

EXTENDED ABSTRACT

The Muskies, Inc. Lunge Log Database: 370,000 Muskellunge and Growing

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Muskies, Inc. is the largest organization in the world dedicated to the conservation of Muskellunge *Esox masquinongy* and the enjoyment of Muskellunge fishing. It was formed in 1966 by Gil Hamm to conserve, protect, and restore Muskellunge fisheries in North America. Since 2006, the membership of Muskies, Inc. has fluctuated between 6,000 and 7,000.

One of the most notable accomplishments of Muskies, Inc. relates to the establishment of the Lunge Log database in 1970. The Lunge Log is a standardized voluntary reporting system through which members of Muskies, Inc. register Muskellunge they catch and, by doing so, participate in an annual members-only fishing contest (MOFC).

Instead of harvesting a Muskellunge, members can opt to receive a release certificate and patch and have their released fish recorded in the Lunge Log. Lunge Log entries are used to determine the standings in the annual MOFC. Contest updates and related stories are highlighted in the official publication of Muskies, Inc., *MUSKIE Magazine*. Each year three anglers win replicas of their released Muskellunge provided by Muskies, Inc. and Fittante Replicas; they are the anglers who have released the longest Muskellunge

in each of the three main MOFC divisions (“men’s,” “women’s,” and “youth”). The recognition provided by Muskies, Inc. and its chapters and the positive peer pressure among our members have been two essential elements leading to the major paradigm shift towards catch-and-release fishing for Muskellunge. Fisheries managers have capitalized on angler support of catch and release and have implemented management strategies and regulations to promote sustainability of Muskellunge populations.

Information from Kermit Benson’s book *History of Muskies, Inc.: The First Twenty-Six Years of Progress* (Benson 1993) helps to put the paradigm shift in perspective. In the 1960s, Muskellunge fishing was a catch-and-kill sport, and the few Muskellunge tournaments being held were based on the weight of harvested fish. In 1967, Muskies, Inc. initiated the MOFC to help attract and retain members, and in 1968, the catch-and-release concept was promoted. In 1970, a “release” category was added to the MOFC, and that year was the first for which records were saved for the database now known as the Lunge Log.

Jim Bunch managed the Lunge Log for 30 years and reported results in every issue of *MUSKIE Magazine*. In the early years, Lunge Log entries were submitted on pa-

per forms to the Lunge Log manager. As the number of entries increased, an online entry form was developed.

The first Muskellunge entered in the Lunge Log was caught by Helen Ness; the second entry was by her long-term fishing partner, Hugh Becker. Mr. Becker's love for Muskellunge resulted in him setting up the Hugh C. Becker Foundation so that the proceeds from his estate could benefit the Muskellunge resources he loved. Not only was the 2016 symposium named after Mr. Becker, his foundation was a major financial contributor to it.

As of March 2016, there have been more 370,000 Muskellunge entered into the Lunge Log by Muskies, Inc. members. The annual release rate has been greater than 99% since 1992 (Table 1). All numbers reported are actual numbers, not estimates.

The number of Lunge Log entries has grown from 58 Muskellunge reported in 1970, with 31% released, to an average of about 15,000 reported per year for the past decade, with more than 99.9% released. One of the most exciting trends documented by the Lunge Log is that Muskies, Inc. members have reported increasing numbers of 50-in (1 in = 2.54 cm) Muskellunge over the past 20 years, and since 1997, more than 95% of those big fish have been released. In 2014 and 2015, the release rate for Muskellunge ≥ 50 in was 100%. The Lunge Log includes 208 records for Muskellunge that were ≥ 55 in when caught; 18 of those were reported prior to 1996 and 190 have been reported since 1996. In 2015, Muskies, Inc. members reported a record number of 55-in and larger Muskellunge (22).

Large, long-term databases focused on Muskellunge are extremely rare. The Lunge Log database contains more than 370,000 entries, with up to 28 data fields per entry,

so it serves as a valuable resource to scientists and managers. For example, both Casselman et al. (2017, this volume) and Simonson (2017, this volume) used Lunge Log data in their research.

In 2004, the co-chairs of the Muskies, Inc. Research Committee, Jim Smith and Steve Budnik, produced a pamphlet titled *Why Release Muskies*, which included a hypothetical value of the Muskellunge released from 1970 through 2003 by Muskies, Inc. members. Their calculations were based on a generic survival table for Muskellunge and the cost of fingerlings that would have been needed to be stocked to replace the Muskellunge released by Muskies, Inc. members if the fish had been harvested. Their estimate of the value of released Muskellunge from 1970 through 2003 was about US\$40 million. Using the same methodology as Smith and Budnik and increasing the estimated fingerling cost to a conservative current value (\$12) provides a hypothetical value of Muskellunge released from 2004 through 2015 of about \$100 million. Again, this is based only on replacement value and does not account for the many years it takes to grow large Muskellunge. The number of Muskellunge released and reported by Muskies, Inc. members for the two time periods was approximately the same. However, there were considerably more Muskellunge greater than 46 in in length reported during the recent period, primarily because there are now more populations with more large Muskellunge due to successful fisheries management and effective catch and release.

The release of more than 370,000 Muskellunge, documented by the Lunge Log, is the most important contribution Muskies, Inc. members have made to protect Muskellunge fisheries in North America. Congratulations to Muskies, Inc. and its members for 50 years of conservation achievements.

Table 1.—Number of Muskellunge caught and release statistics for all fish and fish ≥ 50 in that were reported to the Lunge Log during 1970–2015.

Year	Muskellunge of all sizes				Muskellunge ≥ 50 " total length			
	No. reported	No. harvested	No. released	No. released	No. reported	No. harvested	No. released	Percent released
1970	58	40	18	31.0%	5	5	0	0.0%
1971	96	67	29	30.2%	7	6	1	14.3%
1972	162	67	95	58.6%	13	13	0	0.0%
1973	273	63	210	76.9%	7	6	1	14.3%
1974	284	51	233	82.0%	8	7	1	12.5%
1975	643	94	549	85.4%	9	9	0	0.0%
1976	877	115	762	86.9%	10	10	0	0.0%
1977	891	124	767	86.1%	14	13	1	7.1%
1978	1,247	186	1,061	85.1%	23	22	1	4.3%
1979	1,415	155	1,260	89.0%	27	21	6	22.2%
1980	1,687	147	1,540	91.3%	22	14	8	36.4%
1981	2,317	162	2,155	93.0%	39	29	10	25.6%
1982	2,648	188	2,460	92.9%	37	23	14	37.8%
1983	2,860	180	2,680	93.7%	49	29	20	40.8%
1984	3,247	170	3,077	94.8%	39	23	16	41.0%
1985	4,154	156	3,998	96.2%	58	33	25	43.1%
1986	4,607	159	4,448	96.5%	37	19	18	48.6%
1987	5,945	164	5,781	97.2%	64	22	42	65.6%
1988	5,924	124	5,800	97.9%	56	20	36	64.3%
1989	4,777	97	4,680	98.0%	56	17	39	69.6%
1990	5,583	93	5,490	98.3%	86	23	63	73.3%
1991	4,841	54	4,787	98.9%	56	15	41	73.2%
1992	7,448	58	7,390	99.2%	83	22	61	73.5%
1993	7,981	50	7,931	99.4%	98	14	84	85.7%
1994	8,582	40	8,542	99.5%	91	7	84	92.3%
1995	8,202	53	8,149	99.4%	93	14	79	84.9%
1996	9,801	37	9,764	99.6%	120	12	108	90.0%
1997	10,686	15	10,671	99.9%	111	3	108	97.3%
1998	11,735	24	11,711	99.8%	181	9	172	95.0%
1999	10,588	18	10,570	99.8%	188	4	184	97.9%
2000	11,470	16	11,454	99.9%	185	7	178	96.2%
2001	13,924	16	13,908	99.9%	240	11	229	95.4%
2002	15,002	23	14,979	99.8%	257	4	253	98.4%
2003	16,260	12	16,248	99.9%	289	6	283	97.9%
2004	16,194	10	16,184	99.9%	336	3	333	99.1%
2005	16,901	13	16,888	99.9%	377	4	373	98.9%
2006	16,611	14	16,597	99.9%	409	7	402	98.3%
2007	15,291	10	15,281	99.9%	530	6	524	98.9%
2008	14,389	10	14,379	99.9%	381	4	377	99.0%

Table 1.—Continued.

Year	Muskellunge of all sizes				Muskellunge ≥50" total length			
	No. reported	No. harvested	No. released	No. released	No. reported	No. harvested	No. released	Percent released
2009	17,352	18	17,334	99.9%	499	3	496	99.4%
2010	14,924	20	14,904	99.9%	400	4	396	99.0%
2011	14,838	13	14,825	99.9%	360	1	359	99.7%
2012	16,365	9	16,356	99.9%	413	1	412	99.8%
2013	13,413	31	13,382	99.8%	314	1	313	99.7%
2014	14,169	9	14,160	99.9%	240	0	240	100.0%
2015	13,186	9	13,177	99.9%	307	0	307	100.0%
Total	369,848	3,184	366,664		7,224	526	6,698	

Acknowledgments

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