STATE OF CONNECTICUT
DEPARTMENT OF ENVIRONMENTAL PROTECTION

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Bureau of Natural Resources
Marine Fisheries Division
www.ct.gov/dep/fishing

A STUDY OF MARINE RECREATIONAL FISHERIES IN CONNECTICUT

Federal Aid in Sport Fish Restoration
F-54-R-30 Annual Performance Report
March 1, 2010 – February 28, 2011

State of Connecticut
Department of Environmental Protection
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Federal Aid in Sport Fish Restoration
F-54-R-30
Annual Performance Report

Project Title: ***A Study of Marine Recreational Fisheries in Connecticut***

Period Covered: March 1, 2010 - February 28, 2011

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Date: June 30, 2011

Cover photo taken at a Connecticut River American shad (*Alosa sapidissima*) juvenile seine survey site in East Haddam.

JOB 1: MARINE ANGLER SURVEY

Part 1: Marine Recreational Fishery Statistics Survey

Part 2: Volunteer Angler Survey

PART 1: MARINE RECREATIONAL FISHERY STATISTICS SURVEY

TABLE OF CONTENTS

PART 1: MARINE RECREATIONAL FISHERY STATISTICS SURVEY

LIST OF TABLES

JOB 1: MARINE ANGLER SURVEY
PART 1: MARINE RECREATIONAL FISHERY STATISTICS SURVEY

GOAL

To provide long term monitoring of marine recreational fishing activity including angler participation and catch statistics in a manner that is comparable to other Atlantic coastal states.

OBJECTIVES

Provide estimates of:

1) *Number of marine anglers in Connecticut each year.*

2) *Total effort (trips) expended by anglers in Connecticut each year.*

3) *Total catch (numbers of fish kept and released fish) and harvest (numbers and the weight of kept fish) of the most commonly sought species: bluefish, scup, winter flounder, summer flounder, tautog, and striped bass.*

4) *Length-frequency of harvested bluefish, scup, winter flounder, summer flounder, tautog, and striped bass.*

INTRODUCTION

The Connecticut Department of Environmental Protection (DEP), Bureau of Natural Resources, Marine Fisheries Division, has been collecting marine recreational fisheries information along the Connecticut coastline since 1979. However, in order to improve state-wide marine fisheries statistics and become more consistent with other states, Connecticut joined with the MRFSS program in July, 1987. Before Connecticut's involvement in the MRFSS, data collection was conducted by NMFS's contractor just as in other states where state agencies do not participate in the program.

METHODS

The MRFSS is based on two complementary surveys: A random telephone survey of households, and an intercept survey of anglers at fishing sites (NMFS 1992). MRFSS utilized a contractor to conduct the telephone survey to calculate total angler participation and trip estimates. Connecticut performed the angler intercept survey (angler interviews) in order to collect angler catch and effort data, biological data, and socioeconomic and demographic information.

The MRFSS's primary objectives are (1) to provide a collection of accurate and representative data on the marine recreational fishery and (2) to produce accurate and precise regional (e.g. ME-CT) catch estimates which can be used by fishery managers to assess the impacts of recreational fishing on finfish stocks. In order to produce estimates with adequate precision at the state level (where proportional Standard Error (PSE) $\leq$20%, a modified version of Coefficient of Variation = S.E./Mean *100), the MRFSS initial intercept quota was tripled for Connecticut. Telephone and Intercept Surveys are collected in bimonthly time periods (termed Waves) and further broken down by mode in the Intercept Survey. The three principal modes of marine recreational fishing include shore mode (anglers fishing from beach and bank or manmade structure), private/rental boat mode (anglers fishing from a privately owned or rental boats), and charter boat and headboat modes where anglers pay a captain/vessel for hire to fish.

In 2001, NMFS base allocations for the Northeast and Mid-Atlantic sub-regions were increased 1.5 times in order to increase effort and catch precision estimates for those areas. The increase was accomplished through a grant proposal submitted by the Atlantic Coastal Cooperative Statistics Program (ACCSP) Recreational Statistics Technical Committee and later approved by the ACCSP Coordinating Council. ACCSP is comprised of fifteen Atlantic coastal states and two federal agencies, which oversee and administer the collection of commercial and recreational fishery statistics. ACCSP provided funding for the additional intercept sampling as described in Table 1.1. However since state participation in 1987, Connecticut had already tripled NMFS Intercept Survey allocation and provided funding for those increases. ACCSP's involvement basically reduces Connecticut's expenditure toward processing additional intercepts by NMFS' contractor. Wave 1 is not sampled in Connecticut or any states in the Mid Atlantic (NY-VA) and Northeast (ME-CT) sub-regions due to low fishing activity (NMFS 1992).

In addition, the sampling methodology of the headboat and charter boat modes was modified beginning in Wave 4 (July-August) 2003 in order to improve catch and trip estimates. The new changes in the survey (termed "the For-Hire Survey") called upon each state to provide and update a comprehensive list of current headboat and charter boat vessels and operators. This list provided a sampling frame where ten percent of for-hire vessel operators would be randomly selected to be contacted by telephone to report their fishing trip effort (angler trips) for a given two week period. Coupled with the telephone survey, pre-validation of vessels was performed where vessels were randomly selected and checked to determine if the vessel was out fishing or not. The same list would generate intercept assignments by wave. For-hire intercept assignments were split by vessel type (charter - 6 or less passengers) and headboats (more than 6) since sampling methods differ. Anglers fishing in the charter boat fishery were interviewed at dockside where headboat anglers were interviewed on board while at sea. Dockside sampling of charter boat anglers was selected because of the six passenger limitation. At sea sampling was selected to increase the number of length and weight measurements on creeled fish in addition to length measurements on discarded fish. Intercept collection quotas for the headboat mode were set by the number of trips (based on 2 samplers/trip). All other modes were allocated by the number of intercepts.

Table 1.1: MRFSS + ACCSP and State Angler Intercept and Headboat Trip Allocation by Mode and Wave, 2010

NMFS+ACCSP	Wave 2	Wave 3	Wave 4	Wave 5	Wave 6	
Mode	**Mar-Apr**	**May-Jun**	**Jul-Aug**	**Sep-Oct**	**Nov-Dec**	**Total (%)**
Shore (SH)	**47**	**62**	**75**	**64**	**40**	**288 (25%)**
Charter Boat (CH)	**0**	**49**	**50**	**48**	**45**	**192 (17%)**
Private/Rental Boat (PR)	**48**	**106**	**280**	**158**	**61**	**653 (58%)**
Headboat Trips (HB) (based on 2 samplers/trip)	**0**	**12**	**16**	**12**	**0**	**40 Trips**
Total Number of Intercepts (SH, CH, PR)	**95**	**217**	**405**	**270**	**146**	**1,133**

MRFSS Estimation Methods

MRFSS estimation methods used to compute catch and effort statistics were based on the following criteria: (1) improved guidelines for recording proxy data in lieu of missing data, (2) imputation for missing data, (3) telephone survey sample weighting, and (4) cleanup of historical intercept data (NMFS 1994). In cases where gaps or insufficient data occurs, proxy data (information obtained in the Telephone Survey from someone in a fishing household other than the angler) were used to fill voids in the database. In addition, catch and effort statistics for 1979-80 were omitted because of inadequate information (missing files that contained non-fishing household sample size information).

Angler participation and fishing trip estimates were derived primarily from the Telephone Survey and, in special situations, the Intercept Survey (NMFS 1992). In the Telephone Survey, households with telephones located in coastal counties or within 50 miles of the coastline were randomly selected and called to determine if a household fell into either of two categories: (1) households that comprised one or more marine recreational anglers and (2) non-fishing households. Households with anglers were further surveyed in order to collect fishing trip information used in estimating total fishing trips and angler participation. In situations where anglers did not possess a telephone (or live in a household), Intercept Survey data were used in order to account for that segment of the angling population that would otherwise be missed.

MRFSS Catch Type Categories

Catch estimates were broken down into three categories: Catch Type A, B1 and B2. Catch Type A consisted of catches that were kept by anglers and available for inspection by field interviewers. Catch Type B1 included angler catches that were used for bait, discarded dead, etc., and were not available for inspection, and Catch Type B2 was comprised of fish that were caught and released alive. Total catch estimates consist of Catch Types A+B1+B2. Creeled catch (fish removed from the population) include Catch Type A+B1 only. Catch Types A and B1 were the only catch groups estimated in both numbers and weights. Since Catch Type B1 are

unobserved catches, Catch Type A mean weight estimates were used to expand Catch Type B1 estimates.

RESULTS AND DISCUSSION

Connecticut Intercept Survey 2010

During March-December 2010, a total of 240 assignments were completed and 2,072 interviews (intercepts) with marine anglers were conducted by Marine Fisheries Division staff for the MRFSS (Table 1.2). Intercept shortfalls occurred particularly in Waves 2 and 6 for NMFS + ACCSP quotas because of low fishing activity and poor weather conditions. Furthermore, the charter and headboat fishery started sailing weekends in mid to late May and full time in mid June which affected sampling in Wave 3. In Wave 5, windy weather conditions, particularly occurring on weekends, further hampered sampling efforts. In addition, the majority of Connecticut-based headboat/charter businesses and marinas terminate their operations by November 1. However, even with these sampling setbacks where 30% of completed assignment for the year yielded no intercepts, intercept collection totals far exceeded NMFS + ACCSP state annual allocations.

Table 1.2: Total Number of Angler Intercepts Collected by Mode and Headboat Trips Taken by Wave, 2010

	Wave 2	**Wave 3**	**Wave 4**	**Wave 5**	**Wave 6**	
Mode	Mar-Apr	May-Jun	Jul-Aug	Sep-Oct	Nov-Dec	**Total (%)**
Shore (SH)	1	92	144	83	19	339 (16%)
Charter Boat (CH)	0	129	103	98	16	346 (17%)
Private/Rental Boat (PR)	35	269	406	271	71	1,052 (51%)
Headboat Trips (HB) (2 interviewers/trip)*	0 Trip (0 Ints.)	5 Trips (91 Ints.)	8 Trips (167 Ints.)	4 Trips (77 Ints.)	0 Trips (0 Ints.)	16 Trips (335 Ints. 16%)
Total Number of Intercepts	36	581	820	529	106	2,072

* Two other attempts were made to complete headboat assignments, however, due to the lack of passengers the boats did not sail.

MRFSS 2010 Statistics

MRFSS intercept sampling procedures and statistics are continuously updated by NMFS (including the entire time series) and are available on line to the public. Estimates of participants, trip effort, and catch can be queried by region, sub-region, and state by visiting their web site at http://www.st.nmfs.noaa.gov/st1/recreational/queries/index.html. For that reason, this report will not include MRFSS statistics. However, intercept collection information will continue to be reported along with historical accounts of Connecticut's marine recreational fishery regulations (Table 1.3).

Presently, the MRFSS is in a transition phase to improve angler trip and catch estimates through the development of the Marine Recreational Information Program (MRIP). The MRIP

will succeed the MRFSS by implementing new statistical methodologies and collection procedures including a state by state Atlantic coast angler registry. More detailed information concerning MRIP can be located at the following web site: https://www.countmyfish.noaa.gov.

MODIFICATIONS

None.

LITERATURE CITED

NMFS. 1992. Marine recreational fishery statistics survey, Atlantic and Gulf Coasts, 1990-91. Current fishery statistics number 9204:275pp. Silver Spring, MD.

NMFS. 1994. Marine recreational fishery statistics survey. Changes in estimation procedures. mimeo 2pp. Silver Spring, MD.

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Table 1.3 History of Connecticut Marine Recreational Fisheries Regulations for Selected Species

Striped Bass

Effective Date	Minimum Size	Daily Creel Limit	Fishing Season	Closed Season/Area	Other Restrictions
1935	16 in. (fork length)	None.	Year round.	None.	Spearing prohibited.
1953	16 in. (fork length)	None.	Year round.	None.	No sale; spearing prohibited.
Jan 1982	16 in. (fork length)	4 fish between 16 and 24in. No limit >24in.	Year round.	None.	No sale; spearing prohibited.
Aug 1984	24 in. (fork length)	None.	April 1-Dec 14	Dec 15-Mar 31 in all state waters.	No sale; spearing prohibited.
Aug 1985	26 in. (fork length)	None.	April 1-Dec 14	Dec 15-Mar 31 in all state waters.	No sale; spearing prohibited.
Jul 1, 1986- Striped bass fishery closed in all state waters (Moratorium)					
1987	33 in. (total length)	1 fish/angler.	April 1-Dec 14	Dec 15-Mar 31 in all state waters.	No sale; spearing and gaffing prohibited; fish must be landed intact.
April 1, 1989	34 in. (total length)	1 fish/angler.	April 1-Dec 14	Dec 15-Mar 31 in all state waters.	No sale; spearing and gaffing prohibited; fish must be landed intact.
July 1, 1989	36 in. (total length)	1 fish/angler.	April 1-Dec 14	Dec 15-Mar 31 in all state waters.	No sale; spearing and gaffing prohibited; fish must be landed intact.
Jan 1, 1990	38 in. (total length)	1 fish/angler.	April 1-Dec 14	Dec 15-Mar 31 in all state waters.	No sale; spearing and gaffing prohibited; fish must be landed intact.
Sep 1990	36 in. (total length)	1 fish/angler.	April 1-Dec 14	Dec 15-Mar 31 in all state waters.	No sale; spearing and gaffing prohibited; fish must be landed intact.
April 22, 1994	34 in. (total length)	1 fish/angler.	April 1-Dec 14	Dec 15-Mar 31 in all state waters.	No sale; spearing and gaffing prohibited; fish must be landed intact.
1995	28 in. (total length)	2 fish/angler.	April 1-Dec 14	Dec 15-Mar 31 in all state waters.	No sale; spearing and gaffing prohibited; fish must be landed intact.
Jul 29, 1996	28 in. (total length)	2 fish/angler.	Year round.	None.	No sale; spearing and gaffing prohibited; fish must be landed intact.
May 10, 2000	24-30 in. and $\geq$ 40 in (total length) Party/Charter Only-29½ in. (total length)	1 fish/angler per length group. 2 fish/angler.	Year round.	None.	No sale; spearing and gaffing prohibited; fish must be landed intact.
Feb 27, 2001	24-32 in. and $\geq$ 41 in (total length) Party/Charter Only-28 in. (total length)	1 fish/angler per length group. 2 fish/angler.	Year round.	None.	No sale; spearing and gaffing prohibited; fish must be landed intact.
May 15, 2003-Current	28 in. (total length)	2 fish/angler.	Year round.	None.	No sale; spearing and gaffing prohibited; fish must be landed intact.

Bluefish

Effective Date	Minimum Size	Daily Creel Limit	Fishing Season	Closed Season/Area	Other Restrictions
Jan 1, 1991	None	10 fish/angler for fish > 12 in (total length).	Year round.	None.	None.
April 22, 1994-Current	None	10 fish/angler	Year round.	None.	None.

Summer Flounder (Fluke)

Effective Date	Minimum Size	Daily Creel Limit	Fishing Season	Closed Season/Area	Other Restrictions
Jan 1, 1982	14 in. (total length)	None.	Year round.	None.	None.
April 22, 1994	14 in. (total length)	6 fish/angler	May 15-Sep 30.	Oct 1-May 14 in all state waters	On the water fillets must meet minimum length or be accompanied by legal sized rack (carcass).
July 29, 1996	14 in. (total length)	6 fish/angler	Year round.	None.	On the water fillets must meet minimum length or be accompanied by legal sized rack (carcass).
April 24, 1997	14½ in. (total length)	6 fish/angler	Year round.	None.	On the water fillets must meet minimum length or be accompanied by legal sized rack (carcass).
May 5, 1998	15 in. (total length)	6 fish/angler	Year round.	None.	On the water fillets must meet minimum length or be accompanied by legal sized rack (carcass).
Mar 17, 1999	15 in. (total length)	8 fish/angler	May 29-Sep 11.	Sep 12-May 28 in all state waters.	On the water fillets must meet minimum length or be accompanied by legal sized rack (carcass).
May 10, 2000	15½ in. (total length)	8 fish/angler	May 10-Oct 2.	Oct 3-May 9 in all state waters.	On the water fillets must meet minimum length or be accompanied by legal sized rack (carcass).
May 17, 2001	17 in. (total length)	6 fish/angler	Year round.	None.	On the water fillets must meet minimum length or be accompanied by legal sized rack (carcass).
May 27, 2005	17 ½ in. (total length)	6 fish/angler	April 30-Dec 31.	Jan 1-April 29 in all state waters.	On the water fillets must meet minimum length or be accompanied by legal sized rack (carcass).
April 30, 2006	18 in. (total length)	6 fish/angler	April 30-Dec 31.	Jan 1-April 29 in all state waters.	On the water fillets must meet minimum length or be accompanied by legal sized rack (carcass).
April 2, 2007	18 in. (total length)	5 fish/angler	April 30-Sep 5.	Sep 6-April 29 in all state waters.	On the water fillets must meet minimum length or be accompanied by legal sized rack (carcass).
April 5, 2008	19 ½ in. (total length)	5 fish/angler	May 24-Sep 1.	Sep 2-May 25 in all state waters.	On the water fillets must meet minimum length or be accompanied by legal sized rack (carcass).
May 1, 2009	19 ½ in. (total length)	3 fish/angler	June 15-Aug 19.	Aug 20-June 14 in all state waters.	On the water fillets must meet minimum length or be accompanied by legal sized rack (carcass).
April 1, 2010-Current	19 ½ in. (total length)	3 fish/angler	May 15-Aug 25.	Aug 26-May 14 in all state waters.	On the water fillets must meet minimum length or be accompanied by legal sized rack (carcass).

Winter Flounder

Effective Date	Minimum Size	Daily Creel Limit	Fishing Season	Closed Season/Area	Other Restrictions
Jan 1, 1982	8 in. (total length)	None.	Year round.	None.	None.
Jan 1, 1985	10 in. (total length)	None.	Year round.	None.	None.
Aug 19, 1986	10 in. (total length)	None.	Year round except for Niantic River.	Niantic River closed Dec 1-Mar 31	None.
April 22, 1994	11 in. (total length)	8 fish/angler	April 15-Feb 28.	Mar 1-Apr 14 in all state waters.	None.
Oct 1, 1995	12 in. (total length)	8 fish/angler	April 15-Feb 28.	Mar 1-April 14 in all state waters.	None.
Jan 1, 1996	12 in. (total length)	8 fish/angler	Year round.	None.	None.
Aug 1, 2005	12 in. (total length)	10 fish/angler	Apr 1-May 30.	June 1-Mar 31 in all state waters.	None.
Nov 1, 2010-Current	12 in. (total length)	2 fish/angler	Apr 1-May 30.	June 1-Mar 31 in all state waters.	None.

Black Sea Bass

Effective Date	Minimum Size (Excluding tendril or long filament on tail)	Daily Creel Limit	Fishing Season	Closed Season/Area	Other Restrictions
Apr 24, 1997	9 in. (total length)	None.	Year round.	None.	None.
May 5, 1998	10 in. (total length)	20 fish/angler	Year round.	None.	None.
May 17, 2001	11 in. (total length)	25 fish/angler	May 10-Feb 28.	Mar 1-May 9 in all state waters.	None.
June 19, 2002	11½ in. (total length)	25 fish/angler	Year round.	None.	None.
May 15, 2003	12 in. (total length)	25 fish/angler	Jan 1-Sep 1 and Sep 16-Nov 30.	Sep 2-Sep 15 and Dec 1-Dec 31 in all state waters.	None.
August 05, 2004	12 in. (total length)	25 fish/angler	Jan 1-Sep 7 and Sep 22-Nov 30.	Sep 8-Sep 21 and Dec 1-Dec 31 in all state waters.	None.
May 27, 2005	12 in. (total length)	25 fish/angler	Jan 1-Nov 30.	Dec 1-Dec 31.	None.
April 30, 2006	12 in. (total length)	25 fish/angler	Year Round.	None.	None.
May 1, 2009	12 ½ in. (total length)	25 fish/angler	Year Round.	None.	None.
April 1, 2010	12 ½ in. (total length)	25 fish/angler	May 22-Sep 12.	Sep 13-May 21 in all state waters.	None.
June 8, 2010-Current	12 ½ in. (total length)	25 fish/angler	May 22-Oct 11 and Nov 1-Dec 31.	Jan 1-May 21 and Oct 12-Oct 31 in all state waters.	None.

Scup (Porgy)

Effective Date	Minimum Size	Daily Creel Limit	Fishing Season	Closed Season/Area	Other Restrictions
Jan 1, 1982	7 in. (total length)	None.	Year round.	None.	None.
Jan 1, 1985	8 in. (total length)	None.	Year round.	None.	None.
May 10, 2000	8 in. (total length)	50 fish/angler	Year round.	None.	None.
May 10, 2001	9 in. (total length)	25 fish/angler	June 3-Oct 23.	Oct 24-June 2 in all state waters.	None.
June 19, 2002	10 in. (total length)	50 fish/angler	July 13-Sep 25.	Sep 26-July 12 in all state waters.	None.
May 15, 2003	10 in. (total length)	50 fish/angler	May 24-Oct 30.	Oct 31-May 23 in all state waters.	None.
May 24, 2004	10 ½ in. (total length)	20 fish/angler	July 23-Oct 12 and Nov 1-Dec 31.	Jan 1-July 22 and Oct 13-Oct 31 in all state waters.	None.
May 27, 2005	10 ½ in. (total length)	25 fish/angler Party/charter boats *only* – 60 fish/angler	July 1-Oct 31. Sep 1-Oct 31.	Nov 1-June 30 in all state waters.	None.
April 30, 2006	10 ½ in. (total length)	25 fish/angler Party/charter boats *only* – 60 fish/angler	June 1-Oct 31. Sep 1-Oct 31.	Nov 1-May 31 in all state waters.	None.
April 4, 2008 Party/ charter boats	10 ½ in. (total length) 11 in. (total length)	10 fish/angler 10 fish/angler Party/charter boats – 45 fish/angler	June 1-Sep 26. June 12-Aug 31. Sep 1-Oct 15.	Sep 27-May 31 in all state waters. Oct 16-June 13 in all state waters.	None.
May 1, 2009 Party/ charter boats	10 ½ in. (total length) 11 in. (total length)	10 fish/angler 10 fish/angler Party/charter boats – 45 fish/angler	May 24-Sep 26. June 12-Aug 31. Sep 1-Oct 15.	Sep 27-May 23 in all state waters. Oct 16-June 11 in all state waters.	None.
April 1, 2010-Current Party/ charter boats	10 ½ in. (total length) 11 in. (total length)	10 fish/angler 10 fish/angler Party/charter boats – 40 fish/angler	May 24-Sep 26. June 8-Sep 6. Sep 7-Oct 11.	Sep 27-May 23 in all state waters. Oct 12-June 7 in all state waters.	None.

Tautog (Blackfish)

Effective Date	Minimum Size	Daily Creel Limit	Fishing Season	Closed Season/Area	Other Restrictions
Sep 19, 1987	12 in. (total length)	None.	Year round.	None.	None.
May 19, 1995	14 in. (total length)	None.	Year round.	None.	None.
July 29, 1996	14 in. (total length)	4 fish/angler	June 15-Apr 30.	May 1-June 14 in all state waters.	None.
May 15, 2003	14 in. (total length)	4 fish/angler	Jan 1-Apr 30 and Jun 15-Nov 23.	May 1-June 14 and Nov 24-Dec 31 in all state waters.	None.
Feb 27, 2004	14 in. (total length)	4 fish/angler	Jan 1-April 30, June 15-Sep 7 and Sep 22 –Dec 13.	May 1-June 14, Sep 8 – Sep 21 and Dec 14-Dec 31 in all state waters.	None.
Jan 4, 2008-Current	14 in. (total length)	4 fish/angler	Jan 1-April 30.	May 1-Jun 30 31 in all state waters..	None.
		2 fish/angler	July 1-Aug 31.	Sep 1–Sep 30 in all state waters.	
		4 fish/angler	Oct 1- Sep Dec 6.	Dec 7-Dec 31 in all state waters.	

Weakfish

Effective Date	Minimum Size	Daily Creel Limit	Fishing Season	Closed Season/Area	Other Restrictions
Jan 1, 1995	16 in. (total length)	None.	Year round.	None.	None.
April 1, 2003	16 in. (total length)	10 fish/angler	Year round.	None.	None.
Oct 29, 2007	16 in. (total length)	6 fish/angler	Year round.	None.	None.
April 1, 2010 Current	16 in. (total length)	1 fish/angler	Year round.	None.	None.

Hickory Shad

Effective Date	Minimum Size	Daily Creel Limit	Fishing Season	Closed Season/Area	Other Restrictions
Mar 17, 1999-Current	None.	6 fish/angler, or in aggregate with American shad.	Year round.	None.	None.

White Perch

Effective Date	Minimum Size	Daily Creel Limit	Fishing Season	Closed Season/Area	Other Restrictions
April 1, 2003-Current	7 in. (total length)	30fish/angler.	Year round.	See Other Restrictions.	Only for Long Island Sound and Tidal Rivers and Streams.

American Eel

Effective Date	Minimum Size	Daily Creel Limit	Fishing Season	Closed Season/Area	Other Restrictions
May 10, 2000-Current	6 in. (total length)	50 fish/angler	Year round.	None.	None.

Coastal Sharks (Smooth Dogfish and Sandbar Shark (Brown Shark))

Effective Date	Minimum Size	Daily Creel Limit	Fishing Season	Closed Season/Area	Other Restrictions
Feb 2, 2010-Current	Not applicable.	Prohibited to possess or land.	None.	Year round in all state waters.	None.

Gear Restrictions

1935-Current	Striped bass may be taken by hook and line method only.
April 1994 - Current	Clarification that spearing is allowed (except for striped bass) as a recreational activity only and must abide all recreational fishing regulations.

PART 2: VOLUNTEER ANGLER SURVEY

PART 2: VOLUNTEER ANGLER SURVEY

TABLE OF CONTENTS

PART 2: VOLUNTEER ANGLER SURVEY

LIST OF TABLES

LIST OF FIGURES

JOB 1: MARINE ANGLER SURVEY
PART 2: VOLUNTEER ANGLER SURVEY

OBJECTIVES

Provide estimates of:

1) Size composition data on both kept and released bluefish, striped bass other common species.

Anglers participating in the Volunteer Angler Survey measured bluefish, striped bass and other species. Length frequencies of popular species: bluefish, striped bass, summer flounder, winter flounder, scup, tautog and black sea bass are listed in Tables 1.1A - 1.7A.

2) Catch frequency (trips catching 0,1,2,...fish) data on both kept and discarded fish.

Catch frequency data and percent distribution on both kept and released for popular species are listed in Tables 1.1A-1.2A.

INTRODUCTION

The purpose of the Volunteer Angler Survey (VAS) is to supplement the National Marine Fisheries Service, Marine Recreational Fishery Statistics Survey by providing additional length measurement data particularly concerning fish that are released. In 1994, the VAS program was incorporated into the Marine Angler Survey (Job 1) in order to improve and expand the survey.

The survey's initial objective was to collect marine recreational fishing information concerning finfish species with special emphasis on striped bass. In 1994, the collection of bluefish length measurements was added to the survey to fully understand that fishery. In 1997, length measurement information on other marine finfish was added to the survey. This report primarily consists of data collected in 2010.

METHODS

The VAS is designed to collect trip and catch information from marine recreational (hook and line) anglers who volunteer to record their fishing activities by logbook. The logbook format consists of recording fishing effort, target species, fishing mode (boat and shore), area fished (subdivisions of Long Island Sound and adjacent waters), catch information concerning finfish kept (creeled) and released, and striped bass and bluefish length measurements (Appendix 1.1A). In 1997, the logbook was modified in order to collect length measurement data on other species. Instructions for volunteers were provided on the inside cover of the postage paid logbook. Each participating angler was assigned a personal numeric code for confidentiality purposes. After the logbook data were computer entered, logbooks were returned to each volunteer for their own personal record. For their participation, volunteers were sent a newsletter with updates of survey results. Furthermore, to improve communications with recreational anglers and to encourage

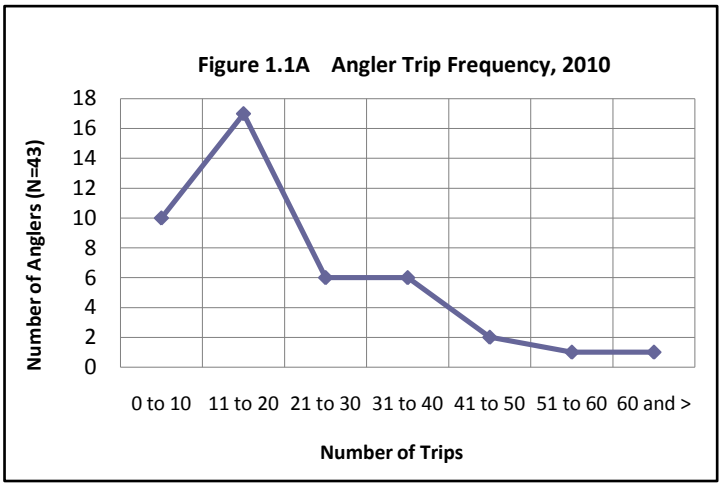
more public input, volunteers were notified of upcoming public hearings including proposed and final changes in recreational fishing regulations.

RESULTS AND DISCUSSION

Over the years the number of participants in the survey ranged from as low as 18 anglers participating in 1979 to a high of 115 anglers in 1997. Advertising the VAS program through the DEP's annually published Connecticut Angler's Guide including the State web site www.ct.gov/dep has helped increase volunteer participation. The guide is distributed to anglers purchasing freshwater licenses in addition to being circulated by bait and tackle shops and other entities.

VAS 2010

In 2010, a total of 43 anglers participated in the survey. Those 43 anglers made 873 fishing trips and measured 5,283 fish. The average number of trips volunteers took was about 20 trips per year and the range in trips was 1 to 62 (Figure 1.1A). Volunteers including additional anglers involved in a fishing party made a total of 1,791 fishing trips (note: targeted trips in the following paragraphs are not additive to the trip total since more than one species may be sought during an angler trip). Boat trips comprised 79% of the total trips taken. The percent of successful trips, where at least one fish of any species was caught, was 89% for boat anglers and 64% for shore anglers. Besides striped bass and bluefish, VAS anglers pursued and caught a wide range of inshore and offshore pelagic species and recorded length measurements on many species. This report contains statistics on species anglers targeted the most and that are under a current fishery management plan (bluefish, striped bass, summer flounder, scup, winter flounder, tautog, and black sea bass). Please refer to tables 1.1A-1.7A for length frequency distribution tables and catch trip frequency distributions for kept and discarded (released) fish are listed in tables 1.8A-1.9A.



Bluefish

VAS participants made 752 targeted bluefish trips (boat and shore modes combined) and recorded a total of 1,003 adult bluefish caught (bluefish >12 inches). Of the total number of targeted trips, only 19% were unsuccessful. The overall catch including trips not targeting bluefish was 1,189 fish. Of the overall catch, anglers measured 853 adult bluefish (85%) and released about 74%. The 50th percentile length measurement for bluefish was approximately 23.5 inches (total length). The targeted catch-per-unit-of-effort (CPUE) was 1.3 and 0.3 fish per angler trip for total and creeled catches.

Striped bass

Volunteers made 1,150 trips targeting striped bass and caught a total of 1,179 fish (overall catch including trips not targeting striped bass was 1,201 fish). About 22% or 253 trips targeting striped bass were unsuccessful. Of the overall catch, about 86% of the catch was released. VAS anglers measured 800 striped bass (67% of the overall catch). Legal size striped bass ($\geq$ 28 inches) comprised about 41% of the measured catch. The percent of legal size striped bass released was estimated at 62%. The 50th percentile length measurement for striped bass was about 26.5 inches. Striped bass ranged in length from as small as 9 inches to 54 inches. Targeted CPUE was 1.0 and 0.1 fish per angler trip for total and creeled catches.

Summer flounder

A total of 502 fishing trips were directed toward catching 1,780 summer flounder. Only 5% of the trips targeting summer flounder were unsuccessful. The overall catch was 1,826 fish. Volunteers measured 1,204 fish or about 66% of the overall catch. Approximately 76% of the overall catch was released. About 22% of the measured catch was comprised of legal size summer flounder (19.5 inches or greater). VAS anglers released 11% of legal size summer flounder. The 50th percentile length measurement for summer flounder was about 16.75 inches. Length measurements ranged from 7 to 29.5 inches. Summer flounder targeted CPUE was 3.6 and 0.9 fish per angler trip for total and creeled catches.

Winter flounder

Volunteers made 44 trips that targeted winter flounder. These targeted trips produced just 31 fish. The overall catch including non-targeted trips was 32 winter flounder. Of the total trips targeting winter flounder, 37% of the trips were unsuccessful. Of the overall catch, 31 fish (97%) of winter flounder were measured. Anglers released about 63% of the overall catch and 74% of the measured catch were of legal size (12 inches and greater). Anglers released 48% of legal sized fish, however, the daily creel limit for winter flounder was only 2 fish per person. The 50th percentile length measurement for winter flounder was about 13.5 inches. Length measurements ranged from 8 to 19 inches. Winter flounder targeted CPUE was 0.7 and 0.3 fish per angler trip for total and creeled catches.

Scup

Volunteers made 164 targeted trips for scup producing a total of 1,102 fish. Of the total trips targeting scup, less than 1% of the trips were unsuccessful. The overall total catch was 1,629 fish. Volunteers measured about 80% (1,310 fish) of the overall total catch. Of the overall total catch, 66% were released. Legal sized fish (10.5 inches and greater) comprised 62% of the measured catch. The proportion of legal sized fish released by anglers was approximately 47%. The 50th percentile length measurement for scup was about 11 inches. Length measurements ranged from as little as 6.5 inches to 22 inches. Scup targeted CPUE was 6.7 and 2.6 fish per angler trip for total and creeled catches.

Tautog

VAS anglers made 156 trips that targeted tautog and caught a total of 528 fish. Of the total trips targeting tautog, 15% of the trips were unsuccessful. The overall total catch was 543 fish and 64% was released. Volunteers measured 409 tautog or about 75% of the overall total catch. About 64% of the measured catch was comprised of legal size fish (14 inches or greater). Of the legal size measured catch, approximately 31% were released. The 50th percentile length measurement for tautog was about 14.5 inches. Length measurements ranged from 7 to 24 inches. Tautog targeted CPUE was 3.4 and 1.2 fish per angler trip for total and creeled catches.

Weakfish

Only 4 trips targeted weakfish, however, none were reported caught.

Black sea bass

VAS angler took 42 trips targeting black sea bass catching 98 fish. However, the overall catch was 320 black sea bass. Of the overall total catch, 64% were released. Volunteers measured 238 fish or 74% of the overall total catch. Of the measured catch, 58% caught were of legal size (12.5 inches and greater). The 50th percentile length measurement for black sea bass was about 12.75 inches and the percent of legal size fish released was 40%. Black sea bass targeted CPUE was 2.3 and 1.4 fish per angler trip for total and creeled catches.

CONCLUSIONS

VAS anglers provide valuable recreational fisheries data at a relatively low cost. In addition, collecting length data on released fish is often difficult or unattainable through conventional intercept surveys. The VAS program provides this information which is essential in assessing the recreational fishery in Connecticut as required by the Atlantic States Marine Fisheries Commission. Any anglers interested in participating in the program can contact Rod MacLeod at 860-434-6043, or e-mail address: rod.macleod@ct.gov or writing to State of Connecticut, DEP, Marine Fisheries Office, P.O. Box 719, Old Lyme CT 06371.

MODIFICATIONS

None.

ACKNOWLEDGMENTS

I am very grateful to all anglers who have participated in the survey. Without their cooperation and assistance, the VAS program would not be possible.

Table 1.1A: Bluefish (12> inches) Length Frequency Distribution, 2010

Total Length (inches)	2010 Measurement Data Bluefish (12>inches) Freq	%Freq	%Cum	Total Length (inches)	Freq	%Freq	%Cum
13	5	0.6	0.6	**27**	29	3.4	69.8
14	19	2.2	2.8	**28**	44	5.2	74.9
15	23	2.7	5.5	**29**	24	2.8	77.7
16	27	3.2	8.7	**30**	43	5.0	82.8
17	14	1.6	10.3	**31**	23	2.7	85.5
18	49	5.7	16.1	**32**	42	4.9	90.4
19	42	4.9	21.0	**33**	22	2.6	93.0
20	59	6.9	27.9	**34**	34	4.0	97.0
21	33	3.9	31.8	**35**	11	1.3	98.3
22	50	5.9	37.6	**36**	12	1.4	99.7
23	51	6.0	43.6	**37**	3	0.4	100.0
24	93	10.9	54.5	**38**	0	0.0	100.0
25	55	6.4	61.0	**Total**	**853**		
26	46	5.4	66.4				

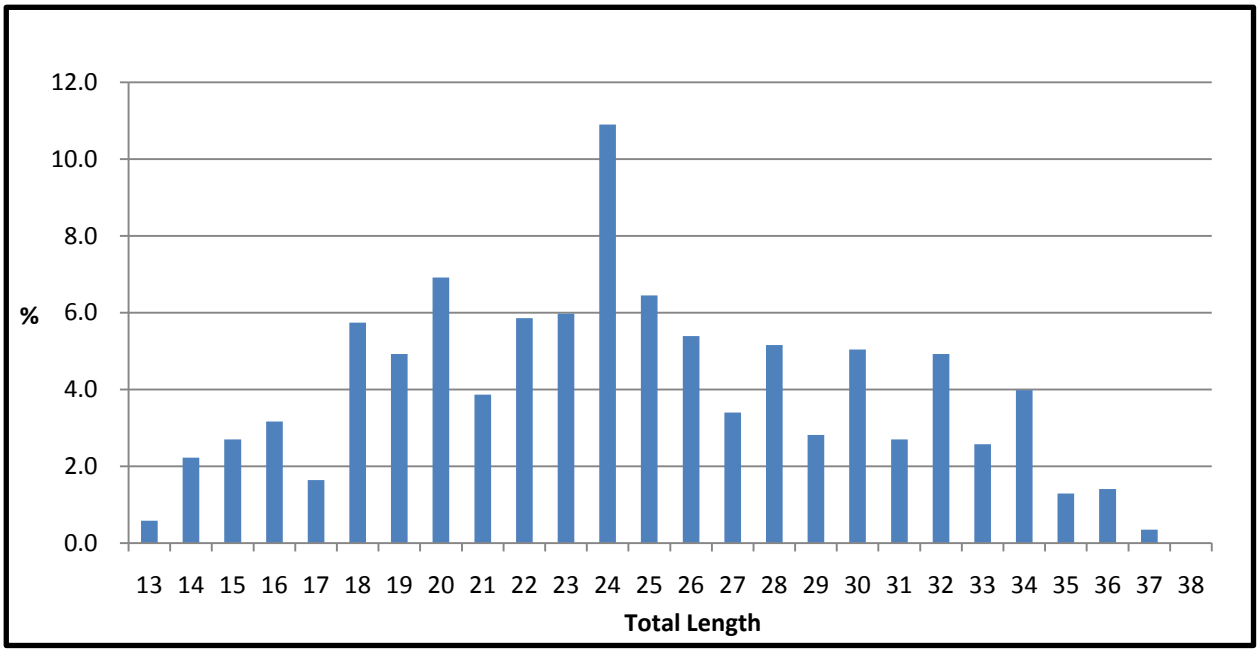


Table 1.2A: Striped Bass Length Frequency Distribution, 2010

Total Length (inches)	2010 Measurement Data Striped Bass Freq	%Freq	%Cum	Total Length (inches)	Freq	%Freq	%Cum
8	0	0.0	0.0	32	23	2.9	83.1
9	1	0.1	0.1	33	20	2.5	85.6
10	0	0.0	0.1	34	40	5.0	90.6
11	0	0.0	0.1	35	12	1.5	92.1
12	8	1.0	1.1	36	7	0.9	93.0
13	5	0.6	1.8	37	10	1.3	94.3
14	11	1.4	3.1	38	4	0.5	94.8
15	16	2.0	5.1	39	7	0.9	95.6
16	25	3.1	8.3	40	5	0.6	96.3
17	8	1.0	9.3	41	3	0.4	96.6
18	25	3.1	12.4	42	3	0.4	97.0
19	6	0.8	13.1	43	4	0.5	97.5
20	28	3.5	16.6	44	5	0.6	98.1
21	9	1.1	17.8	45	4	0.5	98.6
22	34	4.3	22.0	46	4	0.5	99.1
23	29	3.6	25.6	47	2	0.3	99.4
24	49	6.1	31.8	48	1	0.1	99.5
25	45	5.6	37.4	49	0	0.0	99.5
26	78	9.8	47.1	50	2	0.3	99.8
27	73	9.1	56.3	51	0	0.0	99.8
28	51	6.4	62.6	52	0	0.0	99.8
29	58	7.3	69.9	53	1	0.1	99.9
30	58	7.3	77.1	54	1	0.1	100.0
31	25	3.1	80.3	**Total**	**800**		

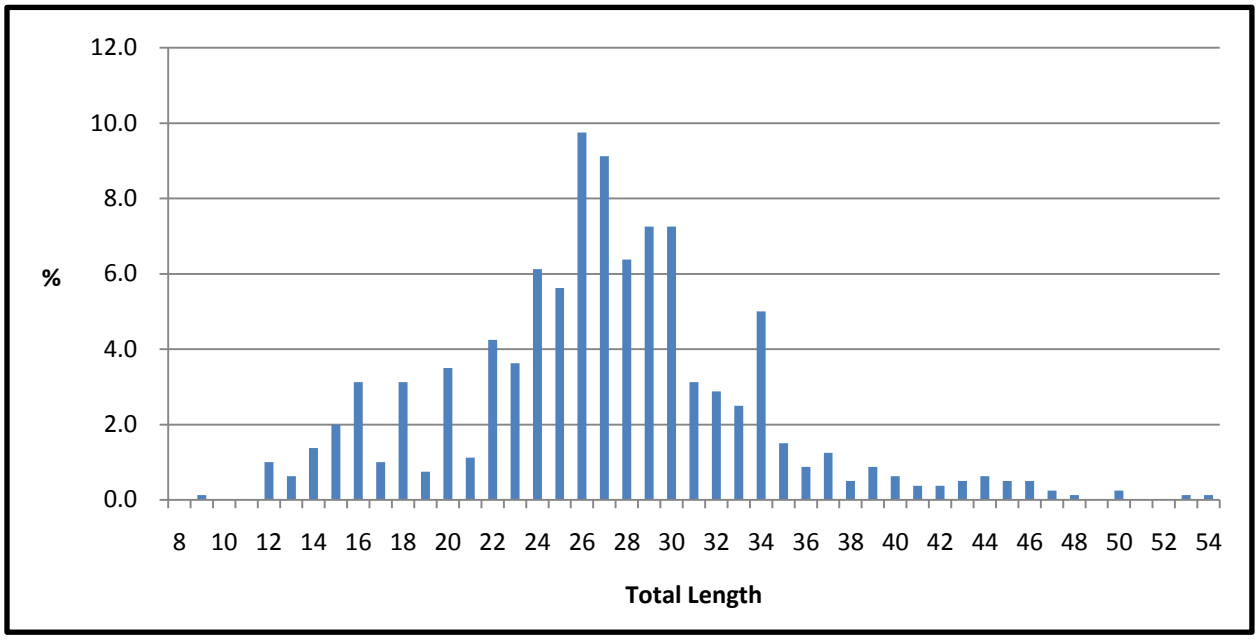


Table 1.3A: Summer Flounder Length Frequency Distribution, 2010

Total Length (inches)	2010 Measurement Data Summer Flounder		
	Freq	%Freq	%Cum
< or = 8	4	0.3	0.3
9	1	0.1	0.4
10	10	0.8	1.2
11	19	1.6	2.8
12	74	6.1	8.9
13	98	8.1	17.1
14	143	11.9	29.0
15	76	6.3	35.3
16	117	9.7	45.0
17	134	11.1	56.1
18	154	12.8	68.9
19	114	9.5	78.4
20	87	7.2	85.6
21	59	4.9	90.5
22	38	3.2	93.7
23	19	1.6	95.2
24	22	1.8	97.1
25	20	1.7	98.7
26	7	0.6	99.3
27	4	0.3	99.6
28	1	0.1	99.7
29	2	0.2	99.9
30	1	0.1	100.0
Total	1,204		

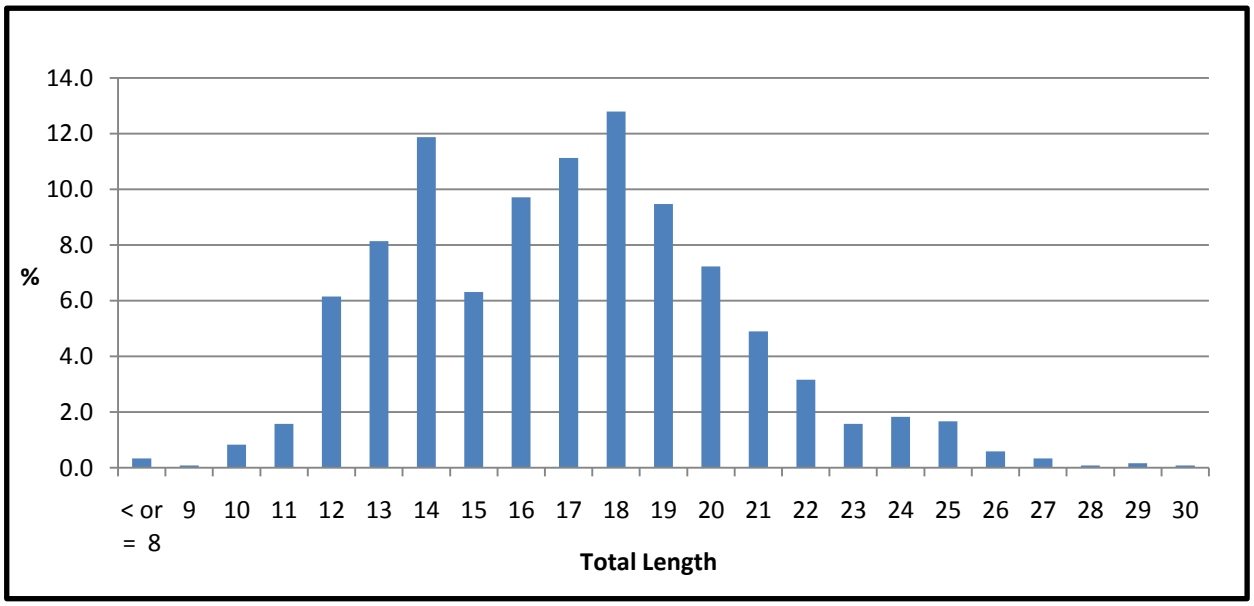


Table 1.4A: Winter Flounder Length Frequency Distribution, 2010

Total Length (inches)	2010 Measurement Data Winter Flounder		
	Freq	%Freq	%Cum
< or = 8	1	3.2	3.2
9	3	9.7	12.9
10	3	9.7	22.6
11	0	0.0	22.6
12	3	9.7	32.2
13	4	12.9	45.1
14	5	16.1	61.3
15	4	12.9	74.2
16	5	16.1	90.3
17	0	0.0	90.3
18	1	3.2	93.5
19	2	6.5	100.0
Total	**31**		

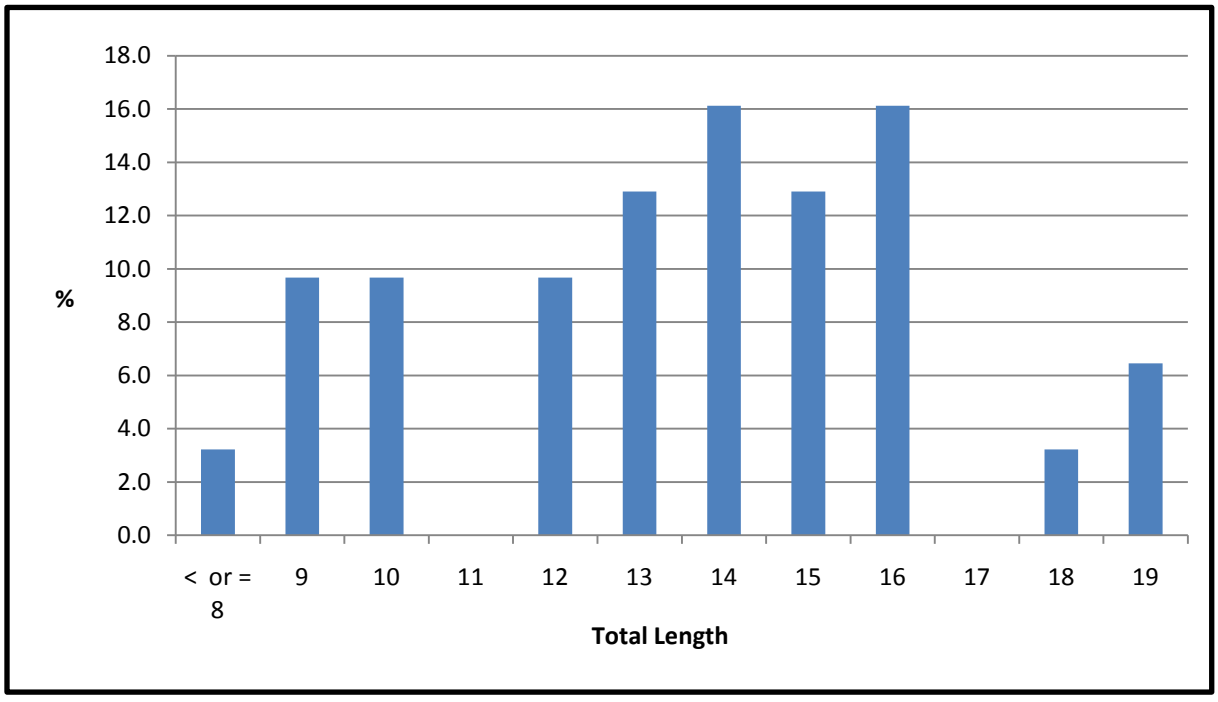


Table 1.5A: Scup Length Frequency Distribution, 2010

Total Length (inches)	2010 Measurement Data Scup		
	Freq	%Freq	%Cum
< or = 4	0	0.0	0.0
5	0	0.0	0.0
6	0	0.0	0.0
7	7	0.5	0.5
8	56	4.3	4.8
9	176	13.4	18.2
10	256	19.5	37.8
11	173	13.2	51.0
12	162	12.4	63.4
13	192	14.7	78.0
14	122	9.3	87.3
15	102	7.8	95.1
16	45	3.4	98.5
17	12	0.9	99.5
18	4	0.3	99.8
19	2	0.2	99.9
20 & >	1	0.1	100.0
Total	1,310		

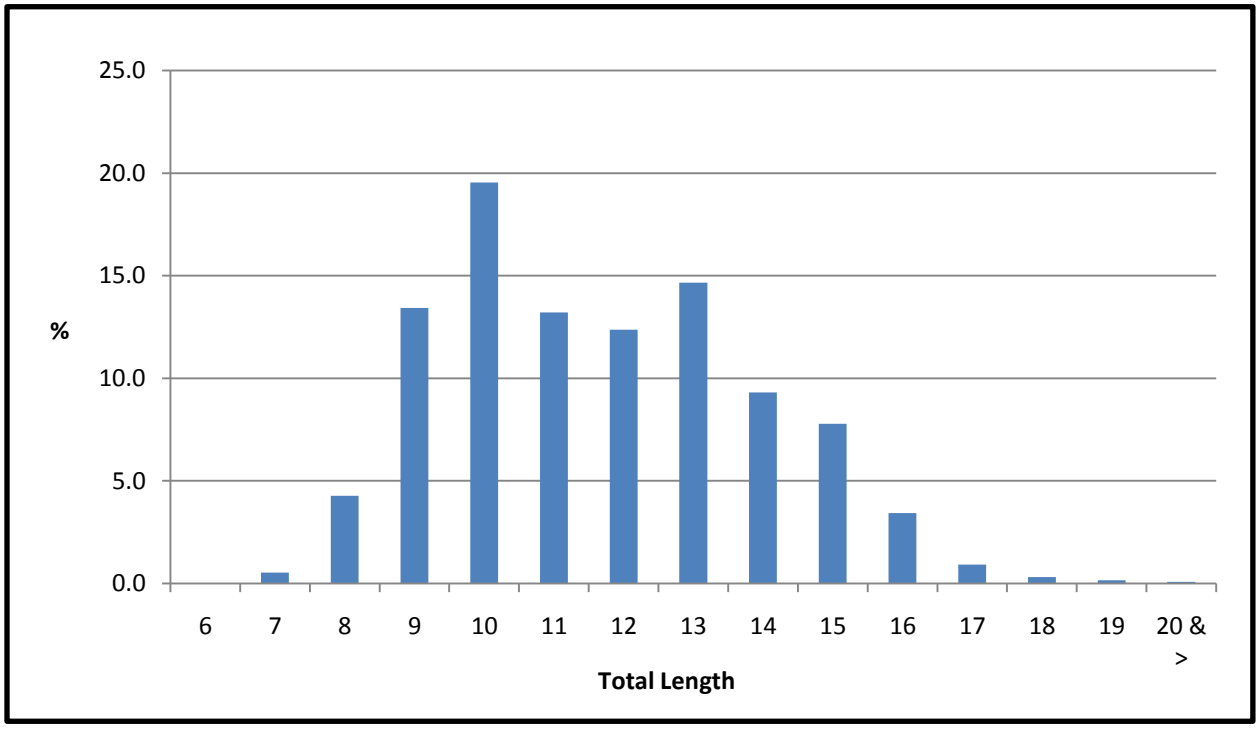


Table 1.6A: Tautog Length Frequency Distribution, 2010

Total Length (inches)	2010 Measurement Data Tautog		
	Freq	%Freq	%Cum
< or = 7	1	0.2	0.2
8	4	1.0	1.2
9	7	1.7	2.9
10	13	3.2	6.1
11	17	4.2	10.2
12	37	9.0	19.3
13	51	12.5	31.7
14	42	10.3	42.0
15	57	13.9	55.9
16	53	13.0	68.9
17	29	7.1	76.0
18	33	8.1	84.1
19	24	5.9	89.9
20	21	5.1	95.1
21	9	2.2	97.3
22	8	2.0	99.2
23	2	0.5	99.7
24	1	0.2	100.0
25	0	0.0	100.0
26	0	0.0	100.0
Total	409		

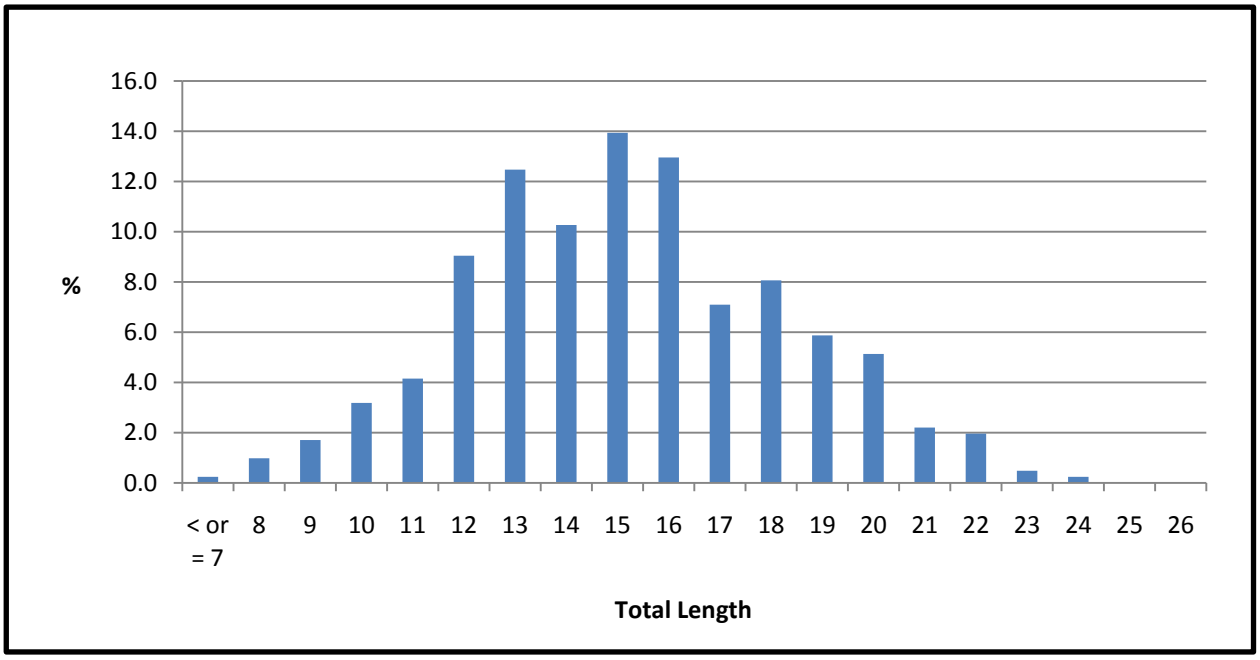


Table 1.7A: Black Sea Bass Length Frequency Distribution, 2010

Total Length (inches)	2010 Measurement Data Black Sea Bass		
	Freq	%Freq	%Cum
6	0	0.0	0.0
7	12	5.0	5.0
8	13	5.5	10.5
9	7	2.9	13.4
10	16	6.7	20.2
11	24	10.1	30.3
12	27	11.3	41.6
13	30	12.6	54.2
14	40	16.8	71.0
15	21	8.8	79.8
16	22	9.2	89.1
17	12	5.0	94.1
18	5	2.1	96.2
19	5	2.1	98.3
20	3	1.3	99.6
21	1	0.4	100.0
Total	**238**		

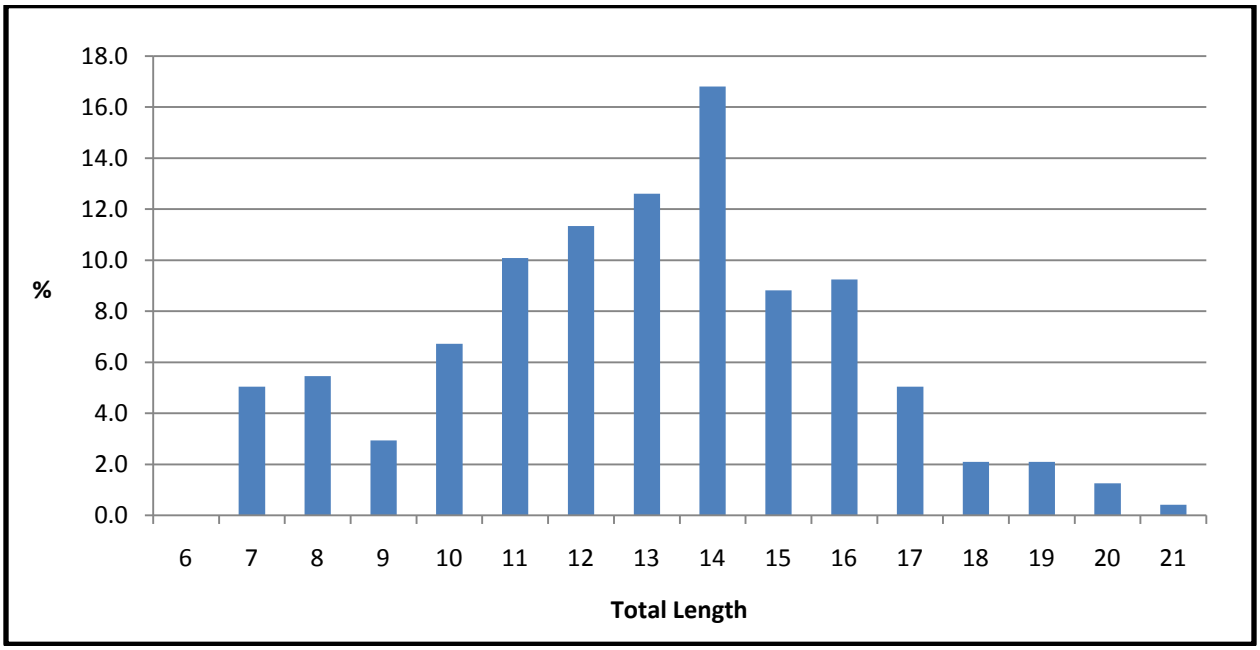


Table 1.8A: Catch Trip Frequency Distribution of Creeled Fish for Selected Species, 2010

Creeled (Harvested)

Bluefish (12 in. >)

# of Fish	# of Trips	% Distr.
0	169	66.5%
1	51	20.1%
2	19	7.5%
3	10	3.9%
4	3	1.2%
5	1	0.4%
6	1	0.4%
Total	254	100%

Striped Bass

# of Fish	# of Trips	% Distr.
0	231	81.6%
1	45	15.9%
2	7	2.5%
5	0	0.0%
Total	283	100%

Summer Flounder

# of Fish	# of Trips	% Distr.
0	143	63.6%
1	55	24.4%
2	17	7.6%
3	9	4.0%
5	1	0.4%
Total	225	100%

Winter Flounder

# of Fish	# of Trips	% Distr.
0	7	58.3%
1	1	8.3%
2	4	33.3%
Total	12	100%

Scup

# of Fish	# of Trips	% Distr.
0	92	54.4%
1	28	16.6%
2	15	8.9%
3	8	4.7%
4	7	4.1%
5	5	3.0%
6	5	3.0%
7	4	2.4%
8	4	2.4%
10	1	0.6%
Total	169	100%

Tautog

# of Fish	# of Trips	% Distr.
0	25	37.3%
1	8	11.9%
2	14	20.9%
3	10	14.9%
4	9	13.4%
10	1	1.5%
Total	67	100%

Black Sea Bass

# of Fish	# of Trips	% Distr.
0	58	69.0%
1	15	17.9%
2	4	4.8%
3	1	1.2%
4	4	4.8%
7	1	1.2%
8	1	1.2%
Total	84	93%

Table 1.9A: Catch Trip Frequency Distribution of Released Fish for Selected Species, 2010

Released

Bluefish (12 in. >)

# of Fish	# of Trips	% Distr.
0	69	26.4%
1	78	29.9%
2	41	15.7%
3	30	11.5%
4	19	7.3%
5	10	3.8%
6	6	2.3%
7	2	0.8%
8	1	0.4%
9	1	0.4%
10	1	0.4%
11	1	0.4%
16	2	0.8%
Total	261	100%

Striped Bass

# of Fish	# of Trips	% Distr.
0	65	22.8%
1	103	36.1%
2	50	17.5%
3	27	9.5%
4	15	5.3%
5	6	2.1%
6	6	2.1%
7	3	1.1%
8	2	0.7%
9	0	0.0%
10	1	0.4%
11	1	0.4%
12	1	0.4%
13	2	0.7%
21	1	0.4%
25	1	0.4%
36	1	0.4%
Total	285	100%

Summer Flounder

# of Fish	# of Trips	% Distr.
0	25	11.1%
1	74	32.7%
2	46	20.4%
3	29	12.8%
4	14	6.2%
5	7	3.1%
6	5	2.2%
7	6	2.7%
8	4	1.8%
9	1	0.4%
10	3	1.3%
11	2	0.9%
12	1	0.4%
13	1	0.4%
14	1	0.4%
15	1	0.4%
16	2	0.9%
21	1	0.4%
23	1	0.4%
26	1	0.4%
27	1	0.4%
Total	226	100%

Winter Flounder

# of Fish	# of Trips	% Distr.
0	5	41.7%
1	5	41.7%
2	0	0.0%
3	1	8.3%
4	1	8.3%
Total	12	100%

Scup

# of Fish	# of Trips	% Distr.
0	24	14.7%
1	44	27.0%
2	31	19.0%
3	17	10.4%
4	6	3.7%
5	6	3.7%
6	4	2.5%
7	6	3.7%
8	6	3.7%
9	1	0.6%
10	4	2.5%
11	1	0.6%
12	1	0.6%
13	3	1.8%
14	0	0.0%
15	3	1.8%
20	1	0.6%
25	2	1.2%
27	1	0.6%
35	1	0.6%
41	1	0.6%
Total	163	100%

Tautog

# of Fish	# of Trips	% Distr.
0	15	22.7%
1	22	33.3%
2	6	9.1%
3	8	12.1%
4	3	4.5%
5	1	1.5%
6	0	0.0%
7	1	1.5%
8	2	3.0%
9	1	1.5%
10	1	1.5%
13	1	1.5%
14	4	6.1%
15	1	1.5%
Total	66	100%

Black Sea Bass

# of Fish	# of Trips	% Distr.
0	24	28.9%
1	24	28.9%
2	16	19.3%
3	12	14.5%
4	3	3.6%
5	2	2.4%
6	1	1.2%
7	0	0.0%
8	1	1.2%
Total	83	100%

APPENDIX 1.1A: Connecticut Volunteer Angler Logbook

Volunteer Angler Survey Logbook Instructions: Listed below are instructions for filling out the logbook. Upon logbook completion, tape the prepaid postage logbook shut and drop it off in the mail. All information is kept confidential. Once the information is entered in our computer system and error checked, the logbooks will be returned for your own records. If you any questions or comments regarding the survey, please contact **Rod MacLeod** at **(860) 434-6043** or at **E-Mail** address **rod.macleod@po.state.ct.us.**

(1) Please enter the month and day fishing trip took place.
(2) Fishing start time in military time (Example: 11am = 1100, 1pm = 1300 hrs, 2pm = 1400, etc.).
(3) Actual fishing time or lines wet to the nearest ½ hour. Do not include travel time.
(4) Number of anglers in fishing party.
(5) Areas fished most in descending order as described on the chart located on the inside cover of logbook. Also, if most of the fishing took place in a river please place a check mark in the box provided.
(6) Check mark your mode of fishing (boat or shore).
(7) Enter species code for 1st (primary) targeted species and 2nd (secondary) targeted species provided in the species code list below.
(8) Number of anglers that caught fish.
(9) Place a check mark if no fish were caught for the entire fishing party.

Catch Information: Catch information should include the total number of fish caught by the entire party. Enter the number of fish kept and released in the designated boxes. If you caught fish other than those in the pre-coded boxes, please refer to the species code list below and enter the code in the designated blank boxes. If you caught a fish not listed in the species code list, please write down the common name(s) in the blank box(es) provided.

Length Measurement Information: Please try to provide length measurement data on popular species caught including kept and released fish (exclude skates, cunners, etc). Fish must be measured to the ***nearest ½ inch*** from the tip of the snout to the end of the tail (total length). In case of large catches, try to measure your catch on a random basis. Measuring just large fish will not accurately reflect the actual size or age distribution of the population. When handling and measuring sub-legal sized fish, anglers should use their best judgement and experience to insure that those fish are returned to the water unharmed.

Species Code List:

01 Albacore	12 Cusk-eel	23 White Marlin	34 Smelt	45 Snapper Bluefish (≤12in.)
02 Alewife	13 Dogfish (all species)	24 Atlantic Menhaden	35 Spot	46 Yellowfin Tuna
03 Atlantic Salmon	14 Dolphin (Mahi-Mahi)	25 Pollock	36 Striped Bass	47 Bigeye Tuna
04 Blackfish (Tautog)	15 American Eel	26 Scup (Porgy)	37 Swordfish	48 Blue Marlin
05 Blowfish (Puffer)	16 Summer Flounder (Fluke)	27 Atlantic Sailfish	38 Oyster Toadfish	49 Blueback Herring
06 Bluefish (Adults > 12in.)	17 Goosefish (Monkfish)	28 Windowpane Flounder	39 Atlantic Tomcod	50 Hickory Shad
07 Atlantic Bonito	18 Haddock	29 Black Sea Bass	40 Bluefin Tuna	51 Little Tunny (False Albacore)
08 Brown Trout (Sea-Run)	19 Atlantic Herring	30 Searobins (all species)	41 Weakfish	52 Skipjack Tuna
09 Butterfish	20 Spanish Mackerel	31 American Shad	42 Whiting (Silver Hake)	53 Atlantic Wolffish
10 Atlantic Cod	21 Hakes (Red, Spotted)	32 Sharks(oceanic)	43 White Perch	54 Northern Kingfish
11 Cunner	22 Atlantic Mackerel	33 Skates	44 Winter Flounder	55 Atlantic Croaker

Daily Fishing Trip Log

(1) Month Day | **(2)** Military Time | **(3)** Hours Fished | **(4)** Number of Anglers in Party | **(5)** Areas Fished (See Map) *1st* *2nd* *3rd* | **X** Here if Fished in River

(6) _ Mode of Fishing: Boat ☐ Shore ☐

(7) Target Species (See Code List): 1st ☐☐ 2nd ☐☐

(8) Number of Anglers that Caught Fish

(9) _ Here if *No* Fish were Caught ☐

Catch Information

Length Measurement Information

Species Name	Code	Number Kept	Number Released	Code	Length Data	**X** if Released	Code	Length Data	**X** if Released
Striped Bass	3 6								
Bluefish (Adults)	0 6								
Winter Flounder	4 4								
Blackfish	0 4								
Summer Flounder	1 6								
Scup (Porgy)	2 6								