The Measure of a Monster

Investigating the Champ Photo

The most famous photograph of a monster in Lake Champlain was taken in 1977. The photo sparked the modern age of Champ investigations and renewed national interest in the creature. Recent field experiments, however, reveal that the "creature's" size is less than monstrous and the main eyewitness is mistaken.

BENJAMIN RADFORD

Lake Champlain forms the border between Vermont and New York, stretching down from Canada at its northernmost point south to Whitehall, New York. It is also, many people believe, home to America's version of the Loch Ness monster. "Champ," as the creature is called, has allegedly been seen by hundreds of witnesses. The lake (and therefore the monster) is named for explorer Samuel de Champlain, who is often—but erroneously—said to have been the first to report the creature. Sought after by P.T. Barnum, featured on *Unsolved Mysteries*, and "officially" protected by both the New York State Assembly and the Vermont Legislature, Champ remains a modern mystery. A big part of that mystery lies not only in the cold waters of

the lake but also in a small photograph taken by a woman named Sandra Mansi.

Mansi's account of her family's 1977 encounter with Champ is the most complete and fully documented of any lake monster sighting in history. With the most famous photo of the Loch Ness monster (the "surgeon's photo") revealed in 1993 to be a hoax, the Mansi photo stands alone as the most credible and important photographic evidence for a lake monster in Champlain—or anywhere else. John Kirk, in his book *In the Domain of the Lake Monsters*, writes that "The monster of Lake Champlain . . . has the distinction of being the only lake monster of whom there is a reasonably clear photograph. It . . . is extremely good evidence of an unidentified lake-dwelling animal" (Kirk 1998, 133). Joe Zarzynski, author of *Champ: Beyond the Legend* (1984), calls the photo "the best single piece of evidence on Champ." Another writer says that "By any standard the Mansi photograph remains a genuine mystery and a serious obstacle to any effort to reduce the Champ phenomenon to mundane causes" (Clark 1993, 67).

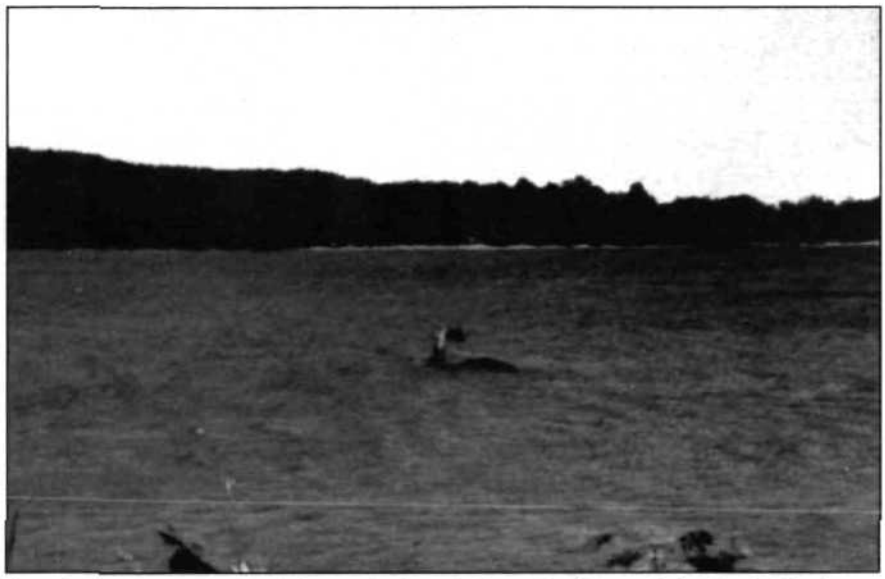

Figure 1: The object Sandra Mansi photographed at Lake Champlain. ©Gamma Liaison/Sandra Mansi

Despite its notoriety, and inclusion in most books of cryptozoology ("hidden animals"), there has been little skeptical investigation of the monster since the early 1980s. In July 2002, the twenty-fifth anniversary of the Mansi photograph, Senior Research Fellow Joe Nickell and I undertook an extensive investigation of this mysterious monster. His overview of Champ and our search begins on page 18.

Eyewitness Accounts

Like Bigfoot and the Loch Ness monster, most of the evidence for Champ's existence rests on eyewitness testimony. As I have noted elsewhere (Radford 2002), such accounts are notoriously unreliable and a poor substitute for hard evidence. One writer (Rabbit 2000) listed over a dozen factors that can reduce the accuracy of such accounts, including observer's fear and stress; poor observation conditions; slippage of memory; seeing what the observer wants or expects to see; changing details to conform to other witnesses' accounts; reluctance to admit ignorance; filling in nonexistent details, and so on.

Lake creature sightings are complicated by the fact that it is very difficult to judge distances and sizes on bodies of water. As Paul LeBlond of the University of British Columbia's Department of Oceanography points out, "A problem which commonly arises in the interpretation of unfamiliar objects on water is that of determining their size. In the absence of nearby reference features, the eye cannot estimate absolute dimensions reliably" (LeBlond 1982). On land, the human eye and brain can judge spatial dimensions fairly well, comparing an object to a nearby tree, home, or other structure. An unfamiliar object against a visual field such as sky or water, however, can produce wildly inaccurate estimates of size and distance.

People often see what they want—or expect—to see. In the case of Champ, the monster's likeness and legend are well-known in the area, and the knowledge that a monster is said to reside in the lake could easily transform an unusual sighting of "something in the water" into a Champ sighting.

The Mansi Encounter

Eyewitness sightings of Champ are relatively rare, and sightings accompanied by good photographs are even rarer. The Mansi family had the remarkable fortune to not only get a good long look at the creature but also photograph it (see figure 1).

According to Sandra Mansi, her family's encounter with Champ took place on Tuesday, July 5, 1977. Sandra and her fiancé Anthony Mansi, along with Sandra's two children from her previous marriage, were taking a leisurely drive along Lake Champlain. They drove by some farmland and, around noon, made their way to a small bluff overlooking the lake. The two children went down to the water while Anthony returned to their car to get a camera. As Sandra watched her children and the lake, she noticed a disturbance in the water about 150 feet away. She thought at first it was a school of fish, then possibly a scuba diver. "Then the head and neck broke the surface of the water. Then I saw the head come up, then the neck, then the back" (Mansi 2002).

Mansi did not panic: "I wasn't even scared, I'm just trying to figure out what I'm seeing. Then when Tony came over the field he saw it and started screaming, 'Get the kids out of the water!'" The kids scrambled up the bank and headed toward the car. As Anthony helped Sandra up the bank, he handed her the camera. She knelt down, snapped one photo, and then put the camera

---

Benjamin Radford wrote about Bigfoot in the March/April 2002 issue of SKEPTICAL INQUIRER. *His book* Media Mythmakers: How Journalists, Activists, and Advertisers Mislead Us *will be published in July.*

down to watch the creature. The head and neck turned slightly, then slowly sank into the water and disappeared.

The Mansis estimated that the creature's neck stuck about six feet out of the water and the whole object was about twelve to fifteen feet long. The sighting lasted a remarkably long time—between four and seven minutes—during which time the creature never turned to face the shore. Sandra Mansi described the neck and head as dark in color and said that what we see in the photograph is as much of the creature as she saw.

Despite the substantial weight and credibility given to it by Champ researchers, the Mansi photograph by itself is intriguing but holds almost no value as evidence. There is little usable information revealed in the photograph; whether by accident or design, virtually all of the information needed to determine the photograph's authenticity (and subject matter) is missing, lost, or unavailable. For example, Mansi cannot provide the negative, which might show evidence of tampering (she said she habitually threw away her negatives). She also can't provide other photographs taken on the roll (which might show other angles of the same object, or perhaps "test" photos of a known object from an odd position). Mansi claims to be unable to locate the site of the photo, which would help to determine a number of things, including the size of the object. Furthermore, the photo has virtually no objects of known scale (boat, human, etc.) by which to judge the creature's size or the distance. The fact that the Mansis, allegedly afraid of ridicule, waited four years to release the photo was also seen as suspicious. All we are left with is a fantastic story whose only supporting proof is a compelling but ambiguous photograph of *something* in the water.

The Hoaxing Question

Because of the litany of missing information (and the relatively high quality of the image), suspicions of a hoax surfaced almost as quickly as Champ. Such accusations were summarily dismissed by Mansi family lawyer Alan Neigher, who said that they "could no more have constructed such a hoax than put a satellite in orbit."

Richard D. Smith, a filmmaker who was producing a documentary on Champ, offered his expert commentary on the matter of a hoax: "As a photographer and filmmaker, I can speak with some authority as to what it would take to fake a picture of this sort. Assuming the remote possibility that the Mansi photo is a fraud, it would require fabrication of an excellent, full-sized model (highly expensive in terms of expertise and materials) which would have to be smuggled out to Champlain or another lake, there assembled or inflated, and successfully maneuvered around out in the water (most difficult, especially with a slight wind blowing), the whole thing accomplished without being seen or the slightest leak in security (unlikely)" (Smith 1984).

This account is nearly comical in its strained assumptions. Smith envisions an "excellent, full-sized model" of the Champ monster, which certainly is unlikely. But the Mansi photograph doesn't show an "excellent, full-sized model" of Champ; it simply shows a dark, featureless, ambiguous curved form of unknown size in water. Surely such an object would not be as difficult to fake as Smith presumes.

However far-fetched some of the hoax dismissals are, I believe they are fundamentally correct. After an exhaustive and detailed review of both her account and photograph, I am willing to grant that she is probably a sincere eyewitness reporting essentially what she saw. Assuming that both the account and photo are truthful (though error-prone) records of something in the water, what can we conclude about it? Several examinations have been done.

The Frieden Analysis

In 1981, B. Roy Frieden, of the Optical Sciences Center at the University of Arizona, examined the photograph at the behest of Champ researcher Joe Zarzynski. Frieden's findings were published in Zarzynski's book as Appendix 2.

Frieden believes the picture to be a valid print, and finds no evidence of photographic tampering. He does find a "suspicious detail" in the picture: "When I showed it to a woman who formerly lived at Lake Champlain, she immediately noticed a brownish streak going horizontally from left to right across the picture right up to the object in question. She right out said that it looked to her like a sand bar" (Frieden 1981). Frieden believes that the streak is "a real detail in the picture," and suggests that if it is a sand bar, "then there is a distinct possibility that the object was put there by someone . . . the sand bar problem really has to be investigated."

The LeBlond Analysis

Another analysis was conducted by Paul H. LeBlond of the Department of Oceanography at the University of British Columbia. LeBlond (1982) attempted to use the general appearance of the water's surface to estimate the length of the waves, and in turn use *that* as a scale by which to measure the object in the photograph. After a list of the many possible sources of error, LeBlond summed up: "The inescapable conclusion [despite all the unknowns] is that the object seen in the Mansi photograph is of considerable size" (he estimated between sixteen and fifty-six feet long).

LeBlond used a complex formula involving wind speed, fetch, wave period, and wave height—all of which were estimated. LeBlond did his best with what scant information he had to work with, but no matter how good the math or model is, with so many estimated variables it is apparent that any result will be little better than a wild guess. LeBlond's analysis, by his own admission, was fraught with many unknowns: "Sources of error may appear at many stages of the estimation method, and this must be kept in mind when interpreting the results."

Most writers who mention the LeBlond analysis fail to include this important caveat, instead portraying his results as conclusive and scientifically sound. One writer, John Kirk, goes so far as to say that LeBlond's heavily qualified conclusions "destroyed the learned academic's [i.e., Frieden's] hypothesis that the animal could have been a fake" (Kirk 1998, 135).

Other cryptozoologists, it should be noted, were more cautious about the results. J. Richard Greenwell, of the

International Society of Cryptozoology, discussed the various analyses and their conclusions that "there are 'definitely no cuts, no superimposition,' but, he warn[ed], that 'does not mean it is a monster or a living object. It does mean an object was there and was photographed'" (Greenwell 1981).

There is one area where LeBlond's discussion is clearly wrong. He mentions the efforts to locate the Mansi site, and provides a map with a shaded area showing "stretches of shoreline from which the Mansi photograph may have been taken." The areas highlighted are on the western shores of Hog Island and below Maquam Bay across from Hero Island. Yet only someone who had never been to the area could suggest these sites as possible candidates; in that area, the far (eastern) shores are much too far away to possibly be depicted in the Mansi photograph.

The Radford Analysis

In my own analysis of the Mansi photograph, an odd thing about the subject emerged. It is not apparent at first glance, but the "head" and "hump" are not clearly connected. If the photograph truly does depict the hump and neck of a lake monster, the actual body contortion is very unusual and unlikely for nearly any type of living animal. To see why, notice that the neck portion does not align with the hump. The neck in fact emerges out of the water from the left side of the photograph, *away* from the hump (and supposed body; see figure 2).

The reason that the head and hump seem connected is that there is a dark patch in the water between the two. I suggest this is in fact a shadow from the head. In the photograph, that area is not nearly as dark as the head and hump, and has all the characteristics of a shadow. Furthermore, Mansi's own account corroborates the shadow hypothesis: She claims that the photo was taken around noon. If this is true, then the sun should be directly above, hitting the top of the head and casting a shadow downward—right where the neck and hump meet.[1]

Even if the neck and hump are part of the same object, the positioning of the segments makes it very unlikely it is a living creature's "head" and "neck" connected just under the water. Since the head is dark and foreshortened, there is no way to tell if the head is in fact a stubby end as pictured, or perhaps a gnarled tree root branching away at an angle.

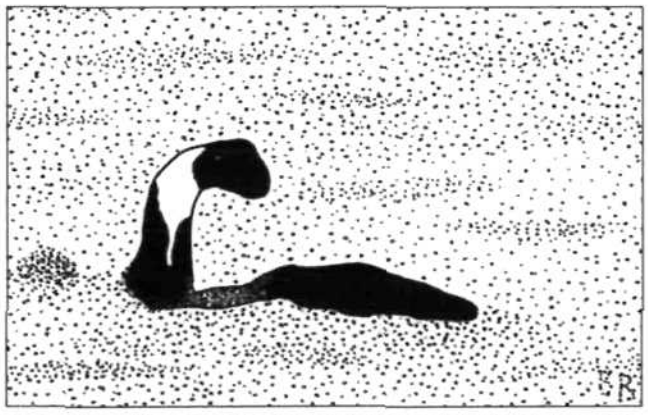

Figure 2: The object Sandra Mansi photographed at Lake Champlain in 1977, traced from an enlargement. Illustration by Benjamin Radford.

Figure 3: Photograph of the author in a field experiment at Lake Champlain. A one-foot scale marker is photographed at 150 feet. Using that scale, the alleged lake creature Sandra Mansi photographed in 1977 can be measured.

Several attempts were made at estimating the object's size (Mansi said twelve to fifteen feet; LeBlond suggested sixteen to fifty-six feet). If valid, these large estimates would suggest a lake monster, but these measurements were very indirect and fraught with error. There is, however, a more accurate and direct way of determining whether or not Sandra Mansi's account of her sighting matches with the photographic evidence she provides.

Replicating the Mansi Photograph

Many armchair analyses had been conducted to determine the size of the object, with little solid results. The lack of reference objects and known distances make the task formidable. However, the analysis can be approached from a different angle: Though we don't know the absolute size of—and distance to—the object, we do know what Sandra Mansi *reported* as the size and distance. With those variables fixed, it is then a fairly straightforward process to determine if the object is the size she (and others) say it is.

In order to help judge the validity of the Mansi photo, we visited Lake Champlain to do field work and original experiments. Following an unfruitful attempt to locate the exact original site, we chose a spot on Lake Champlain in the general area. Joe Nickell stood approximately eight feet above the waterline; this height is similar to that reported by Sandra Mansi (kneeling down atop a six-foot ledge).

I entered the lake holding a three-foot, black-and-white scale marker, measured off in one-foot lengths. Photographs (using the same type of camera Mansi used in 1977—a Kodak Instamatic, fixed-focus 110) were taken at fifty foot intervals ending up at 150 feet from shore (see figure 3). The distances were measured directly, calibrated using a synthetic string to avoid any stretching in the water.[2]

With the camera at the height Mansi claimed (about eight to nine feet), and the marker in the water at the distance she claimed (150 feet), this should allow us to measure the size of an object in that scale. Any object of a claimed size at a certain distance (at a given focal length) will take up a given measurable space in the print. I measured the size of the one-foot scale

Figure 4: A six-foot-tall creature "neck" at 150 feet from the camera. If the estimates given by Mansi are correct, her photograph and this one should look very similar in terms of height above the waterline. (Since the neck was the only dimension being measured, the hump and head portions were excluded.)

at 150 feet on our photograph, marked that, and transferred the measurement to the Mansi image scaled to the same size.

For comparison, rather than use the most commonly seen version of the photograph, I traveled to Connecticut to study the rarely seen original print. I carefully measured the Champ object in comparison to the whole photo, not the magnified and cropped commercial version that appears in books and magazines (and is necessarily reproduced here).

Unfortunately for those claiming that the Mansi object is huge, the numbers don't add up. All of the previous estimates of the object's size were dramatically overstated. The "neck" is nowhere near the previous estimates of six to eight feet or more; instead, the object is just over three feet out of the water, and both segments together are about seven feet across.[3]

In order to double-check the results I also worked backward, using a photograph of a mock Champ neck and head held six feet above the water at 150 feet (see figure 4). If Mansi's estimates are correct, the neck height in her photo and ours should look very similar. Using that scale for measurement, I verified that my estimate was indeed accurate.

Note that my analysis is based upon Sandra Mansi's own estimates and testimony. Because the object in the photo is inconsistent with the claimed height, those who wish to maintain that the object is six feet or taller (and fifteen feet or longer) will have to decide which parts of Mansi's story they think are false (or inaccurate). There is no way to be sure exactly how large the object is, but estimates of the distance and the size cannot both be correct; either—or both—are wrong.

At least one researcher, J. Richard Greenwell, has examined the photo and believes that Mansi's 150-foot distance estimate is correct: "we concluded that that object, whatever it is, was there in the lake at that estimated distance" (Greenwell 1992). The most likely explanation is that Mansi simply thought the object was bigger than it was. This effect is well known to be a factor in eyewitness reports; Joe Zarzynski himself warns about it: "many estimates of length tend to be overstated" (Zarzynski 1987, 109). Yasushi Kojo, another Champ researcher, also states that "the sizes of the animals are frequently overestimated in sighting reports" (Kojo 1991).

This revelation sheds a whole new light on the object in the Mansi photograph; with the size approximately half that of all previous estimates, the range of possible candidates becomes far larger—including perhaps a large bird, known animal, or a floating tree stump. The revised size is also inconsistent with many Champ descriptions. If the main eyewitness is to be believed, this "extremely good evidence" for Champ (and, by extension, other lake monsters) is even weaker than previously suspected.

Acknowledgements

Many people helped in researching and preparing for this Champ phenomena investigation. I wish to thank Robert and Paul Bartholomew, Tim Binga, David Daegling, Michael Dennett, Tom Flynn, Barry Karr, Sandra Mansi, Rob McElroy, and Alan Neigher, as well as my investigative partner, Joe Nickell. The investigation was conducted with support from the Committee for the Scientific Investigation of Claims of the Paranormal.

Notes

1. In his book Zarzynski admits that the head and hump are not obviously connected. He does, however, show an "electronic heavy enhancement of the Mansi photograph demonstrating 'that the monster's back and head are connected.'" I remain unconvinced; the "heavy enhancement" seems to have done little but emphasize the dark patches—which would of course include the head's shadow.

2. Nickell also took duplicate photos with his own 35 mm camera (published here at full size). For comparison, we verified that both cameras were of the same focal length.

3. An examination of the original print of the Mansi photo is helpful but not essential for this analysis. A less accurate comparison using the least-cropped publicly available version of the photo (in the April 1998 issue of *Discover* magazine) yields a neck height of about four feet.

References

Clark, Jerome, and Nancy Pear. 1995. *Strange and Unexplained Happenings: When Nature Breaks the Rules of Science.* Detroit: Gale Research Inc.

Clark, Jerome. 1993. Lake monsters in *Unexplained! 347 Strange Sightings, Incredible Occurrences, and Puzzling Physical Phenomena.* Detroit: Gale Research Inc.

Coleman, Loren. 1983. *Mysterious America.* Winchester, Mass: Faber & Faber, Inc.

Frieden, B. Roy. 1981. Interim report: Lake Champlain 'monster' photograph. Appendix 2 in Zarzynski, Joseph. 1984. *Champ: Beyond the Legend.* Port Henry, New York: Bannister Publications.

Greenwell, J. Richard. 1981. Quoted in Zarzynski 1984, p. 132.

———. 1992. Quoted on *Unsolved Mysteries,* National Broadcasting Company, airdate September 23, 1992.

Kirk, John. 1998. *In the Domain of the Lake Monsters.* Toronto, Canada: Key Porter Books Ltd.

Kojo, Yasushi. 1991. Some ecological notes on reported large, unknown animals in Lake Champlain. *Cryptozoology* 10: 4245.

Kurtz, Paul. 1981. The Lake Champlain monster surfaces. SKEPTICAL INQUIRER 6(1), Fall: 7–8.

LeBlond, Paul H. 1982. An estimate of the dimensions of the Lake Champlain Monster from the length of adjacent wind waves in the Mansi photograph. *Cryptozoology* 1: 5–61.

Mansi, Sandra. 2002. Author interview, August 24.

Rabbit, Jack. 2000. Native and Western eyewitness testimony in cryptozoology. *The Cryptozoology Review* 4(1), Summer:11–18.

Radford, Benjamin. 2002. Bigfoot at 50: Evaluating a half-century of Bigfoot evidence. SKEPTICAL INQUIRER 26(2), March/April: 29–34.

Smith, Richard. 1984. Quoted in Zarzynski 1984.

Teresi, Dick. 1998. Monster of the Tub. *Discover* magazine, April.

Wilson, Fred. 1981. 'Champ' and the Mansi photograph. (Editorial) *Pursuit.* Vol. 14, No. 2, Whole 54, second quarter.

Zarzynski, Joseph. 1984. *Champ: Beyond the Legend.* Port Henry, New York: Bannister Publications. □