

“Sustainable Preservation Limits” for Striped Bass Fishing on Smith Mountain Lake

Adopted 11/3/2017 by A Unanimous Vote of the Smith Mountain Striper Club (SMSC) Board of Directors & Supported by the Virginia Department of Game & Inland Fisheries (VDGIF)

Summary: Based on the scientific research documenting the exceptionally high mortality rate for striped bass caught from & released back into warm water (60-85% die), coupled with 5 consecutive years of Smith Mountain Lake (SML) anglers catching fewer striped bass per “angler day fished” (a 46.5% cumulative decline), the SMSC Board has adopted a policy of “Sustainable Preservation Limits” for striped bass fishing on SML. Specifically, the SMSC has adopted a catch limit of 2 striped bass per person per day during the warm water months of June through October. The goal is to change the striped bass fishing culture to focus on preservation & a modest catch during the warm water months, instead of maximizing the quantity of striped bass caught. Enforcement of the new warm water catch limit will be voluntary - - through education, self-discipline & enlightened self-interest. The SMSC Board & its membership, in cooperation with the VDGIF, will advocate for adoption of “Sustainable Preservation Limits” for striped bass fishing on SML among area residents, tourists & eco-minded fishing guides.

Purpose: to change the behavior of striped bass anglers & guides, & the striped bass fishing culture, aimed at preserving & increasing the number of 3+ year old striped bass surviving in SML to catch in future years; this should complement, not take the place of, additional efforts to increase the size & health of the striped bass population in SML, such as improving the first year “recruitment” (i.e., survival rate) of striped bass fry

How: by decreasing the number of 3+ year old striped bass that die each year from being caught & released during warm water months (June-October)

Method: establish “sustainable preservation limits” for striped bass, specifically four categories of limits:

1. **Cool Water Harvest Limit (no change)** – a maximum of 2 striped bass less than 30” or greater than 40” may be harvested per person per day; all striped bass between 30” & 40” must be released promptly (applies November-May)

2. **Warm Water Harvest Limit (no change)** – a maximum of 2 striped bass of any size may be harvested per person per day (applies June-October)
3. **Cool Water Catch Limit (no change)** – an unlimited number of striped bass of any size may be caught & promptly released per person per day (applies Nov-May)
4. **Warm Water Catch Limit (NEW)** – 2 striped bass of any size is the maximum number of striped bass that should be caught per person per day, after which the person catching 2 striped bass should cease fishing for striped bass for the remainder of that day

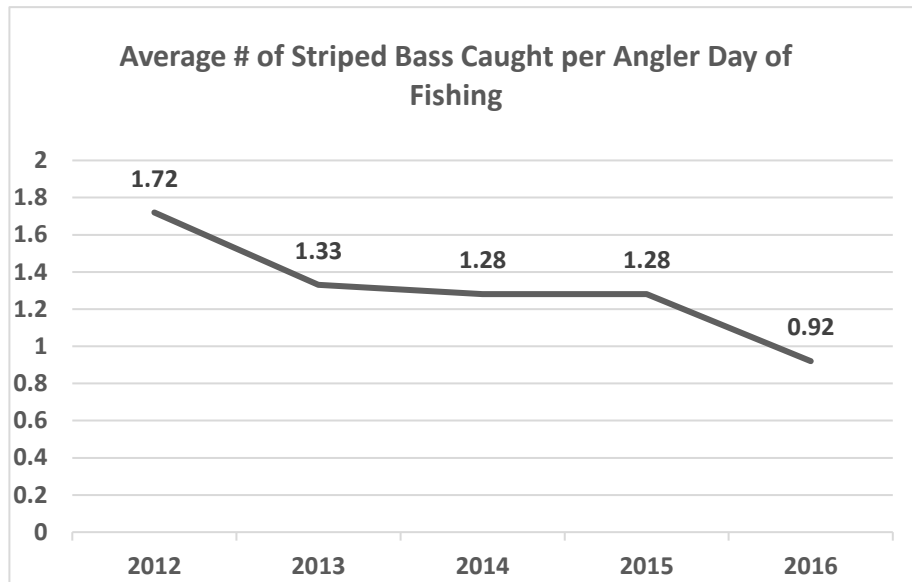
Enforcement - Voluntary through Education, Self-Discipline & Enlightened Self-Interest:

If striped bass guides & anglers choose to catch no more than 2 striped bass per person per day in the warm water months, then striped bass anglers’ probability of successfully catching 3+ year old striped bass on a sustainable basis in future years should increase. If fewer striped bass are caught & released in the warm water months, then there will be less striped bass mortality during these months. Sustainable Preservation Limits should increase the number of 3+ year old stripers available to be caught in future years. If striped bass anglers & guides recognize that it is in their own enlightened self-interest to voluntarily limit the quantity of striped bass they catch during the warm water months, their longer-term future success catching striped bass on SML is increased. Enforcement is therefore voluntary, through education, self-discipline & enlightened self-interest.

Support for Striped Bass “Sustainable Preservation Limits”

1. Striped bass fishing success on SML has gotten significantly worse in the past 5 consecutive years as measured by “Average Number of Striped Bass Caught per Angler Day of Fishing”.

	2012	2013	2014	2015	2016
Average # of Striped Bass Caught per Angler Day of Fishing	1.72	1.33	1.28	1.28	0.92
Cumulative % Change Since 2012		-22.7%	-25.6%	-25.6%	-46.5%
Year-to-Year % Change		-22.7%	-3.8%	0.0%	-28.1%



2. While there has been a consistent level of stocking striped bass fry in SML (a 10-year average of 343,284 fry per year), summary data from several recent years of gill netting & striped bass angler diaries suggest there are decreased numbers of 3+ year old striped bass surviving from year to year & being caught. Additionally, first year “recruitment” of striped bass fry in SML (i.e., their survival rate from the time of stocking to 1 year of age) has been poor the last few years, further exacerbating the overall decline in the striped bass population in SML. Poor recruitment, plus high mortality among striped bass caught in the warm water months, & perhaps other factors, are probably all contributing to the reality that striped bass anglers are “fishing more hours to catch less fish”.

3. Striped bass angler diaries submitted in 2016 indicate it took 4.2 hours fished per angler per striped bass caught, compared to the 5-year striped bass angler diary average of 3.1 hours fished per angler per striped bass caught. As indicated above in #1, the average number of striped bass caught per angler day of fishing reflects a similar decline in striped bass fishing success on SML. Some year-to-year fluctuations are expectable, but the pattern of decline is concerning. It is probably unreasonable to achieve the very high catch rates of several years ago when there was a large striper population & a relatively low bait fish population in SML (which gave striped bass anglers an advantage). Taking action that is within human

control, which is affordable, & might help improve striped bass fishing on SML, is needed now. Further declines in the SML striped bass fishery will have a negative impact on the reputation of SML as a premier striped bass lake, the area economy, the livelihood of striped bass guides & bait shops - - & for at least some SML striped bass anglers - - their overall quality of life.

4. Previous research indicates a substantially higher mortality rate for striped bass caught & released in warm water months, versus those caught & released in cool water months (67+% mortality during warm water months & 14% mortality in cool water months). These results are based on a study of the number of striped bass caught & “tagged” during warm water months, versus the number caught & “tagged” in cool water months, & then subsequently re-caught again. Other studies using direct observation suggest a warm water mortality rate of 85+% for striped bass caught & then released, & a cool water mortality rate of <20%.
5. Additional research via underwater video & radio tagging demonstrates that the commonly held view is incorrect that striped bass caught & released during warm water months continue living if they do not subsequently float to the surface. A high percentage of striped bass caught & released in warm water months die, & most of them DO NOT float to the surface of the lake; they settle to the bottom.
6. It is unlikely striped bass anglers on SML have become less skillful during the past 5 years. The advances in fish-finding technology & fishing techniques should have contributed to improved fishing success on SML, all other things being equal. But all other things are not equal. There have been several consecutive years of poor first year “recruitment” of striped bass fry, which results in significantly fewer stripers surviving past one year & growing to a catchable size, & therefore fewer being available to be caught in SML. Research has not yet revealed a clear answer to why recruitment has become a recurring problem & how to reverse it. **So, what other options are available to increase the striped bass population in SML that are controllable by humans, inexpensive & can be implemented in the short-term?** One option is for striped bass anglers to simply discipline themselves to catch fewer striped bass during the warm water months when catch & release mortality peaks.
7. Data from the diaries of striped bass anglers fishing on SML over the past 5 years indicate:

- The 5-year **average** number of striped bass **caught** (# harvested + # released) per angler day was 1.30 in warm water months, versus a 5-year average of 1.34 per angler day in cold water months, a very small difference. However, the change in the average number of striped bass caught in 2012 versus 2016, in both warm & cold-water months, was dramatic. There was a decrease from 1.72 in 2012 to 0.97 in 2016 in warm water months. In cold water months the average number caught decreased from 1.73 in 2012 to 0.89 in 2016.
- Out of ALL the days fishing for striped bass on SML reported by striped bass anglers in their diaries over the past 5 years, they caught more than 2 striped bass on only 20% of the warm water days they fished (30% in 2012 & 7% in 2016). On cool water days fished, they reported catching more than 2 striped bass on only 16% of the days they fished (13% in 2012 & 14% in 2016). In other words, catching more than 2 striped bass per person per trip is relatively uncommon in all months of the year, & was an extremely rare occurrence in 2016 during the warm water months (7%).

Most striped bass anglers do NOT strive to “catch fewer fish”. But during the warm water months of June through October on Smith Mountain Lake, that’s exactly what we all need to do now.

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Primary Research Sources:

1. P. Betolli & R. Osborne, “Hooking Mortality & Behavior of Striped Bass Following Catch & Release Angling”, North American Journal of Fisheries Management, Volume 18, pages 609-615, 1998.
2. D. Wilson, VDGIF, Striped Bass Stocking Data & Summary Level Angler Diary Data for Smith Mountain Lake: 2007-2016.

Angler Diary Data by Year (2012-2016) & 5 Year Averages - Smith Mountain Lake

	2016	2015	2014	2013	2012	5 YR AVG
Cold Water Months (Nov-May)						
# Striped Bass Caught	859	1,233	994	1,217	1,936	1,248
# Angler Days Fished	963	818	755	984	1,122	928
# Striped Bass Caught per Angler Day Fished	0.89	1.51	1.32	1.24	1.73	1.34
# Angler Hours Fished	3,690	4,991	2,720	3,701	4,554	3,931
# Angler Hours Fished per Striped Bass Caught	4.30	4.05	2.74	3.04	2.35	3.15
# Angler Fishing Trips	623	669	500	640	751	637
# Angler Trips Catching >2.0	88	134	92	111	100	105
% Angler Trips Catching >2.0	14%	20%	18%	17%	13%	16%
# Angler Trips Catching ≤2	535	535	408	529	651	532
% Angler Trips Catching ≤2	86%	80%	82%	83%	87%	84%
Warm Water Months (June-Oct)						
# Striped Bass Caught	512	502	820	1,423	1,223	896
# Angler Days Fished	528	536	662	1,008	712	689
# Striped Bass Caught per Angler Day Fished	0.97	0.94	1.24	1.41	1.72	1.30
# Angler Hours Fished	2,113	2,056	2,254	3,744	2,965	2,626
# Angler Hours Fished per Striped Bass Caught	4.13	4.10	2.75	2.63	2.42	2.93
# Angler Fishing Trips	219	248	449	672	425	403
# Angler Trips Catching >2.0	16	32	85	134	126	79
% Angler Trips Catching >2.0	7%	13%	19%	20%	30%	20%
# Angler Trips Catching ≤2	203	216	364	538	299	324
% Angler Trips Catching ≤2	93%	87%	81%	80%	70%	80%
All Months (Jan-Dec)						
# Striped Bass Caught	1,371	1,735	1,814	2,640	3,159	2,144
# Angler Days Fished	1,491	1,354	1,417	1,992	1,834	1,618
# Striped Bass Caught per Angler Day Fished	0.92	1.28	1.28	1.33	1.72	1.33
# Angler Hours Fished	5,803	7,047	4,974	7,445	7,519	6,558
# Angler Hours Fished per Striped Bass Caught	4.23	4.06	2.74	2.82	2.38	3.06
# Angler Fishing Trips	842	917	949	1,312	1,176	1,039
# Angler Trips Catching >2.0	104	166	177	245	226	184
% Angler Trips Catching >2.0	12%	18%	19%	19%	19%	18%
# Angler Trips Catching ≤2	738	751	772	1,067	950	856
% Angler Trips Catching ≤2	88%	82%	81%	81%	81%	82%
Data Source: D. Wilson, VDGIF, Summary Angler Diary Data for Smith Mountain Lake: 2007-2016.						