

Painting Pictures

of the Walleye World



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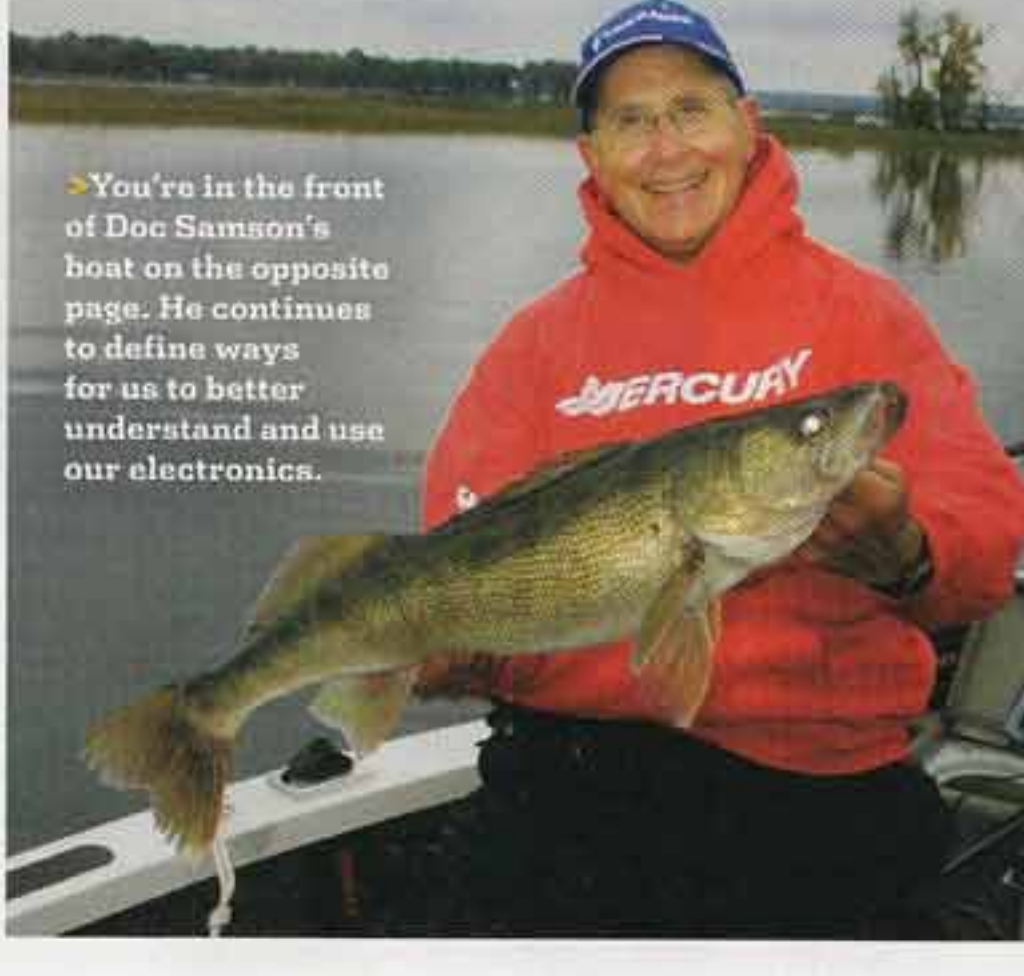
TOURNAMENT DYNAMOS DR. BRUCE SAMSON and Scott Steil have in common more than either of them realize; more than championships and big-time paydays. They also share a reliance on new-generation sonar imaging technology—side-imaging and down-imaging.

Samson, also known as Doctor Sonar, is well known for exhaustive on-the-water research, eyes glued to his big screens—multiple sonar “JumboTrons” mounted at every fishing station in his boat. You know about all those bells and whistles you never use on your sonar? Doc uses them all. But that’s just the beginning of an entire armada of electronics that the tactician unleashes on walleyes.

“StructureScan is an add-on module that works with any of Lowrance’s HDS units,” Samson says. “A special StructureScan transducer is connected to a black box that processes the sonar data, then displays those data on the HDS screen. I connect three HDS units to the black box (Lowrance calls this the LSS-1). I can see sidescan, downscan, or both on all three displays from anywhere in the boat. I can also view in downscan on one unit and sidescan on another, or display a digital lake map and sonar at the same time. Most of the time, I run 2-D sonar and downscan together on one unit, because it shows the big picture below the boat.”

Each of Doc’s screens are linked to a central Panasonic Toughbook—a weatherproof laptop computer that is his data collector. While he scouts water or fishes, his sonar units feed depth, contour, and satellite location into the Toughbook, building a real-time lake map on site. Using special software called Dr. Depth, he uses his Lowrance HDS-10 StructureScan sonar to build maps that display the hardness of the bottom, which are overlaid

“You’re in the front of Doc Samson’s boat on the opposite page. He continues to define ways for us to better understand and use our electronics.”



on contour lines. Imagine the value of a lake map that shows not only precise contours, but also the types of bottom substrate and key transition lines. Doc believes he can even map the presence and position of individual rockpiles, submerged wood, and vegetation, and overlay these cover objects directly onto one of his digital dynamic lake maps.

We’re almost there. Or at least Doc is. Somewhere on his fancy hard drive lies a trove of secret lake maps. These digital files, which he calls “sidescan mosaics,” are color-coded lake maps that show the locations of key transition zones between hard and soft bottom.

But that’s getting ahead of ourselves. Despite all the layers of this evolving technology, the question persists: Can we use sonar imaging to find fish? On this, Samson and Steil in unison shout, “Yes.”

Even though they use their electronics arsenals a bit differently, finding fish is still the objective. Imaging



■ ■ ■ This image clearly shows rocks, baitfish, and fish. The imaging is so detailed because of sonar frequency readings much higher than used on 2-D sonar.



■ ■ ■ Side-imaging draws realistic underwater landscapes and allows targeting specific cover objects, such as a boulder on a larger rockpile. Move the cursor over the spot, drop a waypoint, and you’re in the zone.



■ ■ ■ Side-imaging shows suspended fish, such as walleyes, as unmistakable white slivers. At the 2009 FLW event at Cass Lake, Steil used side-imaging to track these schools as they moved toward shallow edges where they became catchable.”



■ ■ ■ Downscan often reveals walleyes that traditional 2-D sonar misses completely. Here, on a sharp drop-off, downscan shows at least four walleyes, while the 2-D sonar is blank.

ON AND OFF THE EDGE

For Steil, the power of sonar imaging was seen during the June 2008 FLW event on Cass Lake. The top pattern had small pods of big fish moving on and off steep sand slopes leading to pondweed forests in 6 feet of water. “I was positioned in between 12 and 22 feet of water, moving slowly along with the bow mount,” Steil says. “With my Humminbird side-imaging unit set to scan both sides of the boat—the 45-foot basin water on one side and the shallow shelf on the other—I could monitor the schools.”

“That was a huge advantage. I watched the school appear on the left-side window as the fish suspended over deep water. Then those same white blobs showed up on the right-side window, on top of the edge and



► Scott Steil uses side-scan technology to follow moving schools of walleyes.

into the weeds. It was like having an alarm clock signal the bite. With the cursor I dropped a waypoint on top of the fish. Within seconds, I set baits in front of feeding walleyes.”

Steil’s winning final day catch included two 27-inch fish—both

identified on sonar and caught in 6 feet of water. “With traditional 2-D sonar, you’d mark only an occasional walleye. Other anglers believed there weren’t many fish on those breaks. I had the advantage of knowing fish were there and when they moved up so I could catch them. The Humminbird was my early warning system.”

DOWNSCANNING “DEAD-ZONES”

Several years ago, when Lowrance first introduced StructureScan, I spent a day with Doc, anxious to check a vertical version of the technology. It was mid October and we were hunting horses on one of Doc’s favorite lakes. Six- to ten-pound fish were in classic fall spots, glued to the edges of hard-bottomed walls that broke from 20 to 60 feet of water in a few boat lengths.

Scanning these slopes with a split screen—half 2-D sonar, half downscan—showed a revelation in walleye-finding technology. With 2-D sonar we marked no fish over a slope and mark no fish. The downscan told a different tale. Moving from 18 to 45 feet at the base

SCANNING Trees

On waters such as Devils Lake, North Dakota, and Bull Shoals, Arkansas, trees hold loads of baitfish. Usually, the more trees the better. Side-imaging paints vivid pictures of these underwater forests, revealing the densest trees, baitfish, and even walleyes. Also, rocks and boulders within trees can be spots that attract walleyes.

Downscan sends out a much higher frequency signal—455 to 800 kHz. This improves the level of detail you see on the screen.

Because downscan sends out and receives highly focused signals, it’s not likely to overlook the faintest target. It’s roughly the same as the blast pattern of a 12-gauge shotgun shell versus that of a single high-velocity .22-caliber slug. With such detail, it’s possible to count the number of fish in a school. Rather than the blob of fish sometimes shown on 2-D sonar, we could count 8 walleyes on the drop off directly below the boat.

Beyond identifying individual walleyes in a school, downscan offers acute target separation that can trace out bottom-hugging fish. In a vertical jigging or rigging scenario, you know the walleyes you see right down below and can see the presentation.

SPOTTING NEEDLES IN HAYSTACKS

This vivid target separation and screen detail also allows sonar imaging to “see” walleyes in dense stands of timber, between monster boulders, and inside strands of vegetation. At the 2009 FLW Championship, Steil used side-imaging on his Humminbird 1197C SI to identify scattered rock patches located within benders in the Missouri River.

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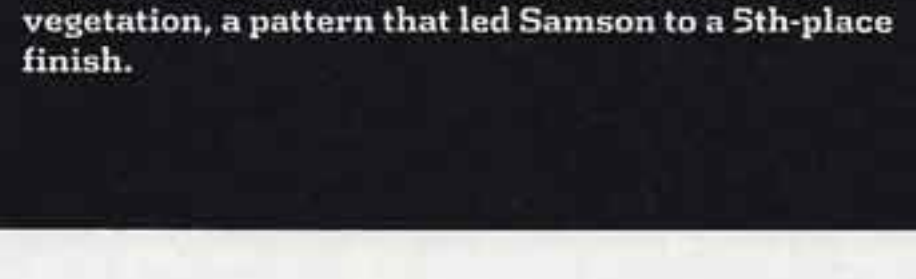
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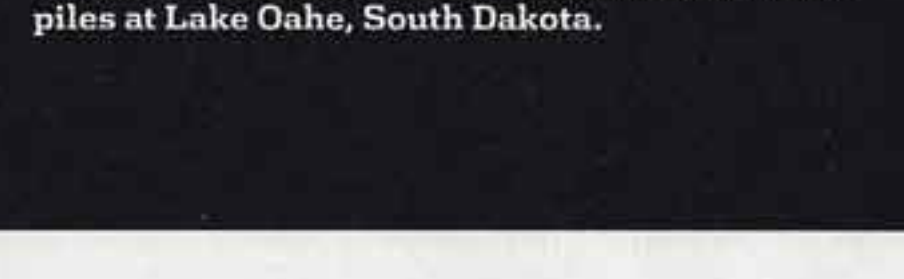
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■ ■ ■ During the 2010 AIM Walleye Championship, the downscan revealed baitfish schools in dense vegetation, a pattern that led Samson to a 5th-place finish.



■ ■ ■ Using a combination of downscan and 2-D sonar, Doc Samson quickly identified key brush piles at Lake Oahe, South Dakota.

of the wall, while the 2-D window remained blank, the downscan painted 8 walleyes (shown as white oblong slivers) lying at the base of the drop-off. Doc already had the answer to my question.

“Sonar display is based on echo strength and the distance between the target and the transducer. Often, you won’t see fish on drop-offs—especially sharp edges—because the edge creates a sonar blind spot. The closest solid object to the cone-shaped transducer signal is the top of the sloping edge in front of the boat, even though it’s not directly below.”

So the steep edge blocks out a section of water that prevents 2-D sonar from marking walleyes. This dead-zone often lies at the pivot point between the base of the drop and the deep flat—a key walleye concentration zone.

Two-dimensional sonar uses a cone-shaped signal,” Doc says, “as well as a lower-frequency transducer. The 50- to 200-kHz waves used in 2-D sonar provide less screen detail, but penetrate deeper into the water. The tradeoff is that lower frequencies read a little better at high speed.”

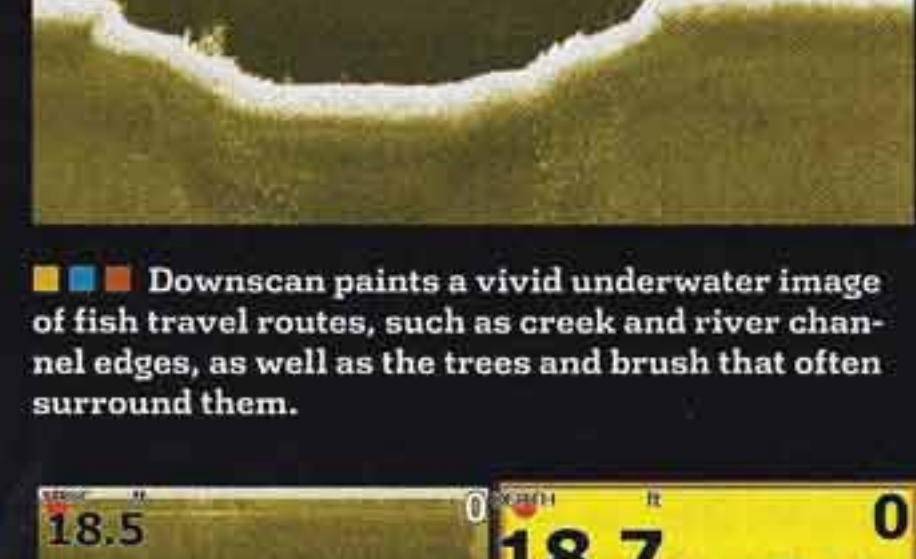
Conversely, Doc explains that downscan focuses on a much tighter area—the signal isn’t a wide cone shape, but a defined “slice” of real estate directly beneath the boat.

“It takes time and a trained eye,” he says, “but you learn to spot fish lying in dense cover, like big rocks. At the Championship there were walleyes between boulders in 10 to 14 feet of water. By scanning 100 feet to each side of the boat, we quickly covered a lot of water, identifying the best rock areas, as well as zeroing in on the places with baitfish and walleyes.”

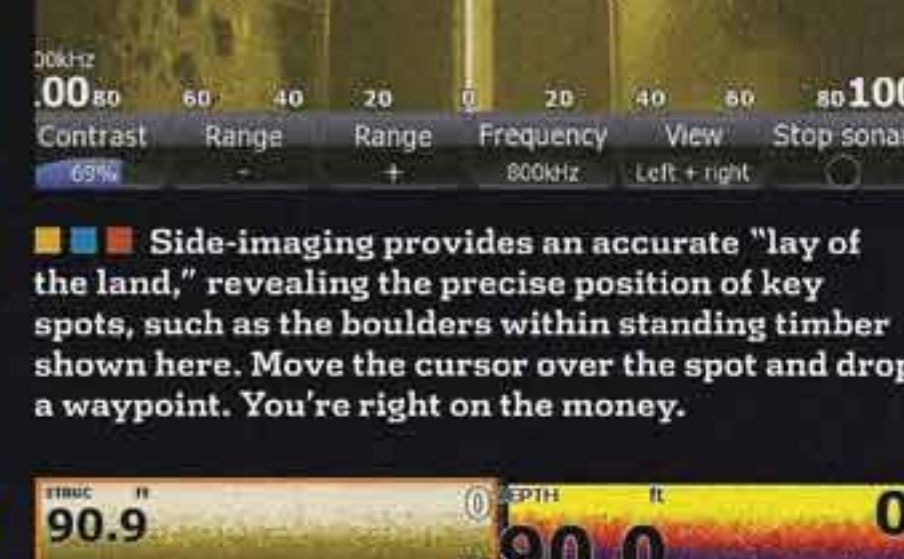
“The Humminbird lets me place a waypoint icon anywhere on the screen—even after scrolling back on stuff I’ve passed. This is what I did—just pop icons onto as many of these rock-and-fish zones as possible.”

The same program that worked for Steil helped Samson notch a 5th at the 2010 AIM Championship at Lake Winnibigoshish, Minnesota. Most of the top anglers, including eventual winner Mike Gofron, keyed on vegetation trolling from 10- to 17-foot flats and edges. Winni has expanses of shallow submerged weeds.

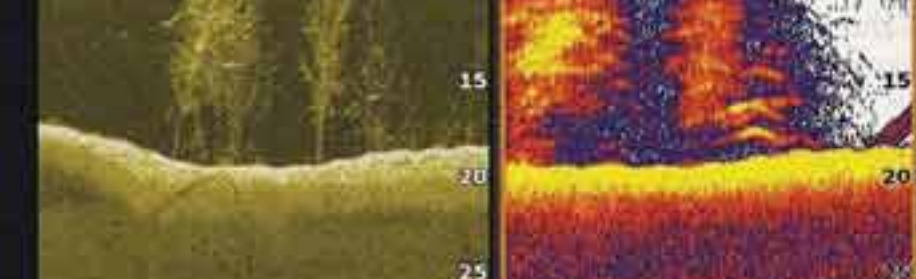
Using his customary sonar setup of split 2-D and downscan downscan, Samson strained large areas while trolling Salmo Bullheads and Rapala Husky Jerks. Eventually, a combination of walleye catches and screen clues led to his pattern. “Downscan showed the weed areas that held the baitfish and the largest numbers of catchable walleyes.”



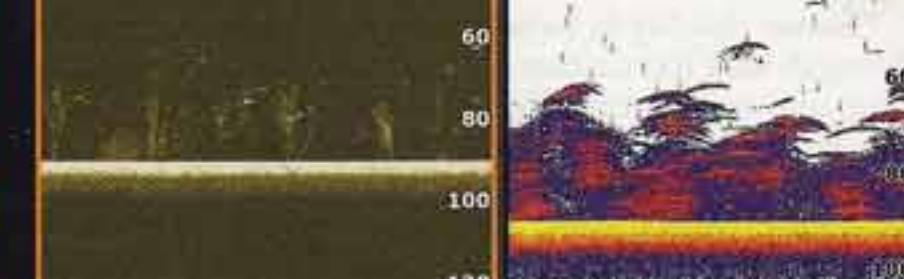
■ ■ ■ Downscan paints a vivid underwater image of fish travel routes, such as creek and river channel edges, as well as the trees and brush that often surround them.



■ ■ ■ Side-imaging provides an accurate “lay of the land,” revealing the precise position of key spots, such as the boulders within standing timber shown here. Move the cursor over the spot and drop a waypoint. You’re right on the money.



■ ■ ■ The value of downscan becomes obvious when you compare the underwater terrain side-by-side with 2-D sonar. Downscan clearly reveals groups of sunken trees, but 2-D sonar is easily misinterpreted as fish schools, baitfish, or vegetation. Viewing both perspectives simultaneously lends a broader perspective of the waterscape, while also teaching you to better interpret your sonar.



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