

St. Louis County Sheriff's Rescue Squad

Technology and Techniques for
Conducting Underwater Searches
in a Public Safety Environment



United States

Montréal
Ottawa

Toronto

Chicago

New York
Philadelph

Washington



© 2006 Europa Technologies
Image © 2006 NASA
Image © 2006 TerraMetrics
© 2006 Navteq

© 2005 Google

Pointer 42°19'40.78" N 88°06'48.30" W elev 613 ft Streaming | 20% Eye alt 1441.09 mi



St. Louis County

- Population: Over 200,000 people
- 93% of St. Louis County is Uninhabited
- 7,092 Square Miles
- 840 Inland Lakes (including BWCA)
- Includes the Western Tip of Lake Superior

Rescue Squad

- We are 100% Volunteer
- We Currently Have 64 Members
- In 2006 We Volunteered 26,000 Hours
- 351 Calls in 2006 which included:
 - 159 Car accidents with injuries
 - 81 Woodland Operations
 - 57 Water operations (20 fatalities)



EVINRUDE
E-TEC



PRO



Johnson

ALUMACRAFT

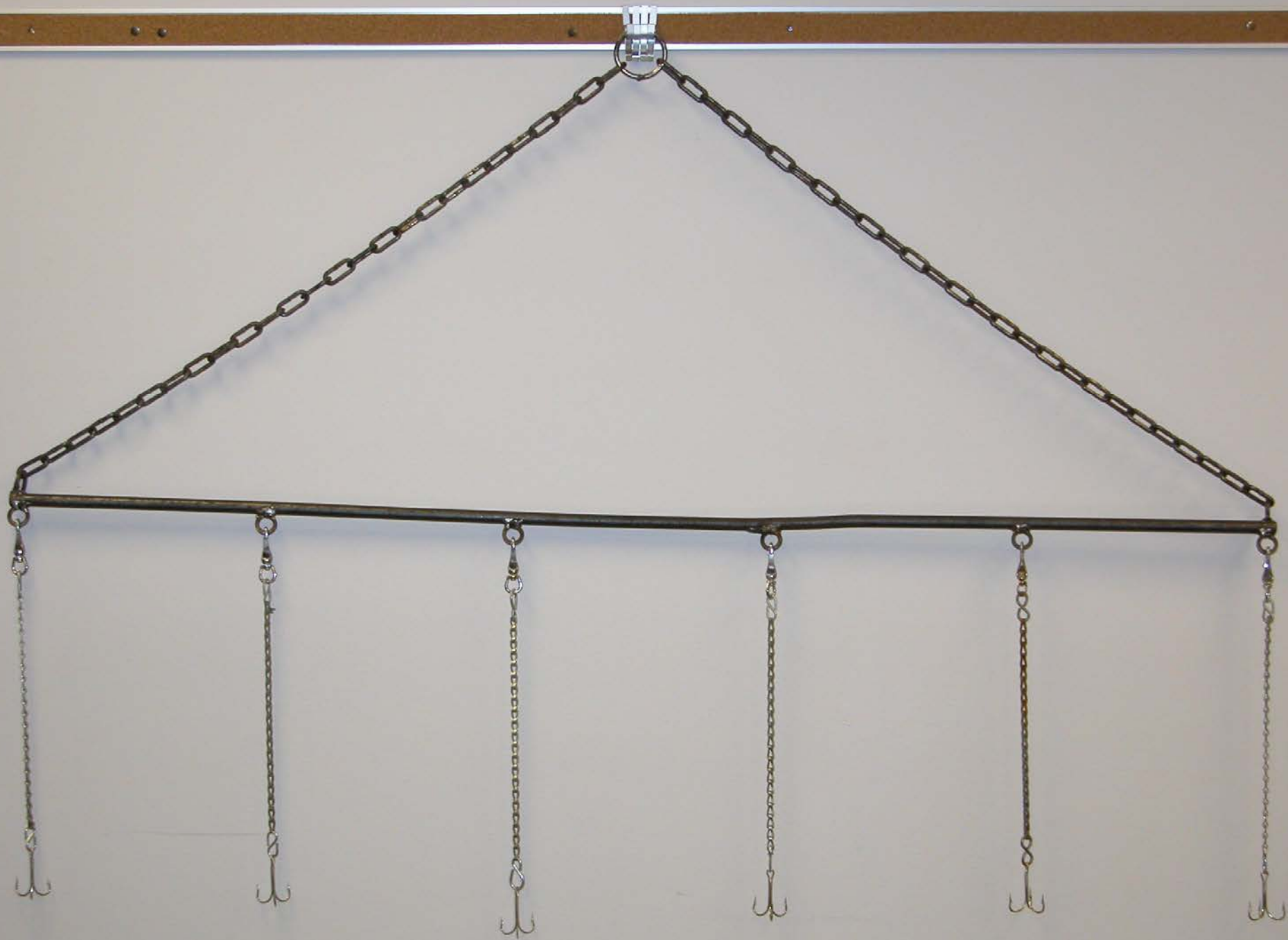
ST. LOUIS
COUNTY

SHERIFF

WATER
PATROL

Various Tools of the Trade

- Dragging
- Diving
- Aqua View
- Canine
- Side Scan Sonar
- ROV



Dragging

- Pros

- Low Cost \$30.00-\$40.00 per setup
- Quick and Easy to Learn
- Covers a great deal of area in a small amount of time

- Cons

- Disturb EVERYTHING on the bottom
- Destroy Evidence
- Can Move a Subject Several Times and Not Recover them



Diving

- Pros

- Human Eyes to View the Bottom
- Able to Retrieve Items from the Bottom
- Can Operate Equipment on the Bottom

- Cons

- Dangerous
- Costly
- Limited Bottom Time
- Training Time and Standards



8 WDSF Member



Aquaview

- Pros

- Inexpensive
- Easy to operate
- Quick deployment

- Cons

- Limited maneuverability
- Poor resolution
- Limit range



Canine

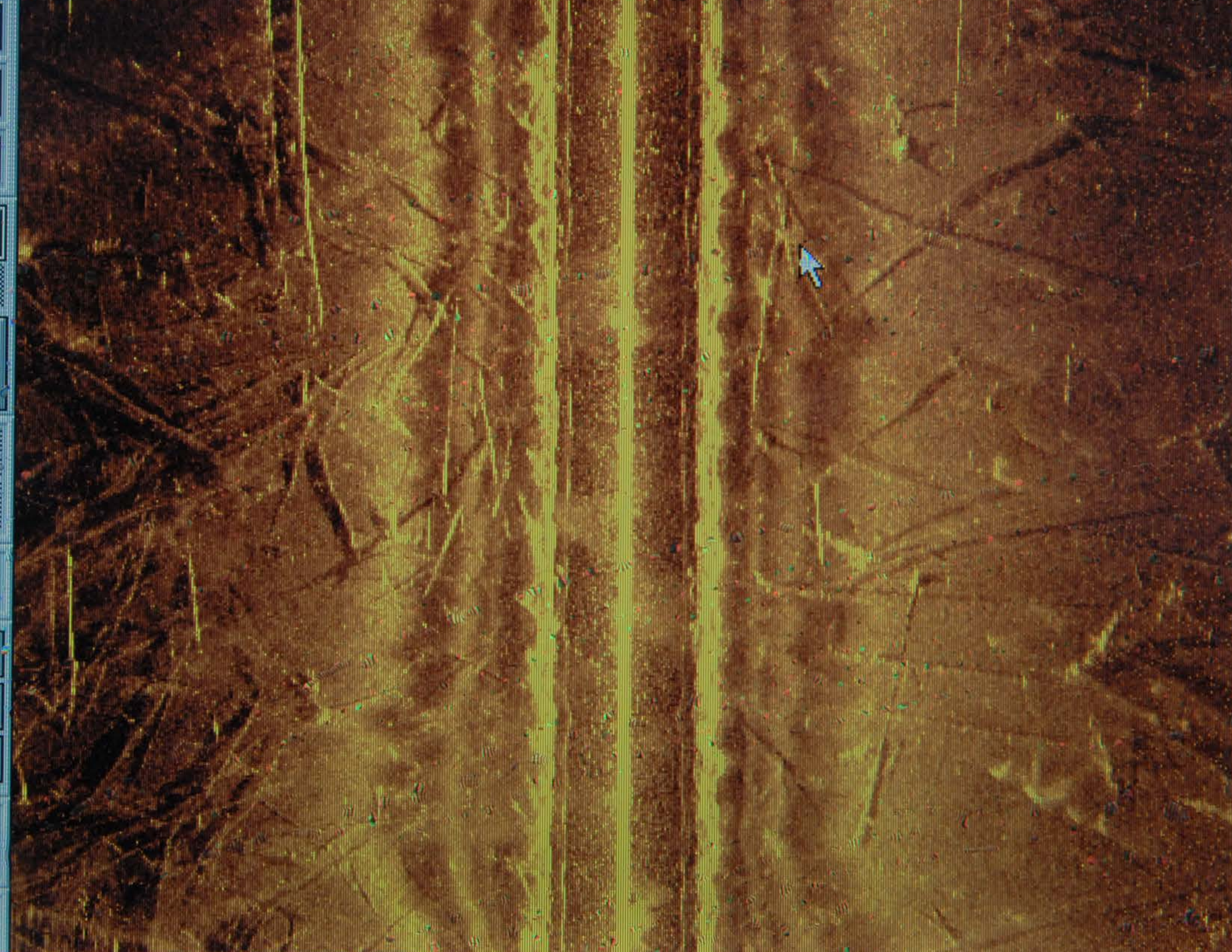
- Pros
 - Quick results
 - Can cover a large area quickly
 - Quick deployment
- Cons
 - Very hard to pinpoint find
 - Results dependent on the dogs training
 - Very time consuming training the dogs
 - The dogs behavior can be unpredictable in the boat



900 kHz

Side Scan Sonar

- Pros
 - Covers a large area quickly
 - Great image results
 - Long operation time
- Cons
 - Expense
 - Tow fish is heavy
 - Requires technical training
 - Hard to pick out detail on a littered bottom





ROV

- Pros
 - No humans in the water
 - No limit to bottom time
 - VERY safe!!
 - Can go deeper than any other resources we have
 - Image quality
 - Everyone can see what the bottom looks like (Command staff)
 - Easily retrieve items from the bottom
 - Long term cheaper than divers
- Cons
 - Expense
 - Training
 - Maintenance

Technique Tips

- Point Last Seen documented
- Witness interviews/repeat events right before drowning (SHOW ME)
- Patterns for searching – Pinwheel, General line (Mow the Lawn), Spiral
- Continuous updates with family/friends
- Documentation!!
- Never rule out homicide

Contact Information

Robin McCauley

St. Louis County Sheriff Rescue

218-340-1427

Tom Crossmon

St. Louis County Sheriff Rescue

218-349-8970

