



PS Diver Monthly 95

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July 2012

**USEPA Standard Diver
Decontamination Procedures**

Dehydration and Diving

Avoiding Heat Related Injuries

**NEWS & EVENTS
CONTINUING ED.**

Greetings,

It is definitely summertime in Texas. The heat here is about as bad as ever but recently we have added a few short rain showers. Add the humidity to our heat and it can get outright dangerous.

Last year I spent some time in The United Arab Emirates. When we were there, it was just coming on their hot season. We started commenting that it was not much different than being at **home ... it took a little while for the obvious to hit. We don't like it hot at home either. When** it got to 122 degrees we gave up and conceded the win.

In my youth, I could handle the heat a lot better than I seem to now. It may be that with age comes a certain prerogative to not work or play outside and with that a loss of tolerance. Whatever – I like my air conditioning. Having claimed that, I am just a karmic phone call away from responding to a call in the middle of the day in the worst of conditions and locations.

I once was ambushed in a department store parking lot, **had a microphone stuck in my face and asked "What do you think about global warming?" My blank stare and garbled response was something less than coherent.** Afterwards I thought about it and now have my response ready if **I get the chance again. This is it. "By the time we are convinced it is real, it will be too late."**

So far this year, more than 2.1 million acres have burned in wildfires, more than 113 million people in the U.S. were in areas under extreme heat advisories last Friday, two-thirds of the country is

experiencing drought, and earlier in June, deluges flooded Minnesota and Florida. ~ [Star Tribune](#)

We have seen and experienced a lot more hot days than cold in the last few years and statistics for this year validate that experience. Since January 1 of this year there have been more than **40,000** new high temperature records set.

It is hot and almost guaranteed to get worse as the summer progresses. Because we do not wait for more comfortable conditions when called, we must be prepared to protect ourselves and our team members from heat related injuries.

The following recommendations are from the CDC.

[NIOSH Workplace Safety and Health Topics](#)

Heat Stress

Workers who are exposed to extreme heat or work in hot environments may be at risk of heat stress. Exposure to extreme heat can result in occupational illnesses and injuries. Heat stress can result in heat stroke, heat exhaustion, heat cramps, or heat rashes. Heat can also increase the risk of injuries in workers as it may result in sweaty palms, fogged-up safety glasses, and dizziness. Burns may also occur as a result of accidental contact with hot surfaces or steam.

Workers at risk of heat stress include outdoor workers and workers in hot environments such as firefighters, bakery workers, farmers, construction workers, miners, boiler room workers, factory workers, and others.

Workers at greater risk of heat stress include those who are 65 years of age or older, are overweight, have heart disease or high blood pressure, or take medications that may be affected by extreme heat.

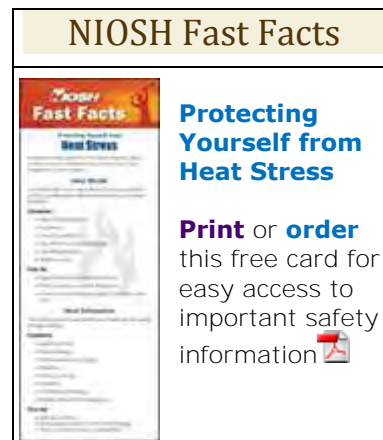
Prevention of heat stress in workers is important. Employers should provide training to workers so they understand what heat stress is, how it affects their health and safety, and how it can be prevented.

Types of Heat Stress

Heat Stroke

Heat stroke is the most serious heat-related disorder. It occurs when the body becomes unable to control its temperature: the body's temperature rises rapidly, the sweating mechanism fails, and the body is unable to cool down. When heat stroke occurs, the body temperature can rise to 106 degrees Fahrenheit or higher within 10 to 15 minutes. Heat stroke can cause death or permanent disability if emergency treatment is not given.

- **Symptoms**
- Symptoms of heat stroke include:
- Hot, dry skin or profuse sweating
- Hallucinations
- Chills
- Throbbing headache
- High body temperature
- Confusion/dizziness
- Slurred speech



First Aid

- Take the following steps to treat a worker with heat stroke:
- Call 911 and notify their supervisor.
- Move the sick worker to a cool shaded area.
- Cool the worker using methods such as:
- Soaking their clothes with water.
- Spraying, sponging, or showering them with water.
- Fanning their body.

Heat Exhaustion

- Heat exhaustion is the body's response to an excessive loss of the water and salt, usually through excessive sweating. Workers most prone to heat exhaustion are those that are elderly, have high blood pressure, and those working in a hot environment.

Symptoms

- Symptoms of heat exhaustion include:
- Heavy sweating
- Extreme weakness or fatigue
- Dizziness, confusion
- Nausea
- Clammy, moist skin
- Pale or flushed complexion
- Muscle cramps
- Slightly elevated body temperature
- Fast and shallow breathing

First Aid

- Treat a worker suffering from heat exhaustion with the following:
- Have them rest in a cool, shaded or air-conditioned area.

- Have them drink plenty of water or other cool, nonalcoholic beverages.
- Have them take a cool shower, bath, or sponge bath.

Heat Syncope

- Heat syncope is a fainting (syncope) episode or dizziness that usually occurs with prolonged standing or sudden rising from a sitting or lying position. Factors that may contribute to heat syncope include dehydration and lack of acclimatization.

Symptoms

- Symptoms of heat syncope include:
- Light-headedness
- Dizziness
- Fainting

First Aid

- Workers with heat syncope should:
- Sit or lie down in a cool place when they begin to feel symptoms.
- Slowly drink water, clear juice, or a sports beverage.

Heat Cramps

- Heat cramps usually affect workers who sweat a lot during strenuous activity. This sweating depletes the body's salt and moisture levels. Low salt levels in muscles causes painful cramps. Heat cramps may also be a symptom of heat exhaustion.

Symptoms

- Muscle pain or spasms usually in the abdomen, arms, or legs.

First Aid

- Workers with heat cramps should:
- Stop all activity, and sit in a cool place.
- Drink clear juice or a sports beverage.
- Do not return to strenuous work for a few hours after the cramps subside because further exertion may lead to heat exhaustion or heat stroke.
- Seek medical attention if any of the following apply:
- The worker has heart problems.
- The worker is on a low-sodium diet.
- The cramps do not subside within one hour.

Heat Rash

- Heat rash is a skin irritation caused by excessive sweating during hot, humid weather.

Symptoms

- Symptoms of heat rash include:
- Heat rash looks like a red cluster of pimples or small blisters.
- It is more likely to occur on the neck and upper chest, in the groin, under the breasts, and in elbow creases.

First Aid

- Workers experiencing heat rash should:
- Try to work in a cooler, less humid environment when possible.
- Keep the affected area dry.
- Dusting powder may be used to increase comfort.

Recommendations for Employers

- Employers should take the following steps to protect workers from heat stress:
- Schedule maintenance and repair jobs in hot areas for cooler months.
- Schedule hot jobs for the cooler part of the day.
- Acclimatize workers by exposing them for progressively longer periods to hot work environments.
- Reduce the physical demands of workers.
- Use relief workers or assign extra workers for physically demanding jobs.
- Provide cool water or liquids to workers.
- Avoid alcohol, and drinks with large amounts of caffeine or sugar.
- Provide rest periods with water breaks.
- Provide cool areas for use during break periods.
- Monitor workers who are at risk of heat stress.
- Provide heat stress training that includes information about:
 - Worker risk
 - Prevention
 - Symptoms
 - The importance of monitoring yourself and coworkers for symptoms
 - Treatment
 - Personal protective equipment

Recommendations for Workers

- Workers should avoid exposure to extreme heat, sun exposure, and high humidity when possible.

When these exposures cannot be avoided, workers should take the following steps to prevent heat stress:

- Wear light-colored, loose-fitting, breathable clothing such as cotton.
- Avoid non-breathing synthetic clothing.
- Gradually build up to heavy work.
- Schedule heavy work during the coolest parts of day.
- Take more breaks in extreme heat and humidity.
- Take breaks in the shade or a cool area when possible.
- Drink water frequently. Drink enough water that you never become thirsty. Approximately 1 cup every 15-20 minutes.
- Avoid alcohol, and drinks with large amounts of caffeine or sugar.
- Be aware that protective clothing or personal protective equipment may increase the risk of heat stress.
- Monitor your physical condition and that of your coworkers.

WE must be prepared for heat, just as much as we are prepared for a water response. Don't get caught unprepared.

Stay hydrated and Dive Safe!

Mark Phillips
Editor / Publisher
PSDiver Monthly

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Special To PSDiver

USEPA Standard Decontamination Procedures

By Alan Humphrey, ERT Sean Sheldrake, Region 10
Scott Grossman, ERT Jon McBurney, ERT
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Contaminated Water Diving – Decontamination

USEPA divers conduct a range of scientific diving operations which often involve contaminated water diving (CWD) for EPA Region 10 and the Environmental Response Team (ERT). After a public safety dive unit decides to upgrade to proper personal protective equipment (PPE) ([PSDiver Monthly Issue 81](#)), it's **important that things don't stop there.** Other elements of an effective CWD program include hands-on training, immunizations, medical monitoring ([PSDiver Monthly Issue 82](#)), dive planning ([PSDiver Monthly Issue 93](#)), and of course decontamination (decon) elements. This article will focus on a brief overview of decontamination aspects of **contaminated water dive operations.** For EPA's full set of decontamination procedures, please refer to EPA's Appendix Q of the EPA Diving Safety Manual, 2010 for additional details.


http://www.epa.gov/region10/pdf/diveteam/epa_diving_safety_manual_rev1.2.pdf.

For a video of the land and vessel based decontamination procedures discussed here, see:

<http://www.facebook.com/EPADivers/videos>

For EPA operations, contaminated water is defined as any body of water that is suspected of containing chemical or biological agents in concentrations that could potentially harm an unprotected diver and/or surface support personnel. Unless a body of water is known to be clean, some degree of contamination must be assumed. The level and type of contamination will determine the decontamination procedure required.

In general, most persistent biological and chemical contaminants tend to concentrate in sediment rather than in the water column. Remaining above and not coming **into contact with the sediment may reduce the diver's** potential exposure to a variety of chemicals. However, some chemical contaminants and numerous microbial vectors are often present in the water column. For chemical contaminants this would likely occur with those having moderate to high solubility in water and chemicals with densities equal or less than that of water (approximately 1 gram per cubic centimeter). Microbes (e.g., bacteria and viruses) are often found at the highest levels after rainfall, near certain combined sewer overflows, and/or in enclosed water bodies with minimal



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flows. When the water quality is unknown and conditions exist as described, the diver should be protected from these chemical and/or biological contaminants by using the appropriate PPE (dive gear) and following the decontamination procedures outlined below.

To minimize the number of personnel potentially exposed when performing dive operations in contaminated water, it is common US EPA Dive Unit practice to use a single diver on surface supplied air (or tethered SCUBA) with hard-wired communications. During boat operations, it is easier to decontaminate one diver at a time. Additionally, surface supplied divers (or tethered SCUBA) can share some dive gear (weight harness, fins, BCD, emergency gas supply [EGS]), limiting the amount of dive gear becoming contaminated during the dive operations.

Land Based Decontamination

Based on the anticipated level of contamination and the location of the dive operation (shoreline or vessel with limited deck space), a multi-step decontamination procedure may be required on land. During the planning phase it is essential that decontamination zones be

delineated to avoid spreading contamination to clean areas, personnel or support equipment during the process. The three zones are the Exclusion Zone (EZ) or Hot Zone, the Contamination Reduction Zone (CRZ) and the Support Zone (SZ) or Clean Zone. As the decontamination progresses the diver and the equipment move in a one-way path through the decon line from the EZ through the CRZ and finally into the SZ.



Figure 1: Gross decontamination of the diver at the edge of water prior to entering the CRZ. Photo by Alan Humphrey, USEPA

As the diver exits the water, all protective gear will be left in place while all non-life support equipment (e.g., tools, cameras, dive lights) is dropped near the edge of the EZ for later re-use or decontamination. If the equipment is going to be immediately used by the next diver, it does not need more than gross decon until dive operations are completed. While still in the EZ, the diver should be grossly decontaminated to remove visible contamination including sediment, algae, plant life, etc. If a hose is used to spray the diver, it should not be a high-pressure hose (e.g., a pressure washer) and the tender should also take care not to direct the spray toward the seals around the diver's mask/helmet or gloves, to minimize the chance of forcing contaminants into the diver's suit. Spraying should be

systematic, starting at the head and working downward to the feet. After all the gross contaminants are removed from the diver, the diver will proceed to the CRZ.

In the CRZ the diver is carefully decontaminated with the assistance of one or two tenders wearing the appropriate PPE. One suitably dressed tender is the minimum required to perform decontamination, however, using two or more tenders in the CRZ ensures that decontamination moves rapidly and that at no time will the diver be left unattended.



Figure 2: Diver being decontaminated in the CRZ. Photo by Alan Humphrey, USEPA.

Tenders should start at the **diver's head and work down to the diver's feet. Soft-bristled brushes and/or sponges** should be used to scrub the diver, since stiff-bristled brushes and harsh scrubbing may damage the dry suit. After the diver has been scrubbed with decontamination solution, a final rinse with potable water is necessary. This can be done with the diver passing through a decontamination shower with a fixed shower head or a tender operated hose using potable water.

Once the diver had been suitably decontaminated, the BCD or EGS harness and weight belt should be removed first. This equipment can be used for the next diver or more thoroughly decontaminated if it will not be reused during the dive operation. After these items have been removed, the area of the dry suit that had been covered by this equipment should be inspected and additional decontamination should be performed, as necessary.

At this point the diver's full face mask or helmet can be removed and all adjacent dry suit seals should be wiped with a paper towel and cleaned with disinfectant or alcohol wipe. Next, the tender should remove the diver's outer gloves by pulling the gauntlet over the diver's hand

The diver should be scrubbed with an appropriate decontamination solution, taking extra care around the diver's mask/helmet and gloves.

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so the glove is inside-out. After the outer gloves have been removed, the tender should wipe the area around the zipper with paper towels and unzip the dry suit. Assistance should be provided to the diver as needed by the tender, but it is important the tender only touches the outside of the suit to prevent possible contamination of the inside. The diver should remove their head and arms from the suit and pull the suit down past his or her waist and then sit on a clean seat (not the same one that had contact with the dry suit). The tender should then assist in pulling the dry suit off the **diver's legs and feet inside-out** to reduce the chances the diver will contact the outside of the suit. The last apparel that should be removed from the diver are the inner gloves.

If the diver or tender notices a wet area (as opposed to **obvious sweat marks**) on the diver's undergarments, the suit should be inspected in that area for a possible leak. If this occurs the diver should shower as soon as possible, the inner suit must be discarded or washed and the dry suit must be repaired prior to any further usage.



Figure 3: Diver Chad Schulze starting gross decontamination on the dive platform in the EZ after a suspected dive in diluted bacteria contaminated water. Photo by Sean Sheldrake, USEPA.

The diver should move into the SZ and remain there for thirty minutes for observation. During this time, the diver should be given water or other non-caffeinated drinks and allowed to rest in a comfortable area. During the warmer months, a tent or other shaded area should be used if available. During colder weather, a sheltered area, preferably indoors, should be used if available.

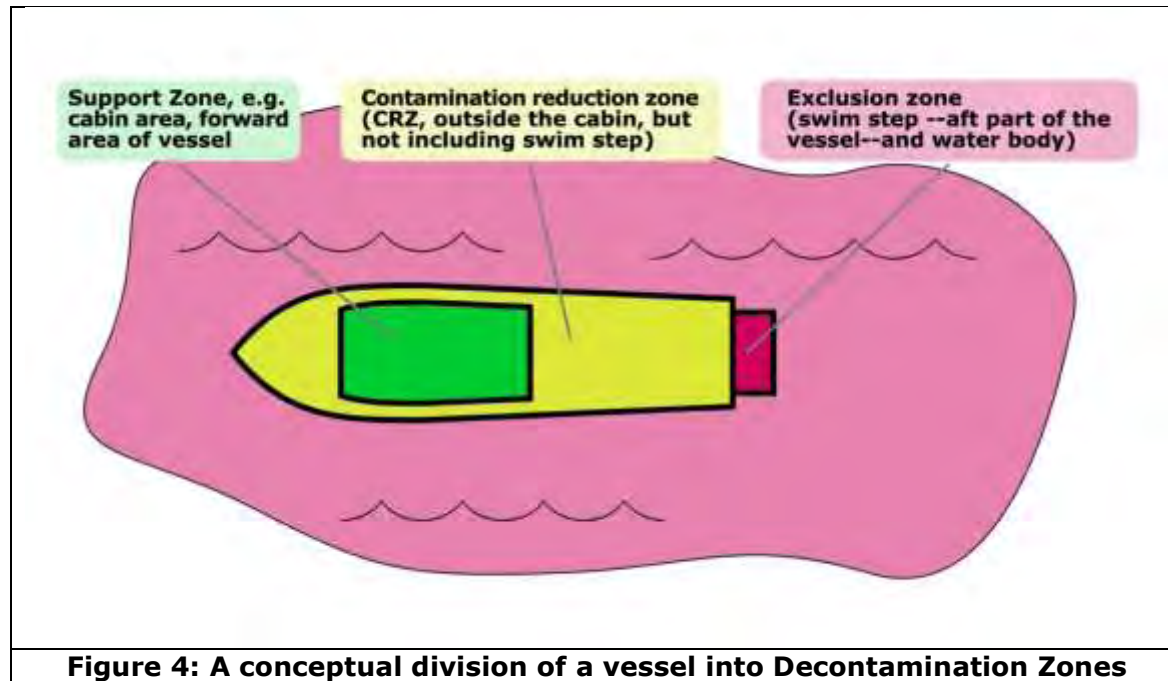
Vessel Based Decontamination

Diver decontamination may also be performed on a smaller more compact scale on vessels or on the shore line adjacent to the dive site. This will minimize the

diver's exposure to the contaminants, protect surface personnel from being exposed to these contaminants, and minimize the spreading of contaminants throughout the vessel, dock, shoreline etc.

When performing dive operations from a boat, the EZ is typically considered to be the water, the swim platform, or dive ladder and a container on the boat used as the equipment drop (See Figure below). As much of the diver

decontamination process as possible is performed by a tender while the diver remains on the platform or ladder. This may include gross decontamination of visible contaminants, and/or more thorough decontamination using brushes and a biodegradable decon solution.



As the diver exits the water, all equipment (e.g., tools, cameras, dive lights) should be dropped in the EZ for later use or decontamination. The equipment should be set aside, but available for the next diver or staged for decontamination. If available space allows, the equipment should be put in a container to prevent the spread of contamination. If needed by the next diver, the equipment does not need more than gross decontamination until dive operations are completed for the day.

The CRZ is the area where the diver enters the vessel from the platform or ladder. This area should be delineated and clear of all items that may become contaminated during the process. Any decontamination

of the diver or equipment that cannot be completed in the EZ should occur in this zone, using a brush/decon solution/potable water rinse, if necessary. The removal of all dive equipment (BCD, weight belt, diver harness, gloves, fins, etc.), including the dry suit, also takes place in the CRZ, as previously described. The diver is considered to be

in the SZ, as soon as s/he is out of the dry suit and away from the CRZ. The CRZ should be assumed to be contaminated for the duration of the project or until it is decontaminated. Due to space limitations it is critical that all divers are briefed on the decontamination procedures and proper placement of equipment prior to the initial dive to minimize contamination of clean areas/equipment/personnel in the SZ.

It is not feasible to perform diver decontamination on some smaller vessels. For these situations the vessel is considered part of the EZ throughout the dive operation and the diver can be brought to the shore or a larger vessel for decontamination. If this is the case, the boat

must be treated as part of the EZ throughout the entire operation until it has been decontaminated. All equipment and personnel leaving the vessel would also be required to pass through the CRZ before returning to the SZ. On a small boat, sufficient decontamination equipment should be available to remove gross contamination from the diver **and the diver's face/neck seal area** to allow the diver to safely remove the helmet/mask while returning to shore for full decontamination.

Equipment

Full-face Mask/Helmet

At the end of each day, the full-face mask should be completely decontaminated following the procedure recommended by the manufacturer. For more details, see EPA's decon. SOP, Appendix Q:
http://www.epa.gov/region10/pdf/diveteam/epa_diving_safety_manual_rev1.2.pdf.

Dry Suit

The dry suit should be inspected and additional decontamination and/or repairs should be performed as



Figure 5: Photo of the exclusion zone on the USEPA vessel Monitor (swim step). Note that the surface supply umbilicals are in the contamination reduction zone to keep any contamination as far from the support zone as possible. Photo by Sean Sheldrake, USEPA.

needed. The suit should be inspected carefully for tears, abrasions, holes or areas where chemical damage may have occurred. Brittleness, stickiness, color changes, or swollen materials could indicate significant chemical damage. Any suit exhibiting these conditions should be removed from service and returned to the manufacturer for evaluation and/or repair. Many drysuits are available now that have smooth, decontamination compatible exteriors.

Other Dive Equipment

As is practical, all other equipment (BCDs, weight harnesses, EGS harnesses, fins, knives, tools, etc.) should be decontaminated based on the contaminant.

Some equipment may require disassembly in order to be effectively decontaminated (e.g., BCD). Refer to manufacturer's instruction for the disassembly, cleaning and reassembly.

Decontamination Equipment/Supplies

Equipment required for decontamination activities are dependent on the level of decontamination required at each site. It could require simply a gross decon with a potable water rinse, or necessitate biodegradable decon

solutions or surfactants. This may require soft bristled brushes/sponges paper towels, plastic sheeting, marking tape, water collection basins, sprayers, decontamination shower, disinfectant wipes, stools, hand soap, emergency breathing gas supply, chemical/water resistive suits, face shields/eye protection, rubber gloves/boot covers, rubber boots, and other PPE.

Decontamination Solutions

After deciding whether



contaminants are primarily chemical or biological in nature, waterborne, or in the sediment, the major considerations when choosing a decontamination solution are; 1) effectiveness against the expected site contaminants; 2) compatibility with dry suit materials and other equipment; 3) safety of



Figure 7: Photo of Chris Gallo, Alan Humphrey (instructing, background) and Scott Grossman, ERT. Photo by Sean Sheldrake, US EPA.

exposure to both the diver and the tenders; 4) availability and cost; 5) use of biodegradable decontamination solutions or containment and disposal of used non-biodegradable solutions. . It may be as simple as potable water in sufficient quantity to rinse diluted sewage off the divers with an appropriate spray nozzle, which can effectively remove greater than 90 percent of bacterial vectors on a Viking dry suit. Chemical or oily contaminants may require selection of decon solutions to assist with removal of the contamination.

There are numerous decontamination solutions to choose from. Unfortunately, some of the most effective decontamination solutions are very aggressive, corrosive and toxic. For a full list of **decon solutions considered by EPA, see EPA's diving safety manual, Appendix Q:** http://www.epa.gov/region10/pdf/diveteam/epa_diving_safety_manual_rev1.2.pdf

Decontamination Plan

EPA dive personnel include a decontamination plan as part of every Dive Plan dealing with contaminated water. The Dive Plan is referenced in the site-specific Health and Safety Plan (HASP). The Dive Plan details the steps



Figure 6: Photo of diver after reconnaissance of submerged oil settling onto the bottom of a waterway after a spill. Some equipment may not be usable after a dive as it cannot be sufficiently decontaminated. Photo by Alan Humphrey, USEPA

required to properly decontaminate divers based on the known or suspected site contaminants.

Decontamination Procedures

The level of decontamination can range from simply rinsing the diver with potable water to having the diver pass through a formal decontamination line. The major variables to consider when decontaminating dive equipment include the nature of the surface (smooth surfaces are easier to clean than porous

surfaces) and the type and concentrations of contaminants encountered.

In some situations, such as oil spills, the dive equipment, including the diver's dry suit, may become contaminated to the point where it may not be possible to clean. The diver may wear coveralls or Tyvek over the dry suit to

extend its usage from a single dive to the duration of the project. If used, the PPE must be modified to not interfere with the proper operation of the dry suit (e.g., holes have to be cut for the suit inflator and exhaust valves). The use of PPE over the dry suit will also protect the dry suit from tearing if diving in areas near objects with sharp or jagged edges. Any PPE materials which become visually contaminated should be removed and replaced between dives.

Personnel Requirements

Each member of the decontamination team shall have the experience or training necessary (e.g., EPA Diver Training, Occupational Safety and Health Administration 40 hour Hazardous Waste Operations and Emergency Response Training [OSHA 40hr HAZWOPER]) to perform the tasks assigned to them in a safe and efficient manner. This experience and training shall include the use of tools and equipment required for efficient and effective decontamination. Each decontamination team member shall only be assigned tasks in accordance with that **person's training and experience.**



Safety Considerations

The duration of the decontamination process is an important consideration during any dive operation. Having the diver remain encapsulated to walk through a decontamination corridor is tiring and stressful. During cold weather, the diver may risk hypothermia walking through a more extensive decontamination line. During warm weather the diver may risk *hyper*thermia the longer s/he is in the dry suit on the surface (particularly if dressed for cold water diving). Additionally, the surface support/decontamination personnel will be exposed to the weather. It is important to get the diver through the decontamination process and out of the dry suit as quickly as possible.

If it is likely that the surface support/decontamination personnel will be splashed by polluted surface water, sediment and/or by the decontamination solutions, they should wear impermeable, disposable outerwear and face shields or similar PPE as specified in the HASP. Care must be taken when rinsing contaminated sediment from the diver in windy conditions.

For more details, and a full list of **references**, see EPA's full decon SOP, Appendix Q of the EPA Diving Safety Manual, 2010
http://www.epa.gov/region10/pdf/diveteam/epa_diving_safety_manual_rev1.2.pdf

For more on EPA's CWD operations, see:
<http://www.epa.gov/region10/dive/>

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NEWS

Two bodies found in submerged car in Plantation - Helicopter finds car in canal

http://articles.sun-sentinel.com/2012-05-25/news/fl-car-in-plantation-canal-20120525_1_sunken-car-detective-robert-rettig-canal-bank

May 25, 2012|By Wayne K. Roustan, Sun Sentinel
PLANTATION

Two bodies were found in a car submerged in a canal in Plantation Acres on Friday afternoon.

The white four-door Nissan Altima was lifted out of the water with a crane around 4:30 p.m. with the bodies of a man and a woman inside. They were identified as Joseph



Plantation Fire Rescue Dive Team members hook up their cables to a white Nissan Altima that was found in a canal along Old Hiatus Road. Two bodies were found inside the car. (Michael Laughlin, South...)



Stephenson, 51, and Amber Filion, 43, both of Davie.

The co-workers had left an Applebee's restaurant around 10:30 p.m. Thursday and Filion texted that she was heading home. They were intending to take Hiatus Road but ended up on Old Hiatus Road, which has no outlet. While making a U-turn on the swale, the car appeared to slip into the canal, Plantation police Detective Robert Rettig said.

Davie police received a missing persons call around 11 p.m. Thursday and a helicopter began searching the area Friday afternoon, when the bright sunlight increased visibility, Rettig said.

"They obviously can see a lot more from a bird's-eye view than we can," he said. "Sunny weather also helps when you can look down from the sky and see a vehicle in the water. Sometimes it's easier that way."

The helicopter found the sunken car around 2 p.m. near Old Hiatus Road and Tara Drive, just north of Interstate 595. Plantation police divers had the vehicle half out of the water within an hour, Rettig said.

Resident Leslie Thomas said it's a quiet neighborhood with very little outside traffic but added there "absolutely" should be a guardrail along the canal bank.

"If you're coming down this road and it's late at night, you could go straight into the canal if you didn't know your way," she said.

Norfolk firefighters assisted at the scene of a road accident between Toftrees and Hempton today. - Cash boost for Norfolk Fire Service dive team

http://www.edp24.co.uk/news/cash_boost_for_norfolk_fire_service_dive_team_1_1389705

May 26, 2012 By sophie wyllie

A new fire service dive team in Norfolk can now carry out underwater search and recovery across Britain thanks to a £27,000 government grant.



The money came from the Department of Environment, Food and Rural Affairs and will extend the **capability of Norfolk Fire Service's urban search and rescue team (USAR)**, which is based in Dereham.

The county's USAR team was set up in 2006 as part of **the government's national response to the New York September 11 attacks in 2001.**

Members of the specialist unit are trained in rescues such as finding and rescuing casualties from major accidents, including building collapses and transport incidents.

Norfolk's USAR team is funded by central government and not by the county council, but it is made up of trained firefighters from across the county.

Harry Humphrey, cabinet member for community protection, said: "This team will represent the pinnacle of water based technical search skills, putting Norfolk right at the forefront of the government's response to the recommendations in the Exercise Watermark report."



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"The funding received is over and above previous grants, and represents additional inward investment into Norfolk Fire and Rescue Service, made available to us through the enthusiasm and commitment of our staff, and the confidence at the highest levels of government in our ability to deliver."

In March last year Norfolk took part in a national emergency flooding event called Exercise Watermark.

This was completed to test national, regional, local and community arrangements for dealing with flooding emergencies.

Roy Harold, assistant chief fire officer for Norfolk, said: "It is important to stress that there are currently no means by which this team can be deployed for immediate use in a live rescues, and the grant is not intended to provide this, only search and recovery."


"Instead, USAR will be able to provide a second search and recovery team nationally, alongside the Nottinghamshire Police Dive Unit."

"The team could be mobilised in advance of a major flood event, such as a 1953 style east-coast tidal surge, to provide a national strategic reserve which could be deployed to protect or reinstate critical national infrastructure, or to undertake underwater search." The grant comes as new 4x4 fire engines are introduced to Norfolk Fire Service, which are designed to help manage flood risk.



**Police search the Mira River in Nova Scotia Saturday.
(CBC)**

Ten of these vehicles will be sent to fire stations at King's Lynn, Great Yarmouth, Downham Market, Thetford, Martham, Acle, Wroxham, Sheringham, Methwold and Loddon over the next two years.



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Woman's remains found in hockey bag on Cape Breton river

<http://www.cbc.ca/news/canada/nova-scotia/story/2012/05/26/ns-body-found-hockey-bag.html>

May 26, 2012 [CBC News](#)

Neighbours shocked at grim find

Police in Nova Scotia are investigating after a woman's remains were found in a hockey bag floating on a Cape Breton river Friday night.

Two people who live on Hillside Road in Marion Bridge went outside to start a backyard barbeque in the evening.



They spotted a bag floating in the Mira River, pulled it ashore, and called police when they saw the body.

The people who found the body were "pretty shaken up," Kennedy said. "They were having a hard time with this last night."

Police could not comment on the cause of death, nor the length of time the body was in the hockey bag in the water.

Investigators searched the area Friday night and returned Saturday to scour the water in boats. The age and condition of the body is not known.

'It's kind of nerve-wracking'

Marion Bridge is a quiet town 20 kilometres south of Sydney. Residents who spoke to CBC News said the community is shocked and baffled by the grim discovery.

"It's kind of nerve-wracking. You don't know. This is a nice, quiet, peaceful place. We come here on the weekends for peace and tranquility," said Tina Lamoine. "It's scary."

"The viciousness of it, it's terrible," said Tyler Irons.

An autopsy was being done Saturday afternoon in Halifax.

"Investigators are trying to determine at this point who this lady is," said Staff Sgt. Mike Kennedy, head of major crime for Cape Breton Regional Police. "Because of what we've learned so far, we are treating this death as a homicide."

Hockey bag death shocks Northside

<http://www.cbc.ca/news/canada/nova-scotia/story/2012/05/28/ns-woman-northside-shock.html>

May 28, 2012

Cape Bretoners are expressing their shock about the death of a young woman whose body was found in a hockey bag.

Cape Breton Regional Police confirm the woman was a 21-year old from the Northside area, but won't release her name at the family's request. Her death is being treated as a homicide.

"It's a tragic event. Our thoughts and prayers as a police service are with the family of the victim," said Staff Sgt. Mike Kennedy, the lead investigator in the case.

"From what we've learned so far in the investigation, we're saying that it was not a random act. It seems to be an isolated incident."

Although the police will not release the victim's name, many people in the community know who she is and have expressed their feelings through social media sites.

"They say her death is shocking and very sad," the CBC's Wendy Martin reported Monday morning.

The woman's body was in a hockey bag that was found floating in the Mira River on Friday. Police divers scoured the area on Monday looking for more clues in her death.

Related Story: [Woman's remains found in hockey bag on Cape Breton river](#)

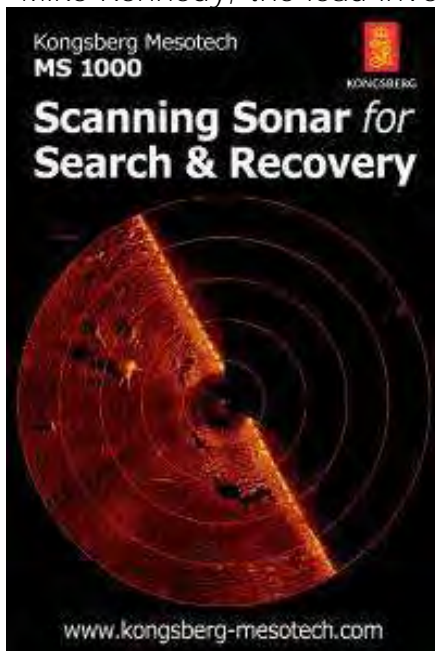
Police have not said how she died or how long she had been in the river.

"The Cape Breton Regional Police Service presently has 25 members assigned full time to this investigation," Kennedy said earlier on Monday in a news release.



Divers were back at the Mira River on Monday. (Joan Weeks/CBC)

"As this investigation moves forward, if more resources are needed they will be taken from other sections within our police service or from outside agencies."



Namibia: Drowned Three 'Were Not Scared to Die'

[HTTP://ALLAFRICA.COM/STORIES/201205280878.HTML](http://allafrica.com/stories/201205280878.html)
28 MAY 2012 BY DENVER KISTING

THE three boys who drowned in a farm dam last week, "knew that they would go to Jesus because their relationship was right".

Brian Kinghorn, director of Youth With A Mission (Ywam), yesterday said the boys gave separate testimonies last week in which they indicated that they were not scared of dying.

Neville Bock (17), his 13-year-old brother, Josua Beukes, and a friend, Denzel Afrikaner (18), drowned late Wednesday afternoon when their canoe capsized in a dam near Brakwater.

Melvin Boois (21) survived the tragedy - suspected to have taken place between 16h00 and 17h00.



The brothers will be buried at Groot Aub this weekend, while Afrikaner's funeral arrangements are yet to be finalised.

More than 30

minutes before the bodies of three teenage boys were removed from the dam on Thursday, a sister of the two brothers also had to be saved.

The girl, who could not swim, jumped into the dam amid blood-curdling cries from relatives - in an apparent attempt to join her dead siblings.

Kinghorn on Thursday said the boys were not allowed to go into the water. After the boat capsized, Boois managed to swim to the shore.

Boois ran to the farmworkers to inform them what had happened. Because it was dark, Police divers and staff from Crisis Response drove to the farm the next day to retrieve the bodies.

Afrikaner's body was the first to be removed - at about 09h50. At about 10h15, the remaining bodies and the canoe were found.

Family members were seen weeping near the dam.

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According to Kinghorn, a service was held on the farm on Thursday. The next day, a scheduled conference was cancelled "to spend time with the families for debriefing".

Kinghorn, who runs a Ywam missionary project on Nubuamis Plot 4, described the situation on the farm as "calm and peaceful."

Man walks into sea to search for mermaid

<http://www.emirates247.com/news/region/man-walks-into-sea-to-search-for-mermaid-2012-05-29-1.460706>

May 29, 2012

A Kuwaiti man took his shoes off and walked into the water at a key beach in the Gulf emirate, raising concerns among visitors that he intends to commit a suicide. After he refused to heed their calls and continued walking in the water with his clothes on, they called the police.

Police came and shouted to him but he still walked on. Police divers then went after him and pulled him out of the water.



"When they asked him why he was doing this, he replied that he was searching for a mermaid and that he is convinced mermaids

exist," the Kuwaiti Arabic language daily Alwatan said in a report from the capital Kuwait City.

"Police men were stunned and tried to persuade the man that mermaids are only legendary creatures and do not exist. But he did not believe them and insisted on continuing his search. They then asked him to come with them to another beach, where mermaids are abundant. He believed them and got into their car, which took him to the psychiatrist, who found the man is having mental problems."

Police Investigating Skull Found Off Key Biscayne

<http://www.nbcmiami.com/news/local/Police-Investigating-Skull-Found-Off-Key-Biscayne-15558115.html>

May 30, 2012

It was found in the water off a state park Tuesday.

Miami-Dade Police said they are investigating the discovery of a skull near a state park on Key Biscayne.



NBC Miami

Authorities at Bill Baggs Cape Florida State Park on Tuesday.

The skull was found in the water off Bill Baggs Cape Florida State Park on Tuesday, on the east side of the lighthouse by the seawall.

Police divers removed the skull from the water, and homicide detectives came to the scene and took it.

Police are now trying to identify the skull.

Fecal Bacteria May Be Hiding In Beach Sand

<http://www.care2.com/causes/fecal-bacteria-may-be-hiding-in-beach-sand.html>

June 1, 2012 by [Beth Buczynski](#)

High profile disasters like the [Gulf oil spill](#) and realities like the [Great Pacific Garbage Patch](#) are reminders that while the ocean may look refreshing, it'd kind of like taking a dip in a slightly poisoned bathtub. Between industrial pollution and something scientists call "fecal indicator bacteria," it's no wonder popular beaches are often shut down because contamination levels put **swimmers at risk**.



In most cases, [beach](#) shut-downs come after a hard rain, which washes sewage and other contaminants into the shallow water, causing pathogen levels to spike. After a day or so, the levels return to "safe" levels, and authorities reopen the waterfront for public use.

You might think enjoying the ocean from the safety of your beach blanket will protect you from coming into

contact with any nasty sewage-borne pathogens that might still be hanging around, but you'd be wrong.

Up until recently, beach monitoring programs only took samples from the water, because it was assumed that fecal bacteria couldn't survive on land. But recent research shows that [this assumption was incorrect](#). It turns out "sands and sediments provide habitat where fecal bacteria may persist, and in some cases grow."

This means that even though the fine, dry sands might seem completely devoid of life, it's actually a breeding ground for bacteria that could make you very sick. This would also explain why high contamination levels are sometimes detected even when there's been no rain.

Still, researchers are reluctant to say that monitoring programs should start to consider beach sand samples in their analysis. Graduate student Elizabeth Halliday and microbial ecologist Rebecca Gast, who published a 2011 study on this topic, say it's not yet clear for how long fecal bacteria can remain alive in the sand.

"Put it this way: I go to the beach and walk on the beach all the time. I love the beach. But, I wouldn't eat something



that dropped on the sand," Halliday said, noting that her research hasn't scared her away from the beach, nor should it overly

Fisherman drowns after cabin cruiser capsizes just 100 yards off shore at Greenock

<http://www.dailyrecord.co.uk/news/scottish-news/2012/06/03/fisherman-drowns-after-cabin-cruiser-capsizes-just-100-yards-off-shore-at-greenock-86908-23884068/>

Jun 3 2012

A FISHERMAN died yesterday after he became trapped under his capsized boat just 100 yards from shore.

The 48-year-old was caught beneath the hull for 45 minutes until a diver rescued him.



The Forensic Teacher Magazine

- Foot Impression Lab
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Summer 2011
ISSN 1209-3100

The Forensic Teacher Online
theforensicteacher.com

He was given CPR by paramedics at the scene at **Greenock's Ocean Terminal**. But he was dead by the time he arrived at **the town's Inverclyde Royal Infirmary**. Two other men, aged 41 and 61, survived after being rescued.

One grabbed a lifebelt thrown by a bystander, while the other was rescued by coastguard after he climbed on to the capsized vessel.



A cabin cruiser which capsized off Greenock. Rescue workers examine the boat in which the angler died.

The men, from Dumbarton, had been out fishing in the small cabin cruiser when it overturned at 11.50am.

Onlooker Lawrie Johnston, 20, a call centre worker, said: "It was terrible.

"You could see one of the men having his chest pumped by the paramedics.

"There were loads of rescue boats and even an ambulance helicopter which landed on the pier.

"The men were out fishing a few hundred yards from the shore. The coastguard was there very quickly to get the men out of the water. They did their best for all three. The boat went on its side and was even upside down at one stage."

[Video on Site](#)

The two survivors were released from hospital after treatment for hypothermia. Graeme Watters, from Clyde Coastguard, said: "One person made it to the shore with assistance and the other two were recovered and then put into the care of the waiting ambulance.

"We have been informed one of the three men has sadly lost his life. Our thoughts are with his family and friends at this tragic time."

The tragedy sparked a major rescue attempt involving the coastguard, police divers, lifeboat and a Royal Navy helicopter from Prestwick.

The boat was towed away from the esplanade shore about 4pm by police for examination.

By this time, a large crowd had gathered.

Police and the Maritime Accident Investigation Bureau are investigating the incident and a fatal accident inquiry is likely.

More testimony in trial of siblings accused of killing teen

<http://www.wftv.com/news/news/local/more-testimony-trial-siblings-accused-killing-teen/nPN7R/>

June 7, 2012

MARION COUNTY, FL - On Thursday, prosecutors laid out more evidence trying to tie a brother and sister to the killing of a [Marion County](#) teenager.

Officials said Seath Jackson was lured to his death in April



2011 by a group of teens.

The jury saw photos and video of the crime scene on Thursday, including large plastic paint buckets that were used to put the Jackson's burned remains in.

A sheriff's dive team said they found them in a flooded [Marion County](#) rock quarry.

"Well, we started from the point where Detective Stroupe believed they may have been tossed. We went straight to that spot, went down and they were there," said Sgt. Billy Padgett of the [Marion County](#) Sheriff's Office.

Prosecutors said siblings Kyle Hooper and Amber Wright were part of a plot involving five people to kill Jackson.

Detectives said the victim was beaten and shot to death in a Summerfield mobile home on April 17, 2011. They said his body was then burned and the remains packed into the buckets, which were dumped at the quarry off State Road 40.

"As one of the divers was diving the bottom of the water, he found what appeared to be a piece of human tissue and a possible skull," said Lisa Byrd, a crime scene technician.

Divers also found a tooth that prosecutors said DNA tests tie it to the victim. Attorneys for Hooper and Wright said there's no proof either of them ever went to the quarry and there was no testimony to show they did.

"What I'm asking you as you sit here right now is if you saw anything to suggest Kyle Hooper ever went out there," asked the defense attorney.

"No, replied Byrd. "I didn't see anything with his name on it."

The teens face life in prison if convicted.

Of the three other defendants, one pleaded guilty, one was found guilty, and another one will stand trial later this year.

Croc sighted in Manly Dam

<http://manly-daily.whereilive.com.au/news/story/croc-sighted-in-manly-dam/>

17 Jun 12 @ 12:01am by John Morcombe

IN June 1964 police divers spent three days looking for a crocodile in Manly Dam.

One Warringah councillor even suggested using dynamite to get rid of the troublesome animal.

The drama began on June 5, 1964, when two police divers snorkelling in the dam were convinced they came face-to-face with a 1.6m crocodile.

The two said they made separate sightings of the beast - one in 7.6m-deep water and one in 3.7m-deep water - while they were recovering dumped car parts from the dam.

The first to spot the croc was Constable Brian Parker at 11.30am then Constable Trevor Swift spotted it five minutes later.

They immediately informed the rest of the Police Skindiving Squad, after which the rubbish recovery operation was called off.

It was later revealed that Manly police had received reports from visitors to the dam that footprints similar to those of a crocodile had



Water police divers search for an elusive crocodile in Manly Dam in June 1964.

been seen near the edge of the water.

Taronga Zoo honorary president Edward Hallstrom said the animal was probably a Johnstone's crocodile, a freshwater croc that was harmless to humans that would probably die because the water in the dam was too cold for it to survive for long.

"People have been bringing baby crocodiles back from Queensland and keeping them as pets," Mr Hallstrom said.

"These people find that the crocodiles are good as pets while they are young and small, but when they grow they are trouble.

"Then they find they cannot handle the crocodiles and don't know what to do with them, so they dump them."

A Campsie pet shop owner told the press that he believed about 20 crocodiles were dumped in isolated areas around Sydney in the past year.

"A travelling salesman brought these 20 crocodiles into my store about nine months ago and asked if I wanted to buy them," the pet shop owner said.

"Sales of crocodiles as pets were fairly slow at the time and I told him that I couldn't handle them.

"He had already been to other pet shops.

"Heaven knows what he eventually did with them."

Local residents were quick to join the hunt; some walked around the edge of the dam beating the water with sticks while others tried to catch the croc using chunks of meat as bait.

Warringah councillor Gordon Jones said the solution was simple.



"All that is needed is a few sticks of dynamite," he said.

"We all know the concussion caused by dynamite in water and this would be the best way to rid ourselves of the crocodile.

"It would kill other life in the dam but common sense and some 'jelly' would take care of the problem." Meanwhile Manly Mayor Bill Nicholas warned local residents to refrain from hunting the crocodile with rifles, saying a ricochet could kill or wound people standing nearby.

It wasn't long before newspapers started having fun with the story, which may explain why the search was called off after three days.

Manly police Insp J.H. Retallick said that expert opinion was that the crocodile could not live for long in the cold water in the dam.

"The water in the dam is very murky and deep, and at this stage it would be useless sending anybody down to look for it," he said.

And that's where the story ended.

The croc was never seen again - if it existed in the first place - but at least it kept locals and the media entertained for a few days.\

CROC FACTS

* The Australian freshwater (or Johnstone's) crocodile is a small cousin of the Australian saltwater crocodile.

* Males can reach lengths of 2.4m-3m and weigh 90kg; females can reach 2.3m and weigh 45kg.

* They may not reach full lengths for 20 years.

* They have narrow, tapering snouts; the fourth tooth on either side of the bottom jaw is larger than the others and can be seen when the mouth is closed.

* They can gallop on land, reaching speeds of 18 km/h and can live for 50 years.

* These crocodiles are found mainly in freshwater lakes, billabongs, swamps, rivers, creeks, and wetlands.

* Juveniles feed on insects, crustaceans, and small fish; older crocodiles also feed on amphibians, reptiles, bats, large fish, and land mammals.

* They are considered to be of low risk.

'I swear I had his hand': Friend of N.S. drowning victim

<http://metronews.ca/news/halifax/269757/i-swear-i-had-his-hand-friend-of-n-s-drowning-victim/>

June 19, 2012 By Staff Amherst Daily News

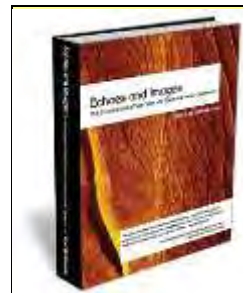
The RCMP Underwater Recovery Team has located the body of a 28-year-old Pugwash man who drowned at the Pumping Station Pond in Brookdale early Tuesday.

Police confirmed that the body of the unidentified man was located at around 8 p.m. The name of the victim was not being released by police.

RCMP, paramedics, and the Amherst Fire Department responded to a reported drowning at the pond at 10 a.m. Tuesday. They arrived to

learn from witnesses that a man dove off the dam at the popular fishing spot and did not resurface.

Mark Matheson was a friend of the swimmer and was there when the man jumped into the water.



The long-awaited text from Mark Atherton.

Echoes and Images, The Encyclopedia of Side-Scan and Scanning Sonar Operations is the how-to guide for side-scan and scanning sonar operations.

For more information or to purchase your own copy, go to <http://echoesandimages.com/>

"After thirty seconds and not seeing him come up we said, 'Where is he? Where is he?'," and started diving down. My buddy and I dove and dove. We were doing what we were supposed to, getting deeper and deeper, **trying to feel for him. After the second dive, that's when I said 'nope, 911' and I told them 'it's too deep, bring scuba gear.'"**

They continued to dive in attempts to reach the victim as police and paramedics arrived.

Chad Estabrooks was one of those swimmers that was diving trying to find his friend when police and paramedics arrived. **"I dove in three times, and I swear I had his hand. He was a good man. A really good man, and our best friend. This just makes no sense."**

Police divers were requested, but had to travel from Halifax. Divers arrived on scene and entered the water at 7 p.m.

The long wait was unacceptable, said Matheson. **"They came in a whole pack, still no scuba gear. This is ridiculous."**

The pond and surrounding area are currently owned by the Town of Amherst and is off-limits to swimmers. There are no trespassing signs throughout the property. Many people say the dam often gathers up underwater tree trunks and branches.

Diving deep to save lives

<http://www.somdnews.com/article/20120615/NEWS/706159883/1075/diving-deep-to-save-lives&template=southernMaryland>

Jun. 15, 2012 by [By KATIE FITZPATRICK, Staff writer](#)

Fun on the water can sometimes turn dangerous in the blink of an eye. A boat can catch fire or collide with another boat, or rough waters can toss someone overboard. Fortunately, members of Southern Maryland fire departments and dive teams are well trained to handle any water-related emergency.

Equipped and prepared with one of the three boats that Calvert County owns housed at the Solomons Volunteer Fire Department, its firefighters are used to marine **distress calls, Assistant Chief Joe Ford said. "We run calls for fire-related emergencies at piers, boats taking on water, any type of water-related emergency,"** he said.

The 28-foot Winninghoff aluminum boat carries a fire hose, a water-supply unit for structure or marina firefighting and cold-weather gear for



Staff photo by DARWIN WEIGEL Calvert County Rescue Dive Team member Bobby Wentz of Lusby brought up a childlike mannequin earlier this month during training at Jefferson Patterson Park & Museum. The team simulated a scenario where a man and a boy drowned after being thrown from a Jet Ski.

rescues, Ford said. The department also is trying to obtain infrared imaging equipment.

Ford said in his 18 years in the fire service, most of the training has remained constant, but the technology has changed. Flare systems, infrared and side-scan sonars can help locate people more easily, he said.

Boat captains complete a **captain's class through the U.S. Coast Guard**, and then any passengers must complete a mate program, Ford said. The mate program is an in-house program, Ford said, which includes the Maryland Department of Natural Resources boater safety class. The fire department is considering requiring a swim test, he said, but a lot of the members already go through a swift-water or lifeguard class so they know how to rescue someone from the water.

The 27-foot boat housed at the North Beach Volunteer Fire Department is equipped with a 500-gallon-per-minute pump with a master stream device, Chief Donald Gibson said.

To operate the boat, a department member must have a **DNR boater's license, Gibson said. The member first** becomes a deckhand, which consists of in-house training on the use of ropes, knot tying, the use of navigation aids

and retrieving a person from the water. Then, the member becomes a trained boat operator, which requires a person to spend hours on the water during the day and night, demonstrate knowledge of operating the boat using navigation aids and maneuver the boat in open water and at docks.

Gibson said the boat never leaves the dock without two operators and at least one deckhand. The department has responded to calls for boats in distress, capsized boats and boating accidents, Gibson said, and usually responds to about 30 water rescues a year.



"As the summer goes on, more people get in the water and obviously Jet Ski-ers come out, more people travel by boat and our call volume goes up," Gibson said.

Gibson said there are times, especially when a victim is in the water, when the Calvert County Rescue Dive Team responds to calls as well.

The dive team is a resource for all of the county's volunteer fire departments, dive team Chief Dan Furth said, and assists the primary fire department that responds to water emergency calls. Furth said the dive team also provides mutual aid to neighboring counties.

"We're mostly recovery," Furth said, adding that the team is mostly sent into the depths of the water to recover **evidence or a victim's body.** The primary skill of the dive team members is scuba diving, **Furth said, and "we don't normally put on scuba gear and dive down to rescue somebody. If they're down there, they're not being rescued. They're being recovered."**

The county has provided the team with resources and tools to ensure that it has a quality dive team, Furth said. Ten years ago, the divers were diving in personal gear, which is not ideal but is "better than nothing," Furth said. Now the team is outfitted with standard-issue dive gear.

Furth said the team uses a dry suit, which keeps members **"100 percent isolated from the water."** In a dry suit, a diver does not get wet, is not exposed to contaminated water and is not exposed to freezing water temperatures. He said using this specialized equipment also requires special training. Furth said the team responds to roughly 60 calls a year, so the training is taken "really seriously" to prevent injuries to divers.

"Water is very unforgiving," Furth said. "Public safety diving is as dangerous as anything that is done as far as rescue concerns. The odds of our people getting hurt are as high or higher than anything else."

To be a diver for the county, Furth said, a person must be certified by the International Association of Dive Rescue Specialists and take an annual fitness test and an annual skills test. He said the divers put in 10 training hours for each hour spent underwater on operations.

"We're one small, incredibly dedicated group of volunteers," Furth said. "There are times I pause and I look at what all these volunteers are doing, the risks that they're taking, the sacrifices they're making and it's really impressive."

Technology means efficiency

While most marine rescues happen in large, open bodies of water, sometimes people need to be rescued when they become stranded in high water after heavy rains, said Tenth District Volunteer Fire Department Chief Danny Hudson.



The Tenth District sponsors the Swift Water Rescue Special Operations in Charles County. Even though the **county doesn't "have what would normally be defined as swift water," during heavy rain, stormwater runoff can sometimes cause floods,** Hudson said.

"The biggest issue we have with [stormwater] is in the areas that are heavily populated ... because when people build, it takes away natural runoff capability," Hudson said. "Typically water goes to roads, and people don't realize they can't drive through the water, so we get people stranded in cars."

For these types of rescues, Hudson said the department has an airboat that can travel in shallow water. For **rescues on the Potomac River, which Hudson said "gets very busy during the summer," the department has a fire boat that is used for fires on open water or rescue calls such as medical emergencies, water skiing accidents or unstable vessels.** Hudson said the department responds to between 80 and 100 water emergency calls on average each year.

To be part of the boat crew, Hudson said there is in-house level training that members are required to go through. To be a boat operator, DNR and Coast Guard operator training is required, and once that license is earned, the in-house training is required. Hudson said the **in-house program is "pretty intense" and 50 hours must be spent on the water before independent operations are allowed.**

Sent for water rescues in large bodies of water are the fire boat and a marine support boat, which Hudson said are fully equipped for any type of water emergency. The

fire boat has a built-in pump so water can be drawn from **the river, as well as a "dewatering pump" to bail out a boat.** Both boats have medical equipment on board, **Hudson said, and "about the only thing" that's not done on a regular basis is towing a disabled vehicle.**

The department used to have its own dive rescue team, Hudson said, but it was **disbanded because "it takes a lot to keep it going. It was a lot to balance in a volunteer setting," Hudson said of having the firefighters and EMTs also involved in water rescues.**

Hudson said the department now works closely with the Charles County Dive Rescue team, which is automatically called to respond for a boat in distress, a boat taking on water or a boating collision.

Dive team Chief William Porter said the primary function of the dive team is for underwater search and recovery.

"If something leaves the surface, that's where our expertise takes over and [the fire department] defers to us," Porter said.

Most of the calls are operational, Porter said, where divers are looking for drowning victims, weapons, evidence or stolen vehicles. The team has responded to several calls in which a person has been resuscitated after **an hour of unconsciousness, but Porter said that is "pretty rare." After the first hour of trying to resuscitate a drowning victim, Porter said the team "transitions into recovery mode."**

The dive team has side-scan sonar. A device is towed through the water and sends out a sonar ping, Porter

said, which reflects off the bottom of the river. The sonar technology allows the dive team to have a safer, timelier and more accurate search, he said.

To send divers into the water with just the knowledge of where something last was seen was unsafe, time-consuming and dangerous, Porter said, and the side-scan sonar makes recoveries much more efficient. Porter said the dive team has helped make recoveries in other counties, including Dorchester, Anne Arundel and Harford.

“Now we’re able to search from topside, so it’s much safer for our agency because we can conduct the search topside and identify targets on the bottom and then send divers,” Porter said.

Porter is a dive instructor, and he and another dive instructor on the team hold in-house trainings. Once a year, an outside agency will be brought in to conduct classes on top of the in-house training, Porter said.

“We just never stop evolving,” he said. **“We always train and find better ways to do things.”**

Porter said the team usually practices sending a single diver down for recovery. He said it is **“always hazardous”** because **“all of our water in Maryland is pretty much black”** and a diver often can’t see a hand in front of his face. The divers are trained to work in black-water environments, Porter said, so the single diver who is sent down is controlled by a tender on the topside.

Teamwork is key Without a dive team, St. Mary’s County relies on fire department volunteers to rescue victims

from the waters of the Patuxent and Potomac rivers, the Chesapeake Bay and smaller bodies of water.

To respond to marine calls, Ridge Volunteer Fire Department members are required to take an in-house boat mate class and a class at the University of Maryland, Chief Bruce Raley said.

Currently, 35 members of the department are trained for water rescues on the 28-foot boat, Raley said. When an emergency call comes in, a crew of four members, consisting of a captain, an officer and two mates, is sent out on the rescue boat, he said. Having members properly trained for water rescues is extremely important since the county is a peninsula, he said.

“When people have a bad day on the water, it can be critical,” Raley said. **“To have the proper training is the biggest issue.”**

Within the Ridge department, Raley said some members are charter boat captains and some members have worked on the water all their lives. He said there is a difference between taking classes and having real-world experiences, **because “you have to have a basic knowledge of the water when you**



get out there.”

The Ridge department responds to about 25 calls each year, Raley said. Raley said the Charles and Calvert county dive teams, as well as the Coast Guard and DNR, **work closely with all of the St. Mary’s fire departments** during water rescues.

Averaging between 50 and 60 calls each year, the Seventh District Volunteer Fire Department uses a 23-foot SeaArk boat and a marine support unit to respond to water emergency calls, Chief John Nelson said. For each call, four people can respond on the rescue boat and five people can respond in the marine support unit, he said.

In-house training and a boater safety course are required for Seventh District members, Nelson said, so they are able to use the boat equipment, which includes a fire pump, medical equipment and hoisting gear.

“There are a lot of vessels that are unfamiliar with the water and they either get lost or stranded because they’re not familiar with where they are,” Nelson said.

Second District Volunteer Fire Department Chief Ricky Nelson said a 24-foot Sea Hawk housed at the department is equipped with a fire pump for fires on the water and a drag bar for finding missing people.

Members of the fire department are required to take a boating course and are trained on how to use radar and GPS equipment, Ricky Nelson said. About four members go out on the boat at a time for rescues, he said, and if a **person isn’t recovered in the first five or 10 minutes**, the Charles or Calvert dive team is called for assistance. He

said the department will help the dive team search for a missing person until the person is found or the search is called off.

There are times when people may get stranded away from the coastlines, and for those rescues, the Leonardtown Volunteer Fire Department has a 12-foot inflatable raft, Chief Thomas A. Mattingly Jr. said.

“We handle inland water stuff in the ponds and lakes,” he said.

Many times, the raft is used to travel across a lake or pond when someone is stranded on the opposite side **because it’s quicker than driving around the lake in a vehicle**, Mattingly said. He said the department responds to about a dozen rescue calls each year.

When a beach is contaminated, should you swim or call it a day?

<http://www.unionleader.com/article/20120622/NEWHAMPSHIRE03/706229934>

June 22, 2012 By TIM BUCKLAND New Hampshire Union Leader

The cooler is packed with drinks and snacks. The towels and umbrella are ready to go and everyone is lathered up with sunscreen. The kids are excited as they clamber out of the car and their scampering feet go from the blacktop of a parking lot to the grains of a sandy beach.

Then you see the red or yellow sign. It says the beach might be contaminated. You're advised to turn away from your day of fun and go somewhere else.



Most people do. "I would rather go home and get wet in the tub," said Melissa Sessions of Salisbury, Mass., who on Thursday was enjoying Kingston State Park, which was not under a contamination advisory.

But in New Hampshire, you don't necessarily have to leave, said Sonya C. Carlson, beach program coordinator for the state Department of Environmental Services.

"We never order beaches closed. We simply provide advisories," she said of the DES. **"There's no law against (swimming in contaminated water)."**

You and your family can still play on the beach and swim in water that may contain elevated levels of bacteria caused by — there's no nice way to say it — **"poop,"** Carlson said.

The state performs more than 2,000 tests, at \$20 each, of freshwater and coastal beaches throughout the season, Carlson said. Federal funding pays for about half the costs to test the state's 16 coastal beaches, she said. The state and towns pick up the rest of the tab. Towns pay for

testing of freshwater beaches within town limits, she said.

While the DES never closes a beach, individual beach owners, be they state parks, condominium associations or towns, can order beaches closed, Carlson said. For example, the state Division of Parks and Recreation on Thursday closed the beach at Silver Lake State Park in Hollis because of a cyanobacteria bloom.

Jocelyn Ortiz of Dracut, Mass., was planning to take her kids swimming at Silver Lake State Park on Thursday, but she decided against it after learning that the beach was closed. She went to Kingston State Park instead.

"I have kids, and my son would swim in the water and get sick. No thanks," Ortiz said.

The state tests for disease-causing organisms, such as E.Coli, as well as cyanobacteria, a blue-green scum that can cause vomiting or diarrhea.

The tests, which involve scooping up water in a bottle at about knee depth, filtering it, then a day later



Fresh water beach inspection intern Sarah Snow makes a notation in her log after taking a water sample at Uncanoonuc Lake in Goffstown on Wednesday. (DAVID LANE/UNION LEADER)

seeing “what's growing” in the solid matter left over, cost about \$20 each, Carlson said.

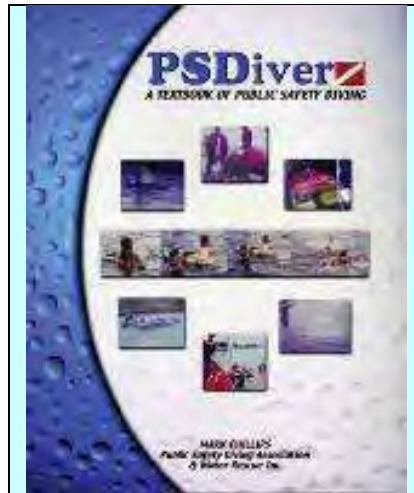
Rain, and what it sends into lakes, rivers and the ocean, is the most frequent cause of a beach advisory being issued, she said.

“It's going to wash off everything from the land and bring it into the water,” she said. “Whether it's goose poop or beaver poop, it will wash into the water.”

Ahern State Park in Laconia, which has a high goose population, finds itself on the advisory list more than any other beach, she said.

“It's always on the list after it rains,” she said. “All the goose poop goes washing into the stream and ends up on the beach.”

Another, more avoidable, cause: Infants not wearing special swim diapers designed to keep leaks from ending up in water used for swimming, she said.



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“Definitely make sure they're wearing a swim diaper,” Carlson said of infants. To guard against getting sick, people should also rinse themselves off after getting out of the water, never drink the water and avoid the water if you have an open wound, are already sick or after heavy rains, she said.

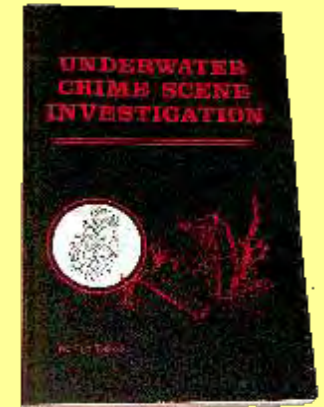
Most freshwater beaches are tested once a month, she said, but towns are not obligated to participate. For example, she said, Groton and Wentworth decided against testing for Spectacle Pond in 2007 and Lower Baker River in 2008, respectively.

Groton Selectman Kyle Andrews was surprised to learn that Spectacle Pond was not being tested by the state. He said he was elected in 2009 and didn't know why the town decided to stop testing the beach.

The coastal beaches are tested in different intervals. Eight of the beaches are tested twice a week. Six others are tested once each week, while the remaining two are tested biweekly.

The state issues advisories if cyanobacteria blooms — which are colorful, pretty gatherings of

**“Underwater
Crime Scene
Investigation”
By Eric Tackett**



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algae — are spotted or if levels of such organisms as E.coli are above acceptable guidelines. It involves a lot of parts-per-million terminology that essentially says there's too much to consider the water safe for swimming.

As of Thursday, two beaches — Silver Lake State Park and Glen Lake Park Town Beach in Goffstown, which had elevated levels of bacteria — were under advisory.

Hudson mom Mindy Malek said she's at the Robinson Pond beach "just about every day" in the summer, and none of her children have ever gotten sick from their swims. Still, she said, she'd turn around if she were to see a sign warning of contamination.

Karen Parshley of New Hampton, who was visiting the Meredith Town Beach on Lake Waukegan, said she would not go into the lake if it were posted as having contamination. "No," she said. "I'd be afraid of the germs."

However, the state has never received a report that anyone has gotten sick by swimming in any New Hampshire body of water, Carlson said.

"It would be very, very hard" to pinpoint an illness to a contaminated beach, she said. "There's really no way to be absolutely sure that somebody didn't get sick from something in the water."

However, she said she believes the tests are worth the cost. "When you're talking about something like public health at a public beach, why take the chance?" Carlson said. "It's not like it's an expensive test. Twenty dollars a test is not outrageous."

Man, 38, charged with murder after baby son dies in Logan River plunge at Beenleigh

<http://www.couriermail.com.au/news/police-search-river-for-missing-baby/story-e6freon6-1226406416799>

June 24, 2012 by: Brooke Baskin, Kris Crane, David Murray

POLICE have made the grim discovery of a six-month-old baby's body on the bank of the Logan River at Eagleby, south of Brisbane, this morning. Divers and search crews found the child washed up on the bank among the scrub at 8.50am.

The boy's father, a 38-year-old local man, was charged with murder overnight after telling police he had fallen from the bridge with his son about 6.45pm.

Police search river bank

Logan district Senior Sergeant Chris Blom said the man had walked the child to the park below the M1 and returned home before raising the alarm.



Police search the banks of the Logan River where a baby's body was found at Eagleby. A 38-year-old local man was charged with murder overnight after telling police he had fallen from the bridge with his son about 6.45pm.

**Picture: Annette Dew
Source: The Courier-Mail.**



The body of a baby boy allegedly murdered by his father has been recovered from a river south of Brisbane.

June 2012 Sky News23

Replay Video: [Baby's body found in Qld River](#)



Police search a bridge over the Logan River after a baby's body was found at Eagleby. A 38-year-old local man was charged with murder overnight after telling police he had fallen from the bridge with his son about 6.45pm. Picture: Annette Dew
Source: The Courier-Mail

Last night a pram was left on the bridge overlooking the Logan River near the Eagleby boat ramp.

Police search river

"We found the baby 1.5km downstream this morning and the father has since been charged with homicide," Sen-Sgt Blom said.

He said the child's father wasn't known to police, and quashed rumours it was a migrant family involved.

He said the man and the child's mother had five other children.

Rescue workers

Police divers, SES swiftwater rescue crews and other emergency workers

searched for the baby until 3am, then resumed the search this morning.

Police were called to the scene after a triple-0 call at 6.45pm, after the baby boy and his father had apparently fallen into the river.

The man told police he went for a walk with the infant in a stroller and the baby had fallen in the water.

Police search river bank



Police on the banks of the Logan River after a baby's body was found at Eagleby. A 38-year-old local man was charged with murder overnight after telling police he had fallen from the bridge with his son about 6.45pm. Picture: Annette Dew
Source: The Courier-Mail



Police search for a six-month-old baby missing in the Logan River. Picture:Adam Armstrong
Source: The Sunday Mail (Qld)

Detective Inspector Chris Jory said: "He then went on to describe certain aspects of his movements after that time. That's now forming part of our investigation."

Insp Jory said there were no

known witnesses and confirmed the baby's mother went to the river after the plunge. Two people were seen huddling near the river draped in towels.

Both parents went to Logan police station where they were helping officers with their investigation.



**Police search the Logan River where a baby's body was found at Eagleby. A 38-year-old local man was charged with murder overnight after telling police he had fallen from the bridge with his son about 6.45pm. Picture: Annette Dew
Source: The Courier-Mail**

Logan River

The pedestrian bridge is a popular fishing spot and locals were shocked at the search under way.



**Emergency services are searching for a baby missing in the Logan River. Picture: Adam Armstrong
Source: The Sunday Mail (Qld)**

"It's normally so quiet here at night," one said.

Related Coverage

[Father charged with baby's murder](#)

L.A. County beach pollution case goes to U.S. Supreme Court

<http://latimesblogs.latimes.com/lanow/2012/06/us-supreme-court-to-hear-la-county-beach-water-pollution-case.html>

June 25, 2012



The U.S. Supreme Court agreed Monday to hear Los Angeles County's appeal of a lower court decision requiring the county to clean up polluted runoff that flows to the ocean through two urban waterways.

The 9th Circuit Court of Appeals last year sided with environmental groups in finding the county and its flood control district responsible for tainted water released into the Los Angeles and San Gabriel rivers, in violation of the Clean Water Act.

The Natural Resources Defense Council and Santa Monica Baykeeper sued the county in 2008 in an effort to get the

agency to treat or divert the water before it reaches the beach.

Water quality experts have long identified storm runoff -- the toxic soup of bacteria, pesticides, fertilizer and trash that is swept to the sea when it rains -- as the leading source of water pollution at Southern California beaches and a cause of swimmer illness.

The Los Angeles County Flood Control District has argued it is not to blame for the tainted runoff -- even if it were so polluted with oil and grease that it caught fire -- because it does not generate the pollutants. The agency has said the thousands of miles of storm drains and flood channels it oversees are mere conduits for upstream polluters, including dozens of cities and industrial sites.

The county appealed [last year's federal appeals court ruling](#) that it did not matter if the flood control district was the source of the pollution because it still controlled its flow toward the ocean.

L.A. County Public Works Director Gail Farber issued a statement calling water quality **"an issue of national significance"** that **"municipalities and Flood Control Districts across the nation are working together to address. We're very pleased that the Supreme Court has recognized the importance of our case and agreed to hear it."**

Environmental groups said they were confident the lower court's decision would be upheld.

"This presents another opportunity to demonstrate the County's ongoing attempts to avoid responsibility for

pollution in Los Angeles," Santa Monica Baykeeper Executive Director Liz Crosson said in a statement. **"It is time that L.A. County is held accountable for the public health impacts and ecological damage its stormwater pollution creates."**

Environmental groups also had sought to hold the county responsible for pollutants swept into the Santa Clara River and Malibu Creek but failed to convince the federal appeals court.

North Stamford Well Water Contamination Could Be Widespread

<http://stamford.patch.com/articles/stamford-well-water-contamination-could-be-more-widespread>

June 25, 2012 By [Patrick Barnard](#)

31 percent of 628 wells tested in Stamford since 2009 have at one time tested positive for unsafe levels of the



Credit Tommy Kail

pesticides chlordane and dieldrin, which were banned more than 20 years ago, according to the Stamford Advocate.

After private wells in [Stamford](#) and Wilton tested positive for the banned pesticides chlordane and dieldrin, state health officials are reportedly advising all homeowners with wells in the region to have their water tested.

According to a report in the [Stamford Advocate](#), 31 percent of 628 [wells tested in Stamford](#) since 2009 have tested positive for unsafe levels of the pesticides, which were banned more than 20 years ago.

However some private wells in Wilton have also recently tested positive for the pesticides, leading state officials to believe the contamination is [not limited to the Scofieldtown area, as was initially believed.](#)

State officials reportedly want to gather as much test data as possible from across the region to get a more accurate picture of how widespread the contamination is. Currently the state has only limited test data, which in the case of Stamford shows contaminants showing up on one property, but not the one next door, according to the Stamford Advocate report.

Meanwhile a group of Stamford residents has joined with health and environmental officials to create a reduced-cost well water testing service to augment the [city-run water testing program](#), according to the [Advocate](#).

For more, check out this report in [Madison Patch](#).

Flood Waters Can Be Deadly

<http://templeterrace.patch.com/articles/flood-waters-can-be-deadly>

June 26, 2012 By [Linda Hersey](#)



Seven Springs Neighborhood
Credit [Becky Bernashe](#)

Flood waters may lead to electrical shocks. They also may be contaminated with bacteria. Motorists are at risk driving through them.

Flood waters pose numerous health and safety risks in storms. They

include dangers to drivers, contamination and the risk of deadly shocks near electricity.

Public health officials are urging the public to take the following precautions:

Contamination: Flood waters may contain fecal material, bacteria, viruses, and other pollutants. Avoid contact with flood waters. Children playing in contaminated standing water can become sick or be bitten by snakes or floating insects. Discourage children

from playing in flooded areas. Wash off thoroughly after contact.

Flooded roads:

During flooding, the greatest threat comes from moving water. The deeper the moving water, the greater the threat. People should avoid driving in moving water, regardless of the size of their vehicle. Road surfaces become obscured, and drivers can unknowingly steer into a deep body of water, such as a canal or pond.



Credit [Kim Atkinson](#)

Electrical shocks: Electricity from streetlights and power poles may be active through standing water, causing a

deadly shock to anyone coming in contact with it.



Credit [Alex Tiegen](#)

Tainted drinking water:

Drinking contaminated water may cause illness. You cannot

assume that the water in the flood-affected area is safe to drink. If your public water system is affected, a boil water notice will likely be issued for your area.



Credit [Linda Hersey](#)

Individuals with private wells should take precautions. If your well is in a flooded area, your water may contain disease-causing organisms and may not be safe to drink.

For further information, please contact your local county health department or visit www.doh.state.fl.us or www.FloridaDisaster.org.

E. coli in water a serious threat

<http://star.txstate.edu/node/5754>

Jun 27 2012 - 12:00am | [Alex Pernice](#)

When bacteria like E. coli find their way into the campus water system, it is imperative that the university takes an active role in resolving the contamination issue.

According to a June 13 University Star article, E. coli was found on the pre-treatment side of a campus water well. The bacteria was disinfected before it had the possibility to affect students on the post-treatment side.

Take a moment to think about how important water is to you. Water is everywhere in San Marcos, from the river at Sewell to the drinking fountains all around the Texas State campus.

As a growing institution, Texas State has many checks and balances when it comes to safety and security. Taking care of its water sources is one of the most important things the university can do. Water is such a vital element to life in general. It not only provides entertainment with pools and the river in summertime, but it can also affect health. Health should be put first, especially when E. coli is involved.

For many Bobcats, the threat of E. coli is frightening because the bacterium is notorious for wreaking havoc on the human body. E. coli contamination is caused by animal or human wastes that collect in runoff by rain or snow. The bacteria finds its way into places like Spring Lake and the Edwards Aquifer, which can lead to pollution of the water. Depending on the strain of the bacterium, ingesting water that contains E. coli can result in serious digestive problems. Students should be concerned with this not only because of the effect on drinking water, but also because of the river. Imagine getting terribly sick for days after a weekend float. I know I would be extremely frustrated if that happened to me.

It is understandable that finding E. coli in our water sources could raise concerns within the Texas State community. Students and staff may begin to wonder if the administration is taking the proper precautions early and often when it comes to testing water treatment sites. Ingesting harmful bacteria of any kind is a frightening thing, but to know that Texas State has been credited for its successful contamination prevention in past years is a comforting fact. The university also responded well to the positive E. coli results by treating the problem in a timely

manner.

It is important for people to be educated when it comes to water contamination. Know what to do if your water is not safe. The city you obtain your water from is required to notify you when there is a situation such as bacterial pollution. Think of ways to further protect your own tap water. Purchasing a simple

purifying pitcher or sink purifier will ensure even cleaner water. And, above all, be smart about where you actually get a drink. As refreshing as that river water may look during a long afternoon, in hindsight, it probably will not be so great to drink.

So take care, fellow Bobcats, when filling your water bottles or diving into the river at Sewell this year. As the university administration continues to watch what goes in and out of the water sources, make sure to check as well. Being safe will always trump being sorry in the long run.



A Coffee Mug for Public Safety Divers

You did not know you needed one of these did you? Just imagine how cool you will look in the morning drinking your coffee from this awesome mug. Hard to contain your excitement isn't it? Limited supply – Don't wait until they are gone and live with regret for the rest of your life![Order Yours Here!](#)

FOUND ON THE WEB

Dive Co.: Equipment issues impossible Zeagle Dive Systems speaks on officer's death

http://www.wavy.com/dpp/news/local_news/chesapeake/equipment-maker-on-officers-death

17 Feb 2012

CHESAPEAKE, Va. (WAVY) - A dive equipment manufacturer says it's impossible that their equipment caused a Chesapeake police officer's death.



Officer Timothy Schock died in Dec. during dive training.

This week, Chesapeake Police Chief Kelvin Wright said Schock's Zeagle Dive Systems Power Inflator and Rip Cord Release failed. Wright also said that after Schock's death 12 other divers' Rip Cord Releases failed during testing.

Both Zeagle Dive System's president and an engineer told WAVY.com that the Chesapeake Police Department has not contacted them and that they haven't seen the equipment Schock was diving with when he died.

The company said they learned there was an alleged problem with their equipment when Hampton Roads dive stores starting calling them about 10 On Your Side's report.

According to Zeagle Dive Systems' President Dennis Bulin, the importance of sending the equipment to a certified technician is stated right on the equipment itself.

"Your BCD, including the inflator, should be inspected and maintained by an authorized Zeagle dealer at least once a year and more often if you dive frequently," Bulin said.

Zeagle Engineer Jim Fox said Officer Schock should have aborted the dive the moment he realized his power inflator was broken.

"That was about one of five or six things that started this whole snowball," Fox said.

Once Officer Schock couldn't get to the surface, Zeagle's president said he should have dropped his weights.

Police said Schock couldn't.

"Sometimes people modify the rip cord system too. That's why the fact that 12 of them failed is very, very curious and bizarre because that just doesn't happen," Bulin said.

Bulin doesn't know if they were modified because he hasn't seen them.

"Once they have a real diving expert look at the equipment, all the equipment that was actually used and

investigate the training procedures and everything that was done...You're going to find out what the real problem really was here," Bulin added.

10 On Your Side called every city in Hampton Roads to see if other police departments have their equipment serviced at a certified dealer. Hampton Police Department does, Norfolk Police Department does, Newport News Fire Department does and Virginia Beach Police Department does.

Spokespeople for each of those cities made it clear they didn't want their methods to be compared to Chesapeake's.

10 On Your Side is waiting to hear back from Portsmouth and Suffolk.

In a statement released to 10 On Your Side Friday, it was learned that Schock had on a dry suit.

Fox said that is significant

"All he needed to do instead of uselessly trying to get it into the BC [was] hit the inflator on his dry suit and the buoyancy would have been produced by the inflator on his dry suit," Fox explained.

An alternative Chesapeake police have not talked about yet.

- [Full press conference on Schock's death](#)
- [Faulty equipment cited in officer death](#)
- [Officer killed in dive training ID'd](#)

FOUND ON THE WEB

Human error is cause of most dive accidents

<http://www.compassavman.com/cavocompass/2012/05/02/Human-error-is-cause-of-most-dive-accidents/>

02 May, 2012 By: **Natasha Were** natasha.were@cfp.ky

In the overwhelming majority of dive accidents and dive fatalities, human error was the primary cause, said Dan Orr, president of Divers Alert Network, during a presentation he gave on dive safety while in the Cayman Islands last week.

During the seminar, which was aimed at dive professionals, Mr. Orr presented the results of his **organisation's analysis of available statistics on divers and dive related accidents and fatalities**, and examined ways in which these could be prevented.

DAN is an international dive safety organisation that researches medical issues affecting divers in order to develop diving safety guidelines, as well as operating an emergency hotline, dive evacuation service and offering dive insurance.

Although the organisation does not have access to data concerning every dive related injury or fatality that occurs worldwide, it has analysed almost 1,000 files on dive fatalities to determine the root causes of these incidents, and therefore re-examine how such incidents could be prevented.

This analysis revealed some significant trends:

Fifty per cent of all dive fatalities were in the 40 to 59 age group. **"The dive community is ageing," said Mr. Orr. "Twenty two years ago, the average age of a DAN member was 38. Now it's 45."**

Twenty eight per cent of all fatalities analysed were cardiac related – meaning that they experienced some kind of cardiac event that ultimately lead to death. As the dive community continues to age, this figure is expected to increase, Mr. Orr said. What is of greater concern, he added, is that of those who died from cardiac causes, 60 per cent had signs or symptoms that they, or those who **were with them, recognised as cardiac related. "If you have symptoms then you shouldn't be diving," Mr. Orr said. "If you recognise symptoms in somebody else try, to convince them not to dive. Those people could have not had those cardiac issues underwater and could be alive today."**

Of the total number of dive fatalities analysed, 88 per cent were on the first dive of their vacation or trip. Looking beyond these profiles, the research examined the **root cause or "trigger" that set off a** series of events that resulted in a dive turning bad, and in these cases ending in death.

Other than cardiac incidents, other triggers the research identified were: Running out of air or breathing gas (41 per cent), entrapment (15 per cent), equipment problems (11 per cent), trauma (4 per cent), buoyancy problems (3 per cent) and inappropriate gas mixtures (2 per cent) in technical



Bluefin Robotics

diving.

In the majority of cases, these triggers came down to human error – it was not the sea or body of water that divers were in that caused a problem, it was their own poor decisions, lack of training, experience or skills that resulted in an incident.

Therefore, in addressing how accidents can be prevented, the onus is on the individual diver to ensure their training and skills are kept up to date and practiced regularly. Their equipment should be serviced by professionals and divers should ensure they are familiar with their own and **their buddy's gear configuration, Mr. Orr said. Divers** need to be aware of their personal level of experience and ability and not task-load or dive beyond their abilities. The statistics clearly demonstrate that the older, overweight and obese divers are at greater risk of injury or death. Although there are no international requirements for it, DAN recommends all divers aged over 35 undergo regular medical examinations with a physician who is knowledgeable in dive medicine before diving.

Based on the available statistics, the number of dive-related fatalities per year has remained fairly constant for the past 20 to 30 years, said Mr. Orr.

Nonetheless, many of the accidents that do occur, occur as a result of human error. If that human error could be eliminated, he said, accidents and fatalities could be significantly reduced among divers.

Robots join hunt for wreckage of Amelia Earhart's plane

http://www.msnbc.msn.com/id/47921941/ns/technology_and_science-science/

6/22/2012 **By Jeremy Hsu**

Aviation archaeologists to search underwater on atoll where she's thought to have landed. U.S. Navy warships and aircraft failed to find Amelia Earhart when the pioneering female aviator vanished in the South Pacific during her second attempt to fly around the world in 1937. This summer, aviation archaeologists have enlisted the help of underwater robots to find the wreckage of Earhart's aircraft.

The [International Group for Historic Aircraft Recovery](#) (or TIGHAR) suspects that Earhart's Lockheed Electra landed on a reef of the uninhabited coral atoll formerly known as Gardner Island and stayed there for several days before waves washed the aircraft over the reef's edge — perhaps enough time for the aviator and her navigator to have sent out radio distress calls. The expedition plans to deploy ship sonar and two robot submersibles to search the slope of the underwater reef for any aircraft parts.

"We will not be recovering anything on this trip," said Richard Gillespie, executive director of TIGHAR. "The objective is to get imagery and photographs of what's there."

The Bluefin-21 autonomous underwater vehicle will use sonar and take pictures in the search for pieces of Amelia Earhart's plane.

The expedition is scheduled to set out aboard the Hawaiian research vessel "Ka'Imikai-o-Kanaloa" from Honolulu on July 2 — the 75th anniversary of Earhart's disappearance. Its [underwater robots](#) are capable of

searching with sonar and taking black-and-white photos down to a depth of almost 5,000 feet (1,500 meters), as well as checking out sonar targets with high-definition video down to a depth of 3,300 feet (1,000 meters).

An underwater search

An eight-day journey to Nikumaroro (the former Gardner Island) will allow TIGHAR to search the underwater reef slope for about 10 days between July 9 and July 19. Success could pave the way for a later expedition to actually



Purdue University

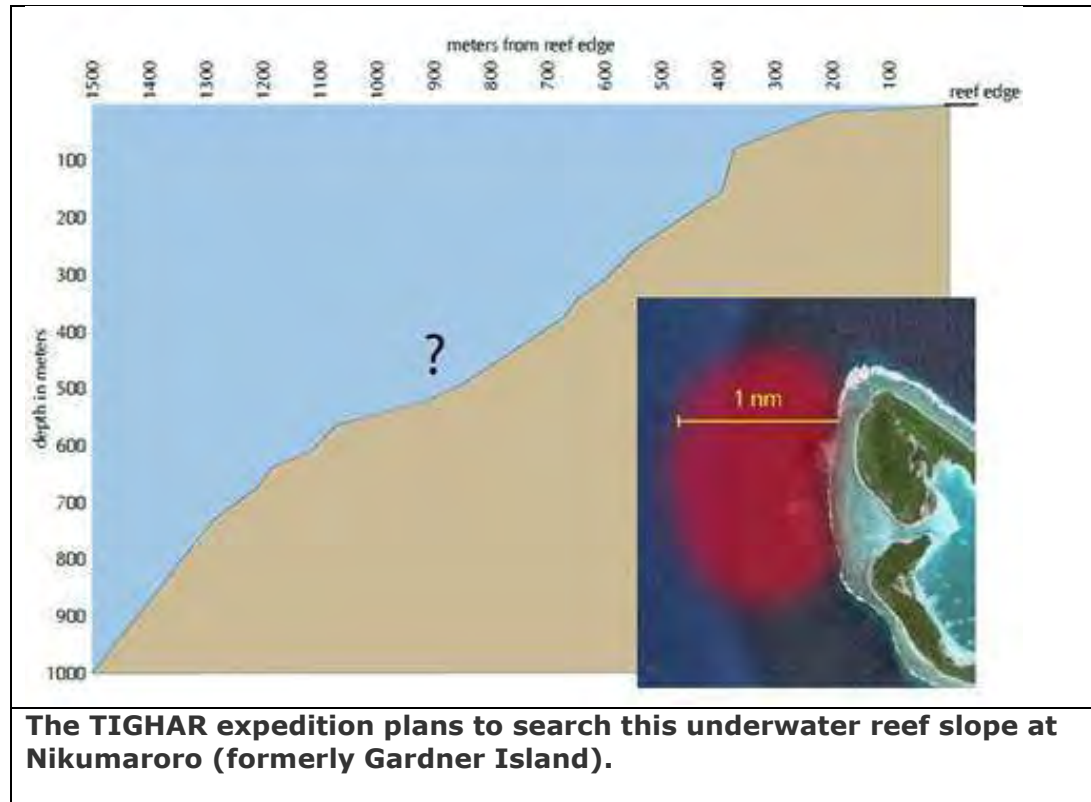
Amelia Earhart was flying a Lockheed Electra airplane when she disappeared in 1937

recover pieces of Earhart's aircraft.

"If there's wreckage there that can be recovered, we need to know what it is, how big it is, what it looks like, and what it's made of so we can prepare a recovery expedition that has equipment to raise whatever's there," Gillespie told Innovation News Daily.

"And, equally as important, to conserve it."

The first step in the search relies upon the surface ship's multi-beam sonar — a device capable of mapping the seafloor at depths of almost 7 miles. An autonomous underwater vehicle called Bluefin Robotics 21 — operated by Phoenix International Holdings Inc. — can roam the shallows of the underwater reef slope as a programmed drone to help with the sonar mapping. [[Navy's Flying Drone Would Launch from Submarine's Trash Disposal](#)]



A second step would rely more upon the torpedo-shaped Bluefin Robotics 21 to do a more focused search with its side-scan sonar while taking black-and-white pictures. The crew could recover the collected data, swap out the batteries and reprogram the robot between each six-hour search session.

The third step would try to take an up-close look at suspected aircraft parts with a high-definition video camera — a job for the remote operated vehicle tethered to the surface ship and controlled by a human operator. The TRV 005 robot made by

Submersible Systems Inc. even has manipulator arms to move objects around.

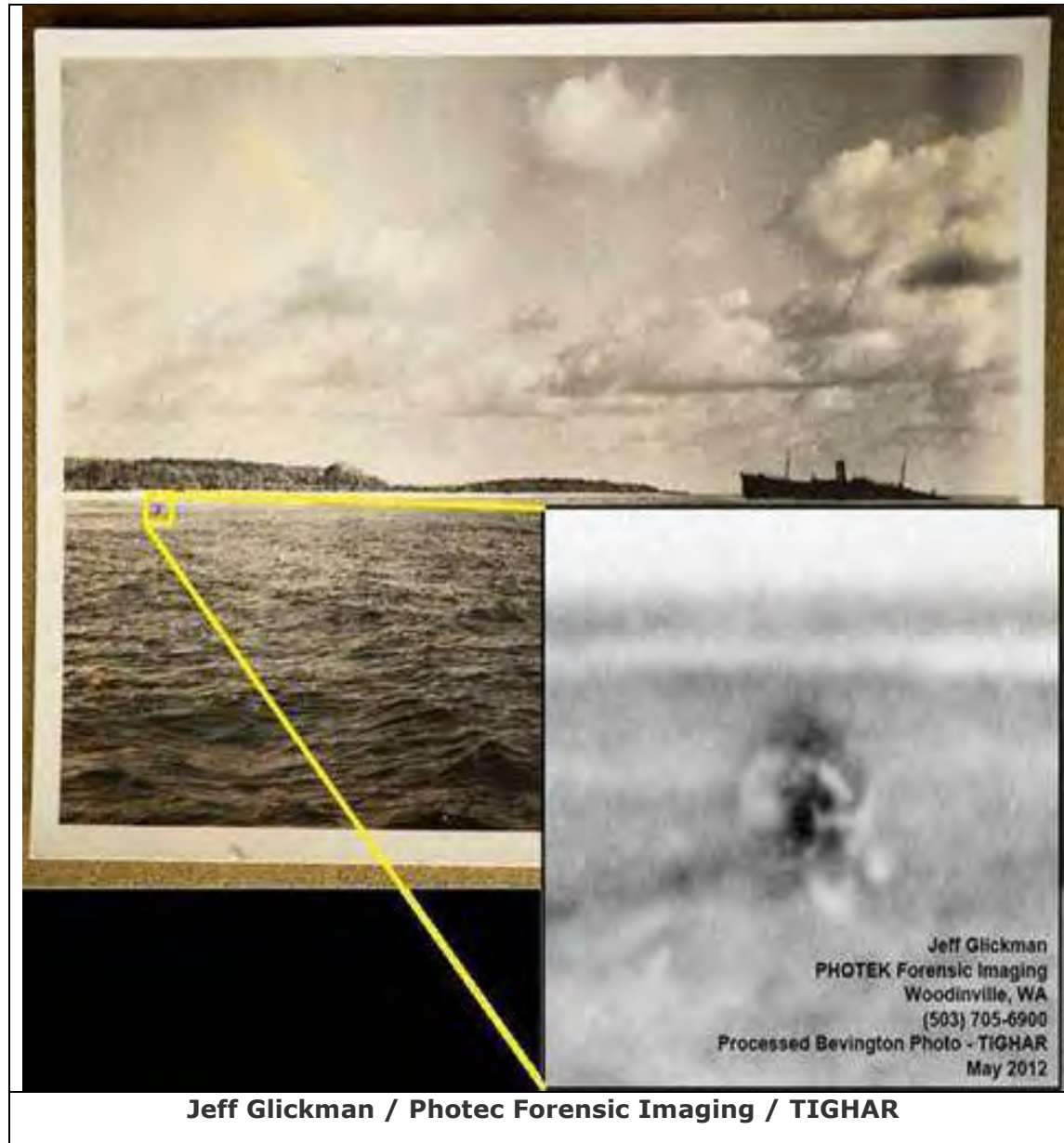
TIGHAR - Following Earhart's trail

But all the high-tech sonar and robots will only succeed if TIGHAR's hypothesis about Earhart's location proves correct. The group has launched nine expeditions in search of Earhart's lost trail over the past 24 years.

TIGHAR analyzed old radio transmissions originally followed by U.S. Navy and Coast Guard searchers in 1937

to help narrow down the search to Nikumaroro. It also dug up old paperwork from a British colonial physician who described human bones recovered from the island — bones that belonged to a woman fitting [Amelia Earhart's](#) profile, according to modern analysis.

Several expeditions uncovered items that could have belonged to Earhart, along with signs of survival living. Such items include a jar that likely contained Dr. Berry's Freckle Ointment (Earhart was known for disliking her freckles), a hand lotion bottle marketed to women in the 1930s, and a bone-handled knife matching the



Jeff Glickman / Photec Forensic Imaging / TIGHAR

description of a knife listed in Earhart's aircraft inventory. [[8 Unsung Women Explorers](#)]

The expeditions also found airplane parts in the ghost village left behind by Pacific Islanders who temporarily settled on Nikumaroro several years after Earhart's disappearance. An old woman living in Fiji — who lived as a young girl on the island — pointed to parts of the island where people had found airplane parts.

This 1937 photo by a British expedition may show the landing gear assembly from Amelia Earhart's airplane.

One of those locations matched a big clue — an object

sticking out of the water in a British expedition photograph taken just months after Earhart's disappearance. Analysis by both TIGHAR and [U.S. State Department](#) experts suggested that the object fit the profile of Earhart's Lockheed Electra aircraft landing gear.

Making it all possible

Turning decades of sleuthing into a history-making payoff has required lots of outside help from the U.S. [State Department](#) and private companies. For instance, global delivery company FedEx has helped move 27,500 pounds of the expedition's robots and equipment by truck, ship and plane from the continental U.S. to Hawaii.

The robots and equipment will have moved about 22,000 miles by the end of the [round trip](#) — just shy of the distance covered by [Earhart and her navigator Fred Noonan](#) before they vanished in their attempt to fly around the world.

"I'm sure for some people it would be a monumental move," said Virginia Albanese, [chief executive officer](#) of FedEx Custom Critical. "For us at FedEx, this is what we do."

TIGHAR has raised almost all of the \$2.2 million needed to make the expedition possible, but Gillespie vowed to go ahead with the full mission duration regardless. He pointed to Earhart as his inspiration — the aviator had to scramble for funding to repair her aircraft after it crashed during a first attempt to fly around the world.

"Future is mortgaged, but what else are futures for?" Earhart wired in a telegraph message.

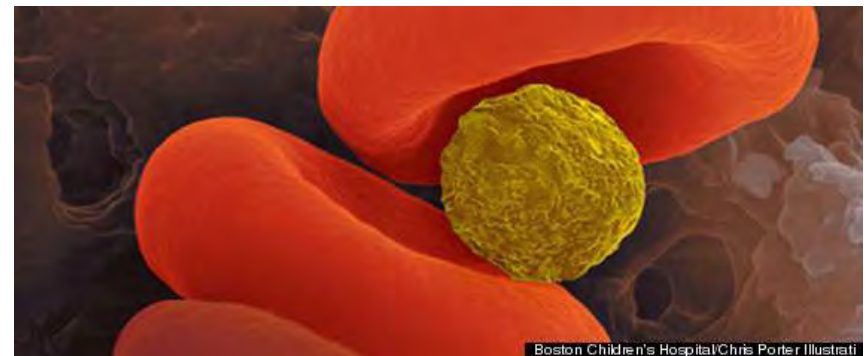
Oxygen Injections: Microparticles May Save Lives Of Patients Who Can't Breathe, Scientists Say

http://www.huffingtonpost.com/2012/06/28/oxygen-injections-microparticles-save-lives-breathe_n_1634101.html?utm_hp_ref=science&icid=main-grid10%7Chtmlws-main-bb%7Cd12%7Csec3_ink2%26plid%3D174490

06/28/2012 **By Sarah C. P. Williams**

John Kheir knows what it's like to lose a race against time with oxygen. In October 2006, the pediatric critical care doctor was treating a 9-month-old girl admitted to Boston Children's Hospital with viral pneumonia. As her disease worsened, her lungs hemorrhaged, filling with blood and blocking her breathing. Kheir jumped into action, shoving a breathing tube down her windpipe to help get air to her lungs, performing CPR, and eventually putting the baby on a machine that took over for her heart and lungs. But in the minutes it took to restore the flow of air into the young girl's body, her brain had already suffered permanent damage because of the lack of oxygen. She died a few days later.

Devastated, Kheir began looking for better ways to get oxygen into the body. Now, he's found one. In a new



study, published online today in *Science Translational Medicine*, he and colleagues report the development of [microparticles filled with oxygen gas that can be injected directly into the bloodstream](#). The particles quickly dissolve, releasing the gas and keeping organs, such as the brain, from suffocating.

"This is a potential breakthrough," says cardiac intensive care doctor Peter Laussen of Boston Children's Hospital, who was not involved in the work. "You can apply this across healthcare, from the battlefield to the emergency room, intensive care unit, or operating room."

The microparticles are tiny bubbles whose surfaces are membranes already used clinically to administer chemotherapy drugs and ultrasound dyes. But while those microparticles release their contents slowly, Kheir and his collaborators designed oxygen-containing particles that would dissolve as soon as they hit the bloodstream. They then tested the microparticles in rabbits breathing air low in oxygen. Within seconds of receiving the microbubbles, the levels of oxygen in the rabbits' blood rose from a dangerously low 70% to nearly 100% saturation, the ideal level.

"Essentially as soon as we started injecting it, clinically we started to see an effect," says Kheir. But if the injection stopped, the levels fell just as quickly, he says, indicating the need for the microparticles to be continuously administered.

Kheir says the therapy might have saved the brain of his pneumonia patient, or the lives of countless other patients whose organs have failed from oxygen deprivation. If it works in large animal trials that are

currently underway and moves to human clinical trials, the therapy could eventually be used on anyone with a lung infection, asthma attack, or blocked airway. It could even be an addition to CPR, adds Laussen. "This is still in its infancy," he says, "but this idea of a new and novel way to effectively deliver oxygen is, I think, very exciting."

For now, the microparticles are bathed in so much fluid that—especially in young or small patients—the volume is a limiting factor in how long people could receive the infusion. The current maximum is around 15 to 30 minutes, Kheir says. "If we could increase the ratio of microparticles to fluid, we might be able to use this for even longer, and even more indications."

SPONSOR NEWS

The Science of Wound Care, Diving and Hyperbaric Medicine.

Health care professionals, prehospital care providers and divers will gather at *The Science of Wound Care, Diving and Hyperbaric Medicine* 3rd Annual Conference and Expo in West Palm Beach, Fla., from August 2-5, 2012. This program hosted by **Divers Alert Network®** (DAN®), Wound Care Education Partners, Best Publishing and the Wilderness Medical Society (WMS) will feature workshop and lecture sessions presented by leaders in diving medicine and dive accident management, physician experts in wound healing and hyperbaric medicine, scientists and researchers. The conference is open to anyone with an interest in diving medicine and dive

accident management or wound healing and hyperbaric oxygen therapy.

Prior to the opening of the full conference, there will be a special Pre-course Workshop on Decompression Illness (DCI) held on Thursday, August 2, from 6-9 p.m. DAN diving medicine experts and public safety diving community leaders will conduct this three-hour workshop, which will provide in-depth field knowledge on the causes and mechanisms of DCI, symptoms and onset times, diagnosis and field management, when to consider evacuation and treatment options. These topics cover critical areas of knowledge for all first responders, prehospital care providers, health care providers and divers.

Unlike a traumatic injury, DCI can sometimes go unnoticed by the untrained eye. Divers and healthcare providers should not underestimate dive-related injuries. Acute neurological impairment is a frequent complication that requires immediate professional medical evaluation and recompression therapy in a hyperbaric chamber. Emergency first responders must be prepared to provide first aid and basic life support for a diving injury, which often includes the administration of oxygen first aid and a medical evaluation leading to chamber therapy. To learn more about treatment of decompression illness and the state of hyperbaric oxygen therapy read "[Hyperbaric Chambers for Dive Injuries](#)" and "[Divers Losing Access to Emergency Care.](#)"

Join DAN at the Pre-course Workshop on DCI to better understand the pathophysiology of DCI and to be prepared to respond to these kinds of emergencies. [Register for the conference is now open.](#) For more

information about the Pre-course Workshop on Decompression Illness (DCI) call 919-684-2948 ext. 611 or email development@dan.org. Attendees of the workshop will be eligible for 3.0 CME/CEU/CNE credits.

OCEAN TECHNOLOGY SYSTEMS

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Interspiro AGA Class Schedule

August 14, Cleveland, OH

Interspiro AGA Technician Course

August 21, Santa Ana, CA

Interspiro AGA Technician Course

For more information, contact Amie Litzinger:

Email: amie@otscomm.com

Phone: (714) 754 - 7848 ext. 116

PSDiver CLASSIFIEDS

Full Face Masks For Sale

2 - EXO26 Full Face Mask - without com system; Great Cond - Sells New \$989.00 - My Price \$150.00 * 1 - OTS Mantis Full Face Mask - with buddy phone system & surface valve; Excellent Cond - Sells New \$1055.00 - My Price \$500.00 * 1 - Neptune Reef Full Face Mask - with comm. system; Good Cond - Sells New \$595.00 - My Price \$400.00 All masks are as is and the buyer pays shipping. For more information, email divewithidt@comcast.net or call 925-462-7234

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<http://www.scuba-doc.com>



Diving Medicine Online

[Ernest Campbell, MD, FACS](#)

**Comprehensive information about
diving and undersea medicine for the
non-medical diver, the non-diving
physician and the specialist**

Dehydration and Diving

Dehydration Defined

Dehydration means your body does not have as much water and fluids as it should. Dehydration can be caused by losing too much fluid, not drinking enough water or fluids, or both. Vomiting and diarrhea are common causes. Pressurized airplane cabins, scuba air, alcoholic and other diuretic drinks, diuretic medications and certain medical conditions such as diabetes can cause dehydration.

Children divers are more susceptible to dehydration than adults because of their smaller body weights and higher turnover of water and electrolytes. The elderly and those with illnesses are also at higher risk.

Dehydration is classified as mild, moderate, or severe based on how much of the body's fluid is lost or not replenished. When severe, dehydration is a life-threatening emergency. It is a known hazard to divers by increasing the risk for decompression illness.

Some of the symptoms of dehydration include:

- Dry or sticky mouth.
- Low or no urine output; concentrated urine appears dark yellow.
- Not producing tears.
- Sunken eyes.
- Lethargic or comatose (with severe dehydration).

Signs and tests indicating dehydration include:

A physical examination may also show signs of:

- Low blood pressure.
- Blood pressure that drops when you go from lying down to standing.
- Rapid heart rate.
- Poor skin turgor -- the skin may lack its normal elasticity and sag back into position slowly when pinched up into a fold by the doctor; normally, skin springs right back into position.
- Delayed capillary refill.
- Shock.

Tests include:

- Blood chemistries (to check electrolytes, especially sodium, potassium, and bicarbonate levels).
- Urine specific gravity (a high specific gravity indicates significant dehydration).
- BUN (blood urea nitrogen -- may be elevated with dehydration).
- Creatinine (may be elevated with dehydration).
- Complete Blood Count (CBC) to look for signs of concentrated blood.

Other tests may be done to determine the specific cause of the dehydration (for example, a blood sugar to check for diabetes).

Diuretics

Diuretics add to the dehydration that occurs with exercise from sweating, insensible and respiratory water loss; the diver also has to take into consideration some additional concerns for fluid loss and replacement.

1. Scuba tanks have extremely dry air inside. As this air is taken into the lungs and saturated-- nearly twice the normal amount of water is lost from the body.

2. Negative pressure breathing causes divers to lose about 350 cc/hour from their circulating blood volume, a phenomenon called immersion diuresis and seen also in snorkelers and swimmers.

3. Cold inhibits anti diuretic hormone, causes peripheral vasoconstriction, driving fluid back into the core and stimulating diuresis resulting in losses of plasma volume.

4. The hypercarbia (high blood carbon dioxide) associated with diving decreases anti diuretic hormone, promoting fluid loss from the plasma volume.

5. Diuretics such as alcohol, coffee, tea also contribute to fluid losses, contributing to pre-dive dehydration.

6. Khosla in 1979 found that there is a 4% hemodilution in early immersion from ECF (extracellular fluid) shift into the bloodstream, resulting in an increase in central blood volume. This alters stimulation of pressure and volume receptors, leading to further inhibition of ADH (anti-diuretic hormone) and fluid loss.

7. In addition to the above, the state of chronic hypovolemia (low fluid volume) and hypokalemia (low serum potassium) caused by oral diuretics is dangerous to divers by increasing their susceptibility to decompression illness and cardiac arrhythmias, respectively.

A good start in reading about this problem would be in "Diving Medicine", Bove and Davis, Philadelphia, WB Saunders, 1990, ed 2.

Also try Edmonds C., Lowry C, Pennefather J.: Diving and Subaquatic Medicine. Oxford, Butterworth-Heinemann, 1992, ed 3., and

Bennett and Elliott (Eds): The Physiology and Medicine of Diving. London, WB Saunders, 1993, ed 4.

The importance of entering a dive well-hydrated cannot be over-stated. Prehydration of divers should include regular ingestion of fluids several hours before, 15-20 minutes before and between dives, particularly if multiple dives are to be made each day. The urine should be "clear and copious", the urine test for divers proposed by Dr. Jeff Davis.

EVENTS*



DUI Offers Special Training Workshop for Public Safety Dive Teams

Diving in CONTAMINATED WATER is a vast and complex topic. DUI's program is based on our 49 years of industry experience keeping divers protected in some of the

world's harshest environments.

DUI's Dive Ops program is conducted as part of the annual DUI Drysuit Demo Tour. The workshop gives Dive Teams access to equipment and training to keep them safer, tips on grant writing, the ability to network with other teams, as well as the opportunity to TEST DIVE the equipment.

Aug 10	Mukilteo, WA	Lighthouse Park
Sept 7	Ottawa, OH	Gilboa Quarry
Sept 21	Metropolis, IL	Mermet Springs
Oct 19	Rawlings, VA	Lake Rawlings
Nov 2	Chiefland, FL	Manatee Springs
Nov 9	Terrell, TX	Clear Springs Scuba Park

June 30, 2012 - July 6, 2012 SOFT

The Society of Forensic Toxicologists, Inc. is an organization composed of practicing forensic toxicologists and those interested in the discipline for the purpose of

promoting and developing forensic toxicology. Through its annual meetings, the Society provides a forum for the exchange of information and ideas among toxicology professionals in a friendly, relaxed atmosphere.

Boston, MA www.soft-tox.org

July 9, 2012 - July 13, 2012

Inter/Micro: 63rd Annual Applied Microscopy Conference

Inter/Micro is an internationally recognized conference that attracts the world's top light and electron microscopists. Inter/Micro is held every year in Chicago and is sponsored and hosted by McCrone Research Institute.

Chicago, IL www.mcri.org

July 22, 2012 - July 28, 2012

IAI International Educational Conference

Education is one of the IAI's primary missions. The IAI strives to be the main professional association for those engaged in forensic identification, investigation, and scientific examination of physical evidence. At the Annual IAI International Educational Conference world-renowned professionals present the most current scientific educational sessions, utilizing the most efficient methodologies and technical products and advances in the identification field. The Conference offers general sessions, poster presentations, hands-on workshops, field trips, and vendor exhibits.

Phoenix, AZ www.theiai.org

August 4-5, 2012 <http://campcde.com/>

Commercial Diving Experience Fantasy Camp

Located in Houston, TX

September 12, 2012 - September 14, 2012 Ohio Identification Officers Division Annual Conference

The Ohio Identification Officers Association strives to be a professional association for those engaged in investigation, forensic identification, and scientific examination of physical evidence.

Cincinnati, OH www.oioa.org

September 17, 2012 - September 20, 2012 Canadian Identification Society 2012 Conference

Each year, the Canadian Identification Society provides a venue which brings together persons who are employed, studying, or otherwise actively involved in the field of forensic identification. The Annual Educational CIS Conference is hosted, in partnership with the Society, by a police department or some other agency or professional group with a direct involvement and vested interest in the field of forensic identification.

Calgary, Alberta, Canada www.cis-sci.ca

September 18, 2012 - September 21, 2012

AFQAM Annual Training Conference

The Association of Forensic Quality Assurance Managers (AFQAM) promotes standardized practices and professionalism in quality assurance management for the forensic community.

Minneapolis, MN www.afqam.org

September 23, 2012 - September 28, 2012 MAFS Fall Meeting

The purpose of MAFS is to encourage the exchange of ideas and information within the forensic sciences by improving contacts between people and laboratories engaged in forensic science. MAFS supports and stimulates research and development of new and/or improved techniques, and works to promote the improvement of professional expertise of persons working in the field of forensic science through education, scientific seminars, and research grants.

Milwaukee, WI www.mafs.net

September 23, 2012 - September 28, 2012 NWAFS 2012 Meeting

The Northwest Association of Forensic Scientists is a nonprofit organization that was formed to encourage the dissemination of information within the fields of forensic science and discuss problems of common interest, to foster friendship and cooperation among forensic scientists and to stimulate research and development of new techniques within the field.

Missoula, MT www.nwafs.org

September 23 & 24 –
[Colorado Dive Show](#)
Denver, Colorado.

September 29, 2012 -
October 3, 2012
IACP Annual
Conference

The International Association of Chiefs of Police has long had a reputation for providing top-notch education on the most pressing law enforcement topics. With renowned keynote speakers, forums and technical workshops, and the largest exhibit hall of products and services for the law enforcement community, this must attend event should be on your calendar.

San Diego, CA
www.theiacp.org

September 30, 2012 -
October 4, 2012
SAFS Annual Fall
Meeting

COUNTER-TERRORISM WATCH INC / UNDERWATER PROGRAM
www.CTWATCH.us • (661) 505-5983 • GEverett@CTWATCH.us

UNDERWATER POST-BLAST INVESTIGATIONS COURSE

(UWPBIC - 40 Hrs) September 24-28, 2012 - Salt Lake City, Utah

COURSE DESCRIPTION: This 40 hour program of dive instruction is designed for all public safety and military dive teams who will be, or are currently conducting explosive related dive missions. Teams will be trained to properly respond to, and search for underwater hazardous device's (UHD's) and conduct underwater post blast investigations.
(THIS IS NOT AN 'EOD CERTIFICATION' COURSE)

COURSE TOPICS:

- Introduction to explosives
- Introduction to Underwater Hazardous Devices
- Post blast fragmentation analysis
- IED component identification
- Maritime terror, tactics, and targets brief
- Conducting underwater explosive search operations
- Hull Searching
- Post blast evidence recovery and analysis
- Familiarization with bomb disposal dive operations
- **YES, you will be diving throughout this course**



COURSE LENGTH: 40 hours (SEPT 24 TO SEPT 28, 2012)

TARGET AUDIENCE: This course of instruction (COI) was developed for Public Safety Dive Teams, Military EOD & Special Operations Divers, and Federal Law Enforcement Dive Teams tasked with explosive related dive operations & response.

INSTRUCTORS: Our instructors are highly trained and experienced former and active duty / reserve Military EOD, US Naval Special Warfare Operators, and public safety bomb disposal technician divers with real world anti and counter-terrorism maritime diving experience.



COURSE CERTIFICATE: Yes

REGISTRATION: GEverett@CTWATCH.us

COST: \$1095.00 per Diver

COURSE DATES / LOCATION: (SEPT 24 TO SEPT 28, 2012) Salt Lake City, Utah

The objectives of the Southern Association of Forensic Scientist are to encourage dissemination of information within the field of forensic sciences and to discuss problems of common interest; to stimulate research and development of new techniques within the field; to promote the use of standardized methodology and presentation of conclusions; to encourage compilation of statistical data of value in the field; to assist in maintaining a high level of professional competence among practicing forensic scientists; to foster friendship and cooperation among forensic scientists, and to lend assistance to colleges and universities in the development of forensic science and related curricula and to law enforcement planning agencies.

Pensacola, FL
www.southernforensic.org

October 1, 2012 - October 3, 2012
WCMEA Fall Conference

The Wisconsin Coroners and Medical Examiners Association aims to establish and promote standardized professional practice among coroners, medical examiners, and their staff as set forth by accepted operational guidelines.

Madison, WI www.wcmea.com

October 5, 2012 - October 10, 2012
NAME Annual Meeting

The 2012 Annual Meeting will be held at the Hyatt Regency Baltimore on the Inner Harbor. Dr. David Fowler is the Program Chairperson and he is planning on a very rich educational experience for all NAME members. Additional scientific sessions will be held on Sunday, including a field trip (with CME) to the new Baltimore Medical Examiner facility.

Baltimore, MD www.thename.org

October 10, 2012 - October 12, 2012
MN IAI Educational Conference

The 2012 MN IAI conference will highlight a presentation by two individuals that worked on the Scott Peterson/Laci Peterson case; Christine Funk, a criminal defense attorney, will be giving a presentation on how she prepares to cross examine witnesses; and nationally renowned latent print examiners, Glenn Langenburg and John Vanderkolk, will be discussing statistical models and the philosophy associated with the comparative sciences, respectively. **Duluth, MN** www.mniai.org

October 19-21 Divescapes, Edmonton, Alberta
[Alberta Underwater Council - News & Events - 2012 Divescapes Conference & Exhibition](#)

October 15-18, 2012 - October 18, 2012
23rd International Symposium on Human Identification

For more than 20 years the annual human identification symposium has been a place to learn, share, and network with colleagues in the field of DNA forensics.

Nashville, TN www.ishi22.com

October 21, 2012 - October 25, 2012
FD IAI Annual Forensic Training Conference

The Florida Division of the International Association for Identification is a non-profit professional association for forensic scientists, crime scene technicians, evidence technicians, latent print examiners, and all other law enforcement employees who are interested in the scientific investigation of crime.

St Petersburg, FL www.fdiai.org

If you have an event to share, send the information to: PSDiverMonthly@aol.com



October 22-24, 2012 IPS 2012 – Key Largo Bay Marriott, Key Largo, Florida

VIPS is **the** industry-leading MicroROV conference, hands down. No other venue gives you such a focused combination of presentations from industry experts, hands-on training, technology insights and camaraderie with underwater robotics professionals.

This year will mark the 11th VIPS event and it will be held at the [Key Largo Bay Marriott Beach Resort](#) October 22-24, 2012 in Key Largo, Florida, USA. [Registration and pricing information](#) is now available so be sure to register early to take advantage of discount pricing. If you have any questions about VIPS, please contact us at vips@videoray.com or +1 610 458 3000 for further information.

**October 22, 2012 - October 26, 2012
SWAFS 2012 Conference**

The Southwestern Association of Forensic Scientists (SWAFS) is a not for profit association of persons actively engaged in the profession of scientific examination of physical evidence in an organized body so that the

profession in all of its disciplines may be effectively and scientifically practiced. **Scottsdale, AZ** www.swafs.us

**October 22, 2012 - October 26, 2012
SWAFS 2012 Conference**

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Scottsdale, AZ www.swafs.us

**November 5, 2012 - November 9, 2012
California Association of Criminalists Fall Seminar**

The California Association of Criminalists works to foster an exchange of ideas and information within the field of criminalistics and promote wide recognition of the practice of criminalistics as an important phase of jurisprudence.

San Jose, CA www.cacnews.org

**November 12, 2012 - November 17, 2012
NEAFS Annual Meeting**

The Northeastern Association of Forensic Scientists, Inc. (NEAFS) is a professional organization for people employed within the forensic sciences. Our goals are to exchange ideas and information within the field of forensic science and to foster friendship and cooperation among the various laboratory personnel. We also aim to stimulate increased implementation of existing techniques, along with research and development of new techniques within the field, and to encourage financial

support for these efforts.

Saratoga Springs, NY www.neafs.org

November 14-17 DEMA, Las Vegas, NV

<http://www.demashow.com>

**November 14, 2012 - November 17, 2012
NED IAI Educational Conference**

Founded as a regional division of the International Association for Identification (IAI), the NEDIAI is a professional organization of law enforcement officers, identification specialists, forensic scientists, crime scene investigators and students, all of whom share a desire to pursue knowledge and excellence in the scientific endeavor of criminal identification.

Nashua, NH www.nediai.org

**November 28, 2012 - November 30, 2012
Forensics@NIST 2012**

This three-day symposium will showcase cutting edge forensic science research being performed at NIST. Attendees will learn how NIST's world-class laboratories and staff support many forensic science disciplines. See how material scientists, metrologists, analytical chemists, biological scientists, computer scientists, and forensic science practitioners work together to address the challenges facing the forensic science community and where NIST is going next.

January 15-17, 2013 Underwater Intervention 2013

<http://www.underwaterintervention.com/>

New Orleans, LA



Continuing Education PSDM-CE-95

- 1) Decontamination procedures should start at:
 - a. Head
 - b. Midlevel
 - c. Feet
 - d. Anywhere as long as the wash is contained.
- 2) Unless a body of water is known to be clean, some degree of contamination must be assumed.
 - a. True
 - b. False
- 3) Decontamination "scrubbing" should be done using a _____.
 - a. High pressure hose
 - c. Hard bristle brush
 - d. Soft bristle brush
 - e. All of the above
- 4) At the end of the day the full face mask or helmet must be completely decontaminated per the manufacture recommendation..
 - a. True
 - b. False
- 5) Most contaminants are found in:
 - a. The surface
 - b. Mixed through out
 - c. Grouped together
 - d. Sediment

- 6) Decontamination team members should be trained to the _____ level:
- EPA 704
 - All water quality standards
 - HAZWOPER
 - OSH 914
 - Any of the above as long as you have a current copy in your files.
- 7) For contamination the area known as SZ is: .
- The contaminated area
 - The decon area
 - The clean area
 - The support group area
- 8) Hypokalemia is ?
- Normal body PH
 - A rare disease caused by prolonged diving
 - Low serum potassium
 - None of the above
- 9) Diving in te summer in contaminated water in dry suits can cause heat stress in divers.
- True
 - False
- 10) Volunteer dive teams do not have to comply with OSH rules or regulation as no liability can be assumed..
- True
 - False
- 11) SCUBA tanks have unusual amounts of dry air in them. As this air is taken into the lungs the body can lose twice the amount of moisture

compared to normal breathing surface air.

- True
- False

12) Prior to diving a person should increase the amount of water intake.

- True
- False

Team Discussion:

- Discuss with your team the steps to identify contamination water.**
- Contact your local University and determine if any experments are being conducted in local waters.**
- Contact your local water and sewage departments and determine if either has the ability to test YOUR water and sediment samples.**
- Review your team policies as it pertains to contamination diving and decontamination. UPDATE both policy and Operational Guide as necessary.**
- Review you equipment (PPE) and determine the applicability of the equipment pertaining to contaminated diving and draft a NEW wish list of equipment.**
- Discuss among your team the requirements of OSH, EPA for applicability of compliance.**

PSDiver Monthly

These training agencies have recognized PSDiver Monthly as a valued addition to their programs and Continuing Education requirements.

Public Safety Diving

Association (PSDA) recognizes and approves the PSDiver CE program. Each month's Q&A program credits 1 CEU for renewal up to a maximum of 3 CEUs from this source for each year's renewal.



ERDI Recognizes and supports the PSDiver Monthly CE Program. Contact your ERDI Instructor for details.

Life Saving Resources

Lifesaving Resources advocates the need for Public Safety and Rescue personnel to be trained in Water and Ice Rescue and recognizes the PSDiver Monthly CE Program for continuing education training and credits.



Lifeguard Systems – TEAM LGS

We welcome all training agencies and organizations to participate. For details, email <mailto:PSDiverMonthly@aol.com>

IMPORTANT NUMBERS:

Chemical spill information can be obtained by calling 1-800-424-9300.

DAN Medical Information Line at 1-919-684-2948

DAN operates a 24-hour emergency hotline (1-919-684-9111) to help divers in need of medical emergency assistance for diving or non-diving incidents

PSDiver Monthly is a free subscriber E-Zine distributed by Press Release notice and website download. We have a world wide distribution and a verified email subscriber list of over 13,000.

PSDiver Monthly is the magazine for PSDiver and is edited and published by [Mark Phillips](#)

Associate Editors:

[Lynn Wright](#)

[Dominique Evans-Bye](#)

Continuing Education Editor: [Chuck Elgin](#)

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PSDM 95 CE Answers

1	2	3	4	5	6	7	8	9	10	11	12
A	A	C	A	D	C	C	C	A	B	A	A

DRAFT - PSDiver Recreational Scuba to PSD Bridge Specialty (Part 1)

TOP WATER MASTERY SKILLS

To be performed continuously until complete.

_____ - 800 yard Mask, Fins and Snorkel swim. Completed in under 17 minutes*

_____ - 300 yard inert Victim Tow (Life Jacket) using Mask, Fins and Snorkel. Victim should be face up and able to breath at all times. Completed in under 12 minutes*

_____ - 500 yard continuous forward stroke swim – no swim aids. Completed in under 16 minutes*

_____ - **45 minute** survival tread. Participant will maintain their head above water at all times.

_____ - On a single breath of air, in 8' – 15' of clear water using Mask, Fins, Snorkel and at least a 5 lb weight belt, the participant will tread water, release and hold the weight belt out to the side with arm extended. When participant is at roughly a 45 degree angle, they will drop their weight belt. The participant will free dive to the bottom, recover and don the weight belt, fully flood their mask, clear it (twice is preferred) and ascend and at the surface the participant will clear their snorkel without lifting their head out of the water.

_____ - On a single breath of air, in 10' – 15' of clear water using Mask, Fins, Snorkel and at least a 5 lb weight belt, the participant will submerge at least 5' and clear a fully flooded mask no less than 4 times (5 is preferable) and ascend. At the surface the participant will clear their snorkel without lifting their head out of the water.

For now, none of the above is intended to be a pass / fail. It is intended to set a mark of achievement that can measure mastery of those particular skills. If the individual cannot, then the team will have to decide if that member is "response ready" for an operation. Those individuals entering into PSDiving or maintaining skills should be able to demonstrate this minimal level of basic skills mastery as both an entry level and for annually evaluation.

***These times are intended to be a target goal to achieve.**

This skill set is intended to allow your divers self evaluation as well as test their proficiency in the water using basic water response gear. If your team has attempted this test, please let us know your thoughts. If you have not, give it a try. Email comments to: PSDiverMnthly@aol.com.

NOTES:
