

# **MUSKIE IMPOSSIBLE**

Cal Johnson's All-tackle World Record Muskellunge  
(As recognized by the International Game Fish Assoc. / IGFA)

By: Larry Ramsell, Muskellunge Historian

"There are ways today in our technology to determine the length and possible weight of a Muskie based on a picture." Jim Bunch, July 2009 Lunge Log.

For those not aware of the World Record Muskie Alliance (WRMA), their goal has been to end the long-running controversy over the legitimacy of our current World Muskellunge Record. Cal Johnson's muskie, caught July 24, 1949 reportedly was 60 ¼" x 33 ½" and supposedly weighed 67lb. 8oz.

Briefly, it is the WRMA's opinion is that some of these old world records wrongly influence research, stocking, and general angler perception regarding a muskies maximum growth potential.

Spearheading the research conducted by the WRMA is the type of scientific technology Mr. Bunch insightfully mentioned. The WRMA report as a whole is simply too complex and lengthy do a synopsis here, so I have condensed and summarized one of the key components of the report for this, the first release of the finding.

## **Photogrammetry Introduction**

Photogrammetry is the art, science, and technology of obtaining reliable information about physical objects and the environment through the processes of recording, measuring, and interpreting photographic images. It can also be thought of as the sciences of geometry, mathematics, and physics combined that use the image of 3D scene on a 2D piece of paper (photograph) to reconstruct a reliable, and accurate model of the original 3D scene.

Mr. Dan Mills of DCM Technical Services in Toronto, Ontario, Canada, is an independent and unbiased expert/ instructor in photogrammetry who has carefully scrutinized the known photographs of Cal Johnson's Muskie to determine the maximum possible length.

The results (summarized here) of Mills evaluation determined that there were sufficient visible points in the images to complete a direct scale measurement of the length of the fresh muskie from some hard dimensions obtained from the mounted muskie. However, to complete this direct scale analysis, dimensions from the mounted muskie needed to be determined first. Fortunately, the mounted muskie still exists in a glass display case available to the public.

Unfortunately, there was no way to make any measurements directly from of the mount itself due to the display case. The technologically advanced solution was to take a series of photographs of the mounted muskie using a calibrated camera. Using the calibrated

images, the software was able to provide an accurate length assessment of the mounted muskie without having to remove it from its enclosure.

Considering the dimensions of the head bones (skull) could not have been appreciably changed during the mounting process. Mills cleverly used the head itself as a high-tech measuring device to obtain the length of the fresh muskie. Once the length of the head was accurately determined, Mills was able to determine the maximum length of the actual fish from the fresh fish photographs. The software used to obtain measurements from the Johnson skin mount is 100% validated and Mills is unquestionably the number one expert in its use. This procedure is not an experiment, it is a proven science and it makes no difference what the object is.

During the photogrammetric mapping of the skin mount muskie, the overall length of the mount was determined to be 58.9" with an accuracy of  $\pm 1/4$ ". This measurement is for the upper jaw (snout) to tip of the tail overall length. The upper jaw was determined to be more suitable for direct scaling purposes. It can be seen in the mounted fish that the bottom jaw would extend slightly further than the top jaw, making the total length of the mount approximately the reported dimension.

The fresh muskie photographs were not suitable for use in a full 3-D photogrammetric solution, mandating the fresh muskie length be direct scaled from the photographs. The base concept behind direct scaling is that once a real world dimension on the object in a photograph is determined, it allows other dimensions of the object to be accurately measured using proportions.

While almost every photograph contains some amount of perspective, the overall effect is that the direct-scaled length will always be the maximum possible length that is calculated. In the case of the available photographs of Johnson's fresh muskie, all photographs used appeared to have minimal perspective present between the fresh muskie (which was hanging vertically) and the camera film plane. To ensure consistent results there were six length calculations made on the three available photographs.

## THE RESULTS

The overall length of the fish utilizing the upper jaw measurement was calculated to range between 48.2 inches to 51.2 inches. This 51.2" represents the longest possible length of the fresh muskie utilizing the top jaw. Adding an additional .8 inches for the approximate additional length of the bottom jaw, the total length of the fresh fish would not have been more than 52"!

Again, any perspective present in the photographs would result in the calculated lengths being an overestimation of the true length. However, the photographs did not appear to have appreciable perspective present between the fish and the film plane so the calculations are accurate representations of the fresh muskie length and not considered overestimations.

The accuracy of the resulting length calculations is within +/- 2 inches. Using this upper maximum length (+/- 2"), the maximum upper jaw measurement is 53.2 inches. If an additional .8" is generously allowed for a lower jaw measurement, the maximum possible length of Mr. Johnson's fresh muskie was 54", well short of the 60 ¼ claimed.

### Summary

From the expert calculations made by DCM Technical Services, it is evident that the photographs commonly said to depict Mr. Johnson's record muskellunge did not belong to a living 60 ¼" fish. In fact, the photographs have scientifically proven the live fish had a maximum length of only 54". Another highly credentialed firm (Forensic Imaging) in the field of photogrammetry peer-review these results to ensure that DCM adhered to professional standards.

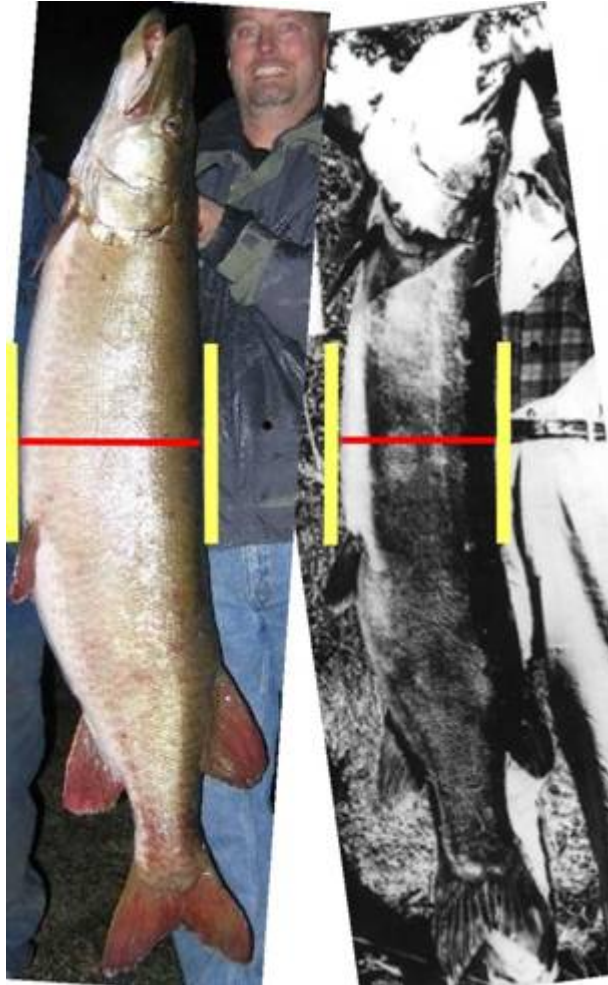
### Photo/Silhouette Comparison Results



In photos (A) and (C) stands a subject who is 5'9" tall with 60" and 54 ½" cardboard mockups. In photo (B) stands Johnson who is approximately 5'7" to 5'9" holding a supposed 60 ¼" muskie. Obviously the Johnson fish looks to be about 52", nearly identical to the professional results.

Considering just the research alone, we must accept the fact that the Johnson record was not any longer or heavier than any other large muskellunge coming from this

geographical area and certainly couldn't have weighed 67 ½ pounds! I am satisfied after reading the remainder of the report (particularly the muskie girth comparison between Cal Johnson's fish and the fish caught recently by Tom Gelb, that this particular fishing record should quietly join the list of "past embellishments" so we can move forward with a clearer and better understanding of the maximum growth potential of the muskellunge.



The extraordinary girth of Johnson's July caught muskie is missing when compared with Tom Gelb's 51+ pound November caught muskie in this scaled comparison. The Johnson Summary report includes groundbreaking research with "girth to length ratio" comparisons.

I would like to thank and congratulate Muskies Inc. for taking this first step toward the truth with this all-important record.

**For anyone interested in reading the entire report on Cal Johnson's muskellunge:**  
[www.worldrecordmuskiealliance.com](http://www.worldrecordmuskiealliance.com)