THROMBOLITE (STROMATOLITE-LIKE MICROBIOLITE) COMMUNITY OF A COASTAL BRACKISH LAKE (Lake Clifton) RECOVERY TEAM

Lake Clifton taken from the east side of the lake, August 2006

Photo: Jill Pryde

ANNUAL REPORT
2006

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Summary

This report summarises work carried out during 2006 calendar year on behalf of the Lake Clifton Thrombolite Community Recovery Team.

Interim Recovery Plan No. 153 *Thrombolite (Stromatolite-like Microbialite) Community of a Coastal Brackish Lake (Lake Clifton) 2004-2009* by Robyn Luu, David Mitchell and John Blyth was endorsed by Director of Nature Conservation in June 2004.

Recovery Team

The aim of the Lake Clifton Thrombolites Recovery Team is to oversee the implementation of recovery actions as listed in the interim recovery plan. The team is structured to allow for the encouragement, promotion and participation of associated groups in the protection of the thrombolites community. Private landowners, community groups, community catchment groups, local government authorities and other government agencies assist the team in achievement of its goals.

Current members of the team are:

David Mitchell (Chair)	Leader Nature Conservation, DEC, Swan Region Program
Jill Pryde	Ecologist, DEC Species & Communities Branch
Jim Lane	Principal Research Scientist, DEC Science Division, Busselton
Steve Dutton	Senior Ranger, DEC, Yalgorup National Park
Dr Brenton Knott	University of Western Australia
	Department of Environment, Mandurah (replacing Adian Parker)
Fiona O'Connor	Coordinator, Lake Clifton Landcare Group
Jane O'Malley	City of Mandurah
Anthony Barr	CSIRO

The Recovery Team met in July 2006. The formal meeting was preceded by a visit to Lake Clifton. Members met at the boardwalk and walked a short distance on the eastern shore of the lake. Issues discussed included the potential to remove or reduce introduced bream in the lake, water quality, interpretive signage, and inspection of and discussion about the buffer vegetation for the lake.

Valuable input was also provided by guests at the Team meeting including Anas Ghadouani, University of Western Australia who is seeking an ARC grant application for studies of Lake Clifton and Michael Smith, doing an Honours project on Yalgorup Lakes, University of Western Australia and Lisa Wray, Community Landcare Officer, City of Mandurah

Interim Recovery Plan

Interim Recovery Plan No. 153 *Thrombolite (Stromatolite-like Microbialite) Community of a Coastal Brackish Lake (Lake Clifton) 2004-2009* by Robyn Luu, David Mitchell and John Blyth was endorsed by Director of Nature Conservation in June 2004.

Salinity/hydrological changes

Waters of Lake Clifton are now more saline than in the mid 1980s (Journal of the WA Royal Society 2000). DEC's monitoring of salinity and water depth at Lake Clifton has been ongoing since 1985 and has been overseen by Jim Lane. It is not clear what affect the increasing salinity will have on the thrombolites but it is thought that the original microbes may not be able to survive this change in salinity and therefore a change may

occur in the assemblage. Dr Brenton Knott (University of Western Australia) published his conclusions with supporting data gathered by Jim Lane.

Given the very high conservation value of Lake Clifton the Team agreed that it was important to focus on examining the causes of the increased salinity in Lake Clifton. The Team agreed that a number of actions would be put in place should funding become available. A monitoring program based on Linda Moore's draft monitoring protocol for Lake Clifton was proposed. This includes measuring microbial assemblages, measuring freshwater input (nested piezometers), and reinstating the Department of Water's regional groundwater monitoring along the eastern shores of Lake Clifton.

Thrombolite monitoring

The Recovery Team has continued to seek funds to enable the implementation of the monitoring program.

Recovery Actions

Recovery actions that are progressing include:

The construction of a boardwalk	Completed
Weed control	Ongoing
Regular monitoring of water quality and levels	Ongoing
Monitoring the general health of the microbialite community	Costed program completed
Ensue relevant authorities, landowners and DEC's personnel are aware of the presence of the thrombolite community and the need to protect the TEC	Land use survey conducted by City of Mandurah completed in 2005
Promoting research that assists in the recovery of the TEC	A number of projects have been identified that would be beneficial for furthering knowledge

Implementation of three more actions considered high priority will be considered at a future meeting of the recovery team, including:

- Mapping critical habitat
- Clarify condition and extent of community
- Mapping vegetation buffer