

SUMMARY Cudgen Lake :

1. NSW Dept of Land and Water Conservation Stressed Rivers Assessment Report 1998 identified Cudgen lake as having "high conservation value." Cudgen Lake was once a renowned nurser for fish and prawns. However, the biological values of the lake have been severely affected by recurring water quality problems to an extent that Byron Environment Centre (n.d.) considered the lake "effectively sterilised by acid sulphate effluent for several years". Following massive drainage developments in the late 1980's, major fish kills occurred in August 1988 when intense rains followed a prolonged dry period. In 1991 heavy rain in the catchment released large volumes of acid discharge, resulting in the acidification of Cudgen Lake and Cudgen Creek, causing extensive prawn and fish kills. NPWS (1997) considered that until the water quality of Cudgen Lake is restored, it is unlikely that the lake will provide useful fish breeding habitat. Another major fish kill occurred on 18 August 1998 (Tunks, M., pers. comm.). Subsequent investigations revealed that about 45 000 fish had been killed (SMH 1998).

2. Cudgen Lake catchment is considered an area of "Hotspot" ASS (acid sulphate soils) on the Tweed Coast mapped by Tulau (1999)

The Cudgen Lake flood plain is one of 13 ASS hotspot priority areas identified by the NSW ASS management Advisory Committee.

3. The Cudgen Lake Catchment Rehabilitation Project was established in 1998 and involved the Australian National, University, the University of NSW, Tweed Shire Council, DLWC, NPWS, NSW Agriculture, ASSMAC and the Clothiers Creek Drainage Union. The project goal was to mitigate the impact of acid discharges from the catchment on the amenity of the lake.

4. Since 1999, Tweed Shire Council has been undertaking water quality testing in the Cudgen Estuary. Results were summarized as:

Based on the four year monthly monitoring program:

- water quality in the estuary is within a range where focused improvements in catchment management are likely to produce a measurable effect in meeting water quality objectives;
- faecal coliform counts indicate the lower estuary is almost always suitable for swimming, except after significant rainfall;
- the monthly monitoring appears to be insufficient to distinguish particular pollutants in wet weather events, such as the widely reported erosion of topsoil from Cudgen vegetable growing areas;
- agricultural and urban stormwater appear to be the dominant influence on pollutant inputs to the estuary.

5. The Coastal Lakes Strategy (HRC, 2002) is an over-arching set of principles designed to improve the management of coastal lakes and their catchments. Principles of the Coastal Lakes Strategy are summarised as:

- Each coastal lake and its catchment are to be managed as a whole system, treated as assets, are to address the unique characteristics and interrelationships of ecosystems, and must provide for adaptive management.
- Management plans are to be sufficiently clear to create explicit obligations on the responsible public authorities.
- The responsible public authorities are to be accountable for the condition of coastal lakes at the conclusion of each cycle of planning, action and assessment.

6. Tweed Coast Estuaries Management Plan 2004-2008 was developed to manage Cudgen, Cudgera and Mooball Creek catchments.

The Estuary Management Plan integrated the conclusions of the Review of Implementation of the 1997 Plan, a summary of documents, policies and significant developments around the estuaries since 1997, and the contributions of community members who attended the community consultation meetings. General strategies were proposed for the protection, maintenance, rehabilitation, and enhancement of environmental values including water quality, entrance management, recreational aspects, and catchment management.