Definition Challenges: Developing a PSD Standard
By Mark Phillips

Dive Medicine: Diving and Mitral Valve Prolapse

PSD FATALITY

NEWS
Continuing Education And More!
Greetings.

As most of our readers know, our last issue – 112, was to be our farewell issue. Time, budget and our present pursuit of all things you do when you retire have taken a toll on the intensity of my work.

After months of deliberation we have decided to commit to 6 more issues. I cannot honestly say we will stop then or if we will commit to more. Time will tell.

One of the driving forces that caused me to commit is a desire to complete a long time project and publish a national consensus standards guide for public safety diving.

This is a project I have pursued for most of my diving career. When I started, some of those who made the attempt before me gave me their notes and work. Some of that work became the NFPA 1670 and 1006. I do not know if that was the original intent or not but it did prove that we have the ability to make changes to our own field of diving.

Over the years we have seen numerous groups make an attempt to develop a PSD standard. I have personally witnessed a group of training agencies make the attempt and fail on two separate occasions! They cannot do it and it may be unfair to task them with that enterprise.

In Issue 112, we noted that OSHA does not consider us recreational divers. That was wonderful news to those of you who argue that point. But some of that warm and fuzzy feeling went away when we wrote that OSHA does consider us commercial divers.

But WE do not consider what we do to be commercial diving. Nor do we identify as recreational or scientific divers. This is our problem. It has been our problem for years. We argue amongst ourselves about standards and what we should follow. We enlist the opinions of people within the training agencies we respect and get conflicting information and are left with little more than another opinion to work with.

Municipal and independent volunteer dive teams deal with monetary issues, manpower issues, equipment and training issues that are beyond the scope of commercial divers or scientific divers. Those in the commercial and scientific diving communities are on the outside looking in and cannot relate to those issues because they do not exist in their worlds.

Being forced by State and / or Federal statute to follow the commercial diving standards or not depending on where you are geographically located is not how we should define standards for public safety diving.

We need our own. We need to write them. We need to have training agencies participate, not take control, in the development of a PSD standard.

We also need to quit being so egotistical about our personal training and abilities and become more open minded and receptive of new concepts.

And when or if we are offered a national consensus standard for PSDiving, we need to be adaptable and receptive to possible changes.

Such a project DOES exist. A preliminary draft was published in PSDiver Monthly Issue 110. The work that was published was never intended to be anything more than a draft to work from.

Now that same group is about to embark on a detailed revision with the specific intent of producing a true national consensus standard for PSDiving. In this issue I will share one of the challenges that had to be overcome. It was interesting to me and may just surprise you!

Dive Safe,
Mark Phillips
Editor / Publisher

If you would like to discuss this topic or any other join our discussion group CLICK HERE TO JOIN
Definition Challenges – Developing a PSD Standard
By Mark Phillips

Years ago I started a behind the scenes campaign supporting the idea of a national standard for Public Safety Diving. There have been numerous private groups form to do just that; even a formal council comprising the leading PSD Training agencies. For a variety of reasons, each has failed.

After completion of PSDiver Monthly Issue 112, we decided to carry on the magazine for another 6 quarterly issues. The idea being we would make one final attempt at the PSD Standards Project. While working on the OSHA article (Issue 112) we were presented with a number of challenges that caused us to reevaluate the way we look at things PSD related. Issue 112 was one of the most commented on issues we have ever produced. Despite the accolades, we discovered there is still an extreme disconnect between PSD teams in what we do and how we approach our diving. So begins another push, another effort of likeminded individuals, to develop a consensus standard for Public Safety Diving.

If you are, or claim to be a, PSDiver, you were most likely trained to be a recreational scuba diver first. When you did that training, you were probably not aware that such a thing as Public Safety Diving even existed. Yes, I know that statement is not universally accurate – just go with the flow for a while.

In recreational diving we learned the basics of diving. We learned about the equipment, the underwater environment, some basic physics and a lot about the physical mechanics of scuba diving.

We were taught to stay within no decompression limits. Now we have nitrox and mixed gas diving and even rebreathers that extend bottom times well past basic recreational no decompression limits. In fact, though the physics have remained the same, recreational scuba training has changed quite a bit over the years.

In our recreational scuba classes we were taught the difference between a daylight dive and a night time dive was diminishing sunlight. This also applied to diving at depth and color spectrum. In some instances low light was used in conjunction with the term “low visibility”. While the wording was not always consistent, we never questioned it. We took everything we learned from our instructor and the academic scuba study as gospel.

As Public Safety Divers we start our diving careers with recreational scuba instruction. As we diverge from recreational scuba we expand our skills and knowledge base in an effort to make our diving safer and more expansive. But without standards to join us together, we fall back to our basic training when discussing simple things like underwater visibility.

But is the wording commonly used to describe or define varying degrees of visibility is not consistent. It is not consistent between dive teams, divers or even training agencies.

For example: The phrase “limited visibility” is commonly used. But rarely do we see it identified. The same goes for “low visibility”. What is the difference between these two terms?

In their Advanced Scuba book, the recreational training agency IDEA devotes a chapter on visibility titled “Night/Limited Boca Raton Police / HazMat Photo provided by John Drewniak

PSDiver Magazine Issue 113
Visibility”. Theirs is one of the very few publications where I found at least some definition of the terms.

Obviously, both night and limited visibility could be placed under one heading, that of limited visibility diving. There is a difference though. All water has some degree of turbidity. Turbidity refers to the amount of particles suspended in water. Generally, the term limited visibility will refer to day light hours, where visibility has been significantly reduced.

They go on to offer an explanation that answers the question of why divers from different areas do not seem to agree on what “good visibility” is. Basically if a diver dives in waters that consistently has 20 feet of visibility that is normal for them. A diver who typically dives in water with 100 feet of visibility diving there would consider 20 foot visibility a limited visibility dive.

The Complete Underwater Diving Manual, compiled and edited by NOAA (1977) and the Office of Marine Resources, uses the terms “low visibility” and “zero visibility”. This is a section from the chapter on General Diving Procedures.

Underwater visibility depends on time of day, locality, water conditions, season, bottom type, weather and currents.

Divers will frequently be required to dive in water where visibility is minimal, sometimes down to zero. Diving in these conditions requires experience and competence.

Diving in low visibility is best performed using surface-supplied equipment. The diver has communications with the surface. Communications with the diver(s), and a direct physical contact with the surface.

WARNING – Diving using SCUBA should be avoided when possible where visibility is at zero or severely limited. If scuba must be used a buddy line and a float are recommended.

In the 1996 book Scientific Diving: A General Code of Practice they use the terms “low and zero visibility”.

Diving in Low and Zero Visibility: The divers’ ability to navigate correctly is much reduced in low and zero visibility conditions, There is a danger that the diver will become, unknowingly, placed in a hazardous situation from which extraction will be difficult without assistance from another diver or the surface.

In the 1990 SSI specialty manual on Night/Limited Visibility Diving, they expand on the definitions more so than most.

In this manual, “Limited Visibility” will be diving during the daytime in turbid water. Also “Turbid Water” and “Limited Visibility” will be used interchangeably, and should be understood to mean the same thing, the term “Night Diving” will mean any diving done after dark.

Most of the techniques describe in this manual will work for either night diving or limited visibility diving. Night diving is considered a more difficult, advanced
condition than limited visibility, requiring more preparation, planning and equipment. The theory is, if you are comfortable diving in nighttime, you will be comfortable diving in limited visibility during the day.

The old Jeppenson Advanced Sport Diver Manual identifies “low visibility as “turbid”.

Low visibility water is referred to as “turbid” because it contains not only dirt, but also has a variety of material suspended in it which causes the loss of visibility.

An old PADI Open Water Dive Manual defines underwater visibility as how far you can see horizontally, underwater. It also refers to limited visibility and extremely limited visibility.

I admit I didn’t spend hours of time digging through my dive book library looking for visibility references. However, out of the 100 or so I DID look through, I found only a meager few that offered at least some definition or description of visibility.

Without question, every one of the visibility descriptions I found and those I shared are accurate for their respective publications. Each warned about lessening visibility and offered some type of warning or technique to use that would make the dive safer. But – NONE of the representative agencies refer to, identify with or characterize Public Safety Diving.

But these are the things WE learned and for years have tried to apply to the diving we perform. It is no wonder that we consistently have communication differences from area to area on what zero, low or limited visibility is. In one area their concept zero visibility may be another teams version of a recreational dive!

This is a problem when we are working to have and use standardized terminology. We have to be able to talk the same talk, to communicate and understand each other. Different meanings applied to visibility underwater are just one example of how differences in terminology can undermine the ability to develop a national consensus standard.

Defining visibility as it applies to Public Safety Diving is a start. Because we also face a number of variables that are created by our type of diving, we have to include dynamic wording in our definitions that accommodates a changing environment.

For example, we might have a body of water that is used for water recreation purposes and offers 20 – 40 feet of visibility for recreational diving. It may have submerged training platforms, a designated swim area, etc. That same body of water may have a thick, light mud bottom. So if we start a dive operation and have visibility when we enter the water, we may have visibility when we reach the bottom. We may have visibility when we start a search pattern but the stirred up sediment will likely cause zero visibility by the second pass.

Or consider a dive team working in almost any Southern river. These rivers are usually transporting a large sediment load and
almost always are zero visibility by the time the diver reaches 10 feet of depth regardless of the bottom depth.

Do we use the same description for both bodies of water? Is one zero visibility and the other limited? In the examples, both should be considered zero visibility.

If you dive in a lake that regularly has 10 foot of visibility on a good day that is normal visibility for you. Consider how a diver who normally dives in 60 to 100 foot of visibility will describe your water. Will it be low visibility, limited visibility, turbid or possibly even zero visibility? If we can’t talk to each other about the water we dive in and use the same terminology, how will be advance to developing a PSD Standard?

Let’s be fair and realistic. If we have visibility in the water that allows us to see our target object from a distance, we probably do not need to put all of the safety measures in place that we need when diving in zero visibility. The majority of the discussions concerning standards are based on our divers working in zero visibility. Remember, we recreational dive in the water column. We work on the bottom.

The OSHA Standard that has bearing on this is worth reading too; The 29 CFR 1910.424(c)(2). This paragraph requires that a SCUBA diver be line-tended from the surface when in the water or that the SCUBA diver be accompanied by, and in continuous visual contact with, another diver during the diving operation.

It is of interest to note that in the entire document:
DIRECTIVE NUMBER: CPL 02-00-151
EFFECTIVE DATE: June 13, 2011
SUBJECT: 29 CFR Part 1910, Subpart T – Commercial Diving Operations, the ONLY reference to a level of visibility is “poor visibility” and not once offers descriptions of definitions of water visibility. The simple inference is that commercial divers are specifically trained for all conditions. And as a reminder, OSHA considers PSDivers to be commercial divers. (Issue 112)

Even in the current U.S. Navy Diving Manual, visibility is not consistently described and uses these terms: Moderate to good visibility, extremely limited visibility, and limited visibility, poor visibility, restricted and impaired. Low visibility was used to describe surface visibility in a fog bank.

With all of this in mind, a real standardized description or definition must account for turbidity, ambient light and an environment that is subject to change by natural forces or human intervention be it mechanical or working divers. The definition must be specific and encompassing enough to avoid any misinterpretation or grey areas.

For now the proposal is to eliminate the term “Low Visibility” as it applies to PSDiving. Let’s be honest, if we have visibility we may not need to utilize all of the things we do when we are diving in zero visibility. If we have visibility we can estimate the distance we can see horizontally in the water. If we have restricted sight distance but we can still see as we continue our dive, we still have visibility. The concern is when we may start with visibility and it diminishes or disappears as we dive.

When visibility isn’t consistent and diminishes to less than ten feet but is not zero visibility, we will term that “Limited Visibility”. A simple measure...
will be the diver’s ability to see their fins. If the diver can, they have x feet of visibility. If they cannot see their fins but can still see lesser distances, they will be in "Limited Visibility water.

If you cannot see your gauges you are in "Zero Visibility" water.

These are the proposed definitions:

**Visibility:** The estimated horizontal distance a diver can see underwater (sight distance), at the time of measurement.

**Limited Visibility:** Any condition that exists where sight distance in the water cannot be sustained at a minimum of 10 feet due to any condition including but not limited to: bottom topography, and / or turbidity in the water, ambient light, or current.

(10 feet = A PSDiver performing a tended search stretched out with arms in front should be able to clearly see their dive fins. A PSDiver performing a tended search stretched out with arms in front unable to clearly see their dive fins but is able to see lesser distance would be in limited visibility).

**Zero Visibility:** Any condition that exists where ANY sight distance in the water is not sustained. (A PSDiver in zero visibility is unable to easily see/read their gauges.)

*We welcome your input. If you would like to discuss this topic or any other join our Public Safety Divers discussion group. [CLICK HERE TO JOIN]*

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**PSD FATALITY**

**Divers searching for man in Lake Norman**

[Link to article](http://www.mooresvilletribune.com/news/divers-searching-for-man-in-lake-norman/article_a73c81c2-2b56-11e6-9546-b77b8338f5f2.html)

June 5, 2016 *Mooresville Tribune*

Divers are looking for a man who apparently drowned in Lake Norman on Sunday.

Personnel from the Lake Norman Fire Department, Iredell EMS and the Iredell County Sheriff’s Office are in the Hagers Creek Acess Area off Brawley School Road after receiving a 3:15 p.m.call about a 29-year-old man who did not surface while swimming.

Officials told a TV news station that the man had jumped off a boat to swim, but went under and did not resurface.

**Scuba divers at Lake Norman say conditions are rarely good for diving**

[Link to article](http://www.fox46charlotte.com/news/local-news/155481648-story)

By: *Yolian Ortiz*

MOORSEVILLE, NC (WJZY) - For many scuba divers at Lake Norman, they said they can rarely see everything in front of them.

President of Piedmont Dive & Rescue Association Tim Kilma told FOX 46 Charlotte visibility can be great one moment - and the next change.

"Lake Norman, depending on what part of the lake, you can have 3 to 5-foot visibility, to what we call black out conditions, to where if you put your hard to your mask, you are not even going to see your hand," Kilma said.
Regardless of the conditions all divers start the same, even first responders. They all go through a 24 basic diving skills course. They learn how to handle running out of air, and even taking your mask off underwater.

Their final test is a “Check Out” dive. That’s where they put everything they’ve learned to the test in open water.

Divers said that the summer months are the worst months to dive at Lake Norman. The reason is because boats and storms churn up the lake bottom creating murky water making it hard for them to see.

Bryan Stafford has seen it all underwater. From finding phones, sunglasses to even a fuel tank of an F-8 fighter jet.

Stafford has worked for law enforcement and done numerous rescue dives. He told FOX 46 Charlotte that a lot of the equipment rescuers use is standard. What’s different is their specialized training and masks. They have a two-way radio to be able to communicate with other divers and anyone on the ground.

Stafford said that they also follow a specific rule for safety.

**Crews respond to possible drowning in Lake Norman**


June 5, 2016. From staff reports

**Emergency crews are on the scene of a possible drowning in Lake Norman.**

Personnel from the Lake Norman Fire Department, Iredell EMS and the Iredell County Sheriff’s Office are in the Hagers Creek Acess Area off Brawley School Road after receiving a call about a 29-year-old man who went under water and did not resurface.

The man was last seen around 3:30 p.m.

**Search resumes for missing swimmer**


Jun 6, 2016. From staff reports

The search for a Charlotte man missing in Lake Norman resumed Monday morning.

As darkness arrived Sunday night, divers suspended their search for the man, who disappeared while swimming off a boat Sunday afternoon.

Iredell County Sheriff’s Office Detective Sgt. Katie Harwell said the man, whose name is being withheld until next-of-kin is notified, jumped off a boat near an island across from Charter Place Lane on the Brawley School peninsula.

Harwell said the man was swimming back toward the boat when he went under water shortly after 3:30 p.m. Sunday and did not resurface. “The current is really strong,” she said.

Divers will resume their search on Monday.
Iredell Sheriff Darren Campbell said the apparent drowning will be investigated by the N.C. Wildlife Resources Commission since a boat is involved.

Lake Norman Fire and Rescue, Mooresville Fire and Rescue, Shepherds Fire and Rescue and Iredell EMS all responded to the area to begin a search for the man, who was missing for around six minutes when the call came in, according to reports. Divers from Catawba and Mecklenburg counties were called in to assist in the search.

The area where the man was last seen is approximately 80 feet deep, reports indicate.

Diver’s death during Lake Norman search ’a tremendous loss’

A diver with the Sherrills Ford–Terrell Fire and Rescue Department died Monday afternoon during a search for a missing swimmer on Lake Norman. Bradley Long, 28, was one of three divers from Catawba County who took part in a search for Isia Cruz of Charlotte, who was missing since Sunday afternoon.

Rick Davis, chief of Sherrills Ford–Terrell Fire and Rescue, announced Long’s death during a press conference near the scene Monday night. “We’ve suffered a tremendous loss,” he said.

Around 4 p.m., Long and two other divers went into the waters. Two resurfaced and were in need of medical attention, but Long did not resurface. Authorities immediately launched a search for him.

The other two divers were taken to area hospitals and their injuries are non-life-threatening.

Exactly what happened has not been determined, said Dion Burleson, public information officer for the Denver Fire Department.

During the search for the Long, the body of the 29-year-old Cruz was also recovered, officials said.

Cruz was on a boat Sunday afternoon with four others, including his pregnant wife, and jumped off with three other men to swim near Hager’s Creek Access. The boat wasn’t anchored and began to drift away. The men in the water began to swim back to the boat, but Cruz went under and never resurfaced.

A family member of Cruz who did not want to be named expressed appreciation to the firefighters and rescue personnel who spent more than 24 hours looking for Cruz, who disappeared in an area with water about 80 feet deep.

Following the press conference Monday night, a Catawba County Sheriff’s Office patrol car, a Sherrills Ford–Terrell Fire and Rescue truck and a Catawba County EMS unit formed a processional to escort Long’s body from Lake Norman.
Burleson said the loss of Long is a tragedy for the close-knit firefighting family, and he asked for privacy for the men and women of Sherrills Ford-Terrell.

The Iredell County Sheriff’s Office is investigating Long’s death while the N.C. Wildlife Resources Commission is handling the drowning investigation. Long's Facebook page says he’s a firefighter with the Denver Fire Department, as well as an engineer, firefighter and EMT with the City of Newton. He was the nautical captain with Sherrills Ford–Terrell Fire and Rescue Department, the page said.

Numerous tributes were posted to the site Monday night, many with the Sherrills Ford-Terrell Fire and Rescue badge covered with a strip of black.

One diver missing, two injured during search for man on Lake Norman
June 6th 2016 CDT By WBTV Web Staff
Two divers were injured and a third is missing during a search for a man who went missing on Lake Norman over the weekend.

Officials have not said exactly what happened during the search, but confirmed the information about the three divers, who went into the water earlier Monday searching for a missing 29-year-old man.

Rescue crews have been searching the lake since Sunday afternoon. Officials said the missing swimmer jumped off a boat Sunday with two other people.

The boat wasn’t anchored and started to float away. The three tried to swim and catch up with the boat, but the missing man wasn’t able to make it back to the boat.

RELATED: Family of missing Lake Norman swimmer: He was a great swimmer
After suspending the search around 9:30 Sunday evening due to darkness, crews started searching again 8:30 Monday morning.

The names of the divers injured or the missing diver have not been released, but officials said they are from Sherrills Ford-Terrell Fire and Rescue.

The search for the missing man was suspended until the missing diver could be located.

One diver missing, two injured during search for missing man on Lake Norman
JUNE 6, 2016
Crews search for missing swimmer in Lake Norman. Christian Flores WBTV Staff reports
A search is on at Lake Norman for a diver who went missing Monday while looking for a swimmer who went underwater a day earlier.

Two other search divers were injured, WBTV reported. Officials confirmed that information but have not said what went wrong with the search for a missing 29-year-old swimmer, the station reported.

Officials say the swimmer jumped off a boat in the water near Mooresville on Sunday. The person’s name has not been released.

Andy Weatherman, chief of the Lake Norman Fire Department, told local media outlets that the search was suspended at dark Sunday.
Officials said four people were on a boat when the missing person jumped into the water with two other people. The boat began to drift away and the missing person could not make it back.

Diver searching for missing swimmer unaccounted for, officials say
by: Dave Faherty Updated: Jun 6, 2016 - 6:14 PM

MOORESVILLE, N.C. —
A diver from Sherrills Ford Fire and Rescue is missing in Lake Norman, officials said.

Two other firefighters were rescued after a diving accident in about 50 feet of water.

Channel 9 reporter Dave Faherty was there Monday afternoon as three divers went into the water looking for the 29-year-old swimmer who was reported missing Sunday.

About an hour later a call went out for more ambulances and help to search the area along Lake Norman where we could see wildlife officers running to meet two of the boats. Onboard, Faherty could see firefighters working on two injured divers who had gone down between 50 to 80 feet.

Catawba County Emergency Services confirmed there was an emergency situation underwater involving three divers from Sherrills Ford Fire and Rescue.

Only two of the three divers made it back to the surface.

"It's difficult. This is one of our own that's out there missing and the other two who were hurt, they were our own," said Emergency Management Coordinator Karyn Yaussy. "We send our best to their families and to them. We ask for everyone's prayers and thoughts that this turns out as best as it can."

Officials said the two divers rushed to the hospital are awake and trying to communicate.

The search for the 29-year-old is suspended as they search for that missing diver.

Mournful procession returns body of Captain Bradley Long to Conover
June 8, 2016 WBTV

The procession that returned the body of Captain Bradley Long to Conover was made up of fire trucks, police cars and motorcycles, ambulances, and other vehicles representing public service. For them, it was a way to pay tribute to a fallen hero.

"We hate the reason for the opportunity but we are honored to be a part of it," Lt. Vince Rega of the Winston-Salem Police Department said. "We're all in public service together, it doesn't matter what badge you wear, what uniform you wear, what aspect of it you're in."

Captain Long died while diving in Lake Norman on Monday in an attempt to locate a missing swimmer.

Long was a member of the Sherrills Ford-Terrell Fire and Rescue, as well as the Newton Fire Department.

On Wednesday morning his body was returned from the hospital in Winston-Salem to the Bennett Funeral Home.
All along the 55 mile route along I-40, fire trucks and other emergency vehicles could be seen parked on the overpasses offering their salutes and respects to Captain Long and his family.

"It’s a rippling effect, everyone is just so touched and overwhelmed with love and support for the family members, there’s a lot of camaraderie going on, a lot of support among each other," said Pastor Byron Repass of Tri City Baptist Church. "I think it’s a real tribute for who they are, serving, folks who would just give their lives ultimately for other people along the way."

Before the first vehicles left Newton to head to Winston-Salem, Captain Long’s father talked about how the community can help his grieving family.

“People ask, what can we do for the Long family,” Jerry Long said. " We have all kinds of superheroes on TV, but take your children by the fire department and thank the real heroes of this world. Thank you, and God bless every one of you.”

**Officials launch investigation into diver’s death at Lake Norman**


JUNE 8, 2016 Davie Hinshaw

Karyn Yaussy, Catawba County emergency management coordinator, said she expected the investigation into Long’s death by the Iredell County Sheriff’s Office to be a lengthy one.

**Firefighter fatality report for Bradley S. Long**

https://apps.usfa.fema.gov/firefighter-fatalities/fatalityData/detail?fatalityId=4507

**Bradley S. Long**

Captain Bradley Long and one other diver were searching for a missing 29-year-old man in Lake Norman when they encountered an emergency. A third diver entered the water after a Mayday was called. While the two other divers eventually surfaced, Captain Long never resurfaced and was later recovered and pronounced dead at the scene. Rescue crews had been searching Lake Norman for the missing man a day prior to the emergency involving Captain Long. Officials said the missing man jumped off a boat with two other people. The boat was not anchored and started to float away. The three tried to swim and catch up with the boat, but the missing man was not able to make it back to the boat. While the search for the man was suspended once Captain Long went missing, officials confirmed the body of the missing man was eventually recovered as well. The two other divers were responsive when taken to the hospital for treatment, one of which has been released.
Remains Found Inside Truck in Lake Granbury Solves Cold Case
April 18, 2014) By Jane Geelan-Sayres

The discovery of a submerged pickup with skeletal remains in Lake Granbury, Texas, on Thursday may have solved the mystery of a woman who disappeared 35 years ago.

The truck was found near the Lake Bridge on Business 377 in Granbury. Investigators believe the remains are those of Helen Hollady who disappeared in September 1979.

According to Sheriff Roger Deeds, a city employee first spotted the truck partially submerged in the lake as they were driving near the bridge on Pearl Street and called police.

"The first thing we were thinking was, 'We've been looking for Miss Holladay for years.'"

Deeds said old police reports said there was some disturbance at the weekend home of Holladay in the Whippoorwill Bay subdivision north of the lake.

The disturbance was between Holladay and her husband Herman. Herman Holladay was a suspect when Helen was reported missing, according to police.

"Miss Hollady left the home after the disturbance and was last seen heading South towards Granbury on Highway 51." said Deeds. And that was the last time anyone heard from her or saw Helen Holladay.

Holladay's husband died in the 1980s.

Two surviving daughters have been informed about the discovery, the sheriff said.

Deeds also said over the past 35 years the have been searching for Holladay but couldn't find the 1970s model Chevy truck because it was covered in sediment which has built up on the vehicle over the past 35 years.

Deeds guessed the pickup was submerged in 15 feet of water until the lake levels recently began dropping and was about the same distance from the shore.

He said DNA testing to confirm the identify of the body could take weeks. "It's not a total closure but at least the question of where mom has been all these years, we think we just solved that," Deeds said.

NBC 5’s Scott Gordon contributed to this report.

'Unspeakable' acts:
4-year-old was alive when he was thrown into river, law official says
http://www.omaha.com/news/crime/unspeakable-acts--4-year-old-was-alive-when-he-was/article_f5066f40-f7b3-11e4-812b-63c0f3453bb9.html?mode=image
MAY 11, 2015 By Todd Cooper and Maggie O'Brien / World-Herald staff writers
Four-year-old Josue Ramirez-Marinero was alive and asleep when his 25-year-old half brother ripped the boy from his car seat and tossed him over a bridge rail into the Elkhorn River, according to a law enforcement official familiar with accounts of that night.

Roberto C. Martinez-Marinero, 25, reportedly admitted to authorities that he killed his mother, left his 11-month-old half brother in a dumpster in La Vista and then threw 4-year-old Josue into the Elkhorn River.

For those “unspeakable” acts, Douglas County Attorney Don Kleine said Monday that he will seek the death penalty against Martinez-Marinero.

Kleine said the killing conjured up images of previous child deaths, including the November 2000 killing of 7-year-old Tramar Chandler, who had witnessed the murder of his 13-year-old sister and the attempted murder of his mother. Arthur Lee Gales is on death row for those killings.

“These are the kind of cases that never leave you,” Kleine said. “Words don’t adequately describe the sadness and gravity and senselessness when something like this happens to a child.”

Most nonsensical, authorities say, is why Martinez-Marinero allegedly sought to eliminate witnesses and then, soon after, admitted to his mother’s slaying. Authorities allege that Martinez-Marinero told a couple of acquaintances that he had killed his mom. He then went to police and made the same admission.

That left a question looming Monday: If he purportedly was willing to admit his actions, why would he attempt to get rid of his brothers?

The case came perilously close to two child deaths, Kleine noted. Eleven-month-old Angel was spared when an alert passer-by heard rustling in a dumpster and rescued the boy. A garbage truck was scheduled to unload the trash bin the next day — and Angel almost certainly would have died in the crush, Kleine said.

There was no such salvation for Josue.

The boy’s body was discovered Monday morning about a mile south of the U.S. Highway 275-West Center Road bridge.

**According to authorities:**
Martinez-Marinero and his mother, Jesus Ismenia Marinero, had been arguing about money in the weeks before the killing.

Sometime during the night of May 5 or into the morning of May 6, their argument escalated at the apartment he shared with his girlfriend near 20th Street and Poppleton Avenue.

Martinez-Marinero told law enforcement officials that his mother slapped or swatted at him. He lost it.

He beat his mother in the face and head with a baseball bat and then stabbed her multiple times, Kleine said.
A law enforcement official who spoke on condition of anonymity said she suffered as many as 20 stab wounds. Martinez-Marinero’s girlfriend, Gabriela Guevara, reportedly was with Martinez-Marinero when his mother was killed and helped dump her body near Fourth and Cedar Streets.

She also was with Martinez-Marinero when Angel was left in the trash bin in La Vista and when Josue was thrown into the Elkhorn River.

Martinez-Marinero and Guevara reportedly have two young children of their own.

Guevara faces up to 55 years in prison on the five accessory counts.

Martinez-Marinero, who has no criminal record, faces life in prison or the death penalty.

Under state law, Kleine said, two aggravating factors exist that could merit the death penalty: multiple slayings; and Josue was killed to eliminate a witness to a slaying.

After four days of searching, Josue’s body was spotted by searchers on a Waterloo Fire Department rescue boat at 10:23 a.m. Monday, a mile downstream of the bridge, Omaha Police Capt. Kerry Neumann said. The body was on the east bank, stuck in tree branches.

At 11:30 a.m., Neumann said, Omaha Fire Department divers recovered the body with the help of the Waterloo fire crew.

Crime lab technicians examined the body to confirm an identity; an autopsy will follow.

Omaha Mayor Jean Stothert issued a statement Monday afternoon, noting that Omaha is a “supportive, caring community that will keep this family in our prayers.”

“I am heartbroken for the family of Ismenia Marinero and her son Josue,” Stothert said in the statement. “Gratefully, little Angel survived and has been reunited with his family.

Omaha police and firefighters, with help from many agencies, worked for many days to find little Josue. Many are parents themselves, who worked with compassionate determination to bring the emotional search to a conclusion.”

Waterloo Fire Chief Travis Harlow said the “ultimate goal” was to find Josue’s body. Severe weather pulled crews off the river about 1 p.m. Sunday, he said, but they were back searching at 8 a.m. Monday.

More than 100 officers from the FBI, Omaha police and local law enforcement agencies spent the weekend searching a mile-long stretch of West Center Road east of the Elkhorn River. They reportedly were looking for the baseball bat and knife and possibly a cellphone. Those items had not been found as of Monday night.

D.J. Ginsberg of the United States ATV Search & Rescue team said he was relieved to know the search for Josue was over. About 14 members of the team searched both sides of the river Friday, Saturday and Sunday.

“I’m just glad that his body was found,” Ginsberg said. “There can now be closure for the family.”

The search for Josue may have closure, but the search for answers does not. As relatives and friends heard Monday that searchers had found Josue, his baby sitter, Teresa Rivera-Avelar, sobbed uncontrollably. Rivera-Avelar — who watched Josue and Angel six days a week — spent time with Ismenia Marinero and her boys just hours before they disappeared.

“I spent all of my time with them. They (Josue and Angel) grew up at my house,” she said. “I loved Josue as my own child, and Ismenia was my best friend.”
A fund has been set up for the Ramirez-Mariner family. Make a donation at any Omaha U.S. Bank branch to the Marinero Donation Fund.

World-Herald staff writers Kevin Cole and Alissa Skelton contributed to this report.

Authorities find body of 5-year-old Josue Ramirez-Mariner, seek death penalty for suspect
May 11, 2015 By Kevin Cole and Alissa Skelton * BH Media News Service

Prosecutors will seek the death penalty against the half-brother of the boy found in the Elkhorn River on Monday morning.

Roberto C. Martinez-Mariner, 25, reportedly admitted to authorities that he killed his mother, left his 11-month-old brother in a dumpster in La Vista and then threw his 5-year-old half-brother, Josue, over a guardrail and into the Elkhorn River.

Josue was alive when he was thrown into the river, Douglas County Attorney Don Kleine said. The boy’s body was discovered Monday morning about a mile south of the U.S. Highway 275 (West Center Road) bridge.

Kleine said two aggravating factors exist that would merit the death penalty under state law: There were multiple slayings, and the killing of Josue was done to eliminate a witness to the slaying of his mom, Jesus Ismenia Marinero.

Martinez-Mariner beat his mother in the face and head with a baseball bat then stabbed her multiple times, Kleine said.

Martinez-Mariner was charged with two counts of first-degree murder, kidnapping and weapon use.

Authorities also are trying to determine the exact role played by Martinez-Mariner’s girlfriend, Gabriela Guevara. Guevara has been charged with five counts of being an accessory to the slayings of Ismenia Marinero and Josue. She reportedly was with Martinez-Mariner at the killing of his mother at their apartment near 20th and Poppleton Avenue.

Searchers find body of 5-year-old Josue Ramirez-Mariner

Family members and friends of 5-year-old Josue Ramirez-Marinero learned this morning that searchers had discovered the boy’s body.

Josue’s brother Roberto Martinez-Marinero, 25, told authorities last week that he threw Josue into the Elkhorn River. That led about 100 federal, state and local law enforcement officials and divers to search the area in and around the river at the U.S. Highway 275 (West Center Road) bridge. The search began Friday and continued through the weekend and into Monday.

The body was spotted by searchers on a Waterloo rescue boat at 10:23 a.m. Monday a mile downstream of the bridge, Omaha Police Capt. Kerry Neumann said early this afternoon at the bridge. The body was on the river’s east bank, stuck in tree branches.

At 11:30 a.m., Neumann said, Omaha Fire Department divers recovered the body with the help of the Waterloo crew. The body will be examined by crime lab technicians to confirm its identity.

Martinez-Mariner was booked into jail Friday on suspicion of first-degree murder and use of a weapon to commit a felony in connection with the death of his mother, Jesus Ismenia Marinero.
Martinez-Marinero told detectives that he killed her and put his 11-month-old brother, Angel Ramirez-Marinero, in a dumpster at a La Vista apartment complex. Angel was found alive and well Wednesday and later was reunited with his father.

Martinez-Marinero said he had been arguing with his mother about money before he stabbed her, according to a person with knowledge of the investigation. He turned himself in to authorities at the Douglas County Jail on Thursday night.

Josue's babysitter, Teresa Rivera-Avelar, sobbed uncontrollably when she heard Monday that searchers had found Josue. Rivera-Avelar was the last person to spend time with Ismenia Marinero and her boys before they disappeared.

Josue and Angel spent six days a week at daycare while Ismenia worked 10- to 12-hour shifts at ConAgra, Rivera-Avelar said.

It has been difficult for Rivera-Avelar to explain to other children who attend her daycare what happened to Josue and Ismenia.

"I spent all of my time with him. They (Josue and Angel) grew up at my house," she said, fighting off tears. "I loved Josue as my own child, and Ismenia was my best friend."

Search crews spent hours in and around the river, using boats, police dogs and the Omaha police helicopter to assist in the effort.

Omaha Mayor Jean Stothert issued a statement Monday afternoon, noting that Omaha is a "supportive, caring community that will keep this family in our prayers."

"I am heartbroken for the family of Ismenia Marinero and her son Josue," Stothert said in the statement. "Gratefully, little Angel survived and has been reunited with his family.

"Omaha police and firefighters, with help from many agencies, worked for many days to find little Josue. Many are parents themselves, who worked with compassionate determination to bring the emotional search to a conclusion."

Waterloo Fire Chief Travis Harlow said the "ultimate goal" was to find Josue's body. Severe weather pulled crews off the river about 1 p.m. Sunday, he said, but they were back searching at 8 a.m. today.

DJ Ginsberg of the United States ATV Search & Rescue team said he was relieved to know the search for Josue is over. About 14 members of the team searched both sides of the river Friday, Saturday and Sunday.

"I'm just glad that his body was found," Ginsberg said. "There can now be closure for the family."

On Saturday, Martinez-Marinero's girlfriend, Gabriela Guevara, 24, was arrested on suspicion of being an accessory in the death of Ismenia Marinero.

A note was taped to the front door of the house of a Marinero family member Monday morning, asking that people respect their privacy.

Divers working Pier 14 killing find dead cat; owner charged

July 16, 2015 By Hamed Aleaziz

San Francisco police divers who jumped into the bay to look for evidence in the Pier 14 killing of Kathryn Steinle not only found the suspected weapon — they also located a dead cat in a bag submerged by a 10-pound weight, officials said Thursday.

Because the cat had an injected microchip, city animal control officers were able to track down and arrest the owner, who was identified as 34-year-old Adrian Erik Dumont.
The divers reported finding the cat on July 2, a day after Steinle, 32, was shot to death while walking with her father along the waterfront. They also found a pistol allegedly used by Juan Francisco Lopez-Sanchez, who has pleaded not guilty to murder.

The city Department of Animal Care and Control said that the dead cat was a 2-year-old brown tabby named Kazuma and that he had been dumped in the water on the same day he was found. The agency did not release any other details about the case.

Dumont was charged with felony animal cruelty, said Max Szabo, a spokesman for the San Francisco district attorney’s office. He entered a plea of not guilty at an arraignment Tuesday and was released on $15,000 bail.

**Prosthetic leg recovered, returned to owner**

Divers with Eau Claire Fire Department recover a prosthetic leg that a swimmer lost Monday in Dell’s Pond.

Eau Claire Fire Department divers recovered a $16,000 prosthetic leg Monday after William Richardson lost it while swimming in Dell’s Pond near Mount Simon Park.

After Richardson called the fire department Monday, two boats of seven crew members spent about 1½ hours preparing for the dive, said deputy fire chief Chris Bell.

A diver found the prosthetic leg within 15 to 20 minutes of going into the water.

“I gave (Richardson) the call and he was pretty excited,” Bell said. “That’s what makes it all worthwhile. I appreciate that.”

Typically fire rescue crews utilize divers for recovering people and evidence, Bell said, not for lost belongings like cameras or other items. “We felt this was different,” Bell said.

The leg did not appear to be damaged.

**Police Divers Find Gun Thought to Be Used in Officer’s Killing**

After days of searching in the waters of the Harlem River, police divers on Sunday located what officials believe is the gun used to fatally shoot a New York City police officer last week.

The gun, with one bullet in the chamber, was found in the river around 3 a.m. near 123rd Street, roughly 100 feet on the riverbed from where divers recovered a magazine hours after the shooting, officials said.

“It fits all the characteristics,” Deputy Chief William Aubry, the commander of Manhattan detectives, said.

The location of the weapon, a semiautomatic .40-caliber Glock handgun believed to have been fired once at Officer Randolph Holder, striking him in the head, had been the main open question in the investigation into his death on Tuesday. Officials believed the gun was thrown into the river as the suspect, Tyrone Howard, fled along the promenade between the river and Franklin D. Roosevelt Drive.
On Sunday, the Police Department closed a long stretch of the busy highway to search for the bullet from the weapon, and to scour brush for the gun, which days of searching in the murky waters between East Harlem and Randalls Island had failed to turn up.

But as officers prepared to conduct the land search early Sunday, Detective John Mortimer, a veteran police diver, found the gun in the river about 40 feet from the Manhattan shoreline and at a depth of 20 feet, Chief Aubry said, speaking to reporters steps from the pedestrian overpass at 120th Street where the police said Officer Holder and his partner confronted Mr. Howard.

The weapon is likely to be among the most important pieces of evidence against Mr. Howard, 30, who was charged last week with murder. The killing came minutes after a shootout in the East River Houses, a public-housing project several blocks farther south, which drew a large number of officers to the area, including Officer Holder.

Detectives believe that Mr. Howard was also involved in that gun battle, a possible episode of retaliation for a Sept. 1 shooting in which, the police said, Mr. Howard wounded a drug rival inside the same housing development. At least two additional weapons were fired in the exchange on Tuesday around 8:30 p.m. in the development near 102nd Street. Three men were being sought in that shooting.

That several men in the same group appeared to have each brought weapons to the violent encounter suggested planning, said a law enforcement official with direct knowledge of the investigation, who requested anonymity to discuss the continuing investigation. The official said Mr. Howard may have been the target.

The next steps in the investigation include performing ballistics tests in an effort to match casings fired from the recovered weapon with the single spent .40-caliber casing found where Officer Holder was shot, and with the 11 other .40-caliber casings found at the site of the earlier shooting. The magazine, which holds 30 rounds, had 13 bullets inside when it was recovered.

Forensic investigators will also test for DNA and search for fingerprints on the weapon, though officials said that five days in the sediment-thick depths of the river could compromise hopes of finding that sort of evidence. “I know it’s been in the river and I know that you would assume there would be no prints or DNA, but let’s let the forensic experts take a look at it,” Chief Aubry said.

In shifts, day and night, scuba divers from the department’s Harbor Unit had been conducting a grid search, mostly by hand, along the bottom of the river, timing their forays to coincide with so-called slack tides, when the flow of the river is at its most calm.

On Sunday morning, after the gun was recovered, scores of officers in white hazmat suits went step by step along the closed highway from 96th to 132nd Street looking for the bullet that killed Officer Holder, an area chosen based on its likely trajectory, Chief Aubry said.

The police continued searching on Sunday for a bullet fired during a deadly police chase last week. The gun, believed to have been used by Officer Holder’s killer, was found in the Harlem River, an official said. Credit: Robert Stolarik for The New York Times.
“We have an obligation to Police Officer Holder and his family to recover everything that we possibly can,” he said. He did not describe any new evidence recovered during that search. The case against Mr. Howard would soon be presented to a grand jury, Chief Aubry said.

With the gun in hand, investigators can also now trace its origin. Officer Holder, 33, was the fourth on-duty New York City officer to be killed in a 10-month span; the earlier three all died at the hands of guns brought illegally to the city from Southern states.

**Slain Deshler High School coach stabbed over 70 times, shot in eye, testimony shows**


November 19, 2015 By Crystal Bonvillian | cbonvillian@al.com

The volunteer Deshler High School coach slain in 2013 and dumped into the Tennessee River was stabbed more than 70 times and shot in the eye, jurors learned Wednesday.

Lauderdale County prosecutors spent the day of testimony trying to poke holes in the defense of 31-year-old Jeremy Leshun Williams, 31, of Florence, who is charged with capital murder. Williams is accused of killing 27-year-old Brioni Jamaal Rutland in a fight over a gambling debt.

Williams claims that he acted in self-defense after Rutland attacked him and tried to cut off one of his fingers. The prosecution disputes those claims, accusing Williams of taking $1,100 from Rutland before throwing his body off Old Railroad Bridge in Sheffield.

**According to WAFF 48,** a local man testified on Tuesday that he, his wife and his grandson were on a post-Thanksgiving meal walk when they found a pool of blood on the bridge and called police. Divers retrieved Rutland’s body from the Tennessee River three days after his slaying.

Williams told police at the time of his arrest that Rutland choked him until he passed out and, when he awoke, Rutland was cutting his pinky finger off with a pocket knife. He claimed he grabbed the knife and stabbed Rutland several times before running into his bedroom to retrieve a gun.

He claimed that Rutland was coming at him when he shot him in the head.

**The Times-Daily reports** that District Attorney Chris Connolly, in opening statements on Tuesday, told jurors that it would have been impossible for that scenario to happen because Rutland’s throat had been cut and his spinal cord severed.

Florence police Detective Kevin Jackson also testified that Williams had no marks on his neck or throat to indicate he’d been choked, the newspaper reports. Other than cuts on his hands and a small bruise on one knee, Williams was uninjured, the investigator said.

In a videotaped statement shown to jurors Wednesday, Williams described taking Rutland’s two cellphones and wallet throwing them in a
nearby sewer drain before driving Rutland's car to Sheffield and getting a ride back to Florence from his girlfriend.

He also admitted buying items to dispose of Rutland's body and using a borrowed SUV to take the body, which he stuffed into a trash can, to the bridge. He chained Rutland's feet to some concrete blocks and pushed his body from the bridge into the river, Williams told police.

He used bleach and other cleaning supplies to try to get the large amount of blood in his Hawthorn Street apartment cleaned up.

Defense attorney Chris Childers said in his own opening remarks that Williams was scared of Rutland and that he got rid of his body because he "knew the kind of people Rutland ran with."

Three friends of Rutland's testified Wednesday, however, that though they placed bets with him over the span of a few years, he had never threatened them to collect a debt.

Testimony continued Thursday morning in Lauderdale County Circuit Judge Mike Jones' courtroom.

Boats anchored, but mystery car remains in Pewaukee Lake
Dec. 22, 2015 By Dan Busch

On April 9, 2012, high winds and waves sent a boat 36 feet down to the bottom of Pewaukee Lake. Fortunately, the two young men in the boat miraculously survived, swimming to shore in dangerously cold water temps and 4-foot waves. The sinking was reported, but despite efforts at the time, the boat was never recovered.

On Aug. 2, 2015, an alert Pewaukee Lake resident contacted the Wisconsin DNR, concerned because they had observed a boat going down. The occupant was apparently picked up by another boater but failed to report the incident.

Enter DNR warden Matt Groppi, armed with the latest and greatest sonar technology. Groppi had searched unsuccessfully in 2012 for the first boat, but after getting the latest report he decided to have another go at finding both boats, and in the process, he uncovered an even bigger mystery.

The second boat had sunk in relatively shallow water (12 feet) and would likely be much easier to find than the 2012 vessel.

Groppi also had the advantage of being equipped with a deluxe Hummingbird sonar unit, with which he had received special training from Illinois Conservation Officer Bob Liebl on how to best utilize the myriad of high tech options, such as side scanning.

On Aug. 31, the technology and training paid off, and Groppi located both boats.

Finding the boats was the easy part, but the real work would be getting them out. A cooperative effort, which included Wisconsin DNR personnel (wardens Rick Reed, Mitch Gronier, and Ben Posanki), and multiple town of Delafield Fire Department specialists was undertaken.

Groppi and Delafield Fire Department Chief Paul Kozlowski were both on hand Sept. 2 to spearhead the recovery operations.

Groppi guided Delafield Fire Dept. divers to the shallow water wreck, and inflatable float bags were employed to literally float the downed boat to the
surface. Once afloat, lines were attached and the boat and motor towed to shore.

Numbers on the boat soon identified the owner, and he was issued a citation for both failing to report the accident and leaving the boat and motor at the bottom of the lake for 30 days.

Locating the second boat, which was in deeper, murkier water required the use of a remote underwater VideoRay Rov, which is a telerobotic submarine built for underwater exploration.

Warden Groppi used GPS and sonar to locate the deeper boat, but due to the water clarity and depth, Warden Gronier had to use the Rov to guide the Delafield Fire Department divers to the vessel. They then attached inflatable floats, and boat No. 2 was on its way to the surface.

The joint effort was a resounding success for both the Delafield Fire Department and DNR personnel. Delafield Chief Kozlowski lauded the efforts of all involved, and he firmly believes the experience should aid in future search and recovery efforts.

But a funny thing happened on the way back from the boat recovery operation. On Sept. 5, while on patrol Labor Day weekend, Warden Groppi, buoyed by his recent sonar location success exercises, spotted another strange object on his screen.

After a few adjustments, a side scan image revealed the unmistakable picture of a vehicle lying upside down on the bottom of the lake.

On Sept. 13, the posse was reformed, and divers once again dove into the murky depths of Pewaukee.

What they found raised more questions than were answered. Chief Kozlowski speculates that the vehicle is of 50s vintage, though it is hard to be sure. License plates could not be found, and the car is sealed tightly, denying access to the inside.

The car is currently stuck deep in the lake bottom muck, and it would take a herculean effort in man power and equipment to extract.

Divers took photos of smallmouth bass hunkering under the vehicle, and in one frame, an unlucky muskie fisherman’s Bondy Bait can be seen attached to the car as well.

At this time, DNR biologist Ben Heussner feels that from a fisheries standpoint, the vehicle poses no threat and has pretty much become a part of the lake structure.

The Waukesha Sheriff’s Department has been notified, but at present, no efforts are under way to remove the mystery car, and whatever its contents are, from the bottom of Pewaukee Lake.

**Family awaits answers in wake of mother’s death**


Jan 1, 2016  By Ray Lamont Staff Writer

More than a week after their own grim search found the body of their mother beneath a wharf on the East Gloucester waterfront, brothers Bjorn and Sten Nilsson continue to have many questions stemming from their mother’s death.

As they struggle to come to grips with their mother’s death and wonder what may have led up to it, they say they’re especially frustrated by a lack of communication from police or others who they believe hold the answers they seek.

Family members say they were told by Gloucester police during the 2 1/2-day search for Susan Nilsson that the 56-year-old Rockport woman had taken a taxicab to Rocky Neck, and that she was reported missing by a man they understand she was to meet on a boat.

Gloucester police Chief Leonard Campanello confirmed that Susan Nilsson was dropped off by a driver from Gloucester Taxi, and authorities found some “personal items” of Nilsson’s at the dock and in the water Saturday morning, Dec. 19. The Nilssons say they’ve heard nothing else.
"We'd like to know what dock — where were these things found?" Sten Nilsson, 24, said Wednesday during an interview at the Rockport home of his grandparents, Nancy and Arnold Hage.

"We're just trying to put everything together," Sten Nilsson said. "The taxi driver and this man at the boat were, as we understand it, the last people to see her alive, or to be in communication with her. But we don’t know what they saw, what they know. No one’s contacted us, no one’s reached out. Why?"

"All we’re asking for is a little communication — just some communication," added Bjorn Nilsson, 26. He spoke softly, but with a tinge of both sadness and frustration. "We’ve heard from no one — nobody with information at all," he said.

In addition to her parents and two sons, Susan Nilsson leaves a daughter, Inga, 15, who is also staying at the Hages.

Campanello said earlier this week that there are “a lot of things happening” in the course of the investigation, adding that he feels badly the family has had to deal with "rumors" and is worried the investigation may be hindered "by people who have reason to talk about this, but haven't."

He did not elaborate, however, and said he’s "not at liberty to further discuss" the case because the lead agency is the Essex District Attorney's office. He said the investigation remains "very preliminary."

At the DA's office, spokeswoman Carrie Kimball Monahan said last week that authorities did not suspect foul play. Fellow spokesman Steve O'Connell said Thursday he could not shed more light on the "ongoing investigation."

As to speaking with the family, O'Connell said "we will keep them abreast of any developments" as the investigation moves forward. He added that, among other things, the DA's office is awaiting a finding of a cause of death from the state medical examiner’s office.

In the meantime, O'Connell said, the family is welcome to contact state Trooper Brendan Carnes, who is leading the DA's probe.

An initial death certificate from the medical examiner's office, filed with the office of Gloucester City Clerk Linda Lowe and obtained Wednesday by the Times, lists the cause of death as "pending," and the manner of death as "pending investigation."

It also, however, indicates Susan Nilsson’s death was a "result of injury," though it does not elaborate.

Bjorn and Sten, who live together in Denver, have remained on Cape Ann since Sunday, Dec. 20. The Hages, who were at their winter home in Florida, flew back to Cape Ann the night of Dec. 19, and all of them went the next day to the Gloucester Marine Railways complex, where a shoe and other items belonging to Susan Nilsson were found the morning of the 19th.

The family said they spoke briefly with city and state police at the scene of the ongoing search, where divers had entered the water off the railways shipyard, and where a U.S. Coast Guard helicopter had joined in the search for the first day.

That Monday, Dec. 21, Bjorn and Sten Nilsson joined their father, Ronald Nilsson — Susan's ex-husband who lives in East Gloucester — in continuing their own search after state police divers temporarily suspended their efforts due to high winds and the currents around Rocky Neck and Smith Cove. Within minutes though, the Nilssons noted a pile of debris that had washed ashore beneath the wharf of Americold.
Both brothers said they had a foreboding feeling as they approached the debris.

"The wind had been blowing right that way — right toward there and the fish plants," Sten says, "and there was tons of debris — buoys, garbage, floats ..." Stepping forward, it was then that he and Bjorn could see their mother's body.

Ronald Nilsson, who was following behind his sons, then joined them and called police. Gloucester and state police, as well as city firefighters, responded and recovered her body from the shoreline.

The brothers expressed frustration with the search carried out by the Coast Guard, the state police divers and local police.

"When we were there (Sunday), there were no (search) dogs or anything like that — it seemed like little was happening," said Sten. "It just seemed so poorly executed." He noted there were no signs of other searchers in the area on the Monday he and his brother would make their discovery.

Campanello staunchly defended the official search efforts.

"This search had been ongoing, extensive and involved four agencies with divers in the water," he said, noting that, while the search had focused on Smith Cove and the waterfront, police were also visiting people and places they believed Susan Nilsson had frequented. "We used technology, we had the assistance of the public, and the search did not stop until she was found.

"We're thankful she was found so quickly," he added. "We would have liked to have found her, but I can only say the search was very exhaustive, ongoing and members of the public and the police were well served by it."

Nancy Hage says that, difficult as it was, she was also grateful Susan's sons found her as quickly as they did. "The way I look at it," she said, "It must have been God's providence that led them to her that day, and it was her boys that brought her back to us.

"It's sad," she said, "but it was the boys who brought her home."

Why did sons find body of Rockport mother?  
Man seeks after-action report on search effort


Feb 12, 2016     By Ray Lamont Staff Writer

A Gloucester resident with an extensive background in handling emotional trauma is calling for a third-party review and after-action report exploring how and why the two grown sons of a Rockport woman found her body on the shoreline of Gloucester Harbor while teams of searchers from emergency service agencies could not.

But the city’s mayor and police chief both say that any such review of the December search for Susan Nilsson, 56, would be “inappropriate” until the investigation into the cause and manner of her death is complete.

Russell Burton, a retired counselor who formerly managed two private companies that help people manage personal trauma following job losses, said he’s not seeking the review of the Dec. 19 to 21 as a means of “finger pointing." The search was conducted by city and state police, the Gloucester harbormaster’s office and, for the first day, a U.S. Coast Guard helicopter. After two days of a search that included Massachusetts State Police divers and other resources, Nilsson’s own sons — Bjorn, 26, and Sten, 24, who had flown back to Cape Ann from their home in Denver when their mother was reported missing — found her body beneath a pier on the Americold property in East Gloucester.
“This is not meant to be a witch hunt, or to point fingers at anybody,” said Burton, who submitted his petition to the mayor’s office and then to the City Council earlier this week, “but the trauma (Nilsson’s sons) had to experience on top of the loss of their mother is something that no family should experience. The people of our Police Department, Fire Department, and harbormaster’s office— I know all of them are dedicated and committed. But I know I have a lot of questions, and I know others do as well.”

Burton, who stressed he does not know and has no ties to the Nilsson family, emphasized that he questions only the search part of the investigation, not the wider probe into what led to Nilsson’s death. Carrie Kimball-Monahan, spokeswoman with the office of Essex District Attorney, reiterated Thursday that the probe, which found no play, is no longer an active investigation. But any final conclusions are pending a final report from the state medical examiner’s office with a determination of the cause and manner of Nilsson’s death.

Mayor Sefatia Romeo Theken and city Police Chief Leonard Campanello said Thursday those lingering factors essentially preclude an after-action probe. “I don’t see how we can take up an after-action report because it’s still under investigation,” Romeo Theken said. “The other thing is, once it was clear it the person had been in the water, it became the jurisdiction of the Coast Guard and state police, and our departments were following orders.”

City Harbormaster James Caulkett confirmed that the response of his department’s boats and personnel on the water was under the direction of the Coast Guard and state police divers. He declined comment on whether he would welcome a third-party look into the procedures.

Beyond the status of the investigation, Campanello said Thursday that an after-action report is commissioned following an incident that has a wider impact on the city. The most recent such reports followed the December 2007 Middle Street fire that claimed the life of one man at the former Lorraine Apartments, and the March 2012 Pleasant Street fire. Both reports were commissioned by then-mayor Carolyn Kirk and carried out by the Meredith, N.H.-based Municipal Resources Inc. Campanello followed an incident involving the deployment of the Essex County Sheriff Department’s K-9 units to quell a crowd control fracas on Rogers Street during the 2013 St. Peter’s Fiesta with an an in-house review of department policies.

“I think what’s more appropriate in this case,” the chief said, “is, when the investigation is closed, to get the full reports from our department and other agencies involved and then make a determination as to whether a review might be necessary.”

City Council President Joe Ciolino emphasized Thursday that any call for a review would have to come from the mayor’s office.

But he noted that such reviews and recommendations in the past have led to positive changes, from the Middle Street and Pleasant Street fire reviews to police and fire department audits that were also carried out by MRI.

“If there are questions outstanding, and we don’t have the answers, maybe doing a report would be a good idea,” Ciolino said. “Every time we do an after-incident report we always learn something from it. I don’t recall any time that we did an after-incident report and found that we didn’t learn something — something that would help us prevent something so it doesn’t happen again in the future.”
Burton, however, said his petition for a review does speak to a citywide concern. “We have a case where, all these resources were committed to a search, yet this woman's two sons fly in from Colorado, get a sense of the wind and the tides, and find their own mother's body themselves?” asked Burton. “What did the (agencies') search involve?” he said. “Did they not know the tides? Did they talk to fishermen, or people who work on the water who do?”

“I think we all, as a community, deserve answers to these questions,” he said.

**German husband drowns himself in a lake with wife's HEAD encased in a concrete block**


6 January 2016 By SARA MALM FOR MAILONLINE

**Woman's body parts found in two suitcases on Sunday and Monday. Police divers then found a man's body at the bottom of Lake Traunsee. He was tied to a concrete block found to contain the woman's head. Prosecutors say evidence suggests it to be a case of murder-suicide**

A German pensioner strangled his wife, dismembered her body and drowned himself in a lake in Austria by tying himself to a concrete block with her severed head encased inside.

The pair were later identified as a couple in their 70s, from Frankfurt, West Germany, Austrian authorities said.

The husband was discovered two days after police found two suitcases containing the woman's dismembered body near the shore of Lake Traunsee, central Austria.

Authorities said on Tuesday that evidence suggests the man strangled the woman and dismembered her body before drowning himself using the concrete block with her head in.

Police first discovered the woman's dismembered body on Sunday, when a local resident found a floating suitcase by the shore near the town of Gmunden, 50 miles east of Salzburg. The witness opened the suitcase to discover that it contained bodyparts and called the police who began to search the area.

Police found the second suitcase with the woman's remains on Monday, but were unable to identify her as her head was missing.

After extending the search, police divers found the man's body at the bottom of Lake Traunsee, his body tied to several suitcases.

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The hands of the man, whose body showed no signs of struggle, were tied to bags containing rocks as well as personal belongings.

The head of the woman, who was between 50 and 70 years old, was discovered after forensic experts in the city of Salzburg broke open a concrete block found in one of the bags on the lakebed.

'This makes us primarily think of an 'extended suicide',' a prosecutor for the nearby town of Wels, Birgit Ahamer, told a news conference, adding that initial forensic examinations suggested the woman had been strangled and the man had drowned.

Police said they could not yet identify the bodies.

Drowning victim not found by divers in Yadkin River on Wednesday

April 6, 2016
UPDATE: North Wilkesboro Police Chief Joe Rankin said that on Thursday, Elkin Rescue Squad members plan to go upstream on the Yadkin River in a boat with a motor from Elkin and two N.C. Wildlife Resources Commission officers in kayaks plan to go downstream in kayaks from North Wilkesboro to search for drowning victim Ronald Leonard Watson III, 26, of Purlear.

Assisted by sonar, divers searched the Yadkin River between the Wilkesboros Wednesday until about 2:30 p.m. but didn't find a drowning victim.

Divers said that if Ronald Leonard Watson III, 26, of Purlear, drowned in the river Tuesday afternoon as suspected, his body could easily have been swept several miles downstream by Wednesday afternoon.

They said the river generally is about 10 feet deep where Watson is believed to have entered behind the North Wilkesboro ABC Store. The river’s water temperature is about 50 degrees and its current speed ranges from 2 1/2 to 5 knots, which is equal to a little over 2 1/2 to 5 miles per hour.

Three of five divers on the scene first searched by drift diving, but realized the current was too strong.

They next used tethered diving, particularly where sonar detected human-like shapes, in a section of the river extending about 100 feet downstream from behind the North Wilkesboro ABC Store.

Using a rope and pulley system, two divers intensely searched a 100-foot-long stretch of the river beginning at a point behind the North Wilkesboro ABC Store where Watson is believed to have entered the river Tuesday afternoon.

This system utilized a rope across the river, anchored to either side, and a rope with one end attached to a boat and the other end attached by pulley to the rope across the river.

Two men in the boat each had a rope attached to a diver in the water. Two more lines were attached to the boat, with each going to people on either side of the river. As the people on either side of the river pulled the boat in one direction across the river and then the other, men in the boat let out their ropes in 10-foot increments so divers could search in arch-like sweeps farther and farther downstream.

Participating divers were Champion Fire Chief Craig Hollar, Champion firefighter Chris Breden, Sgt. Buddy McKinney of the Alexander Sheriff’s Office, Bryan Stafford, owner of Lake Hickory Scuba and Marina, EMT and firefighter with Bethlehem Fire & Rescue and Keith Davenport, chief of Lovelady Rescue in Granite Falls and former director of the Caldwell County Emergency Medical Services. Davenport provided the sonar.
Stafford and McKinney are public safety and underwater crime scene investigation divers.

Wilkesboro and North Wilkesboro firefighters, Wilkes Rescue Squad members were also involved in the search Wednesday. Authorities said some of Watson’s relatives were on the scene part of Wednesday.

North Wilkesboro Police Chief Joe Rankin said Michael Pennington of North Wilkesboro stated that he and Watson had been sitting near the Yadkin River drinking alcohol bought at the ABC store for about 30 minutes when Watson entered the river because he wanted to see if he could swim to the other side.

Rankin said Pennington initially stated that Watson was distraught and entered the river to intentionally drown after saying he didn’t wish to live. The chief said a wallet, cell phone, shirt, boots, socks and other items found near where Pennington said Watson entered the river coincided better with Watson planning to swim to the other side.

‘Floaters’ May Decompose in Deep Water Much Faster Than Previously Believed
http://www.forensicmag.com/articles/2016/04/floaters-may-decompose-deep-water-much-faster-previously-believed
04/07/2016 Seth Augenstein, Digital Reporter

Floaters – bodies found in water – are generally thought to be better preserved, due to slower decomposition rates.

But new research on pig carcasses indicates that deeper, more oxygen-rich water can significantly speed up breakdown processes, according to a study in PLOS One.

Criminologists at Simon Fraser University on the western coast of Canada tested decomposition on pig bodies deep in the Strait of Georgia, a body of water separating Vancouver Island from mainland British Columbia.

Previous studies done by the school had been performed at 100 meters and seven to 15 meters in other bodies of water near Vancouver.

Watch a 2012 video of a decomposing pig by researchers from Simon Fraser. Spoiler: Octopus comes to check out the corpse at 5:00.

But the latest pigs 300 meters deep in the Strait of Georgia showed that evidence could disappear much faster, from the natural processes of the dead, according to Gail Anderson, one of the authors.

“Earlier studies... indicate that a (pig) carcass approximating a human body in torso size, skin type and internal bacteria would be likely to survive for week or months, depending on oxygen levels, season, depth and whether it remained in contact with the seabed,” said Anderson.

“However we’ve found that in highly oxygenated deeper water, it can be expected that such a body would be skeletonized in less than four days, although bones could be recovered for six months or more,” she added.
The decomposition was constantly monitored by video camera, and sensors recorded temperature, salinity, turbidity and other environmental factors.

“Floaters” have some general rules for death investigations, according to the textbook Practical Homicide Investigation by Vernon Geberth. A body exposed to the air for one week is generally equivalent to a body in water for two weeks. However, there are a list of variables, including large amounts of chemical waste, or bacteria, which can accelerate decomposition, Geberth writes.

Generally, hands swell after several days, outer layers of skin separate from the body within 6 days, and sea vegetation begins to grow within 8 to 10 days, Geberth adds.

But much deeper levels of water with great amounts of oxygen could pose a difficulty in estimating times of death, according to the new Canadian research.

“When bodies or body parts are recovered, such information may also be valuable in estimating a minimum submergence time and indicating types of waters or habitats to which the remains may have been exposed,” added Anderson, the criminologist.

**Cabarita wharf death: Pools of blood, shoes and discarded bankcard at grisly scene**


April 8 2016 * MEGAN LEVY AND AAP

A discarded bank card, pools of blood and women’s shoes pointed police to where a grisly death may have began in Sydney’s inner-west.

The death of Miming Listiyiani, 27, whose naked body was found floating in the shallows of Parramatta River, was allegedly at the hands of Bali nine drug ring “lieutenant” Khanh Thanh Ly.

A nude Ly was allegedly found standing over Ms Listiyiani’s body near Cabarita Wharf just before midnight on Thursday.

As detectives attempted to retrace the Indonesian national’s final steps on Friday, they tracked her demise through at least three suburbs.

**READ MORE: Naked woman’s body pulled from water in Sydney, naked man arrested**

Detectives believe Ly picked up Listiyani, who is believed to have just returned to Australia from overseas, from her modern, dual-level home in Cabarita on Thursday.

Neighbours say they recognised Ly’s Audi from outside her Edgewood Crescent home.

Police believe the pair ended up in the neighbouring waterside suburb of Breakfast Point late on Thursday night. Pools of blood on the footpath and grass on Vineyard Way led police to believe a violent assault unfolded on the quiet street.

Carmen Mono came out of her home at 7am on Friday and found a pair of women’s shoes and blood stains on a bush outside.

"The shoes were over near the bush and the blood was on the footpath,” she said. “I don’t..."
usually come out the front exit but I did this morning and saw all the blood and thought ‘what has happened?’

Police divers search the water around Cabarita Wharf, where the body of a woman was found. Mono said another man walked across the street to find more blood, along with Listiyiani’s bankcard.

Detectives are investigating the possibility Listiyiani was bundled into the back of Ly’s Audi and driven to Cabarita Wharf.

Officers found Listiyiani’s body, naked and with cuts to her face, floating in about 30cm of water just off Cabarita wharf.

Paramedics tried to revive her but believe she may have been dead for some time before they arrived.

A naked Ly was arrested and taken to Burwood Police Station, where he was charged late on Friday afternoon with her murder.

Ly’s Audi, found parked near Cabarita Wharf, was towed away for forensic examination.

Police said they did not believe this was a random attack and that the pair were known to each other.

It is understood there was a delay in him speaking to police because he was not in a fit state to be interviewed.

Ly was refused bail and is due to appear before Parramatta Local Court on Saturday.

His arrest comes years after Ly came to public attention for his role as the “lieutenant” in a drug syndicate that also involved executed Bali nine members Myuran Sukumaran and Andrew Chan.

Ly, then an accounting student, flew to Bali three times under the orders of Sukumaran, who was also his school friend.

Ly has said he was responsible was to organise and supervise a number of Australian mules while in Bali and he practised strapping plastic bags of flour to their bodies as a "dress rehearsal".

On the back of the alleged murder, police spent hours searching Ly’s family home at Lidcombe taking with them several bags of evidence.

A man believed to be Ly’s father was at home as the search unfolded.

"I don’t care, go away," he said on Friday when approached by the media. "It’s not your business, go away."

Burwood Local Area Command Detective Superintendent Mark Jones said police didn’t believe it was a random attack.

"We believe this pair may well have been known to each other and it’s something we’re looking at," he told reporters.

He said homicide detectives were looking in "great detail" at whether Ms Listiyiani had been killed at another site and her body dumped in the river.

Detective Superintendent Jones said the death of the "very nice young lady" was a tragedy.
Driver who posted last picture from inside his sunken truck as it was overwhelmed by Texas floods is found dead


29 May 2016 By DAILY MAIL ONLINE REPORTER

A National Guardsman who posted an ominous Facebook picture of his flooded truck before going missing in Texas has been found dead.

Darren Mitchell, 21, was one of four people who died after torrential rains caused severe flooding in Texas this week. Mitchell's body was found on Saturday more than a mile downstream from where his overturned truck had been discovered earlier, the man's sister told KHOU.

On Thursday, the Navasota resident posted a chilling picture from inside his truck as it appeared to be submerged in flood water. The caption to the photo read: 'And all I wanted to do was go home.'

Darren Mitchell's sister said he posted this picture of his flooded car to Facebook moments before he disappeared on Thursday night. His body was found on Saturday.

Darren Mitchell, 21, was found dead Saturday after his truck was overturned by flood water on Thursday.

Mitchell's body was found on Saturday more than a mile downstream from where his overturned truck (pictured) had been discovered earlier.

Mitchell's family members told KHOU he had called shortly before making the social media post to say he was trapped in flood waters on Highway 105 outside Brenham.

'[My brother] just said he was all right and he made it out of the truck,' Ro Mitchell said.

A witness said she saw Mitchell get back into the truck after initially climbing out.

'He got out of his truck, he got in the bed of his truck, he got back out, on top of his truck, and then all of the sudden he got back in his truck. And like maybe 10, 15 minutes after he was in his truck, it just flipped and he topsided into the water,' said Lashandoe Smith.

'It just disappeared. Once it flipped, you didn't see tires, his truck, nothing. It just tumbled over.'

Darren Mitchell, 21, was one of four people who died after heavy rains caused severe flooding in Texas.
SPONSORS IN THE NEWS

JW Fishers offers $$$ for photos and videos

JW Fishers is inviting customers in commercial diving, law enforcement, military, marine archaeology, and recreational diving to submit photos and videos of their underwater search equipment. A $250 gift certificate will be given for each video interesting enough to post on our website, and a $100 gift certificate for each good photo.

Videos should be edited and 3 to 5 minutes in length.

Underwater footage shot from any of Fishers ROVs or other video systems is desirable, as well as videos showing the equipment being deployed. Videos of the boat-towed detectors as well as the pipe and cable trackers are also eligible.

Photos can be a posed shot of your dive team with JWF equipment, or a picture showing the equipment in use. Photos of sonar images produced by Fishers sub bottom profilers, scanning sonars, or side scan sonars will be given special consideration. Photos must be 300 dpi and at least 1 Meg in size.

Photos can be emailed to info@jwfishers.com. Videos can be put on thumb drive and mailed to JW Fishers Mfg., 1953 County Street, East Taunton, MA 02718 USA or uploaded to Dropbox.com.

Gift certificates are redeemable toward the purchase of JWF equipment, parts, or accessories. A JWF Search Team shirt will also be sent with each gift certificate awarded.

For more information on any of Fishers acoustic devices or other underwater search systems please visit our new website - www.jwfishers.com. For more information, or to submit a photo or video, contact Christopher Combs at info@jwfishers.com.

June 23, 2106

EdgeTech 8011M Acoustic Release Deck Box is Now Available With URI PIES Communication Interface

EdgeTech, a leader in high resolution sonar imaging systems and underwater technology, now offers a communication interface to the University of Rhode Island Inverted Echo Sounder or “URI PIES” system through the 8011M deck box.

The URI PIES system, a popular instrument for many researchers, is often moored in deep locations for extended periods of time. Acoustic communication to the instrument is valuable to ensure its safe return. The EdgeTech
8011M is one of the most versatile and field-proven acoustic command and ranging deck boxes available. The system can control and range on EdgeTech’s full line of acoustic releases as well as other manufacturers’ equipment.

Features include auto switching between 115 and 230 VAC and an internal self-charging battery. The serial and auxiliary ports allow for simple interfacing with other on-board equipment. The 8011M comes standard with a dunking transducer and 67 meters of cable. The URI PIES communication interface comes standard on all new 8011M deck boxes. Customers that already own and operate an EdgeTech 8011M deck box have the opportunity to upgrade their units to include this interface as well.

For more information about this feature and all of the EdgeTech acoustic release products please visit: www.edgetech.com or email info@edgetech.com

K9 NEWS ON THE WEB

Cadaver Dogs Locate Underwater Corpses
09/16/2015  The University of Huddersfield

Even when a body is submerged in deep and murky water, a specially-trained dog can sniff its whereabouts from the surface. This incredible level of canine capability is being investigated by University of Huddersfield researcher Lorna Irish (pictured right). Her thesis on cadaver detection dogs will make a powerful case for extending their use in cases of underwater corpses.

During her research for a Ph.D, Lorna has covered several aspects of the work of detection dogs and she has also developed a special fascination for the use of dogs to detect submerged bodies.

Globally, there are some 100,000 deaths annual from drowning — including accidents and suicides. Some countries, such as the USA, are ahead of the UK in using dogs to detect the submerged bodies.

“When a body is on land it is hoped it will stay in one place, but in water a body can move in three dimensions, so it is a lot more difficult to locate and recover,” said Lorna.

“It is absolutely fascinating watching the dogs work,” she said. “I have seen dogs locate bodies within a meter and they have been quite accurate in depths of about 15 meters of water.”

Lorna’s research has found that the dogs can only be really effective if they can get down to the level water to clarify the scent or they may not be able to give a clear indication. Therefore, access to the water both from the bank and particularly from a boat is crucial to the success of a search. “If the sides of the boat are too high, the dog will simply not be able to smell the water,” says Lorna.

There is also evidence that tasting the water is important for the dogs as well. “According to the handlers, many of their dogs taste the water,” says Lorna, “and we think that this is a confirmation mechanism used by the dogs to confirm the presence of a body.

“Like snakes, dogs have a sensory trigger called the Jacobson’s Organ, which can collect chemicals from the air, and also from the water, and the dogs may use this to confirm the indication of a body.”

Cadaver dogs detecting submerged bodies took Lorna for her research to Ireland, where the practice is well advanced. In the Republic, Lorna witnessed an actual search, for the victim of a fishing accident in Lough Ree. She was on board a boat while a dog, sniffing the waters from the deck, detected the presence of a body and she witnessed training exercises in which a human cadaver was simulated by a dead pig, submerged in a body bag.
“Using dogs to detect a submerged body is not foolproof, but it is a valuable extra tool,” says Lorna.

However, it is a practice that is not widely used in the UK. Largely this is down to the lack of dogs and to lack of money. Training a cadaver dog can be expensive “and then there are other costs like funding a boat or the dog may have to be ‘bought in’ from another police force or organisation,” added Lorna.

Lorna, aged 25, from Ilminster in Somerset, scored first class honors for her BSc degree in forensic and analytical science and is now close to finishing her Ph.D, entitled The Identification and Quantification of Gaseous Products in relation to Cadaver Dog Efficiency that had been devised by the forensic anthropologist Dr. Anna Williams.

Lorna too relocated to Huddersfield to continue her research, for which she is supervised by Williams and by the analytical chemist Dr. Gareth Parkes. Her ideal goal is to continue investigating cadaver dogs as an academic researcher.

Source: The University of Huddersfield

PINPOINTING THE SMELL OF DEATH WILL HELP CADAVER DOGS TRACK DOWN BODIES MORE QUICKLY
6/09/2016 By Kate Baggaley

After we die, our rotting bodies release specific types of gases into the environment. When a body goes missing, dogs can sniff for these gases to track it down. But forensic scientists are still trying to nail down the exact "smell of death" that is unique to humans. Now, a team in Belgium has identified seven compounds that only pigs and people produce late into decomposition.

When a body first begins to decompose, enzymes dissolve the cells from within. Next comes bloating and putrefaction, giving the corpse a greenish tinge. Active decay starts when the skin breaks and the corpse begins to liquefy. Soon, only shreds of flesh cling to the body. By the end, only hair and bones are left. Figuring out which chemicals our bodies release at these different stages would also allow cadaver dogs to be trained to find bodies at specific points in their decay.

In the new study, scientists examined a menagerie of remains from six humans and 26 animals that included pigs and other mammals, fish, frogs, turtles, and various birds. The team sampled the gases surrounding the remains at nine and 12 months of decomposition.

Previously, the scientists had investigated the corpses at six months of decomposition, and came up with eight compounds only released by human and pig bodies. The new work confirmed that seven of them are still hanging around later in decomposition.

“This means that these 7 human and pig specific markers can be used in the development of training aids for cadaver dogs during the whole decomposition process,” wrote the authors, who published the findings on June 2 in the journal Forensic Science International. The other compound, diethyl disulfide, could be used to detect bodies at the beginning of decomposition.

When the team sampled bodies after six months, the bodies had already passed into advanced decay (the bits of flesh stage). After 12 months, the corpses had not yet dried out, so it's not yet certain whether bodies still release these compounds very late in decomposition. The remains also stayed tucked in glass jars, so scientists will have to investigate whether changes in moisture or temperature that occur out in the open influence which chemicals are released.
Currently, cadaver dogs are trained on the stench of compounds such as cadaverine and putrescine. But dogs sometimes fail to pick up on real body parts, indicating that these training scents do not capture the full complexity of the real decomposition odor.

"A human specific marker can be used to train cadaver dogs more efficiently and therefore win time to locate a body," the authors wrote in their previous report. "Moreover, when a human specific marker is found, it might be possible to develop a portable device that is sensitive enough to locate human remains."

**Dog days: Barren’s dive team trains with cadaver dogs**


Jun 13, 2016 BY WILL PERKINS wperkins@glasgowlivetimess.com

**LUCAS –** Fully submerged at the bottom of Barren River Lake, Kevin Poynter waited patiently to be found by cadaver dogs.

Poynter, training officer for the Barren County Search and Rescue Dive Team, along with members of the dive team were joined by dog handlers and cadaver dogs from South Dakota, Tennessee, Illinois, Mississippi and Kentucky on June 4 and 5 to participate in search and rescue training.

"We actually played the victim," Poynter said. "All of us divers played the victims for the dogs." Poynter said they rode out on a boat, jumped in the water, dove to the bottom and waited for the boats to return to the area with the cadaver dogs. The boat handlers watched the dogs and when they began to bark or jump in the water, the handlers knew the dogs had located something.

The dogs go by smell, said Poynter. "What they smell for is skin cells when they come off our body," he said, adding that when the dogs jumped into the water, they swam circles above where the divers were located. Because the divers had communications in their masks, Poynter said the handlers called the divers to the surface once the dogs located them.

The dogs would then get a treat, Poynter said, and then they would start the training over again.

though the weekend’s training focused on the dogs, Poynter said the dive team, especially newer members, were able to train in the black water of Barren River.

"We had about a foot of visibility," he said. "So it is a training tool for us." Poynter said when divers submerge in Barren River, they generally cannot see anything from the time they go under to the time they resurface. "The dogs are a great asset to Barren County and the surrounding counties," he said. "We use them just like we use the sonars. It’s all hands on deck. "If I’m down there and I’m looking for one of your family members, I’m gonna’ use every tool that I’ve got. We want that closure for you and your family.

"Even though it's going to be a bad closure, any drowning or any type of accident where somebody has been killed or injured is always bad, but at least we're down there and we're looking to hopefully make a closure for that family."

Poynter said he wants people to be cautious of what they are jumping into, especially when cliff jumping. "People don’t understand how these lakes, these rivers, these creeks are laid out," he said. "We want you to have fun. I love the water. I love taking my family and going swimming, going out on the boat. "But use common sense.

"If you’re in the water, we would love to see you have a lifejacket on, because none of us like to go do a recovery of a body," Poynter said that of the five or six bodies he has personally recovered, not a single one was wearing a lifejacket.

"Not saying that you won’t drown with a lifejacket, but I’ve never recovered anybody that had a lifejacket on," he said. "We all work together because we’re here for one thing and that’s hopefully to bring everybody home safely.”
Mitral Valve Prolapse
http://www.scuba-doc.com/mvp.htm

'Floppy valve'

There are thousands of divers with mitral valve prolapse who don’t even know they have the condition -- and to be fair, most don’t really have a problem. Mitral valve prolapse is a fairly common medical problem that is controversial and causes confusion among both physicians and those who suffer from it. Among the most common of heart conditions, mitral valve prolapse (MVP) remains something of a puzzle. Although MVP affects 5% to 7% of the population (7-10 million people), the cause is unknown. MVP occurs more often in women than men, another puzzling aspect of the condition. MVP often occurs in people who have no other heart problems, and the condition may be inherited. Studies have not indicated the MVP increases a person’s risk of other heart or blood vessel problems. Many prospective divers are turned away from the sport unnecessarily or made to think they have ‘heart disease’, when a good explanation and some insight into the condition is all that is needed.

It is puzzling in that there is at the same time less to it and more to it than at first appears. Mitral valve prolapse is named for a heart valve and is usually first diagnosed as a faint heart "click" or murmur, though it isn’t a form of "heart disease" in any conventional sense.

Located in the heart between the left atrium (upper chamber) and left ventricle (lower chamber), the mitral valve consists of two flaps or leaflets, which normally open and shut in coordinated fashion to allow blood to flow only in one direction -- from the atrium to the ventricle. The left ventricle is the heart’s main pump and propels oxygen-rich blood into the arteries, which carry the blood throughout the body.

In patients with MVP, one or both of the flaps are enlarged, and the leaflets' supporting muscles are too long. Instead of closing evenly, one or both of the flaps collapse or bulge into the atrium, sometimes allowing small amounts of blood to flow backwards into the atrium. The condition produces the distinctive “clicking” sound that can be heard when listening to the heart with a stethoscope.

Related to a baffling array of seemingly unrelated symptoms, from shortness of breath to panic attacks, it is a generally the most benign of the various types of heart murmurs. Thought to be genetic in origin, it occasionally leads to a condition known as mitral regurgitation or insufficiency. This means a large amount of blood is leaking backward through the defective valve instead of continuing in the normal direction. Mitral regurgitation can result in the thickening or enlargement of the heart wall, caused by the extra pumping the heart must do to compensate for the backflow of blood. Mitral regurgitation sometimes causes fatigue or shortness of breath. The condition can usually be treated with medication, but a few people require surgery to repair or replace the defective valve.

Autonomic instability
People with MVP seem to have an underlying instability of the autonomic nervous system and cardiologists are beginning to look at this as a whole spectrum of abnormalities, most harmless, but some troubling. The autonomic nervous system regulates functions of the body over which we have no control, --such as blood pressure, heart rate, sweating, body temperature, gastrointestinal activity, and emptying of the urinary bladder.

People with mitral valve prolapse seem to have an autonomic response that is much more volatile and unstable, so that normal stresses set off exaggerated responses, causing an excess of stress hormones called the catecholamines (epinephrine and adrenalin). People with mitral valve prolapse are intermittently and unpredictably flooded with their own ‘catch-cold-amines’, leaving them with a 'washed out' feeling.
ER presentation

Emergency room physicians see a great number of people who come in believing that they are having a heart attack, when they are actually experiencing a panic attack. If the sympathetic nervous system of a person with MVP is aroused, they can suddenly feel crushing chest pain, with heartbeat racing and pounding. They may begin to hyperventilate, feel short of breath, and break out into a cold sweat.

Certain people with mitral valve prolapse sometimes experience this with no apparent warning or immediate threat. This leads us to think that it is not the valve abnormality that is to blame, but a syndrome that is manifested in other ways than the heart murmur. The murmur is a physical finding that is a marker of the underlying condition. An acute anxiety attack of this nature underwater could be extremely dangerous, if not deadly; patients with this malady should be advised not to dive.

An unstable sympathetic nervous system can arouse a multitude of symptoms and signs that affect widely divergent body systems. Some of these are:

- Migraine headaches (Relative contra-indication to diving)
- Unreality, vertigo (Adverse to diving)
- Difficulty concentrating (Adverse to diving)
- Insomnia, sleep disturbances
- Hyperventilation; shortness of breath (Adverse to diving)
- Palpitations of the heart; skipped or irregular heart beat
- Panic attacks, with pounding heart beat (Adverse to diving)
- Phantom chest pain with no apparent physiological cause (Confused with decompression sickness)
- Hypersensitive startle reflex
- Cold sweats
- Cold hands and feet
- Numbness or tingling in the fingers or toes (Can be confused with decompression sickness)
- Bowel urgency, diarrhea, constipation (Not very good to have when diving)

- Sensitivity to drugs, including alcohol, caffeine, and medications (caffeine slows catacholamine uptake by the body).

An unstable autonomic nervous system can also trigger:

- Hypoglycemia (Adverse to diving--decreased decision-making ability)
- Adrenal instability, with hyperactivity followed by adrenal exhaustion
- Hypothyroidism (Adverse to diving if untreated)
- Chemical sensitivities
- Food reactions
- Fluctuating sex hormones, especially estrogen, PMS and menopause
- Magnesium deficiency

Diagnosis

Diagnosis of MVP is by listening to the heart sounds with a stethoscope for the distinctive 'click'; and by confirmation of the diagnosis with echocardiography or sonar. When diagnosed it often leads to apprehension about 'heart disease' and patients are very relieved when the condition is explained to them. The prophylactic use of antibiotics prior to minor surgical procedures is recommended although the morbidity from the ill effects of antibiotics far outweighs the very small incidence of endocarditis in patients with MVP. The use of antibiotics should probably be limited to those with severe regurgitant valve disease and not the common sort of mitral valve prolapse.

Exercise

Exercise should not be a problem--mitral valve prolapse is not the sort of "heart condition" that should make anyone apprehensive about engaging in diving. In fact, exercise is one of the best therapies available for deconditioning learned sensitivities and relieving neurological symptoms. Studies have shown that people with MVP who engage in regular aerobic exercise report a decline in symptoms of chest pain, fatigue, dizziness and mood swings, and panic attacks.

Before being allowed to dive a patient with MVP should make an attempt to stabilize his/her symptoms with a proper diet. Stimulants, sugar, and artificial flavoring agents like MSG and Nutrasweet should be avoided. The
effects of hypoglycemia that are so dangerous to a diver must be blunted with frequent small meals and internal snacks; complex carbohydrates may be combined with protein to avoid precipitous rises and falls of blood sugar. Adequate hydration with plenty of liquids maintains blood volume to counteract low blood pressure and ”wozziness.” Moderate salt intake is usually discouraged to stimulate adrenal function.

Finally, if the patient with mitral valve prolapse has significant chest pain, palpitation, changes in consciousness, dysrhythmias, or require medication, it is thought that he/she probably should not be allowed to dive.

References:


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

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

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

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

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

**Lifeguard Systems – TEAM LGS**

**Dive Rescue International**
Dive Rescue International has remained exclusively committed to providing training and equipment for all public safety professionals involved in aquatic incidents.

**IMPORTANT NUMBERS:**
Chemical spill information can be obtained by calling 1-800-424-9300.

DAN Medical Information Line at 1-919-684-2948
DAN operates a 24-hour emergency hotline (1-919-684-9111) to help divers in need of medical emergency assistance for diving or non-diving incidents

**Centers for Disease Control and Prevention**
1600 Clifton Rd. Atlanta, GA 30333, USA
800-CDC-INFO (800-232-4636)
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**It’s a Rough Life –**

A diver fresh off one of the Republics walks into a bar and sits down next to a salty sailor who has a wooden leg, hook and an eye patch. Wow says the diver, you have had a rough life, what happened?

I matey says the sailor, I have seen a lot of things sailing the seven seas, rounding the Florida straits were being beaten up by a storm, the rigging broke and I was thrown overboard, I grabbed a line and was pulling me self back aboard when a great white took my leg. The ships wood wright made me this fine leg.

And what happened to the hand asked the diver. We were sailing in the Tortugas when pirates tried to board, we were able to repel them but not before one took my fore arm with his sword. The wood wright and the cook made me this fine hook!

And the eye, asked the diver. We were tying up at Stock Island and a Seagull pooped in me eye said the sailor. Wait said the diver, you have fought off great whites and pirates and lost your eye to a seagull?!!!

Arrgg, said the sailor, t’was me first day with the hook!
Continuing Education:

We are looking for volunteers with experience in Search and Public Safety Diving who are willing to assist with our Continuing Education offering. If you are interested, send an email with all of your contact information to PSDivermonthly@aol.com.

We hope to have a new and possibly expanded CE offering soon.

NOTES: