

## GOLD COAST DIVE ATTRACTION SITE INVESTIGATION

The overall aim of the Gold Coast Dive Attraction [GCDA] project is to identify and investigate opportunities to grow the dive tourism market on the Gold Coast. The purpose of this project was to confirm the suitability of the two preferred locations.

- North sites – Main Beach (south of Gold Coast Seaway), water depth ~18m or ~30m
- South site – Tugun (north of Tweed River entrance), water depth ~30m

### Bathymetric & Side Scan Survey

Survey was undertaken to confirm depths within the target areas and identify if any rocky outcrops or other features were evident within the nominated exclusion zone. The survey was undertaken using a Ceescope 200 dual frequency echo sounder coupled with a Leica RTK Receiver and a Starfish 450F seabed imaging system.

### Dive Inspection

Dive inspection included visual observation of seabed characteristics along selected transects, assessment of identified features to determine the potential for impacts on any existing natural reefs and collection of grab samples of sediment.

### Site Monitoring

Continuous data collection was undertaken over a 12 month period at both sites. This included deployment and maintenance of a number of instruments to measure:

- Turbidity 10m above seabed (RBR Turbidity sensor)
- Current velocity and direction and water depth (Flow Quest ADCP)
- Temperature (Thermistor string)

The turbidity sensor was calibrated using a combination of diver assessment of visibility and secchi disk measurement.

Data was analysed to determine the expected number of “diveable” days above developed thresholds for:

- site accessibility (wind and waves),
- diver safety (waves and currents), and
- expected diver experience (visibility and temperature).

The data was further analysed to determine underlying relationships between diver visibility and other datasets, including rainfall, wind strength and direction, wave height and direction, temperature and currents. A Generalised Additive Model was developed that accounted for ~80% of the variability in the data.

### Date

June 2011 – Nov 2013

### Location

Gold Coast, Australia

### Client

City of Gold Coast

### Contact

Frances Cream

### Project Partners

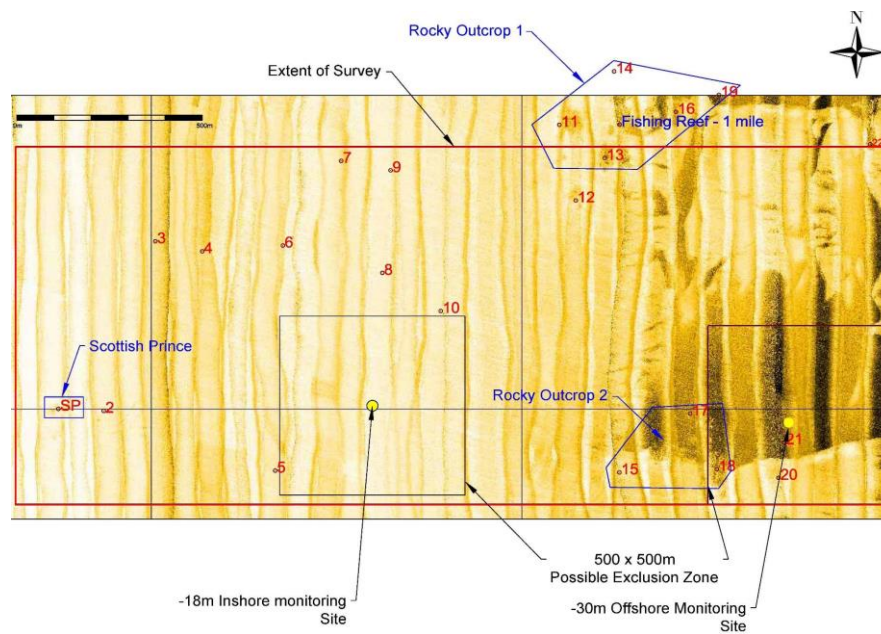
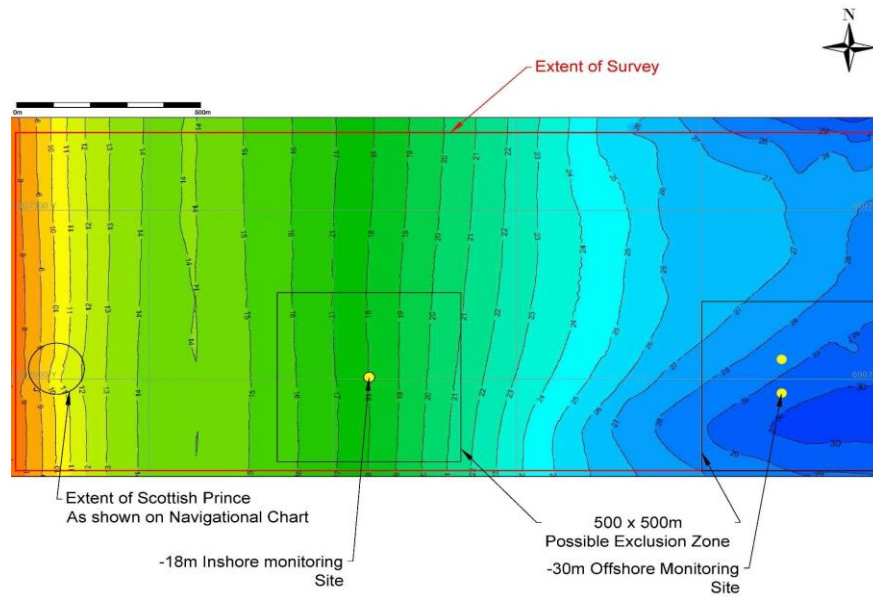
- Griffith Centre for Coastal Management
- Diving the Gold Coast with Ian Banks
- Marine Civil Contractors

### Overall Project Value

\$1.6M

### ICM Scope

- Bathymetric Survey
- Side Scan Survey
- Dive Inspection
- Data Collection [12 months]
- Data Analysis
- Suitability Assessment



GCDA – Bathymetric Survey & Side Scan Survey [North site]



GCDA – Monitoring Instruments



GCDA - Dive inspections