

## WEED CONTROL ON LAKE KUNUNURRA

### HISTORY

Lake Kununurra was formed in 1963 with the building of the Kununurra Diversion Dam. Its initial role was to supply a hydraulic head for irrigation but since then it has also developed high conservation, recreational and commercial values.

In 1991 the lake was gazetted as a Ramsar site along with Lake

Argyle in recognition of its importance as a migratory bird habitat or stop over point.

Currently the lake is an important recreational source for both locals and visitors with fishing, water skiing and pleasure cruises being the main activities. Several tour boat businesses operate on the lake either with powered boat day trips or canoeing and camping trips.



Figure 1: Lake Kununurra and spillway creek

### WEEDS OF LAKE KUNUNURRA

The lake and the river before the formation of the lake has had a long history of weed pressure. Before the damming of the river weed pressure would have come about largely as a result of cattle production activities. Once Lake Kununurra was formed and people started to utilise it the number and type of weeds rapidly grew.

In 2001 the East Kimberley Weeds Working Group identified 134 different species of weed on or around the lake. This included the aquatic weed salvinia, feral bananas and mangoes, grasses such as Johnson grass, woody weeds like neem and parkinsonia and several types of vine.

Despite the large numbers of weed species present their impacts on the environment is varied. Close to the community centres of

Kununurra, Crossing Falls and Maxwell Plain large populations of weeds such as leucaena, neem, hyptis and parkinsonia are entrenched. These infestations are significantly impacting on native vegetation in the area. However beyond the community of Geboowami and the barrier hills to its immediate south weed pressure and associated impacts drop away significantly for the remaining 36 kilometres of waterway and associated catchment.

### CURRENT WEED CONTROL

Since 2003 Ord Land and Water has been controlling weeds on the lake. Currently work is being carried out on nine sites totaling 1400 ha in an area between Maxwell Creek and Coolimon Creek.

Weeds targeted on these sites are ones that could potentially displace

large areas of riparian flora but are not yet beyond control. They are listed in the table on the right.



Due to the isolation of the area many of the sites are only accessible by

boat and by walking. As the

riparian vegetation is only relatively narrow most of the weeds targeted are within a hundred metres of the water's edge.

Many weed infestations are situated in places associated with both past and present human activity. Herbie's hide-away and other small creeks that are popular walking trails are good examples of where weeds are currently present.

#### Weeds targeted

- Neem
- Leucaena
- Moringa
- Date palm
- Poinciana
- Carpentaria
- Pawpaw
- Banana
- Mango
- Coral vine
- Salvinia

### FURTHER INFORMATION

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## WEEDS CONTROLLED ON LAKE KUNUNURRA

### SALVINIA

Is a major aquatic pest of northern Australian waterways and if not controlled would have a major impact on activities on Lake Kununurra and the native plants, fish and animals that live in the lake.



*Fig 3: Salvinia sitting amongst native cumbungi*

It was first found in Lily Creek in May 2000 and control work began immediately with the hope of eventually eradicating it. A number of Government and community organisation partnerships have been involved in the work.

Between 2004 and 2007 three groyne have been built and one heavily infested area in-filled with soil. Currently the affected area is segregated from the rest of the lake by a series of booms and is regularly monitored. Any small plants that appear are immediately removed.

### NEEM—LEUCAENA

Neem is widespread along the shoreline from Geboowami downstream to Kununurra while leucaena can be found in pockets along the length of the lake.



*Fig 4: A stand of leucaena on Coolimon Creek*

Both weeds are capable of creating monocultures on the lake's foreshore exposing the soil to the impacts of erosion by excluding understorey plants. Neem is a significant problem as its spread rapidly by birds whilst leucaena seems to be spread mainly by water flows initially and feral cattle and self seeding once the plant becomes established in an area.

### FRUIT TREES

Bananas, mangoes, date palm and paw-paw were deliberately planted along a number of steams running into the lake many years ago.

Whilst they do not pose an immediate threat to the environment as a weed they are a risk to commercially

grown crops in the Ord River Irrigation Area. With the possibility of incursions by exotic pests or diseases into the area these unmanaged plants are seen as a biosecurity threat to the local agricultural industry. For this reason these 'feral' plants are being removed.



*Fig 5: Feral bananas being removed*

### GARDEN PLANTS

A number of garden plants have also being deliberately planted alongside the fruit trees. poinciana, coral vine, moringa and carpentaria palms can all be found on creeks and the lake's foreshore. Some represent a very low risk to the environment while others such as coral vine and moringa pose a significant threat.



*Fig 6: Carpentaria palms on a creek line.*

Coral vine has only being located in two places to date. One site was removed completely by a flood caused by TC Ingrid in 2005. The second site is currently being monitored and plants destroyed as they are found.

Moringa, or horseradish tree had only been found at one site on Coolimon Creek until July of 2007 where a similar sized site was found not far away from the initial find. Both sites have had all the mature trees destroyed and the sites are regularly monitored for regrowth.