I have served 16 years on the Water Conservation and Drainage Board, 10 years on the Upper SE Dryland and Salinity Flood Management Project – including the Technical Review and Design Panel – designed the Floodway/Catch Drain system of drainage and Flood Water Transmission that has been widely adopted, but not always properly implemented - served on the LSE Catchment Water Management Board for yonks, and researched, wrote, and published “The Cry of The Coorong” – a History of water flows into the Coorong – which was my way of keeping the dramatic decline of the health of the Coorong in the Publics, and Government’s eyes – to eventually win the debate of delivering freshening flows to a system that was never hypermarine prior to White Man intervention. I like to think I know a little about the topic to hand – which is the Governments direction to the NRM Board!

The NRM is suggesting the question is...

The State Government will commit $2.2 M p.a.
Do we want to spend more than that, and if so, how do we fairly share this cost across the region?

THIS WHOLE DEBATE RUNS ON CAUSE AND EFFECT!

The Government says “Your role as a group will be to put forward SMART recommendations: Specific, Measurable, Actionable, Realistic and Time-bound."

I think what the Government is really saying is “We admit that this whole system has been underfunded for years which has resulted in a massive accumulation of degraded structures and channels. This is too hard for us, and since we can’t manage our funds properly, and still want to spend more on grand new schemes, you guys pick up the poisoned chalice, and figure out a way – if it is possible - to impose a new tax – which we can say you said the community found acceptable – and that we can make law while you wear the odium of your solution.

Having a back-drop of recent massive escalation in the Emergency Services Levy, and rises in fees coupled with cut-backs in Water Taking and Holding licences is not a good place to start.

A bit of History is a good place to start!

In 1863 a complete inspection of the South East region was undertaken by W Hanson (the State’s Engineer-In-Chief), W Milne (Commissioner of Public Works) and George Goyder (Surveyor
This was a significant trip, as it set the vision for the region. Hanson's primary interest was in draining wetlands to improve access across them during the wet months. However, had a wider vision and recognised the interests of the South East community. He stated:

Goyder stated - 'The subject is of great importance to the residents in the South-East, and to the colony at large – as a successful prosecution of the work would not only double the area at present available to the stockholder, and place at the disposal of the Crown a large extent of rich agricultural land, but it will also materially aid the general traffic of the country, and enable good roads to be formed at much less cost than must necessarily be expended if the country continues to be liable to inundations from inefficient means to carry off the ordinary floodwaters."

For many years the key reason for drainage in the lower South East was to increase the productive capacity of the South East region and improve access.

Draining land also had secondary benefits such as enabling Crown land to be sold (to bolster the State Treasury), - and IT STILL DOES, as the Government rakes in money as Stamp Duty on land sales, and GST on equipment and output sales associated with the operation of the land - and land to be made available for post-war soldier settlement and similarly for migrant settlement. From the material supplied to you, you will know that there have been a variety of methods of funding drain construction, ranging from Total Government cost, to partial or full cost recovery from the beneficiaries who applied for the water management works.

However, as always seems to be the case, the net was cast as wide as possible to defray the individual cost of the “Betterment Rates” that were struck to pay for the works, and their management and operation. Land was deemed to have been improved when the winter water levels had been lowered from 4 feet to 3 feet, and was inundated for a slightly shorter period, but the rates far exceeded the betterment. This led to legal challenges, long running and expensive “Appeal Tribunals”, and much ill-will and distrust of the Drainage Board, and eventually sanity prevailed after recognition of the general, and far reaching benefits to the region and the State, and the System was funded from General Revenue. Unfortunately, penny pinching by successive Governments has resulted in a long term underfunding and severe decline in the maintenance of the Assets involved.

So what has changed?

More recently the lower South East has been managed to restore environmental flows to natural wetlands (which were historically impacted by the drains).
The region as a whole grappled with the dual issues of saline groundwater coming to the surface through the rising water table and summer evapo-concentration and salt scalds at the surface on lands no longer shaded after clearance – and NO – THE OWNERS DIDN’T HAVE A SAY IN THIS CLEARANCE - the Government resumed the land from those owners who didn’t clear enough – quick enough – and then LATER – penalised the ones with native vegetation left by not letting them clear any more!

High rainfall events had the effect of swamping the agricultural area, particularly towards the north of the region where there was no drainage. – This occurred after the Government allowed Clearance of large tracts of land West of Keith that the AMP Scheme considered too saline to clear, but appeared worth while once the water tables were initially lowered by cutting off flows to the North from the Lower SE by drain “M”. When the water-tables rose again by the re-flooding of the Northern Bakers Range Wetlands – because landholders whose viability was threatened by prevention of clearing any more land, set about improving the production from the land which included improving the run-off into the watercourses. This created a step in the Water Table that had huge up-slope water table rise ramifications.

The resulting Salinity and Flooding decimated large areas of Perennial and Annual pastures with huge resowing cost, and no desire to do so until guaranteed flooding wouldn’t do the same thing again.

The large scale of the environmental degradation was a direct threat to the regional economy and the ongoing prosperity of the South East (DWLBC 2007) and the Government held the reins on what mitigation measures would be allowed, and said “NO SCHEME UNLESS EVERYONE PAYS!” Yet another example of “Cast the net wide!”

An Upper South East Dryland Salinity and Flood Management Plan had Environmental Impact Statement was prepared in 1993 and in June 1995 the State Government endorsed the staged implementation of the Upper South East Dryland Salinity and Flood Management Plan. This Plan outlined an integrated package of solutions to combat rising water tables while taking into account environmental, economic and social concerns (DWLBC 2007). Four key elements of a package - a coordinated drainage scheme, surface water and wetland management, revegetation, and agricultural production and on-farm measures.

Failure to mention Local Govt Steering Committee.

The interconnected network of surface-water and groundwater drains, flood-ways, watercourses and wetlands being developed was designed specifically to optimise distribution of environmental flows throughout the region, as well as to manage the impacts of dry-land salinity (DWLBC 2007).
This capacity is evident in the management of in 2011, when more than 64,000ML of environmental water was delivered to some 13,950 Ha of wetlands across the upper South East (incl. Bool Lagoon & Morella Basin but excl. Lake George); plus, a 26,700ML freshening flow delivered into the south lagoon of the Coorong. The USE inflows since about 2001, have freshened the South Lagoon of the Coorong to the extent that this year commercial fishing activities were able to be undertaken there again – not the 150 commercial fishermen as prior to 1970, but the re-instatement of some of the past productivity of the Coorong has begun.

Sustainable and productive agriculture and healthy water dependant ecosystems across the South East of South Australia.

The SEWCD Board has four Goals, which support this:

**Goal Area 1: Sustainable Productive Agriculture**
Enable productive agriculture in the South East through the optimal management, operation and maintenance of the South East Drainage Network

**Goal Area 2: Sustainable Water Dependant Ecosystems**
Sustain and enhance water regimes of water dependant ecosystems across the South East through the optimal management, operations and maintenance of drains and floodways.

**Goal Area 3: Informed and Engaged Communities**
Informed and engaged South East landholders and other stakeholders working with the SEWCD Board to produce mutually beneficial results.

**Goal Area 4: Legislative, Policy and Corporate Monitoring, information and science for informing effective and timely decision making.**
Robust legislative, policy and corporate arrangements to ensure the effective management and maintenance of the South East Drainage Network to achieve sustainable agriculture and healthy water dependant ecosystems.

**Goal Area 5: Drainage System Monitoring, information and Science**

The South East Drainage Network includes more than 2,500km of drains, 520 structures (bridges and crossings), 2,300 culverts, 64 weirs, causeways and fords, and 10 sea outlets.

The South East Drainage Network supports agricultural productivity in the region, underpins the transport system and is used by residents and visitors in their daily lives as they travel across bridges and crossings- and transport produce and goods into and out of the region. The prosperity of the SE depends on this Government owned and operated Drainage System.

Over the years a range of approaches have been undertaken to fund construction, operations and maintenance including programs that have been funded by government and investment from private landholders.

Landholders- and I believe rightly so - are responsible for all construction and maintenance of what I call “Local Systems” or tributary private works – some have quite extensive systems; others
joint systems; others impacted negatively by incorporating surface water pondage to feed into wetlands, and still others suffering a “short season” where a major trunk drain is “over-draining” their property. Invariably this leads to differences of opinion on what constitutes over drainage for people with a desire to maintain a wetter landscape, and what constitutes risky under-drainage for people wishing to grow less water tolerant grain crops and perennial pastures. The landholders also carry the cost of amelioration works to reclaim and re-pasture salinised and sodic soils – still common throughout the region.

Landholders also carry the cost for control of weeds and vermin within their own properties, including those now within the community desired re-vegetated areas and wetlands. While Re-veg and restored wetlands is a noble goal that I applaud, it also comes with a cost of much more difficult and expensive fire control which results in more asset loss, as has been demonstrated each summer, and particularly this one. Revegetated road sides are now “wicks that carry fires” rather than the potential barriers used to stop them, and also havens for vermin and vehicle damaging native animals.

So when the panel tries to apportion benefits of the system, it will have to be cognisant of the dis-benefits as well.

**Flood water always some-one elses**

Invariably, on dispute resolution inspections we found the “up-slope and down slope” situation where people who had bought lands higher up the watershed will tell you that they can adequately handle all the rain that falls on their property, but that the problem lies with the neighbour further up slope whose run-off is causing them a flooding problem, and of course they “pass that water straight on through to the neighbour below, and that is his problem. - Not only does this happen all over the region, I have been made aware of funding submissions that suggest it is “just those down slope fellows who should pay!”

**Creeks from over the Border**

Further, as you would all be aware, we have creek systems that flow out of a considerable Victorian catchment – Nalang/Tatiara, Morambro, Naracoorte, Mosquito, and Glen Roy, and depending on the intensity of the rainfall event, little, or great amounts of water flow into South Australia. Flows have been modified by landholders initially aiding drainage to dispose of surplus water, but now tending to divert water into “drainage bores” to replenish the underground aquifer – which they then have to pay an extraction fee for to use for irrigation – or into natural storages or dams that they pump from later. Establishing high water use crops and forestry which dry the profile and allow more infiltration before run-off commences, or “claying” their land to aid infiltration on what is otherwise water repellent sands, and trash farming
techniques have all had dramatic effects on run off during low to medium rainfall events, but don’t stop the “big ones”.

Despite the Four recent attempts to provide a complete Drainage and Environmental Water Management system, with a fifth in the pipeline, there is still a large slab of country from the Mid Bakers Range WC across to Bool Lagoon, and along the Naracoorte Plains and Mosquito Creek WC to the end of the Didicoolumn Drain in the Marcollat WC that are poorly served. Money for the REFLOWS system was squandered on the section from Drain M to the Fairview drain, and the required upgrade of the Bakers Range WC North to the Watervalley Wetlands is still not completed.

The SEWCD Act specifies a number of objects to be achieved in its administration, which includes:
- the prevention or minimisation of damage to agricultural production and the natural environment caused by flooding within the South East; and
- the improvement of the soil quality and the productiveness generally of rural lands in the South East;

And
- the enhancement or development of natural wetlands and the natural environment generally in the South East.

These are admirable ideals, and benefit all the residents and visitors to the region – not a select few. The high economic output of the region, which supports such a diverse population base here, and financial input to the wealth of the State hinges on the application of these ideals, and with such a diverse State benefit, should be able to rely on State funding to continue to produce these diverse, but inter-twined Environmental, Agricultural, and Social benefits.

Under the South Eastern Water Conservation and Drainage Act 1992, the SEWCD Board has the following functions and obligations:
- To provide an effective and efficient system for managing the surface water of the non-urban lands in the South East, by conserving, draining, altering the flow of or utilising that water in any manner
- To carry out works for the purpose of lowering the level of the water table of lands in the South East
- To undertake, assist or promote research in the fields of water conservation, drainage and management
- To give advice and assistance to others in the fields of water conservation, drainage and management
- The enhancement or development of natural wetlands and the natural environment generally in the South East.

The purpose of these plans is to ensure that stormwater management is addressed on a total catchment basis, with the relevant NRM board, various local government authorities and state government agencies responsible for the catchment working together to develop, implement and fund a coordinated and multi-objective approach to management of stormwater.
for the area. The *Local Government (Stormwater Management) Amendment Act 2007* (which amended the *Local Government Act 1999*), provided for the creation of the Stormwater Management Authority.

The Authority approves Stormwater Management Plans prepared by Local Governments and operates as the planning, prioritising and funding body in accordance with the *Local Government (Stormwater Management) Amendment Act 2007*.

**National Water Initiative (NWI)**

In 2004, the South Australian Government signed an agreement with the Australian Government and other states and territories known as the National Water Initiative (NWI). Under the NWI, governments have made commitments to:

• prepare water plans with provision for the environment
• deal with over-allocated or stressed water systems
• introduce registers of water rights and standards for water accounting
• expand the trade in water
• improve pricing for water storage and delivery
• meet and manage urban water demands.

The overall objective of the NWI is *to achieve a nationally compatible market, regulatory and planning based system of managing surface and groundwater resources for rural and urban use that optimises economic, social and environmental outcomes.*

**Groundwater (Border Agreement) Act 1985**

The *Groundwater (Border Agreement) Act 1985* established the Border Groundwater Agreement (the Agreement). This Act and Agreement have parallel legislation in Victoria and any amendments or changes to the Agreement require approval of both State Parliaments. The Agreement applies to all lands and all groundwater within the Designated Area (20 kilometres either side of the South Australian and Victorian borders). It establishes a Permissible Annual Volume (PAV) for, the maximum amount of water permitted to be extracted from licensed wells, specified for each zone or aquifer within a zone, in the Designated Area. The provisions of the *South Australian Natural Resources Management Act 2004*, and regulations made under it, apply to the border Designated Area and are subservient to the Agreement. A water allocation plan prepared under the NRM Act must be consistent with the Agreement in so far as it does not allocate water that would exceed the PAV in a zone, or an aquifer within a zone, in the Designated Area. The Border Groundwater Agreement is currently being reviewed and this may result in changes to policy within the Border Zone.

**South Australia’s Strategic Plan**

The Premier launched the updated *South Australia’s Strategic Plan* in January 2009. Within that Plan it is recognised that sustainable use of water is one of our most urgent resource challenges. Further, it acknowledges that while much has been done to protect our water resources, *without further innovation and improved management practices, our economy, our health, and the quality of our environment will suffer*. Target 75 of the Plan
explicitly addresses this issue: Sustainable water supply – South Australia’s water resources are managed within sustainable limits by 2018.

**No species Loss: A nature Conservation Strategy for South Australia**

No species loss is a statement of aspiration included as a target within South Australia’s Strategic Plan. It maps out the strategic direction that is needed to meet this aspirational target and maintain the State’s biodiversity. **The aim of No Species Loss is to halt and, where possible, reverse the decline in terrestrial, aquatic and marine biodiversity.**

**Managing the water resource impacts of Plantation Forests: A State-wide Policy framework**

This policy framework was adopted and released by the South Australian Government in June 2009. The framework contains a number of policy statements, and provides guidance to government agencies, industry, regional decision-makers and regional NRM Boards on managing the water resource impacts of plantation forests when developing and implementing regional NRM Plans (including water allocation plans) (Govt of South

**THE ‘BENEFICIARY PAYS’ PRINCIPLE**
- Direct benefit from scheme,
- Indirect benefit from scheme,

**THE ‘POLUTTER PAYS’ PRINCIPLE**
- Contribution to the problem via ground water,
- Contribution to the problem via surface water,
- Social and moral obligation to overcome a regional problem.

**Had no recognition of value of corridor “donated”**

This Program was completed in 2001, with all funds applied, but as a consequence of considerable difficulties in implementing the project across private lands, significant design ‘scope creep’ during the implementation of the project and substantial increases in construction costs (driven by both of these factors and a threefold increase in the cost of fuel during this period) the full extent of works were not completed and much of the original extent of the scheme still had no drainage service and remained at risk. So once again, interested landholders called for Government funding to complete the work.

**Ineptitude**

So only three zones A, B & C were levied. The enactment of levy provisions under the USE Act coincided with an amendment to the South Eastern Water Conservation and Drainage Act 1992 which removed levy provisions from that Act. Today, no provisions for a levy exist under the South Eastern Water Conservation and Drainage Act 1992.

This enabled the Minister to collect the agreed community share of 22.5% ($11 million) for Phase 3 of the Upper South East Program.

On expiry of the Upper South East Dryland Salinity and Flood Management Act on 19 December 2012, all interests in the upper South East were vested back to the SEWCD Board, including the Drainage Network Management Strategy (DNMS) (DFW 2011) which
provides the policy framework for the management of the upper South East drainage network.

Since its inception in the 1870s the successive authorities have contributed to improving the productivity of the region, and more recently to protect and manage significant water dependent ecosystems of the region. The respective Drainage Boards have continued to evolve as the needs and expectations of the regions have evolved. The initial Drainage Board was concerned primarily with flooding and productivity. Today it manages a complex drainage network to meet multiple objectives including flooding, productivity, and environmental, social and recreational objectives as outlined in the SEWCD Board’s three year Management plan 2012-2015 (SEWCDB 2012).

2012 On December 19, with expiry of the USE Act, all interests in the upper South East was vested to the SEWCD Board, which is now responsible for operating, managing and maintaining the total South East Drainage System on behalf of the Minister. As at 31 December 2012, 99.15% of landholders (1392) had either fully paid or offset their levy amount.

“An Act to provide for the conservation and management of water and the prevention of flooding of rural land in the South East of the State; and for other related purposes”.

The Act specifies a number of objects to be achieved in its administration, which includes:
- the prevention or minimisation of damage to agricultural production and the natural environment caused by flooding within the South East; and
- the improvement of the soil quality and the productiveness generally of rural lands in the South East; and
- the enhancement or development of natural wetlands and the natural environment generally in the South East.

The Functions of the SEWCD Board in administering the Act are also described as follows
- to provide an effective and efficient system for managing the surface water of the non-urban lands in the South East, by conserving, draining, altering the flow of or utilising that water in any manner;
- to carry out works for the purpose of lowering the level of the water table of lands in the South East;
- to undertake, assist or promote research in the fields of water conservation, drainage and management;
- to give advice and assistance to others in the fields of water conservation, drainage and management.

The South East Drainage Network has several purposes, depending upon the geographical location, and hydrological circumstances of the particular part of the network and the drain design is based upon the balance of three broad water resource objectives) as listed in the Upper South East Drainage Network Management Strategy (DFW 2011);

1. To remove floodwaters caused by significant annual rainfall events and mitigate the impact of broad-scale and prolonged inundation of production land and groundwater recharge - requiring surface water drainage;

2. To drain saline groundwater from the upper soil profile in the ‘at risk’ parts of the landscape and thereby mitigate the effect of salinity in the root zone of pasture and native plant species – requiring deeper drainage

3. To provide for appropriate environmental flows to key wetland systems of regional, national and international significance - requiring flood-ways and regulators for manipulation of fresh surface water resources.
The South East Drainage Network is not simply a drainage scheme as commonly described. It’s an integrated system of drains, floodways, natural watercourses and wetlands, through which flows of different natures can be manipulated, by a sophisticated arrangement of approximately 170 flow regulating structures, to achieve these objectives.

In the upper South East this was recognised as critical because:
- The network covered a large spatial extent – activities occurring over 1.2M Ha
- It was to be a heavily managed system
- 714 Km of drains and floodways (and an equivalent length of natural watercourses)
- 200 wetlands (with a combined area of more than 40,000 hectares), with variable characters and requiring quite variable watering regimes
- 150 flow regulating structures of various purposes and features (and a further 20 in the lower South East)
- The entire system would have to overlie a developed agricultural landscape with land largely in private ownership.

The following tools provide the data and framework to implement adaptive flows management:
- A hydrological monitoring network providing near real time telemetered data at 54 key locations
- A suite of ecological monitoring procedures to report on the response to hydrological management on wetlands;
- A catchment water quality risk assessment and water quality monitoring program;
- A software-driven Decision Support System; and
- Investment in infrastructure and development of operational guidelines for regulators
- Operating guidelines for management units (and even each regulator in the network) have been/are being progressively developed, tested and refined (Willis 2011). Many of these regulators can function to serve multiple purposes and which are often operated in conjunction with one of more other regulators. These guidelines will naturally evolve under the adaptive management process, as the knowledge of how the network functions under a variety of flow conditions expands.
- An integrated hydrometric / water quality / wetland response monitoring network and program across the region, which provides critical data to underpin system modelling, resource planning, event prediction and warning, real-time operational decision-making; and to evaluate both system and management performance.

To provide guidance for the management of wetlands, regional ecologists have developed conceptual models covering each of the region’s Wetland Landscape Unit types; describing their environmental character and functional hydrological requirements (de Jong and Harding, 2007 / Ecological Associates, 2009). These profiles (which are continually evolved) are used to define management prescriptions and in particular environmental flow objectives for wetlands across the region.

1712 416 2128 Return to original funding level with a further 714km of drainage infrastructure. Capital reduced by 10% as whole of Government cost recovery

Only two years worth of funding was forthcoming as Parliamentary approval of the South East Drainage System Operation and Maintenance Bill was delayed. The SEWCD Board
received $3.2m and $3.1m respectively in 2011-2012 and 2012-2013, and utilised these funds for bridge repairs, painting of span bridges, regulator upgrades, drain maintenance, erosion repairs, upgrade of plant and equipment, and office and IT upgrades.

As stated previously, following the expiry of the Upper South Dryland Salinity and Flood Management Act in December 2012, the SEWCD Board were handed responsibility for the administration of all infrastructure, land interests and Management Agreements established under the Upper South East Program. This included a further 714km of drains and floodways, and a further 686 culvert, bridge or weir structures. – but no extra funds. When the Blackford to Salt Creek flows to the Coorong project is completed, it will be handed to the SEWCDB, but again, with no maintenance or operation budget.

At a relatively recent meeting a Government Minister made this comment relating to proposed levies....

“We will start it off small, and ramp it up later as we go along!”

This will remain the greatest fear for this community, should a recommendation be made to introduce what will be seen as a “New Source of Funding,” and apart from all the other problems outlined, should be another deterrent for progression to any recommendation of a NEW localised TAX, to fund a State Owned Asset.

The following service life spans and replacement costs have been determined for SEWCD Board assets (Table 14), with an estimated $3.415 million per year required per year to replace assets as they reach the end of their service life.

<table>
<thead>
<tr>
<th>Structure Type</th>
<th>Number</th>
<th>Lifespan (Years)</th>
<th>Replacement Cost</th>
<th>Periodic Maintenance Costing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Road Bridge</td>
<td>101</td>
<td>75</td>
<td>91.504 1.22</td>
<td></td>
</tr>
<tr>
<td>Surveyed Road Bridge</td>
<td>56</td>
<td>75</td>
<td>30.518 0.407</td>
<td></td>
</tr>
<tr>
<td>Occupation Bridge</td>
<td>155</td>
<td>75</td>
<td>57.884 0.772</td>
<td></td>
</tr>
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<td>Road Culvert</td>
<td>258</td>
<td>50</td>
<td>20.455 0.409</td>
<td></td>
</tr>
<tr>
<td>Surveyed Road Culvert</td>
<td>74</td>
<td>50</td>
<td>1.682 0.034</td>
<td></td>
</tr>
<tr>
<td>Occupation Culvert</td>
<td>508</td>
<td>50</td>
<td>10.007 0.2</td>
<td></td>
</tr>
<tr>
<td>Berm Crossing Culverts</td>
<td>390</td>
<td>50</td>
<td>1.813 0.036</td>
<td></td>
</tr>
<tr>
<td>Additional Culverts</td>
<td>250</td>
<td>50</td>
<td>20.455 0.098</td>
<td></td>
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<tr>
<td>Regulators</td>
<td>160</td>
<td>6.5</td>
<td>6.5 0.13</td>
<td></td>
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<tr>
<td>Drop Weirs</td>
<td>81</td>
<td>100</td>
<td>10.869 0.109</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>2033</td>
<td></td>
<td><strong>$3.415m/yr</strong></td>
<td><strong>$0.96 million per year is required to paint steel girder bridges assets every 25 years to ensure the bridges reach the end of their service life span.</strong></td>
</tr>
</tbody>
</table>

**Periodic Maintenance Costings**

Many of the road and occupation crossing bridges established across the Lower Limestone Coast region were constructed through the 1960s and have been in service for over 50 years. The majority of these bridges have had minimal maintenance during this period.

Maintenance provisions considered in the SEWCD Board Drainage Structures Lifecycle Costing and Funding Proposal of December 2014 include:

- $0.96 million per year is required to paint steel girder bridges assets every 25 years to ensure the bridges reach the end of their service life span.
- $0.565 million per year is required to maintain and repair bridge spalling and replace new guardrail on road bridges.
every 50 years to ensure the bridges reach the end of their service life span and provide safety for road users.
• $0.236 million per year is required to replace fencing

Table 15 provides an outline of expenditure drawn from the SEWCD Board’s financial management system. Noteworthy is the expenditure on capital replacement, which at $432,860 of a structure asset base of $172m represents an annual allocation of only 0.25%, well below the industry standard of 3% per year. The level of capital funding was not able to address major bridges or road crossings, with the funding going toward replacement of 6 small culvert crossings, the installation of a single pipe crossing and the widening of 3 culvert crossings. Similarly the recurrent expenditure on important items like silt removal and drain spraying totalling $195,605 of a channel asset base of $115.43m is equivalent to 0.17% per year.

The SEWCD Board is not responsible for road bridges that are on main roads under the control of the Commissioner of Highways as defined in the Highways Act, 1926.

The responsibility of the SEWCD Board includes the bridge structure, bridge approach, bridge safety barriers, and hazard signage. The relevant Council has responsibility for the road surface over the bridge. The responsibility of the SEWCD Board extends to:
• bridges and culvert crossings that were constructed on surveyed roads (surveyed road crossing)
• bridges and culvert crossings that were constructed on drainage reserve.

The large number of such assets which are now reaching a critical service-life point (specifically those built during the 1940’s and 50’s under the Comprehensive Drainage Schemes) is now beyond the standing budget means of the SEWCD Board. Many of these bridges are approaching or have reached their normal service life (50 years) and will from this time be progressively load-limited and where necessary closed to heavy traffic.

Not spraying for noxious weeds increases risk of spread to adjoining land holdings and is at variance with legislative requirements for control of scheduled pest plants. Not spraying for regrowth control would have the effect of reducing water flows similar to the siltation issue, and impeding access on drain tracks. A major risk exists for drainage reserves where high fuel loads exist that may contribute to fire hazard. Slashing and reserve maintenance helps to reduce this.

There is an ongoing requirement for removal of silt to maintain the flow capacity of the drains and the implication of not performing this work in the upper South East is an immediate risk of not achieving the objectives of flood mitigation, saline groundwater removal and environmental flow management.

There is a legislative responsibility for the SEWCD Board to manage the region’s surface water resources. A Decision Support System and associated water management and monitoring infrastructure has been developed to meet the multiple objectives of:
• mitigating surface water inundation
• managing saline groundwater and
• providing environmental flows to wetlands and watercourses.
The complexities of the drainage network, the need to manage both saline and fresh water and demands to **meet community expectations** requires the application of a well resourced adaptive management arrangement for the active manipulation of surface water and ground water flows.

The Project is part of the Murray Futures Coorong, Lower Lakes and Murray Mouth Recovery Project. Funding is jointly provided by the Australian Government through the Sustainable Rural Water Use and Infrastructure Program and the State Government. The project is jointly funded by the State ($6 Million) and Commonwealth Governments $54 Million.

In many instances, the problems were caused by earlier settlers and government policy of the day.

Current Funding 6% 94%
(USE: 51%, LSE: 43%)
Pro Rata Funding 8% 92%
(USE: 50%, LSE: 42%)
Optimal Funding 10% 90%
(USE: 48%, LSE: 42%)

**NRM Funding**
The total funds raised in 2014/2015 is $2.372M, the levy rate for water taking allocations for the current financial year is set at $2.67 per ML allocated. This rate has also been applied for the first time in 2014/2015 on water allocations held by Commercial Forestry.

I can only start to imagine the lack of enthusiasm from a Water Taking Licencee - who has just undergone fairly dramatic cuts to their licence - should they be asked to also pay a levy to enable water to be moved more quickly away from their land, be it to a wetland, or some other form of disposal.

The South East Drainage Network is not simply a drainage scheme as commonly described. It’s an integrated system of drains, floodways, natural watercourses and wetlands, through which flows of different natures can be manipulated, by a sophisticated arrangement of approximately 170 flow regulating structures. It includes more than 2,500km of drains, 520 structures (bridges and crossings), 2,300 culverts, 64 weirs, causeways and fords, and 10 sea outlets to achieve these objectives.

As noted throughout this document, there is no clear equality of benefit, or dis-benefit, for any particular element of this total Network of Public Infrastructure, which has, by default through lack of allocation of appropriate funding (and with no disrespect implied to those persons charged with maintaining it,) been allowed to fall into a parlous state of disrepair.
After again looking at the System, how it developed, how the Government benefitted from selling the drained land, and how that capital value has been built into the price of the land and environmental assets, I for-see all the problems as happened in the past with attempts to garner an equitable contribution for the operation and maintenance of what is referred to as the Drainage System, when – as outlined – it is so much more than that.

I believe the operation and maintenance of this Diverse Publicly Owned Asset- as with most other Publicly Owned Assetts - should be funded for proper operation and maintenance from the Public Purse.