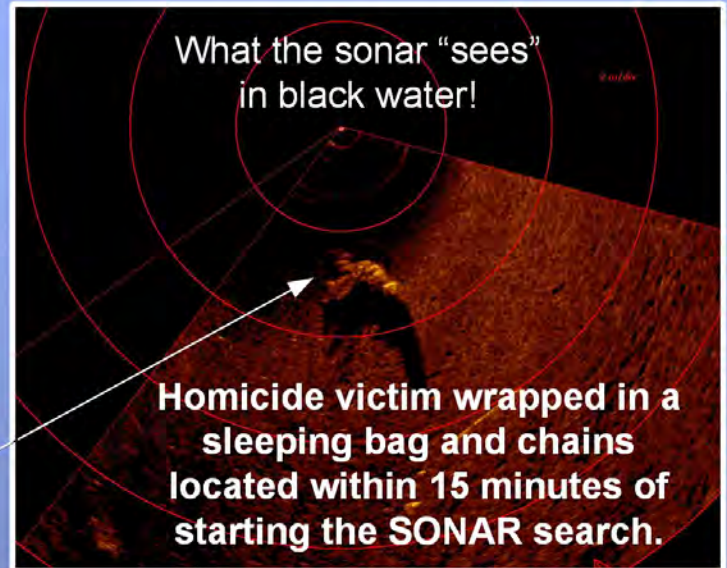


# SEARCH, LOCATE, RECOVER

## SAR Team SONAR Training

This is what the diver sees  
in black water:  
**ZIP!**

This is what the police dive team  
missed on their first search at this  
location.



*Northwestern Michigan College*, Traverse City, MI

*June 4-7, 2018*

**4-Day  
Program**

### Learn:

- to generate the best possible side-scan and scanning SONAR records conditions allow
- to properly plan a SONAR search for body and evidentiary target location
- alternative deployment techniques for U/W body and evidence detection
- how to complete baseline sonar surveys for security applications
- advanced sonar data interpretation
- underwater cable repair
- sonar system maintenance and troubleshooting

This program is presented by  
Sonar Training Solutions with  
the support of *Kongsberg  
Mesotech Ltd.*, *EdgeTech* and  
*NMC*.



**SPACE LIMITED**

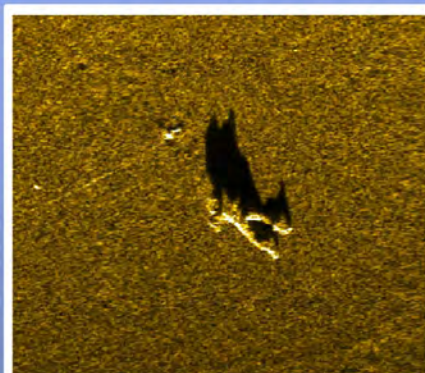
Contact Information: Tel: **805 364-4362**  
**sonartrainingsolutions@gmail.com**



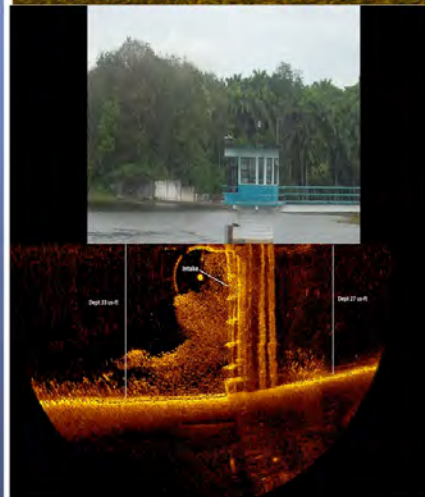
# Practical SONAR training specifically focused at SAR Team Operations



Northwestern Michigan College Training Facility

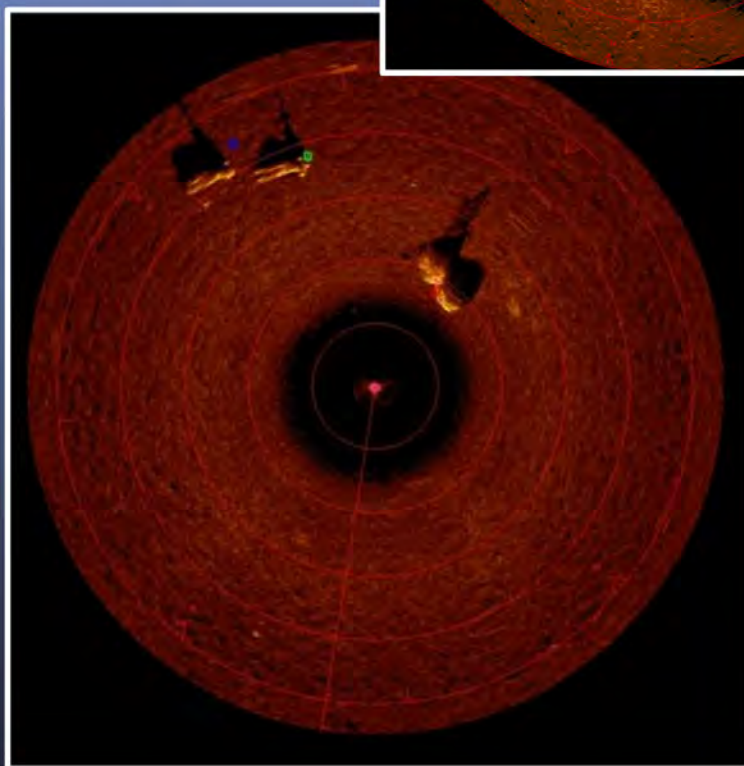
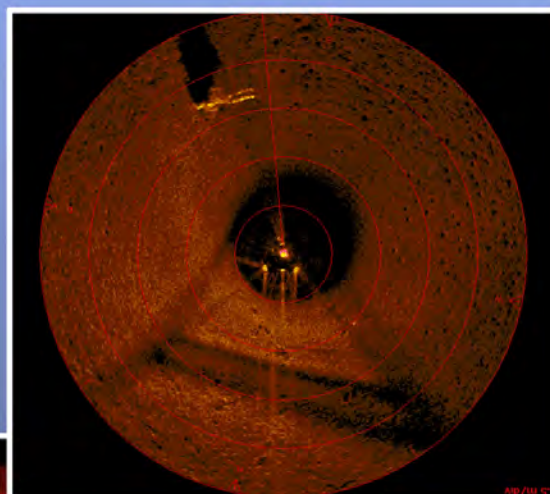


Upper Left: Side-scan SONAR image of victim of drowning.



Lower Left: Scanning SONAR image of a flowing water control structure

Right scanning sonar image shows the response on a sloping bottom; image below shows a snowmobile and two victims.



Contact Information:  
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## ***Practical SONAR training specifically focused at Search and Recovery Dive Teams***

### **The Instructors:**

**Mark W Atherton** brings 40+ years of underwater imaging, SONAR, commercial diving, explosives and ROV experience to this program. Atherton has managed million dollar-plus geophysical surveys, teaches side-scan and scanning sonar to individual dive teams, has completed underwater ordnance search and recoveries and is one of the pioneers in the acoustic visualization of underwater structures. With this expertise, he offers a unique perspective of what it takes to get the job done *right!* For the past 30 years, Atherton has fulfilled his other passion – teaching SONAR. As Special Projects Manager for *Kongsberg Mesotech Ltd.*, Mark is involved with all phases of sonar system design, applications, and provides solutions for underwater imaging problems. He is also the author of *Echoes and Images, The Encyclopedia of Side-Scan and Scanning Sonar Operations.*

**John DeMille** has been involved in marine operations since 1976 having joined the US Navy SeaBees ; he retired in 1997 as an Equipment Operator Chief, Combat Warfare Specialist/1<sup>st</sup> Class Deep Sea Diver. DeMille worked as a Project Superintendent installing Trans Atlantic telephone and submarine cables for a major US diving contractor after which he joined a side-scan sonar manufacturing company as Marketing/ Sales and Operations Director. DeMille worked on the Stacy Peterson case, Space Shuttle Recovery, Baltimore Water Taxi accident; the list goes on. Approximately 6 years ago, he joined EdgeTech as a Product Line Sales Engineer. John is one of the world experts in side-scan system training to SAR teams.

**Dan Vasey** comes to this program with 30 years of offshore commercial diving, ROV operations and SONAR search and recovery background. Vasey is also a professional instructor and holds a full-time faculty position at *Santa Barbara City College* where he teaches commercial diving and ROV operations in the Marine Technology program. Dan spent three years running side-scan for a shipwreck search company located in the Florida Keys. This job expanded to search projects in the South China Sea, Mediterranean and South America. Vasey keeps himself current in the industry by taking on contract search and survey projects during college breaks. Vasey and Atherton have been co-instructing this training program since 1999.

**Brian Abbott** holds degrees in geophysics and civil engineering, a military background and is a commercially trained diver. With over 23 years in the business, Brian uniquely brings to this course a passion in acoustically documenting underwater structures – any structure. In addition to bridges, docks and dams, he has acoustically visualized a 3000 BC sunken city in southern Greece, mapped the Titanic, documented a 15<sup>th</sup> century shipwreck in the Baltic... the list goes on. He is the best of the best in the underwater visualization industry. When he isn't travelling the world on archeological expeditions, Abbott has his own company that completes acoustic visualization of underwater structures and marine engineering projects.

**This course includes classroom, field and vessel-deployed SONAR training; it provides instructor and self-testing evaluation for course learning assessment.**

***This program stresses techniques to collect perfect records and advanced data interpretation.***



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# Ask yourself these questions:

- What 5 variables affect the acoustic reflectivity of a target?
- How do you calculate the transverse footprint of a SONAR beam at any given range?
- Why is the second question **so** important to understand?
- How do you calculate the on-line time required to complete a side-scan search?
- What are the safety issues with having divers in the water and operating high-frequency SONAR?
- How can you use SONAR to create baseline surveys of structures for U/W security applications and IED searches?

**If you can answer these questions,  
*you don't need this course!***

## Practicum Field Training:

Two of the four days is spent completing hands-on field training – conducting side-scan search operations, directing divers and running scanning sonar. Individual and group tasks are assigned and evaluated.

**4-Day  
Program**

STS is a registered *System for Award Management*  
(SAM) government supplier/vendor.

### **COST**

**\$1,395.00 USD** (includes a copy of *Echoes and Images*,  
*The Encyclopedia of Side-Scan and Scanning SONAR Operations*,  
memory stick with data, all handout material)

**You'll learn more in four days than what most  
SONAR 'Experts' know - GUARANTEED!**



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