fisheries agencies use harsh interpretations of the precautionary principle to manage fish populations yet fail to use the same precautionary principle to stop the impacts from their own developments within the Queensland government's water schemes. They blame any downturn in marine productivity on the commercial catching sector then thieve license symbols at no cost to the government and praise others who have altered the fresh water ecological functions in the marine areas.

This is using the precautionary principal in reverse. The precautionary principle, which should have been used to stop the accumulated impacts of water storages in the first place, is still being used to put in even more water manipulation.

We now use two learned extracts to support our case to halt the Traveston Crossing Dam.

Duncan Leadbitter, formally of Ocean-watch NSW and later attached to the Marine Stewardship Council London,

is well known for his documentation of water projects and their impact on marine productivity and fisheries.

He also points out that the first reaction of agencies, especially fisheries agencies is to shoot the victims, namely the fishermen and others not responsible for destroying the affected marine productivity and down turns in the first place. Here is a case study prepared by Duncan Leadbitter.

(From the book, Water in Australia – Managing Economic, Environmental and Community Reform.). This book was first published in 1993, and was commissioned by four of Australia's major trade unions, in collaboration with Ocean Watch.

6D:

1. Freshwater and Coastal Environments:

This case study briefly examines both the relationship between fish production and fresh-water in the marine environment, and the implications of modifying freshwater inputs.

2 Freshwater inputs:

Freshwater is commonly a source of nutrients that drive primary production in estuarine and near ecosystems (Chapman, 1972, Fransz, 1985). The high productivity of estuaries is due to a number of factors, including nutrient input.

In some estuaries, the most productive area is known as the entrapment zone where a balance between freshwater and saltwater flows facilitates phytoplankton growth and grazing by zooplankton (Williams, 1989).

Freshwater plumes from rivers and brackish water plumes from estuaries can often influence water quality parameters over distances of several hundred kilometres. For example, prior to the construction of the Aswan Dam the Nile River used to transport nutrients as far as Lebanon and Cyprus (Aleem, 1972). The interface of estuary and river plumes with ocean waters is commonly highly productive. Although high in nutrients, Mississippi river water is commonly turbid thus inhibiting plankton growth. How ever, upon mixing with the nutrient poor but clearer waters of the Gulf of Mexico tremendous plankton growth can be initiated (Grimes and Finucane, 1991).

Coastal upwellings are an important source of nutrients driving near shore fisheries and these may be caused by a number of mechanisms. According to Neu (1982) up welling of rich deep, ocean waters may be generated by density currents associated with the movement of large amounts of freshwater over coastal regions and continental shelves.

3. Biological responses to freshwater inputs:

… At a small scale Govoni et al. (1989) found that the densities of larval fish at the Mississippi plume front were several orders of magnitude higher than inside or outside the plume itself. Larval king mackerel in the plume had higher growth rates than those val crabs congregating along the edge of river plumes and headland fronts whilst Richardson (1981) found that the spawning of the northern anchovy off Washington State coincided with the Columbia River plume.

In Norway, for example, the catches of northern cod reflect rainfall events ten to eleven years earlier (Skreslet, 1985). Such time lags are common and reflect the fact that fish populations are greatly controlled by events in the first year of a fish's life. The time lag relates to when the fish recruits to the fishery (Drinkwater, 1987).

4 The effects of dams and inter basin transfers:

Given the relationships between freshwater inputs to coastal environments and biological activity it is hardly surprising that there have been some spectacular fishery collapses associated with large scale dam and water rediversion projects. However, the potential impacts of such projects on fisheries are generally overlooked during the planning and environmental impact evaluation phases. This may be due to the still

all too common attitude amongst some developers, engineers and politicians that water which reaches the sea is 'lost ' (Bourassa, 1985).

The construction of the Aswan Dam severely reduced nutrient inputs to the Mediterranean Sea resulting in a drop in primary production and zooplankton populations by an order of magnitude (Aleem, 1972). The average weight of sardines declined by 15% and catches plummeted to less than 10% of the pre dam level (White 1988). Wadie and Razek (1985) also documented a 75% drop in shrimp catches associated with the dam.

On the Indus River in Pakistan, the shrimp fishery has declined tenfold with large declines associated with each of the major dams or Barrages (Quraishee, 1988).

Such results have major implications for prawn fisheries in Australia where large-scale water projects are planned. Glaister (1978) warned that' … modification of discharges, by restriction of freshwater inflow, would have a detrimental effect on the normal harvest of the fishery.' Studies of coastal fisheries downstream of major impoundments or inter-basin transfers in Australia are RARE.

5 Conclusion:
Despite the fact that the relationships between freshwater inputs to coastal environments and fisheries productivity are not fully understood Drink-water and Frank (1988) have concluded that a decline in some coastal fisheries with an overall negative impact on the biota is generally associated with reductions in river flow. The weight of evidence to date, demands that extreme caution be taken in planning major water abstractions from rivers even if in stream flow requirements for freshwater species are taken into account.

One would have thought that we, in Queensland would have learnt something since then. So where are the much needed, scoping studies to access the past and current water projects in this the Greater Hervey Bay, Great Sandy Strait and (K'gari) Fraser Island regions?

The "water running into the ocean is a waste" mentality is entrenched in government bureaucracy and people who sell water.

We can only see this opportunity as the last hope for the long-term sustainability of marine Bioregions and the fish species that rely on fresh flow and flood plumes if an order of magnitude exists for commercial fish species, then this must also apply to the overall carrying capacity of benthic structures to support migratory wader bird populations and the complete biotic makeup in this region within the RAMSAR wetland areas.

International Limnologists claim that an order of magnitude happens in marine bioregions with major impacts from a dam or any number of dams and weir constructions in a catchment. Encarta Dictionary defines this order of magnitude as "The difference in size, usually expressed in the powers of ten, between two quantities". So if a fishery's catch is 1000 tonnes before a dam is built, with three dams in the catchment it could be reduced to just 1 tonne.

If this applies in the Greater Hervey Bay and Great Sandy Straits marine areas, given the number of existing Dams, weirs and tidal Barriers in the region, the marine productive biomass would have crashed. Moreover, it did. But you blamed overfishing. World expert's talk in Order of Magnitude with impacts on the marine environment but in Queensland, you hear nothing about the real downstream impacts.

Please understand that we have had many marine species downturns in the region. The largest east coast Banana prawn production area off the Burnett River, now has little or nil commercial catch and the prawn only appears in very wet years.

The salmon, Barramundi and Mullet have all suffered heavily. It appears that even things such as some of the largest, most productive scallop grounds, had been affected, by the lack of flood plumes, even with the harsh management and massive closed areas and only a fraction of the number of boats that once caught them. They rarely show in what could be said is good numbers.

The Moreton Bay Bug populations seem to respond years after floods. From the catching sectors own fishing experience, Hervey Bay's fishing grounds always came good for years after good flood events.

Remember your Commonwealths fisheries, like the tunas and Billfish also rely on the food chains that feed the whole process. I believe that most of the region's fresh water stimulations now come from within the Mary's flood plumes longitudinal drift.

Hervey Bay, is well known for young Tuna grow out.

Here is what some researchers had to say after a recent research fresh water flow project with fish species in a QLD river estuary. This project has raised grave concerns about the sustainability of marine ecosystems and fish stocks by damming Queensland's east coasts catchments.

> **From FRDC project no. 2001/022--- FH3/AF. Environmental flows for sub-tropical estuaries: I Halliday and J Robins**
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> ***Management of fisheries resources aims to achieve ecologically sustainable development (ESD).***
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> *An essential part of ESD oriented management is to move beyond monitoring single-species by adopting whole-of-ecosystem approaches and considering effects additional to fishing (e.g. habitat degradation, pollution and altered flow regimes). However, efforts to move towards a whole-of-ecosystem management approach are hampered by our poor understanding of the ecosystem that under pin commercial and recreational fisheries production. Increased knowledge of freshwater flows as a major driver of fisheries production for some estuarine species will assist population modellers and fisheries managers to consider environmental factors and the impacts of non-fishing activities on fisheries catches.*
>
> *About 75% of Queensland's commercial and recreational fisheries are comprised of species that rely on estuarine water conditions and habitats for at least part of their life cycle. These species include Barramundi, King threadfin, bream, whiting, mullet, tailor, prawns and mud crabs to name a few.*
>
> *Water Act 2000 in Queensland, require that managers allocate water to maintain downstream ecosystem health. One aspect of ecosystem health is estuarine and coastal fisheries production. Information on the role of freshwater in maintaining the productivity of commercial and recreational fisheries is needed to ensure that estuaries and the stakeholders are duly represented in water allocation processes. Managers of fisheries and water resources need to be made aware of the fishing industry's vulnerability to the impacts of NON-fishing activities, such as water regulation. This issue has been identified as a challenge for the fishing industry in reaching sustainable production (see challenge 1 of FRDC's R&D PLAN 2000, PAGE 59).*
>
> *Most Australian river systems have been modified through the construction of dams, weirs and barrages. In Queensland, only a handful of coastal rivers south of Cooktown has no or only minor water regulation, and there are 23 major dams proposed for rivers throughout the state. Therefore, there is great potential for further reduction of freshwater flows to estuaries in the future. The effects of water regulation and abstraction have already modified the timing, quantity and quality of freshwater flows sufficiently to pose a threat to the sustainability of estuaries. There is limited documentation on the extent of flow modification and the probable effects on the long-term productivity and biodiversity of Queensland estuaries."*

Yes, our own fisheries experts in QPI&F, are claiming that fisheries sustainability is under threat in Queensland from Dams and not from over fishing!

While this report is mainly on estuaries and is limited, there is nothing of the same for comparison, for the Greater Hervey Bay and GSS RAMSAR wet lands area and the mega fauna carrying capacity so now there is this great hole in knowledge and that is the need for scoping studies before this new dam goes ahead.

The accumulated impacts of the damage that already exists, then add to that, the removal of the much-needed flows from the Mary R. If you progress the Traveston Crossing Dam, surely this is a failure of the Queensland and Federal government's environmental protection process under the EPBC act. Who monitors fresh water for the marine environment and do they care.

The Traveston Crossing dam's EIS and CG reports have not mentioned the marine bioregions or ecosystem attributes, such as organic carbon, phytoplankton supply, abundance of invertebrate taxon, biomass of benthic macro invertebrates, the survival/abundance of fish taxa.

They appear to have not even given any credence to the flood flow involved in nutrients, phytoplankton, zooplankton or even that one of the key requirements for marine species in their first 8 weeks of life is much needed fresh water. This is needed for both state and Commonwealth fish species and the many species of baitfish, as well as anchovies and pilchards that support the Billfish and Tuna protected by the Commonwealth.

Many species such as mackerel, tailor, mullet, bay squid and even bull shark, all need a salinity range of 0.5ppt upwards to 25ppt to progress and increase to grow out size in their first 8 weeks of life. Low salinity areas even drive ocean currents ecosystems.

For example, after the 1999 floods from the Mary River catchment, large catches of lesser mackerel were taken 12 to 18 months later and many fishermen reported large schools of young tuna, billfish, bonito, slim-mackerel and shoals of bait fish and birds working them in every direction, too many to count they remember. There would have been major benefits for Commonwealth fish species as well.

We are asking, what is the true economic loss, for marine productivity and financial impacts from past water infrastructures in this region and what will be the added impact, if you approve the Traveston Crossing Dam?

The state government blames the commercial fishers and users the precautionary approach to manage fish, then thieves access rights by using the precautionary principle. Then induces latent effort provisions such as if you don't kill enough fish you lose your access right that you have paid for and this is then supposed to be sustainable. Yes, this is done to save fish stocks and yet the same principles are not used to prevent such a travesty in the first place with water infrastructure or even access the impacts. When it comes to the Queensland governments own water projects, the bureaucratic controllers give the politicians the spin then blame some one else for suspected impacts.

ONE RIVER IN THE SOUTH EASTERN QUEENSLAND REGION NEEDS TO STAY RELATIVELY FREE FROM MAJOR DAMMING PROJECTS WHICH CASTERATE MAIN STREAM FLOWS TO ALLOW THE REGION TO SUSTAIN MARINE BIODIVERSITY FOR THE FUTURE GENERATIONS

If we are to manage our coastal wetland and marine areas well we need to know the difference between pressures, reduced carrying capacity, species alienation and seasonal and other influences such as dams, accumulated irrigation and urban water needs. Any of these indicators either alone or in combination, means loss of carrying capacity for RAMSAR wetlands and marine biodiversity, yes that means dolphins, turtles, dugong numbers as well in the Great Sandy Straits. We need to know the true downstream effects of Dams.

The controllers so far have failed to protect marine productivity and biodiversity. With the EPBC act from water Infrastructure in QLD.

We ask the Commonwealth government to save the Mary River and not progress this Traveston Crossing Dam application.

We believe that the Traveston Crossing dam EIS has failed to cover urban rainwater capture and processed for urban consumption.

Runoff or storm water could have been a viable alternative to the proposed Traveston Crossing dam and its catching and treatment as part of Brisbane and the southeastern corner's water solutions. These concepts need

far more investigation than the TCD EIS has provided.

Urban storm water.
It has been claimed for many years that even dry climate cities like Adelaide, with it's much lower rainfall than Brisbane, could be virtually self sufficient in it's water supply with less salinity in drinking water, a far more environmentally and pleasing cityscape, less marine pollution and all provided at a lower cost than the services provided at present. (Clark 1990). (Water in Australia – Managing Economic, Environmental and Community Reform)

The shortfalls of the Traveston Crossing Dam EIS and the Queensland Water infrastructure experts to adequately address the catching of Brisbane City and suburban storm water and rain event runoff are quite hard for us to understand.

> ***(Water in Australia) Chapter 6***
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> ***6.6 Urban Water.***
> *"Urban Australians have come to expect unlimited fresh water on tap, and demand the hygiene and amenity provided by adequate drainage and sewerage. The costs and problems of meeting these expectations in our vast cities are great. Most Australians cities utilise in excess of the readily available fresh water resources of their own region. There is increasing dependence on the catchments and water resources of other regions (ABS 4140.0, 1992, p.301).*
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> *Australia's move towards ecologically sustainable development (ESD) requires that we curtail the more destructive aspects of current urban water use and reduce water consumption. Our cities should, as much as possible, use local water. This requires; the local retention and recycling of urban water; reduction of water pollution through wast minimisation; and better use of existing water reserves and infrastructure. The measures needed to make our cities more self-reliant for water will also help solve other urban problems; combining urban forestry and stormwater retention zones would reduce the size and cost of stormwater infrastructure, improve the aesthetics of the urban environment, and provide a habitat for wildlife."*

Most urban Australians have developed a down the drain, out of mind' mentality, an attitude which has only, recently been challenged by the water authorities themselves." Is this the case in southeast Queensland?

We believe that, if the southeast Queensland region had taken steps to change town-planning capabilities to catch and use the rain events that had fallen on the coast and in the broader Brisbane areas, there would be no need for the Traveston Crossing Dam and furthermore there would not have been the shortfalls in the region's major dams.

If even half the money that is needed for the proposed Traveston Crossing dam went into funding for a true intergraded urban water grid in Brisbane, where much of the suburb's rainfall is as great as many areas in the Mary Valley, it would be much more sustainable than the Traveston Crossing dam. The many hard surfaces in urban areas could harvest much larger volumes of water than in rural areas with the same rainfall. The harvested water could be treated through small, locally situated reverse osmosis (RO) plants and put back into the suburban water supply or even transported to some of the old existing dams and reservoirs. By doing this, the water supply situation would have to be greatly improved.

A storm water utilisation plan, could remove rainwater from the urban areas into runoff catchment retention basins. It could be treated then injected into the drinking water systems or flocculated in retention lakes in large developments and smaller weirs in existing large storm-water drainage channels before being pumped too existing water storages.

The weather radar could be used as a tool to show engineers which suburbs could come online and be put into service with other electronic aids, just by watching where the rain and storms are happening in the metropolitan area.

This should have been the first part of the much talked about water grid. The urban areas could maximise the storm water runoff to increase the output of stormwater into the east-west grey water pipeline that takes treated grey water west to the power stations and other industrial areas. This volume could be increased every time there is storm water runoff.

The small storms and showers that many urban people see as an inconvenience could easily be either utilised, by direct injection through Reverse Osmosis, into the drinking water or transferred to some of the older local council reservoirs and smaller dams. It also appears that there has been little or no thought given to regulations making council town plans incorporate the development of storm-water augmentation systems into the whole of the water grid concept, rather than just defusing the storm water before it is let go.

Any new town planning regulations should have a mandatory linking of pipes so that even the existing network may be used to push drinking water from one council to another and from one Brisbane suburb to another and into local reservoirs and dams.

One would hope that, after the refurbishment of Lake Manchester, that Brisbane storm water could be the major source of Lake Manchester's new water life, given its proximity to and history with the Mount Crosby water treatment system. It would work.

Smaller Reverse Osmosis systems would draw much less power when spread across many areas and would only be used when needed and the cost could be recovered by the large developments or councils could sell water back into the now state controlled water grid, when the local coastal rain events happen. This would make many of the new developments self sufficient for most of the time and in many cases could have developed a credit of water for dry times from the major dam's supplies.

The beauty of these types of systems is that the small dams can be filled many times over in a year and would save the major dams many hundreds mega litres for the dry times when it is needed.

Drought cycles have and always will be with us, with or without global warming. Large portions of Brisbane and the north and south coast, with so many roads, roofs and concrete surfaces, will at times attract higher rainfall because of the heat generated by the very same surfaces. This is why the idea would work in Brisbane and coastal areas.

While the major dams objective is to catch a lot of water way up in the catchments but this does not always happen in drought cycle years.

The development of massive Desalination plants can use so much power, dedicated power supplies and lines are needed to treat the salt water and would come at greater cost than treating storm water and much of the desalination plant's time would be used in the reverse flush cleaning process or shut down for long periods but still needing to maintained.

On top of this, there is the cost of pumping large volumes of water uphill to major storages many hundreds of kilometres, away that may or may not have the holding capacity.

So please understand that it seems right to us to use local stormwater and smaller inline RO plants spread over many suburbs, which could be self sufficient for 100 days a year or more.

The opportunity is there to recharge the old Ipswich under ground coal mines with treated storm water to store and then used and be recharged when ever necessary, after rainfall events and in dryer times for the power stations and others user's.

Storm water collection is happening in a small way in developments such as North Lakes and Springfield Lakes as well as many other areas with storm water augmentation and is diffusion to clean storm water to let go. If a small reverse osmosis processor were in place, the water could then be treated and injected into the drinking water pipelines, of these new developments and elsewhere.

There is no shortage of water in the Gold Coast which has untold water catchment areas, called canal estates and lakes that are not connected to the marine areas, apart from the over flows that eventually find their way to the marine areas. These areas could produce drinking water with smaller Reverse Osmosis systems after run off.

So we are saying instead of just let the storm water go catching, cleaning and diverting it to storage areas like Lesley Harrison Dam, Enoggera Reservoirs 1 and 2, North Pine Dam or Lake Manchester and the many other small storages. Then there are the underground coal caverns in the Ipswich area. Collectively they could store high volumes of water over the course of a year every time it rained.

Anyway, the concept is worth developing further with immediate feasibility projects in the urban areas, which would only cost a fraction of the money spent to buy properties in the Mary valley.

So please think about our urban water plan as an alternative to the Traveston Crossing Dam.

Storm surge off Dam

We have a major concern with the placement of the Traveston Crossing Dam with over 3000 hectares of surface water stretching in a southeasterly - northwesterly direction in such open landscape. Given that the direction of the wind charts in the TCD EIS clearly show the predominant wind is from the southeast. This just happens to be the direction that any major winds coming from in any cyclonic wind event.

We ask could you please give us the anticipated storm surge heights for this largely unprotected lake surface in category 3, 4, 5 cyclonic events because the longest surface area lies in the path of the any SE cyclonic wind event. If the dam would was full or approaching capacity in such circumstances and the wind would be over 100 kilometers to 200 kilometers an hour, which could cause a storm surge of over a meter high, which would surge down a flooded Mary valley to impact on Gympie's flood high 17kl down stream.

(With the Dam only 17kl up stream from the City of Gympie IT could pose a threat, even in an earth Quake situation if the wall fails or is lost.)

Yes, the dam would be full, any new flood would have to deal with the flow, and the cyclonic wind on the lake surface with the extra water pushed to the face of the dam wall then over the top, then straight into the direction of Gympie. This would be on top of a normal flood given the bottle neck that accurse in the Fisherman's Pocket area that backs flood water up and swamps Gympie. We asked why storm surge information was left out of the Traveston Crossing Dam EIS? We wont to protect the residence down stream of the TCD Dam.

We ask you the federal government to include our concerns in your decision making process and further request a green paper on the Traveston Crossing Dam and consolation period.

We hope that you reject the Traveston Crossing Dam and investigate our concerns with water infrastructure impacts, on marine productivity in these would listed regions the Greater Hervey Bay, Fraser Island and Great Sandy Straits.

Thank you for taking the time to read this submission.

Joe Mcleod
President of the Southern Sandy Straits Marne Environment Group.

We close with something for you to ponder.

The old net fisherman sat in his punt, pondering his thoughts and cast his eyes over what was once wallum wetland, treed hills, reeded river bank's and fresh brackish waters. His mind fore ever slipping into the past - searching for the familiar smells, the smells of sweet and sour, fresh and salt, the smell of river gum, wallum and mangrove.

His thoughts of the old days bring back pictures of gum leaves, blossoms and bark forever falling, floating then sinking and mixing with the inflows of wallum stains, of brown swamp water, pushing over the inward surges of the salted greener waters of the flooding tide but forever mixing. He remembers how the river freshened after floods, storms and local rain and how his river picked up with marine life.

He remembers how fresh the estuary really was and the seasonal changes of years gone by, then thought how in the old days, when looking for mullet, he would test the water for temperature and taste with fingers for sweet or salt, But forever listening for the plonk! plonk! splash! of the mullet in the once abundant river reeds and fallen gums. Could these be pathways?

The old netter seemed to be longing for the smells of the creeks and the river and tidal flats that smell of life, death and decaying matter. To some the estuary's smells are offensive, but to the old river netter, the differing smells of the river meant the difference between good seasons and bad catches to pay bills, feed the kids and keep a roof over their heads. Not a big living but a meagre one as the seasons changed.

He can still see his mates the kites, and the red back sea eagles forever watch full, circling, diving and calling, throw us a fish. He still has a smile on his face from the experience of throwing fish up high and how the raptors would catch them on full flight. He would think are! The water birds always told him when the tide was flooding, with there increasing, restlessness and forever calling the tide is flooding the tide is coming as they increase their poking and probing for the last meal before the tidal flats cover.

He becomes more melancholy now as his old mind goes well up the Mary's estuary, where fresh is more then salt and the Mary River turtle starts to appear. He sees pictures of those cold early still mornings with the hills and river banks and overhanging gums, wattles and oaks and the reeds all reflecting with those pinks, purples and blues in the early morning light on the rippling waters and the mist and haze lifting rising like past restless spirits trying to tell him to protect them. To him this was always magical and he longs to be at peace with the river and those mystical spirits of the bygone water peoples.

Joe Mcleod

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Submissions 1 & 2 to Traveston Crossing Dam EIS Independent Trawlers Assoc. Inc.