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 SE Qld orders 24pc industrial water-use cuts, p8

the water report

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PM calls crisis summit: rivers dry up, Snowy Hydro falls to lowest level in 50 years

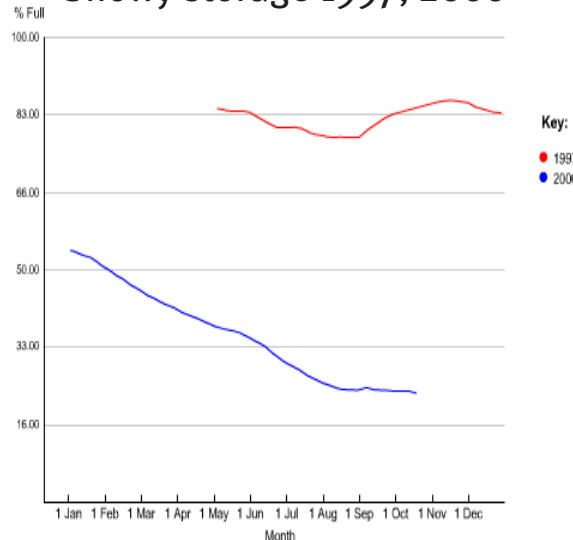
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The Prime Minister called an emergency meeting of Premiers on Melbourne Cup Day at three days' notice after Snowy Hydro last week warned its water levels were so low it could not meet its minimum flow down the Murray and Murrumbidgee Rivers. The Hydro's Paul Johnson told the ABC it had been the worst winter for snowfalls in more than 50 years, and inflows from the snow melt were just 25 per cent of average. Water levels in

Snowy Scheme storages had fallen since 1997 and were now around 18pc of active capacity. The climate change toll on Australia was that a 4C temp rise would wipe out WA's agriculture; and NSW river flows were to drop 15pc after a 1-2C hike. CSIRO had projected that river flows, including those supplying Sydney, were likely to fall by 15pc with a 1-2 degree rise in temperature. Last week Lake Eucumbene was less than 20 per cent full.

Snowy lowest level, ever: "The Snowy Scheme water storages are currently at their lowest November level since the Snowy Scheme was completed in 1973," Johnson said.

Snowy storage 1997, 2006



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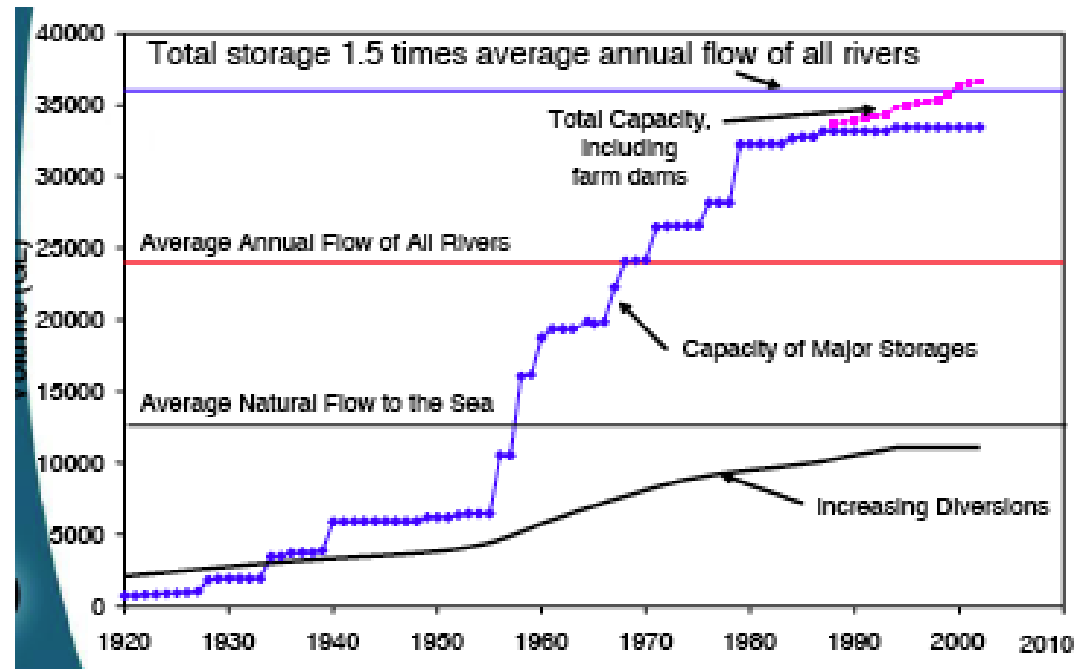
Published by EWN Publishing, PO Box 148, Balmain, NSW 2041. Ph: +612 9818 8877. Fax: +612 9818 8473. Editor: Julie Lambert. Publisher: Laurel Fox-Allen

Snowy Hydro dries up: Snowy Hydro advised October flows into the system were only half the level of the previous record low. However, irrigators had counted on Snowy Hydro flows to provide a minimum stream. (In recent years, rice-growers had purchased water from Snowy to grow rice, subsidised by their private company, Sunrice, using profits from sales of rice crackers made from imported rice). Federal Parliamentary Secretary for Water Malcolm Turnbull said the Snowy usually provided only 1000 gegalitres of the 11,000 gegalitres flowing into the Murray, with the bulk of the total flow coming in winter and spring. Since June, water from sources other than the Snowy had totalled little more than 500 gegalitres.

Rush to the north: Now that irrigators and vote-catching allocations of water had exhausted the Murray Darling, one message was “go north” to the great washes of run-off from the northern monsoons.

Politics blamed: The problem in the south, said Wendy Craik, chief executive Murray-Darling Basin Commission, was made worse by political decisions: that 50 per cent of the water was permitted to be drawn out of the system that existed in the rivers, “Storage capacity was 50 per cent more than the average annual run-off of all rivers”, she said, “and so carryover storages (were) essential to deal with climate variability. Craik’s estimate in GL of the impact of six risks on total Murray-Darling Basin surface water (24,000GL) for the next 20 years stated the obvious: “Present

Murray Darling absurdity: more water taken out than goes in



activities and processes (risks) can reduce annual average water resources and affect water quality”, and the size of the reduction could range between 2,500-5,500 GL per year in 20 years. She said CSIRO had projected the Murray-Darling Basin stream flow at 2030: 0 to - 20 per cent; and in 2070: + 5 to - 45 per cent.

Water trade and carbon trade: The Federal Government's enthusiasm for promoting the trade in water rights has made all the more baffling its rejection of a trade in carbon credits to limit the production of greenhouse gases, according to a leader editorial in *The Sydney*

The Murray Darling “Storage capacity “ (water taken out) was 50 per cent more than the average annual run-off of all rivers.

Morning Herald (3/11/2006, p.10). The United Nations Framework Convention on Climate Change (UNFCCC) has recently released a report claiming Australia's greenhouse gas emissions increased by 25 per cent between 1990 and 2004. "If Australia's states can agree on water trading yet still fail to introduce a smoothly functioning system, how much more difficult will an international market in carbon credits be?" The same week, former World

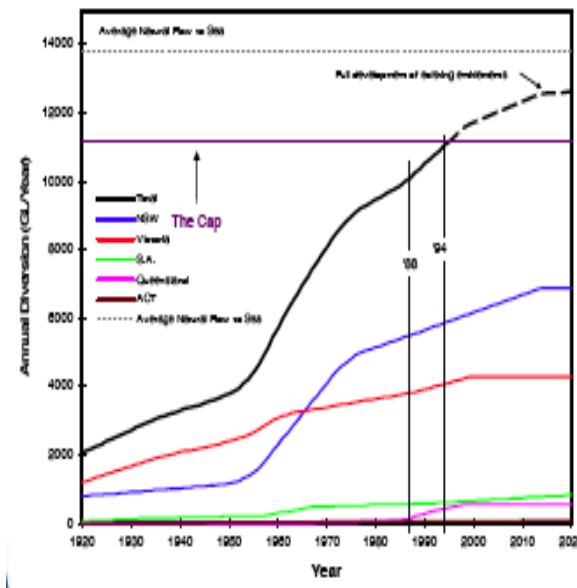
Bank economist Nicholas Stern's report on climate change said the impact of global warming could be as costly and destructive as a global war, (\$A9.08 trillion), reported *The Australian Financial Review* (31/10/2006, p.4).

Big bite in the economy: The drought was expected to wipe more than \$6.2 billion from farm production this financial year as wheat growers face their smallest harvest in more than 10 years. The Australian Bureau of Agricultural and Resource Economics released revised crop production figures for 2006-07 as the impact of the big dry became clearer. ABARE predicted wheat growers would face their smallest crop since 1994-95 as their harvest falls to 9.5 million tonnes this financial year.

Meanwhile in NSW: Sydney's real water supply was lower than officially reported and was now perilously close to the trigger under which the government would be forced to build a desalination plant, according to the government's former water regulator, said *The Daily Telegraph* (04/11/2006, p.4). NSW emergency water was undrinkable, and a 2005 Sydney Catchment report showed low oxygen content and contamination in storages included in official supply figures.

One risk Craik did not count: Greenpeace Australia Pacific told the Federal House of Representatives Standing Committee on Science and Innovation, Monday, 16 October 2006, "If you have a 1,000 megawatt coal-fired power plant and you pump the CO₂

Water use rises despite cap



underground, you breach a CO₂ plume of approximately 100 to 260 square kilometres over its lifetime of 30 to 50 years. This plume is expected to grow after the closure of injection. So we are not talking of a small area but of a large area of over 1,000 and up to 2,000 square kilometres".

Threats to drinking water: "This large area contains weaknesses such as pores or fractures where pathways can give way for CO₂ or saline brine, for example, to move upward and reach potable water or drinking water ... it is a serious issue, especially for Australia, it argued. Plans for CO₂ dumps will need changes to laws in four states. The paper "Carbon Capture and Storage – A Report to

Water use grows: The Cap was to establish long-term diversion caps from rivers within the Murray-Darling Basin, in order to protect and enhance the riverine environment; and to quantify and comply with annual diversion targets; and to prescribe arrangements for monitoring and reporting to comply with annual diversion targets. It was established June 1995, and came into force 1 July 1997.

the Australian Greenhouse Office on Property Rights and Associated Liability Issues, 2005" warned some state laws banned CO₂ dumps in aquifers; that is as a "reservoir for geosequestration of carbon dioxide". This was an issue of regulatory controls in existing legislation impacting on CCS (CO₂ dump) activities, rather than an issue concerning property rights.

Queensland ups trading: SunWater, which supplies 40 per cent of the water used commercially in Queensland, had expanded its St George pilot in the Macintyre Brook Water Supply Scheme based around Inglewood, east of Goondiwindi. The system built on a successful pilot of capacity sharing of stored water five years ago in the St George Water Supply Scheme in southwest Queensland, reported *Farm Weekly* (26/10/2006, p.36).

Sydney falls to 33 per cent: Sydney's available water storage is again nearing the record lows of June last year, when it bottomed out at 37.9 per cent, wrote Simon Benson in *The Daily Telegraph* (4/11/2006, p.23). On the official figures, it had barely reached more than 42 per cent since and on 3 November plummeted to 39.7 per cent.

NSW Govt prays for rain: Water is a political disaster in waiting for the NSW Government of Premier Morris Iemma, according to Simon Benson in *The Daily Telegraph* (4/11/2006, p.23). "No one will forget that one of the government's greatest political U-turns to date has been the shelving of the desalination plant because of its unpopularity. So Premier Iemma believes his 2006 Metropolitan Water Plan is the cure-all," Benson said.

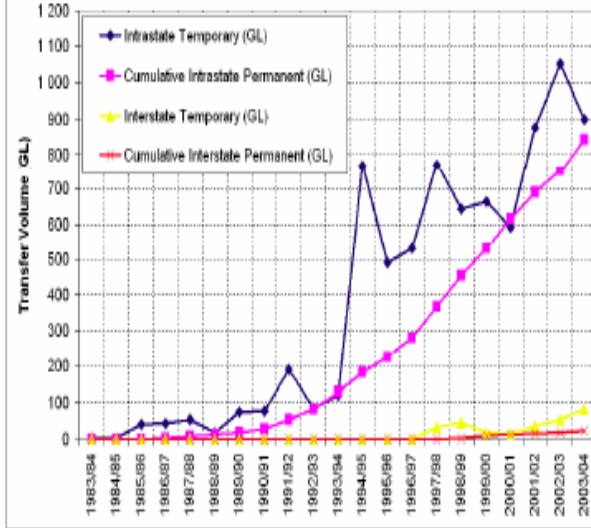
Grim report for NSW in 60 years: Future NSW generations may be living as adults in a state with a climate equivalent to the Sahara Desert. Average temperatures across NSW could be 6.4C higher and rainfall could fall by up to 40 per cent, according to *The Daily Telegraph* (6/11/2006, p.14).

Money-shower: The Commonwealth has offered to make payments matching any nominal terms made by the New South Wales Government to help with structural adjustment involving groundwater, the Prime Minister told parliament.

Qld drying trend: Queensland rainfall has dropped by as much as 250mm since 1950, and could fall by a further 15pc by 2030 and up to 40pc by 2070. Annual rainfall has dropped over much of Queensland by as much as 250mm since 1950, and could fall by a further 15 per cent by 2030 and up to 40 per cent by 2070 due to climate change, reported *The Courier-Mail* (31 October 2006, p.12).

Mercury rising: CSIRO research for a Queensland Government public discussion

MDB water trade curve



paper says average temperatures could increase up to 2C by 2030 and up to 6C by 2070.

Level 4 restrictions in Qld: Level 4 commenced in southeast Queensland on 1 November, the Queensland Water Commission, advised *The Courier Mail* (1/11/2006, p.73).

Efficiency plans: A key component of the water restrictions was the preparation of a Water Efficiency Management Plan (WEMP) by a range of business and other non-residential water users. To support the implementation of WEMPs, the Queensland Water Commission (QWC) is establishing a register of Water Efficiency Assessors (WEAs).

MDBC CEO wants water trade: Wendy Craik, CEO of the Murray Darling Basin Commission, argued about 8,000GL could be traded. Craik said the Productivity Commission (2006) had found trade reduces impact of drought by 50 per cent. Bureau of Transport and Regional Economics, below Swan Hill (pilot trade study) 1997- 2001. She said temporarily traded water was approx. 1,000GL per annum, approx. 10 per cent of diversions.

Federal Govt to pay for efficiency measures in the south Murray-Darling Basin

The Federal Government is offering to buy water saved through efficiency gains to help restore the Murray River, sidestepping the issue of buying water outright to ensure environmental flows and aiming to appease irrigators wary of cuts in their allocations.

Reward for efficiencies: Parliamentary Secretary for Water Malcolm Turnbull released the Water Through Efficiency request for tenders on 1 November, declaring the government would buy water saved through improved efficiency measures on and off farms, such as steps to prevent evaporation. The resulting flow would support iconic environmental sites along the Murray, and the payments would help farmers invest in better water handling measures.

Upfront payment incentive: "Unlike purchasing water outright, the tender is limited to water that has been or will be recovered through water efficiency measures. Farmers and irrigators participating in the tender will be

able to retain the use of the water up to 2009 and will be able to be paid in advance so they can invest in water efficiency measures before delivering the agreed volume of water tendered," Turnbull said.

Funds to boost efficiency: "The tender is drought-sensitive and a win-win for farmers and the environment because it provides water users with funds to invest in more efficient technologies and practices. The saved water can then be passed onto the River Murray system."

Mid-2009 deadline: The water must be:

- recovered through on- or off-farm efficiency measures completed between 1 January 2004 and 30 June 2009;
- saved by holders of particular types of water entitlements in the southern Murray-Darling Basin.

Agriculture Minister Peter McGauran said the scheme allowed for a range of options, such as water entitlement holders working together to submit a joint tender.

Funds from Living Murray program: The government was reportedly expecting to pay out \$100 million on the scheme, from the \$200 million that it has made available for the Living Murray water recovery program. The tender would close at 2:00 pm on 31 January 2007.

Iconic river sites: The environmental sites targeted include river red gum forests such as Barmah on the river's floodplains, Hattah Lakes and the Coorong at the river's mouth, Turnbull said.

Reference: Tenderers can access further information, including a copy of tender documents and details of upcoming public information sessions, on the internet at <http://www.daff.gov.au/watertender> and by telephoning toll free on 1800 727 984 (9am – 5pm ACT local time Monday to Friday).

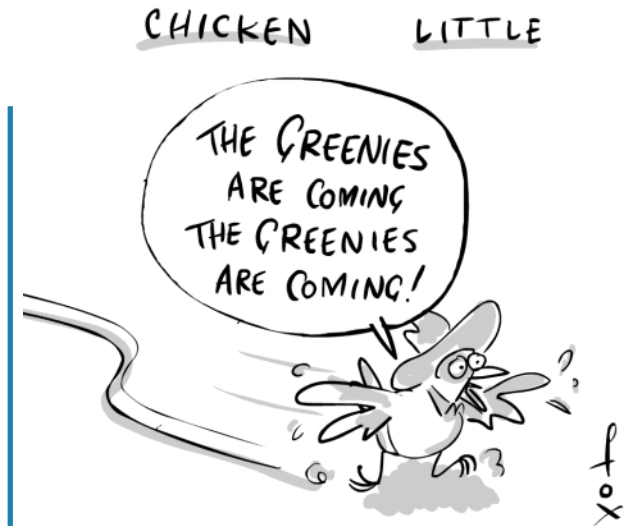
Township rage: Wakool Shire's CEO says flows "squandered"

Towns and irrigators on the Murray River remained anxious over water security after the Federal Government revealed plans to buy water saved through new efficiency measures for environmental flows, reported Laura Tingle in *The Australian Financial Review* (2/11/2006, p.4).

Current flows "wasting" water: "The environmental flows currently going down the river are just squandering water. The river would normally be dry right now," said Ciaran Keogh, one of the representatives of the Murray Darling Water Crisis Management Council in Canberra.

Hume to go dry in months: The group said the Hume Dam near Albury, a crucial supplier of water to downstream towns, would be dry in 24 weeks.

Murray locals demand security: Councils along the Murray River warned they would be pressuring both sides of politics during the coming Victorian election and next year's NSW election, unless something was done to secure water supply to towns on the lower Murray and to the irrigators along the river.



Users stinging from NSW cuts: Anger over water security is particularly high after the NSW Government recently moved to temporarily cut water entitlements without compensation.

McGauran "out of touch": Keogh, general manager of Wakool Shire, which lies on the northern bank of the Murray between Swan Hill and Echuca, said remarks by Agriculture Minister Peter McGauran showed he was "totally out of touch with reality".

Irrigators' phantom fears: McGauran had said that irrigators' concerns were more imagined than real as environmental flows had been "minimal or modest to date" in recognition of the water shortage and the priority accorded to irrigators.

Tradeable water supposed to reach 100pc by 2014 under the NWI; chances seem remote

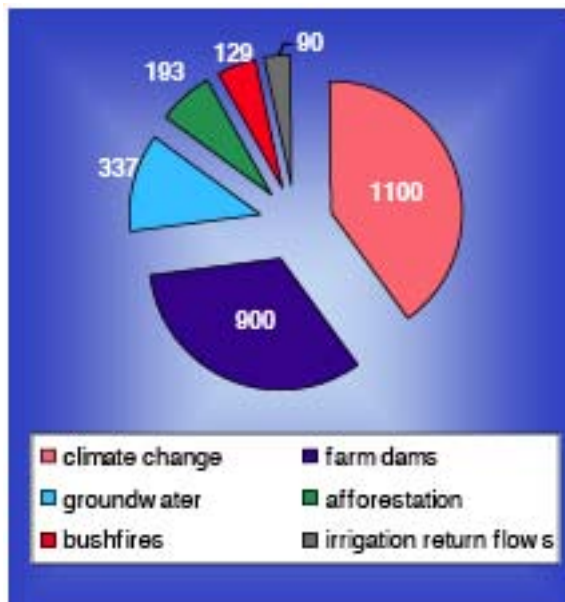
The premiers and then prime minister Paul Keating were sufficiently concerned about Australia's water use in 1994 that they agreed on major reforms, including, as the Council of Australian Governments communique put it at the time, the need to "minimise unsustainable natural resource use", recollected Mike Steketee in *The Australian* (28/10/2006, p.22).

Priorities on value, river health: The communique canvassed trading in rural water entitlements "to allow water to flow to higher value uses". The states were to give priority to determining entitlements to water, including allocations for the environment. Government leaders realised that the changes were far-reaching and therefore allowed a generous five to seven years for implementation.

Remedy for stressed rivers: "In cases where river systems have been over-allocated or are deemed to be stressed, arrangements will be instituted and substantial progress made by 1998 to provide a better balance in water resource use, including appropriate allocations to the environment in order to enhance/restore the health of river systems," it said.

Aim of full cost recovery: By 2001, charges for rural water supplies would comply with the principle of full cost recovery, with any

Water risks for MDB



subsidies made transparent. If it seemed like a good idea at the time, how much better would it look now, when water has become a much scarcer commodity, if governments had met these deadlines? But the national interest has taken a back seat to the politics of water.

Incentives fail to jolt reform: In 1995, COAG decided to provide some incentives through payments linked to progress on reform. Still nothing much happened. In 2003, with the drought taking hold, COAG "agreed that there is a pressing need to refresh its 1994 water reform agenda". And so it did, with the National Water Initiative adopted the following year.

NWI yet to deliver: It was a widely hailed breakthrough but it has yet to produce much of

Impact of six risks: The best estimate in GL of the impact of the six risks on total Murray-Darling Basin surface water (24,000GL) in the next 20 years. Present activities and processes (risks) can reduce annual average water resources and affect water quality. The size of the reduction could range between 2,500 - 5,500GL per year in 20 years time. This equates to 11 - 25 per cent of our present surface water resources. The estimated stream flow variation (CSIRO) was 2030: 0 to - 20 per cent and 2070: + 5 to - 45 per cent. **Source: Wendy Craik, CEO MDBC**

substance. The first milestone under the new agreement was June 2005, when the maximum amount of water that could be traded out of the irrigation areas in the southern Murray-Darling Basin was to increase from 2 per cent to 4 per cent.

Target reset for mid-2007: With that deadline come and gone, COAG last July set a new target of the middle of next year, which will be two years late if it is achieved. Under the NWI, the proportion of tradeable water is supposed to keep increasing to 100 per cent by 2014 but, as the Business Council of Australia report notes, the chances of that seem remote. The first drop of the environmental allocation has yet to start flowing down the River Murray.

Queensland warned of delays in western recycling pipeline, and Gold Coast desal plant

Queensland was on notice to shore up its emergency water infrastructure building program, with nine projects

Victorian and South Australian border works



7

MORE FLOWS: When Lock and Weir 6 was constructed in the 1930s, a series of banks (A through I) and two weirs (in Pipeclay Creek and Slaney Creek) were constructed upstream from the Lock to maintain a predefined water elevation (pool level) in the River Murray channel. These structures are in various states of repair and none are designed to provide fish passage. Pipeclay Creek Weir and Slaney Creek Weir are the focus of this referral and both need to be upgraded to improve the delivery of future

environmental flows into the Chowilla floodplain. It was proposed that the top three rows of concrete stoplogs on Pipeclay Creek Weir and Slaney Creek Weir are replaced with collapsing crest radial gates. Small and large denil fishways would be built into Pipeclay Creek Weir and Slaney Creek Weir. This will provide passage for the full range of fish, from small-bodied species to large Murray cod. At Pipeclay Creek Weir, it is also proposed that the existing downstream apron be repaired and that the large

intended to rescue the southeast region's water supply already facing delays or shortfalls, according to a progress report released last week by the Queensland Water Commission.

Commission eyes new back-up plans:

"While the delays currently forecast appear sustainable, further delay or shortfall in achievement of the regulated targets will impact the depletion in dam levels and increase the region's supply risk," the commission said. "In view of the significant impact of any further project delays on water supply, the QWC will focus on the development of additional contingency plans..."

Shortfall in Brisbane recycle project: A

major shortfall emerged in the Brisbane City Council's proposed supply of recycled water to industrial and commercial users as a substitute

downstream scour hole that has formed be partially filled to prevent further scour damage. The proposed actions will take place at the existing weir locations, at the entrances of Pipeclay Creek and Slaney Creek. The entrance to Pipeclay Creek is approximately 4km downstream from the Victorian and South Australian border located off a River Murray backwater known as the Isle of Man. The proposed site is located approximately 250m down stream of the entrance to Pipeclay Creek, which flows from the northwest section of the Isle of Man. The entrance to Slaney Creek is approximately 2km downstream from the Victorian and South Australian border located off the River Murray channel. The proposed site is located approximately 150m down stream of the entrance of Slaney Creek. It would start 2007. The anticipated construction time is 10 weeks.

Brad Hollis Chowilla Project Officer Department of Water, Land and Biodiversity Conservation. Ph: (08) 8595 2048. Fax: (08) 8595 2232. Email: hollis.brad@saugov.sa.gov.au

for potable water. The initiative was supposed to yield up to 15ML per day by January 2008, but the anticipated outcome is now 6.1ML.

Land conflict delays recycling pipeline: Stage one of the \$1 billion, 200-kilometre western corridor recycling pipeline has run into problems over land acquisition and is running about two months late. The pipeline is to provide recycled water to industry, including power stations.

Gold Coast desal also late: Another delay involves the \$800 million desalination plant on the Gold Coast. It would not reach full capacity of 125 megalitres per day until early 2009, a few months after it opened.

Other projects on watch list: Projects to tap underground water supplies beneath Brisbane and on Bribie Island are running late, with the latter scaling back to less than half the projected 10ML/day production target. Another plan, to pipe 20ML/day from the Gold Coast to Logan, is being reviewed after stalling over land access and other issues.

Steps to speed approvals: Deputy Premier Anna Bligh said the commission was working with service providers to see how targets could be more closely achieved and investigating other water supply initiatives. Bligh also signalled she would take legislative steps to allow the Coordinator General to take power over approvals on major projects that faced delays.

Reference: Queensland Water Commission, Phone (07) 3035 7220 www.qwc.qld.gov.au

Qld Govt shrinks Traveston Dam footprint to 9800 ha

The Queensland Government unveiled final plans on 31 October for the \$1.7 billion Traveston Dam on the Sunshine Coast and the \$500 million Wyaralong Dam on the Gold Coast.

Traveston land grab reduced: Queensland Treasurer and Deputy Premier Anna Bligh said geotechnical investigation had allowed realignment of the dam wall and more accurate flood modelling had cut the amount of land needed for the controversial Traveston Dam from 13,700 hectares to 9800 hectares.

400 fewer homes for flooding: This meant the number of houses to be resumed could be reduced by 403 from 1000 to 597 homes. The project would go ahead in two stages – the first to be completed by 2011 and the second, if needed, by 2035 – to limit local disruption.

Traveston to supply 70,000ML: “We have reduced the dam’s impact, but we still get the same yield. This is a good outcome and we have made Gympie safer.” Bligh said. Stage one’s capacity is now 153,000 megalitres, with a yield of 70,000ML. Stage two would involve massive capacity of 570,000ML.

Braced for protests: While the government expects sustained protests against the Traveston Dam during construction and for some time into the future, Bligh said the importance of both Traveston and Wyaralong

Dams to southeast Queensland’s water supply could not be overstated.

Flood mitigation: In addition, new modelling showed that Gympie would have been spared the worst of the devastating 1999 flood if the Traveston Dam had been in place. “Much of the \$25 million damage to houses, businesses, roads and local industry would have been prevented.”

Reference: www.qld.gov.au

SE Qld adopts Level 4: orders 24pc industrial water cuts

The severity of southeast Queensland’s water crisis will intensify for homeowners and industry from tomorrow as Level 4 water restrictions come into force, reported *The Courier Mail* (31/10/2006, p.12).

Compliance to cost big and small: Under the Level 4 restrictions, homeowners who topped up pools with tap water would need to buy hundreds of dollars’ worth of water-saving devices by July. Major industry was facing an investment of tens of millions of dollars to reduce water consumption by a quarter.

Developers may be targeted next: Water Commission chair Elizabeth Nosworthy has indicated that developers could be next to face specific water reduction targets. She made the comments as she toured Brisbane Airport which has slashed its water consumption by half.

Time to share the pain: Nosworthy said it was time for businesses to keep pace with the 30 per cent reduction in water use by homeowners.

Dams approach 25pc mark: Principal dams in southeast Queensland would drop to a quarter of their capacity in just two weeks and could be dry by 2009 without major rain in the catchments. Dam levels must rise at least 10 per cent before the Water Commission would consider easing water restrictions.

Gold Coast council approves 125ML desal plant to boost SE Qld's dwindling water supply

An environmentalist wept on 30 October after Gold Coast councillors approved a desalination plant to boost southeast Queensland's dwindling water supply, reported *The Courier Mail* (31/10/2006, p.12).

Qualms over cash, environment: The \$1.2 billion plant to be built at Tugun on the southern Gold Coast, got the green light despite concerns over financial and environmental costs.

Doubters lacked better idea: Deputy Mayor David Power said opponents of desalination had failed to table viable alternatives. Greens activist Anje Light, a lone protester at the council meeting, broke down after a 12-2 vote approved the project.

Contracts to seal deal soon: Mayor Ron Clarke said contracts to build the plant, which will feed up to 125 megalitres of water a day into the planned southeast Queensland water grid, were expected to be signed next month.

Go-ahead relies on cost limit: Clarke revealed it would cost up to \$41 million a year to run and the council had agreed to proceed on the proviso there would be no further cost blowouts.

More than double original size: Until the State Government bought into the project, the council had planned a \$260 million desalination plant producing about 55 megalitres a day. Environmentalists on 29 October accused the government of bypassing a full, independent environmental impact study in a bid to push through the plant construction.

NSW emergency water is undrinkable, 2005 Sydney Catchment report says

The lemma Government's water strategy is in tatters with the revelation that its emergency water supply is undrinkable, reported *The Daily Telegraph* (3/11/2006, p.1).

Emergency water not fit to drink: A report on deep water storages under Warragamba Dam revealed they were below the standard required to meet drinking water – or even bulk water – supply guidelines and warned Sydney's drinking

water supply would be compromised because of increased pollution runoff caused by accessing the deep water, the paper said.

Plan B still out of reach: Meanwhile, it said the government was still unable to access its other emergency back-up – groundwater supplies under western Sydney – which were supposed to come on line when dam levels fell below 40 per cent. On 2 November, levels dropped to 39.7 per cent.

Report details low oxygen: The study into deep water storages in the dams, obtained under Freedom of Information, was requested by the Sydney Catchment Authority in January 2005. It found dissolved oxygen levels in the 40 billion litres of deep water were as low as 56.7 per cent. (The recommended drinking water and bulk water supply standard is for oxygen levels above 85 per cent to prevent heavy metals contaminating the water column.)

Heavy metal detected in Avon Dam: The report also said deep water supplies from another supply dam – Avon – contained levels of the heavy metal selenium above drinking water guidelines.

Govt admits fudging figures: The government admitted on 2 November that the deep water storage supply – about 40 billion litres - had been included in its official supply figures. Without it, Sydney's water would be closer to the critical 30 per cent trigger for the construction of a desalination plant.

Opposition slams inflated dam levels:

Opposition water spokesperson Andrew Stoner said the government "had artificially inflated dam levels since April by including the 5 per cent it is supposedly netting from the deep water storage projects when it didn't come on line until next August".

lemma's defence in disarray: According to the *Daily Telegraph*, NSW Premier Morris Lemma said in February: "The aquifers at Kangaloon, in the Southern Highlands, and Leonay, in western Sydney, will be the first line of defence against drought and will be accessed if dam levels drop to about 40 per cent."

Groundwater still not accessible: The government's Metropolitan Water Plan revealed groundwater would take two years to access due to drilling requirements. So far, critical levels had been avoided by pumping water from the Shoalhaven dam. Since August, Sydney Water had pumped 110 billion litres of water into Warragamba dam to avoid the political consequences of dipping below 40 per cent, the paper said.

Over half the top 25 business users in Sydney consumed more water than in 2004-05

More than half of Sydney's biggest business water users have increased their consumption in the past three years, amid growing alarm about dwindling

supplies, reported *The Daily Telegraph* (30/10/2006, p.10).

No let-up at big users: While residential users had slashed consumption by about 12 per cent, 13 of the city's 25 largest commercial, industrial and public sector users consumed more water last financial year than in 2002-03, the paper said.

5pc rise by top customer: The figures, released under the *Freedom of Information Act*, showed a 5 per cent increase by Sydney Water's unnamed biggest customer.

Names stay confidential: Neither Sydney Water nor Water Utilities Minister David Campbell planned to name the commercial water wasters, arguing it would breach their right to confidentiality about their operations.

Prime Minister accuses NSW of unfairness over allocations

The Federal Government is stepping up pressure on NSW over compensating farmers for lost water entitlements, with the state wanting to class them as income and Canberra insisting they be treated as compensation for a capital loss.

Feds seek lower-tax solution: According to *The Australian Financial Review* (31/10/2006, p.10), the Commonwealth last month asked NSW to alter the way it defined the payments in order to change the way they were taxed to get a fairer deal for farmers.

Howard slams miserly stance: Prime Minister John Howard said yesterday that there had been no breakthrough in the dispute, with NSW seeking legal advice on the way it defined the payments. He also lashed out at the state for failing to offer proper compensation.

"Unconscionable" failure by NSW: "I can understand in a time of drought cutting the allocation; but it is unconscionable, it's unfair and it's unjust that you should cut somebody's allocation without compensation," he told parliament.

Cuts intended to restore balance: The reductions, cutting water entitlements in some areas by nearly 90 per cent over 10 years, were designed to end unsustainable practices.

State pulls plug without redress: One producer had paid \$30,000 on a Friday to buy water on the private market, but his entitlement was reduced by the state the following Monday without compensation, Howard said. "You can't do that in the Federal Government because of the just compensation clause in the federal constitution, and rightly so," he said.

Commonwealth to match NSW groundwater compensation

The Commonwealth, although under no legal obligation to do so, has offered to make payments matching any nominal terms made by the New South Wales Government to help with structural adjustment

involving groundwater, Prime Minister John Howard told parliament.

Tax issues: Discussions had taken place between his parliamentary secretary, Malcom Turnbull, and the New South Wales minister, Ian Macdonald. The New South Wales Government was getting legal advice on taxation aspects, he said. The issue revolved around taxation treatment of the payments.

Reference: Commonwealth Of Australia, House Of Representatives, Votes And Proceedings, Hansard, Monday, 30 October 2006

NSW Parliamentary Committee wants Feds to buy Snowy

The report of the NSW Upper House committee examining the future of Snowy Hydro Limited following the withdrawal of the three shareholding governments from the proposed privatisation sale in June 2006 has finally been tabled.

"Deeply held affection": Committee chair Dr Gordon Moyes told the Legislative Council this and an earlier inquiry, established at the time of the proposed sale, had revealed a "deeply held affection" among NSW citizens for the Snowy scheme.

The rub: The committee recognised that Snowy Hydro must pursue a high growth strategy if it was to remain viable in the long term and that the shareholding governments will not fund Snowy Hydro's necessary growth, Dr Moyes said.

NSW should follow Vic: The committee recommended that the NSW Government pursue the position jointly taken with the Victorian Government that the Commonwealth acquire Snowy Hydro Limited and that any acquisition must guarantee the retention of existing water entitlements and the public ownership of the corporation.

Better public information would help ... Dr Moyes continued: "In addition, the NSW Government must ensure that the community is adequately informed about any future proposals regarding the ownership and funding of Snowy Hydro."

So would better scientific monitoring: The committee also recommended that the Snowy Scientific Committee be established immediately and monitor the impact of the environmental water flows on the fragile Snowy River.

Finances "extremely complex": Dr Moyes told State Parliament: "This is an extremely complex financial situation. We have gone to some trouble to try to find ways in which to effectively continue the public ownership of Snowy Hydro."

Ideological conflict: Finding the finances to continue Snowy Hydro involved not only vast economic research but also a great deal of ideological conflict between members of the committee. "I thank committee members for working through this issue with me in a great deal of detail."

Reference: NSW Legislative Council Hansard, document is available at: <http://www.parliament.nsw.gov.au/prod/PARLMENT/hansArt.nsf/V3Key/LC20061026005>

National Committee on Irrigation and Drainage tells irrigators to "go north"

Delegates at the recent Australian National Committee on Irrigation and Drainage (ANCID) conference agreed that many opportunities existed for irrigation-related development in north Queensland, the Northern Territory and Western Australia, reported *The Land* (26/10/2006, p.35).

Tropical river studies in train: Research was under way on the impact of irrigation development on sensitive northern ecosystems, the management of irrigation from rivers that may only have strong flows for six months of the year and integrating development with communities, the conference heard.

Research to guide best practice: Prime Minister John Howard recently allocated \$27 million to the Tropical Rivers and Coastal Knowledge (TRACK) research hub. In partnerships including Griffith University, Charles Darwin University and the University of WA, 50 leading researchers and 10 Australian, State and Territory Government agencies would research northern rivers and groundwater resources from Cape York to Broome to enable effective and balanced water planning.

Aiming not to repeat southern mistakes:

The research would ensure mistakes made in earlier days in the south weren't repeated when developing rivers such as the Daly between Katherine and Darwin.

Groundwater in sharper focus:

Water shortages around Australia also focused attention on groundwater. This year, for example, more groundwater in the NSW Murrumbidgee would be used for crops than surface water, even with reduced allocations.

Inventing ways to stretch water: A feature of the conference was the number of water distribution businesses finding innovative ways to improve their own and customers' efficiency, including:

- open-book approach to negotiating water prices with customers at SunWater Queensland;
- water savings swaps with Perth for water savings infrastructure at Harvey Water in Western Australia;
- prevention of saltwater intrusion into aquifers in the Burdekin scheme in north Queensland;
- environmental improvement and water savings exceeding expectations by the partitioning of a previous inefficient storage into a deeper, more efficient storage and reversing part of the storage to a restored wetland at Barren Box in the NSW Riverina.

Worry over federal-state divide: Many delegates were concerned about the complexity of federal and state institutions managing the future of water, but there was a wait-and-see attitude to what might be achieved.

Farms with irrigated pastures most active water traders

A recent joint report from the Australian Bureau of Statistics and the Productivity Commission found that irrigated farms generated one-quarter of the gross value of Australia's agricultural production.

Water trading: Irrigated farms of all sizes engaged in the trade of irrigation water, although water trading was not a frequent event for most farms. Farms with irrigated pastures were the most active water traders, with 43pc taking in some form of trade in the three years to 2003-04, compared with 36pc for broadacre and 27pc for horticulture farms.

Worth \$9bn in 2003-04: Gross value of irrigated production was \$9 billion in 2003-04, with irrigated horticulture making up 52 per cent of the gross value followed by irrigated pastures (24pc) and irrigated broadacre crops (24pc).

Higher production farms: The report found that irrigated farms with a higher value of production were more likely to irrigate in successive years. These farms also incurred

lower ongoing irrigation expenses relative to their irrigation water use and were more likely to recycle irrigation water and use irrigation scheduling equipment.

Reference: **Characteristics of Australia's Irrigated Farms 2000-01 to 2003-04 (Cat. no. 4623.0)**
www.abs.gov.au

NWI goals prove tall order: only one-third of water-supply CEOs able to meet targets

Only one-third of water supply chief executive officers surveyed across the nation are confident that their companies or enterprises can achieve sustainable water management, according to a University of South Australia study.

Utilities lack the means: Professor Jennifer McKay, director of UniSA's Centre for Comparative Water Policies and Laws, said that the CEO's pessimistic outlook stemmed not from lack of will but inadequate resources: "Not just money, but skill bases, people and expertise."

Obstacles to NWI reforms: Professor McKay's study found that 183 CEOs of water utilities identified barriers to their compliance with the 2005 National Water Initiative's (NWI) reforms concerning environmentally sustainable development (ESD), as well as other factors that inhibited ecological sustainability.

Full range of suppliers: The businesses represented all types of water supply organisations except small towns, ranging from fully private to hybrid local governments with corporations, law companies and government-owned enterprises. They were subject to different reporting responsibilities according to state legislation and other requirements.

Principles for sustainability: "Following the Council of Australian Government (COAG) water reforms of 1994, future water projects in each state had to be based on seven ESD principles, with both the private sector and the community involved in water planning at a regional level," Prof McKay said.

The ESD principles state that:

- Decision making processes should effectively integrate long and short term economic, environmental, social and equity considerations;
- lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation (the precautionary principle);
- the global dimension of environmental impacts of actions should be recognised and considered; the need to develop a strong, growing and diversified economy that can enhance the capacity for environmental protection should be recognised;
- the need to enhance and maintain international competitiveness in an

environmentally sound manner should be recognised;

- cost effective and flexible policy instruments should be adopted;
- broad community involvement should be facilitated.

Officials stretched on choices: "Each state has set in train different processes to achieve ESD, however, both within and between the states is a plethora of ESD definitions and very little guidance for officials on how to make choices between the ESD aims," McKay said.

Thumbs-down for state planning: Among other findings, the vast majority of CEOs felt well informed by their State Government about state policy, but only 13 considered that water planning processes instigated by their government had worked well.

Unclear on sustainability rules: "In relation to ESD, the process was considered transparent by less than 12 per cent of CEOs," McKay said. "When asked to rank the seven Commonwealth principles in order of their difficulty to achieve in their area, most CEOs were unsure how to consider the global dimension and how to implement the precautionary principle."

Reference: Centre for Comparative Water Policies and Laws: <http://www.unisa.edu/waterpolicylaw>
Enquiries: Geraldine Hinter (08) 8302 0963
geraldine.hinter@unisa.edu.au

CO₂ dumps a water risk, say groundwater specialists

Philip Commander, president of the International Association of Hydrogeologists, representing some 500 practising groundwater specialists throughout Australia, stressed the risks of burying carbon dioxide without extremely close supervision, in a recent submission to the Federal Parliamentary inquiry into geosequestration technology.

Extensive research needed: Considerable hydrogeological research and investigation would be needed for any potential geological repository which is not a proven hydrocarbon trap, due to the potential environmental risk to overlying fresh groundwater resources, the submission said.

Not for systems linked to active flow: Geosequestration should only be considered in geological formations which are not potential groundwater resources, i.e. those aquifers which contain saline groundwater, essentially stagnant and of considerable age, and which are not connected with active meteoric driven groundwater flow systems.

Monitoring of injection wells: Appropriate technology and regulation is needed to ensure the integrity of injection wells which pass through fresh-water-bearing aquifers; there must be no possibility of leakage either during the injection stage, or after abandonment, and appropriate monitoring is required to ensure this.

Expertise for guidelines, assessments: A competent groundwater specialist with the appropriate expertise needs to be involved in the development of national protocols and guidelines to ensure protection of groundwater resources. Similarly qualified personnel would be needed to assess proposals to ensure the soundness of hydrogeological data and models being used to assess geosequestration proposals.

Reference: International Association of Hydrogeologists – submission to House Standing Committee on Science and Innovation on Inquiry into Geosequestration Technology. Address: PO Box 7634, CLOISTERS SQ WA 6850.

Coal miner to pay \$78,000 for negligent water pollution

Coal miner Centennial Newstan was ordered to pay a fine of \$50,000 and \$28,000 costs after the NSW Land and Environment Court last week found it had been negligent in failing to prevent a spill of contaminated water from a dam at Newstan Colliery at Fassifern.

Colliery breached responsibility: Heavy rain last February had caused sediment-laden water to overflow from the colliery's dams and enter LT Creek, which flowed into Lake Macquarie. Centennial Newstan had done nothing to control the overflow and failed to notify authorities of the spill, said NSW Environment Department director-general Lisa Corbyn. The \$50,000 fine would go towards bush and stream rehabilitation works in the area.

Reference: www.dec.nsw.gov.au

Nuclear plant would use 25pc more water than coal station

Nuclear power plants could worsen the effects of drought by placing increased pressure on the nation's water resources, suggested an article in *The Australian* (30 October 2006, p.4). It said an independent study commissioned by the Queensland Government found that a nuclear power station would use 25 per cent more water than a coal-fired plant.

Boots and all: Addressing the New Zealand Labour Party conference in Rotorua on 29 October, Queensland Premier Peter Beattie used the study's findings to attack John Howard's push to investigate the use of nuclear power in the future.

Nukes "anti-farmer"? Beattie said smarter and more environmentally friendly options were needed around the world to combat the effects of drought and climate change. "At a time when our farming communities are hurting badly, it is folly for Mr Howard to be entertaining the thought of nuclear power stations in Queensland or anywhere else," he said.

Drinking water first? Many towns and shires in Queensland were struggling to get enough drinking water, let alone enough to satisfy the amount a nuclear station would need to guzzle, he said.

Stanwell focus of study: The study focused on the coal-fired Stanwell power station in

central Queensland. The plant produces up to 1400MW of electricity and uses about 19,500 megalitres of water a year. It said a nuclear power station with the same output would need about 25,000 megalitres of water.

Siting the big issue: Beattie said a nuclear power station would need to have a strong connection to the electricity grid to address safety concerns about reliable transmission. The water supply would also have to be guaranteed.

NIMBY instinct invoked: "To meet these requirements, a nuclear power plant would have to be located close to the eastern seaboard," he said. "Where is Mr Howard planning to put it? Is it Townsville or Mackay or perhaps further down along the coastline on the Sunshine Coast or Gold Coast?"

WA Govt investigates several sites for possible second desalination plant; higher costs will figure in decision

The Western Australian Government will seek environmental approvals for a second seawater desalination plant to serve the Perth region but has not yet chosen a site, the Minister for Water Resources, John Kobelke, told State Parliament recently.

Desal 2 would cost more: Kobelke said a second unit would be of similar scale but more

WA's Harvey Water will fund \$250 million piping program by selling saved water

Harvey Water in Western Australia will fund a \$250 million program to replace open irrigation channels with more efficient piping by selling water saved by the program, *The Land* (26/10/2006, p.38) reported.

Water from dams to east: The irrigator-owned water supply cooperative has been operating in the Waroona, Harvey and Collie River irrigation districts since privatisation in 1996. Water comes from seven dams to the east of the irrigation area, including saline Lake Wellington and is used mainly to irrigate dairy and beef pastures and a growing perennial horticulture sector.

Channels lose 30pc of water: Open concrete and earth channels from the dams lose about 30 per cent of the water before it reaches the farms, mainly through seepage. This ageing system also makes it difficult for farmers to move from enterprises and irrigation practices based on surface irrigation where water is needed occasionally in large volumes to those using sprinkler and drip-type technology which require small amounts of water on demand, as suited to most horticulture.

Invested own funds: Harvey Water's driver for change is to foster regional economic development and on that score it invested \$18

million of its own funds looking for ways to improve its water delivery system, the bulk spent on installing 174 kilometres of high and medium density polyethylene pipe.

Expanded over three years: "Harvey Water slowly expanded piping systems over three years from 2001, increasing the size and expanding the capability each time to the point where there was a practical, full-scale working demonstration of water saving which was impossible to ignore," the co-operative's general manager, Geoff Calder, said.

Losses cut to 2pc: Waroona irrigation district was completely piped by 2003. This piping work demonstrated the previous 30pc losses could be reduced to two per cent or less. WA Government regulators agreed the investment had generated savings of 10 gigalitres, which, under WA legislation, the co-operative could trade.

Cost competitive: Harvey Water approached the WA Government in February 2004 with a comprehensive plan to improve water quality in Lake Wellington as well as completely piping its two other irrigation districts – Harvey and Collie River – to potentially yield about 50 gigalitres of water savings, making the cost (\$250m) competitive with alternative water-generation proposals such as desalination.

Next stage underway: The government gave its approval and work has started on the three-stage, three-year Harvey irrigation district plan, with the first stage involving 85km of pipe completed on time and on budget of \$24

costly than the \$387 million desal plant about to go on stream next month at Kwinana some 50km south of Perth. The pioneering plant will have a production capacity of 45 gigalitres a year, equal to 17 per cent of the city's drinking water supply, making it the largest desal unit outside the Middle East.

Multiple sites considered: "From my understanding, consultation on desal 2, which has only just started, will lead to our seeking the environmental approvals that are required. It is still early days. There is not just one site; a number of sites are being investigated," the minister said.

Search goes further afield: The need for a more remote location would be a big factor jacking up costs, he said. The Kwinana plant's intake and outfall are in an area of relatively slow-moving currents, which could pose turbidity problems.

Substantial extra piping costs: "We will not put a desalination plant alongside an existing one. That would compound the problems of the mix of water in Cockburn Sound," Kobelke said. "That site is likely to be further away; therefore, there will be greater piping costs bringing that water in. Those costs could be quite substantial."

Reference: Hansard, WA Legislative Assembly, September 19 2006

million in 2005-6. On completion in mid-2018 the Harvey Pipe Program (HPP) will provide 17.1 gigalitres of surplus potable water for trading to the WA Water Corporation while delivering a cheaper and more customer-friendly water delivery system.

NSW river flows likely to fall by 15pc with 1-2 degree rise in temperature, says Stern report

Winter rainfall in the southwest and southeast of Australia, the world's driest continent, was likely to drop significantly as storm tracks shifted polewards and away from the continent, Sir Nicholas Stern, head of the United Kingdom Government Economic Service, said in his final report on the economics of climate change.

Australia particularly vulnerable: The report said Australia was particularly vulnerable to the impact of rising sea temperatures on the major Pacific and Indian Ocean currents, which determined overall rainfall patterns and unpredictable year-to-year variations.

Stronger tropical typhoons over 30 years: Over the past 30 years stronger tropical typhoons had brought higher storm damage, but increased rainfall, to a wide swathe of northwest Australia.

East coast already suffering: The east coast of Australia – home to more than 70 per cent of

the population and the location for major cities and crop farming – had suffered long droughts and declining rainfall over the past 30 years, Stern.

Warm currents pushing rain further south: Stern, the former chief economist of the World Bank, said southerly regions had lost most rainfall as the warmer ocean and related air currents pushed rain further south. The 2002 drought cut farm output by 30 per cent and shaved 1.6 per cent off gross domestic product (GDP).

Stress on urban water: Water supply to big cities would become more difficult – Melbourne's could fall by 7-35 per cent with only 2 degrees Celsius of warming.

Carbon fertilisation affected: "In many lower latitude regions, such as southern Europe, western USA, and Western Australia, increasing water shortages in regions where water is already scarce are likely to limit the carbon fertilisation effect and lead to substantial declines in crop yields," the report said.

NSW rivers to drop 15pc: "In Australia, winter rainfall in the southwest and southeast is likely to decrease significantly, as storm tracks shift polewards and away from the continent itself. River flows in NSW, including those supplying Sydney, have been predicted to drop by 15 per cent for a 1C to 2C rise in temperature," the report added.

Threats to rainforests, reef: The global warming risks to Australia included threatening Queensland rainforests, disappearance of

large areas of coral in the Great Barrier Reef, more bushfires and the dengue fever transmission zone spreading south to Brisbane.

Costs of climate change: These are some of the predictions made in Chapter 5 of the final report on the economics of climate change. Chapter five deals with the costs of climate change in developed countries.

Habitat of fauna and flora endangered: Stern said drier and hotter summers threatened the survival of the Queensland rainforests. He also said that warmer winters and reduced snowfall endangered the habitat of mountain-top fauna and flora.

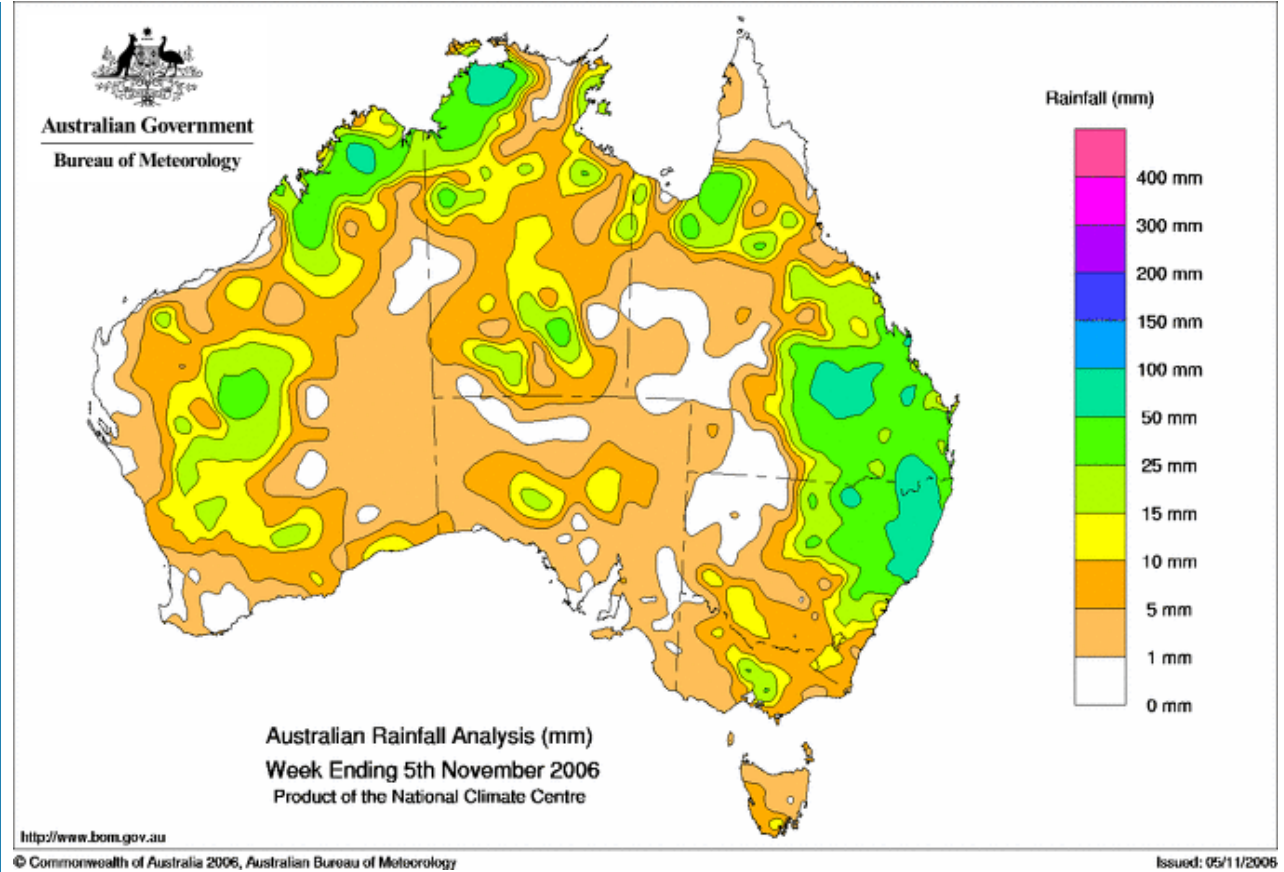
High cost of rising ocean temperatures: Rising ocean temperatures threatened the future of Australia's coral reefs and the \$2 billion fishing and tourist industries. More than 60 per cent of the Great Barrier Reef suffered coral bleaching in 2002, 10 per cent of it permanent. Studies showed ocean warming could be fatal to large tracts of reef within 40 years.

Native eucalyptus to thrive: The report said the carbon fertilisation effect might lead to a thickening of native eucalyptus and savannah habitats. But higher inland temperatures were likely to cause more bushfires.

Tropical diseases move south: It said tropical diseases were spreading southward as the north became wetter. The dengue fever transmission zone could reach Brisbane, and possibly Sydney, with 3 degree Celsius of warming.

Australian material: The report noted that the material on Australia was prepared with assistance from Nick Rowley and Josh Dowse of KINESIS Consulting, Sydney, Australia. <http://www.kinesis.net.au>

Reference: "Stern Review on the economics of climate change final report" by Sir Nicholas Stern, head of the Government Economic Service and former World Bank chief economist. 30 October 2006. Address: HM Treasury, 1 Horse Guards Road, London. SW1A 2HQ. Phone: (from outside UK) +44 (0)20 7270 4558. Fax: 020 7270 4861. <http://www.hm-treasury.gov.uk>



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