

VIRGINIA RECREATIONAL FISHING DEVELOPMENT FUND
PROJECT APPLICATION

<p>NAME AND ADDRESS OF APPLICANT Virginia Institute of Marine Science P.O. Box 1346 Gloucester Point, VA 23062-1346</p>	<p>PRINCIPAL INVESTIGATORS Jon Lucy, VIMS, Marine Adv. Services Lewis Gillingham, VA Saltwater Fishing Tournament, VMRC</p>
<p>PRIORITY AREA OF CONCERN Recreational Fisheries Research and Education</p>	<p>PROJECT LOCATION VIMS and VSFT-Virginia Beach; lower Chesapeake Bay and VA offshore waters</p>
<p>DESCRIPTIVE TITLE OF PROJECT Virginia Game Fish Tagging Program 2011 (Year 17)</p>	
<p>PROJECT SUMMARY Initiated in 1995, primarily funded by Saltwater Recreational Fishing License Funds and matching VIMS funds, this project is a cooperative program of the Virginia Saltwater Fishing Tournament (Marine Resources Commission) and VIMS Sea Grant Marine Advisory Program. Annually training anglers via a series of coastal workshops, the program enables a corps of 100-200 experienced anglers to direct tagging effort on select target species important to VA’s marine recreational fisheries, (a value of over one billion dollars annually). Through 2009 the program’s database (used by researchers, fishery managers, anglers, etc.) includes over 171,000 records for fish tagged and over 17,000 fish recapture records (an overall 10% recapture rate). There are ten target species: black and red drum, black sea bass, cobia, flounder, gray triggerfish, sheepshead, spadefish, speckled trout, and tautog. During 2009 trained anglers tagged and released approximately nearly 20,000 fish resulting in just over 2,500 recaptures. Tagging continues at two power plant areas during winter-early spring in cooperation with Dominion Power because the areas serve as “warm-water havens” sub-adult red drum and juvenile-adult speckled trout. Staff and fishery technical committees with VMRC, North Carolina Division of Marine Fisheries, other fishery management groups, and VIMS Fisheries Department use the program database. Specific program results periodically are presented at scientific meetings, as well as shared with angling clubs. Target species spawn either in the lower Bay, or in offshore-nearshore waters of VA-NC, using Virginia waters as nursery/feeding grounds. For example, tag-recapture data for cobia show sexually mature fish returning regularly to the bay over periods of 1-5 years post tagging. Flounder results are indicating strong site fidelity to bay and inlet fishing sites throughout the fishing season. Winter-spring coastal migration of bay and Eastern Shore (Oceanside) flounder indicate the species may be expanding their traditional boundaries to both the north and south. During 2008-2010, program data have been used to enhance management for speckled trout, red drum, and flounder. North Carolina DMF issued a Draft NC FMP for Speckled Trout with included Virginia comprehensive catch data as a result of 15% of VA-tagged trout being recaptured in NC waters from 1995-2006.</p>	
<p>EXPECTED BENEFITS Provide data on local fish movement and seasonal migrations, data previously unavailable on tagging program target species all of which are important to VA’s marine recreational fisheries. Tagged fish length data document fish year classes supporting VA fisheries, data collected by anglers on the fishing grounds, including species not readily sampled by VIMS monitoring</p>	

surveys. Data are documenting over wintering of large numbers of speckled trout and red drum in select lower Bay power plant. Tag-recapture data enhance other data sources regarding numbers and sizes of finfish released under fishery regulations in the VA fishery. Results will continue to be presented before angling community groups. Annual Reports for the program are available the VIMS website, but more importantly through trained angler taggers spreading results across the angling community. The program also provides the angling community with hands-on participation in a fisheries research and conservation project directly benefiting Virginia's marine recreational fisheries. Program results demonstrate to the angling community that significant numbers of released, sub-legal fish survive, as well as becoming available again to anglers for better fishing experiences.

COSTS

VMRC Funding: \$ 51,166 + \$27,738 (VMRC portion) = \$ 78,904

VIMS Funding: \$ 35,206

Total Cost: \$ 86,372 + \$27,738 (VMRC portion) = \$114,110

Detailed budget included with proposal

**Virginia Game Fish Tagging Program
Virginia Institute of Marine Science
Proposed Budget for January 1, 2011 to December 31, 2011**

<u>BUDGET CATEGORY</u>	<u>DIRECT</u>	<u>MATCH</u>
I. Salaries		
a. Marine Recreation Specialist 1.5 mm/1 mm \$65,000 Per Year \$5,417 Per Month	\$ 8,125	\$ 5,417
b. Data Technician, TBN 1 mm/1 mm \$34,503 Per Year \$2,875 Per Month	\$ 2,875	\$ 2,875
c. Marine Advisory Specialist 144 / 144 hrs. \$37.53 (Hourly; Jon Lucy)	\$ 5,404	\$ 5,404
Subtotal	\$ 16,405	\$ 13,696
II. Fringe Benefits (40%; 7.65% Hourly)	<u>\$ 4,814</u>	<u>\$ 3,730</u>
Total Salaries and Fringe Benefits	\$ 21,218	\$ 17,426
III. Publications (Annual Report, Website/Recapture Updates)	\$ 1,000	
IV. Travel (Local travel for field work, Tagging work group meetings, presentations at scientific meetings and association clubs.)	\$ 2,000	
V. Supplies	\$ 16,715	
20,000 T-Bar Tags @\$600/1,000* \$ 12,000		
1,000 Plastic Dart Tags @0.77 \$ 770		
1,000 Steel Dart Tags @\$1.98 \$ 1,980		
15 Steel Tagging Needles @\$10 \$ 150		
50 Tagging Guns @\$30 \$ 1,500		
35 Tagging Needles @\$3 \$ 105		
35 Measuring Boards @\$6 \$ 210		
Subtotal	\$ 16,715	
VI. Total Direct Costs	\$ 40,933	\$ 17,426
VII. Indirect Costs - 25% VMRC	\$ 10,233	
Indirect Costs - 48% on Match		\$ 8,365
Indirect Costs - 23% from Direct		9,415
VIII. TOTAL PROJECT COSTS	\$ 51,166	\$ 35,206
		\$ 86,372

Budget Reductions 2011 Tagging Program Proposal (compared to 2010 Proposal)

Personnel Changes VIMS- 2011

As indicated in the 2010 proposal, Mr. Jon Lucy anticipated possible retirement at the end of 2009, or sometime in 2010. Mr. Lucy will be retiring effective July 1, 2010. However, as noted in the budget, if the project is funded for 2011, Mr. Lucy anticipates still making contributions to the project, but on a limited per hour basis (see Budget item I.c.).

Also given anticipated 2010-2011 state budget issues, the 2011 proposal's budget shows reducing time charged in 2011 for the Data Technician (1 mm-Direct and 1 mm-Match versus 2.5 mm-Direct and no match in the 2010 budget).

Similarly, taking advantage of wider use of web access for publications such as the Tagging Program Annual Report and other updates of tag-recapture data Tables and Graphics, publication costs charged to the project are reduced by half for 2011 as well as travel costs reduced by half.

Under Supplies, total tags for the year are being reduced by what at this time is projected to be 5,000 fewer T-bar tags (an approximate costs reduction of \$3,000). To better manage the program's effective tagging effort, beginning in 2010 we will experiment with minimum size limits for tagging juvenile black sea bass and flounder to reduce tag-recapture numbers of small, juveniles and thereby achieve more useful results for the species.

Budget Category:

I. a. Marine Recreation Specialist: Mr. Lucy's position, Marine Recreation Specialist, will be filled by a yet undermined individual to fill the VIMS position. This change in personnel is expected to lower the VIMS Co-PI annual salary in 2011, and thereby lower Co-PI man-month costs by just over \$1,800.

I.b. Data Technician: Reducing time of this individual to 1mm-direct, and 1mm-Match will result in Direct salary costs savings of approximately \$4,300.

I.c. Marine Advisory Specialist (hourly): Taking advantage of Mr. Lucy's experience in running the program cooperatively with VMRC since 1995, it is anticipated on a limited hourly basis; he would work on special program issues including means to make the recapture reward aspect of the program more cost effective (and also less time-consuming day-to-day), tag options for select species which may produce better quality recapture data(compared to T-bar tags), etc.

Overall Budget Reductions: Referenced changes will result in a total DIRECT budget reduction in 2011 of approximately \$11,000 (compared to VIMS 2010 Direct budget costs).

**Virginia Game Fish Tagging Program
Year 17 Proposal (2011)**

January 1, 2011 to December 31, 2011

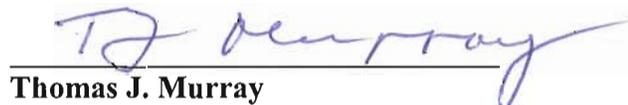
Proposal Submitted to:

**Virginia Recreational Fishing Development Fund
Virginia Marine Resources Commission
2600 Washington Avenue, Third Floor
Newport News, Virginia 23607**

Proposal Submitted by:

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Virginia Game Fish Tagging Program (VGFTP) Proposal for 2011

Overview

Initiated in 1995, the Virginia Game Fish Tagging Program (VGFTP) coordinates a fish tagging and fish tag-recapture database generated through contributed efforts of a dedicated corps of trained marine anglers. The program was conducted cooperatively from 1995 through September 2007 with Claude Bain, now retired Director of the Virginia Saltwater Fishing Tournament (VSFT) under VMRC, and Jon Lucy of VIMS (in the VA Sea Grant Marine Extension Program). Since the latter part of 2007, the joint effort has continued under the direction of Mr. Lucy and Lewis Gillingham, the current VSFT Director.

This proposal seeks to continue funding for the project during 2011 (Year 17). In addition to the VMRC funds requested in the proposal, the Virginia Institute of Marine Science of the College of William and Mary provides matching funds. There is also additional administrative support provided by the Virginia Sea Grant Program at VIMS, a federal funding source (National Oceanic and Atmospheric Administration-NOAA) of major significance to VIMS as part of the broader Virginia Sea Grant Marine Extension Program.

Program responsibilities are shared, taking advantage of the respective organizations' communication links with the marine recreational angling community and strengths in data handling-analysis as well as production of graphics and publications. The tagging program's database is maintained and managed at VMRC. The VSFT has a close association with Hampton Roads (now in Newport News, until 2008 the office was in Virginia Beach). Since 1958, the VSFT has monitored and awarded trophy catches of marine fish (and trophy fish releases) in state waters. The office, and its Tournament Weigh Stations, provides regular and "trusted" contact with marine anglers, tackle shops, and many marinas.

Having a productive and well-respected interaction with anglers makes it a natural tagging program partner for receiving and entering tagged and recaptured fish data. The office also has a mailing protocol, which includes shipping quality citation plaques to anglers. Therefore, it also efficiently handles mailing of tag reward items (T-shirts, caps, etc.) along with recaptured fish reports to those reporting catches of tagged fish.

At VIMS, significant tagged fish data also are entered into the database. Once cleaned up and questionable data flagged, tag-recapture data are analyzed by VIMS for various needs. Result summaries and graphics are produced by VIMS for tagging training workshops, annual reports, data summaries requested by researchers and fishery managers, and presentations to angling, clubs, civic groups, and at scientific meetings.

Overall Program Objectives

Basic objectives guide program activities. There are five main objectives:

(1) Develop and maintain a quality tagging program using a corps of trained angler taggers; direct tagging effort of such anglers on select target species, especially where one can take advantage of significant numbers of non-legal fish which anglers are readily discarding alive while complying with recreational fishing regulations.

(2) Where and when appropriate, direct program tagging effort toward opportunistic occurrences of strong year classes of fish in Virginia's Bay and nearshore-offshore waters, especially species not traditionally subject to scientific tagging studies in such waters, i.e., red drum, black drum, speckled trout, tautog, sheepshead, spadefish, etc. The program does not target species currently monitored and/or targeted in state waters by research-based tagging studies coordinated by fishery research agencies and institutions, in particular striped bass.

(3) Maintain a database of tagged and recaptured fish records accessible to the angling community, but also of use to fishery researchers and managers as the database matures. Make summaries and reports of such data available to the angling community through annual reports, websites, presentations to angling clubs, kids fishing clinics, etc. and provide requested data to researchers and fishery managers.

(4) Use the tagging program to enhance education of marine anglers about the importance of reporting tagged fish to appropriate organizations, agencies, and research institutions to enhance understanding and management of key fishery stocks important to Virginia's marine recreational fisheries.

(5) Use program results to educate the angling community about fishery conservation and management benefits directly connected with proper handling and releasing of non-legal fish. Tag-recapture data prove beyond a doubt that anglers consistently using proper catch and release fishing practices results in better angling catches both short-term and long-term.

Given the above objectives, the program maintains a corps of experienced, trained angler-taggers who can capitalize on opportunities to focus significant tagging effort on key species which often suddenly exhibit high levels of abundance during any given fishing season. While contributing significantly to the rebuilding and sustaining of specific fisheries comprising Virginia's one billion dollar marine recreational fishery, such events take on greater value when tagging documents sizes and relative numbers of recreationally-targeted fish occurring in state waters, and the habitats such fish utilize year to year.

Program Structure

To keep the program manageable as well as to promote quality tagging and data acquisition, participation during any one year is limited to approximately 200 trained taggers. Communication and follow-up regarding taggers needs for tags and tagging equipment, and the handling of reported tag-recapture data have proven manageable under the indicated

participation level. This number of active taggers has also proven to work well regarding producing useful data on the number and size distribution of fish tagged, as well as a valuable time series of tag-recapture data for the species targeted. To reduce travel and material expenses, the typical spring series of four Tagging Training Workshops, beginning in 2009 there is only one, centrally located workshop.

On an annual basis, usually in December, taggers are requested to re-new their active status in the program for the coming year. Because of a range of circumstances (moving out of the area, selling their boat, not fishing as much as expected, etc.), about 10-30% of participants may drop from active status at the end of the year. This change opens up new “slots” for anglers on a waiting list for joining the program. The spring tagging training workshop fills such positions with new taggers.

Just over 20 new taggers were trained in 2009, and approximately 30 new taggers are expected to come into the program in April 2010. The two-hour training workshop focuses on program objectives, data recording needs, fish handling and tagging techniques, and hands-on tagging practice with freshly iced fish. Once completing practice tagging to the satisfaction of program staff, new taggers are provided tags and tagging equipment, (including waterproof data sheets, tagging protocol handouts, and fish measuring boards). Bass Pro Shop (in Hampton) regularly cooperates with the program by allowing the workshop to be held in the store’s community room.

Sharing of Program Responsibilities

In addition to handling the bulk of data entry, the Virginia Beach office keeps program participants in tags, tagging needles, etc. These items are regularly mailed to taggers and records maintained regarding tag-number series assigned to individuals, information important in tracking down late tagged fish data reports for recently reported recaptures of tagged fish. Likewise, “Fish Recapture Reports” generated from the database are mailed both to the individual reporting the tagged fish capture (along with available reward items) as well as to the program angler having tagged the fish. Completing this “feedback loop” in a timely manner is critical to the success of any tagging program.

On every tag is clearly stated that a “REWARD” is offered for reporting recaptures of tagged fish. Therefore, appropriate reward items (program caps, sun visors, T-shirts, fish pins, etc.) are mailed out by the VSFT office with fish Recapture Reports to anglers, as well as some commercial fishers and fish dealers noticing tags in fish they handle. Naturally, the highly prized T-shirt must be printed in limited numbers each year to stay within budget. Typically, late in the fishing year the T-shirt supply becomes exhausted. Then other reward items are substituted for it (most reporters of recaptured fish are understanding of such issues).

The majority of data for both tagged and recaptured fish are entered into the database at the Virginia Beach office, the data going directly to the database maintained on a server at VMRCs office in Newport News. The database manager is proactive in suggesting improved ways to output tagged and recaptured fish data. Options include setting up various “single-click” reports outputting desired data summaries needed for review and tracking program results.

VIMS continues to operate as a remote site for entering tagged fish and recaptured fish data into the database for select taggers. To take some workload off the Virginia Beach office, VIMS (Ms. D. Roberts) now enters all data for the program's most productive tagger, Mr. Ed Shepherd of Yorktown. From 2007- 2009, Mr. Shepherd has tagged over 4,000 fish annually which resulted in 700-900+ recapture reports each year for fish he alone tagged (Table 1A). Ms. Roberts also provides critical expertise to the program regarding organizing data, producing handout materials for tagging training workshops, and producing data graphs and tables for a mix of needs.

At VIMS, tagged fish data and tag-recapture data records are also checked for possible inconsistencies and errors, the corrected data can then be analyzed and formatted for various presentations and reports. Graphics illustrating fish movement and habitat use patterns also are developed for a variety of educational programming (VIMS Marine Science Day, "Kids Fishing Clinics," science teachers' courses, and public presentations, i.e. to angling clubs and civic groups, etc.). Data and graphics also are organized and displayed (with assistance of Ms. D. Roberts and VIMS Publications Center) in appropriate formats for various program needs, i.e., VIMS website pages, annual tagging training workshops, posters, annual reports, and presentations (angling clubs, civic groups, and scientific meetings). Ordering of tags, tagging equipment, and construction of fish measuring boards are handled by VIMS.

The Institute also periodically conducts tag retention field trials to evaluate whether changes might be warranted regarding the type of tag used for specific species. Depending upon the range in size of fish, certain tags are more appropriate for "small" fish specimens (like the 2.5 inch/63 mm T-bar tag used with "tagging gun" applicators) versus large "adult" fish. For target species larger than about 26-28 inches total length (660-711 mm TL), the program recommends taggers use a 6.25-inch (159 mm) long stainless steel dart tag (with wire core sheath (see Appendix, photo of tags currently used in the tagging program).

Testing of tags for higher retention times continued under the guidance of Mr. Lucy during 2009 (and continuing through 2010), i.e., trying different dart tags and looking for a pattern of "longer times at large" for such tags compared to T-bar tag recapture data. An initial effort to double tag sub-adult red drum and speckled trout (≥ 14 inches TL) during 2007-2008 was ultimately terminated because of ambiguity in reporting on the number of tags observed in such fish. Displaying posters at tackle shops and boat ramps on the importance of reporting whether a recaptured fish had only one, or possibly two tags did not improve reporting accuracy. The significant number of tagged fish recapture reports left on voice mail during non-office hours also contributed to the problem (such reports do not always include a telephone number for follow-up).

Therefore beginning in 2008, select taggers were provided dogleg dart tags (DD tags) and wide-anchor dart tags (DW tags) to try in the two species. Anglers were instructed to try a tagging rotation system whereby they switched between tagging 15-25 fish with the DD tag, then using the DW tag, then going back to the former tag, and so on. Recapture rates and times at large for fish are being examined to determine if distinctive patterns exist.

Target Species: 2008-2010

Target species for 2010 are listed below (unchanged since 2000). Summer flounder replaced weakfish in 2000 as significant tagging effort on the latter species never produced greater than a one percent recapture reporting rate (tank-based tag retention trials indicated high tag loss rates over 2-4 week periods).

Black Drum	<i>Pogonias cromis</i>
Black Sea Bas	<i>Centropristis striata</i>
Cobia	<i>Rachycentron canadum</i>
Summer Flounder	<i>Paralichthys dentatus</i>
Gray Triggerfish	<i>Balistes capriscus</i>
Red Drum	<i>Sciaenops ocellatus</i>
Sheepshead	<i>Archosargus probatocephalus</i>
Spadefish	<i>Chaetodipterus faber</i>
Speckled Trout	<i>Cynoscion nebulosus</i>
Tautog	<i>Tautoga onitis</i>

Background and Overall Accomplishments-2009

The tagging program database documents within year, and year-to-year, habitat utilization and movement patterns of selected target species in Virginia waters. In addition, the program documents significant coastwise migrations for certain species. Many of these species spawn in lower Bay or nearshore-offshore waters of Virginia-North Carolina as well as use Virginia estuary and coastal waters as nursery and feeding grounds.

The program's results are of interest both to the angling community as well as to fishery researchers and managers. The number and size distribution of target fish tagged each year are of special interest to fishery managers as such data compliment other research-based data sets. The size data for fish tagged in the program also help supplement other recreational catch data sources, thereby gaining a more comprehensive picture of sizes of fish released in the state's marine recreational fishery.

Tagging effort for species such as flounder, red and black drum, speckled trout, cobia, spadefish, triggerfish, and sheepshead primarily occurs in Bay and nearshore coastal waters. However, tagging of tautog, black sea bass, spadefish, gray triggerfish occurs over much broader areas of Bay and inshore-offshore waters. For structure-oriented species, effective tagging focuses on structure sites, i.e., fishing piers, artificial reefs, the Chesapeake Bay Bridge Tunnel complex, shipwrecks sites, and other bottom "hangs" occurring from the lower bay to many miles offshore of Virginia.

Through the cooperation Virginia Dominion Power, special tagging continues to occur at two power plant warm-water discharge canals areas during fall, winter, and early spring months. Tagging results at both the Yorktown Power Station (lower York River) and the Center for Energy Conservation (CEC) Power Station (Southern Branch of the Elizabeth River) are documenting the dynamics of such areas as over-wintering sites for various species (primarily

red drum and speckled trout, but occasionally juvenile sheepshead and cobia, as well as young black sea bass.

Special Database Uses by Researchers and Fishery Managers 2008-2009

Speckled Trout: The North Carolina Division of Marine Fisheries recently completed its Draft Fisheries Management Plan for Spotted Seatrout, the plan accepted by the Commission to be sent out for public comment in March 2010. Initiated in 2007, the stock assessment upon which the plan is based encompasses all trout in both North Carolina and Virginia waters, i.e., the unit stock of speckled trout shares to some degree share waters of both states. This decision was agreed upon because of tagging results from the Virginia Game Fish Tagging Program. For 1995-2006, 15% of trout tagged in Virginia bay and Rudee Inlet waters were recaptured during fall-early winter months in North Carolina (as far south as Wrightsville Beach, well past Cape Hatteras). While it will take months for the plan to ultimately be implemented, it's basic objective is to rebuild the stock to a sustainable level. The assessment concludes that the shared speckled trout (or spotted seatrout) stock is overfished.

Red Drum: With VMRC (Mr. J. Grist and others) taking the lead on an ASFMC Red Drum Working Group, developing a benchmark assessment of red drum from Virginia through Florida, 13 years of drum tagging results (1995-2007) were requested by the group. This marks the first significant use of red drum tag-recapture data from Virginia waters for such purposes. The data were formatted to distinguish results for fish tagged at various ages (ages 0, 1, 2, 3, and 4+). The Virginia tag-recapture data were primarily used to describe habitat use and seasonal migration patterns for sub-adult fish while in Virginia waters. Regarding defining useful stock parameters from tag-recapture data pooled for the five states, such efforts were not successful.

Flounder: A VIMS PhD student, Mark Henderson (advisor, Dr. Mary Fabrizio, VIMS Dept. of Fisheries Science), is using the program's 2000-2009 flounder tag-recapture data as part of his broader study on dynamics of seasonal movement of the species between lower Chesapeake Bay and offshore waters. The data are currently under review by Mr. Henderson for evaluation in various models aimed at possibly determining some useful stock parameters associated with the recreational fishery (the Game Fish Tagging Program flounder data set primarily includes sub-legal fish as it is this size fish mostly targeted for tagging). A part of the research project focused on double tagging of flounder during the 2009 fishing season by five Game Fish Program taggers (using both Petersen disc tags and the program's T-bar tags). This study component will provide the first measure of the variation in T-bar tag loss rates associated with different trained angler taggers. This information will be important both for the tagging program and for the research project.

Program Tagging Awards-2009

The program annually presents award plaques to the year's "Top Taggers" (for the program overall as well as by target species). For the past several years, the presentation of the award plaques has been coordinated to occur on a weekend evening in early March at Bass Pro Shops Spring Fishing Classic (the Hampton store featuring conservation-oriented exhibitors and fishing seminars over period of several weekends). The Bass Pro store makes a good setting for the short

awards ceremony, providing tagging program winners and runners-up with well-deserved recognition before their peers. In addition, presenting the awards in a public forum also helps promote the tagging program with anglers.

As noted for 2007-2009 in Table 1A and Table 1B, certain taggers are winners across several years. For example, Mr. Ed Shepherd of Yorktown continues to be a dominant tagger for the program. There are also usually some “first-time” winners among those receiving annual tagging awards. In 2009, Mr. Jorj Head (Hampton) and Mr. Sheldon Arey (Virginia Beach) were new to the winners’ for cobia and speckled trout, respectively.

Tagging Effort and Recaptures-2009

In Tables 2A (taggers by “last name”) and 2B (taggers by total fish tagged), taggers receiving “Tagging Conservation Certificates” are listed for 2009. Individuals tagging a total of 25 or more fish during a given year receive such certificates. During 2009, 84 trained anglers received the certificates, this hard working group being responsible for 98% of the nearly 20,000 total fish tagged.

Recognition is also given taggers having five or more fish recaptured during the year. The listing of these taggers (by “last name” and “total recaptures”) for 2009 appears in Tables 3A and 3B). The 59 listed taggers’ recaptures amounted for 95% of all recaptures for the year. Those taggers who tagged the highest total numbers of fish during the year naturally also rank high in recaptures.

Through 2009, the program’s database included over 171,000 tagged fish records and approximately 17,300 recaptured fish records (Table 4; Figs. 1 and 2). During 2007-2009, there was good consistency among top ranked species by number of fish tagged per year. Summer flounder accounted for the most tagged fish each year with red drum, speckled trout and black sea bass each accounting for over 3,000 fish tagged. The increase in black sea bass tagged was associated with an unusual tagging effort at the Fort Monroe fishing pier.

Cumulative recapture rates during 2009 (Table 4: Fig. 3) were approximately 17% and 22% for tautog and gray triggerfish, respectively. During the year cumulative recapture rates of 10% to nearly 14% occurred for spadefish, red drum, cobia, and black sea bass. Recapture rates held between 6-9% for sheepshead and flounder. The lowest recapture rates (3% and 4.6%) occurred for speckled trout and black drum, respectfully.

Long-term Trends and Select 2009 Results

- **Black Drum:** Similar to the pattern in 2008, just over 160 drum were tagged during 2009 of which 115 were adult fish (16-52 inches TL). Again, recaptures were extremely low (only 5 fish). At the Cape Charles 3rd Annual Black Drum Tournament (held in May 2009), six boat captains were trained on, and provided with, large, stainless steel dart tags. However, no drum were tagged, in part due to weather eliminating one day of the 2-day event. On the positive side, a number of adult fish were weighed in and their hard parts secured by VMRC staff for aging.

- Black Sea Bass: Just over 3,200 fish were tagged, the highest total in recent years. However, many of the tagged sea bass were 5-6 inches total length (over 2,100 tagged at Fort Monroe Fishing Pier and 400+ in Lynnhaven Inlet waters). A number of multiple recaptures occurred among the small fish, especially at the Fort Monroe Pier (over summer-early fall some of the tagged fish were recaptured 4-8 times). However, to date there have been minimal recaptures showing significant movement away from the tagging sites. To manage program resources better, plans are being made to establish a minimum size for sea bass tagged during 2010.

- Cobia: Adult cobia tagged inside the lower bay continue to be recaptured months to years post tagging, the majority of recaptures occurring 1-5 years post release in the bay (or occasionally offshore Virginia). From year to year some bay-tagged, adult cobia have also been recaptured along North Carolina's Outer Banks and as far south as Florida's east coast. Interestingly, there have yet to be any Virginia tagged cobia recaptures reported from South Carolina or Georgia waters. Of special note in 2009, a 52-inch cobia (total length) tagged off the bay mouth during summer 2005 was recaptured in June 2009 off Oregon, Inlet, North Carolina (52 inch FL; out 1,411 days/3.9 yrs). Three other cobia tagged in the bay during summer 2006 were recaptured back in the bay during August 2009 (after 3.0-3.2 years at large).

- Flounder: Sub-legal flounder tagged in Chesapeake Bay and Chincoteague Inlet waters continue to show a strong pattern of recaptures occurring over 2-8 weeks, sometimes longer, at the same general area where the fish were tagged. This is particularly the case for flounder tagged at fishing piers, rock jetties, and structure sites such as artificial reefs, shipwrecks, and bridge-tunnel complexes. In the winter-early spring following being tagged in Virginia the previous year, recaptures show the fish primarily in offshore waters along the continental shelf from North Carolina to New Jersey-New York (and occasionally, as far Rhode Island waters). During spring-summer into early fall, recaptures show fish moving from shelf waters back into Virginia bay and barrier island waters, but also back to inlets, sounds and along beaches from New York (including Long Island Sound) south to North Carolina. An occasional Virginia-tagged flounder has been recaptured as far south as Myrtle Beach, South Carolina. A new south migration record for Virginia-tagged flounder was set in 2009. In February 2009, a surf angler at Folly Beach, South Carolina (just south of Charleston Harbor) recaptured a tagged flounder which had been released in May 2008 at Rudee Inlet (on the Virginia Beach oceanfront). Large numbers of 6-10 inch flounder tagged at certain fishing piers during 2009 resulted in large numbers of multiple recaptures of the fish at their tagging locations. To manage program resources better, a minimum size will be placed on flounder for tagging in 2010.

With considerably more recaptures than resulted from two earlier VIMS studies, the tagging program's flounder results generally support the conclusions of those studies. However, recaptures in recent years of bay and Eastern Shore inlet tagged flounder indicate the fish may be broadening their northern and southern migration boundaries. See: R. Kraus and J. Musick. 2001. A Brief Interpretation of Summer Flounder, *Paralichthys dentatus*, Movements and Stock Structure with New Tagging Data on Juveniles. Marine Fisheries Review 63 (3):1-6).

- Red Drum: During 1999, 2000, 2002, 2003, 2006, and 2007-2009, significant year-classes of juvenile and sub-adult red drum were documented contributing significantly to

Virginia's marine recreational fishery. From 2002-2009 good numbers of adult fish (around 200 fish each year) were also tagged in Virginia. During recent years characterized by milder winters, Rudee Inlet waters on the Virginia Beach oceanfront appear to have held over-wintering sub-adult drum. This was the case during winter 2005/2006, 2006/2007, and again in 2008/2009. Every winter since 1997/1998, good numbers of sub-adult drum have been tagged at the Elizabeth River (Southern Branch) "Hot Ditch" power plant area. This effort documents the species over-wintering at the location over numerous years. During winters 2005/2006 to 2008/2009, taggers also documented over-wintering of sub-adult red drum occurring at the Yorktown Power Station (York River "Hot Ditch). During winter 2009/2010, however, only a few red drum were observed (and tagged) at the location. Of about 500 drum recaptures during 2009 of Virginia-tagged fish, 10% occurred in North Carolina waters (15% of 2008 drum recaptures occurred in NC waters).

- Speckled Trout: The contribution of strong year classes of speckled trout to the recreational fishery has been documented by tagging efforts during 1995, 1999, 2002, and 2004-2009. As with sub-adult red drum, speckled trout have also been documented to over-winter in the area of lower bay power plants during both cold and mild winters. As in recent past years, from November 2009 through March 2010, good numbers of 13-24+ inch speckled trout were tagged at the Elizabeth River (Southern Branch) "Hot Ditch" area. However, unlike during the previous winter, from December 2009 to early March 2010 only few trout were tagged at the York River "Hot Ditch." Over-wintering of numbers of large speckled trout occurred in Rudee Inlet waters during winter 2008/2009 (personal communications from taggers). Some "cold kills" of speckled trout were observed in the upper Lynnhaven River during January-February 2009 (C. Bain, personal communication). During the same three-week prolonged cold spell in North Carolina, large numbers of trout were "cold-killed or stunned (B. Burns, NC DMF, personal communication). During 2009, four Virginia-tagged trout (1-tagged Oct. 2008; 3-tagged Oct. 2009) were recaptured in North Carolina waters (4% of the year's total VA-tagged trout). In 2008, 2% of trout recaptures occurred in NC waters.

- Tautog: Through 2009 tagging effort on tautog in Virginia Bay and offshore waters has resulted in just over 15,000 fish tagged. From this effort there have been over 2,300 recaptures reported. Tag-recapture results for tautog continue to document that in Virginia waters the species does not undergo consistent seasonal movements inshore in spring and offshore during fall-winter (the more usual pattern in waters from New York to Rhode Island). More importantly, fish tagged in Virginia bay and offshore waters show no distinctive northward migration over time. Through 2009, only 0.1% (2 fish) of all tautog recaptures occurred in waters north of the Virginia-Maryland border (one recaptured at Ocean City Inlet jetties and one near the Delaware Bay mouth's harbor of refuge seawall).

Proposed Activities-2011

(1) Program's taggers will be supported with tags and tagging equipment with a continued emphasis on quality data being logged on tagged fish and such data from taggers be submitted promptly for entering into the database.

(2) The database will be maintained on the VMRC server and improvements, where warranted, addressed, i.e., how data can be sorted and retrieved more efficiently for compilations of selected results, automatic report options for outputting and assessing results throughout the year, making individual tagger's tagged and recaptured fish records more accessible to them through a secure process, etc.

(3) Continue working with select taggers to test usefulness of various types of dart tags in species such as speckled trout, sub-adult red drum, tautog (DS and DD tags), spadefish (possibly DS and DD tags), and sheepshead (if good numbers of fish are available during the year).

(4) Produce updated materials and results for the program website and produce the 2009 Tagging Program Annual Report.

(5) Conduct one or more tagging training workshops for bringing new anglers into the tagging program (as space permits). Continue fine-tuning instructional handouts and illustrative material for power-point presentations to improve training of new taggers, as well as provide continuing education for existing taggers.

Expected Benefits

Using the database, provide anglers, researchers, and fishery managers with historic and recent data defining fish habitat use and seasonal movement patterns for key species. The data may also indicate significant pattern changers for fish, issues which may warrant special research projects to clarify whether such changes are significant.

Provide the opportunity to tag large numbers of fish on relatively short notice with an experienced group of trained taggers. This situation has occurred numerous times, especially with regard to juvenile and adult red drum, cobia, summer flounder, speckled trout, spadefish, sheepshead, and tautog.

Provide better communication, understanding, and cooperation among scientists, managers, and anglers regarding tagging programs and how good reporting rates of recaptured fish can benefit specific fisheries. Better and more relevant information made available to the angling community and the public about the importance of Virginia's marine recreational fisheries, including the benefits of proper fish handling techniques and effective practicing of catch and release fishing on fish resources.

Produce annual tagging program reports will continue, making program results readily accessible to anglers and others interested in tracking specific features of select marine recreational fisheries in state waters. Accessibility to annual reports will be primarily through VIMS website (and VIMS library), with links to the site from VMRC and other appropriate fishery management groups.

Maintain the database which, as it has matured, helps provide additional documentation of general changes in relative abundance of various year classes of recreationally targeted fish species. It also provides data on the size distribution of sub-legal fish being released in the state's

marine recreational fishery, patterns of seasonal migrations and habitat use of key fish, and overwintering areas used by certain target species.

Location

The project is located in Virginia and the taggers are Virginia recreational fishermen. All species of fish targeted by the VGFTP are recreationally important and are found seasonally in the Chesapeake Bay. Tagging efforts will occur in the Chesapeake Bay and adjacent offshore waters.

Annual Report

The annual report for year 2008 was completed and provided to the Recreational Fishing Advisory Board and VMRC staff. Program participants and others in the angling community are provided limited hard copies of such reports upon request (until such copies are exhausted). Annual reports for all program years through 2008 are now on VIMS website. They can be accessed at www.vims.edu/adv/recreation/tag/index. or through a link to the reports on the VMRC website.

TABLES

**Table 1A - Virginia Game Fish Tagging Program Annual Tagging Awards
2007 - 2009**

Category	2007		2008		2009	
Most Recaptured Fish (total)	Ed Shepherd	746	Ed Shepherd	794	Ed Shepherd	1,018^a
Most Tagged Fish (total)	Ed Shepherd	4,323	Ed Shepherd	4,030	Ed Shepherd	5,336^a
Most Tagged Black Drum	Ed Shepherd	267	Doug Wehner	12	Bill Knapp	18
Most Tagged Black Sea Bass	Rob Collins	335	Susan Harrell	396	Ed Shepherd	1,862
Most Tagged Cobia	Jim Jenrette	21	James Johnson	12	Jorj Head	14
Most Tagged Flounder	Ed Shepherd	2,398	Ed Shepherd	1,734	Ed Shepherd	2,737^a
Most Tagged Red Drum	Ed Shepherd	1,061	Ed Shepherd	1,448	Ed Shepherd	632
Most Tagged Sheepshead	Ed Shepherd	202	Kevin Whitley	16	Kevin Whitley	179
Most Tagged Spadefish	Dan Peters	69	Kevin Whitley	150	Kevin Whitley	172
Most Tagged Speckled Trout	Ed Lawrence	392	Ed Shepherd	630	Sheldon Arey	920
Most Tagged Tautog	Bill Knapp	174	Rob Collins	301	Ken Neil	134
Most Tagged Triggerfish, Gray	Robert W. Collins	145	Robert Collins	96	Rob Collins	92

^a E. Shepherd assisted VIMS special flounder research project (in part to assess T-bar tag loss rates applicable to Game Fish Tagging Program flounder tag-recapture data); he double tagged (with T-bar and Petersen disc tags) an additional 824 flounder, producing 86 additional recaptures of the double-tagged fish; therefore, his actual overall totals for 2009 were: 1,018 recaptured fish; 5,336 tagged fish; and 2,737 tagged flounder.

**Table 1B - Virginia Game Fish Tagging Program Annual Tagging Awards 2009
(Winner & Runner-Up)**

Award Category	Winner/Runner-Up 2008	Total Fish 2008	Winner/Runner-Up 2009	Total Fish 2009
Most Recaptured Fish	Ed Shepherd	794	Ed Shepherd	1,018^a
	Rob Collins	109	Steven Mann	93
Most Tagged Fish	Ed Shepherd	4030	Ed Shepherd	5,336^b
	Rob Collins	936	Sheldon Arey	1,116
Most Tagged Black Drum	Doug Wehner	12	Bill Knapp	18
	David Griffith	10	Jay Duell+Kevin Whitley	14
Most Tagged Black Sea Bass	Susan Harrell	396	Ed Shepherd	1,862
	Rob Collins	389	Susan Harrell	436
Most Tagged Cobia	James Johnson	9	Jorj Head	22
	Brandon Poulter	7	Elmer Diggs+Sheldon Arey	2
Most Tagged Flounder	Ed Shepherd	1734	Ed Shepherd	2,737^c
	Scott Vinson	634	Scott Vinson	703^d
Most Tagged Red Drum	Ed Shepherd	1448	Ed Shepherd	632
	Kevin Whitley	365	Jim Robinson	200
Most Tagged Sheepshead	Kevin Whitley	16	Kevin Whitley	179
	David Griffith	7	Brandon Bartlett	39
Most Tagged Spadefish	Kevin Whitley	150	Kevin Whitley	172
	Gil Wilson	30	Buddy Noland	54
Most Tagged Speckled Trout	Ed Shepherd	630	Sheldon Arey	920
	Sheldon Arey	423	Donnie Smith	347
Most Tagged Tautog	Rob Collins	301	Ken Neil	134
	Bill Knapp	81	Kevin Whitley	74
Most Tagged Triggerfish (Gray)	Rob Collins	96	Rob Collins	92
	David Barnhart	59	Mike Perron	14

^a- E. Shepherd had 932 single-tagged fish recaptures plus 86 double-tagged flounder recaptures (assisting VIMS flounder research project); combined total =1,018 recaptures.

^b-E. Shepherd singled tagged 4,512 fish plus double tagged an additional 824 flounder for referenced VIMS research project; combined tagged fish total was 5,336 fish.

^c- E. Shepherd single tagged 1,913 flounder plus double tagged 824 flounder for referenced VIMS research project; combined tagged flounder total was 2,737 fish.

^d-S. Vinson single tagged 570 flounder plus double tagged 133 flounder for referenced VIMS research project; combined tagged flounder total was 703 fish.

Table 2A: Taggers Awarded Conservation Certificates for Tagging 25 or more Fish During 2009 (by last name)

Tagger		Black	Black Sea	Cobia	Flounder	Red	Sheeps-	Spade-	Speckled	Tautog	Trigger-	Total
Last Name	First Name	Drum	Bass			Drum	head	fish	Trout		fish	
Agee	David	0	15	0	99	0	0	0	0	20	0	134
Arey	Sheldon	0	0	2	72	122	0	0	920	0	0	1116
Barnhart	David	0	0	0	14	75	0	0	10	19	0	118
Bartlett	Brandon	1	23	0	9	2	39	0	0	13	1	88
Berry	Lester	0	20	1	293	0	0	0	0	1	0	315
Bunnell	Al	1	0	0	0	52	0	0	0	0	0	53
Capps	Ben	0	3	0	7	0	0	0	36	0	0	46
Carpenter	Jim	4	2	0	162	2	0	0	3	0	0	173
Casady	Doug	11	3	0	21	7	0	9	8	0	0	59
Cohn	David	7	0	0	0	20	0	0	5	13	0	45
Collins	Rob	13	291	0	96	78	3	0	5	64	92	641
Collins	Wayne	0	0	0	51	1	0	0	0	0	0	52
Dameron	Will	0	17	0	10	15	0	0	28	0	0	70
Diggs	Elmer	6	12	2	0	3	0	0	0	9	0	32
Donnell	Charles	0	0	0	68	0	0	0	0	0	0	68
Duell	Jay	13	19	0	325 ^a	161	0	0	18	5	3	544
Duell	Jim	3	0	0	110	128	0	0	32	1	0	274
Dunn	John	0	0	0	1	54	0	0	166	0	0	221
Elliott	Dorothy	0	0	0	143	0	0	0	0	0	0	143
Embry	Thomas	4	11	0	171	44	0	0	34	0	0	264
Garthe	Kenneth	0	33	0	23	0	0	0	1	1	0	58
Gold	Stanley	0	0	0	16	9	0	0	0	0	1	26
Green	Hugh	0	12	0	52	2	0	0	6	0	0	72
Griffith	David	10	9	0	87	51	1	0	201	0	0	359
Handforth	Mike	0	7	0	127	0	0	0	0	0	0	134
Hardisty	Marvin	0	1	0	7	24	0	0	31	0	0	63
Harrell	Susan	0	436	0	20	1	0	0	0	0	0	457
Harris	Ronald	0	0	0	155	0	0	3	0	0	0	158
Head	Gerald	0	0	0	7	14	0	0	17	0	0	38
Holtz	Rob	12	0	0	0	12	0	0	0	2	0	26
Hooks	Jared	0	10	0	27	0	0	0	0	0	0	37
Hottenstein	Jeff	0	8	0	110	8	0	0	32	0	0	158
Hughes	Lee	0	2	0	321 ^b	0	0	0	0	0	0	323

Table 2A: Taggers Awarded Conservation Certificates for Tagging 25 or more Fish During 2009 (by last name)

Tagger		Black	Black Sea	Cobia	Flounder	Red	Sheeps-	Spade-	Speckled	Tautog	Trigger-	Total
Last Name	First Name	Drum	Bass			Drum	head	fish	Trout		fish	
Hume	John	0	0	0	0	0	0	0	28	0	0	28
Irwin	Lee	0	0	0	90	0	0	0	0	0	0	90
Johnson	Charlie	0	0	0	59	0	0	10	1	0	0	70
Johnson	James	0	7	0	2	0	0	42	0	0	0	51
Jones	Nathan	0	0	0	29	5	0	0	4	0	0	38
Kindervater	Ed	0	1	0	17	4	0	0	6	0	0	28
Knapp	Bill	18	54	0	12	30	0	3	56	23	11	207
Kumjian	Andrew	3	1	0	89	4	0	0	4	0	0	101
Lawrence	Ed	0	0	0	28	75	0	0	93	0	0	196
Lee	Bob	0	0	0	0	0	0	0	25	0	0	25
Leiffer	James	0	0	0	136 ^c	3	0	0	0	2	0	141
Leviner	Donald	0	3	0	167	0	0	0	1	1	0	172
Lucy	Jon	0	1	6*	24	91	0	0	175	0	0	292
Mann	Steven	0	35	0	492	0	0	0	1	0	0	528
Marquedant	Matthew	0	0	0	21	22	0	0	11	0	0	54
McCall	Ashley	0	0	0	58	0	0	0	0	0	0	58
McCausey	Roy	0	8	0	41	0	0	0	22	10	0	81
Meredith	Scott	0	5	0	48	39	0	0	21	0	0	113
Meyer	Kevin	1	9	0	16	0	0	0	0	0	0	26
Miller	Don	4	1	0	5	58	0	0	0	0	0	68
Miller	Tyler	0	0	0	43	0	0	0	0	0	0	43
Neill	Ken	0	0	0	0	15	0	0	0	134	0	149
Noland	Buddy	0	68	0	4	0	0	54	0	2	0	128
Payton	David	0	0	0	171	5	0	0	1	0	0	177
Perron	Mike	0	51	0	157	1	0	0	7	59	14	289
Poulter	Brandon	1	0	0	31	192	0	0	1	0	0	225
Purcell	Doug	1	0	0	8	29	0	4	13	0	0	55
Reiger	George	0	3	0	50	0	0	0	0	0	0	53
Robinson	Jim	0	30	1	114	200	0	2	110	17	1	475
Russ	Mike	2	41	0	140	5	0	0	33	0	0	221
Sawyer	Kyle	0	0	0	3	29	0	0	1	0	0	33
Shepherd	Ed	10	1862	0	2737 ^d	632	0	0	90	5	0	5336
Smith	Donnie	0	0	0	0	0	0	0	347	0	0	347

Table 2A: Taggers Awarded Conservation Certificates for Tagging 25 or more Fish During 2009 (by last name)

Tagger		Black	Black Sea	Cobia	Flounder	Red	Sheeps-	Spade-	Speckled	Tautog	Trigger-	Total
Last Name	First Name	Drum	Bass			Drum	head	fish	Trout		fish	
Spruill	William	0	0	0	69	0	0	0	0	0	0	69
Stitcher	Lance	0	2	0	105	0	0	0	0	17	0	124
Stover	Carl	2	26	0	478	128	0	38	59	4	0	735
Stumphauzer	Ed	0	0	0	23	1	0	0	2	0	0	26
Taylor	John	0	7	0	282	10	0	0	37	0	0	336
Taylor	Danny	0	1	0	104	0	0	0	0	8	0	113
Tempesco	Matt	0	7	0	147	131	3	0	1	1	0	290
Tucker	John	0	1	1	51	40	0	3	0	0	0	96
Vinson	Scott	1	4	0	703 ^e	0	0	0	0	0	0	681
Walker	Steve	0	0	0	178	4	0	0	0	0	0	182
Waters	Timothy	0	6	0	93	9	0	0	69	0	0	177
Watkins	Brian	0	3	0	20	0	0	0	6	0	0	29
Whitley	Kevin	14	16	0	35	176	179	172	81	74	9	756
Wilson	Gil	0	0	0	0	0	0	28	0	0	0	28
Winn	Michael	0	28	0	43	0	0	1	1	0	1	74
Wojcik	George	0	10	0	41	88	0	0	107	0	0	246
Yavner	Rick	0	1	0	67	2	0	0	3	0	0	73
Zarella	John	0	1	0	305	4	0	0	44	0	0	354

^aJ. Duell, assisting VIMS special flounder research project, double tagged 106 flounder in 2009; therefore, overall flounder total was 325.

^bL. Hughes, assisting VIMS special flounder research project, double tagged 49 flounder in 2009; therefore, overall flounder total was 321.

^cJ. Leiffer, assisting VIMS special flounder research project, double tagged 37 flounder in 2009; therefore, overall flounder total was 136.

^dE. Shepherd, assisting VIMS special flounder research project, double tagged 824 flounder in 2009; therefore, overall flounder total was 2,737.

^eS. Vinson, assisting VIMS special flounder research project, double tagged 133 flounder in 2009; therefore, overall flounder total was 688.

^fSix cobia attributed to J. Lucy were actually tagged by Capt. Aaron Kelly, Rock Solid Sportfishing, Kitty Hawk, NC, as part of an experimental trial.

Table 2B: Taggers Awarded Conservation Certificates for Tagging 25 or more Fish During 2009 (by total fish tagged)

Tagger		Black	Black Sea	Cobia	Flounder	Red	Sheeps-	Spade-	Speckled	Tautog	Trigger-	Total
Last Name	First Name	Drum	Bass			Drum	head	fish	Trout		fish	
Shepherd	Ed	10	1862	0	2737 ^d	632	0	0	90	5	0	5336
Arey	Sheldon	0	0	2	72	122	0	0	920	0	0	1116
Whitley	Kevin	14	16	0	35	176	179	172	81	74	9	756
Stover	Carl	2	26	0	478	128	0	38	59	4	0	735
Vinson	Scott	1	4	0	703 ^e	0	0	0	0	0	0	681
Collins	Rob	13	291	0	96	78	3	0	5	64	92	642
Duell	Jay	13	19	0	325 ^a	161	0	0	18	5	3	544
Mann	Steven	0	35	0	492	0	0	0	1	0	0	528
Robinson	Jim	0	30	1	114	200	0	2	110	17	1	475
Harrell	Susan	0	436	0	20	1	0	0	0	0	0	457
Griffith	David	10	9	0	87	51	1	0	201	0	0	359
Zarella	John	0	1	0	305	4	0	0	44	0	0	354
Smith	Donnie	0	0	0	0	0	0	0	347	0	0	347
Taylor	John	0	7	0	282	10	0	0	37	0	0	336
Hughes	Lee	0	2	0	321 ^b	0	0	0	0	0	0	323
Berry	Lester	0	20	1	293	0	0	0	0	1	0	315
Lucy	Jon	0	1	6*	24	91	0	0	175	0	0	292*
Tempesco	Matt	0	7	0	147	131	3	0	1	1	0	290
Perron	Mike	0	51	0	157	1	0	0	7	59	14	289
Duell	Jim	3	0	0	110	128	0	0	32	1	0	274
Embry	Thomas	4	11	0	171	44	0	0	34	0	0	264
Wojcik	George	0	10	0	41	88	0	0	107	0	0	246
Poulter	Brandon	1	0	0	31	192	0	0	1	0	0	225
Dunn	John	0	0	0	1	54	0	0	166	0	0	221
Russ	Mike	2	41	0	140	5	0	0	33	0	0	221
Knapp	Bill	18	54	0	12	30	0	3	56	23	11	207
Lawrence	Ed	0	0	0	28	75	0	0	93	0	0	196
Walker	Steve	0	0	0	178	4	0	0	0	0	0	182
Waters	Timothy	0	6	0	93	9	0	0	69	0	0	177
Payton	David	0	0	0	171	5	0	0	1	0	0	177
Carpenter	Jim	4	2	0	162	2	0	0	3	0	0	173
Leviner	Donald	0	3	0	167	0	0	0	1	1	0	172
Harris	Ronald	0	0	0	155	0	0	3	0	0	0	158

Table 2B: Taggers Awarded Conservation Certificates for Tagging 25 or more Fish During 2009 (by total fish tagged)

Tagger		Black	Black Sea	Cobia	Flounder	Red	Sheeps-	Spade-	Speckled	Tautog	Trigger-	Total
Last Name	First Name	Drum	Bass			Drum	head	fish	Trout		fish	
Hottenstein	Jeff	0	8	0	110	8	0	0	32	0	0	158
Neill	Ken	0	0	0	0	15	0	0	0	134	0	149
Elliott	Dorothy	0	0	0	143	0	0	0	0	0	0	143
Agee	David	0	15	0	99	0	0	0	0	20	0	134
Handforth	Mike	0	7	0	127	0	0	0	0	0	0	134
Noland	Buddy	0	68	0	4	0	0	54	0	2	0	128
Stitcher	Lance	0	2	0	105	0	0	0	0	17	0	124
Barnhart	David	0	0	0	14	75	0	0	10	19	0	118
Meredith	Scott	0	5	0	48	39	0	0	21	0	0	113
Taylor	Danny	0	1	0	104	0	0	0	0	8	0	113
Leiffer	James	0	0	0	99 ^c	3	0	0	0	2	0	104
Kumjian	Andrew	3	1	0	89	4	0	0	4	0	0	101
Tucker	John	0	1	1	51	40	0	3	0	0	0	96
Irwin	Lee	0	0	0	90	0	0	0	0	0	0	90
Bartlett	Brandon	1	23	0	9	2	39	0	0	13	1	88
McCauley	Roy	0	8	0	41	0	0	0	22	10	0	81
Winn	Michael	0	28	0	43	0	0	1	1	0	1	74
Yavner	Rick	0	1	0	67	2	0	0	3	0	0	73
Green	Hugh	0	12	0	52	2	0	0	6	0	0	72
Johnson	Charlie	0	0	0	59	0	0	10	1	0	0	70
Dameron	Will	0	17	0	10	15	0	0	28	0	0	70
Spruill	William	0	0	0	69	0	0	0	0	0	0	69
Miller	Don	4	1	0	5	58	0	0	0	0	0	68
Donnell	Charles	0	0	0	68	0	0	0	0	0	0	68
Hardisty	Marvin	0	1	0	7	24	0	0	31	0	0	63
Casady	Doug	11	3	0	21	7	0	9	8	0	0	59
Garthe	Kenneth	0	33	0	23	0	0	0	1	1	0	58
McCall	Ashley	0	0	0	58	0	0	0	0	0	0	58
Purcell	Doug	1	0	0	8	29	0	4	13	0	0	55
Marquedant	Matthew	0	0	0	21	22	0	0	11	0	0	54
Bunnell	Al	1	0	0	0	52	0	0	0	0	0	53
Reiger	George	0	3	0	50	0	0	0	0	0	0	53
Collins	Wayne	0	0	0	51	1	0	0	0	0	0	52

Table 2B: Taggers Awarded Conservation Certificates for Tagging 25 or more Fish During 2009 (by total fish tagged)

Tagger Last Name	Tagger First Name	Black Drum	Black Sea Bass	Cobia	Flounder	Red Drum	Sheeps- head	Spade- fish	Speckled Trout	Tautog	Trigger- fish	Total
Johnson	James	0	7	0	2	0	0	42	0	0	0	51
Capps	Ben	0	3	0	7	0	0	0	36	0	0	46
Cohn	David	7	0	0	0	20	0	0	5	13	0	45
Miller	Tyler	0	0	0	43	0	0	0	0	0	0	43
Head	Gerald	0	0	0	7	14	0	0	17	0	0	38
Jones	Nathan	0	0	0	29	5	0	0	4	0	0	38
Hooks	Jared	0	10	0	27	0	0	0	0	0	0	37
Sawyer	Kyle	0	0	0	3	29	0	0	1	0	0	33
Diggs	Elmer	6	12	2	0	3	0	0	0	9	0	32
Watkins	Brian	0	3	0	20	0	0	0	6	0	0	29
Kindervater	Ed	0	1	0	17	4	0	0	6	0	0	28
Hume	John	0	0	0	0	0	0	0	28	0	0	28
Wilson	Gil	0	0	0	0	0	0	28	0	0	0	28
Gold	Stanley	0	0	0	16	9	0	0	0	0	1	26
Holtz	Rob	12	0	0	0	12	0	0	0	2	0	26
Meyer	Kevin	1	9	0	16	0	0	0	0	0	0	26
Stumphauzer	Ed	0	0	0	23	1	0	0	2	0	0	26
Lee	Bob	0	0	0	0	0	0	0	25	0	0	25

^aJ. Duell, assisting VIMS special flounder research project, double tagged 106 flounder in 2009; therefore, overall flounder total was 325.

^bL. Hughes, assisting VIMS special flounder research project, double tagged 49 flounder in 2009; therefore, overall flounder total was 321.

^cJ. Leiffer, assisting VIMS special flounder research project, double tagged 37 flounder in 2009; therefore, overall flounder total was 136.

^dE. Shepherd, assisting VIMS special flounder research project, double tagged 824 flounder in 2009; therefore, overall flounder total was 2,737.

^eS. Vinson, assisting VIMS special flounder research project, double tagged 133 flounder in 2009; therefore, overall flounder total was 688.

^fSix cobia attributed to J. Lucy were actually tagged by Capt. Aaron Kelly, Rock Solid Sportfishing, Kitty Hawk, NC, as part of an experimental trial.

Table 3A: Taggers Having 5 or More Fish Recaptured During 2009 (by last name)

Tagger		Black	Black Sea	Cobia	Flounder	Red	Sheeps-	Spade-	Speckled	Tautog	Trigger-	Total
Last Name	First Name	Drum	Bass			Drum	head	fish	Trout		fish	
Agee	David	0	2	0	1	0	0	0	0	2	0	5
Arey	Sheldon	0	0	0	3	10	0	0	19	0	0	32
Barnhart	David	0	0	0	2	8	0	0	1	3	0	14
Bartlett	Brandon	0	1	0	3	1	0	0	0	1	0	6
Berry	Lester	0	10	0	56	0	0	0	0	1	0	67
Bunnell	Al	0	0	0	0	6	0	0	0	0	0	6
Carpenter	Jim	0	0	0	26	0	0	0	0	0	0	26
Casady	Doug	1	1	0	3	1	0	0	0	0	0	6
Cohn	David	0	0	0	0	1	0	0	0	13	0	14
Collins	Rob	0	22	0	1	4	0	1	0	21	25	74
Diggs	Elmer	0	2	0	0	1	0	0	0	4	0	7
Duell	Jay	1	0	0	36 ^a	25	1	0	1	0	0	64
Duell	Jim	0	0	1	14	12	0	0	0	0	0	27
Dunn	John	0	0	0	1	7	0	0	4	0	0	12
Embry	Thomas	0	1	0	18	12	0	0	2	0	0	33
Gold	Stanley	0	0	0	3	2	0	0	0	0	1	6
Guyot	Rick	0	0	0	8	1	0	0	4	4	0	17
Handforth	Mike	0	0	0	8	0	0	0	0	0	0	8
Hardisty	Marvin	0	0	0	0	5	0	0	3	0	0	8
Harrell	Susan	0	23	0	1	1	0	0	0	0	0	25
Harris	Ronald	0	1	0	5	0	0	1	0	0	0	7
Hooks	Jared	0	3	0	4	0	0	0	0	0	0	7
Hottenstein	Jeff	0	0	0	7	0	0	0	0	0	0	7
Hughes	Lee	0	0	0	51 ^b	0	0	0	0	0	0	51
Jordan	Trafton	0	0	0	0	10	0	0	0	0	0	10
Knapp	Bill	1	3	0	1	26	0	0	0	17	7	55
Kumjian	Andrew	0	0	0	7	3	0	0	0	1	0	11
Lawrence	Ed	0	0	0	2	19	0	0	3	0	0	24
Leiffer	James	0	0	0	5 ^c	0	0	0	0	0	0	5
Leviner	Donald	0	1	0	19	0	0	0	0	0	0	20
Lucy	Jon	0	0	0	3	27	0	0	23	0	0	53
Mann	Steven	0	5	0	88	0	0	0	0	0	0	93
Marquedant	Matthew	0	0	0	3	3	0	0	0	0	0	6
Meredith	Scott	0	1	0	1	5	0	0	1	0	0	8
Miller	Tyler	0	1	0	14	0	0	0	0	0	0	15

Table 3A: Taggers Having 5 or More Fish Recaptured During 2009 (by last name)

Tagger		Black	Black Sea	Cobia	Flounder	Red	Sheeps-	Spade-	Speckled	Tautog	Trigger-	Total
Last Name	First Name	Drum	Bass			Drum	head	fish	Trout		fish	
Miller	Don	0	0	0	0	9	0	0	0	0	0	9
Neill	Ken	0	0	0	1	0	0	0	0	11	0	12
Noland	Buddy	0	7	0	1	0	0	3	0	0	0	11
Payton	David	0	0	0	50	0	0	0	0	0	0	50
Perron	Mike	0	9	0	11	1	0	0	1	8	1	31
Poulter	Brandon	0	0	1	0	11	0	0	0	0	0	12
Robinson	Jim	0	0	1	14	32	0	0	4	0	0	51
Russ	Mike	0	15	0	39	5	0	0	3	0	0	62
Shepherd	Ed	0	524	0	271 ^d	137	0	0	5	0	0	937
Smith	Donnie	0	0	0	1	1	0	0	3	0	0	5
Spruill	William	0	0	0	16	0	0	0	0	0	0	16
Stitcher	Lance	0	2	0	5	0	0	0	0	0	0	7
Stover	Carl	0	4	0	38	19	0	3	0	0	0	64
Taylor	John	0	0	0	15	10	0	0	3	0	0	28
Tempesco	Matt	0	2	0	23	20	0	0	0	0	0	45
Tucker	John	0	0	0	8	5	0	1	0	0	0	14
Vinson	Scott	0	0	0	60 ^e	0	0	0	0	0	0	60
Walker	Steve	1	0	0	23	1	0	0	0	0	0	25
Waters	Timothy	0	0	0	16	0	0	0	1	0	0	17
Whitley	Kevin	1	1	0	12	21	7	5	4	9	3	63
Winn	Michael	0	3	0	4	0	0	0	0	0	1	8
Wojcik	George	0	0	0	5	14	0	0	4	0	0	23
Yavner	Rick	0	0	0	7	0	0	0	0	0	0	7
Zarella	John	0	0	0	28	1	0	0	0	0	0	29

^aJ. Duell, assisting VIMS special flounder research project, also had 9 double-tagged flounder recaptures during 2009 for an overall flounder recapture total of 45 fish.

^bL. Hughes, assisting VIMS special flounder research project, also had 12 double-tagged flounder recaptures in 2009 for an overall flounder recapture total of 63 fish.

^cJ. Leiffer, assisting VIMS special flounder research project, also had 3 double-tagged flounder recaptures during 2009 for an overall flounder recapture total of 8 fish.

^dE. Shepherd, assisting VIMS special flounder research project, also had 86 double-tagged flounder recaptured in 2009 for an overall flounder recapture total of 357 fish.

^eS. Vinson, assisting VIMS special flounder research project, also had 9 double-tagged flounder recaptures in 2009 for an overall flounder recapture total of 69 fish.

Table 3B: Taggers Having 5 or More Fish Recaptured During 2009 (by total fish recaptured)

Tagger		Black	Black Sea	Cobia	Flounder	Red	Sheeps-	Spade-	Speckled	Tautog	Trigger-	Total
Last Name	First Name	Drum	Bass			Drum	head	fish	Trout		fish	
Shepherd	Ed	0	524	0	271 ^d	137	0	0	5	0	0	937
Mann	Steven	0	5	0	88	0	0	0	0	0	0	93
Collins	Rob	0	22	0	1	4	0	1	0	21	25	74
Berry	Lester	0	10	0	56	0	0	0	0	1	0	67
Stover	Carl	0	4	0	38	19	0	3	0	0	0	64
Duell	Jay	1	0	0	36 ^a	25	1	0	1	0	0	64
Whitley	Kevin	1	1	0	12	21	7	5	4	9	3	63
Russ	Mike	0	15	0	39	5	0	0	3	0	0	62
Vinson	Scott	0	0	0	60 ^e	0	0	0	0	0	0	60
Knapp	Bill	1	3	0	1	26	0	0	0	17	7	55
Lucy	Jon	0	0	0	3	27	0	0	23	0	0	53
Hughes	Lee	0	0	0	51 ^b	0	0	0	0	0	0	51
Robinson	Jim	0	0	1	14	32	0	0	4	0	0	51
Payton	David	0	0	0	50	0	0	0	0	0	0	50
Tempesco	Matt	0	2	0	23	20	0	0	0	0	0	45
Embry	Thomas	0	1	0	18	12	0	0	2	0	0	33
Arey	Sheldon	0	0	0	3	10	0	0	19	0	0	32
Perron	Mike	0	9	0	11	1	0	0	1	8	1	31
Zarella	John	0	0	0	28	1	0	0	0	0	0	29
Taylor	John	0	0	0	15	10	0	0	3	0	0	28
Duell	Jim	0	0	1	14	12	0	0	0	0	0	27
Carpenter	Jim	0	0	0	26	0	0	0	0	0	0	26
Walker	Steve	1	0	0	23	1	0	0	0	0	0	25
Harrell	Susan	0	23	0	1	1	0	0	0	0	0	25
Lawrence	Ed	0	0	0	2	19	0	0	3	0	0	24
Wojcik	George	0	0	0	5	14	0	0	4	0	0	23
Leviner	Donald	0	1	0	19	0	0	0	0	0	0	20
Guyot	Rick	0	0	0	8	1	0	0	4	4	0	17
Waters	Timothy	0	0	0	16	0	0	0	1	0	0	17
Spruill	William	0	0	0	16	0	0	0	0	0	0	16
Miller	Tyler	0	1	0	14	0	0	0	0	0	0	15
Barnhart	David	0	0	0	2	8	0	0	1	3	0	14
Tucker	John	0	0	0	8	5	0	1	0	0	0	14
Cohn	David	0	0	0	0	1	0	0	0	13	0	14
Neill	Ken	0	0	0	1	0	0	0	0	11	0	12
Dunn	John	0	0	0	1	7	0	0	4	0	0	12

Table 3B: Taggers Having 5 or More Fish Recaptured During 2009 (by total fish recaptured)

Tagger		Black	Black Sea	Cobia	Flounder	Red	Sheeps-	Spade-	Speckled	Tautog	Trigger-	Total
Last Name	First Name	Drum	Bass			Drum	head	fish	Trout		fish	
Poulter	Brandon	0	0	1	0	11	0	0	0	0	0	12
Kumjian	Andrew	0	0	0	7	3	0	0	0	1	0	11
Noland	Buddy	0	7	0	1	0	0	3	0	0	0	11
Jordan	Trafton	0	0	0	0	10	0	0	0	0	0	10
Miller	Don	0	0	0	0	9	0	0	0	0	0	9
Meredith	Scott	0	1	0	1	5	0	0	1	0	0	8
Winn	Michael	0	3	0	4	0	0	0	0	0	1	8
Hardisty	Marvin	0	0	0	0	5	0	0	3	0	0	8
Handforth	Mike	0	0	0	8	0	0	0	0	0	0	8
Hooks	Jared	0	3	0	4	0	0	0	0	0	0	7
Stitcher	Lance	0	2	0	5	0	0	0	0	0	0	7
Harris	Ronald	0	1	0	5	0	0	1	0	0	0	7
Yavner	Rick	0	0	0	7	0	0	0	0	0	0	7
Diggs	Elmer	0	2	0	0	1	0	0	0	4	0	7
Hottenstein	Jeff	0	0	0	7	0	0	0	0	0	0	7
Casady	Doug	1	1	0	3	1	0	0	0	0	0	6
Marquedant	Matthew	0	0	0	3	3	0	0	0	0	0	6
Gold	Stanley	0	0	0	3	2	0	0	0	0	1	6
Bunnell	Al	0	0	0	0	6	0	0	0	0	0	6
Bartlett	Brandon	0	1	0	3	1	0	0	0	1	0	6
Agee	David	0	2	0	1	0	0	0	0	2	0	5
Smith	Donnie	0	0	0	1	1	0	0	3	0	0	5
Leiffer	James	0	0	0	5 ^c	0	0	0	0	0	0	5

^aJ. Duell, assisting VIMS special flounder research project, also had 9 double-tagged flounder recaptures during 2009 for an overall flounder recapture total of 45 fish.

^bL. Hughes, assisting VIMS special flounder research project, also had 12 double-tagged flounder recaptures in 2009 for an overall flounder recapture total of 63 fish.

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^dE. Shepherd, assisting VIMS special flounder research project, also had 86 double-tagged flounder recaptured in 2009 for an overall flounder recapture total of 357 fish.

^eS. Vinson, assisting VIMS special flounder research project, also had 9 double-tagged flounder recaptures in 2009 for an overall flounder recapture total of 69 fish.

Table 4. Tagged and Recaptured Fish by Species by Year (2007-2009) and Overall (Cumulative) Recapture Rates

Species	No. Tagged				No. Recaptures ¹				Overall Recapture Rate ²		
	2007	2008	2009	1995-2009	2007	2008	2009	1995-2009	2007	2008	2009
Black Drum	542	187	162	3,674	37	6	5	169	4.8%	4.7%	4.6%
Black Sea Bass	1,865	2,654	3,245	24,579	286	318	652	3,534	13.7%	13.5%	13.8%
Cobia	59	60	36	1,226	12	7	8	161	12.9%	12.9%	13.1%
Flounder	8,582	7,834	9,211	70,674	1,030	850	1,095	6,609	8.7%	9.0%	9.4%
Red Drum ³	3,026	4,477	3,014	27,550	513	493	501	2,956	9.8%	10.0%	10.7%
Sheepshead	227	40	225	1,361	41	2	8	84	6.8%	6.7%	6.2%
Spadefish	433	275	390	5,649	71	41	20	570	10.2%	10.5%	10.1%
Speckled Trout ⁴	2,527	3,238	3,059	20,250	68	206	96	612	2.2%	3.0%	3.0%
Tautog	951	743	522	15,089	233	142	108	2,366	15.3%	15.5%	15.7%
Gray Triggerfish	262	212	132	1,266	47	74	38	275	17.7%	20.9%	21.7%
Grand Total	18,474	19,720	19,988	171,318	2,338	2,139	2,531	17,336	9.0%	9.8%	10.1%

¹Recapture counts include multiple recaptures of individual fish, events of some significance particularly for black sea bass, flounder and spadefish.

²Cumulative recapture rates: from 1995 to end of year indicated.

³2007 totals include 294 double tagged and 11 triple tagged sub-adult red drum, and 2008 totals include 396 double tagged drum for tag retention field trials.

⁴2007 totals include 320 double tagged and 19 triple tagged trout, and 2008 totals include 236 double tagged trout for tag retention field trials.

FIGURES

Figure 1. Number of Tagged Fish 2005-2009

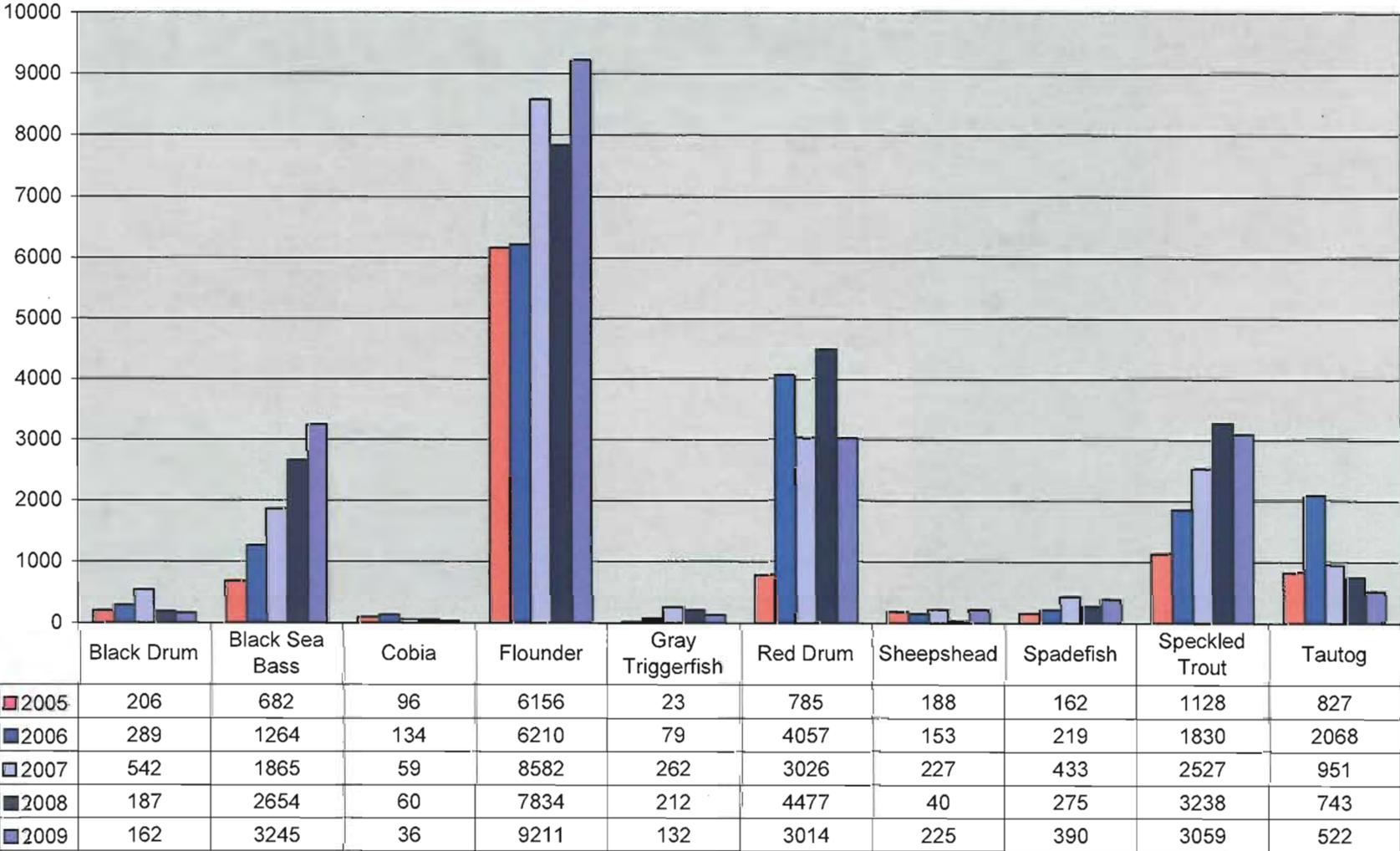


Figure 2. Number of Recaptured Fish 2005-2009

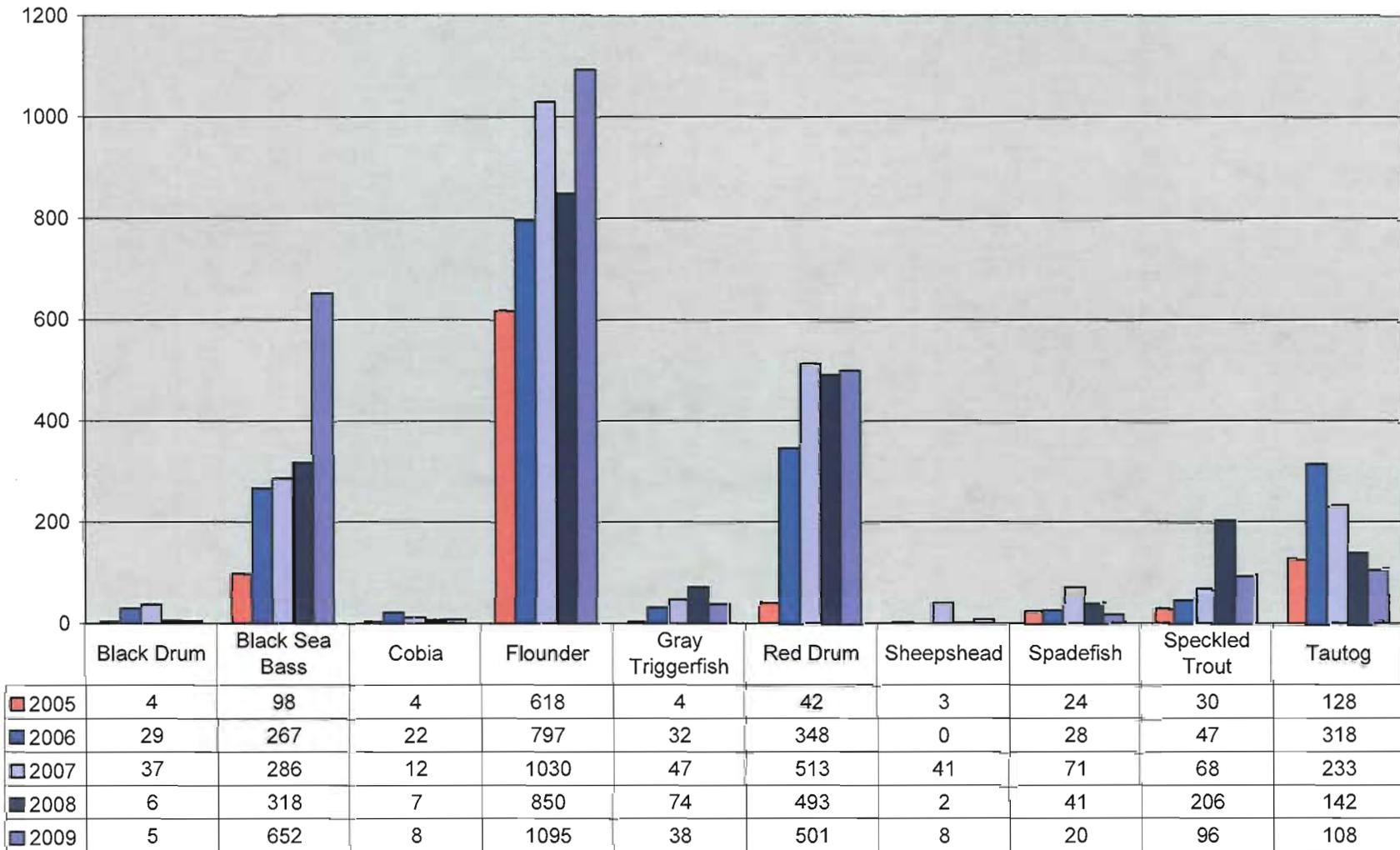
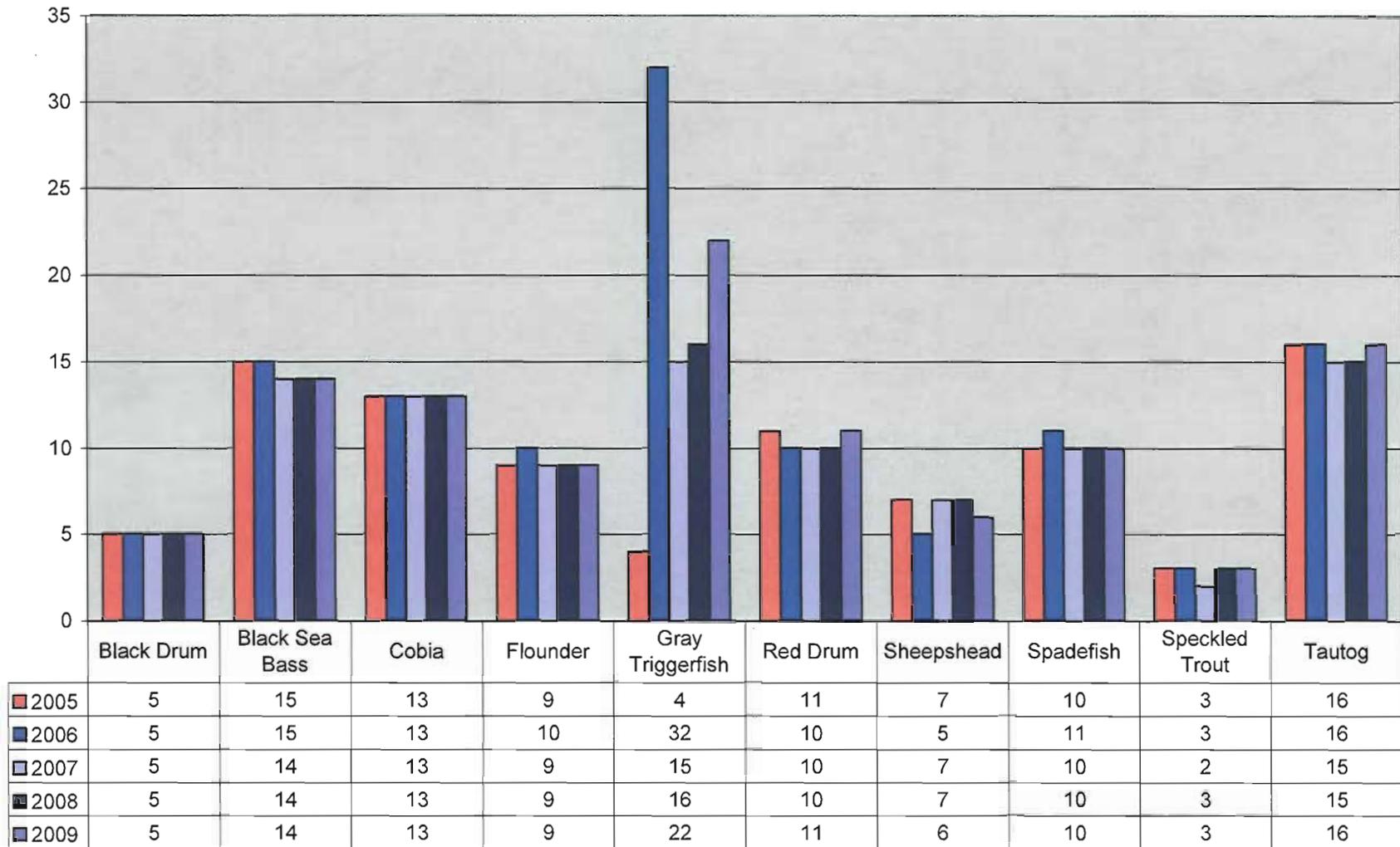


Figure 3. Cumulative Recapture Rates (%) 2005-2009



NOTE: Gray Triggerfish - For 2006, 2007 and 2008 cumulative recapture rates were 29%, 18%, and 21% respectively.

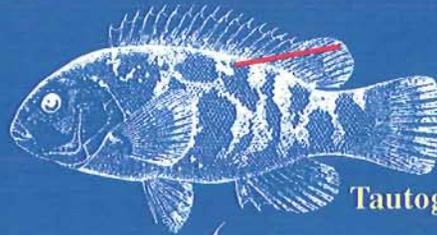
APPENDIX



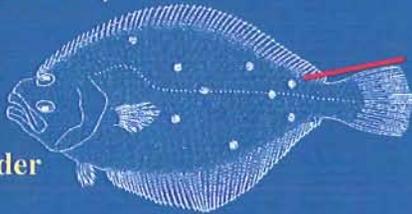
Virginia Game Fish Tagging Program Target Species



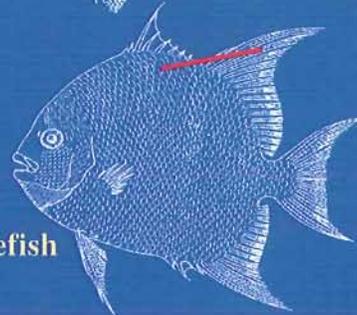
Cobia



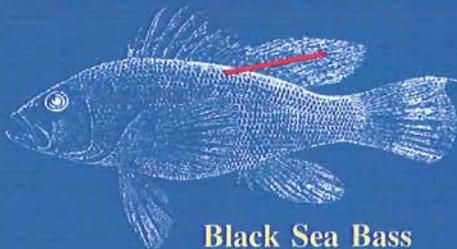
Tautog



Summer Flounder



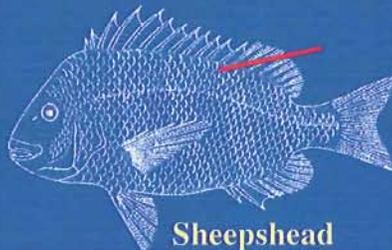
Spadefish



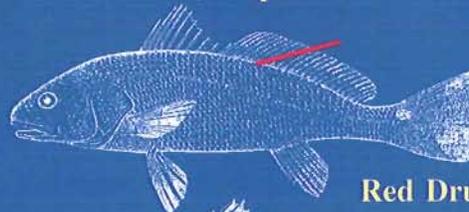
Black Sea Bass



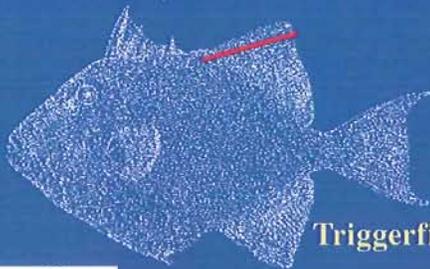
Speckled Trout



Sheepshead



Red Drum



Triggerfish



Black Drum



ANGLERS—BE ON THE LOOKOUT FOR TAGS IN FISH YOU CATCH! Check both sides of fish near base of top fin.

SOME FISH MAY HAVE 2 DIFFERENT TAGS—tags can work out of a fish's muscle so tag retention studies may be underway. **IMPORTANT TO REPORT IF FISH HAS 2 TAGS.**

REPORT recaptures of tagged fish to **757-491-5160** in Virginia Beach (VA Saltwater Fishing Tournament office). **REWARDS** available (caps, T-shirts, tackle boxes, etc.).



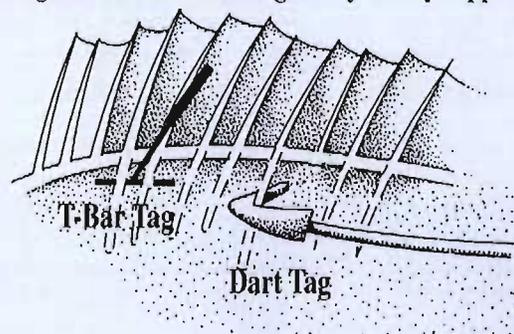
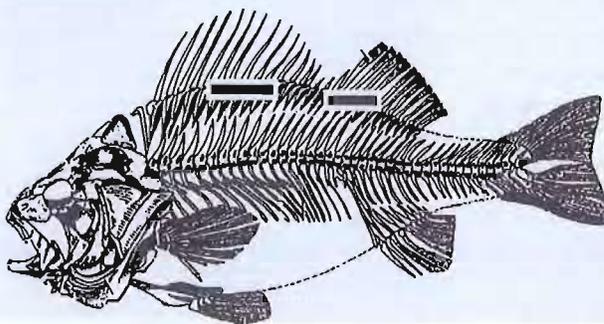
Current Types of Tags Used in Tagging Program

(From the top: T-bar, Dogleg Dart, Small Dart, and Stainless Steel Dart tags)

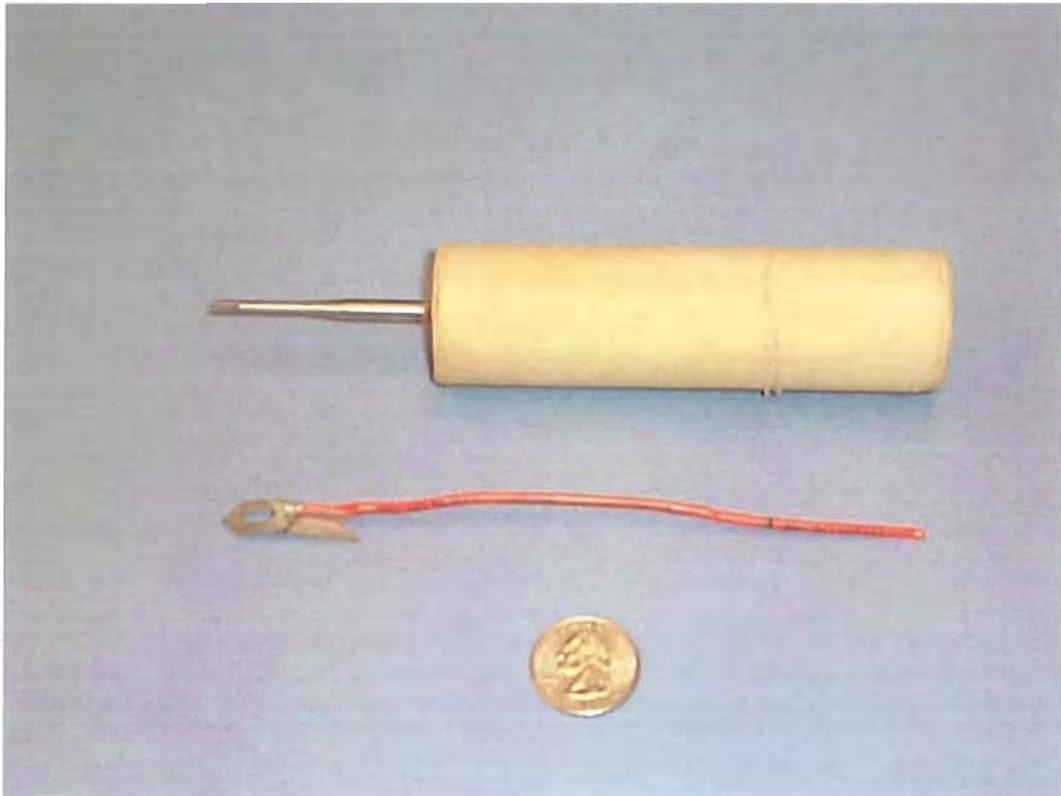


Typical Fish: Anchor Tags at Base of Dorsal Fin; Use 1st Dorsal for Smaller Fish (< 18 inches) & 2nd Dorsal for Larger Fish (\geq about 18 inches)

Tag inserted into fish musculature just below dorsal fin with tag barb anchored through bony fin ray supports.



**Tagging Gun and T-Bar Tags (top photo); Stainless Steel Dart Tag and
Applicator (bottom photo)
(Note: coin for scale – 0.75 inches diameter)**



Virginia Game Fish Tagging Program

Budget – 2011

VMRC Portion

The vast majority of the VMRC portion of the budget is returned to the angling public in the form of tagging awards and information, delivery charges (UPS and USPO) and shipping supplies (96%).

Tagging awards consist primarily of rewards sent to the general public for reporting tag recapture information but also include costs for data sheets, Conservation Certificates and Plaques that are provided to the volunteer taggers. The number of reported recaptured fish, in any given year, correlates to the number of fish tagged, in that year, but is also influenced by the number of fish tagged in recent prior years. The years of 2007, 2008 and 2009 were all record-setting years either in terms of numbers of fish tagged or the reported number of recaptured fish (**refer to the attached pdf file, particularly the last column titled “total”**). For the first time in any year, in 2008 the number of active volunteer taggers reached 200 (the carrying capacity of the program) and remained at roughly 200 in 2009 and 2010. To cover the expected increase in recaptures, the number of certain reward items has been increased, and in the case of the tackle organizers, the price per each individual item has increased. Additionally UPS postage and shipping costs, plus the related mailing supplies, were increased to reflect both increases in cost per item and increases due to the number of items shipped. Funding for the VMRC portion of the Game Fish Tagging Program has not been increased since the 2008 budget request, even though the number of recaptures and certain costs have increased. Below is an itemization of program expenditures, by category and item. Expenditures that have increased are in bold while the amount being replaced has a double strikethrough.

Tagging Awards

	720 Hats @ \$6.50 each		4680	
	720 T-Shirts @ \$6.50 each		4680	
180	250 Pewter Fish Pins @3.00 each		750	540
	1200 Decals @ .85 each		1020	
	600 Digital Stickers @ 1.75 each		1050	
360	500 Tackle Organizers @ 3.00 2.50 each		1500	900
	12 Tag Plaques @ \$14 each		168	
	Conservation Certificates		500	
	Data Sheets and Cards		<u>600</u>	
			14948	14138

Postage and Shipping

U. S. Postage	1560	
UPS Shipping	8970	7800
<u>Total</u>	10530	9360

Supplies (Paper, Envelopes, Mailers, Tape, Bubble Wrap etc.)

1060 ~~960~~

Travel

1200

Total

27,738 ~~\$25,658~~

Game Fish Tagging Program

Virginia Marine Resources Commission

Virginia Institute of Marine Sciences

Recaptures / Tagged by Year and Species Report

Based on Number of Tags

Print Date: April 15, 2010, 12:23 pm



Year	Black Drum	Black Sea Bass	Cobia	Flounder	Red Drum	Sheeps Head	Spade Fish	Speckled Trout	Tautog	Trigger Fish	Total
2010	1 / 2	0 / 82	0 / 0	2 / 16	174 / 916	0 / 0	0 / 0	35 / 592	25 / 228	0 / 0	237 / 1836
2009	5 / 167	1010 / 3272	8 / 36	1264 / 9309	542 / 3119	8 / 225	20 / 391	99 / 3175	110 / 535	39 / 176	3105 / 20405
2008	6 / 192	332 / 2687	8 / 66	867 / 7888	509 / 4925	2 / 40	41 / 300	215 / 3521	145 / 745	76 / 212	2201 / 20576
2007	36 / 546	292 / 1875	13 / 71	1060 / 8615	511 / 3364	41 / 229	73 / 433	60 / 2929	238 / 955	47 / 262	2371 / 19280
2006	28 / 288	260 / 1268	26 / 187	792 / 6218	361 / 4153	0 / 176	28 / 221	51 / 1952	309 / 2081	32 / 79	1925 / 16626
2005	4 / 205	107 / 686	4 / 98	621 / 6123	42 / 794	3 / 185	21 / 173	29 / 1149	133 / 822	4 / 23	973 / 10258
2004	5 / 232	70 / 1012	5 / 184	648 / 7286	23 / 503	27 / 274	43 / 299	26 / 990	119 / 1221	41 / 193	1016 / 12194
2003	5 / 176	88 / 922	11 / 14	397 / 3704	339 / 2270	0 / 6	26 / 236	8 / 361	59 / 497	12 / 31	963 / 8219
2002	15 / 188	231 / 1732	15 / 63	317 / 3566	193 / 2752	1 / 10	55 / 470	23 / 1247	129 / 653	23 / 56	1053 / 10741
2001	4 / 395	280 / 1913	19 / 87	636 / 6880	27 / 295	1 / 7	49 / 553	13 / 486	149 / 951	2 / 14	1215 / 11599
2000	5 / 109	294 / 2008	10 / 65	161 / 2603	173 / 1124	1 / 12	60 / 523	11 / 362	156 / 713	0 / 0	912 / 7519
1999	7 / 90	384 / 2139	16 / 59	4 / 4	135 / 1073	0 / 0	25 / 233	16 / 521	356 / 1923	0 / 0	973 / 6049
1998	8 / 196	455 / 2655	13 / 73	3 / 28	92 / 551	0 / 0	38 / 476	29 / 495	226 / 1347	0 / 0	881 / 5824
1997	2 / 72	48 / 592	9 / 108	2 / 38	44 / 438	0 / 0	36 / 547	12 / 440	77 / 914	0 / 0	233 / 3150
1996	3 / 85	0 / 0	9 / 75	0 / 6	4 / 92	0 / 0	8 / 189	4 / 409	74 / 543	0 / 0	102 / 1400
1995	37 / 200	0 / 0	2 / 50	0 / 3	2 / 66	0 / 0	25 / 193	14 / 601	30 / 260	0 / 0	110 / 1374

This report counts the total number of tags per species.

For recaptures, this report counts the number recaptures including recaptures of the same fish.