

Data

What are data and why are they needed?

Data are facts and figures generated from measurements or observations which may be oral, written or pictures. From data all deductions and observations are made.

Think about any aspect of your daily life. What you do is dependent upon information you have gathered or been given by others. Your decisions take into account the information you have available. If we do not have data or information, our decisions or actions are based on guess work and tend to be random in nature – ‘hit and miss’!

There are two basic types of data, both of which are equally important:

Quantitative data – these are data which are actual measurements. They are not an opinion. People producing quantitative data should always be in agreement, there is no scope for judgment. Examples of quantitative data are

- a. “5 kina, 1 rori, 3 crabs”
- b. the date and time
- c. exact location using Global Positioning System or other methods
- d. specific weather measurements such as rainfall.

Qualitative data – this is the information that you see, smell, feel etc. In qualitative data there is some subjectivity. Some people may record the data slightly differently.

Examples of qualitative data are

- a. “the water in the pools smelt like rotten cabbage”
- b. “there was a lot of sand in the water”
- c. general comments regarding the historic information of a coastline
- d. general substrate description

What are data used for?

Data can be manipulated and analysed in many ways and can be used to give an overall pictures of a situation, and can be used to compare things more simply.

Depending on the nature of the data, comparisons can be made spatially or temporally. Spatial comparisons are ones where data from one place or area is compared with information or data from another place or area along the coast. Temporal comparisons are made between data gathered at one place on a number of occasions or points in time, which may be minutes, hours, days or years apart.

Important things to know about the data for your survey

For all data, it is important to be sure of the following:

- a. data quality
- b. data relevance
- c. knowing what is raw data
- d. knowing what is derived data.

All data are important

Record any observation and interesting fact, particularly if you are consistent in what you record and how.

Data sheets should be formatted to assist in ensuring:

- a. a consistent approach to data gathering which will assist in quality
- b. observations of a general or specific nature to be recorded
- c. raw data is kept in a systematic way
- d. allowing derived data to be generated easily.

Be consistent

If you are working in pairs or in a team, having the same pair/team for the whole survey, and the same recorder of the data, means that there is less chance for one person to record things differently from another, and therefore make comparison of the data possible.

Check and re-check

We need to know that all the data that eventually makes its way into the final report is accurate. Every now and then on the shore, each team member should check that the other is still measuring and describing the same things, or is writing down the same things, in the same way as for the previous day or few hours.

Repeatability

If you are working in pairs, taking turns at doing the survey or recording, then every now and then have each person do the same area (ie. do it twice). If you get the opportunity, go back to a place you have surveyed earlier in the day and do it again, and try to make sure that the results are as similar as possible noting and recording in the same way.

Data analysis

Raw data can be analysed in many ways. Generally with the type of data you will get from a coastal kiamoana survey you will be looking to take all of the raw data and simplify it in some way – this could be, for example, by using statistics to be able to make decisions about what is important and what is not.

Presentation

There are many excellent yet simple ways to present data so that everyone can understand what is being portrayed – graphs are good for showing trends over time; pie-charts are good for showing what proportions of which animals occur at any particular site; and plotting numbers and symbols on maps is an excellent way of easily showing what is where and in what numbers.

As with data collection, right at the start of the survey you need to have a clear idea of what you want to look at, who your audience is, and therefore how you will tell them what you want to say in a clear manner – vast tables of raw data mean a lot to a scientist, but not to many others who would perhaps prefer symbols and numbers on a map.

DRAFT

Title: Proposed Coastal Marine Survey – Waiongana to Mimi

Objectives:

- To provide a summary review or stocktake of coastal information for the tangata whenua and local community.
- To undertake in 2000/2001, a coastal marine biological survey.
 - building on previous work
 - including in the survey, key kaimoana source areas.
- To make information on survey readily available to the tangata whenua and the local community.
- Involve tangata whenua and the local community in specification and undertaking of survey where possible.
- For Fletcher Challenge Energy to contribute to the community understanding of, and knowledge of, the biological status of the coastline.

Stocktake of existing information

1. Considerable scientific information with respect to the biological, oceanographic and physical nature of the coast between Waiongana and Mimi exists. Appropriate maps and photographs exist. Other information on fishing pressure, both recreational and commercial, consents, both to take and discharge water and wastewater is available. From this, we can readily draw a picture of the pressures on the coast, both coastal and on land.
2. It is proposed that, as the first part of this survey, this information be written-up in layman's language for ready assimilation for the tanga whenua and the local community. The tangata whenua should have a strong role in the focus of the reporting of this information ie. so that it presents the coast from their perspective.

Kaimoana

3. The Taranaki Regional Council has recognised that its existing information base on the biological resources of the coast is limited with respect to kaimoana. These kaimoana are recognised as one of the key assets on the coast for tangata whenua. It is proposed that, a second part of the survey would be that, during the low tides of January and February 2001, each hapu or iwi within the survey area would provide a team to be guided by a project co-ordinator and assisted by Fiona Putt of the Taranaki Regional council to map the local, extent and density of kaimoana beds. The resulting maps would be simply recorded on aerial photographs.

What we've got and why its special

4. The third part of the survey would provide commentary on the information gathered from the collation of data and the kaimoana survey. The commentary should address what we have got on the coast and why it's special and why it is in the condition it's in. The commentary should note if areas are already considered degraded or lessened by population pressure or pollution.

Management/Enhancement

5. The fourth part of the survey should give consideration to courses of positive action that might be taken with respect to the coast in question. In particular, the possibility of biological enhancement of the health of the existing eco-system and kaimoana in particular. This section should also give consideration to the possibility of marine farming in order to address harvesting pressures and degradation of habitat.

Reporting

6. All parts of the survey could then be wrapped up in a single report and appendices. Such a report might even be accompanied by visual images such as a short film or video of the project, its purpose and its findings. Whatever form the report takes, it must be information rich in a format and style that can be readily read, seen and understood by a broad range of people in the community.

Mechanics

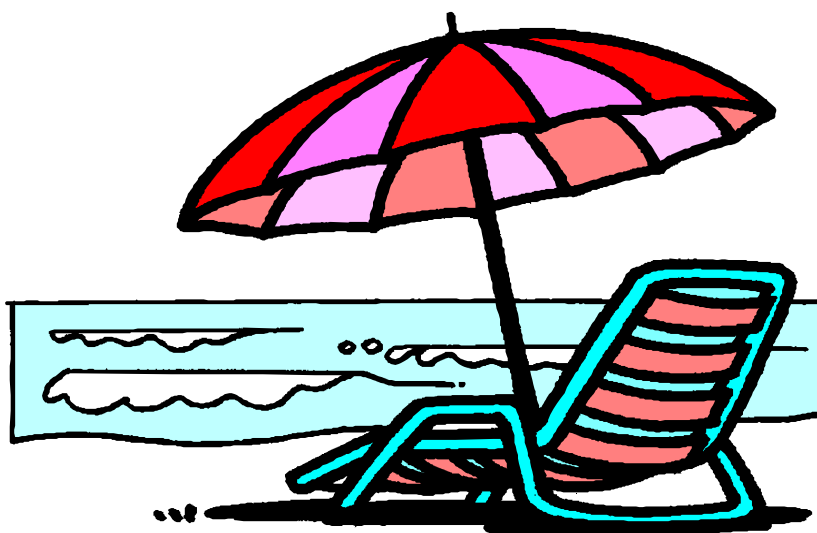
7. It is suggested that a suitable consultant, acceptable to the group, complete the first task of collation and write-up of existing information using common language.
8. The suggested kaimoana survey would require a coordinator and careful development of the method before planning the survey for the tides of 10-13 January and 7-11 February. These tides allow nine days for actual survey work that is essentially two days in each rohe with a day spare. The Taranaki Regional Council can assist, if required, to develop the method and record data during the survey. Considerable time would be required of the coordinator to ensure hapu/iwi field teams were organised and thoroughly briefed and to write up the information following the survey.
9. There could be advantages if the same consultant was retained and could facilitate and deliver the third and fourth parts of the package through discussion of the information gathered with the group. It may be that the information gathered and the process will generate increased interest such that all hapu and iwi are involved in the discussion that addresses the final parts of the survey and the final report.

Purpose of survey

11. The survey is a stockpile of assets and assessment of issues on the coast between Waiongana and Mimi. In particular, the survey should allow FCE to contribute to improving the community's understanding of the values and issues on that coastline. The survey has been designed such that tangata whenua have a determining role in the information gathered, the methods of survey and the reporting format. The survey is not designed as an ongoing investigative or monitoring commitment by any party. The results will, however, serve as a basis for improved collecting understanding of the effects of current pressures, the effects of any future development and the need for careful ongoing management and the possibility of enhanced opportunities for the coast.

SAFETY & ENVIRONMENT PLAN

COASTAL MARINE SURVEY



Completed by
Geoff Otene – Fletcher Challenge Energy
Tom Hunt – Otaraua Hapu Trust
Des Marsh – Ngati Rahiri Hapu

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1.0 INTRODUCTION

This Project Safety and Environment Plan defines the key safety and environmental activities (necessary to achieve FCE's safety and environmental objectives), assigns responsibility for these activities and monitors their completion. Among other things, it serves as a reminder to those responsible for performing safety & environmental activities. It does not detail the procedures for performing the various activities but it should reference those procedures.

2.0 DESCRIPTION OF THE WORK

A coastal marine survey will be carried out to determine the amount of kaimoana in specific locations along the coastline between Onatiki and the Mimi River.

The project has been set out in three phases:

Phase One

- To provide a layman's summary review of past surveys undertaken on the North Taranaki coast.

Phase Two

- To undertake a coastal marine biological survey that will include a stock take of existing resources with a kaimoana focus.

Phase Three

- Assess methods of maintenance, growth and implementation plans
- Make information available to tangata whenua and others in the community.
- Fletcher Challenge Energy to contribute to tangata whenua and the broader community understanding of, and knowledge of, the biological status of the coastline.
- To ensure that education is the basis of the project and that it is carried out in a way that will benefit the entire community

Because of sea tidal conditions, the field work will be carried out at two specific times Jan 10th to 13th and 7th to 11th Feb 2001. It is intended to have the final report completed by end March 2001.

3.0 EQUIPMENT

- Two vans and a trailer to transport personnel and equipment from location to location.
- One safety boat in case of personnel being washed out to sea.
- Clothing
 - Wet suit trousers
 - Wet suit booties
 - Fluorescent vests
 - Warm clothing.

4.0 PERSONNEL

There will be up to 12 personnel on location, roles and responsibilities are as follows.

4.1 Project Leaders (2)

- Ensure the S&E plan is adhered to at all times.
- Arrange for communication aids at appropriate times to meet the objectives of recording the surveying activity.
- Ensure all those involved in the field survey are briefed and have a clear understanding of their roles and responsibilities.
- Ensure all information is documented and reported to the technical standards advised by the marine biologist and to committee requirements as defined at the start of the project.
- Discuss the planned activities for the day with the field crew.
- Hold daily toolbox and Safety meetings to discuss safety issues.
- Identify new hazards and put in place the correct control measures.
- Hold additional toolbox meetings as deemed necessary.
- Supply daily summary reports to FCE.

4.2 Marine Biologist (1)

The Marine Biologist will assist the Project Leaders, field crew and the Consultant by giving technical support as required.

4.3 Consultant (1)

Phase One

- To provide a layman's summary review of past surveys undertaken on the North Taranaki coast.

Phase Three

- Summarise the findings from the field survey. Validity of these, degree of uncertainty.
- Relate the findings where possible/relevant to previous surveys
- Are there any discernible trends?
- Can the results be related to pressures in the area?
- Recommendations as to how to take this study forward.

4.4 Field Crew (8)

The field crew will work in pairs at all times during the collecting of information of kaimoana.

4.5 FCE Operations Safety and Environment Facilitator

Will assist the Project Leaders with safety and environmental issues, safety induction and required field staff training.

5.0 ORGANISATION

The organisation structure for this project is detailed in the item 12.

6.0 SAFETY AND ENVIRONMENT INDUCTION AND FIELD TRAINING

All field crew personnel who are to execute work on this project will undergo a brief FCE Safety and Environment induction this will be completed by the FCE Safety and Environment Facilitator.

Training for the field crew will be completed before beginning the fieldwork.

7.0 MEDICAL/FIRST AID/EMERGENCY RESPONSE

A full first aid kit and stretcher will be available and will be carried in the field van.

Mobile telephones will be on hand for contact with emergency services if required.

8.0 INCIDENT/ACCIDENT REPORTING

All, accidents or incidents, shall be reported immediately to the Project Leaders. The Project Leader with the FCE Operations Safety and Environment Facilitator will complete the required FCE incident reporting form.

In the event of a serious harm injury (as defined under the HSE Act 1992) the work site shall be immediately secured and the Project Leader advised.

9.0 PRIMARY HAZARD IDENTIFICATION

Hazard – Weather, heat, cold and exhaustion.

Control Measure – Sunhats, sunblocks, water supply, warm clothing, wetsuit to be worn at all times by field crew.

Field crew need to have reasonable level of fitness due to distance required to be covered and changing weather conditions.

Hazard – Slippery surfaces.

Control Measure – rubber sole footwear or wetsuit booties to be worn.

(Part 2 of Project)

Hazard – Diving in 1.5 metre water depths.

Control Measures – Working party to be located in close vicinity.
Three person teams - Diver, Scribe, Safety Observer.
Whistles to be on hand.
Fluorescent vests to be worn.
Safety rope to be on hand.

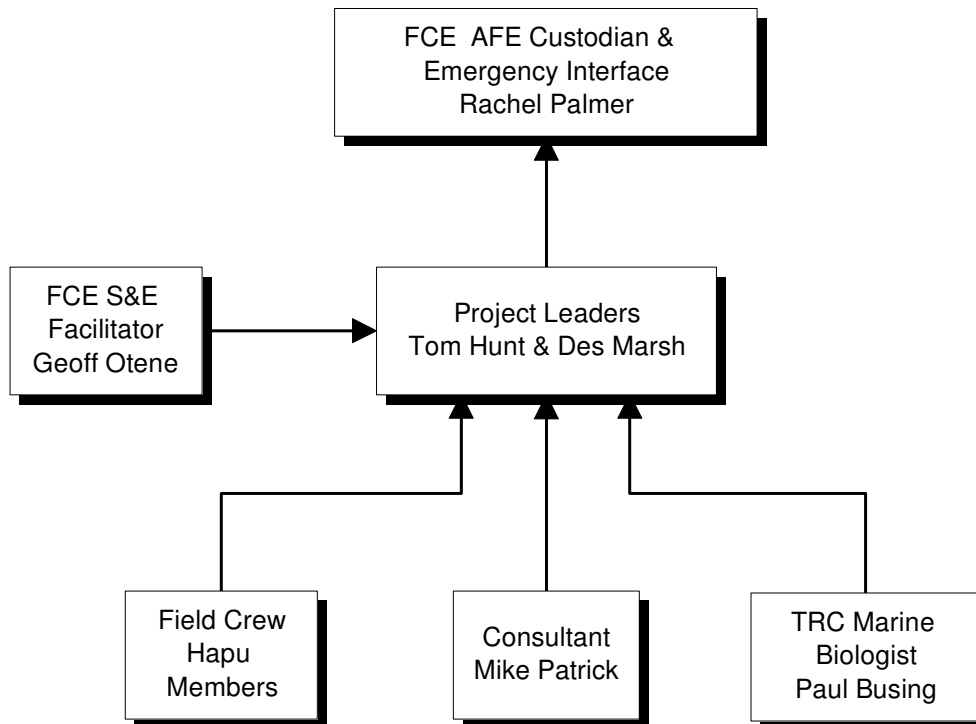
10.0 Environmental Issues

- 10.1 Disturbed rocks moved for counting of kaimoana will be replaced back to it's position.
- 10.2 The Project Leaders will complete notification for access to the shore via private landowners.
- 10.3 All rubbish generated will be removed at the end of each day.

11.0 Project Contact Numbers

Contact	Office	Mobile	Home
Tom Hunt	06 754 4634	021 544 868	06 754 7066
Des Marsh	06 758 4601	025 606 3482	06 754 7110
Geoff Otene	06 759 7612	025 424 268	06 753 6804
Rachel Palmer	06 7597685	025 460 145	06 751 4427

12.0 Project Organisation



Coastal Marine Survey Program

10th – 13th January 2001 – 7th – 11th February 2001

Background

On 26th October 2000 a hui of interested parties, a steering committee was established to address the planning and implementation of a Coastal Marine Survey between Onatiki and Mimi. The hui was hosted by FCE at the Plymouth Hotel and was attended by representatives from Otaraua Management Committee, Ngati Rahiri Hapu, Taranaki Regional Council, Fletcher Challenge Energy, Otaraua Hapu Trust.

Over the following three months the committee met several times to set out objectives and principles for the project. Des Marsh and Tom Hunt were appointed tasked with assisting in the development of the survey plan and ensuring it is properly implemented.

Survey Objectives

- To involve tangata whenua in specification and undertaking of survey where possible.
- To respect cultural sensitivity.
- To ensure that education is the basis of the project and that it is carried out in a way that it will benefit the entire community.
- Make information available to tangata whenua and others in the community.
- To enable Fletcher Challenge Energy to contribute to tangata whenua and the broader community understanding of, and knowledge of, the biological status of the coastline.

Phase One

- To provide a layman's summary review of past surveys undertaken on the North Taranaki coast.

Phase Two

- To undertake a coastal marine biological survey that will include a stock take of existing resources with a kaimoana focus.

Phase Three

- To produce a written and videographic record of the survey that will
 - make a comparative assessment of previous and current data
 - assess methods of maintenance, growth and implementation plans.

Coastal Marine Survey Program

Tuesday 9th January 2001

Date/Time	Location	Activity	Responsible	Dress/Eqpt	Other
1.00pm	Waitara Community Resource Centre (WCRC)	Project Briefing	Project Leaders FCE Safety rep	Normal	
2.30pm – 4.00pm	Lower Turangi Rd Reef	Practice survey activity	Project Leaders	Survey dress	Safety eqpt
4.00pm – 4.30pm	Waitara	Finish work			

Wednesday 10th January 2001

2.30pm – 10/01/01	WCRC	Tool box mtg Change into survey gear	Project Leaders FCE Safety rep	Normal	Check safety equipment
3.30pm – 6.30pm	Otira Tokatarata ra Tauranga Orapa	Carry out survey	Project leaders	Survey	Check comms
6.30pm – 7pm	WCRC	Change gear	Project leaders	Normal	Check equipment

Thursday 11th January 2001

3.30pm	WCRC	Tool Box Mtg Change into survey gear	Project leaders	Normal survey	Check Safety Equipment
4.30pm – 7.30pm	Taioma Te Puna Titirangi	Carry out survey	Project leaders	Survey	Check comms
7.30pm – 8pm	WCRC	Change gear	Project leaders	Normal	Check equipment

Friday 12th January 2001

4pm	WCRC	Tool Box Mtg Change into survey gear	Project leaders	Normal Survey	Check Safety Equipment
4.30pm – 7.30pm	Otaraua Rd Turangi Rd Buchanans Bay	Carry out survey	Project leaders	Survey	Check comms
7.30pm – 8pm	WCRC	Change gear	Project leaders	Normal	Check equipment

Saturday 13th January 2001

4.30pm	WCRC	Tool Box Mtg Change into survey gear	Project leaders	Normal survey	Check Safety Equipment
4.30pm – 8pm	Otaraua Rd Turangi Rd Buchanans Bay	Carry out survey	Project leaders	Survey	Check comms
7.30pm – 8pm	WCRC	Change gear	Project leaders	Normal	Check equipment

Content Requirements of a Safety and Environmental Project Plan

1.Introduction

The Project Safety and Environment Plan defines the key safety and environmental activities, assigns responsibility for these activities and monitors their completion. Among other things, it serves as a reminder to the project leader and the survey leader and a reference for everyone involved.

2.Project Description

This section briefly describes the main features of the project.

3.Summary

In this section the special safety and environmental requirements and significant hazards associated with the project are described briefly. Considerations should include:

- the physical/geographical environment
- the equipment being used
- tikanga and protocols on the beach and reefs
- lack of understanding of people involved
- any legal requirements.

4.Organisation

This section describes the organisation structure of the survey and clearly defines the responsibilities of all key personnel, including specific safety and environment responsibilities and reporting relationships to the project leader and authorities.

5.Personnel Competence

This section describes how personnel competence is addressed and specially defines the competence requirements of each person. Essentially, the safety of the project should be promoted by each team member at each stage in the process by:

- identifying and considering hazards that might occur and how they shall be managed
- interpreting and applying relevant standards and codes of practice
- applying sound judgement
- being aware of the criteria for safe surveying/monitoring.

The project manager should review the competence of all key personnel (survey leader) before assigning their duties on the project. Competence will be measured according to qualifications, experience and references. The survey leader should do likewise for all people involved in the survey. This should cover:

- competence to undertake the work
- competence to respond to emergency situations.

6. Induction

The purpose of this is to ensure that all involved in the survey are aware of what is expected of them regarding undertaking the work in a safe and environmentally sound manner.

7. Safety and Environmental Information

This section will list all the relevant safety and environmental information applicable to the project including Fletcher Challenge Energy provided safety data, criteria and resource consent conditions. Any project will comply with the relevant industry standard and codes and these will be listed in this section.

8. Hazard Assessment and Safety Activities

This section provides details of the specific safety and hazard assessment activities to be carried out during the project. This will generally be presented as a schedule of activities with clear assignment of responsibility for achieving the item at each stage of the project.

This includes:

- hazard identification;
- safety inspections of equipment and the physical environment
- safety reviews will consider the consequences of hazards, process upsets and other undesirable events, the likelihood of their occurrence and the ability of the survey team members being able to cope with them.

The purpose will be to establish that the risks inherent in undertaking the survey are as low as reasonably practicable and any residual risks have been consciously accepted.

9. Health and Environment

This section will describe the management practices to be used to address:

- weather conditions
- exposure or tiredness
- personal protective equipment
- environmental damage
- slips and trips
- barriers and signs.

10. Management of Change

As management of change can readily affect safety and the environment, this area requires particular attention. This section describes the process to be used on the project including the responsibilities of the survey leader should a change from the initial plans occur. It will cover:

- changes to schedules or practices already communicated
- changes to survey methods used
- changes to survey members.

11. Project Action List

It is useful to generate and document a project action list including:

- important action items

- items that are critical to the schedule
- items that require inputs from other parties
- corrective actions
- items that are critical to safety
- items that have changed and must be followed through.

This will ensure these activities are not overlooked during the project.

12.Incident Reporting and Investigation

This section will describe how you intend to report and deal with any incident which either has , or could have resulted in a person injuring themselves.

13.Emergency Planning

The written emergency plan that, on the basis of identified potential accidents during the survey, together with their consequences, describes how such accidents and their consequences should be handled.

POSITION DESCRIPTION

POSITION: Survey Leader, Coastal kaimoana Survey

JOB PURPOSE:

To provide the required survey planning and leadership to ensure a timely and effective outcome of the kaimoana survey in accordance with the objectives of, and in co-operation with, the Steering Committee.

To implement and oversee all field activities in a culturally appropriate manner.

To act as the focal point for the preparation of all documentation for presentation to the Steering Committee, up to the completion of the survey.

KEY RESULT AREAS:

Field Project

Provide effective planning and implementation as follows:

- Define survey scope and plan with marine biologist and input from hapu representatives on the committee.
- Produce a safety and environmental plan with input from committee members and hapu representatives.
- Ensure the safety and environmental plan is adhered to at all times.
- Ensure tikanga hui and tikanga moana is adhered to at all times.
- Arrange for communication aids at appropriate times to meet the objectives of recording the surveying activity
- Ensure all those involved (survey team) in the field survey are briefed and have a clear understanding of their roles and responsibilities.
- Attend all field trips.
- Co-ordinate all survey team members to ensure their responsibilities are met.
- Report to and liaise with the project leader and the Steering Committee.
- Ensure all information is documented and reported to the technical standards advised by the marine biologist and to committee requirements as defined at the start of the project.
- Ensure survey results are communicated effectively in a manner agreeable to the Steering Committee.
- Develop a fixed budget for the activity, with input from committee members as required.
- Manage the field project budget.
- Provide input to any broader communications plans, hui etc.

KEY RELATIONSHIPS:

- Steering Committee Members
- Project Leader
- Marine Biologist/Consultant
- Hapu and survey team members
- HSE advisor
- Photographer

SKILLS AND EXPERIENCE REQUIRED:

- Proven project leadership skills
- Ability to deliver results in a fixed timeframe
- Enthusiasm for the project
- First hand knowledge of hapu and maori tikanga
- Effective Communication
- Flexibility
- Problem solving
- Judgement
- Initiative
- Safety and environmental awareness and commitment
- Teamwork
- Knowledge, understanding and experience of budget allocation and accountabilities for the project
- Strong interpersonal skills, with particular emphasis on building effective working relationships.

DESIRABLE EXPERIENCE AND QUALIFICATIONS:

- Project planning experience, preferably in field survey type activity
- Knowledge and appreciation of relevant safety and environmental practice.