NSW DEPARTMENT OF
PRIMARY INDUSTRIES

Irrigation Profile - Readers' Note

This document is part of a larger publication. The remaining parts and full version of the publication can be found at:

http://www.dpi.nsw.gov.au/agriculture/resources/water/irrigation/regions

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Sydney–South Coast Region Irrigation Profile

compiled by Meredith Hope and John O'Connor,
for the Water Use Efficiency Advisory Unit, Dubbo

The Water Use Efficiency Advisory Unit is a NSW Government joint initiative between NSW Agriculture and the Department of Sustainable Natural Resources.

This Irrigation Profile is one of a series for New South Wales catchments and regions. It was written and compiled by Meredith Hope, NSW Agriculture, for the Water Use Efficiency Advisory Unit, 37 Carrington Street, Dubbo, NSW, 2830, with assistance from John O'Connor (Resource Management Officer, Sydney-South Coast, NSW Agriculture).

ISBN 0 7347 1335 5 (individual)

ISBN 0 7347 1372 X (series)

(This reprint issued May 2003. First issued on the Internet in October 2001. Issued a second time on cd and on the Internet in November 2003)

job # 4179
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Maps: Udai Pradhan

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Acknowledgments:

Thanks to the Water Management Fund for providing financial support to undertake this work.

Thanks also to:

- the Water Analysis and Audit Branch, Sustainable Water Management, Department of Land and Water Conservation (DLWC), Parramatta; and
- the Licence Administration Branch, DLWC, Parramatta
- NSW Agriculture staff, especially Nick Austin; Eddie Parr; Steve Elliott; Len Banks; Bill Yiasoumi; John Gillett; Harry Kemp; and Udai Pradhan.

for their assistance in preparing this document.

1. EXECUTIVE SUMMARY

The *Sydney–South Coast Region Irrigation Profile* was developed from a study to obtain region and industry assessments of water use and water use efficiency. The Profile details (where possible, by water source) what is known about:

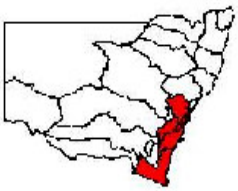
- the number of irrigators and the number of enterprises that irrigate
- the number of licences, the entitled volume or area authorised for irrigation
- the area irrigated and water used in total and by crop type
- irrigation methods
- irrigated crop yields
- the value of irrigated agriculture in the Sydney–South Coast Region

Irrigation data in the public domain were collected from State and Commonwealth sources, from published research and industry reports and from unpublished reports. These data were assigned a reliability rating using a system developed by the National Land and Water Resources Audit (1999).

Note: We do not attempt to interpret or infer water use efficiencies from the data collected in this Profile.

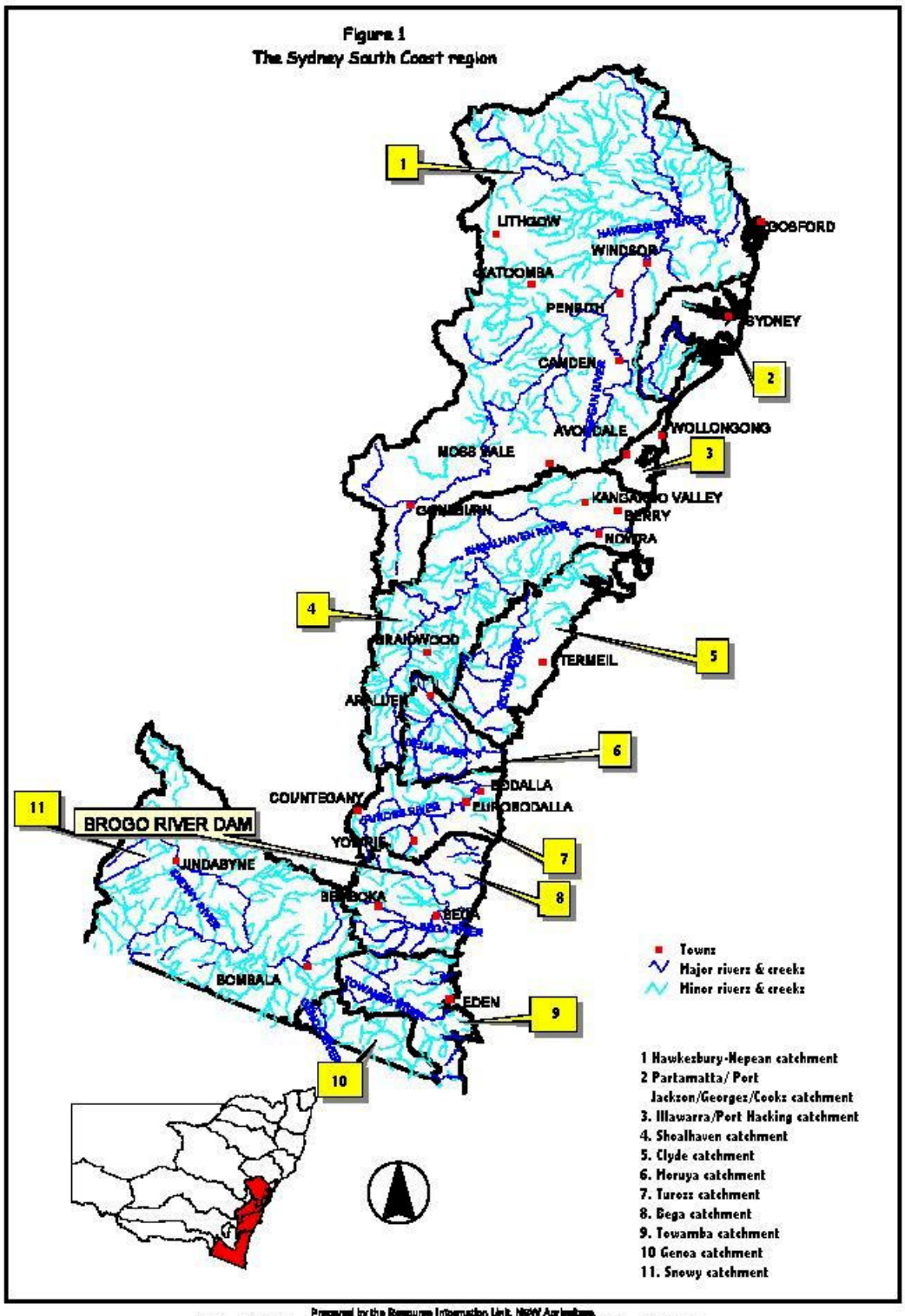
1.1 An overview of Sydney–South Coast Region irrigation

- The two main irrigation centres in Sydney and the South Coast are the Hawkesbury–Nepean and the Bega catchments. Pockets of irrigation are scattered along the coast between these centres.
- The area of land irrigated on individual farms is small compared with the rest of the State. Broadacre and dairy properties in the Sydney–South Coast Region irrigate, on average, 26 ha. Broadacre and dairy properties in the rest of the State irrigate 189 ha on average.
- In the Bega catchment the most important irrigated crop is irrigated pasture for dairy production. Pasture for dairy production, turf, vegetables, cut flowers and nurseries are important irrigated industries in the Hawkesbury–Nepean catchment.
- Of the total area irrigated in New South Wales, between 1% and 2% is in the Sydney–South Coast Region.
- Of the total number of licences in New South Wales with a purpose of irrigation, 12% are in the Sydney–South Coast Region.



- Of the total land area irrigated in the Sydney–South Coast Region, 70–80% is pasture.

Figure 1
The Sydney South Coast region



Prepared by the Resource Information Unit, NSW Agriculture.
Catchment boundaries from data provided by DLWC, topographic features from AUSLIG Topo 250K Gazetteer.
November 2000

1.2 Issues in the Sydney–South Coast Region

1.2.1 How many enterprises in this region are irrigating?

There was a large discrepancy in the estimates of the number of irrigation enterprises in the Sydney–South Coast Region. Sources report either 937 or 3,213 enterprises irrigating crops.

There are believed to be 1,000 additional enterprises irrigating in the Hawkesbury–Nepean catchment that do not have a licence. It is therefore difficult to provide a reliable estimate of the volumes of water being extracted for irrigation from the catchment. This issue is being addressed by the Department of Land and Water Conservation (DLWC) in the region.

There has been an apparent decline in the number of enterprises irrigating and the area irrigated between 1993–94 and 1996–97. There was no explanation for this decline other than that the responses may have varied depending on the composition of questions in the 1993–94 and 1996–97 survey forms. In 1996–97, information on the volume of water used on crops was sought for the first time by the Australian Bureau of Statistics (ABS). Many irrigators do not know how much water they apply and this question alone may have reduced the response rate for other irrigation questions.

1.2.2 What area is irrigated?

Someone unfamiliar with the vagaries of the ABS data-set may choose the wrong data-set when determining the total area irrigated.

In 1993–94, the 'total area irrigated' could be determined in two ways:

1. Irrigators were asked to estimate the area of land they irrigated.

   The total area irrigated could be derived by summing the data from these responses for each Statistical Local Area or SLA.

2. Irrigators were asked to estimate the area irrigated from different sources of water.

   Where a single patch of land is irrigated from more than one source of water, such as from groundwater and from unregulated supplies, an irrigator might have double-counted this patch of land when responding. This may cause the total area irrigated to be overestimated (table 1).

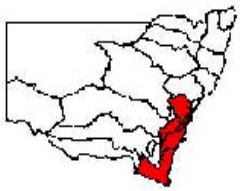


Table 1. Area irrigated from different sources of water as a percentage of the total area irrigated

	Surface	Town	Groundwater	Dam	Total
Area (ha)	23,721	550	1,904	6,983	23,251
% of total area irrigated	102%	2%	8%	30%	

Source: ABS 1998

Data from the volumetric conversion survey could not be reconciled with the ABS estimates of total area irrigated from all sources. The area irrigated as estimated from the volumetric conversion survey ranged from 91% to 171% of the area estimated by the ABS.

Table 2. Area irrigated from unregulated supplies as a percentage of the total area irrigated

	1993–94	1995–96	1996–97
Volumetric conversion data (ha)[a]	22,279	23,290	23,728
ABS total area irrigated (ha)[b]	24,351	13,634	15,188
	91%	171%	156%

Source: [a] DLWC 2000d [b] ABS 1998

1.2.3 Knowledge gaps

- There was a large discrepancy between the estimated value of irrigated agriculture in the Sydney–South Coast Region. The reported value was either $173 million or $727 million.
- There are no data on the total amount of water used by irrigated agriculture from all sources in the Sydney–South Coast Region.
- There are gaps in knowledge regarding irrigation methods, yields from irrigated crops and the amounts of water used by irrigation from regulated rivers, unregulated rivers, groundwater, farm dams and town water supplies in the region. There are hardly any records of the volumes of water used to irrigate crops from any source in the region. Data were last collected from farms irrigating crops using regulated supplies in 1990–91 from the Bega–Brogo river system.

1.3 Conclusion

A more comprehensive and consistent approach to the collection of irrigation statistics is needed. Such an approach would help to ensure that data are comparable across different water sources and industries. Protocols for the collection, management and distribution of irrigation data are required to ensure that data are accurate and reliable. This comprehensive approach can only be developed with the full involvement and support of the many agencies and irrigator groups that require these data.