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*The first step is believing that dogs can find a victim underwater. The next step is discovering how they do it.*

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# Underwater Searches Using Dogs

by Judy Graham

**F**ive years ago the idea that air-scenting search dogs could locate human bodies underwater was met with almost as much skepticism as the notion much earlier that people could travel 60 miles an hour and survive.

*Dogs Scent through Water?*

Here and there around the country, a few dogs were showing their handlers where bodies were submerged underwater. The handlers couldn't explain it scientifically, but they believed their dogs. Not many other people did.

Then, in 1979-80, the Virginia Search and Rescue Dog Association (VSRDA) was called for assistance on a series of drowning incidents. The dogs' consistent successes quickly made believers of their handlers and the agencies that had called them.

Much of the pioneering work in water search with dogs was done in Virginia, where flash floods and boating accidents account for a fairly large number of missing people each year.

VSRDA President Alice Stanley compiled the known water indications by dogs in her paper, "Utilizing Air-scenting Search Dogs to Locate Drowning Victims: A Research Report," which she presented at the 1981 NASAR conference. In her report, she discussed eight cases involving partially as well as totally submerged bodies. Some of the examples included:

- A 16-year-old girl disappeared in Shenandoah National Park's Whiteoak Canyon, and the Virginia Unit was called to search surrounding ridges, as well as the canyon. All dogs alerted toward the



*Dogs can alert in areas too difficult for divers to effectively search.*



*Once you believe that dogs can indicate the location of a victim underwater, you may be more willing to call them in on a search. Photos courtesy Judy Graham.*

water, with the most pronounced alerts at the base of the waterfall where the girl was last seen. This pool had already been dragged, but because of the dogs' alerts, park rangers brought in divers who located the body wedged between rocks in four to six feet of water.

- Ramapo Rescue Dog Association was requested to search for a young boy who drowned while swimming in a man-made lake, where water depth was 35 feet. One dog alerted strongly at the opening of a concrete shaftway in the dam. Entering the water, the dog continued to indicate the shaftway. Dragging was unsuccessful, but when a workman later opened a sluiceway directly below the alert area, the boy's body was released from the dam.

- Working from a johnboat as well as from shore, VSRDA dogs gave pronounced alerts in one area of the Occoquan River, where two teenage brothers were overdue from a canoeing trip. Divers and draglines were unproductive in the murky, debris-ridden water, but a week later the boys' bodies surfaced in the alert area from 60 feet of water.

In the meantime, dogs in both VSRDA and nearby DOGS-East continued to locate bodies underwater:

- When a man in poor health disappeared from his isolated cabin above the Occoquan River on August 10, 1981, DOGS-East was called to search the surrounding woods. At dusk, as one team returned from the field, the dog — off command — alerted and led his handler to the edge of the river; a second dog confirmed the alert. Next morning a

third dog ran out onto a nearby pier, giving a strong indication. Handlers suggested that divers check the area, and the man's body was quickly recovered there from 10 feet of water.

- Farther downriver where the Occoquan empties into the tidal Potomac, two boaters were reported missing on January 10, 1982 when their boat hit ice and sank off the Virginia shore. One body was recovered February 1 on the Maryland shore. When the second was still missing in early March, DOGS-East was called in. Working from a boat and the shore, several dogs alerted in an area with much underwater debris, but follow-up was postponed because of high winds and the unavailability of divers. A week later, the body surfaced where the dogs had alerted.

One of the difficulties in water search with dogs has proven to be the follow-up. Handlers know little about scent transport through waters of different speeds, turbulence and temperature; once the scent reaches the surface, there are the added variables of wind and weather. The dogs' alerts could be one or two yards away from the actual location of the body, or they might be as much as 100 feet off.

Another problem is that waters are often too cold, murky, or full of debris for divers to effectively check out the dogs' alerts. Grappling hooks are not always reliable, and if the body has begun its slow rise to the surface, both divers and draglines are likely to miss.

Even though the dogs' indications weren't often confirmed until the body

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surfaced naturally, agencies continued to call for the dogs — occasionally just to see if the dogs could really do the job.

The early successes were by SAR dogs with no specific training for underwater detection; they were trained simply to find people. But as water searches became more frequent, some units (particularly those in the East and Midwest, where water work was an important part of the mission load) began setting up training for water searches. When Illini Search and Rescue hosted a symposium on tracking, trailing and SAR dog work in February 1983, one of the topics was the use of dogs for recovery of drowning victims.

And the reports continued to come in:

- Missouri Search and Rescue K-9 dogs searched the shores of Harry S. Truman Lake on January 7, 1984, for a duck hunter whose boat capsized December 22, 1983. The temperature was 15 degrees. At the time the dogs worked, the lake ice was too solid for boats but not solid enough for walking. One dog alerted strongly in a tree-filled cove, but due to the conditions, there was no way to follow-up on the alert. The hunter's body was finally recovered in February, frozen solid in ice, several feet out from the mouth of the cove.

At last February's National Search Dog School, hosted by Rocky Mountain Rescue Dogs (RDI), papers on water search and training were presented by Marian Hardy of DOGS-East and Hatch Graham of the California Rescue Dog Association (CARDA). As a result, even more units around the country began training for water work.

And more successful finds:

- A four-year-old boy was missing in a runoff-swollen Utah creek in late May 1984. When RDI dogs alerted strongly at one point, the follow-up produced a deer carcass. When it was removed, the dogs continued to alert. The creek was lowered, and the little boy's body was found at the spot indicated by the dogs.
- After a fisherman was swept away in the swift, cold water of Deer Creek, Tehama County on April 28, 1984, CARDA dogs alerted around a deep pool. High water and rugged terrain prevented effective follow-up. The dogs returned two weeks later repeating their performance, and the body was discovered in rapids just above the pool.

A further step in trying to understand these events was the report, "SAR Dogs and Water Searching," a compilation of information and theories based on searches by members of the East Coast SAR Dog Confederation (ECSARD). This paper approached the subject from the standpoint of chemistry as well as water dynamics.

Theorizing that soluble solids, liquids and gases from the body dissolve and diffuse in the water, the paper diagrams the lighter molecules rising to the surface and releasing scent into the air as they evaporate. At the same time, insoluble liquids that are lighter than water would also rise and float on the surface, also providing scent.

Water dynamics provide clues to the searcher's question: If the body went in here, where is it likely to end up? When Marian Hardy, a whitewater kayaker as well as a SAR dog handler, presented the ECSARD paper at the NASAR '84 conference in Reno, she discussed a number of different water situations: river at flood stage or normal flow; lake, pond and reservoir; marsh, and tidal water.

One of the main thrusts of Hardy's presentation was the need for more documentation of water-related data and the exchange of information among units. She volunteered to be a nationwide clearinghouse for this information. She's also developed a water-search mission report form. Search dog handlers and units are encouraged to submit reports appropriate to this effort directly to NASAR, Marian Hardy, 4 Orchard Way N., Rockville, MD 20854.

And the dogs continue to make believers:

- When Kern County invited CARDA for water training, one problem they didn't set up was the recovery of the body of an unfortunate man whose pickup truck ended up in Calloway Canal. Working from a rubber raft, one of the dogs pinpointed the victim's location in seven feet of water. Careful dragging at the alert site produced the body a few minutes later.

To help in compiling water search information, CARDA has begun experimenting with locating divers in different kinds of water. Handlers hope to get some better answers to the question: "If the dogs alert here, where do we look for the body underwater?"

Searching for drowning victims may not be a highest-priority mission, but as Hatch Graham pointed out in his paper at the National Search Dog School, "Finding a body underwater can be extremely important in relieving the stress of the family; they really want to know what happened to their loved one. Also, if you can locate a body, it will terminate a search that might go on for a long time."

Hardy brought out a more intriguing possibility. "If you can get a river rescue unit training with the dogs, there's the potential of actually saving someone in a coldwater situation. It would have to be well pre-planned and well practiced. But it's sure worth trying." □