

CoastAct: The Harley Park Project - Gold Coast -

August 2008

Introduction

In late 2003 CoastEd was approached by a local secondary school, AB Paterson College, to develop a long term investigative project at Harley Park, Labrador. The project provided an ideal situation where students could further develop their skills learnt in the classroom and encourage a sense of value and ownership for the area.

Harley Park, consisting of a natural swimming lagoon formed alongside the Broadwater and a park with associated amenities provided a suitable location for students to monitor the environmental characteristics related to biology, chemistry, physics and geography. Year 10 and 11 students have visited the site each term throughout the past four years to gather data. A key component of this project is the assessment of water quality and a survey of local users of the lagoon. As a final report, students present their data and provide recommendations regarding the management of the park.

The project aims to make a positive contribution to the students understanding of waterways and environmental systems through a 'real world' project. The project, now in its fourth year, has the potential to provide triggers to Gold Coast City Council regarding the status and management of the area from water quality to facility requirements.



History of Harley Park

The lagoon itself is a small section of the Broadwater that provides a calm area for swimming, which was traditionally utilised for swimming or bathing as early as the late 1800s. In 1996, Gold Coast City Council further developed the site to create a distinct natural swimming lagoon by creating a sand bund and placing a weir at the northern end to physically exclude the area from the Broadwater. This provides a distinct and well defined swimming area, thus protecting swimmers



from local boating activity. The lagoon flushes through the weir at each high tide to ensure the water quality is that of the surrounding Broadwater. The lagoon is an estuarine environment.

Previous to the inception of this project the community was surveyed during a student project (Griffith University) and several community concerns were established. These included the provision of adequate infrastructure for increased usage, the number of birds in the area and their interference with the public, siltation of the lagoon (e.g. the slimy feeling of the bottom), water quality and water temperature. These concerns provided a basis for the Harley Park Project. Gold Coast City Council's current management

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of the lagoon includes water quality testing in summer months, collection of litter and cleaning of the area, annual dredging inside the lagoon and reprofiling the sand bund and internal foreshore.



The Project

Over the past four years, year 10 and 11 science and geography students from AB Paterson College have participated in the Harley Park Project. The project included an extended field excursion to Harley Park each term (i.e. students visit the area four times per year) where students collected data regarding the local environment and community. The investigations were separated into four teaching areas: geography, biology, chemistry and physics. The project included field reports and a final evaluation and management report.

Geography

Geography students developed a survey to assess the local community in regards to demographics, visitor numbers, uses, values, needs and concerns. Results from the survey, provided not only visitor and user numbers but also an updated list of community concerns that can assist the local Council in the future management of the area.

Biology

The biology students assessed the physical characteristics and biological interactions at Harley Park. Activities included assessing flora, birdlife, invertebrates and plankton as well as undertaking water quality analysis.

Physics

Physics students were asked to assess the rate of infilling of the lagoon and relate this to the annual dredging regime. They assessed a range of options and with

guidance decided upon surveyor's equipment to assess any changes in the profile (bathymetry) of the lagoon.

Chemistry

Chemistry students undertook basic water quality analysis to assess the general health of the swimming lagoon. The following parameters were investigated: pH, dissolved oxygen, temperature, turbidity, salinity, clarity, nitrogen and phosphate. Investigations indicate that the general water quality was within healthy ranges expected for an estuarine environment. Students also discovered the relationships between season, water temperature and water depth and the relationship between dissolved oxygen and temperature.

Summary

The Harley Park Project was developed as an extended experimental investigation to provide a series of tasks allowing students to further develop their classroom learnt skills. Students from AB Paterson College have monitored the park and swimming lagoon area for a period of four years with assessments of the community and facilities, water quality, sediment profile and biological systems. Students have taken a significant role in the organisation and development of the project thereby instilling a sense of ownership and community value.



Contact Information

For any further information on Harley Park or to book at CoastEd session on this topic please contact GCCM on (07) 5552 8506 or email us at gccm@griffith.edu.au.