

Exhibit Diving

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South Carolina
Aquarium

South Carolina Aquarium Dive Operations

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It is the mission of the South Carolina Aquarium (SCA) Dive Team to provide excellence in animal care and husbandry, to actively support both the educational and conservation endeavors of the SCA, and to provide a memorable, positive guest experience to all those who visit our facility.

Training Schedule

- Power Point Presentation
- Quiz
- 2 Dives
 - > **Supervised by DSO's or Designee**

GOT Emergency Gear

- Emergency Oxygen
- First Aid Kit
- AED
- Stokes Basket
- Spine Board
- Radio
- Life Jackets
- Throw Ring
- Man Hook
- Ropes
- Emergency Dive Gear
 - > **Checked daily**
 - > **Both Tank Pressures should be 2500psi or greater**
 - > **BCD, regulator, fins, weight belt, mask**

Emergency Dive Alarms

- Emergency Alarms are checked before diving starts for the day (checked again for night dives)
 - > **Call Security on Channel 1 prior to testing alarms**
 - > **Audible alarms only at GOT.**
 - > **Audible and visual alarms in security**
 - > **Security should verbally confirm “ two good alarms”**
- 2 redundant alarms
 - > **Either Topside and In-Water activation**
 - > **Activation of this alarm signals Security to call 911 without hesitation. Please radio Security ASAP to alert them of exact details of the emergency**

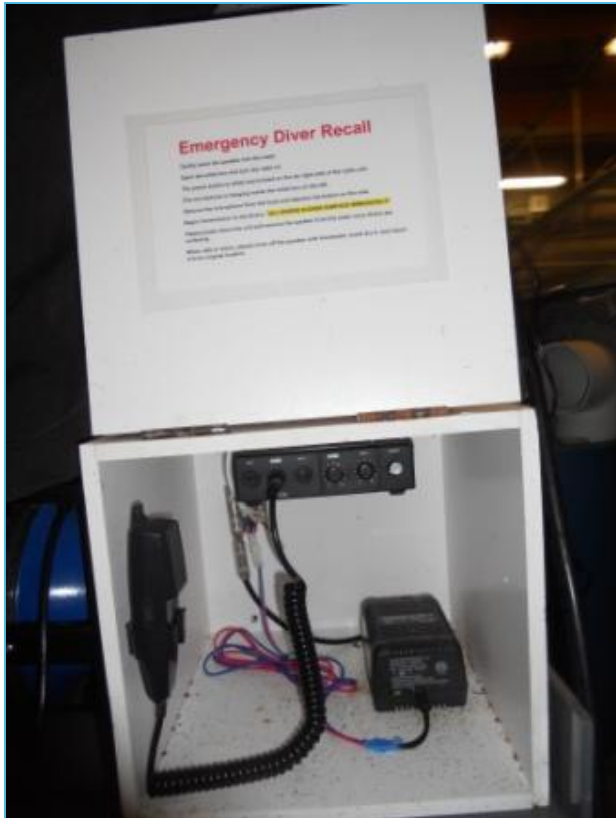
Diver Recall



- Gently lower the speaker into the water
- Open white box and turn radio on (make sure hands are dry)
- Remove microphone and depress button on side to begin transmission
- Do not adjust volume ... it is pre-set
- Keep transmission simple, i.e. *ALL DIVERS PLEASE SURFACE IMMEDIATELY*

Diver Recall

- Power down the unit
- Remove speaker from water once divers are surfacing
- As soon as cleared from the emergency rinse the speaker off in fresh water, air dry, and return to original location



Fire Alarms

- If the fire alarm sounds or if there is an announcement of a building evacuation proceed to the nearest fire exit stairway
- Do not use elevators
- If divers are in the water, surface support personnel will use the diver recall to notify divers to begin an immediate ascent
- If no surface support, the first diver exiting the water will use the diver recall for alerting
- Use the dry erase board dive log to confirm that all divers get out of the water
- Once on the surface divers will remove scuba gear, check out on the dry erase board, and exit the building

Logging Dives

- Dry Erase Dive Log Board
- Paper Log
- Computerized Individual Dive Log

Logging Dives - Dive Log Board

Posted PRIOR to Dive

- Name
- Tag #
- Surface Interval
- Buddy
- Task/Purpose
- PSI In (Main & RASS)
- Time In

Posted AFTER the Dive

- Time Out
- Bottom Time
- PSI Out (minimum 1000 psi required!)

Logging Dives – Paper Logs

- Information must be transferred from the Dive Log Board to the daily paper log
- Date & acting DPIC must be transferred onto paper log as well

Logging Dives – AAUS (computerized)

- Divers are required to maintain an individual computerized dive log.
- The computer outside the Dive Locker has the shortcut for this purpose
- Please go to sca.diveaaus.com/ to set up your profile on your first diving day
 - > **Username: firstnamelastname (ex. johnsmith)**
 - > **Password: scadiver**

Logging Dives – AAUS (computerized)

- Information from the paper log is used to log each dive in AAUS
- Do not enter dives until after diver exits the water
- **Decompression planning** is usually
 - Dive Computer: Sherwood
- **Purpose:** Commercial
 - (Your task: Presenter, Safety, Observation, Cleaning)
- **Specialized Environment:** Aquarium Diving
- **Comments:** Please use abbreviations for DSO Review

Logging Aquarium Dives by Purpose and Task

All dives logged in the GOT must have:

- Category 1 = single selection
- Category 2 = minimum of one purpose and associated defined tasks
- Category 3 is always selected except for Open Water Diving
- Category 4 & 5 = single selection

1) Qualification of Dive

Commercial

Scientific (Open Water Only)

2) Purpose

Animal Care

Cleaning Exhibit

Education

Safety Diver

Topside Tender (Solo GOT or Surface Supply)

Entertainment

Guest Diver

Standby Diver (Topside GOT or Solo Surface Supply)

Include Abbreviations in Comments Section

3) Specialized Environment

Aquarium Diving (excluding Open water)

4) Decompression Planning

Computer – Sherwood (GOT or Open Water)

Dive Table – Navy (Surface Supply Only)

5) Dive Mode

Scuba

Scuba w/ AGA

Surface Supply

Task

Mortality Recovery

Algae Removal Rockwork

Algae Removal Walls

Algae Removal Floor

Algae Removal Windows

Vacuum

Other

Presenter

Abbr.

Mort.

ARR

ARW

ARF

Windows

VAC

Presenter

Safety

Tender

STBY

- Logging “Cheatsheet” is posted above Diver Log Computer

Dive Gear

- Diver provides wetsuit, booties, gloves, hood and mask
- Personal wrist mount computers are allowed in addition to the Aquarium wrist mount Computers
- Diver also provides swimsuit and towel
- SCA provides everything else
 - > **Personal gear like regulators, BCD's, and fins are not allowed without prior approval of the DSO**

Disinfection / Cross Contamination

- Critical that all dive gear be disinfected properly to avoid contamination
- Any personal dive gear (wet suits, booties, cameras, etc.) must be disinfected before you enter the exhibit
- All gear, including personal gear, should be disinfected at the end of the diving day
- If personal gear is not used between aquarium visits, it can be considered clean

Disinfect Procedures

- BCDs, wetsuits, cameras will be disinfected by:
 - > **Place in disinfect bucket for 10 minute**
 - > **Place in freshwater and rinse**
 - > **BCDs should be rinsed inside using water hose adapter (please drain!)**
- Fill BCD with air and hang in storage room to dry

Disinfect – Regulators

- Insure that the first stage cap is in place prior to placing in water
- Rinse regulator in freshwater
- Remove and spray second stage with Birex
- Hang to dry for 10 minutes
- Rinse regulator in freshwater
- Drain 2nd stages of water
- Return regulator to gear closet.

Disinfect – Guardian FFM

- Rinse Guardian Full Face Mask (GFFM) in freshwater
- Spray microphone and inside of mask with Birex
- Hang to dry for 10 minutes
- Rinse GFFM in freshwater
- Drain all water from mask
- Return to gear closet

Disinfect – Hard Surfaces

- The following need to be rinsed in freshwater only for 10 minutes:
 - > **Cylinders**
 - > **Fins**
 - > **Weights**

Disinfect – Feeding Equipment

- All equipment used in feeding (buckets, tongs, trays, etc.) is to be disinfected in the designated feed disinfect bucket
- Place in disinfect for 10 minutes
- Clean food containers again in food prep
- Return to proper location in food prep

Problems with Dive Gear

- All broken gear (except tanks) should be given directly to Dive Ops to be tagged and **put on the floor of the compressor room.**
- A problem with a tank such as missing O-ring: tag tank and place on left slot in rack adjacent to the compressor

Diving Procedures

- Team of 4 is required to start a GOT Dive
 - > **DPIC**
 - > **Standby**
 - > **Safety Diver**
 - > **Task Diver**

DPIC — *topside role; in building*

- Dive Person in Charge
 - > **Staff member appointed by the Dive Safety Officer, for the day's diving operations**
 - > **Fully trained in SCA Dive Program**
 - > **Available in the building by Radio**
 - > **Responds to Dive Team's need and any emergencies**

Standby (Diver) - *topside role; at dive site*

- Qualified Diver
- Available at the actual dive site
- Watching bubbles & helping divers in and out of water
- Logging Dives on Whiteboard
- Able to respond in water to an emergency
 - > **Can be dressed & enter tank in street clothes w/ lifejacket**
- **Cannot** leave dive site to:
 - > **Fill Tanks**
 - > **Use hallway computer**
 - > **Use bathroom** (*Radio Dive Office for relief on Ch. 2*)

Safety Diver – *in water role*

- Every dive will have person assigned as safety diver for their task
- Dive task is focused on in-water safety
- Safety diver should be first in and last out
- Hover mid water towards the back of tank
- Signaling wrench needed
- Constantly looking at divers and animal interactions

Task Diver – *in water role*

- This is the diver:
 - > **Cleaning**
 - > **Presenting a Dive Show**
 - > **Observing Animals**
 - > **Interacting with guests**
- There can be multiple Tasks divers

Entry

- Use controlled seated entry only
- Check area for animals prior to entering
- Enter water gently to minimize stress on animals
- Signal OK
- Descend with Team



Animal Interaction

- Become familiar with the habits of certain fish and where they like to hide
- **Do not feed any animals while in the water**
- If you have to move an animal, use **ONLY** the closed backside of your hand to redirect
- **Petting the animals is prohibited**

Animal Interaction - Sharks

- We are in “their space”
- Sharks may occasionally bump into a diver
- Report any unusual shark behavior immediately to the DSO or husbandry
- Examples of unusual shark behavior:
 - > **Bumping**
 - > **Arched back**
 - > **Pectoral fins down**
 - > **Tight s-curve swimming**
 - > **Erratic change in swimming behavior**

Animal - Sick or Dead

- Notify DSO or husbandry as soon as possible. They will instruct you on what to do
- When reporting on the radio a dead or possibly dead fish in the exhibit use the term “FOB” – Fish On Bottom. Guests of the aquarium may be able to hear transmissions

Overhead Environments

- There are “caves” in the GOT that is considered an overhead environment
- Prior to a diver entering the caves another diver will be dedicated as a spotter until the diver exits the cave
- Any diver entering the cave should have a functioning dive light

Buddy System

- No solo diving is permitted in any exhibit without direct proper approval from the Dive Safety Officer



Safety Stop

- All dives in the GOT will include a safety stop during the ascent
- A safety stop will be a minimum of 3 minutes at a depth between 10 to 20 feet
- Maximum ascent rate of 30 feet per minute

Exit

- Be aware of any animal activity
- If wearing full face mask, remove it initially
- Remove weights
- Remove BCD
- Remove fins
- Insure all items that went into the exhibit have come out of exhibit

Closing Duties

- Dump all disinfect and rinse buckets
- Turn off and depressurize regulator on emergency dive gear
- Fill and store all tanks
- Insure that ALL logs have been completed (dive and feed)
- Clean and disinfect feeding buckets and return to food prep
- Clean and disinfect feed cart and return to outside of food prep
- Hose down the locker room and spray bleach solution on the floor. Squeegee dry.

Closing Duties (continued)

- Hose down and squeegee the floor around the GOT
- Ensure all safety lines and gates around GOT are secured
- Alert Security that all divers have exited the water (if not previously done)
- Return radios to charging stands
- Turn off all lights and lock all doors around GOT backup area

On Show

- Remember, you are always representing the aquarium!
- When in public view:
 - > **Wear proper uniform (including name tag)**
 - > **Do not talk or text on cell phones**
 - > **No food or drink in public areas**

Night Dives

- Infrequently night dives are scheduled in the GOT for special events or tank cleaning
- All actions required for routine dives will be completed to include checking emergency alarms, cleaning and disinfecting gear

Unable to Make Your Scheduled Dive

- If you are unable to work your assigned dive day use SCA Diver list server to try to find a replacement diver
 - > Send an email as soon as possible (multiple days in advance) to give other divers time to respond
- scadiver@scaquarium.org
- If you find that you will not be able to work on short notice, you must also call Security at 843 579-8507
 - > Calling in sick or any other last minute changes

When You Should Consider Not Diving

- If you have sinus issues
- If you have open cuts or abrasions
- If your doctor has recommended you not dive
- If you just don't feel "right"
- You can still come in and assist as Surface Support

Cameras

- Divers are required to ask permission for camera use from the DSO
- Use is supported, but there are some special considerations with lights and animal interaction that need to be discussed
- The aquarium also requests copies of any “good” photos for aquarium use.



**If you have any
questions please ask the
DSO or Team Leader**