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By Mark Phillips

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2018 PSD Fatalities
Greetings,

This is the last 2018 issue of PSDiver Magazine. It has taken a while to compile the information we are presenting and offering both here and on the PSDiver.com web site.

In this issue, we are sharing a technique we have developed we believe will help preserve trace evidence on a body recovered underwater. The material was sent to a few departments to test, medical examiners to evaluate etc. and the feedback has been excellent. What we have not been able to do as yet is find a national agency that can endorse the technique. Before you used it on a dive call, talk with your medical examiner, law enforcement, coroner’s office – who ever will receive the body for examination.

Mark Michaud had sent us Part 2 of his piece on “The Public Safety Diving Principal”. If you are behind, Part 1 in in Issue 119. I have also added an article that details one way to consider funding for some of your dive team. The examples I use are all programs I wrote and taught or are part of our PSDiver Workshop Initiative but the concept is valid for all. If you are unfamiliar, you can read more about the PSDiver Workshop Initiative in this issue.

Lastly, I include the Public Safety Diver Fatalities that occurred in 2008. My criteria for deciding if it is a PSD fatality or not may be different than yours – I am OK with that. Some of the documentation was translated and may not read smoothly but the details are well represented.

On the PSDiver.com web site, there are two data bases of fatalities. The first is Public Safety Officers who drowned on the surface, attempting a top water rescue, flood related etc. The second is exclusively for Public Safety Divers.

On October 3, 2018 6 Malaysian Firefighters drowned while attempting to rescue / recover a man trapped in what we consider a low head dam. They are listed in the PSD files because they were ALL department divers. This is fuel, ammo, perhaps a tool you need to understand or argue your point that a dive team can be or will be tasked with surface rescue. Surface Rescue.

Dive teams tasked with all things water related must be trained and trained properly for their environment. Crossing a swift moving canyon stream may require an entirely differ skill set than rescuing a stranded motorist from a vehicle in moving flood waters.

A typical description of swift water is applied where geology causes water to move from a higher elevation to a lower one. Swiftwater rescue classes usually depict a mountain stream or white water in ravines or canyons. But that is not the only place we can find swift water. Areas prone to hurricanes, tidal surge and flooding also experience swift water.

This is from the NATIONAL PARK SERVICE SWIFTWATER RESCUE MANUAL First Edition. September 2012

Swiftwater rescue is a specialized rescue discipline, which has principles and techniques that are employed in moving water. Although some personnel may refer to it as “whitewater rescue,” swiftwater is a more comprehensive term. There is not a single standardized definition of “swiftwater” within the rescue industry, however it is informally understood to refer to water over two feet deep that is flowing at a minimum of one knot (1.15 mph) and occurring in a natural watercourse, flood control channel, or a flood-related environment. (Emphasis is mine)

Yes, there is more of this coming in a future issue.

In case you didn’t know, because this is a digital format magazine, ALL of the hyperlinks are active as are hyperlinks embedded in photos and graphics. You are free to click...

If you would like to help, to write articles, help with the fatality research, SOP Project, even become a part of our PSDiver Workshop Initiative, send an email to: Mark@PSDiver.com.

Dive Safe! We want to talk with you, not about you.

Mark Phillips
Editor / Publisher
PSDiver Magazine
Let’s face facts; the majority of the work done by a Public Safety Dive team is body recovery. Following the practices that have been taught for years, we should treat all such recoveries as crime scenes. But how do we do that? What is a measure we can use as a comparison if the work we do is in zero visibility and underwater? With no standardized system in place and no standardized documentation to present to a related organization, we are forced to approach a lot of our work in reverse.

That may sound strange but there are volumes of procedures, techniques, requirements, educational outlets, even premade documents and specialty equipment for evidence collection on land, but comparatively very little when evidence collection takes place underwater.

Part of our responsibilities as Public Safety Divers has been, and continues to be, to adapt techniques that are used on land to an underwater environment. This is much more than just using a mesh body bag and drawing a scene sketch. But to do more, we have to have an understanding of what we actually do as Public Safety Divers.

Currently, the accepted educational path we take is to become a recreational scuba diver then become trained and certified – or just identified – as a Public Safety Diver and then begin learning what it is a Public Safety Diver and team is capable of doing.

What we do is relatively new to the world of criminal investigation. Consider how young recreational scuba is. The high number of early recreational accidents led to the creation of formal training agencies. The BS-AC was formed in 1953, CMAS in 1959, NAUI in 1960 and PADI in 1966.

Compared to the development of the use of fingerprints as a forensic tool, the discrepancy is obvious. Juan Vucetich made the first criminal fingerprint identification and identified a woman by the name of Rojas, who had murdered her two sons, and cut her own throat in an attempt to place blame on another - in 1892.\(^1\)

\(^1\) History of scuba diving - https://en.wikipedia.org/wiki/History_of_scuba_diving
Computers for the masses didn’t show up until the mid-1980’s and when Microsoft released Windows 1.0 in late 1985, the new computing world collectively lost their minds.

Early dive teams had little or no access to relevant information and most built their own teams and procedures based on recreational scuba. Today we have instant access to information, the ability to search for information on an international basis, to communicate in real time with others and can discover so much instant information that it becomes overwhelming. With this availability comes knowledge. But how that knowledge is applied or information is utilized is sometimes skewed.

As a Public Safety Dive team, we have the ability to secure an area, both underwater and the surface area and land related to a potential crime scene. But we do this in conjunction with the local LE authority. It is a crime scene after all. When we are called out to assist or take charge because of the possibility or probability of their being evidence underwater we become an underwater investigative team; essentially the underwater investigative element of the AHJ.

As an underwater investigative team, we should have the tools and ability to perform a search, locate and mark the location of an object, provide whatever information possible about it and recover it. But are we doing enough? Are we really able to incorporate land based techniques in an underwater environment?

There was a time when it might be difficult to answer in the positive to that question. But over the last 40 years, there have been great advancements in awareness, knowledge, equipment and technology that have been incorporated into both related agency training and public domain. So, yes we can incorporate some land based techniques into our underwater environment; but not always in the same manner. Almost every PSD training agency book, underwater body recovery article, text or reference recommends the use of a body bag designed or modified for bagging the body of a victim underwater. These types of bags either have mesh pockets in them that allow for water to escape or are all mesh made with a very small pattern that allows water to escape while retaining potential evidence that may wash off the body. A land use body bag is usually waterproof bag with a simple zippered that is sometimes modified by cutting a corner and stuffing the inside with gauze to act as a filter. This is not usually effective and does not always work.

A standard bag is typically used to move a body from one location to another sometimes with only minor regard to evidence preservation.
This difference is important if we are really serious about evidence collection.

Because we are working underwater and the movement of water can move sediment, particulates etc, that very water has the ability to wash evidence away. In zero visibility, we would never know, perhaps not even consider movement of water to be detrimental to the success of our task. But then again, we are in water and even with all the precautions we can take, we still have the possibility of water movement washing away potential evidence.

On land, an investigator may be concerned about preserving potential trace evidence that could be found under the fingernails of a victim. To protect the hands and possible evidence, the investigator will sometimes place a paper bag over each hand and tie them in place. When a Medical Examiner or Forensic Investigator receives the body, they will have documentation as well as preexisting knowledge of why those bags are there. The victim’s feet may also have paper bags covering them. Depending on the nature of the investigation it is even possible for the head to be encased with a paper bag. These are accepted and known practices.

Consider what might be found; tissue under the fingernails, soil, gravel or other site specific objects caught in the tread with water. The weight of the water almost always caused the bags to fall off. Even worse, if we did manage to get a bag to stay on, because the LE did not know why we were doing it, they would usually take it off and throw it as well as the water and soil samples we collected, in the trash. That appearance of apathy eventually stopped the attempts. While we had learned the concept and worked to reach that goal, and the related knowledge never went beyond the team! We assumed it was standard practice and never thought to talk about it with the LE. Sound familiar?

We were told to and taught WHY we should "bag the head, hands and feet", but we were NEVER taught nor did we
ever teach anyone HOW to do it. Textbooks and training manuals will say something like “the body should be properly bagged to maintain as much evidence as possible”. But there is no descriptive that follows to explain what that is. Even when a description comes that does offer some insight, we are told to use paper bags to cover the hands once the victim is on shore or to cover the hands with nylon bags or zip-lock baggies and tie them at the wrist. Neither is a viable option in our effort to protect and preserve trace evidence underwater.

Our genre of diving has become more educated, skilled and better equipped than was a Public Safety Diver 30 years ago; even 5 years ago. The knowledge and industry that has built around Public Safety Diving has continued to grow and as it grows, new information, new technology and a greater understanding of the job grows with it.

In an aquatic environment, we believe this technique has been shown to preserve trace evidence. However - before employing this technique, you should share it with your local authority.

Employment of this technique should be cleared and approved through your local convening authority for use and your team should have written guidelines in place prior to use THAT INCLUDE the necessary additional documentation that describes its implementation.

Today, you will learn a practiced, tried and true technique for bagging the head, hands and feet of a victim found underwater in zero visibility. The technique works. It is simple, inexpensive, and reproducible and solves the problem of preserving trace evidence that could be found on a victim’s hands, head or feet.

The Solution

Women’s Hosiery – specifically knee high stockings and panty hose or thigh high stockings. These items are machine manufactured and packaged and should be at least aseptic. Out of the package, they should be untouched by human hands until you begin the necessary preparations for use.

We shot the accompanying videos during PSDiver Workshops we were conducting. Neither were programs that included body recovery or evidence collection. We added a demonstration into their time and as a consequence we were rushed in each. They are not Oscar material but I am satisfied they will get the concept across.
When I train teams or I lecture, I present material based on depth and zero visibility. If there is great visibility, finding an object isn't nearly that difficult and basic underwater archaeology techniques, cameras and video work great. In zero visibility, we work by touch and we have developed methods, training, techniques etc. to get the job done. While technology is developing that can aid our search and recovery process, the cost usually exceeds the budgets of most public service agencies. This makes the personal contact and methodology we employ more critical.

The videos will explain the technique I developed to bag the hands, feet and head of a victim underwater. In each workshop we were short on time and had to rush. In the first, one of my former students pointed out that I had skipped a step. He was right but we did not have time to remake the video.

The first video shows me rolling a stocking up my shirt and then using it, not prepping a second one over the first. That was the skipped step. In order to keep the hose untainted, we roll one up our arm BEFORE we prep the covers for the hands, head and feet. The first stocking on our arm shields the others from potential contamination.

Once properly prepared, the knee-high stocking will look like a rolled condom.

To use them, the diver will remove one stocking ring at a time. The diver will insert his/her hand into the back side of the ring and lightly grasp the victim’s fingers. This will create an anchor point and allow the diver to then unroll the stocking ring up the arm. The same method of application is used for the feet. The stockings will roll up and over shoes.

**Knee-High stockings for hands and feet.**

Our preference is to use light colored hose. White or Ivory is usually available

**Thigh-High stockings or cut Pantyhose for the head***

*(Bagging the head may not always be called for, desired or required by your Medical Examiner. Before bagging the head, share the information with the Medical Examiner and ask them for the criteria they might use when they would want the head bagged.)*

**PRACTICE first and make product adjustments as necessary.**

Lubbock ASE Workshop - Trace Demo
Prior to body recovery, we may prep a number of the stockings. **Each diver will have 2 full sets with each set packaged separately.** If two divers are making the recovery, one will cover hands and head (if requested or necessary) and the other the feet. Or left side, right side; they will make the decision prior to the dive. And because it is zero visibility, if they lose one of the stockings, the divers should have ample backups available.

Once located and hands, head (if required) and feet covered, the divers will place the body into a water recovery bag. We encourage the use of "disposable" mesh body recovery bags for this. No one wants to be "the guy" who has to clean and sanitize a reusable body bag. And if we are aware of our ability to preserve trace evidence, how could be ever be 100% certain or willing to testify that the reusable body bag we used was free of any possible contamination? Any trace evidence discovered in a used but cleaned body bag will likely be inadmissible evidence.

From our perspective, we are protecting as much as we can without doing any harm or injustice to the body.

This second video is a demonstration conducted during another workshop. The stockings I am using came from Walmart. **A pair of knee high stockings in a sealed plastic bag costs about 50 cents.**

Knee high stockings work extraordinarily well for hands and feet. **Legs cut from panty hose or thigh high stockings work for the head – but you will need to experiment to find the available style or brand that will work best for you.**

Our workshop hosts indulged us on their first night class with a last minute decision to extend an evening session. Once again the thigh high stockings used in the video were not the right size but for our demo purposes, they were our only choice. They will work but have a tighter elastic band at the top. The smaller opening and tighter band makes it more difficult to apply to an adult and is very uncomfortable on a live test subject. We have found that the less expensive hose packs work better because they do not use as much elastic.

However, if you cut the elastic
band off completely the material will stretch easily allowing you the ability to roll prep and deploy them. But in our time frame to work this particular evening, we did not have the time.

Thigh-high stockings with minimal elastic at the top or the elastic band removed at the top will also work. BUT, thigh-high stockings are not always available.

Since there is no elastic band at the thigh, pantyhose will work. However, there is an extra legs worth of hose that must wrap around the neck and the visual result is more bank robber than we cared for. To avoid that, the pantyhose can be cut below the crotch line and each leg used like the thigh-high with no elastic band. You will likely find cut pantyhose to be the easiest to use and the most effective on the head.

Prepare each the same as you did the knee-high stockings. Leave a stocking over your arm to prevent contamination and pull the pantyhose leg up your arm then roll it back down and repeat until you have what is needed for the job.

The technique works. It is simple, inexpensive, reproducible and solves the majority of those problems associated with preserving trace evidence that could be discovered on a submerged victims hands,
feet or head. The quality of evidence your team provides is the foundation of a potential forensic investigation.

As our genre of diving continues to grow, we will continue to witness new technologies that may improve our abilities to work in a zero visibility, underwater environment. With that growth, we must strive to improve our own abilities, to be better at the job, safer and more efficient. There is a tendency for teams to build on existing skills and capabilities and forget that you are working as part of a much broader and bigger team.

As your skills and abilities progress, make it a part of your continued team growth to develop and maintain a relationship with **all** of those you work with, including those in the Fire Department, Police Department, Sheriff’s office, Medical Examiners, Coroner’s Office, Justice of the Peace – anyone who can be associated with your scene, the evidence you recover or will be involved in the post investigation and potential prosecution of a suspect.

Share your ideas or concerns and ask questions. Maintain an open door so they can do the same with your team. They need to know what you know, what your capabilities are and have constructive interaction. They will not know what you know unless you tell them nor will they ever think to ask if there is more you can do if there is no interaction.

They may not get wet but from the newest Dive Tender to the Head Medical Examiner – you are all part of the same team.

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**The Public Safety Diving Discipline**

**Part 2**

*Safety at the expense of common sense, or can both co-exist?*

By Mark Michaud

In Part 1 (PSDiver Magazine Issue 119), I introduced myself and worked up to recognizing holes in what has come to be known as Public Safety Diving. This time I want to talk about the first hole I see and what we can do to make ourselves more productive and successful.

The first hole I want to address is this: PSD is a specialty type of diving. It is a cross between recreational, technical, commercial and specialty diving.

Sometimes we go at it through recreational classes based on accepted recreational standards, and every year Public Safety Divers die. Many of these deaths can be traced back to the recreational style of training and the lack of what they should have been taught. It also goes back to a lack of personal experience and knowledge.

We have to master this special discipline and it will take a lot of time and energy. On the other hand, it seems to be we follow the Public Safety Diving “rules” like a religion but have forgotten to add some common sense and practicality into what we do. We follow things so strongly that we think anything not specifically taught in a PSD class may not be safe or effective. For many we go straight from basic SCUBA class into a PSD class and it is what we learned, what we
were taught and what we have come to be comfortable with. It was usually taught by those with experience and credibility. There is much more than those basics we were taught. For that group that information and those skills we were taught was a foundation to build on. I am not saying Public Safety Diving standards are a bad thing, not at all. What I am saying is it does not end there. It is about remembering that there are other tools and techniques that, when added, are also safe and effective. When we blend the two, training and experience, we positively locate and we are still safe. If we don’t locate, we can effectively believe the area is cleared and nothing is there.

Over the years I have come across many PSD’s that seem to want the t-shirt but don’t have any dives beyond training and the occasional recovery. Many of those recoveries involve pulling a floater out of the water. I understand that happens sometimes. I also understand a “Floater Recovery Expert” is not a certification I signed up for. Unfortunately, many times, the individual diver doesn’t want to take responsibility for their skills and experience. That seems to be the norm in many places. There are a few legitimate reasons for this but not many. Recently I was told about an agency that is union and there are rules that don’t allow training unless on the clock. They are even forbidden to train on their own time, even if they want to do that, if it is agency related. That is COMPLETE CRAP! I have been told of this about an agency up north and I could not believe what I was hearing. When a Union or Department head loses perspective on the mission, changes have to be made. We all started in this to help others. When this becomes all about me, I have FAILED my community. I will take care of me, but not at the expense of my mission.

Most agencies, except the largest ones, have limited resources (manpower and money) so training time and budgets are lacking. Time, money or personnel issues can slow training down. But the key word to this is diving. How much time do you spend diving away from work? How much time do you spend diving in water you would work in? SWAT guys spend lots of time training and much on their own so they can be the best at what they do. Being, taught, and meeting minimum standards doesn’t cut it. That is not enough. Certification is just the beginning.

Do you own your own gear? If not, why not? Can you dive department gear away from department activities? If not, you need to have your own gear. If you don’t have the passion to make yourself the best, maybe you shouldn’t be in this at all. You have to train and get in-water time and experience. You have to do it because you can’t get good with just training. Do you seek information and skills from someone who can do things better, maybe even things you never saw before? You may say, “I have a friend, or coworker who is an instructor”.

Being an instructor doesn’t always coincide with being experienced. Instructors are taught how to teach. Think about that for a minute. What we need is a good mentor,
A good mentor may be someone who dives tech or caves. This is a person you should seek out and learn some stuff that you won’t find in the PSD curriculum, or even most recreational curriculums. You can adapt those things into your work and you will find it doesn’t conflict with what you are doing. But it will open your eyes, to things, that are not common to you because they are not, taught, in this discipline as a whole. This isn’t about beating up on PSD or Recreational training. It is about filling a gap that will make you so much better. If we take a course, all we have to do is make the minimum standards. That is a beginning but it is not enough. It is like finishing an academy. That is not the end. Whether you are Police or Fire, there is a rigid training that follows before you are considered to be able to work alone. This discipline should be the same.

Let’s take a look at a basic PSD “Rule”. Always dive on a tether in low or zero visibility. Because all of our training dives are tethered we don’t trust that our members can dive unless they are tethered. There is a time for that, so don’t get all indignant on me here. There is also a time that scuba, when rigged right, is the perfect kit. If I am looking for a small item in low flow water, I don’t want a tether anywhere near me. I want to dive horizontal, using a frog kick, and preserving any visibility I have. I will usually be on a jack stay so technically I am tethered, but even if I were diving free it would be appropriate for the situation. Consider: every Cave Diving Recovery has been done on scuba or rebreather with no tether or communications. These are penetration dives in an overhead environment that can be thousands of feet from the cave entrance.

How about always wearing full face mask? Technically, all water is polluted. In reality, most water is fine. We are doing recoveries in swimming holes and places we eat the fish we catch them from. Is a FFM and rubber suit always necessary? What about our ears? Does a FFM really protect you from that? Maybe with a dry-suit (Viking style) and a good sealed hood, but we can’t use that all the time. The heat would kill us. Is a helmet better? It keeps your head dry in all but the worst of situations. Perhaps, but maybe, it’s not. We have to recognize there are options, and we also have to be up to the task of effectively using them. What is wrong with scuba and getting the job done? I am not advocating one or the other, or maybe I am advocating the ability to have both in the toolbox. Sometimes we overkill the situation and take common sense and practicality out of it. That makes us ineffective too many times. Remember, many recoveries are in swimming holes, rivers and places that people are always in. I am not saying that we should not use these things. I am saying there are other tools we can use and still be safe and effective. The tool needs to compliment the task.

I write this, not to say that we are not qualified, or safe, but to open ourselves up to think about how we can take new steps to make us as effective as we can be. This is not about having limits. This is about having tools and knowing they exist.
Many agencies have, little to no issues, but some have major problems. The tool we use needs to be right for the task or we will make a lot of noise and fail in our job. Opening our minds to, selecting the right tools for the job, being safe, and being effective will go a long way to our success.

The 2nd hole has to do with properly using our limited resources. In a known last location scenario we know where to start. But many times we don’t have that. We have to find a way to be more efficient in these matters. We have to become more informed on setting up our search and knowing (the) what’s, and whys, of where victims may be. I know we don’t always find things. Many times that is because they are not there.

Guns, knives, etc “could have been thrown in a waterway” and because we have a dive team, we have to check. That shows we are thorough. We know it is probably not there but we have to search or we look sloppy as a department. But……what do we miss when it really is there? Why do we miss it? Are we lacking in figuring out where to really start and are we willing to search areas in a systematic manner so we know we have not missed something? Many times we can’t. Budgets won’t allow that amount of time and overtime for a long search with divers and sometimes it is our own team leaders that can’t justify the time we need. Anything that is water related is going to take much longer as the water is not static like the land is. It is fluid and dynamic.

There are tools available to help us become more efficient. Some are electronics, some are experienced outsiders, and some are trained animals. Local Fishermen, Crab Fishermen and Shrimpers can provide so much pertinent information on waterways, flow and tides. Don’t be too proud to ask a local about the special conditions of a site. They may have spent their entire life in or on that water and may know where things snag or seem to show up.

When we get a call out for the dive team, we also get to hump gear, drive boats, and we handle many other tasks. Sometimes these things get overlooked so I thought I would mention it. Not everyone on the dive team has to be a diver. Having someone to take care of, and do things like, drive the boats, run the sonar, pilot the ROV or drone, and run incident command, could be an asset to allow team members to focus on the tasks at hand. Not everyone on the dive team has to be a diver.

Away from the equipment realm I have always believed this next statement: Until I become a proficient, SOLO, diver I am not really a good buddy for my team members. I am not really a buddy and it just means “Same Day Same Ocean”

In my next article I will talk about the next hole I see, and how to repair that. That will be about the search, no last seen, and how we approach it.

Mark Michaud  
Slidell PD Retired  
Southeast Louisiana Underwater Search and Recovery  
Funding Your Public Safety Dive Team

Be a Training Program HOST

By Mark Phillips

On September 11, 2001 there were a series of coordinated terrorist attacks on the United States. In response to these attacks The Department of Homeland Security was created. The Homeland Security Grant Program soon followed. “The purpose of the Homeland Security Grant Program (HSGP) is to support state, local and tribal efforts to prevent terrorism and other catastrophic events and to prepare the Nation for the threats and hazards that pose the greatest risk to the security of the United States.” Once they started receiving applications it seemed like the money tap was wide open.

It did not take long for municipal dive teams to tap into those grants. Public safety teams were granted money for items they never had before or were able to replace worn equipment with the newest and best available. For a long time, it seemed like money flowed like water - if you knew how to write a grant.

Businesses noticed. New “specialty” gear became available. Though at times it seemed like the “specialty” was just a color other than black and it cost twice as much.

New and developing technology found a home with dive teams and previously unobtainable tools like surface supplied air, underwater communications, ROVs and Sonar systems became obtainable.

Municipalities who never had a dive team before suddenly had the finances to fund and equip a dive team, purchase big ticket items- even custom boats.

And our genre of diving became popular.

We found that we were a sought after target audience because it appeared we were spending a lot of money and there was nothing to indicate otherwise. But things change.

Today we read news stories about teams being disbanded. We hear from others that their funding is being cut – sometimes completely. Some of the equipment that was purchased with grant money is now going unused because there is no one left on the team who knows how to use it and no one thought to include the necessary funds in the original grant for continuing education and / or maintenance.

We are almost back to where we were before the 9/11 terrorist attack on New York City. The grant money that flowed like water is much harder to reach. There are more requirements to be met, more rules to follow and more strings attached. There is often a financial commitment on the grantee that some municipalities cannot or will not afford.

Some teams that were built with grant money or advanced in that cycle are now getting to their second or third generations of team membership trained or equipped.

Every part of the field is feeling the impact. There are even more training agencies now competing for business. With no consensus standard in place, even individuals are now successfully competing for and offering their
training to those same teams.

Face it, money has always been tight. If you have not already started, now is the time to start planning ahead. If you are still able to qualify, apply for and receive grants, more power to you and congratulations.

For everyone else, I have some suggestions that might help you find a way to fund or partially fund your team. Some teams may not be able to do what others can and there is no guarantee they will be successful if looking for grants or outside funding. But you have to start somewhere.

What follows is one example of how to fund, at least some, team training. This example utilizes an independent instructor(s) and / or a local dive shop and the PSDiver Workshop Initiative programs. The concepts can be used with anyone or any agency. Don’t be afraid to ask or negotiate when you are looking for a program to host.

If your team has the ability to HOST a training program and can provide a classroom, a suitable swimming pool and / or a suitable open water site; determine what training your team needs the most.

Then, find a qualified instructor who will work with you and give you a single PROGRAM price to conduct the training, not an individual - per diver price, or a percentage of the net, etc.

Keep in mind that a single price may seem high but it will have to include all of the instructors associated costs of travel, lodging, meals, equipment, ancillary items, student materials even the cost of a C-Card. It does not mean you cannot negotiate either.

Depending on the class and the qualified assistants you may be able to provide, the instructor will set the maximum size of his class. Class size is important and involves the agency standards he or she works under – and allows YOU to budget. If you shoot to fill the maximum available, the cost per student goes down proportionately.

Once you find that instructor, look MONTHS down the road to where your team and the instructor can temporarily HOLD a tentative date range for the proposed class.

Temporary HOLD is the key. This will or should require a deposit be sent to the Instructor. Remember, that instructor is committing to your schedule and will miss potential work if you have to bail on the commitment.

Once committed, that date range will be blocked out for you preventing those
dates from being booked by anyone else.

The instructor(s) will likely have out of pocket expenses before ever arriving at your location. Some instructors may insist on payment in full just prior to the class.

You and the instructor will also set a date that will be the day you mutually agree to cancel the class *(might not have been able to meet the minimum enrollment / cost requirements necessary)* or, you confirm an alternate date range and secure the required dates with the deposit already made.

When you have the cost of the program established, sit down and calculate your teams associated expenses, if any, that will be incurred specifically as a host. Add that to the total cost. That number divided by the number of students in the class becomes your break even number.

So let's look at some basic math.

Let's assume we want to host a PSDiver SURVIVAL Workshop. Let's assume, hope, the pool, classroom and organizational help is donated. Zero team cost.

Your administrators will have costs associated like overtime, utilities etc. *For our purposes, we are separating those out and will focus only on the team and a selected training program.*
The instructor will have travel expenses the day before and the day after, out of pocket expenses etc. All of those expenses should be covered in a single class price. For a 3 day PSDiver SURVIVAL Workshop, let's say the cost is $4000.00. And let's say the instructor has a maximum student limit of 20. The quick math for per participant cost is $4,000/20 = $200 each.

If your team has 6 members wanting to participate but no funds, then this is the math you need: $4000 / (20-6) = 4,000 / 14 = $285 each.

This means if you offer 14 spots to other teams at $285 each and you fill the class **your 6 are zero cost** and your team breaks even.

But you rarely find ANY 3 or 4 day class of this nature for that price. So let’s say you are inviting other teams and have 14 seats to fill. If, as a host, you offered the class for $325 per student and you just want to be zero out of pocket for your 6 team members you need to know where your break even number is.

So, $4,000/$325 = 12 paid spots to break even. Your 6 are covered and in this scenario, your class size is 18. You could add 2 more of your team members at no additional cost or sell the two spots and bank $650.00 for future expenses or needs.

When you look at the numbers, it looks like a pretty simple thing to do. It is not. It requires dedication, support and hard work to host a program. Remember the goal is to at least break even and your team members having zero out of pocket expense for their training. If you are able to fill a class and have more interest than space, you can always offer to host another program.

There are 1 day and 2 day workshops and programs available through various training agencies as well as through the **PSDiver Workshop Initiative** - including the

- **PSDiver SURVIVAL Workshop**,  
- **PSDiver Automobile Subsurface Extrication (ASE) Workshop**  
- **PSDiver PSD Skills “Tune-Up” Workshop**  
- Firefighter Survival,  
- Confined Water Rescue,  
- Still Water Rescue and more.

The math works the same way.

**Be a True Host**

If you consider these suggestions, keep in mind that a weekend long 3 day program requires most volunteer team member to lose at least one day of work (a Friday, Saturday, Sunday program) and possibly burdens them with covering their own travel expenses. Their out of
pocket expense could be much more than the $325 you may charge. They may travel after work on Thursday, book three nights at a hotel, cover the cost of meals and ancillary expenses and be able to return home Sunday in order to go back to work on Monday.

Consider finding a hotel that will block out some rooms and will offer deep room discounts and/or additional incentives - a hotel that has a free breakfast, parking and Wi-Fi for instance. Consider searching out a restaurant or two who might help by offering discounts in exchange for advertising mention on your flyers and PSAs. Work with a local dive shop that will provide needed equipment and air fills, and lead if necessary.

Look for local business sponsorship that could provide additional funds to offset some costs in exchange for advertising. The value you offer them is going to be based on what you can do for them to get them recognition within their community. In this instance, you will not be looking for additional students; you are promoting your team, your program and advertising for your local sponsors. With little or no budget you will have to be creative. Try Guerilla Marketing. If you are not sure what that is, google this and do some reading: guerilla marketing for small businesses

Create class flyers and set them out in hotel lobbies, local restaurants and businesses. Design a business card / discount coupon. Your sponsors could offer a 20% or BOGO (Buy one get one free) special for the bearer of the card. Just remember to put an expiration date on it. Mail order companies like VistaPrint offer business cards at very low rates and in just about any quantity. Use your imagination.

Don’t discount the value your local media can offer. Send out a series of Public Service Announcements (PSAs) to ALL local and neighboring media outlets including radio stations, print and digital. Use the PSAs to include the names of your sponsors and you have extended the value of their paid sponsorship with additional advertising that is no cost to you. Be creative with your advertising campaign - use social media and internet sites to promote your program. Keep your campaign organized. Make a promotion calendar as a reminder of each PSA, flyer distribution, Social Media info release or update.

Document your steps along the way. Keep good records that include the contacts you made and notes detailing the conditions or criteria they required or agreed to. If you are able to host a future program, these notes will make it easier.
thank your Sponsors after the event.

Don’t forget the Thank You part!

A framed certificate of appreciation with your team name and the event that they sponsored that they can display is easy to make and extended promotion for you.

Your local office supply store probably has a service that can make high quality prints for you.

Lastly - it is possible, even expected now these days, that your class will NOT sell out. It is VERY important to set your own breakeven point for total team expenses. If it looks like you will not be able to reach that number by the deadline you and the instructor set, you will need to cancel the class.

If that happens, learn from the experience and try again!

2018 PSD Fatalities

Amandine Giraud
January 5, 2018

The Policewoman Missing In The Seine During An Exercise Was From Nice

The 27-year-old woman disappeared in the Seine on Friday, January 5, during a joint exercise with firefighters.

She was originally from Nice and "had just obtained her scuba diving certification, three weeks ago," said Nicolas Pucheau, assistant departmental secretary of the Unsa-police in Paris.

She joined the river brigade in September 2016. "She was making her dream come true," said the unionist.

Open Investigation

Three days after the accident, the body of the young woman cannot be found. The prosecution has confirmed that it has opened an investigation, entrusted to the IGPN, to determine the causes of the accident.
According to Unsa, the policewoman tried to dive a first time without getting there and asked to try a second time. "His colleagues felt it in distress," said Pucheu, who was in the water with her, then shot her life, but it seems as if the knot of the young woman's waistband has come apart. She immediately disappeared under the water."

"We wonder what motivated the hierarchy to set up an exercise of this type knowing that the weather conditions were extremely unfavorable, "said the unionist.

And to add: " We also ask the question: 'Are the equipment and training provided adequate?"

The search continues on Monday, with no hope of finding the young woman alive.

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**Missing Policeman In The Seine: "It Was Suicidal To Put Her In The Water"**


Search continues this Monday to find the diver of the fluvial brigade of Paris, missing three days earlier. A judicial inquiry has been opened.

She was from the Alpes-Maritimes. At 27, she had joined the police headquarters of Paris to satisfy a dream: to integrate the famous "fluv", the fluvial brigade. But since Friday, this young policewoman remains untraceable.

Disappeared during a diving exercise in the Seine, she did not give any sign of life. Search resumed this Monday morning. Sunday evening, the Paris prosecutor had announced to have opened a judicial investigation for "search for the causes of the disappearance". It has been entrusted to the General Inspectorate of the National Police (IGPN).

Search Continues

Relief has already warned: three days after the exercise, described as routine by the authorities, the hope of finding the living official is zero. It is now a body that is sought after. Underwater means, with the use of a sonar, have been deployed. Seventeen divers were "on alert, ready to intervene" according to Le Parisien.

On Monday, search operations continued. The device was this time "lightened" so as not to "risk the life of the rescuers" in very cold water, where the current is strong and
in the absence of visibility. Despite this device, the policewoman has still not been found.

In several media, the union Unsa Police has stepped up to demand an administrative investigation, in addition to the judiciary. Because he believes that the conditions were not met to be able to organize a dive on Friday.

"A raging Seine"

"We are wondering what motivated the hierarchy to set up an exercise of this type, knowing that the weather was extremely unfavorable," and reacts his deputy department secretary, Nicolas Pucheu, to the Parisian on Monday. And the trade unionist to quote "a raging Seine", with "an opaque and brown water" and "strong currents" near France Bleu. "It was suicidal to put her in the water," he adds.

After the storm Eleanor, the level of the Seine rose in Paris, reaching Sunday evening about 3.90 m at the bridge of Austerlitz, which corresponds to the "yellow vigilance". It should reach a maximum rating of between 4.1 and 4.6 m in the coming days, according to the regulatory body Vigicrues.

Graduated for three weeks

In addition, the Unsa Police stresses that the young policewoman, who had joined the brigade fluviale in September 2016, had had her diving diploma only for "three weeks". According to Le Parisien, the young woman did not manage to dive a first time and disappeared during her second attempt. The first elements suggest that her "thread of life" (tether line), which linked her to her colleagues, gave way during this dive. She was then equipped with a bottle of oxygen and a lead belt.

In a statement, the mayor of Paris Anne Hidalgo, expressed "all her compassion and support to the family of this policewoman." She also praised the "flawless commitment and professionalism" of the Paris River Brigade.

The Body of The Police Officer Of The Fluvial Brigade Can Not Be Found - Paris

http://lazertecnologia.com/2018/01/09/le-corps-de-la-polici-re-de-la-brigade-fluviale-reste/

Janeiro 09, 2018

"The Police Prefect wishes to express his profound sadness at this tragedy that is affecting one of our families, assures the policewoman's family of her compassion and total support, and salutes the commitment of the police divers. Fluvial Brigade who, every day, train to be able to help the population when the time comes "can read through the statement of the police headquarters.

"It was a joint exercise of the fluvial brigade and firefighters of Paris".

The latter were stopped at night and should resume this Saturday morning. It has been entrusted to the General Inspectorate of the
The Policewoman, Disappeared During An Exercise On The Seine, Was Not To Participate


January 12, 2018 By Mathieu D'Hondt /

This is Southern Radio information.

Remember a week ago, a 27-year-old diver, a member of the fluvial brigade of Paris, disappeared during a banal exercise practiced on the Seine?

Her body could not be found due to a capricious weather. It is learned today that the diver should not have taken part in this exercise but she had insisted to participate.

According to our information, the young policewoman, originally from the Alpes-Maritimes, was indeed not scheduled for this operation but she would have convinced her hierarchy to appear, wishing to "prove itself" just three weeks after the getting her certification for scuba diving.

It is also this very short time between theory and practice that has raised questions in the aftermath of the tragedy, in particular by the General Inspectorate of the National Police (IGPN).

The searches have still not found her body.

After trying to dive a first time without success, the young woman wanted to try again. Underwater searches give no hope of finding the policewoman alive. At 12h on Thursday, January 4, 2018, the level of the Seine was 3.07 meters at Austerlitz for a flow of 907.38 m3 / s. This increase was expected to continue in the following days according to weather forecasts. "She immediately disappeared underwater," said Unsa, who participated in the research.

An administrative inquiry was opened at the request of the Unsa-Police union to determine the conditions under which the exercise was carried out. "It was suicidal to put her in the water," he adds.
Police (IGPN) who will determine the responsibilities of each in this case.

According to the preliminary investigation, the knot of the thread that connected the policewoman to the boat broke down, probably causing her drowning because of the heaviness of her equipment which obviously prevented her from surfacing.

Diver Of The Dead Police During An Exercise In Paris: What We Know
April 30, 2018 BY AZIZ ZEMOURI | The Point.fr
Modified 05/09/2018

The body of Amandine Giraud, disappeared January 5 during a training in difficult conditions, was found Sunday in the Seine.

They are civil protection agents marauding along the banks of the Seine in Paris who saw a body floating in the Seine between the bridge of the Carrousel and Pont des Arts. This one was quickly identified thanks to the remains of her outfit with the shield of the fluvial one. The body was discovered not far from the Monnaie arm, which runs along the south of Île de la Cité, a narrow passage with a strong current where the young peacekeeper of the river brigade, Amandine Giraud, 27 years old, disappeared on January 5th during a training session in difficult climatic conditions.

The exercises are done at the request of the divers themselves and their union representatives. On December 15, 2017, during a hearing with the commanding officer who runs the river, some police had referred to the difficulties encountered by divers at the climate summit on December 12, 2017 where they had to face a flow of the Seine at 500m³ / s. The union therefore demanded the holding of diving training in conditions of optimal safety “to perfect the technicality of divers and maintain their skills.” Indeed, three days earlier, at the World Climate Summit, the police-divers of the fluvial had had the worst difficulties to inspect the hulls of the boats of the musical Seine, the cultural box inaugurated in April on the island Seguin (Hauts-de-Seine) where Emmanuel Macron and his guests were installed for their speeches. Unsa sums up his interview with the river hierarchy: "We have made the point of doing regular diving training, as the underwater work required on this day has been difficult for our divers. The diving conditions of the day were perilous with a strong current estimated at 500 m³ / s in the Paris region.”

Three Investigations
Amandine Giraud disappeared on January 5th after diving into a river at the rate of 900 m³ / s. The young woman, from Nice, had been scuba diving since she was a teenager. The one who had failed the first dive tests before making the second attempt had joined the river in 2016.

On the morning of her disappearance, Amandine Giraud had already done her first swim training. While the second team
of the fluvial team, which she was not part of, was about to dive, the young woman has proposed to integrate this session.

Amandine's parents were received by the hierarchy of the river brigade just after his disappearance. "Nothing was hidden from them, contrary to what one could read," says a source in the office of the prefect of police. "On the other hand, they were not given any element of the judicial investigation. And for good reason, we do not have access. Three investigations are currently being conducted on this tragic accident: judicial, administrative and a final one of the CHSCT, carried out inter alia by the representatives of the personnel.

Safety Jacket
At this point, many questions remain unresolved. It seems, however, that the training protocol has been respected. Supervision by an instructor, an officer, a diver (ex-swimmer) and another, certainly less experienced, meets the usual standards.

When Amandine is in trouble this January 5th in the late morning, the supervisor makes the decision in two seconds to release the command that connects to the boat. The protocol provides that in case of difficulty the diver inflates his lifejacket to float on the surface, in order to be recovered later.

This January 5, Amandine apparently did not inflate her vest. For what reasons? Was it prevented by the high flow?

The parents of Amandine Giraud constituted themselves civil party and entrusted to Master Éric Dupont-Moretti the defense of their interests.

Soldier dies in ‘tragic diving incident’
L/ Cpl George Partridge    Scuba Diving

A soldier has died in a “tragic” collision during the final week of his Army Diver Course.

L/ Cpl George Partridge died on 26 March at the National Dive Centre in Gloucestershire, the Ministry of Defence (MoD) said.

The 27-year-old, whose wife is expecting their first infant, was based with 26 Engineer Regiment in Wiltshire.

An MoD spokesman told “our thoughts are with his family and friends at this extremely difficult time”.

Paying tribute, his commanding officer Lt Col Simon Doyle described him as “quietly determined, hard-working and vastly popular”.

“Lance Corporal George Partridge was an exemplary soldier,” he continued. “Humble but hugely capable, he was always ready to give a helping hand.”
L/ Cpl Partridge joined the Army in June 2010 at persons under the age of 19.

His first years were spent at 21 Engineer Regiment in Ripon, north Yorkshire, where he qualified as a Class 1 Royal Engineer Driver and was deployed to Afghanistan.

He also served in Canada after being promoted to 26 Engineer Regiment. The statement told L/Cpl Partridge had a long-held ambition to be an Army diver and had recently been selected for promotion to corporal.

Armed Forces-out Minister Mark Lancaster said: “It’s clear from the testaments of his colleagues that he had a bright future in the Army and been established in the highest regard.”

Cpl Anthony Matthews said his colleague was a “role model” who was “looked up to” and his peers “would come to him for advice”. “He was a family-orientated human who was looking forward to starting his family with wife Zoe. He was both a physically and mentally fit person who enjoyed any challenge thrown in his direction,” he added.

The MoD said it was investigating how the “tragic diving incident” happened.

The National Diving and Activity Centre is a large inundated quarry at Tidenham in Gloucestershire, near Chepstow in Monmouthshire. It was formerly Dayhouse Quarry, information sources of limestone, which was flooded in 1996.

The diving centre, which opened in 2003, is described as an inland scuba diving site and is popular with technical and free divers due to the depths of up to 80 m (260 ft).

It has yet to comment on the soldier’s death.
Soldier's Dive Death Due To 'Systematic Failures', Family Claims
7 September 2018

The family of a soldier who died in a diving accident during an army course claim "systematic failures" led to the tragedy.

L/Cpl George Partridge died on 26 March at the National Dive Centre in Tidenham, Gloucestershire.

A coroner was told the family believed deep-water diving was dangerous and "sufficient controls should be put in place" to minimise risks in the course.

County coroner Katy Skerrett has ruled the inquest will be held before a jury.
Seven deaths at the centre have been reported by the BBC since 2004.

It is the UK's deepest inland dive site where people can swim to depths of 76m (249ft).

The 27-year-old, whose wife was expecting their first child at the time, was based with 26 Engineer Regiment in Wiltshire.

At a pre-inquest review at Gloucester coroner's court, legal representations were heard on behalf of the family claiming controls to minimise risks "should be put in place".

"It shouldn't have happened but it has and it is felt there were systematic failures which led to this tragic accident," the coroner heard.

Mrs Skerrett said the inquest would be held in front of a jury next year.

National Dive Centre
The National Diving and Activity Centre is a large flooded quarry at Tidenham in Gloucestershire, near Chepstow in Monmouthshire.

It was formerly Dayhouse Quarry, a source of limestone, which was flooded in 1996.

The diving centre, which opened in 2003, is described as an inland scuba diving site and is popular with technical and free divers.

There have been several diving fatalities at the 80m (260ft) deep lake.

L/Cpl Partridge joined the Army in June 2010 at the age of 19.

His first years were spent at 21 Engineer Regiment in Ripon, north Yorkshire, where he qualified as a Class 1 Royal Engineer Driver and was deployed to Afghanistan.

He also served in Canada after being promoted to 26 Engineer Regiment.
Employee City of Pembroke, Retired Staff Sgt OPP Auxiliary Member, Renfrew County Chapter Harley Owners Group; Died tragically on a dive operation, on Saturday May 26, 2018 at Deep River. John was 56 years old.

Diver Dies In Plan Recovery Operation
May 29, 2018

DEEP RIVER – A local diver died Saturday after being tangled in a rope as he tried to recover a crashed plane from the Ottawa River.

Police said Monday that 56-year-old John Beevis, Laurentian Valley, was engaged in a recovery operation when he became entangled in a rope that was attached to the plane and could not be transferred. The members of the OPP Underwater Search and Recovery Unit (USRU) recovered the man at the diver later that day.

The recovery operation was launched after a small private plane lost power and the pilot, the only resident of the planet, made an emergency landing on the river near Balmer Bay on Friday night around 6:30pm. Members of the Upper Ottawa Valley Detachment of the Ontario Provincial Police OPP) responded after being notified of the event. The 49-year-old pilot, who had resigned from the Deep River airport, experienced minor injuries and could safely swim to the beach. The Transport Safety Authority (TSB) was notified and investigated.

The operation went on Saturday morning when the accident that claimed Beevis’s life occurred. Several units in OPP responded, among other things, to OPP Marine Unit, OPP Helicopter, OPP Emergency Response Team (ERT), USRU and an OPP Officer (SOCO). Deep River Police and Fire Department together with Renfrew County Paramedics, Ornge and Garrison Petawawa Fire Department also participated in the scene. The police said that an autopsy will be conducted and the investigation will continue.

John Beevis, a former Auxillary OPP Officer and seen here in 2006 recovering a pickup truck that crashed through the ice at Mink Lake, drowned over the weekend while attempting to recover a plane that sunk in the Ottawa River.

Full coverage of this brave man’s career.

We extend our condolences to family and friends of this man.
Chicago Fire Department Diver Killed, 2 Others Injured After Rescue

Juan Bucio – May 28, 2018

A diver with the Chicago Fire Department has died and two other divers were injured following a rescue on the Chicago River Monday evening, officials said.

Juan Bucio, 46, was pronounced dead at Stroger Hospital at 10:02 p.m. after he was rushed there following a rescue attempt for a person in the water in the river in the 2600 block of South Ashland Avenue.

Two other divers were taken to Northwestern Memorial Hospital in good condition, according to the Fire Department. They have been released.

The fire department received a call around 7:50 p.m. after boaters saw a person jump into the water, according to José A. Santiago, the Fire Commissioner of the Chicago Fire Department.

During the search, Bucio became separated from his partner, Santiago said, and the team sent out a Mayday call.

“His partner turned around and he was missing,” he said. “It was that quick.”

Rescue crews pulled Bucio out of the water. The Chicago Police Department is still searching the water for the person that went into the water.

The rescue was near Canalport Riverwalk Park in an industrial area near the Bridgeport neighborhood on the South Side.

Crews could be seen pulling a person out of the water on a gurney as an ambulance waited nearby around 8:50 p.m.

About a dozen police and fire vehicles were stationed at Stroger Hospital late Monday, and officials blocked off Ogden Avenue in front of the hospital for at least an hour.

Members of the Chicago Fire and Police departments work to rescue a Fire Department diver who was injured while attempting to rescue a person who fell from a boat into the Chicago River near Canalport Riverwalk Park in Chicago on May 28, 2018. (Armando L. Sanchez / Chicago Tribune)
A group of firefighters stood outside the emergency room while Chicago police officers lined the entrance to the hospital parking lot.

**Chicago Fire Department Diver Dies After Rescue Attempt In Chicago River**  
MAY 28, 2018, By Tom Negovan

CHICAGO — A Chicago Fire Department rescue diver has died after an incident during a rescue attempt in the Chicago River Monday night. He’s been identified as 46-year-old Juan Bucio.

CFD Marine Unit divers went into the waters of the Chicago River near the 2600 block of South Ashland in response to reports of a missing man who fell out of a boat and into the river.

While three divers went into the water, only two came out. A statement from CFD said communication with the diver was temporarily lost. The rescue effort then switched to the diver, who was pulled from the river and put into an ambulance.

When the ambulance arrived at the hospital under police escort, paramedics could be seen administering CPR to the diver. Authorities later revealed that he had succumbed to his injuries.

Two other firefighters were transported to Northwestern Memorial Hospital for evaluation, and both are in stable condition.

2 Investigators: A Closer Look At Fire Department Diver Juan Bucio’s Final Moments  
May 30, 2018  By Dave Savini

CHICAGO (CBS) — Video of fallen Chicago Firefighter Juan Bucio’s final moments is raising new questions about the rescue operation that cost him his life Monday night in the Chicago River.

Bucio disappeared under the waves of the river near 26th and Ashland while searching for a missing boater, and was pronounced dead after he was pulled out several minutes later.

CBS 2 was on the scene as rescue crews tried to locate Bucio under the waves, and eventually pulled him from the river.

Fire Department dive teams responded to a call about a man who fell off a boat shortly before 8 p.m. Monday on the Chicago River near Canalport Riverwalk Park.
A helicopter dropped Bucio and his partner into the river to search for the boater.

The two had been in the water for some time when they began swimming to a Chicago Fire Department boat.

CBS photographer Scott Placko was videotaping the river rescue effort when Bucio and his partner ran into trouble, and crews on the boat began yelling out to them.

Bucio and his partner were face to face in the water next to the rocking boat when Bucio’s head went under the waves. His partner placed his hands on the side of the boat to keep his head above water.

Crews on the boat threw a rope to Bucio’s partner. As he was pulled out, there was still no sign of Bucio.

Fire Department radio traffic revealed crews realized Bucio had yet to surface.

“He doesn’t know what happened to Juan,” someone said over Fire Department radios.

Still unsure of what happened to Bucio, crews talked to his partner.

“They were face-to-face at the front of your boat. ... He ripped his mask off and then he went down,” someone said over Fire Department radios.

“Diver let’s go. Diver let’s go,” a firefighter shouted from the boat.

Three minutes passed before other divers entered the water to find Bucio. His body was pulled out after several minutes. An ambulance took him to Stroger Hospital, where he was pronounced dead at 10:02 p.m.

The chief in charge of safety for the Chicago Fire Department watched CBS 2’s video from the scene on Tuesday, but did not comment, including on questions about the apparent 3-minute delay before other divers were sent into the water to look for Bucio.

Meantime, the boater firefighters were searching for, 28-year-old Alberto Lopez, has not yet been found. Friends said the father of three fell off a boat in choppy water on the river Monday night.
CFD Diver Juan Bucio Died Of Rare Heart Condition, Authorities Say

July 17, 2018

 Authorities announced the cause of death of Chicago Fire Department diver Juan Bucio, who died on Memorial Day while searching for a man who fell off a boat on the Chicago River.

The Cook County Medical Examiner's Office determined that Bucio died of a rare heart condition called lymphocytic myocarditis that can cause heart failure. His death was also ruled accidental.

Bucio, 46, was a 15-year veteran of the Chicago Fire Department, spending the last 11 years on the Marine and Dive Operations Unit.

Bucio was part of a crew that was searching for a man who fell off a boat and into the river in the 2600-block of South Ashland Avenue at about 8 p.m. on Memorial Day. CFD officials said Bucio disappeared suddenly and lost communication with his team while searching for that man, identified as 28-year-old Alberto Lopez.

"Yelled out a mayday and they sent in another team to find firefighter Juan Bucio. He was located near the bottom," Chicago Fire Commissioner Jose Santiago said. "An order was given to switch out divers to bring the second team in, give them a break. At that time they were coming towards the boat. His partner turned around and he was missing. That quick."

Once divers found him, he was rushed with a police escort to Stroger Hospital, where he was pronounced dead.

Bucio was honored with purple bunting hung around the city, and several fundraisers have been held in his name.

Prior to CFD, Bucio was a Chicago police officer from 2000-2003, a police spokesman confirmed.

The Chicago Fire Department said it's examining the results of the autopsy as part of its continuing investigation.
boater Alberto Lopez the evening of May 28, were contained in an autopsy report released Tuesday.

According to the report, Bucio had a rare heart condition that caused him to become distressed. His death was caused by “asphyxia with depletion of air from diving tank due to cardiac arrhythmia due to lymphocytic myocarditis.”

His death was determined to be an accident.

Bucio and his dive partner, Michael Reyes, descended from a fire department helicopter into the river near 26th and Ashland. The two were tethered together.

At one point Bucio related to Reyes their tether line was caught on debris, Chief Ron Dorneker told an investigator for the medical examiner’s office. Reyes stopped, backed up, the line was freed and the search continued, according to Dorneker, who was in charge of the dive scene that night.

Dorneker requested a check of their dive tank air capacity, and though each man had about 10 minutes of air time before reaching the limit at which divers are required to surface, he ordered them to head up.

According to the interview with Dornecker, Reyes said he and Bucio surfaced without incident.

Once at the surface, Reyes looked at Bucio and asked if he was alright, which is protocol, Dorneker said. “Bucio had responded in the affirmative by nodding his head,” he said.

The gesture was one of three acceptable responses, the others are patting your head or verbal confirmation.

As Reyes was helped onto a boat, Chicago Police Marine Unit officers radioed a Mayday after they saw Bucio sink and were unable to get him to respond to radio messages, according to Dorneker.

A fire department spokesman was not immediately available Wednesday to provide details on the protocol of tethered divers.

Bucio, 46, was recovered from a depth of 17 to 19 feet, about 10 to 15 minutes after sinking. His diving equipment was intact, his mask sealed on his face. And his air tank was empty, the autopsy report states.

Bucio had lymphocytic myocarditis, “a rare cause of cardiovascular disease that can cause heart failure,” and in
Bucio’s case it led to cardiac arrhythmia, or “the improper beating of the heart,” according to the medical examiner.

Bucio’s main oxygen supply “likely became exhausted while underwater” and he didn’t switch to a backup supply, according to a consultant’s review of the diver’s equipment that was ordered by the federal Occupational Safety and Health Administration. Bucio was “distressed due to the heart condition,” medical examiner’s spokeswoman Becky Schlikerman said.

The review of Bucio’s diving equipment showed it “used but well maintained.”

Consultant Craig Jenni wrote in a report submitted last week to OSHA that Bucio’s gear “functioned as designed, however the diver likely exhausted the primary gas supply, which created a task-loaded situation that became too overwhelming for the diver to resolve such that the diver sank to depth unable to self-rescue.”

Jenni suggested Bucio’s death “may have been averted if the diver had been using a gas-integrated dive computer with visual and audio alarms warning the diver and his dive partner when approaching minimum safe cylinder pressure.”

Lymphocytic myocarditis typically occurs in about 22 out of 100,000 cases, with a major metro-area hospital usually seeing just one or two cases per year, according to Dr. Allen Anderson, medical director of the Center for Heart Failure at Northwestern Medicine’s Bluhm Cardiovascular Institute.

The condition is typified by inflammation and white blood cells within the weakened heart muscle, and while it is linked to certain viruses, patients might not show symptoms ahead of a major event like an arrhythmia, Anderson said.
“Lots of times, people don’t know they have it,” Anderson said. “This is like a lightning strike, out of the blue.”

A routine physical would not detect the condition, Anderson said.

The fire department is reviewing Bucio’s autopsy as part of its own ongoing investigation, CFD spokesman Larry Langford said Tuesday.

Bucio joined the department in 2003 and had been on the dive team since 2007. He is survived by his sons, ages 7 and 9, and nine siblings.

The body of 28-year-old Alberto Lopez — the man whom Bucio had been summoned to rescue — was found in the river four days later by friends who said they had been unsatisfied with Chicago police search efforts. Lopez, who fell from a boat into a river, was a father of three.

Rescue efforts for a Thai soccer team trapped in a cave complex recently took a tragic turn: A former Thai navy diver died after running out of air while delivering oxygen tanks to the 12 boys and their coach underground.

Retired Petty Officer Saman Gunan (also reported as “Kunan”) was delivering air tanks to the stranded boys and their coach, who are in a subterranean chamber with oxygen levels running low, the BBC reported.

To reach the boys, Gunan and other divers had to navigate recently flooded passageways in the Tham Luang cave complex, where the children have already been trapped for close to two weeks. But Gunan ran out of air on the way back to the surface. He was found unresponsive at 1 a.m. local time today (July 6) and was transported to a nearby hospital, where he died without regaining consciousness, according to the Bangkok Post.

Thai soccer team rescued, from caves – former SEAL dies attempting to save boys

In late June, members of the “Wild Boars” Thailand Boys’ soccer team and their coach became trapped in a cave in

Saman Gunan - July 06, 2018

Former Navy Seal Saman Gunan died while trying to rescue the boys trapped in a cave in Chiang Rai. Source: Supplied
northern Thailand. It was nearly two weeks before they were discovered.

The path to the team required a five-hour trip to deliver oxygen to the cave. Narrow channels and jagged rocks encompassed the pathway to the boys, who admitted that they were not strong swimmers, making the rescue that much more difficult.

A retired Thai Navy SEAL lost his life aiding in the effort. Sgt. Major Saman Gunan was volunteering during an overnight mission to place extra air tanks inside the cave.

He passed out underwater and could not be revived. He was 38 years old and survived by his wife.

Gunan was an accomplished triathlete (a sport requiring one to swim, bike, and run) and champion trail runner. He was one of the top triathletes in Thailand and was part of The North Face Adventure Team. His team posted a message on its Facebook page remembering the former Navy SEAL. “We will never forget your enthusiasm (sic), power, passion and kindness. You died helping others, the ultimate sacrifice.”

After weeks within the cave, the boys and their coach were eventually rescued.

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Malaysia – October 3, 2018

6 Fire Rescue Divers Killed In The Line Of Duty During Water Rescue

https://www.firefighterclosecalls.com/6-fire-rescue-divers-killed-in-the-line-of-duty-during-water-rescue/

October 4, 2018

We regret to pass on that 6 fire and rescue department divers in Malaysia died in the Line of Duty. This occurred during a rescue operation for a teenager who is feared to have drowned after falling into a mining pond on Wednesday (Oct 3).
The divers were caught in a strong “whirlpool” during the operation in Puchong, a town on the outskirts of Kuala Lumpur.

It was drizzling when the divers went into the pond at 2115 hours to rescue the 17-year-old boy. The team had followed standard operating procedures in donning complete diving equipment and were tied to a single rope.

Suddenly a violent current/whirlpool occurred in the water, causing all the fire rescue divers to spin in the water while all their equipment came off.

The divers struggled in the water for about 30 minutes while other fire rescue members tried to rescue them. All of them were unconscious when they were eventually pulled out of the water. All life saving measures were attempted, but unsuccessful.

**Here’s What Happened to 6 Firemen Who Drowned While Finding Missing Teen in Puchong**


October 4, 2018  By Ling Kwan

On the night of 3 October, the nation was shocked by news of six firemen who drowned while carrying out a search and rescue operation. This heartbreaking incident took place at a mining pond in Taman Putra Perdana, Puchong.

According to NST and Harian Metro, the operation was to search for a 17-year-old teenager, Mohd Ilham Fahmy who was believed to have slipped and fallen into the mining pond in the evening. It was understood that the teen had gone there with his two friends for fishing activities. The local residents quickly alerted the Fire and Rescue Department when they learnt about the mishap. Six firemen from the Water Rescue Unit then dived into the water to look for the victim shortly after.

Five minutes into the operation, the current suddenly surged and all the divers were entangled by their safety ropes, which were believed to have caused their diving equipment to come off.
Sepang district police chief Assistant Commissioner Abdul Aziz Ali said a few firemen on standby saw the divers struggling in the water and tried to pull them out but the current was just too strong.

The first diver was only pulled out after 30 minutes.

“When they were brought out (of the water), all six of them were unconscious. The paramedics at the scene performed CPR for 30 minutes but none of the victims gave any response and they were pronounced dead later,” Abdul Aziz said.

The fallen firemen are:
- Mohd Fatah Hashim, 34
- Izatul Akma Wan Ibrahim, 32
- Mazlan Omarbaki, 25
- Yahya Ali, 24
- Adnan Othman, 33
- Muhammad Hifdzul Malik Shaari, 25

The bodies have been sent to Serdang Hospital for post-mortem. This news also shocked the missing teenager’s father, Mohd Azzam Naim who didn’t expect the tragedy to take a turn for the worse.

It was learnt that he had advised his son not to go there anymore especially after two men had drowned two months ago while fishing there. Moreover, it’s rainy season now and strong current is expected. Sadly, the teen didn’t take his father’s advice seriously.

At the time of writing, the teen’s body has yet to be found.

Our thoughts and prayers go to the family of the deceased and we salute the unsung heroes for their service and dedication. RIP.

Malaysian Rescue Divers Who Drowned During Search Mission Complied With Sops

04 Oct 2018 Source: Bernama/ic(aj)

SHAH ALAM, Selangor: The six fire and rescue personnel who drowned while searching for a missing teenager in a mining pond on Wednesday (Oct 3) had complied with the stipulated standard operating procedures (SOP), an official said on Thursday.

Although it was dark at the time of the rescue mission, the search and rescue mission was not called off as the water was not deep, the official said.

"Checks by the department found that they had complied with the necessary SOP and strategy," Fire and Rescue Department (FRD) director-general Mohammad Hamdan

The six divers were caught in a strong "whirlpool" during the operation. (Photo: Bernama)
Wahid told reporters after the funeral prayers for the six firefighters.

"If it was a planned task, we could call it off, but the task involved a search for a human. (In such a situation) if the condition allows, we carry on, even at night," he added.

Mohammad Hamdan said the department would review the SOP, with a view to improving it, to prevent a similar incident.

He said preliminary investigations at the scene found that the pond was not suitable for recreational activities.

“There is a waterfall and at the foot of the waterfall was where the search and rescue mission was conducted. When they (fire and rescue personnel) went towards the waterfall, the undercurrent was strong and there are also rocks placed there as water breakers.

“We believe they must have stepped on the rocks and because of the strong undercurrent, one of them could have slipped and the others were pulled by him as they were in a human chain.

“They were in the water for about 10 minutes and cardiopulmonary resuscitation (CPR) was given to them when they were brought up to the surface, but they could not be saved,” he added. He said further investigations would be carried out.

The six men included Mohd Fatah Hashim, 34; Izatul Akma Wan Ibrahim, 32; Mazlan Omarbaki, 25; and Yahya Ali, 24, who were from the Port Klang Fire and Rescue Station.

The remaining two, Adnan Othman, 33, and Muhammad Hifdzul Malik Shaari, 25, were from the Shah Alam Fire and Rescue Station.

M’sians Critical Of SOP Despite Fire Dept Statement


6 Oct 2018

PETALING JAYA: Despite the Fire and Rescue Department confirming all standard operating procedure (SOP) was adhered to in the Taman Putra Perdana mining pool rescue operation, it did not stop people from questioning and criticising what had gone wrong.

Many Malaysians asked how the operation, which saw six firemen drown, was conducted, whether it was appropriate for all of them to be tied together to a rope instead of separate ropes.

They also raised concerns on the department’s SOP, training and equipment strengths in handling a rescue operation in such circumstance.

On Rakyat bersama SPRM’s Facebook page, a user Lukeman Raajah, commenting on a video on the operation, posted: “(There were) no full scuba diving equipment, tanks and gear
visible, and no buoyancy-compensating devices. “No outdoor flood lights were placed strategically, only torch lights for outdoor lighting.”

Lalang Hijau expressed his anger on Facebook, saying it was ludicrous to tether all personnel on a single rope, adding that they should not “toy around with water”.

Another user, Salehudin Al Ayubi called on the department to review the SOP that allowed for the six personnel to be tied together.

“The department director should answer to all citizens and the affected families. A lesson needs to be given to top officers to review the SOP. Perhaps something has to be improved,” he said.

However, their hard-hitting remarks were not accepted by all despite the arguments, as concerned Malaysians rebuked some of the distasteful remarks by showing compassion on social media.

“There is no use in posting foolish comments. Firemen do not earn much but their sacrifices can never be valued by money,” wrote Tommy Kim.

Axel Izarul concurred, adding that the six firemen would not have donned the uniform if they were afraid to die for their country and nation. “I salute them, the true heroes,” he added.

Another Facebook user, Carl’s A Nova said opinions should be expressed in an objective manner without hurting anyone’s feeling.

“Do not humiliate others. Nobody wants tragedy like this to happen,” he said.

Death Of IID Diver Under Investigation

Killed as a result of the Burnworth accident was 32-year-old Jonathan Burnworth, according to a statement from the IID. “At this time,” IID General Manager Kevin Kelley said, “the district grieves with the Burnworth and West families on the loss of their loved one and of a valued IID employee. While we cannot say with precision what might have caused this tragic accident that investigation is already under way and will no doubt be exhaustive.

“In the meantime, though, we’re going to focus on the human aspect of this situation and do all we can as an organization to support these families and join with them in mourning this great loss,” Kelley continued.

An IID regulatory and emergency planning coordinator, Burnworth entered the Ash Canal near East Jasper and Anderholt roads about 1:45 p.m. Friday northeast of Calexico.

Jonathan Burnworth
in response to a reported submerged vehicle and somehow lost consciousness while in the water, IID said.

Burnworth was transported to El Centro Regional Medical Center and later airlifted to University of California San Diego Trauma Center in Hillcrest, where he died at 6:26 p.m. Saturday.

A cause of death is pending an autopsy, which was scheduled for today by the San Diego County Medical Examiner's Office.

As for the circumstances surrounding the accident, no one was found in the vehicle in the canal, Imperial County sheriff's Sgt. Jorge Cabanillas said Monday, adding sheriff’s officials do not know how long the vehicle had been in the water. No other information was available from the Sheriff's Office.

The accident is under investigation by the IID and the Occupation Safety and Health Administration, according to IID. The Sheriff's Office is also investigating. Burnworth had been an employee of the district since February.

The IID dive team had been disbanded for several years and only recently was reconstituted in the last few years, according to IID.

IID employee dies during emergency response incident
Nov 01, 2018

EL CENTRO, Calif. - The Imperial Irrigation District said one of its employees died during an emergency response incident.

IID said 32-year-old Jonathan Burnworth entered the Ash Canal at about 1:45 p.m. on Friday in response to a reported submerged vehicle and somehow lost consciousness while in the water.

He was transported to El Centro Regional Medical Center and later airlifted to UCSD Trauma Center in Hillcrest, where he passed away on Saturday.

Burnworth was a member of the Imperial Irrigation District's dive team.

IID General Manager Kevin Kelley said, "At this time the district grieves with the Burnworth and West families on the loss of their loved one and of a valued IID employee. While we cannot say with precision what might have caused this tragic accident, that investigation is already under way and will no doubt be exhaustive."

"In the meantime, though, we’re going to focus on the human aspect of this situation and do all we can as an organization to support these families and join with them in mourning this great loss."
Found On the Internet

Investigating the Underwater Crime Scene

https://www.sirchie.com/blog/investigating-the-underwater-crime-scene/#.W9zbP5NKiUk
October 5, 2011  By: Administrator

Underwater Crime Scene Investigation
By: Don Penven, Technical Support Group

Most crime scene investigations are conducted using primarily land-based procedures. But the earth’s surface is 70% water, which requires a thorough understanding of underwater investigation techniques for a successful outcome.

While the underwater environment offers significant challenges, the techniques employed still follow the basic crime scene protocols such as protection of the crime scene, interviewing witnesses and victims and maintaining the chain of collected evidence custody.

The single, most important point stressed in much of the available literature emphasizes the need to consider all underwater incidents involving a death be treated as a homicide (until ruled otherwise), and to proceed accordingly in collecting and preserving any possible physical evidence.

Only slight similarities exist in the methods and techniques employed in an underwater search compared with a land-based investigation. The purpose of land and water investigations is to locate and collect evidence that will stand on its own during a courtroom presentation. Either type of investigation is conducted by trained specialists whose purpose is to be certain that nothing in the scene is disturbed until the investigation is complete. Here, any similarity between land and underwater crime scenes ends because the underwater scene requires significantly different equipment, practices and procedures.

Those charged with underwater crime scene investigation (UCSI) must acquire the same basic skills required for any crime scene, but added to this is the need to be thoroughly trained in the proper and safe use of diving equipment. And as is the case with any crime scene, the investigator must possess a high level of skill in underwater photography.

Maintaining crime scene security offers many challenges. The UCSI doesn’t just surround the scene with yellow barrier tape. The investigator must keep in mind that this is not a “salvage operation,” as was often how some underwater scenes were handled in the past.

In today’s world underwater assignments are much more sophisticated, employing specialized equipment coupled with high-tech methods akin to those used in underwater archeology. The precise MD Dive Team

Most crime scene investigations are conducted using primarily land-based procedures. But the earth’s surface is 70% water, which requires a thorough understanding of underwater investigation techniques for a successful outcome.
location of every single artifact at the site is mapped and all evidence recovered is carefully preserved. Thanks to refinements in evidence collection techniques and innovative tools, the evidence can be preserved intact—making it usable for introduction during a criminal trial.

A major problem facing investigators has been estimating the time of death. A body that has spent several days submerged further complicates this finding.

Decomposition of a submerged body occurs rather rapidly due to environmental factors such as the presence of marine life, bacteria of many varieties and varying temperatures. These factors combine to confound the investigator at the scene in making it nearly impossible to determine if death was accidental or intentional. It may take weeks or months to arrive at a determination after recovering the body and post mortem examinations are completed.

A factor that influences the determination of a final outcome is the interference of marine life. Crabs and other sea creatures tend to make circular patterns while consuming flesh, which may falsely portray foul play. Marine life can destroy any evidence that may have been left with the body. Most often the body parts consumed first are the eyelids, lips and ears.

According to Gemma Dickson, a forensic biologist from New Zealand, "Unless a body is witnessed entering the water, there is no reliable method for determining the length of time that a body has been submerged”

What has been recently discovered, however, is that bacteria (Phychromonas) first begin to colonize decomposing bodies in the frigid temperatures associated with many free standing, natural bodies of water. It is specific genera in the Bacteroidales order, only colonized after 10 days of submersion, and it can accommodate many different water environments. This bacterium thrives on the fecal matter associated with a decomposing body.

This new discovery could transform the field of general science, forensic and law enforcement studies and how bacteria interact with decomposing bodies. The same researchers in Australia are continuing their research using submerged pig heads and letting them decompose on their own in the water to study these bacteria.

All living creatures, including bacteria, excrete waste into the environment causing noxious odors that are specific to each bacterium. In the case where bacteria are feeding on a corpse, the surrounding soil or water can hold valuable information, so obviously samples must be collected.

Although bacteria prefer an oxygen-enriched environment, they have also been known to survive in anaerobic conditions. Research has found that psychrophilic bacterium was isolated from a cold current off the Monbetsu coast of the Okhotsk Sea in Hokkaido, Japan. The time and seasons of the year seem to have little effect on their growth because of the nourishing environment of the water.
Just as maggots recovered from a rotting corpse can give a good approximation of the time of death, so may microscopic organisms tell the investigator what happened. As in the case with blowfly larvae, maggots, and the pupae stage, growth cycles can give valuable information. Perhaps it will not be long before bacteria will be telling the same story.

The point here is that the scuba-diving investigator should collect soil samples from around and under a submerged corpse, and to collect water samples adjacent from the corpse.

It is also recommended that items collected from underwater be packaged in the water in which it was found. This will reduce the chance of environmental deterioration that may be caused by removing items from the water.

Some basic tools needed by UCSIs will include: magnetometer or underwater metal detector, recovery magnet, hand trowel, sifting screens, underwater lighting equipment, waterproof camera and a variety of evidence containers.

This forensic tool of studying bacterial life cycles can also help aid those interested in identifying the body and giving surviving loved ones closure.

References:

The Art Of Underwater Body Recovery
https://www.telluridenews.com/news/article_7547dde0-6b5c-11e8-bacb-abb8c4133f07.html
Jun 8, 2018 By ROB STORY, Staff Reporter

Recent search of Miramonte Reservoir utilized dogs, divers and drones - The discovery of Tanner Chesnut’s capsized kayak floating empty in Miramonte Reservoir the evening of May 16 set off an unfamiliar chain of events in land-locked San Miguel County. Before long, local agencies such as the sheriff’s office and Colorado Parks and Wildlife were joined on the shores of Miramonte by divers from the National Park System’s rescue unit and members of the Grand County (Utah) Search & Rescue team, which brought a dog trained to locate bodies in water.

The investigation was suspended and restarted three times. Summit County Search & Rescue — which recently acquired a state-of-the-art, $60,000 remotely operated vehicle (ROV) for searching under water — joined the search in its second week. On May 25, deputies spent 15 hours patrolling Miramonte’s 405 acres with the ROV and — even though the device had located cadavers in far deeper and murkier water — it, too, came up empty.

The search was called off again.

But then, on May 28, a Department of Wildlife officer stationed at Miramonte was scanning the lake with binoculars spotted something floating on the surface in a shallow part of the reservoir, said Sheriff Bill
Masters. “He notified us, and we were able to wade out there and recover (Chesnut’s) body.

“It’s not real pleasant, but gases in a decomposing body eventually cause it to rise because it becomes less dense than the water. Undersheriff Eric Berg actually had a table that calibrates time under water and water temperature to predict when a submerged body will float to the surface, and (his prediction) was pretty much right on the money.”

Said Masters, “We had marked with buoys the spot where the capsized kayak was found and the body surfaced a few hundred yards from the buoys.”

Chesnut’s family endured an agonizing 12 days between the kayaker’s disappearance and the recovery of his body. Yet, other drowning victims have spent vastly more time in Davy Jones’ Locker.

In 2011, scuba diver Don Windecker’s body was found 265 feet below the surface of Lake Tahoe; he had vanished in 1994. His corpse, still clad in a wetsuit, had been held down for 17 years by his weight belt and air tank. According to the Los Angeles Times, four more divers remain missing in the same area, which is infamous for swallowing up victims.

Similarly, an Iowa man’s body was recently recovered from Lake Michigan 13 years after he perished.

Underwater body recovery is a surprisingly complex business. Many agencies bring Dive Rescue International Body Recovery System to search sites. It’s a body bag blending nylon-reinforced vinyl and heavy-duty woven polyester mesh that allows rapid draining yet keeps important forensic evidence intact. Its makers designed it to be transported just below the surface in order to keep the contents private to onlookers and to remain sensitive to the victim’s family.

Then there’s the VideoRay Pro 4, the $60,000 device brought by Summit County SAR to Miramonte. SummitCounty has such a device because it manages Dillon Reservoir, which — at 3,233 acres — is 8 times bigger than Miramonte Reservoir.

VideoRay describes the Pro 4 as "the most advanced, capable, and versatile small ROV on the market today." Weighing about 5 pounds, the Pro 4 can dive up to 1,000 feet below the surface with its four thrusters and travel at around 4 knots with a current. It’s equipped with a mechanical claw that can grip with up to five pounds of pressure, which is enough to be able to grab hold onto a body and pull it up to the surface while being reeled in on its cord. The Pro 4’s imaging sonar has a range of 300 feet and its dynamic range color camera features LED lighting that can illuminate the darkest lake bottom.
Representatives from the Summit County Sheriff’s Office couldn’t explain why they could not locate Chesnut’s body given the Pro 4’s previous success in more difficult situations and deeper water.

That’s where the human element comes in.

As a professional diver for law enforcement in Florida told the Reddit website, “We once got a call for a missing person and were asked to search the bottom of a large pond. ... We were running a good grid pattern, not missing any territory ... And then I felt something. Was it a fish? The back of my hand hit something as I was waving it about. I reached back again. And then it happened! Something latched onto my left wrist with all its might. At first I thought it was the third diver, playing a joke on me. Then, to my horror, I realized it was not. This was a hand, all right, but it was cold and hard and held me in a death grip!

“I panicked, I admit it. I let go of my training officer and started thrashing ... Onshore (after bringing up a woman’s body) my training officer told me: ‘That woman did not grab your wrist. We swam around, stirred things up, got her body to float up off the bottom so we could find her easier. Your wrist happened to hit her hand just right and you snagged her. That’s all. And the next time the same thing happens, you remember what I told you.’"

Masters has never experienced such a grim rescue. Yet, even though San Miguel County remains landlocked with the only significant bodies of water being Trout Lake, Woods Lake and Miramonte, last month’s underwater body recovery operation was not the county’s first. It assisted four years ago when a plane with five passengers crashed into Ridgway reservoir and became stuck in silt beneath the surface.

“We also had an incident in 1992,” said Masters. “A woman was floating on an air mattress in Miramonte when the wind blew her away from shore and a man attempted to swim out to her. He was still wearing jeans (that weighed him down). Before he reached her, he drowned. The girl saw exactly where he went down. Still, the water was so murky it took a day or two of diving by a team out of Grand Junction to find him.”

Added Masters, “After that incident, we procured cold-weather wetsuits, and guys started training for underwater rescues. But they lost interest because we never had any calls. Maybe we’ll start getting more now: With the increased use of sea kayaks and stand-up paddleboards, we have a lot more people using Miramonte for reasons other than fishing.”

**Wisconsin boy swept in sewer sticks finger out of manhole and is saved**


Aug 29, 2018 - Madison, WI

An 11-year-old boy sucked into a flooded Wisconsin storm sewer was saved when an eagle-eyed firefighter saw the boy's fingers pop through an opening in a manhole cover.

The astonishing rescue Tuesday evening came as storms pounded the southern half of the state and southeastern Minnesota.

The Calumet County Sheriff's Office said the boy was playing with friends in a flooded drainage ditch after the rains passed around 6 p.m. in the Village of Harrison. He disappeared under the water and didn't surface.
A dive team, sheriff’s deputies and volunteer firefighters responded. Deputy Fire Chief Wesley Pompa said that when they arrived they found a bystander trying to hold onto the boy but he was sucked into a culvert that led to the storm sewer.

Pompa said the water was rushing so quickly it would have sucked a full-grown man into the culvert.

The rescuers could do nothing except try to determine where the flow might take the boy. Pompa called the village road superintendent, Bob Kesler, to the scene to help map out the sewers.

Pompa and Kesler were standing on top of a manhole cover about 30 feet away from the ditch when Pompa saw the boy’s fingers pop through an opening in the cover. The boy had found air pocket just beneath the manhole cover and was hanging onto a ladder leading up to the manhole.

The firefighters wrenched the cover open. Pompa and Kesler lifted the boy to safety.

"He was hollering and talking to us and he was able to reach up for us," Pompa said.

The boy was taken to the hospital, and authorities said he was alert and conscious after his ordeal. Pompa said he never got the boy’s name.
"I just thank God he was alive and he’d made it that long," Pompa said. "It could have gone a million different ways but this one way it worked out for him."

A string of storms began moving through the region last week, flooding streets and farm fields and cutting power. One man was killed in Madison as he tried to escape from a flooded ditch last week.

State emergency officials said 20 counties have been affected by flooding over the last 10 days. Gov. Scott Walker on Wednesday declared a statewide emergency, directing state agencies and the Wisconsin National Guard to assist local authorities as needed. The declaration also is the first formal step toward requesting federal assistance.

Parts of Interstate 90/94 were closed overnight due to standing water on the pavement and highways across southern Wisconsin have been rendered impassable. Emergency officials in Madison were still grappling with flooded streets on Wednesday morning and warned commuters to expect delays for days.

Several tornadoes were spotted Tuesday afternoon in Campbellsport, Lomira, Oakfield and Brandon, Wisconsin, according to the National Weather Service. The service has not confirmed that tornadoes hit in any of these locations. Possible tornadoes also demolished two barns in Fond du Lac County, killing about 100 cattle, Wisconsin Emergency Management spokeswoman Lori Getter said.

Some 12,000 We Energies customers were still without power Wednesday morning as utility crews worked overtime to restore service.

Southeastern Minnesota has also been struggling with flooding over the last few days. Tuesday night's storms largely missed that area, passing to the south, although some spots got hit hard.

Houston County officials, for example, reported 7 inches of rain and had to evacuate a campground and a tornado came down in Goodhue County, Minnesota Emergency Management spokeswoman Amber Schindeldecker said. No evacuations have been reported to the state, she said.

Forecasts called for drier weather Wednesday and Thursday. More rain was expected Friday and Saturday.
Flash flood sweeps car into culvert, killing mother, 2-year-old daughter
09-02-2018 By Bradford Betz | Fox News

A young mother and her 2-year-old daughter drowned in North Texas on Saturday morning after a flash flood swept their car off the road and pushed it into a culvert filled with water.

The mother’s car had stalled on a service road in Fort Worth when it was pushed by waves of water from other vehicles, the Fort Worth Star-Telegram reported. The midsized sedan floated into the culvert around 10 a.m. local time and within minutes was completely filled with water, the report said. By the time rescue officials arrived, it was too late.

“When we got here the water was 30 feet deep and we couldn’t go in,” a fire department spokesman told the paper. Firefighters were called back after the water receded and the top of the vehicle was visible, the spokesman said.

Rescuers found an elderly man around 2:30 p.m. The report said he drowned after his vehicle became submerged underwater. No additional information was released about the victims.

The tragedies came despite the Fort Worth Fire Department's warning Friday of flooding conditions and as storms continued across the Dallas-Fort Worth area, the Dallas Morning News reported.

"With the potential for heavy rain, be prepared for localized flooding......"

If you are driving and encounter High Water please #TurnAroundDontDrown," a tweeted warning said.

The National Weather Service issued a flash warning which remained in effect until 12:45 p.m.
The Fort Worth Fire Department expressed its condolences in a tweet Saturday evening and cautioned to other drivers: “Turn Around, Don’t Drown.”

The PSDiver Workshop Initiative

This year we decided to become proactive. It is one thing to write articles, argue on message boards or make cute memes, but to implement a plan of action, put our own money on the table and develop a workshop program is a whole other thing. We beta tested our workshops with a variety of recreationally and Public Safety trained divers. We worked until we were confident that the workshops we wanted to offer could make a difference to divers, no matter what their ABC affiliation or level. Our results so far have been extraordinary.

‘There was nothing we could do’: Woman, toddler drown in Fort Worth floodwaters

A woman and a female toddler drowned in a culvert filled with fast-moving floodwaters Saturday morning when their car was swept off the East Loop 820 access road near Wilbarger Street - Click to follow link: star-telegram.com
The first workshop we introduced was the 
**PSDiver SURVIVAL Workshop.** This workshop is focused on the individual diver and is not a team building or enhancing program.

Designed for the individual diver, we teach a series of skills designed to build confidence and comfort underwater when task loaded and low or out of air. We call it **“building panic resistance.”**

We are **not** teaching divers how to dive. While we are **not** teaching any **dive team** concepts or skills, we will give you a new perspective on risk management, skills and training proficiency. We introduce methods of equipment configuration to better a diver’s efficiency and muscle memory. This workshop focuses on the individual diver, not the search and recovery of anything.

If you were entangled in zero vis, at depth and suddenly ran out of air, what would you do? Do you have the skills and training to free yourself before you pass out or inhale water?

If you are tangled, out of air or unable to get air and at depth, how long do you have to make a decision, perform an action or multiple actions before you die?

**5 SECONDS?**

Would 5 more seconds make a difference? What about 10 or 20 seconds or a minute more? If in just 5 additional seconds, you could solve the problem, what would those seconds be worth to you? What would you be willing to do to gain that time?

The PSDiver SURVIVAL Workshop is focused on building **just those few seconds.**

We teach skills and techniques that most divers have never seen. We will show you how to hone your skills to be more proficient and deliberate with your movements. Our goal is to extend your capabilities when the worst of conditions exist, and afford you the potential to survive.

This is not a “sharks and minnows” program or a training agency specialty. It is the PSDiver SURVIVAL Workshop.

Not all emergencies underwater are going to be life threatening but some will.

**The PSDiver SURVIVAL Workshop will teach you how to turn some of those emergencies into manageable inconveniences.**
The PSDiver ASE Workshop

In May of 2018 we launched the second PSDiver Workshop. The **PSDiver ASE Workshop** (Automobile Subsurface Extrication).

When a vehicle goes into the water, it is rarely an accident. Occupants are not always able to escape; sometimes they are purposefully prevented from escaping. If the entry is witnessed and there is a potential for rescue, this workshop includes how to perform a **Hasty Recovery** when recovery of the entire vehicle might be quicker than attempting to extract victims from the vehicle underwater.

If rescue is not an option, the workshop offers a range of methods to bring the vehicle to shore. Methods include utilizing traditional tow hooks and equipment to air bag rigging and deployment to lift the vehicle and pulling it to shore by hand.

It can be difficult for teams to learn these or similar techniques. Teams may only have the opportunity to perform these techniques on actual vehicle recoveries and that training potential for the team is almost always lost.

**We Bring Our Own Car!**

Depending on your location, we can solve that problem. We bring a specially designed and environmentally clean vehicle with us.

In the PSDiver ASE Workshop, teams will learn how to *choke, cinch and seize* ... Rigging and Lift Bags. This is an extraordinary team, department or regional training program.

**AND...** Later in 2019 we are planning on the release of our third workshop. It will be a team tweaking, team building, diver growth, skills update and more - workshop.

The first may be conducted in Georgia. Date, Location, and additional details and information will be posted on all our social media sites and [PSDiver.com](http://PSDiver.com)
We are working to take away your excuses. With funding provided by corporate sponsors, we have kept the cost of our workshop extraordinarily reasonable.

For announcements, schedules and locations of the PSDiver SURVIVAL and ASE Workshops,

Follow our PSDiver Monthly Facebook Page -- Join our Facebook Public Safety Divers - PSDiver Group -- or visit our web site www.PSDiver.com.

If you would like information on becoming a sponsor or hosting a workshop, email Mark Phillips at Mark@PSDiver.com.

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Sponsor News

JW Fishers Gives Back to the Community

JW Fishers Mfg., Inc. takes pride in being a family owned and operated business and believes in giving back to communities whenever possible. Over the past 50 years, JW Fishers has donated equipment or gift certificates to many deserving organizations. The company has developed a complete line of underwater search equipment that is offered in times of need. JW Fishers products have helped many individuals including dive rescue squads, public safety dive teams, police departments, and fire departments locate drowning victims and weapons used in the commission of a crime.

This past year, a SAR-1 underwater metal detector was donated to Dan Lieb, President of the New Jersey Historical Divers Association, Inc. The SAR-1 was specifically designed for use by dive teams attempting to locate objects in low visibility environments. The SAR-1 was used as raffle prize and the money collected helped with the restoration of the historic building which is home to the New Jersey Shipwreck Museum at the InfoAge Science Center in Wall, NJ. The proceeds will also go toward updating the electrical system to current code.

Members of the NJ Historical Divers exhibited the SAR-1 at the Ocean Wreck Divers annual flea market in Tom’s River, NJ. More than two hundred attendees saw the SAR-1 and many given a demonstration of the detector in action. A
number of artifacts were buried and scattered throughout a sandbox.

Individuals were asked to locate the buried objects with the detector. This allowed the end user to experience the SAR’s effectiveness and ease of operation. The detector was also exhibited at the Beneath the Sea show (largest consumer trade show of its kind) in New Jersey. Several thousand attendees saw the SAR-1 and many tried it out, and had fun finding the artifacts.

Approximately two hundred raffle tickets were sold, helping the NJ Historical Divers Association meet their fund-raising goal.

According to Lieb “the SAR-1 was hit! Everyone who stopped by the booth got a chance to try the SAR-1 in our sandbox with some metal items scattered in it. All who tried the unit were impressed with the vibration feature. We are very pleased with the result and proud to have JW Fishers as a sponsor. Thank you for your generosity and support!”

JW Fishers also donated a $500 gift certificate to the annual Treasure Hunters Cookout held in Sebastian, Florida this year. John Redman, the founder of the Annual Treasure Hunters Cookout, was elated. “I couldn’t wait to tell you that your gift certificate for the cookout was a highlight of our raffle! We had somewhere between 400 to 500 treasure hunters attend including Burt Webber, Carl Fismer, Dr. E. Lee Spence, Dr. Eugene Lyons, John Brandon, Taffi Fisher and many more.

With your support we managed to raise approximately $2,700 for the ‘Michael Abt Jr. Heart Foundation.’ This organization supplies defibrillators to schools in an effort to prevent childhood death or injury due to heart failure during sporting events. John went on to note that they also raised some monies to kindly assist “old treasure hunters who have fallen on bad times.” The 11th annual cookout will occur next year on April 27, 2019 in Sebastian, Florida. It is open to anyone that would like to attend and the proceeds will benefit another great cause.

Thank you, John and team, for giving up your time to help others!

Best regards,

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EdgeTech 2205 AUV-based Sonar Proves Instrumental in Discovery of Missing Argentine Submarine

EdgeTech, the leader in high resolution sonar imaging systems and underwater technology, is honoured to learn that its industry leading side scan sonar technology was used to help find the missing Argentine submarine, ARA San Juan.

The deep water search was performed by Ocean Infinity and its advanced fleet of 6,000 meter rated autonomous underwater vehicles (AUV) equipped with EdgeTech 2205 Side Scan Sonars.

EdgeTech’s unique tri-frequency side scan sonar frequency combination of 75 / 230/ 410 kHz enables the host AUV to perform long range searches in deep water, with the middle and higher frequency providing added resolution for better target identification. The ARA San Juan was imaged by the EdgeTech sonar operating at a frequency of 230kHz and a 400 meter range scale. (image attached) The submarine, which has been missing for one year, was discovered in over 900 meters of water.

EdgeTech side scan sonar systems provide operators the ability to image large areas of the sea floor during important deep-water searches when the whereabouts of sunken objects are largely unknown. EdgeTech takes great pride in knowing its high quality reliable underwater acoustic imaging systems continue to assist in these demanding endeavours.

For more information please visit: EdgeTech @ http://www.edgetech.com/
If you would like information on becoming a sponsor or hosting a PSDiver Workshop, or becoming part of the PSDiver Magazine team, email Mark Phillips at Mark@PSDiver.com.

Resources

DAN: Divers Alert Network - Scuba Diving and Dive Safety Association
Medical Information Line 1-919-684-2948
24-Hour Emergency Hotline 1-919-684-9111 to help divers in need of medical emergency assistance for all incidents

ChemTrec – Haz-Mat / Chemical Spill Information
1-800-424-9300.

Centers for Disease Control and Prevention
1600 Clifton Rd. Atlanta, GA 30333, USA
800-CDC-INFO (800-232-4636)

National Suicide Prevention Lifeline
Call 1-800-273-8255 Available 24/365

NAMI: National Alliance on Mental Illness
Help Line 800-950-6264

First Responder Support Network
The mission of the First Responder Support Network is to provide educational treatment programs to promote recovery from stress and critical incidents experienced by first responders and their families.

Crisis Resources

IAFF RECOVERY CENTER
Treatment for successful recovery from substance abuse, PTSD and other co-occurring behavioral health