

# Lake McKenzie (Boorangoora) Photo Monitoring Project

## Objective:

*To establish photo monitoring sites at Lake McKenzie (Boorangoora) that can provide a visual assessment of the state of the lake beaches, patterns of usage and impacts of recreation on the vegetation and lunette.*

## History

**Lake McKenzie (Boorangoora) Beach:** In response to criticisms of the modifications to the beach at Lake McKenzie (Boorangoora) in 2010, the QPWS invited the Fraser Island Natural Integrity Alliance to set up a monitoring project on the impacts of recreational use of the lake's beaches as a basis for future management and decisions relating to the lake.

Laura Simmons and Yoko Shimazu, doctoral students at the University of the Sunshine Coast prepared a monitoring plan that was submitted to FINIA and at the FINIA meeting in October 2012 it was agreed that the Fraser Island Defenders Organisation would install the monitoring stations as part of its next scheduled working bee on fi in the week 25 November to 1 December 2012. The monitoring site and procedures were examined during a site inspection in October 2012.

## Methodology

### Photo monitoring of beaches at Lake McKenzie (Boorangoora)

1. In line with the recommendations of Simmons and Shimazu and following consultations four photo monitoring sites were established on the lunette to serve as a base for cameras utilizing established vegetation as natural central focal points for cameras.
2. Four (4) posts have been established. Three (3) will be focussed on recording visual changes sites on the main beach and the remaining one will record changes on part of the Second Beach.
3. To allow for the fact that different cameras may be used with different lenses and field of vision, it is proposed that each post will be located to focus on the base of a particular naturally occurring tree already established on the beach. This will avoid planting any artificial posts or pegs for this purpose. This will make for comparisons over time more practical.
4. The main monitoring site, to the right of the main stairs descending to the beach will be monitored from two angles, one from near the base of the stairs to compare with the photo below taken on 18<sup>th</sup> February 2011. The base of the melaleuca adjacent to the stump will be the centre of photos to be taken from the top of the lunette.

On 28<sup>th</sup> November the four poles were placed in their respective positions and GPS locations recorded.

Following that and a prolonged dry period in the latter half of 2012 there were a number of heavy downfalls that contributed to a rise in the level of the lake beginning with ex-cyclone Oswald at the end of January. Registrations at Eurong were:

December 2012 - 48.8mm

January 2013 - 418.8mm

February 2013 - 302.0mm

Early March 2013 - 100.4mm (prior to the monitoring readings)

## Monitoring Procedures:

It is proposed that any person can take photographs from the monitoring Posts using any camera but to be useful for comparative purposes it is important that:

1. The centre of each photo should be the same as shown in photos on this web page.
2. For the monitoring to be effective the following data needs to be recorded, the (Date, the time of the day and the day of the week. (Each influences the patterns of visitation to Lake McKenzie (Boorangoora)).
3. The photos do not need to be in high resolution and they can be Emailed to: [john@fido.org.au](mailto:john@fido.org.au) with a declaration that they may be placed on the web site with the owner's permission and whether the owner wishes to be acknowledged.

The first comparative photos were taken on 1<sup>st</sup> March 2013 when the water level in the lake had risen about a metre and being about 4.00 pm in the afternoon the lake was deserted.

This project is being carried out by FIDO



*The Watchdog of Fraser Island*

On behalf of FINIA



## Boorangoora #1.

**GPS Reference:** 25° 26.759' S 153° 03.075' E

Installed 28<sup>th</sup> November 2012. Approx 10.30 am when there a number of people were moving about the beach.

**Location:** This site was high on the lunette of the main beach near the head of a small sandblow to the west of the main stairs. It is able to sight up on the same focal point used for sighting from Boorangoora #2.

It s high and unobtrusive and in a blowout area of the lunette to be able to assess the human traffic in this bared area and if there are any adverse impacts on the site.

### Photos from the Monitoring site



Photo taken 28-11-2012 Note base of the Melaleuca



Photo taken 28-11-2012 Note base of the Melaleuca

## On 15<sup>th</sup> March 2013

In the intervening 15 weeks since the monitoring posts were installed the region experienced heavy rainfall, particularly from ex-cyclone Oswald and the water level in the lake rose approximately one metre shrinking the area of dry beach.



Photo taken 15<sup>th</sup> March 2013 showing pole location



Photo taken 15<sup>th</sup> March 2013 with same scene as left



Photo taken 15<sup>th</sup> March 2013 with same scene as left

The small marker melaleuca that was almost on the edge of the water is all but completely submerged.

## Boorangoora #2

**GPS Reference:** 25° 26.733' S 153° 03.088' E

This monitoring point on the main beach is located adjacent to the main set of steps going onto the beach from the commercial tour operators' area. It focuses on the base of a stump and Melaluca on the beach that featured in a photo taken in February 2011.



**This baseline photo was taken in February 2011**

**Note:** The base of the Melaluca featured in both photos



**This photo was taken in 28<sup>th</sup> November 2012**

**Note:** The base of the Melaluca featured in both photos



**This photo was taken in 28<sup>th</sup> November 2012**



**This photo was taken in 15<sup>th</sup> March, 2013**

The post that had been in the centre of the previous photo was shifted demonstrating the value of using more permanent features as the centre of focus.



**This photo was taken in 15<sup>th</sup> March, 2013**

The water was almost lapping the focal Melaluca.

### Boorangoora #3

GPS Reference: 25° 26.673' S 153° 03.116' E

This monitoring point on the main beach is located adjacent to the set of steps going onto the beach from the eastern end of the picnic area. It focuses on the twin Melaluucas on the beach that featured in a photo taken in February 2011 before the photo monitoring site had been established



**This baseline photo was taken in February 2011**

**Note:** The twin Melaluucas at the centre of this photo  
The post has been installed just a little closer to the lake but with a similar trajectory view.



**This photo was taken in 28 November 2012**

**Note:** The same two Melaluucas are featured in this photo as the photo taken 21 months earlier.



**Photo taken 28<sup>th</sup> November 2012 looking east**

The following two photos are focused on the same two sets of twin Melaluucas with their bases now submerged on 15<sup>th</sup> March 2013



**This photo taken of the same trees 15<sup>th</sup> March, 2013**



**This photo taken of the trees on left 15<sup>th</sup> March, 2013**

## Boorangoora #4

**GPS Reference:** 25° 26.595' S 153° 03.364' E

Located on the lunette of the "Second Beach" of Lake McKenzie (Boorangoora) this offers to monitor the impacts on a much less used site with a much more active lunette. The site is near the top of the lunette and focusses on a melaleucas clearly visible from the datum pole.

**The following photos were all taken on 28<sup>th</sup> November 2012 when the pole was installed**



**Scene A looking immediately down to the water 28/11/12**



**Photo B looking west along the beach 28/11/12**



**Top of the lunette immediately above the pole 28/11/12**

**The following photos were all taken on 15<sup>th</sup> March 2013 when lake was about a metre deeper.**



**Same view as Scene A taken on 15<sup>th</sup> March 2013**



**Scene B taken 15<sup>th</sup> March 2013**