



VOLUNTEER DIVER MANUAL

A resource for the volunteer diver program of the Pittsburgh Zoo and PPG Aquarium. Contains information on dive scheduling, exhibit protocols, dive safety & first response guidelines and application forms.

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Dear Volunteer Diver,

Thank you for taking the time to read through this manual. It is an invaluable tool, intended to be used as a resource throughout your participation with the dive program. Over time, we hope that you will familiarize yourself with our standards and help share and enforce this knowledge amongst our growing volunteer diver base.

Volunteer Divers Board of Directors,

**Pittsburgh Zoo & PPG Aquarium,
May 2010**

Contents

DIVING CONTROL BOARD 4
 Members 2010 4
 Dive Safety Officer 5
 VOLUNTEER DIVER JOB DESCRIPTION 5
 BASIC REQUIREMENTS FOR APPLICATION 6
 GENERAL SAFE DIVING GUIDELINES 6
 Lead Diver 7
 DIVER STATUS CLASSIFICATION 8
 Active Diver 8
 Non-Active Divers 8
 DIVE SCHEDULING PROTOCOLS 8
 GROUNDS FOR DIVER DISMISSAL/SUSPENSION 9
 BUILDING SAFETY AND ACCESS 9
 Safety and Access 9
 EMT Access to PPG Aquarium Dive Sites: 10
 DIVE SCHEDULES 11
 Diver Requirements 11
 Equipment Requirements 11
 EXHIBIT PROTOCOLS AND RULES 12
 General 12
 General Safety Notes 12
 Cleaning Exhibits 13
 Animal / Diver Interaction 13
 Post Dive Protocols 13
 Dive Cancellation 14
 EXHIBIT DIVER SAFETY PROTOCOL 14
 EMT Access 14
 EXHIBIT BREAK-DOWN 15
 Warm Water Dives 15
 Cold Water Exhibits 17
 FULL FACE MASK PROTOCOLS 19
 Donning the FFM 19
 Recommended care of the FFM 19
 Speaking while using the FFM 20
 Diving while wearing the FFM 20
 RADIO CODES 20
 EMERGENCY PROTOCOLS 21
 CHANGE OF STATUS NOTIFICATION 25
 DISMISSAL NOTICE 26



DIVING CONTROL BOARD

The Diving Control Board (DCB) has autonomous and absolute authority over the scientific diving program's operation including, but not limited to:

- Approving and monitoring diving projects.
- Reviewing and revising the diving safety manual.
- Assuring compliance with the manual.
- Taking disciplinary action for unsafe practices.
- Assuring adherence to the buddy system for scuba diving (a diver is accompanied by and is in continuous contact with another diver in the water and/or a surface tender).
- Acting as the official representative of the membership organization in matters concerning the scientific diving program.
- Acting as a board of appeal to consider diver-related problems.
- Recommending the issue, reissue, or the revocation of diving certifications.
- Recommending changes in policy and amendments to the organization's diving manual as the need arises.
- Establishing and/or approving training programs through which applicants for certification can satisfy the requirements of the organizations diving safety manual.
- Suspending diving programs which it considers to be unsafe or unwise.
- Establishing criteria for equipment selection and use.
- Recommending new equipment or techniques.
- Establishing and/or approving facilities for the inspection and maintenance of diving and associated equipment.
- Periodically reviewing the Diving Safety Officer's performance and program.
- Acting as a board of investigation to inquire into the nature and cause of diving accidents or violations of the organizations diving manual.

Members 2010

Dive Program Supervisor: Dwayne Biggs, PPG Aquarium Curator of Aquatic Life.

Dive Program Coordinator: Jenni Lewis; PPG Aquarium Aquarist.

Dive Program Coordinator & DSO: Ashley Kidd; PADI Instructor, PPG Aquarium Aquarist.

Dive Safety Officer: Mike Nadler; NAUI Instructor, Owner of Divehards International.

Dive Medical Officer: Kevin O'Toole; MD.

Allen Mc Dowell; PPG Aquarium Assistant Curator of Aquatic Life.

Paul Moylett; PPG Aquarium Manager of Marine Mammal Training and Enrichment.

Dive Safety Officer

The Dive Safety Officer (DSO) serves as a member of the Diving Control Board and is appointed by the Zoo President and CEO or her designee, with the advice and counsel of the diving control board.

The DSO is responsible, through the DCB, to the Zoo President and CEO or her designee, for the conduct of the diving program of the Pittsburgh Zoo & PPG Aquarium. This includes but is not limited to:

- The routine operational authority for this program, including the conduct of training and certification, approval of dive plans, maintenance of diving records, and ensuring compliance with this manual and all relevant regulations of the Pittsburgh Zoo & PPG Aquarium, rests with the Diving Safety Officer.
- May permit portions of this program to be carried out by a qualified delegate, although he may not delegate responsibility for the safe conduct of the local diving program.
- Is guided in the performance of the required duties by the advice of the DCB, but operational responsibility for the conduct of the local diving program will be retained by the DSO.
- Shall suspend diving operations that he considers to be unsafe or unwise.
- Shall perform all diving instruction for which he is qualified to perform. Additional instructional personnel (qualified for the type of instruction required) will be selected by the Zoo President and CEO, or her designee, who will solicit the advice of the DCB in conducting preliminary screening of applicants for instructional positions.

VOLUNTEER DIVER JOB DESCRIPTION

All volunteer divers in active status are expected to participate in the dive program at least once a month. Volunteer divers will have the opportunity to dive a variety of exhibits from tropical salt water (Big and Little Ocean, Sand Tiger Sharks); tropical fresh water (Flooded Forest, Buttress, Discovery) as well as cold fresh water (Penguins) and cold salt water (Sea Otters, Sea Horses, Two Oceans, Cold Combined, Octopus). **A volunteer diver primarily assists Aquarium husbandry staff with scuba or hookah aided exhibit maintenance.** Duties may include cleaning acrylic panels, cleaning and maintenance of artificial rockwork and corals. Additionally, a diver must learn to interpret the collection's behavior, keep accurate records, and maintain clean work areas. On occasion, a diver may be requested to assist Aquarium staff in other areas or exhibits as needed. Certain exhibits require more experienced divers or different equipment, and volunteers will have to demonstrate competency to be able to have permission to dive certain exhibits at the discretion of the Primary Aquarist, Dive Safety Officer or Curator of Aquatic Life.

Volunteer divers are invited to participate in special event activities that further the Pittsburgh Zoo and PPG Aquarium's mission. This includes our summer dive show in the Big Ocean exhibit. **Participation requires attendance of a 2 hour workshop held before the**



start of the season, for volunteers interested in 1. Full Face Mask and dive communication device for interactive dive shows 2. Exhibit facts and information about our collection 3. Presentation logistics.

While volunteering, safety must be a priority. **The volunteer diver must be familiar with all safety procedures as specified by the Pittsburgh Zoo and PPG Aquarium.** At all times, remember you are representing the Pittsburgh Zoo and PPG Aquarium. When at the aquarium, all volunteer divers must present themselves accordingly. Appearances should be neat and conservative.

The Pittsburgh Zoo and PPG Aquarium reserves the right to remove any volunteer from the program if his or her actions do not represent the Aquarium in a safe, professional and courteous manner.

BASIC REQUIREMENTS FOR APPLICATION

Volunteer diver candidates must fulfill and maintain the following requirements in order to participate in the volunteer diver program and remain in active status:

- Be at least 18 years of age.
- Hold an Open Water SCUBA certification by a recognized agency (PADI, NAUI, etc).
- Hold a valid DAN Insurance card (must be updated every 12 months).
- Complete and sign the PPG Aquarium volunteer diver waiver form.
- Complete and sign the Acknowledgement of receipt of the Volunteer Diver Manual.
- Complete test based on material set forth in this Volunteer Diver Manual.
- Complete a medical history form.
- Submit AAUS form completed by physician.
- Complete an in-water dive skills evaluation.
- Complete all volunteer diver orientation requirements.
- Agree to participate at minimum once a month with the dive program.
- Attend mandatory Volunteer Diver Meetings, remain up to date with Aquarium policies.

Newly admitted divers are strongly encouraged to sign up for a dive once the in-water evaluation is completed. All new divers will be signed up to the Volunteer Diver Yahoo Groups, where volunteers can co-ordinate with buddies, set dive schedules and contribute to our online members forum.

GENERAL SAFE DIVING GUIDELINES

1. The most important action a volunteer diver can take is to NEVER DIVE ALONE.
2. At all times, while diving with a partner, be aware of each other's location within the exhibit.



3. If a diver is in an exhibit without a buddy, the diver **MUST** be supervised by another certified diver outside the tank. This “spotter” must be in constant visual contact with the diver at all times.
4. In the event that only one volunteer diver is available to dive due to illness or absence of his buddy, the volunteer present must be “spotted” by or have as a dive buddy, a PPG Aquarium staff person with SCUBA certification.
5. In the event a spotter is not available, the dive is considered cancelled.
6. Each exhibit has its own particular safety requirements and protocols. These issues are covered during special orientation sessions for these exhibits. All divers are directly responsible for knowing, understanding, and complying with these requirements and protocols when diving. Failure to do so will result in immediate dismissal from the program.
7. In the event that a diver becomes incapacitated while in an exhibit, every effort should be made to recover/ rescue and stabilize the diver while awaiting professional assistance from an EMT unit. However, divers are under no obligation to risk their own safety in doing so.
8. Any dive-related injuries or serious equipment malfunctions must be brought to the attention of the staff divers and the Dive Program Coordinator. Appropriate paperwork should be filed in a timely manner.
9. All volunteer and staff divers are required to complete a dive log after each dive no matter how short and regardless of the reason for the dive. Dive logs are to be kept up to date. Old dive logs are archived yearly.
10. All divers must be in constant visual contact with their buddy or tender.
11. The use of personal scuba tanks whether Air or Enriched Air/ is strictly prohibited.

Lead Diver

For each dive, one individual shall be designated as the Lead Diver. He/she shall be at the dive location during the diving operation. The Lead Diver shall be responsible for:

- Coordination with other known activities in the vicinity that is likely to interfere with diving operations.
- Ensuring all dive team members possesses current certification and is qualified for the type of diving operation.
- Ensuring safety and emergency equipment is in working order and at the dive site.
- Briefing the dive team members on:
 - Dive objectives.
 - Unusual hazards or environmental conditions likely to affect the safety of the diving operation.
 - Modifications to diving or emergency procedures necessitated by the specific diving operation.
 - Suspending diving operations if in his/her opinion conditions are not safe.
 - Reporting to the DSO and DCB any physical problems or adverse physiological effects including symptoms of pressure-related injuries

DIVER STATUS CLASSIFICATION

Active Diver

- **Completed Application:** All individuals who have satisfactorily completed the conditions of application are available to be placed on the dive roster.
- **Volunteers who have submitted current DAN insurance and AAUS Physicals are available to be placed on the dive roster.**
- **Monthly Participation:** All active members must achieve the minimum number of dives required by the Diver Advisory Board as determined by the dive schedule.
- **Keep records current:** All active divers must notify the Dive Program Coordinator of any changes in status (i.e., address changes, phone numbers, and dive insurance up to date).
- **Meeting Attendance:** All active divers must attend 100% of all dive meetings except with approval by Dive Supervisor/Coordinator.

Non-Active Divers

- **Incomplete Application:** All individuals who have not completed the conditions of application and/or who are not available for placement on the dive roster.
- **Failure to participate:** If not participating regularly in the dive program, members of the DCB have the authority to suspend privileges until further notice.
- **Sabbatical:** Up to two months (6 months for divers in military service) by informing the Diver Program Coordinator and completing the appropriate form. **Inactive:** File the proper form with the Diver Program Coordinator. If the dive chooses to become active again, he or she will be considered for the next available opening. All conditions of application must be completed.
- **Resignation:** Divers may formally resign from the team by notifying the Diver Program Coordinator in writing. If a diver chooses to return to the program, he or she will be placed on the waiting list. He or she is required to file all application paperwork and is responsible for attending all training sessions and successful completion of all evaluations.

DIVE SCHEDULING PROTOCOLS

The following protocols should be considered when scheduling your required dives:

- Volunteers must call BASE (412 665 3639 ext 0) upon arriving at the aquarium back gate, in order to be let in. Base will then notify aquarium staff to unlock the gate. (Calling base is the most direct and efficient way to get in!)
All active members must achieve 2 hours/month of training, diving, or Dive Team Support time every month. Total dives for the year must be 12 or more.

- If for some reason a diver is unable to dive, his or her scheduled dive, it is the diver's responsibility to find a substitute. The person that originally signed up, and the substitute must call the Dive Program Coordinator about the change. If a substitute cannot be found, it is the scheduled diver's responsibility to call the Dive program Coordinator to assist in finding a substitute.
- Divers must notify Yahoo Groups and/or call (412) 365-2596 and leave a message in the event that they must call-off as well as contact their buddy as soon as they are aware that they will not be diving.
- No diver may sign up another diver on yahoo groups
- If for some reason a diver is unable to dive, his or her scheduled dive, it is the diver's responsibility to find a substitute. The person that originally signed up and the substitute must call the Dive Program Coordinator about the change. If a substitute cannot be found, it is the scheduled diver's responsibility to call the Dive program Coordinator to assist in finding a substitute.

GROUND'S FOR DIVER DISMISSAL/SUSPENSION

The PPG Aquarium reserves the right to dismiss any volunteer diver from activity in the volunteer diver program for any of but not limited to the criteria stated below:

- Inability to produce current DAN Insurance or those who have expired AAUS Physicals.
- Activity or behavior which is unsafe, unprofessional, or which does not respectfully and responsibly represent the PPG Aquarium.
- Failure to attend a required orientation, workshop, or other meeting without a prior approved excuse. Immediate dismissal after first absence.
- Failure to commit to 12 dives per year without formally changing diver status.
- Failure to appear on assigned dive day with 24 hour excused notice. Immediate dismissal after third incident in one year.
- Failure to appear on an assigned dive day without 24 hour excused notice. Immediate dismissal after second incident in one year.
- Failure to update personal information with a Volunteer Diver Coordinator. Immediate dismissal after second request for information.
- Harassing or otherwise voluntarily interacting with any exhibit animal in a way that may threaten the animal, diver, or other divers or animals, and cause them harm or undue stress without the consent of the area aquarist.

BUILDING SAFETY AND ACCESS

Safety and Access

- Doors behind aquaria and to service areas, unless otherwise noted, must be closed and/or locked at all times during business hours.



- Life support areas and service aisles of exhibits in which volunteer divers are not diving are restricted areas. These areas are not to be entered unless accompanied or permitted by a PPG Aquarium staff member or Curator.
- Cameras, including video cameras, are not allowed in non-visitor areas without the prior approval of the Curator or Dive Supervisor/Coordinator
- Volunteer family members are not permitted behind the scenes, unless they have prior permission from the Curator or Dive Supervisor/Coordinator or are part of a formal tour group.
- Divers are to remain in the immediate area of the dive operation unless obtaining scuba equipment from another area. To ensure volunteer diver safety, diver access is limited to those areas in which diving or dive related activities are currently taking place. Access to other areas may be permitted with PPG Aquarium staff escort.
- In the event that the fire alarm is triggered, an ozone emergency, or other emergency, which may require building evacuation, proceed directly to the nearest outside exit. Do not attempt to exit the building by way of the public aisle. PPG Aquarium staff will handle visitor evacuations.

EMT Access to PPG Aquarium Dive Sites:

- Any staff member will open Gate G and the service door on the right of the loading dock immediately to allow access of Emergency vehicles and EMT units and await their arrival.
- EMT units may park emergency vehicles at the loading dock of the aquarium (Gate G) to be met and directed by the staff member.
- EMT units will enter the door on the right of the loading dock and proceed through the service hallway, up the stairs directly in front and to the top of the Ocean tank.
- Attending divers should make every effort to secure the injured diver near where EMTs can provide appropriate medical assistance (See Ocean Tank Safety Protocols).

DIVE SCHEDULES

The dive schedule is determined by Dive Program Coordinator, see yahoo groups calendar to sign up. **Divers should arrive at the Aquarium one half hour before the scheduled dive time and check in with the aquarist on duty.** There should be a spotter (fully prepared to dive) and a scheduled diver. Guests are not permitted in service areas.

Diver Requirements

- For each exhibit, volunteer divers are expected to have participated in an orientation with the primary aquarist and/or Dive Program Coordinator.
- Successfully complete a yearly re-evaluation by peers of exhibit diving skills and/or participate in a yearly PPG Aquarium diver re-orientation

Equipment Requirements

Each team member must provide and wear:

- Full wetsuit
- Hood & booties,
- Mask & fins
- Regulator,
- BCD

Showing up with the correct exposure suit is necessary, failure to do so may be grounds for cancelling a dive.

- Warm/Tropical exhibits: 3/2 to 5mm full wet suit with light lycra hood. Generally based on personal preference.
- Cold exhibits: Large exhibits favor drysuits. 7mm full wet suit, gloves and hood are ideal for small exhibits as they are less of a hassle in cramped shallow spaces.
- **Fins are not allowed in exhibits except: Big Ocean, Sand Tiger Shark, Sea Otters.**
- **You will have to adjust your weights accordingly depending on your exposure suit and whether you are diving salt or fresh water.**

The Dive Program will provide weights, tanks and cleaning tools. **No unnecessary equipment such as knives or cameras or personal cleaning tools are permitted in the exhibit** while diving unless permission is granted by the Curator or Dive Supervisor/Coordinator before the dive. All equipment should be thoroughly soaked and rinsed with freshwater and dried completely before using the equipment in the Ocean Tank exhibit regardless of previous dive location (open water or exhibit diving). Failure to comply with this guideline will result in dismissal from the PPG Aquarium program.

The Pittsburgh Zoo and PPG Aquarium is not responsible for any broken or damaged personal items used during dive operations or any lost or stolen items left in any exhibit areas. The Pittsburgh Zoo and PPG Aquarium reserve the right to deny the use of personal equipment on the basis of physical appearance, condition, and/or safety or that which does not meet Pittsburgh Zoo and PPG Aquarium standards.

EXHIBIT PROTOCOLS AND RULES

General

- Log all your dives at the main volunteer dive table on the 2nd floor of the aquarium.
- An exhibit dive log and diving duties board is posted in each gallery. It records information about the exhibit as well as posts the necessary duties that each dive session should complete. **This diving duties board should be consulted immediately after checking-in with the staff member for that session.** Questions should be addressed prior to the start of the dive.
- Divers are responsible for completing all directions on the dive status boards and any other directions given by staff.
- After check-in, but before suiting up, each diver should conduct an inspection of the exhibit and its inhabitants. This will allow divers to familiarize themselves with collection changes, exhibit modifications, new collection additions, or any other items of interest.
- Compressed air tanks are available at the PPG Aquarium. Tanks with 500 psi or less are considered empty and all dives should be terminated before this minimum is reached.
- Any unusual animal behaviors should be reported to the staff member.
- **All behind the scenes areas: gallery hall ways, pump/life support rooms are considered a restricted access only area and no visitors may enter the area without the expressed consent of the staff member on duty. Guests are restricted from the back areas until all diving duties and operations are completed.**
- Spotters should always bring their full gear in the event that the scheduled diver does not show or cannot dive.

General Safety Notes

- If at any time the diver feels uncomfortable with the dive situation, he may leave the exhibit. The staff member on duty is the only person that can cancel the dive.
- Divers must not enter the water without a spotter.
- A first aid kit is to be obtained from the exhibit area. It must be present during all dives all the time. Any injuries should be reported to the a staff member immediately and the Dive Supervisor/Coordinator
- Divers should surface with one hand raised over their head, no faster than the rate of the smallest bubbles when exhaling from their regulator.

- Spotters and dive buddies should remain in visual contact with diver at all times during the dive operation.

Cleaning Exhibits

- All divers must maintain a safe distance from any acrylic surface, and be mindful of where they are in the exhibit at all times.
- Maintaining neutral buoyancy allows divers to easily navigate the exhibit lowering the risk of damaging the exhibit, the collection or damaging their equipment.
- Acrylic Windows:
 - Only a white scrubby pad may be used on the windows
 - Suction cups may be used to obtain a grip on the windows
 - Secure dangling hoses to prevent snagging and scratching windows.
 - Divers should never turn their back to the acrylic panels, and risk scratching them.
- Exhibit walls/rockwork/fake coral:
 - A handled bristled brush (varying sizes) are available
 - Care must be taken not to disturb the corals position or to break off any attachments.
 - Divers should always fully support any object that they are scrubbing to prevent breakage.

Animal / Diver Interaction

Interaction between the diver and animals in any exhibit can potentially be dangerous. Unless specifically instructed to by the primary aquarist or Dive Program Coordinator, there will be no contact between the diver and any of the display animals. **Any deliberate contact with the animals will result in immediate dismissal from the program.**

Post Dive Protocols

- Thoroughly rinse or sanitize all gear with fresh water
- If diving between to salt water or fresh water exhibits, contact primary staff member or DSO and they will direct you to an exhibit to decontaminate your equipment.
- **Return scrub pads, suction cups, brushes to respective exhibit storage tool boxes.**
- Check end dive psi of tanks used and place appropriate colored cap on cylinder. Replace cylinder in rack.
 - Red: <1500PSI
 - Yellow :1500 < 2500 PSI
 - Green: >2500 PSI
- Record log entry in Dive log located in the area dived.
- Leave the area cleaner and neater than the way you found it.

Dive Cancellation

- If a diver knows that he/she will be unable to arrive on time, a call should be made by the diver to 412 365 2596. A call can also be made to 412 365 2595, or a message left on the voicemail service.
- If, for some reason, the diver is unable to attend the scheduled dive, it is the responsibility of the diver to find a replacement then call the Dive Program Coordinator so that a substitute can be scheduled.
- The diver must also contact their scheduled buddy to notify them of their cancellation.

EXHIBIT DIVER SAFETY PROTOCOL

EMT Access

- Any staff member will open Gate G and the service door on the right of the loading dock immediately to allow access of Emergency vehicles and EMT units and await their arrival.
- EMT units may park emergency vehicles at the loading dock of the aquarium (Gate G) to be met and directed by the staff member.
- EMT units will enter the door on the right of the loading dock and proceed through the service hallway.
- Attending divers should make every effort to secure the injured diver near where EMTs can provide appropriate medical assistance.

EXHIBIT BREAK-DOWN

Experience Level:

1 = Easy. Great for new divers, not physically demanding beyond normal scuba.

2 = Intermediate. Different/difficult access or equipment that requires staff assistance.

3 = Advanced. Level of difficulty or equipment & tools used require staff assistance/supervision.

Warm Water Dives

Exhibit	Big Ocean
Level	1: Easy access, basic scuba and easy task.
Primary Aquarist	Bob Snowden
Support Team Aquarists	Josie Romasco, Eric Kellar
Exhibit	Tropical Salt Water
Temperature	80F
Notes	Do not harass collection species. Fins optional. Wear hood, gloves, full boots as Triggerfish nip. Be aware of 5 shark species, eels, puffer fish, trigger fish.
Responsibilities	Clean 3 acrylic windows, Scrub rockwork, Remove debris from floor drain, Remove bamboo shark egg casings.
Entrance	Platform ladder: please pull up out of exhibit after use.

Exhibit	Little Ocean
Level	2: difficult ladder access, basic scuba and easy tasks.
Primary Aquarist	Bob Snowden
Support Team Aquarists	Josie Romasco, Eric Kellar
Exhibit	Tropical Salt Water
Temperature	80F
Notes	Do not interact with Sea Turtle. Triggerfish will nip, wear full wetsuit, hood/gloves/boots. NO FINS.
Responsibilities	Clean front window, Scrub rockwork, note species health.
Entrance	Ladder: please remove from exhibit after use.

Exhibit	Flooded Forest
Level	1: Easy access, basic scuba and easy task.
Primary Aquarist	Rich Terrell
Support Team Aquarists	Mike Stephan, Tom Hayes
Exhibit	Tropical Fresh Water
Temperature	80F
Notes	Venomus Dorsal & pectoral spines on catfish. Midas Cichlids nip.
Responsibilities	Clean two acrylic windows, Scrub rockwork, Remove leaves off grate under central root
Diver Access	Staff walkway off visitor ramp

Exhibit	Discovery
Level	2: Difficult entrance, surface supplied air, one diver & spotter.
Primary Aquarist	Tom Hayes
Support Team Aquarists	Mike Stephan, Rich Terrell
Exhibit	Tropical Fresh Water
Temperature	76F
Notes	African Rift Valley bony fish
Responsibilities	Off season maintenance only. Scrub rockwork, clean tunnel.
Entrance	Kid's Kingdom: 2 nd level of the Discovery Complex

Exhibit	Buttress
Level	2: Difficult entrance, surface supplied air, one diver & spotter.
Primary Aquarist	Rich Terrell
Support Team Aquarists	Mike Stephan, Tom Hayes
Exhibit	Tropical Fresh Water
Temperature	80F
Notes	Slow and deliberate movements in Piranhas. vegetation
Responsibilities	Clean acrylic window, Scrub rockwork, Remove leaves off grate
Entrance	Ladder in front of window (contact staff)

Exhibit	Sand Tiger Sharks
Level	3: Staff Orientation required after 10 aquarium dives, dive sign up authorization required via email, max 4 people in good conditions. Max 1:2 Staff to Volunteer Divers.
Primary Aquarist	Jenni Lewis
Support Team Aquarists	Ashley Kidd
Exhibit	Temperate Salt Water
Temperature	68-78F
Notes	Do not attempt to interact with the Sand Tiger Sharks. Always be in visual contact with dive buddy. School of Blue Runner Jackfish also on exhibit.
Responsibilities	Clean Windows, Assist in power scrubbing exhibit, Vacuum exhibit floor, Scrubbing rock work
Entrance	Outdoor Holding pool

Cold Water Exhibits

Exhibit	Penguins
Level	3: Difficult access. Staff Orientation and supervision required.
Primary Aquarist	Katy Wozniak
Support Team Aquarists	Jen Dancico
Exhibit	Arctic Fresh Water
Temperature	38-45F
Notable collection species	King, Macaroni & Gentoo Penguins
Responsibilities	Scrub Rockwork, Clean floor, Scrub window above water level
Entrance	Far left of exhibit (contact staff)

Exhibit	Two Oceans
Level	2: Difficult entrance, surface supplied air, one diver & spotter.
Primary Aquarist	Eric Kellar
Support Team Aquarists	Josie Romasco, Bob Snowden
Exhibit	Cold Salt Water
Temperature	52F
Notable collection species	South African Bony fishes, Pajama sharks
Responsibilities	Remove shells and egg casings, Clean window
Entrance	From second level above exhibit (contact staff)

Exhibit	Cold Combined
Level	3: Small space, surface supplied air, dangerous animals.
Primary Aquarist	Eric Kellar
Support Team Aquarists	Josie Romasco, Bob Snowden
Exhibit	Cold Salt Water - 3 exhibit system
Temperature	52-54F
Notable collection species	Be aware of dangerous animals. Atlantic Blue Lobster & Sea urchin can wound, Anemones & horn shark has venomous dorsal spine.
Responsibilities	Clean windows, Scrub rock work
Entrance	Door off of visitor hallway opposite penguins

Exhibit	Octopus
Primary Aquarist	Josie Romasco

Support Team Aquarists	Eric Kellar, Bob Snowden
Level	3: Staff supervision, surface supplied
Exhibit	Cold Salt Water
Temperature	47F
Note	1 Giant Pacific Octopus
Responsibilities	Collect enrichment objects, Scrub rockwork, Clean Windows
Entrance	Back hallway (Contact staff)

Exhibit	Sea Horses
Level	3: Surface supplied air, fragile species.
Primary Aquarist	Josie Romasco
Support Team Aquarists	Eric Kellar, Bob Snowden
Exhibit	Cold Salt Water
Temperature	63F
Note	Pot Bellied Sea Horses on bottom, avoid putting feet on ground.
Responsibilities	Scrub rock work
Entrance	Back Hallway (Contact Staff)

Exhibit	Sea Otters
Level	2: Access difficult, staff must move animals off exhibit.
Primary Aquarist	Jaclyn Mazza
Support Team Aquarists	Jennifer Funk, Jenni Lewis, Ashley Kidd
Exhibit	Cold Salt Water - deep and shallow sides
Temperature	54F
Notes	Two Sea Otters (not on exhibit). Do not leave anything on exhibit as the otters will find it and possibly try to ingest it.
Responsibilities	Scrub rockwork, and haul out decks, Vacuum floor, Clean windows
Entrance	Trainer door (contact staff)

FULL FACE MASK PROTOCOLS

Donning the FFM

- Have spotter, buddy assist you when donning the mask. Turn the air on to the mask.
- Fully extend the temple, chin, and crown straps
- Place your chin comfortably in the chin cup of the mask. Make sure that the mask is centered properly on the face.
- While one hand holds the mask to face, adjust straps so that it fits loosely on the face.
- Adjust first the temple, then the chin, and then the crown strap.
- Remember, the seal you are creating is a pressure seal and the straps must be equally tightened around the face seal.
- Have buddy check that the hood is outside the mask seal
- Reach back and make sure that the “star” patch joining the straps is positioned properly on the top back of the skull. Hold the patch in place and further tighten the straps so that the mask fits snugly on the face.
- Adjust first the temple, then the chin, and then the crown strap.
- Adjust the earpieces so that they sit directly over your ears or on the skull bones directly in back of the ears.
- Divers should remove the AGA mask before attempting to leave the tank water. Spotters should help divers remove the mask.
- Divers with thin faces, especially around the temple area, tend to experience air leakage in this area. Neoprene shims may be cut to assist with creating a more solid seal around the mask.

Recommended care of the FFM.

While the mask and its associated electronics are made to be “water resistant”, they are not waterproof. Please take care when working with the mask system near salt water. Please be aware of the following:

- If the mask floods with salt water or falls in the water, carefully rinse the mask with freshwater and gently dry off the microphone with a clean towel.
- After diving, the mask should be carefully sprayed with water inside and out. The mask should be gently wiped dry with a clean towel and hung. The cord should be wiped down with a damp towel (freshwater) and hung up.
- Before diving if the mask has water droplets on the mask lens, wiped the mask dry with a clean towel.
- Due to the fact that when in use the inside of the mask is constantly flushed with air, the mask does not normally fog. Do not use de-foggers on the AGA mask lens.
- Fogging: first check first that the mask is seated on your face properly. Second check that the air to the mask is on. If all else fails see the Dive Program Coordinator for assistance.

- AGA masks will be disinfected weekly.

Speaking while using the FFM

Breathing and speaking may be difficult when using the FFM. Please remember the following:

- While the microphone is very sensitive to sound, speakers should speak as if speaking publicly without a microphone. Yelling is not necessary, nor recommended, but using the diaphragm and good breath control is necessary.
- Diction, or the way that words are pronounced, while speaking is very important. Slurring your words and slang are not recommended while speaking with the FFM.
- Speak with short, controlled sentences.
- Controlling your breath while speaking is also important. Phrasing and trying to breathe between phrases will help make your speaking clearer and more understandable.
- Remember that the microphone in the mask is very sensitive to sound. Visitors can hear what you say!!!

Diving while wearing the FFM

- The cord connected to the mask carries the wires for the microphone and earpieces to the surface. It is very easy to become entangled in this cord. Spotters should assist divers into the water to make sure that the cord and diver do not get tangled.
- When the diver demonstrates swimming in the water, the spotter should attempt to monitor the slack in the cord to prevent tangling.
- The connection plugs for the mask to the cord should be kept as dry as possible. If, the connection is separated and the ends fall in the water, carefully dry them off with a clean towel.

RADIO CODES

Red – Dangerous Animal Escape

Brown – Non-Dangerous Animal Escape

Green – Animal Emergency

Orange – Lost Child

Yellow – Fire

Blue – Medical Emergency Ambulance Needed

White – Any situation in the main parking lot i.e. vandalism/dogs in cars etc

First Aid – All first Aids are NOT code blues.

Level 1: Minor Injury: Band-Aid, Splinter, Skinned knee

Level 2: Stitches, broken bones, head bump

Level 3: Obviously life threatening: Unconscious, chest pains, not breathing

EMERGENCY PROTOCOLS

FIRST RESPONSE FOR INJURED DIVERS

In the event that a diver is injured or rendered incapacitated while in the water, the following guidelines should be considered: *Tenders and divers should remain in visual contact during dive operations. Upon surfacing a diver should always immediately signal that he is ok, either using dive signals or by vocalizing.*

A. Diver Conscious.

- If the diver is conscious and injured he or she should immediately surface and request assistance.
- The spotter should immediately attempt to float the diver over to the platform.
- If the diver is able to remove him or herself from the water, he or she should do so immediately. Simple first aid and treatment for shock should be initiated by the spotter or dive buddy. The dive is terminated. DANGEROUS ANIMAL BITE PROTOCOL SEE SECTION 2, VENOMOUS STING SEE SECTION 3, ANAPHYLACTIC SHOCK SEE SECTION 4
- Depending on the severity of the injury, the PPG Aquarium staff person on duty will call 0 for the Zoo Operator on the office or nearest phone to request assistance.
- The PPG Aquarium staff person on duty should then call the Dive Supervisor/Coordinator and the Dive Program Supervisor.
- The PPG Aquarium staff person on duty should go to the Aquarium Gate (G) to wait for EMT arrival if there are enough divers to control the situation and tend to the diver. Otherwise, the PPG Aquarium staff person on duty should remain with the injured diver.

B. Diver Unconscious or Unable to Remove Him or Herself from the Aquarium.

- If the diver is unconscious or unable to remove him or herself from the aquarium, the buddy, standby or spotter should make every attempt to bring the diver to the surface. With the diver's face above the water, the diver should be floated to the platform of the aquarium.
- The diver should be removed from the water using the backboard located on the wall at the top of the Ocean Tank. The dive is terminated.
- First aid and CPR should be initialized as needed immediately. DANGEROUS ANIMAL BITE PROTOCOL SEE SECTION 2, VENOMOUS STING SEE SECTION 3, ANAPHYLACTIC SHOCK SEE SECTION 4
- The PPG Aquarium staff person on duty should call 0 for the zoo Operator on the office or nearest phone to request assistance.
- The PPG Aquarium staff person on duty should then call the Dive Supervisor/Coordinator and the Dive Program Supervisor
- The PPG Aquarium staff person on duty should go to the aquarium gate (G) to wait for EMT arrival if there are enough divers to control the situation and tend to the diver. Otherwise, the PPG Aquarium staff person on duty should remain with the injured diver.
- Unless absolutely necessary, do not alter the injured diver's equipment. Wait for EMT assistance.

Be prepared to answer and/or document the following information:

- Time of incident.
- Length of dive.
- Your perception of the incident.
- Duration of unconsciousness or breathing/heart arrest.
- Remaining air in diver's air tank.

DANGEROUS ANIMAL BITE PROTOCOL

VICTIM

1. **SECURE THE ANIMAL or EXIT EXHIBIT WATERS/AREA.**
2. **NOTIFY FELLOW KEEPERS/ BASE (#0)** via voice, radio (use code **BLUE**), or phone that you have been bitten by _____ (type of FISH (shark) OR INVERTEBRATE (octopus)).
3. **SIT DOWN AND REMAIN CALM.**
4. **IF ABLE, BEGIN EMERGENCY FIRST AID** (section D/E).

ASSISTING KEEPER/BACKUP

1. **NOTIFY THE MAIN OFFICE AND FIRST AID STAFF or COORDINATOR** that a dangerous animal bite has occurred. Tell them to begin emergency procedures. (SECTION C). Note what species of animal caused the bite.
2. **IF DIVING and victim is unable to exit exhibit:**
 - a) Bring victim to the surface and float to nearest exit, with their face above water.
 - b) The victim should be removed from the water using the backboard located on the upper level of the Ocean Exhibit.
3. **INITIATE EMERGENCY FIRST AID** (See Section D/E).
4. **IN THE EVENT, ANY SYSTEMIC REACTION, rash or shortness of breath, IS SEEN; THE VICTIM MUST BE TRANSPORTED TO THE HOSPITAL. OBTAIN** the following items to accompany victim to the hospital:
 - a) **INFORMATION** for species involved.
 - b) **EMPLOYEE EMERGENCY MEDICAL HISTORY FORM** (stored with aquarium office)
5. When ambulance personnel arrive, tell them to transport victim to **PITTSBURGH MEDICAL CENTER or nearest possible hospital**. It is imperative to get the victim to the hospital as soon as possible. A member of the Veterinary or Aquarium staff will accompany the victim to the hospital to answer any questions the emergency room staff may.

FIRST AID**SHARK BITE First Aid CODE BLUE**

1. Remove articles of clothing surrounding wounds, including jewelry, wetsuits, etc
Depending on the severity of the wound,
 - i. **Superficial Wounds:** thoroughly rinse wound with sterile water. Apply pressure over punctures using gauze
 - ii. **Deep Wounds:** Use the pressure/immobilization method (Sutherland technique) utilizing a flexible crepe bandage on the affected limb. Wrap bandage in a distal to proximal (i.e. from hand/foot to shoulder/pelvis) direction. Apply bandage as tightly as you would for a sprain injury. If possible, raise injured area above the level of the heart. In extreme cases, a tourniquet can be used
2. **USE CPR/AED and DAN Oxygen** if needed. The AED and DAN Oxygen kit is located on the upper level of the Ocean Exhibit.
3. Someone should remain with the victim and offer reassurance and support at all times.

MORAY EEL BITE First Aid CODE BLUE

1. Remove articles of clothing surrounding wounds, including jewelry, wetsuits, etc
2. Depending on the severity of the wound,
 - a. **Superficial Wounds:** thoroughly rinse wound with sterile water. (It is essential that this be completed due to heightened risk of infection) Apply pressure over punctures using gauze
 - b. **Deep Wounds:** Use the pressure/immobilization method (Sutherland technique) utilizing a flexible crepe bandage on the affected limb. Wrap bandage in a distal to proximal (i.e. from hand/foot to shoulder/pelvis) direction. Apply bandage as tightly as you would for a sprain injury. If possible, raise injured area above the level of the heart. In extreme cases, a tourniquet can be used
3. **USE CPR/AED and DAN Oxygen** if needed. The AED and DAN Oxygen kit is located on the upper level of the Ocean Exhibit.
4. Someone should remain with the victim and offer reassurance and support at all times.

AQUATIC VENOMOUS STING PROCEDURE**VICTIM**

1. **REMOVE ALL OBVIOUS EVIDENCE OF TENTACLES OR NEMATOCYSTS WHILE WEARING PROTECTIVE GEAR (rubber gloves or forceps).**

2. **NOTIFY FELLOW KEEPERS AND/OR BASE (#0)** via voice, radio or phone that you have been stung by _____ (type of anemone, coral or jellyfish) and need immediate assistance.
3. Go directly to the nearest rest area and sit down.

ASSISTING KEEPER/BACKUP

1. **NOTIFY THE MAIN OFFICE AND FIRST AID STAFF or COORDINATOR** that a venomous sting has occurred. Tell them what type of anemone, coral or jellyfish caused the sting.
2. **IF DIVING and victim is unable to exit exhibit:**
 - a. Bring victim to the surface and float to nearest exit, with their face above water.
 - b. The victim should be removed from the water using the backboard located on the upper level of the Ocean Exhibit.
3. **INITIATE EMERGENCY FIRST AID.**
4. **IN THE EVENT, ANY SYSTEMIC REACTION, rash or shortness of breath, IS SEEN; THE VICTIM MUST BE TRANSPORTED TO THE HOSPITAL. OBTAIN** the following items:
 - a. **INFORMATION** for the species involved.
 - b. **EMPLOYEE EMERGENCY MEDICAL HISTORY FORM** (stored in aquarium office)
5. When ambulance personnel arrive, tell them to transport victim to
 - a. **PITTSBURGH MEDICAL CENTER or nearest possible hospital.**
 - b. It is imperative to get the victim to the hospital as soon as possible. A member of the Veterinary or Aquarium staff will accompany the victim to the hospital to answer any questions the emergency room staff may.

FIRST AID: VENOMOUS STING FROM ANEMONE, CORAL OR JELLYFISH

First Aid CODE BLUE

1. Rinse area with saltwater then apply vinegar. If vinegar is not available, hot water or a heat pack may be applied. Verify temperature of water prior to use to reduce the chance of scalding.
2. Once the majority of pain has subsided, physical removal of nematocysts can be done with a razor, plastic card or duct tape.
3. USE CPR/AED and DAN Oxygen if needed. The AED and DAN Oxygen kit is located on the upper level of the Ocean Exhibit.
4. Someone should remain with the victim and offer reassurance and support at all times.

ANAPHYLACTIC SHOCK

In all venomous bites, if the victim shows signs of **ANAPHYLACTIC SHOCK** (Symptoms include asthma, wheezing, difficulty breathing, swelling of the larynx or throat, low blood pressure and slow pulse [Normal pulse in men is 70-72 and in woman is 78-82], transport victim to the hospital immediately.





CHANGE OF STATUS NOTIFICATION

NAME _____ DATE _____

ADDRESS _____

PHONE _____

Reason for Change (Circle One): Sabbatical Inactive Resignation

Date Leaving Program: _____ Date of Return: _____
Two month limit on leave / 6 months limit for military personnel

Comments:

Diver Signature: _____ /___/___
Date

Dive Program Coordinator Signature: _____ /___/___
Date





DISMISSAL NOTICE

NAME _____ DATE _____

ADDRESS _____

PHONE _____

Date Leaving Program: _____

Reason for Dismissal:

Diver Signature: _____ / ____ / ____
Date

Dive Program Coordinator: _____ / ____ / ____
Date

Dive Program Supervisor: _____ / ____ / ____
Date

