



Parliament of Australia  
Joint House Department



9 December 2002

Secretary  
Finance and Public Administration Legislation Committee  
Department of the Senate  
Parliament House  
CANBERRA ACT 2600

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**QUESTION ON NOTICE –  
SUPPLEMENTARY ESTIMATES NOVEMBER 2002**

Senator Murray lodged the following question on notice:

‘Can the President please detail what steps the Presiding Officers are taking to conserve water in the Parliamentary buildings and precinct on a permanent basis.’

The President has approved the attached reply.

M BOLTON  
Secretary

**Senate Finance and Public Administration Legislation Committee**

**ANSWERS TO QUESTIONS ON NOTICE**

**Parliament Portfolio**

**Joint House Department**

Supplementary Estimates, Wednesday 20 November 2002

**Question:** P 1  
**Outcome:** GEN  
**Topic:** Steps being taken to conserve water in the Parliamentary buildings and precinct on a permanent basis  
**Hansard Page:** Written Question on Notice—lodged with Committee Secretariat on 18 November 2002.

**Senator Murray asked:**

‘Can the President please detail what steps the Presiding Officers are taking to conserve water in the Parliamentary buildings and precinct on a permanent basis?’

**Answer:**

Because of the current interest in water usage at Parliament House, the Joint House Department has prepared a paper covering all aspects of its water conservation initiatives at Parliament House.

This paper not only covers the request for information by Senator Murray, but also provides other relevant information.

## **Parliament House—Water Usage Paper—December 2002**

Parliament House is a significant water consumer using, on average, 250 million litres of water per year. Water use is divided between external use ie landscape (65% of consumption) and internal use (35% of consumption).

### **Current Initiatives**

The Joint House Department (JHD) has been reducing the overall water demand in the parliamentary precinct over many years. A water audit undertaken in January to March 2002 identified that average water consumption has fallen from 330 million litres per year to 250 million litres per year, a saving of 24%. The majority of these savings have come from external uses of water.

Parliament House has 23 hectares of irrigated landscapes including courtyard gardens, outer peripheral native gardens, turf areas and the on-structure turf (turfed ramps and roof over the centre of the building). Irrigation is controlled by a very sophisticated computer control system that monitors rainfall, evaporation and soil moisture levels over 89 programs. The computer system starts irrigation programs to replace an average of only 60% of net evaporation over the 23 hectares. The irrigation programs have been optimised twice in the last four years to reduce water consumption—and hence water costs—to a minimum. This optimisation has effectively reduced the irrigation requirements by approximately 50 million litres per year.

JHD has also successfully reduced water consumption by introducing new cleaning technologies. For example, captive water processes, which capture, filter and recycle cleaning water so that it is used many times over, now largely complete the external cleaning programs. In areas of known high use of water, more efficient water fittings have been installed. All of the showers in the gymnasium have been replaced with AAA showerheads, effectively reducing water consumption in the change rooms by 50%.

The water audit identified a potential to save a further 34 million litres of water per year. This represents only a potential 13% saving and as such places Parliament House in the category of an efficient user of water. The auditor witnessed good maintenance and staff water use habits, which were a significant contributor to this water efficiency. The primary areas that were identified by the auditor for future savings are:

- installing flow restrictors in all shower heads;
- installing spring loaded single mixer taps over the hand basins in public toilets;
- further optimising irrigation programs and, in particular, altering the irrigation procedures for the peripheral native planting and some shrub beds;
- trialing newer water sensors in the landscape;
- education and awareness programs; and
- reducing the hours of operation of fountains, particularly during autumn leaf fall.

JHD is following up these audit recommendations.

### **Long-term Initiatives**

Several long-term initiatives are being investigated that will have larger impacts on the Parliament's water consumption. A long-term water strategy was commenced in May 2002 and is due to be completed in December 2002. The strategy will provide advice on alternative water supply sources and technologies that can be used to reduce overall water consumption and the impact that Parliament House has on the total water cycle. In addition, JHD is working with consultants to

determine the feasibility of recycling sewage effluent generated on site. The proposal being evaluated will treat effluent to a standard whereby it meets all environment and health regulations for reuse in public areas. The intention is to provide sufficient recycled water to drought proof the vital on-structure turf over the roof of the building. The recycled water may also be used to flush toilets, thus replacing the largest internal use of water in the building. The use of recycled water for these purposes is subject to the viability and feasibility being proved.

Another project with the potential to reduce water consumption in the building is the refurbishment of the public toilets. The public toilets are heavily used and this has resulted in their reaching the end of their life cycle. The pending upgrade has a strong environmental emphasis. The brief requires the use of water-efficient fittings including toilets, taps and showerheads. This project is currently in the design stage and a trial toilet conversion will be completed by July 2003.

### **Landscape Water Restriction Policy**

On 7 November 2002, in view of the current drought situation affecting much of Australia, JHD Landscape Services staff introduced their own voluntary restrictions aware of the need to show some leadership in the area of water use. These restrictions were based on the current Australian Capital Territory Electricity and Water Corporation (ACTEW) Level 1 restrictions, which were aimed at saving 5% of consumption. Parliament House has subsequently negotiated a water restriction policy with ACTEW. The Parliament House Water Restriction Policy is closely linked with the ACTEW Water Restriction Policy having five progressive stages of restriction. Each stage is designed to match the ACTEW savings (attached).

The Parliament House Water Restriction Policy covers irrigation, pavement washing, building and window washing, and fountain operation. By far the biggest reductions will take place in the landscape areas, but the amenity of all areas of the building will be impacted by the restrictions. Parliament House is already complying with the Level 1 restriction, which cuts irrigation back to between 7.00pm and 7.00am and aims to reduce overall consumption by 15%. As the restrictions are tightened, Parliament House will progressively sacrifice outer landscape areas and eventually courtyards, with the potential loss of millions of dollars of assets.

Parliament House will aim to meet all further stages of restrictions; however, the on-structure turf over the roof will not be allowed to die. The on-structure turf protects the sand bed and the waterproofing membranes over the central core of the building. If the on-structure turf is allowed to die—apart from the high cost of replacement—there is a significant chance that erosion during a rainstorm will expose and damage the membrane, resulting in major structural repair costs. The on-structure turf represents only 13% of the total landscape area. The additional water used on this turf will be taken from the allocation for other landscape areas, progressively sacrificing these to preserve the on-structure turf.

### **Conclusion**

JHD wishes to assure the Parliament and the people of Australia that it is doing everything possible to comply with water restrictions in the short term and is committed to investigating all potential methods of reducing water demand. JHD has been pro-active in managing water consumption over a number of years—not just at this current time—and will continue to implement new initiatives as needed.

Restriction Level	ACTEW's Expected Reduction in Water Demand (%)	ACT Domestic Restrictions	Proposed Parliament House Restrictions	Impact of Restriction
1	15%	<ul style="list-style-type: none"> <li>• Garden sprinklers restricted to operate between 7.00pm and 7.00am, "odds and evens" system.</li> </ul>	<ul style="list-style-type: none"> <li>• Irrigation watering systems programmed to operate between 7.00pm and 7.00am only.</li> <li>• Reduce watering programs to turf, mulched gardens and peripheral landscape areas.</li> <li>• Internal courtyard fountains turned off and no cleaning of paved areas by hosing unless for OHS.</li> <li>• Window cleaning permitted only with recycling of water.</li> </ul>	<ul style="list-style-type: none"> <li>• Some reduction in turf quality.</li> <li>• Reduction in growth of trees and shrubs.</li> <li>• Deterioration in building appearance.</li> <li>• Courtyard amenity will be reduced, as fountains will not be operating.</li> <li>• Public display boards will be visible in public spaces explaining what Parliament House is doing to reduce water consumption.</li> </ul>
2	25%	<ul style="list-style-type: none"> <li>• Garden sprinklers restricted to operate between 7.00pm and 10.00pm, "odds and evens" system.</li> </ul>	<ul style="list-style-type: none"> <li>• Irrigation watering system permitted to operate from 11.00pm to 6.00am only.</li> <li>• Further reduce watering programs to turf, mulched gardens and peripheral landscape areas.</li> <li>• Survival watering only of turf in outer landscape areas (except sports field).</li> <li>• Internal courtyard fountains turned off and no cleaning of paved areas by hosing unless for OHS.</li> <li>• Window cleaning permitted only with recycling of water.</li> </ul>	<ul style="list-style-type: none"> <li>• There will be noticeable reduction in turf quality.</li> <li>• Some turf death and some plant losses in the garden beds and peripheral native zone.</li> <li>• The replanting program (currently 6000 plants per year) will be ceased.</li> <li>• Courtyard amenity will reduce as fountains will be inoperative and plants will show signs of stress.</li> </ul>

Restriction Level	ACTEW's Expected Reduction in Water Demand (%)	ACT Domestic Restrictions	Proposed Parliament House Restrictions	Impact of Restriction
3	40%	<ul style="list-style-type: none"> <li>No garden sprinklers permitted.</li> <li>Hand-held hoses are limited to use between 7.00pm to 10.00pm and 5am to 8am on alternate days.</li> </ul>	<ul style="list-style-type: none"> <li>Irrigation watering system permitted to operate from 12.00 midnight until 6.00am only.</li> <li>Watering programs reduced further.</li> <li>No irrigation of the 9 hectares of peripheral landscape and mulched garden beds.</li> <li>No floral displays.</li> <li>All water features turned off except for ceremonial functions.</li> <li>Water features not topped up for evaporation losses.</li> <li>Playing fields no longer irrigated.</li> <li>Continue education program to staff and visitors.</li> </ul>	<ul style="list-style-type: none"> <li>There will be a significant deterioration in plant and turf health including losses.</li> <li>Some significant plants in the outer landscape will be lost.</li> <li>Access to roof restricted.</li> <li>Considerable deterioration in sports oval which will be taken out of use.</li> <li>Courtyard amenity will reduce further.</li> </ul>
4	55%	<ul style="list-style-type: none"> <li>No garden sprinklers.</li> <li>Hand-held hoses limited to 7.00pm to 10.00pm and 5am to 8am on alternate days.</li> <li>Watering of lawns not permitted.</li> </ul>	<ul style="list-style-type: none"> <li>Irrigation watering system permitted to operate from 1.00am to 4.00am only.</li> <li>Watering programs reduced to survival watering only.</li> <li>No irrigation outside of Parliament Drive.</li> </ul>	<ul style="list-style-type: none"> <li>Deterioration of turf and plants in all areas.</li> <li>Significant turf losses and plant losses including trees in outer landscape.</li> <li>No access to roof.</li> </ul>
5	60%	<ul style="list-style-type: none"> <li>No garden sprinklers hoses or buckets to be used at any time.</li> <li>All garden watering to be with reuse water only.</li> </ul>	<ul style="list-style-type: none"> <li>Survival watering only of on-structure lawns to prevent large scale erosion and potential structural damage.</li> </ul>	<ul style="list-style-type: none"> <li>Massive turf and plant losses.</li> </ul>

**Note:** It is JHD's understanding, from discussions to date with the ACTEW Corporation, that only restricted Level 2 will be introduced this summer. If there are no significant spring rains in 2003, then further restrictions will be applied during the 2003-04 summer period.