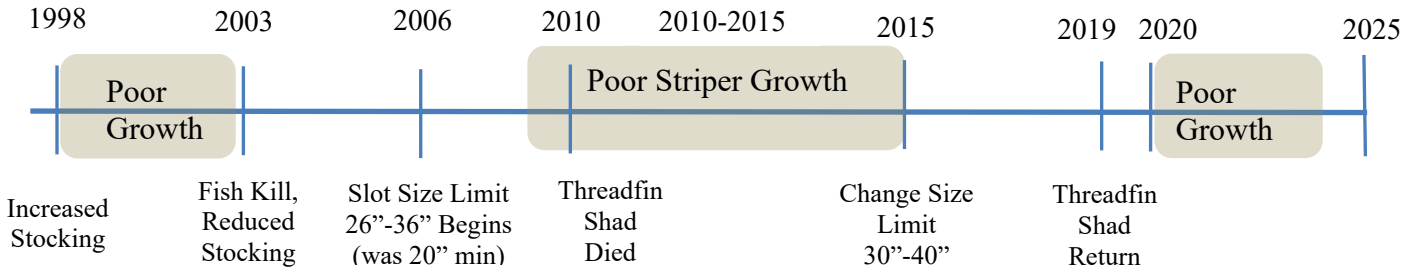
Smith Mountain Lake Striped Bass
From 2025 Diaries

SML Striped Bass History



Angler diary catch rates of striped bass (striper) have been high since 2022 with the best catch rates ever recorded in 2023, taking an average of 1.9 hours to catch a striper ≥ 20 inches (Table 1). However, angler catch rates declined in 2024 and again in 2025. Good angler catch rates in 2022-2024 were a result of high stocking rates combined with better than average survival in 2017-2020 (stocking numbers in Table 4). Gill net catch rates for 1½-year old stripers were above average for 5 of 7 years in 2018-2024 (Figure 3, Table 5). Stocking survival is estimated with gill nets 1½ years after stocking.

Recent management objectives were to reduce the striper population because of declining striper growth and low forage, similar to cycles in the past (Figure 7). Achieving management objectives required a reduction in the average annual stocking rate. Based on 2025 data; angler and gill net catch rates declined, striper growth is improving for smaller sizes, and we are expecting forage improvements in 2026. All four of these data trajectories indicate conditions are favorable to moderately start increasing striper stocking rates toward the long-term average of approximately 350,000 stripers per year. Adjusting stocking numbers is the primary method DWR uses to maintain the highest striper population while preserving good growth and continued trophy production.

The field work for a two year catch and release mortality study conducted by Coastal Carolina University, has been completed. A total of 124 stripers were tagged with an acoustic transmitter in mid-June through August of 2024 and 2025. These are not the same tags as highlighted in the poster at the end of this report. We are not providing study results in this report as the final analysis is still being conducted. Results so far indicate summer release mortality at SML may not be as high as some other studies but potentially high enough to negatively impact the population at high levels of summer catch & release fishing, opposed to just catching a limit and stop fishing. There are a number of variables we are examining that could influence summer catch and release mortality such as fish size, fight time, and fish depth when hooked, just to name a few. We will be able to provide analysis and recommendations for striper summer fishing this spring.

DWR started another tagging study (termed exploitation study) in December of 2024, to better estimate how summer release may impact the overall population. These tags are several inches in length, about the diameter of spaghetti, either white or orange in color, and protrude from the striper back along the dorsal fin. This study will provide estimates of how many stripers are caught each year and during what seasons. Exploitation tagging of Striped Bass has

been done previously but the data for SML is over 12 years old and that data may not accurately reflect current angler catch habits.

A couple notes for anglers that may catch a striped bass with exploitation tags. Each tag has a reward of either $25 (orange tags) or $150 (white tags). Most fish with a $25 tag, will have two tags, totaling $50 reward if both are returned. If you catch a double tagged striper, remove both tags (cut or pull the tag free), regardless of harvesting or releasing the fish. Tags can be mailed to the DWR Forest office (address is on each tag) or taken to one of the drop-off locations; Captains Quarters or Smith Mountain Lake Tackleshack. See attached poster at the end of this report for additional information needed with all tag returns.

For additional information or questions, feel free to contact me.

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Table 1. Catch rate data (average number of hours to catch one striped bass) for Smith Mountain Lake, from angler diaries. As examples, it took 5.2 hours to catch a striped bass ≥ 20 inches in 2010 and 2.8 hours in 2025.

	Hours/Striped Bass All Sizes	Hours/Striped Bass ≥ 20"	Hours/Striped Bass ≥ 30"
2010	4.3	5.2	34
2011	2.6	3.4	18
2012	2.4	2.9	22
2013	2.8	3.6	29
2014	2.8	3.3	20
2015	2.9	3.1	21
2016	4.2	4.5	24
2017	4.0	4.4	16
2018	3.8	4.7	14
2019	3.1	3.7	12
2020	2.6	3.1	10
2021	2.3	3.5	19
2022	2.1	2.9	22
2023	1.7	1.9	17
2024	2.2	2.6	22
2025	2.5	2.8	35

Table 2. Striped bass catch data from angler diaries at Smith Mountain Lake for each month in 2025. Data only includes striped bass caught ≥ 20 inches. Hrs./Fish = average number of hours for an angler to catch one striped bass.

	Hrs./Fish	# Caught	% Released	Av. Size Caught
January	4.0	24	90%	23.6
February	6.2	34	97%	23.6
March	6.4	57	75%	25.0
April	3.4	109	81%	23.7
May	2.8	197	57%	23.8
June	2.3	162	47%	24.3
July	3.0	143	59%	24.7
August	1.6	400	69%	25.1
September	2.0	406	72%	25.1
October	2.3	252	81%	24.5
November	3.6	103	84%	26.0
December	1.4	137	83%	26.5
Av. Jan-Dec	2.5	2,024	71%	24.8

Table 3. Smith Mountain Lake striped bass percent of angler catch for different size groups. Data was collected from Smith Mountain Lake angler diaries.

Year	< 20”	20”-25”	26”-29”	≥ 30”	Citation
2010	14%	40%	32%	14%	0.7%
2011	19%	34%	32%	15%	0.4%
2012	19%	38%	32%	11%	0.4%
2013	21%	42%	27%	10%	0.1%
2014	14%	44%	28%	14%	0.3%
2015	8%	41%	37%	14%	0.7%
2016	6%	23%	53%	18%	1.3%
2017	10%	19%	46%	25%	1.2%
2018	21%	18%	34%	27%	2.1%
2019	17%	24%	32%	27%	2.2%
2020	15%	30%	29%	26%	1.2%
2021	35%	31%	22%	12%	1.2%
2022	27%	37%	23%	13%	0.9%
2023	12%	49%	27%	12%	0.7%
2024	12%	37%	41%	10%	0.6%
2025	10%	40%	40%	10%	0.4%

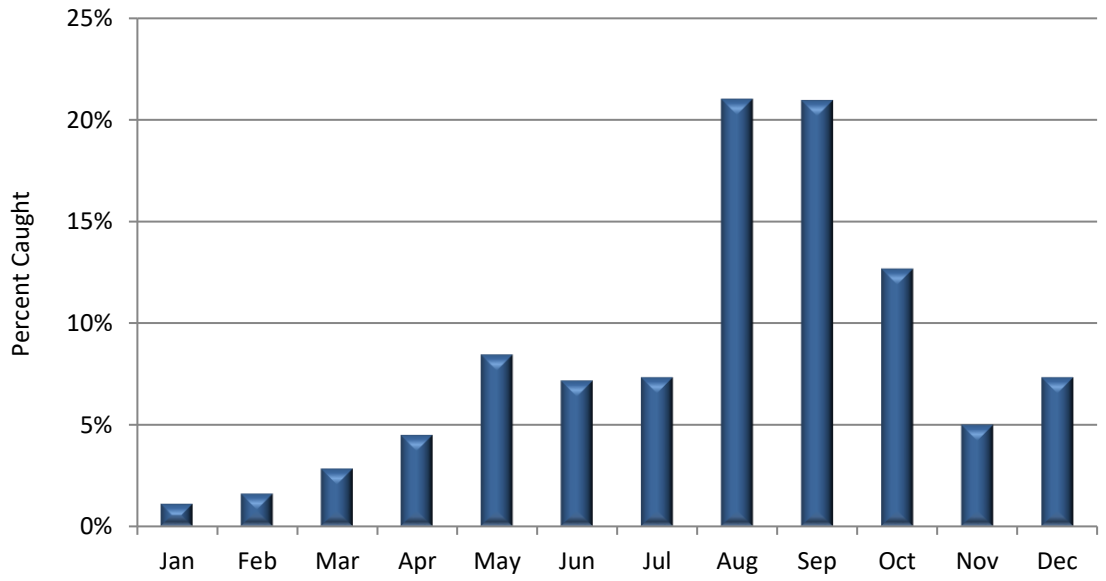


Figure 1. Percent of the annual catch of striped bass, by month, for Smith Mountain Lake. Data collected from angler diaries in 2025 but only includes fish caught ≥ 20 inches.

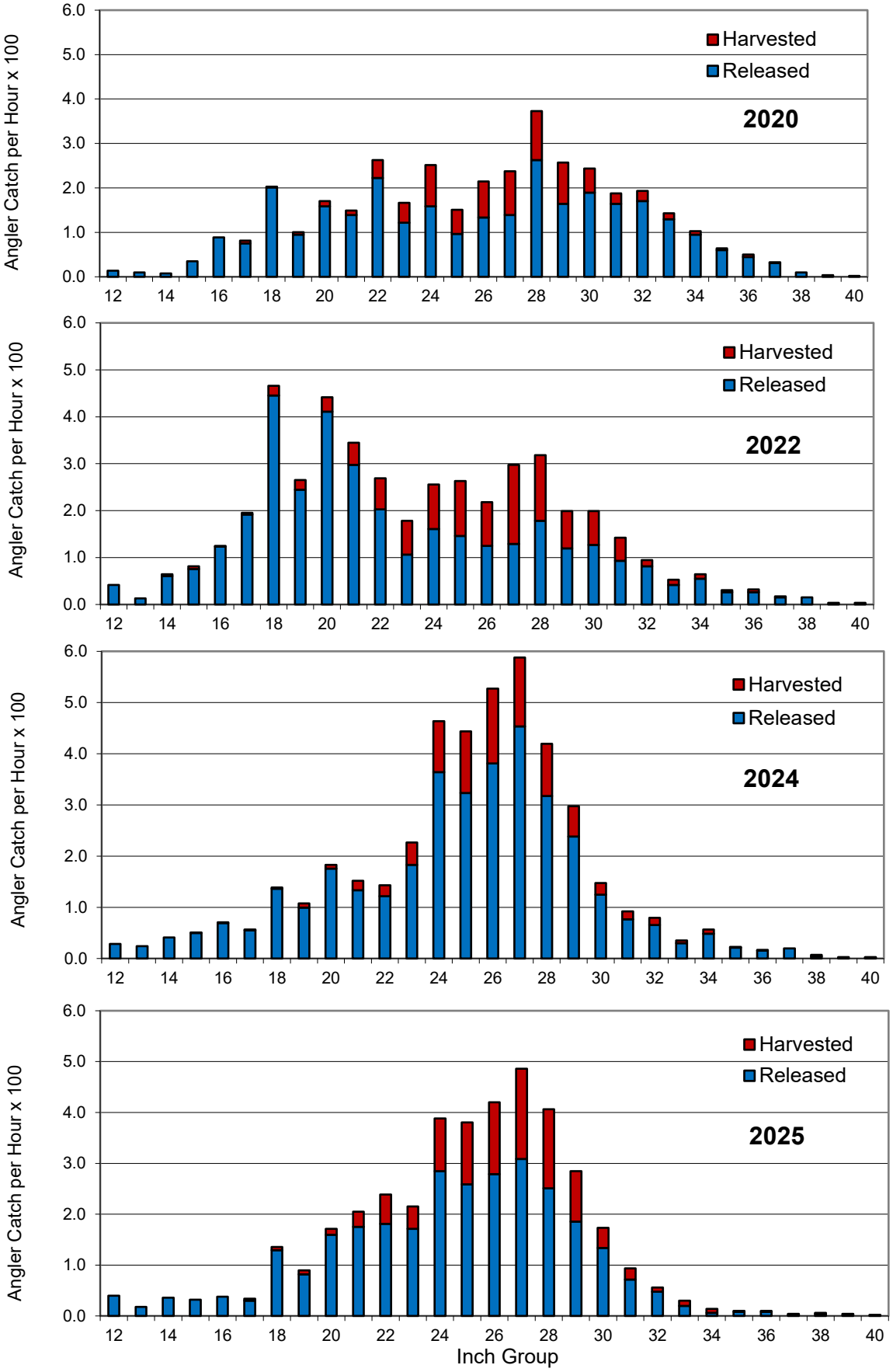


Figure 2. Vertical bars represent average angler catch rate of striped bass for each inch group caught Jan-Dec. Data from Smith Mountain Lake angler diaries in 2020, 2022, 2024, and 2025.

Table 4. Smith Mountain Lake striped bass stocking numbers, estimated survival of striped bass the first year (collected at age 1½), and average sizes stocked. Additional fry were stocked in 2020 but not included in "# stocked", fry typically have very poor survival and should not have contributed much to the population.

Year Stocked	# Stocked	Estimated Survival	Av. Size Stocked
2012	350,658	Good	1.4"
2013	351,219	Fair	1.3"
2014	300,338	Fair	1.0"
2015	348,121	Poor	1.2"
2016	317,268	Poor	1.3"
2017	448,136	Excellent	1.2"
2018	390,823	Fair	1.5"
2019	313,591	Good	1.5"
2020	411,312	Good	1.1"
2021	283,556	Fair	1.3"
2022	300,287	Good	1.2"
2023	232,801	Excellent	1.1"
2024	306,871	Poor	1.2"
2025	250,553	NA	1.5"

Table 5. Smith Mountain Lake striped bass catch data (fish/net) collected from DWR fall gill nets for ages ½ - 2½, and for all ages.

Sample Year	Catch/Net Age ½	Catch/Net Age 1½	Catch/Net Age 2½	All Ages Catch/Net
2012	2.3	19.2	3.8	26.2
2014	0.1	10.1	3.3	15.5
2015	0.1	8.6	3.0	16.1
2016	0.9	5.9	1.8	10.8
2017	2.2	5.3	0.3	9.3
2018	1.0	23.4	2.3	27.8
2019	1.1	9.2	2.3	13.3
2020	10.9	14.6	2.5	29.0
2021	2.0	18.7	3.3	24.7
2022	4.1	7.1	5.8	18.0
2023	5.1	13.6	1.6	23.4
2024	5.2	14.5	2.4	23.3
2025	1.6	4.7	1.1	8.4
Av. 12-24	2.9	12.4	2.7	19.0

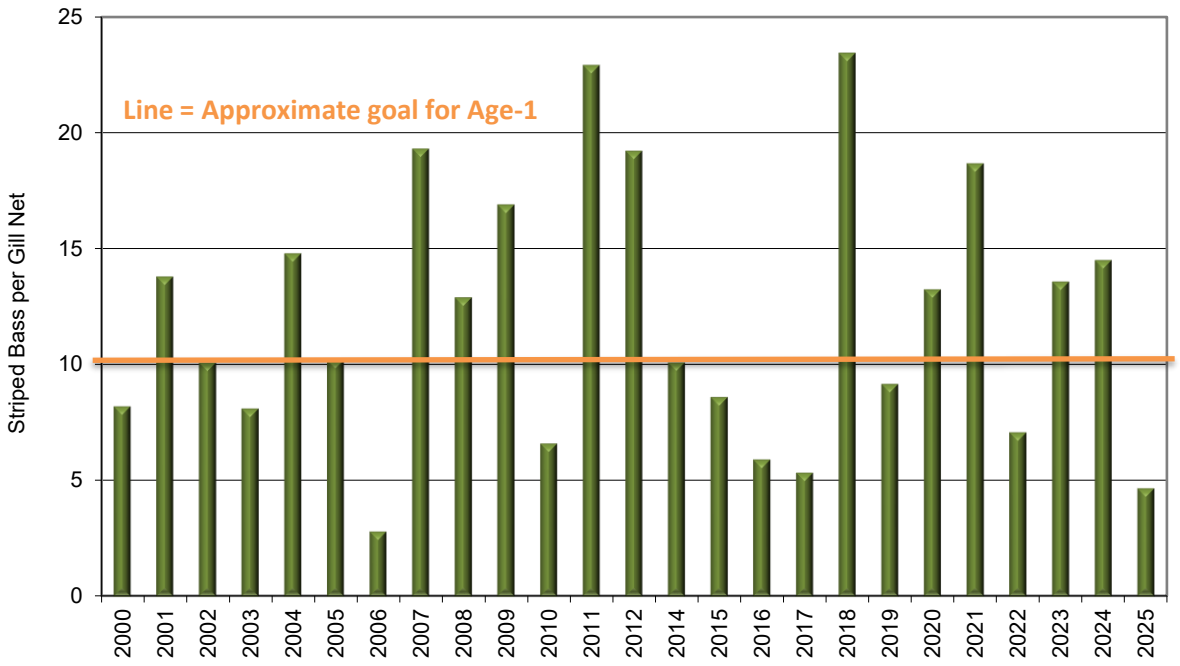


Figure 3. Annual gill net catch rates for Smith Mountain Lake 1½ year old striped bass. DWR gill net sampling utilizes nets that target age-1½ striped bass to determine success of stocking the previous year. The orange line is the approximate goal for 1½ year old striped bass collected in gill nets.

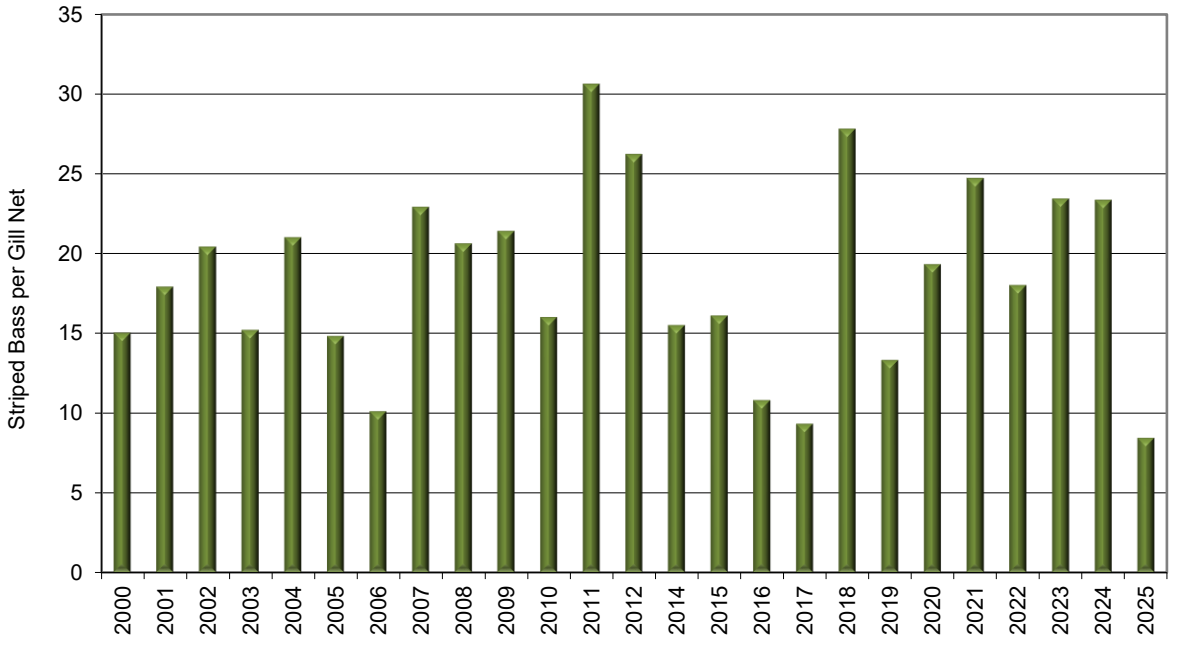


Figure 4. Annual striped bass catch rates for all striped bass collected during DWR Smith Mountain Lake gill net sampling. Most years, over 80% of the striped bass collected in gill nets are ages 1½ and 2½. Angler Diaries provide a representation of the entire population size structure (Figure 2).

Table 6. Striped bass average length data collected from DWR gill nets at Smith Mountain Lake.

Year	Age 1½	Age 2½	Age 3½
2010	17.0	20.5	23.4
2011	17.0	20.7	23.6
2012	17.2	20.9	23.4
2014	16.7	20.5	23.6
2015	16.5	21.3	24.2
2016	17.1	21.5	24.7
2017	17.1	22.4	24.6
2018	17.0	21.3	25.6
2019	17.0	20.7	24.0
2020	16.4	21.3	23.6
2021	16.6	20.5	23.5
2022	17.2	20.6	22.9
2023	16.8	21.5	23.5
2024	17.3	20.9	22.9
2025	16.7	21.5	23.7
Goal	17.0	21.0	24.5

Table 7. Striped bass average lengths collected from DWR gill nets (ages 1½-3½) and anglers (ages ≥ 4) at Smith Mountain Lake. The "Goal" is good striped bass growth rates based on historical SML data.

Year	Age 1½	Age 2½	Age 3½	Age 4	Age 5	Age 6	Age 7
12-14	17.0	20.7	23.5	25.2	26.4	27.6	28.5
15-17	16.9	21.7	24.5	26.3	27.3	27.4	29.0
18-20	16.8	21.1	24.5	26.7	28.5	29.1	30.1
2021	16.6	20.5	23.5	26.0	28.4	30.2	29.2
2022	17.2	20.6	22.9	25.8	27.6	28.6	29.4
2023	16.8	21.5	23.5	25.4	27.5	28.2	29.8
2024	17.3	20.9	22.9	25.9	26.8	27.4	28.3
2025	16.7	21.5	23.7	26.0	27.1	28.0	28.2
Goal	17.0	21.5	24.5	27.0	29.0	30.5	32.0

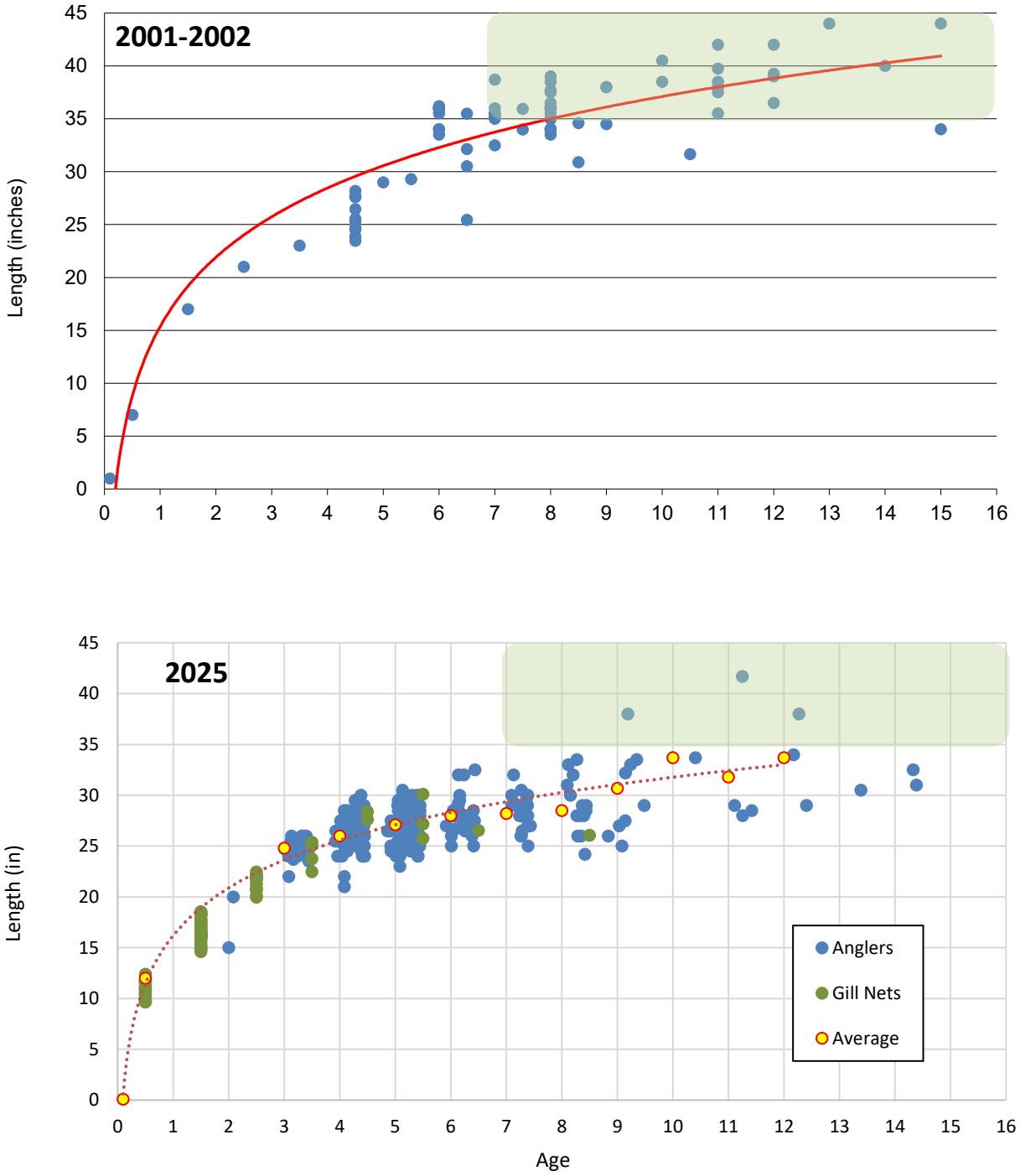


Figure 5. Smith Mountain Lake striped bass age and length data collected from anglers and DWR fall gill nets for 2001-2002 and 2025. Data collected in 2001-2002 represents good growth and how stripers at SML should grow. You may notice a fair amount of difference at each age within the same year; some grow faster or slower than average (dashed red line). The green shaded area highlights where most striped bass should be after reaching age 7, if experiencing good growth throughout their lifetime.

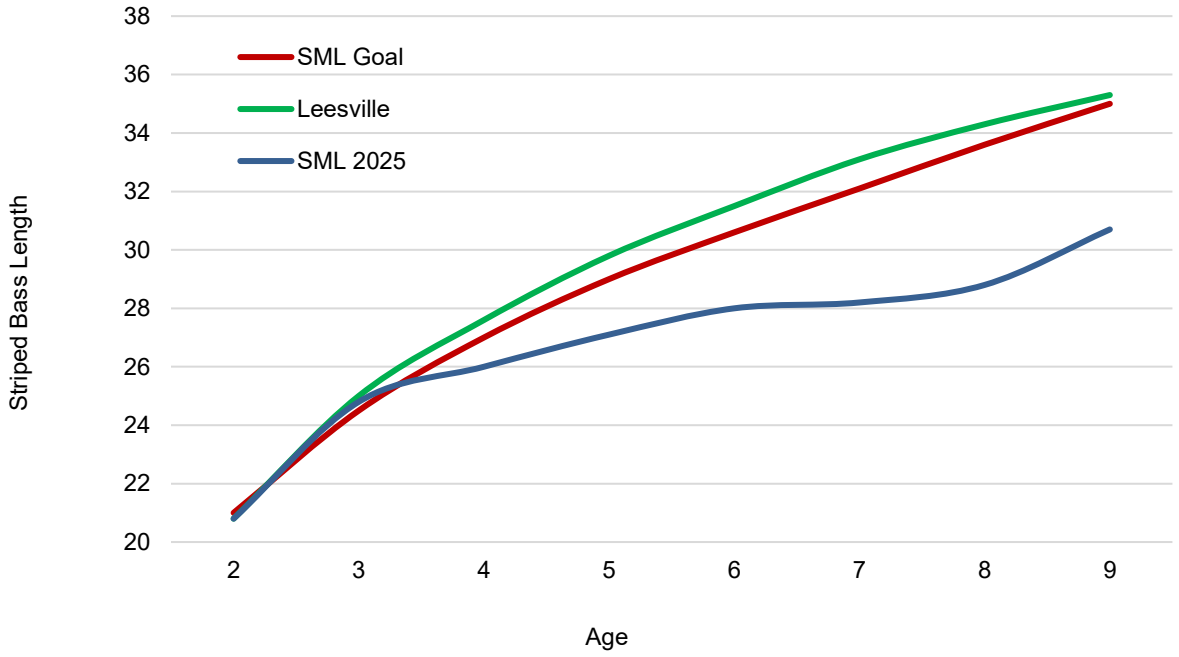


Figure 6. Smith Mountain Lake striped bass growth goal, Leesville Lake long term average, and Smith Mountain Lake 2025 average. The goal line is based on historical growth rates at Smith Mountain Lake.

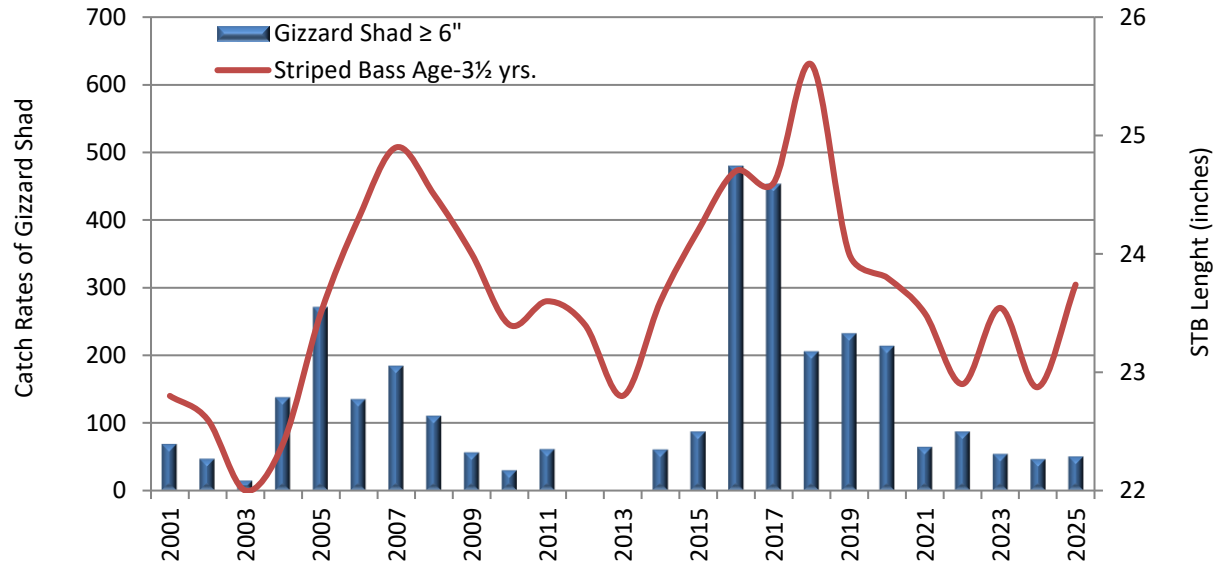


Figure 7. Smith Mountain Lake adult gizzard shad (≥ 6") data and average growth of 3½ year old striped bass. Gizzard shad data is reported as the number of adults (≥ 6") caught per hour of sampling. No shad sampling was conducted in 2012 and 2013.

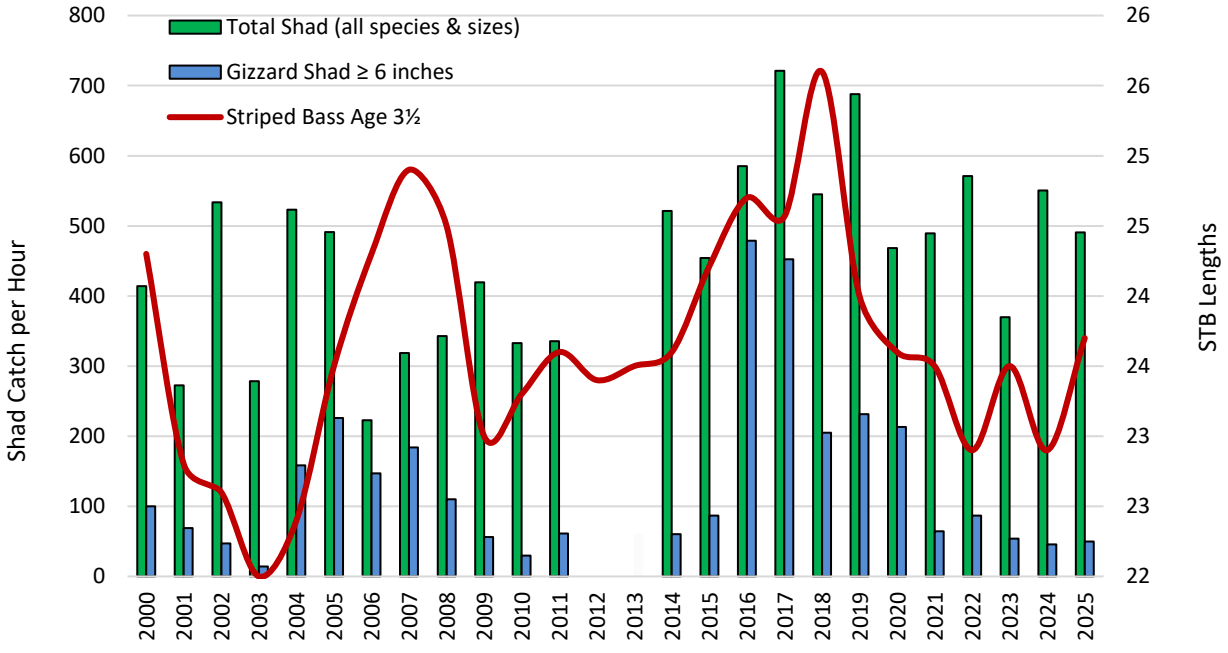


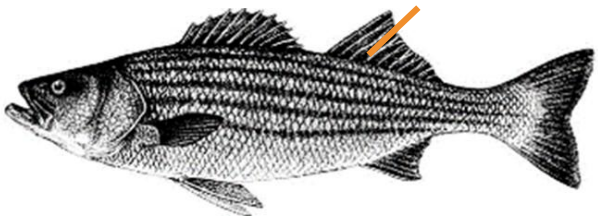
Figure 8. Smith Mountain Lake shad catch rates of adult gizzard shad (≥ 6"), all shad species and sizes combined (gizzard shad, threadfin shad), and average growth of 3½ year old striped bass. No shad sampling was conducted in 2012 and 2013.

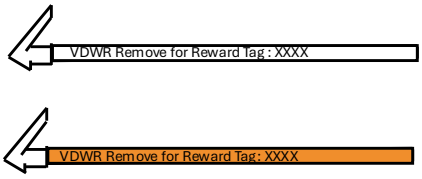
$$$$ Reward $$$$

Virginia Department of Wildlife Resources and Coastal Carolina University are currently conducting a Striped Bass Tagging study.

Rewards: Orange Tags= $25 each & White Tags= $150

Fish with orange tags will have 1 or 2 tags. Please remove all tags.





Tags MUST be returned for reward

Mail tags to address printed on tag or drop off at the following locations:

Captains Quarters
SML Tackleshack
VA DWR Forest office

Information needed with tag:

1. **Name and address**
2. **Fish harvested or released (most vital)**
3. **Date caught**
4. **Fish length**
5. **Caught with live or artificial bait**
6. **Nearest marker # (example R28, B12)**

For more information, please contact Dan Wilson (Dan.Wilson@dwr.virginia.gov)

Thank you for your assistance!
Tag reports are vital to study success .

Funding and support provided by: