

**UC Santa Barbara Diving Safety Program** Project ID #  
***Research Dive Plan Proposal***

**Date Submitted:** 7-18-05

**Submitted By:** Katie Arkema

**Dates Proposed:** 7-05 to 11-05

**Dept:** EEMB/MSI

**Principal Investigator:** Katie Arkema

**Project Dive Manager:** Katie Arkema

**General Dive Site Location:** Mohawk Reef

**Proposed # of Dives per day/week:** 3 /3

**Max. and Average Dive Depths:** 30max,20ft ave **Min. Surface Interval Time:** 30min

**Estimated # of Research Divers:** 3 **Use of Undergraduates:** Yes No Maybe

**Mode:**

Open Circuit (SCUBA)  Closed Circuit  Hookah  Surface-Supplied

**Environment:**

Coastal  Island  Blue water  Oil Platform  Seeps  Ice/Polar  Altitude

**Dive Entry:**

Shore  UCSB Boat  other R/V:  Other:

**Breathing Gas:**

Air  Nitrox ( %O2)  Other:

**Air Compressor:** Is the compressor being used owned by the university.

Yes  No If No, then list owner:

**SCUBA Cylinders:** Hydrostatically tested within the past 5 yrs and visually inspected within 1 yr.

Yes  No

**Air Tools:** Will air tools (lift bag, vacuum, drill etc) be used for this project.

Yes  No

**Joint Diving Operations** (*Diving conducted jointly with other agencies/institutions*)

Yes  No If Yes, list agencies/institutions:

**Oxygen at Site:**

Yes  No

**First Aid at Site:**

Yes  No

**Dive Flag at Site:**

Yes  No

**Nearest Medical Treatment Facility to Dive Site:**

- Location: Cottage Hospital
- Telephone: 805 569 7210
- Transportation Method & Distance: 1 mile by boat, 5 miles by car.

**Nearest Recompression Treatment Facility to Dive Site:**

- Location: Camarillo Medical Center
- Telephone: 805 389 5944
- Transportation Method & Distance: 1 mile by boat, 47 miles by car

**Emergency Contact Numbers:**

- Local EMS telephone number - 911
- United States Coast Guard – Channel 16 on Marine VHF Radio
- **Diver's Alert Network (DAN): 1-919-684-8111 or 1-800-326-3822**
- **UCSB's Diving Safety Cell Phone: (805) 451-5099**

**Detailed Dive Plan:**

*(Describe sub-tidal techniques: add separate pages, diagrams and/or a copy of the proposal if necessary)*

I will be working on two projects at Mohawk Reef. The first is an experiment that consists of transplanting kelp blades to lines with buoys set up at the edge and the inside of the kelp forest. For this experiment, divers will be on SCUBA to attach blades to the lines in the mid water column. Snorkeling will be used to attach another set of blades to the lines at the surface. The blades will be on the lines for two weeks and then collected. During the two-week period, divers will take water samples at the surface and mid water column. Divers will also conduct 40m long plankton tows. The two-week long experiment will be conducted 3 times during summer and fall 2005.

The second project also takes place at Mohawk Reef. This project consists of water samples and plankton tows as in the first experiment. I will also be conducting benthic surveys. The sampling will require transect tapes and point contact methods. This project will run from August 22- Sept 12.

I have employed the methods needed for both projects before. None of the diving will be below 30 ft. The majority of the diving will be between 15 and 25 ft.

**List of sampling equipment and other tools not listed in dive plan:**

*(sampling equipment, compressor, air tools: drills, vacuum, lift bags, scooters, etc)*

Plankton nets, transect tapes, weights, sand anchors, nalgene water bottles

**Hazardous Conditions Anticipated:** *(cold water, currents, deep depths, low visibility, etc)*

The conditions at Mohawk reef are similar to most other coastal sites. The visibility is often poor and ranges from ~2ft-15ft. The temperature in the summer time is a little warmer than the rest of the year and ranges between 15-16 degrees celcius. The reef is low lying so we do not have to deal with walls or rapid changes in depth. The visibility is the biggest hazard and so divers work closely together so as not to become separated.

**Safety Precautions/Training:**

The first few times I work with a new diver I make sure we are diving together. I never have two new divers dive without me. We generally descend along the anchor line and kick into the forest together. I am very explicit about our dive plan and tasks for the dive so that there isn't any confusion underwater. I also explain that if we do get separated, they should go to the surface - ascending slowly using proper diving protocol and we will meet there. I ask divers that they notify me when they have 600 psi left and I make sure to ask them periodically throughout the dive what their air level is. I give new divers very little responsibility underwater so that I can observe their comfort level and they can concentrate on their diving techniques. We always return to the boat together.

### Expected Dive Team Members *(if known)*

**UCSB Research Diver:**

Name	Depth Certification
<b>1. Diver in Charge: Katie Arkema</b>	30ft
<b>2. Andrew Rassweiler</b>	60ft
<b>3. Alia Al-Humaidhi</b>	30ft
<b>4. Ben Doctor</b>	30ft
<b>5.</b>	Select Depth
<b>6.</b>	Select Depth
<b>7.</b>	Select Depth
<b>8.</b>	Select Depth

**Visiting Research Diver:** *(AAUS Reciprocity Form also required from Agency/Institution's DSO)*

Name	Agency/Institution	Depth Certification
<b>1. Jameal Samhour</b>	UCLA	60ft
<b>2.</b>		
<b>3.</b>		
<b>4.</b>		
<b>5.</b>		

### General Dive Plan Considerations

- Any diver has the right to refuse to dive without fear of penalty if s/he feels the conditions are unsafe or unfavorable **OR** the dive violates the precepts of their training **OR** the regulations of the UCSB Diving Safety Program. UCSB Dive Manual: <http://ehs.ucsb.edu/units/diving/dsp/html/dsm.html>
- All Dive plans **MUST** be based on the competency of the least experienced diver.
- An ascent rate of **30ft/min** and a precautionary stop at **15-20ft for 3-5min** should be made for each dive.
- Depth certification levels may be extended only to the next deepest certification level and only if the diver with the limiting depth certification level is buddied with a diver certified to the deeper depth level.
- For all diving conducted under hazardous conditions a plan must be formulated to deal with such conditions.
- All divers using dive computers to plan dives and indicate or determine decompression status will follow the AAUS recommended dive computer guidelines noted in the Dive Manual.
- Plan dives conservatively and maximize surface intervals.
- A diver should wait at least **24hrs** before flying or traveling to altitude (1000+ft) after any dive.
- An Emergency Plan should be reviewed for each project including the following: emergency contact information (including name, relation and telephone number may be available on Webdiver) for each diver, nearest recompression chamber, nearest accessible hospital and anticipated means of transportation.

## **Diving Accident Emergency Management Plan**

A diving accident victim is any person who has been breathing air underwater regardless of depth. It is essential that emergency procedures are pre-planned and that medical treatment is initiated as soon as possible. It is the responsibility of the "Diver-In-Charge" to develop procedures for such emergencies including evacuation and medical treatment for each dive location.

### **General Procedures:**

Depending on and according to the nature of the diving accident, stabilize the patient, administer 100% oxygen, and initiate the local Emergency Medical System (EMS) for transport to nearest medical facility. Explain the circumstances of the dive incident to the evacuation team, medics and physicians. Do NOT assume that they understand why 100% Oxygen may be required for the diving accident victim or that recompression treatment may be necessary.

- 1. Rescue victim and/or position so the proper procedures may be initiated.**
- 2. Establish (A)irway, (B)reathing and (C)irculation as required.**
- 3. Administer 100% oxygen, if appropriate (in cases of Decompression Illness or Near Drowning).**
- 4. Activate the local EMS for transport to the nearest appropriate medical facility. (the local EMS will vary from site to site – it must be stated in dive plan)**
- 5. Contact the Diver's Alert Network as deemed necessary.**
- 6. Contact Diving Safety Officer (DSO) and Emergency Contact Person, as deemed necessary.**
- 7. Complete and submit Incident Report Form (in manual) to DSO.**

### **Diver's Alert Network (DAN): 1-919-684-8111 or 1-800-326-3822**

- 24 hour medical advise—if necessary call collect and state "I have a Medical Emergency"—Use to locate closest recompression chamber or physician consultations. The emergency procedures for all dive sites in the Santa Barbara area are in the Oxygen Kits.

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