NEWS & ACTIVITIES

Towards Improved Water Quality in Perth Wetlands Through Biomanipulation

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Biomanipulation is a technique for the improvement of water quality that utilises the natural fauna of the lake to remove offensive algal blooms. This is achieved by restructuring the food chain in favour of herbivorous species which eat the algal blooms. The method has generally proven very successful in shallow lakes. The benefits of using biomanipulation are that it is economical, environmentally sensitive, should reduce midge numbers (possibly to levels where control may prove unnecessary) and will improve the aesthetic appeal of the lake (important as it is a tourist attraction).

A PhD study examining the potential use of biomanipulation to improve water quality is currently being undertaken by Mark Lund, under the supervision of Dr Jenny Davis at Murdoch University. The study has concentrated on Lake Monger as it is a shallow, highly enriched lake, that throughout the summer months is subject to intense algal blooms. These blooms provide food for the large numbers of nuisance midges that annoy local residents living around the lake. To date a year long (Oct 1988 to Oct 1989) intensive study of the lake has been completed. Measures of physical, chemical and biotic parameters have provided a detailed pattern of the inter-relationships found in the lake components. The potential for biomanipulation appears to exist, as the lake in winter experiences an extensive clearwater phase (water quality dramatically improves). This phase appears to be tied to changes in temperature, plankton composition and fish abundance. To test the relationships found, a series of small scale (enclosure) experiments will be undertaken in the lake. These experiments should reveal whether biomanipulation is feasible and the strategies required for a successful biomanipulation of Lake Monger and possibly other Perth wetlands.

To date the project has been supported by a Murdoch University Special Research Grant, but outside funding is now being sought for the remainder of the project. ✿

Farmlands Reticulation Feasibility Study

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The Goldfields and Agricultural Water Supply Scheme and the Great Southern Towns Water Supply Scheme were completed in the 1970s. These schemes were constructed under a joint Commonwealth/State funding arrangement.

Since the completion of these schemes there has been a growing demand in farming communities for the supply of piped water to areas excluded from the comprehensive schemes.

In 1988 the Minister for Water Resources initiated the Rural Water Strategy which aimed to provide a reliable supply of water to remote towns and communities. The only farms to benefit from these extensions were those fortunate enough to have property abutting the supply mains. A feature of this strategy was that community contributions, in both money and kind, were utilised in the execution of these works. Without community contributions these projects would not have been carried out.

The Western Australian Water Resources Council has reacted to public pressure and is now exploring ways to provide scheme water to water deficient farmland areas of the State.

With this objective Council has commissioned consultants to conduct a Farmlands Reticulation Feasibility Study.

The Study will be carried out in four phases, namely:

- With community involvement gather data on water requirements for farms in the study areas;
- Evaluation of Water Authority costs for existing Country Water Supply Schemes and attitude to continuation of existing subsidies and their extension to new schemes;
- Determine the notional costs and reticulation costs for the study areas;
- Consultation with farmers to ascertain their willingness and ability to finance a scheme on the basis of the cost determined in phase 3.

Two areas have been selected for the study. One in the North East