

Fisheries Service
FY 2014 Budget Report
to the Sport Fisheries Advisory Commission
October 2014



Martin O'Malley, Governor
Anthony G. Brown, Lt. Governor
Joseph P. Gill, Secretary
Frank W. Dawson III, Deputy Secretary

INTRODUCTION

The Fisheries Service's mission is to assess, protect, conserve, fairly allocate, and promote the sustainable utilization of wild and farm-raised fish resources of Maryland for balanced ecological and socio-economic benefits. This is accomplished through scientific investigation, application of data, and proactive involvement with an informed citizenry. Fisheries Service's responsibilities fall into four core functions:

- 1) Protect, conserve and enhance fisheries resources.
- 2) Provide and enhance fishing opportunities, including access.
- 3) Provide sustainable economic opportunities.
- 4) Promote and protect fisheries resources through public outreach and education.

Revenue from sport fishermen provides funding for almost half of all fisheries programs in Maryland. This is from the sales of fishing licenses, gasoline sales surcharges and a federal excise tax on sport fishing tackle and related equipment. Other fund sources include general funds from state taxpayer dollars, commercial license sales, state reimbursable funds such as Maryland Department of Transportation (MDOT), and grants from federal taxpayer dollars.

Natural Resources Article § 4-745 requires the Maryland Department of Natural Resources (MD DNR) to publicly report annually the amount of sport fishing license revenues credited to and expended from the Fisheries Research & Development Fund (FR&D). In the annual preparation of plans to expend sport fishing revenues credited to FR&D, MD DNR is also required to solicit the advice and opinions from the Sport Fisheries Advisory Commission, representative fishing and boating associations, and other interested parties. The reporting requirement is different for nontidal sport fishing license fees. For sport fishing fees associated with the nontidal fund known as the Fisheries Management and Protection Fund (FM&P), MD DNR is required to "publicly report annually the amounts collected and the expenditures."

Because MD DNR would not be able to manage the State's diverse and high quality fishery resources without revenue from fishing licenses, it is vital that anglers understand the importance of their contribution and how their license dollars are used. MD DNR is committed to informing sport fishermen and providing a comprehensive report on all sport fishing license fees and other revenue sources. This report meets statutory reporting requirements, but more importantly, it is intended to provide information which helps anglers and the public understand the magnitude of their contributions and the importance of these contributions to funding programs which benefit both fisheries resources and the sport fishermen who use those resources.



BUDGET

Reporting Period and Budget Terminology

This report provides budget information for revenues and expenditures during fiscal year 2014 (FY 2014), the most recently completed fiscal year. FY 2014 was July 1, 2013 through June 30, 2014. Sport fishing license sales reported are for calendar year 2013 since Maryland sells sport fishing licenses by calendar year, and 2013 is the most recently completed year.

In order to understand the information in this report, here are a few terms you will need to know:

- **SPECIAL FUNDS** – revenue from recreational fishing license sales, commercial fishing license sales and oyster bushel tax, aquaculture fees, gasoline sales surcharges, and agreements with non state organizations (i.e. private company’s donation for Atlantic sturgeon restoration). Recreational tidal license sale and fee revenues are deposited into the Fisheries Research and Development Fund (FR&D). Nontidal license sale revenues are deposited into the Fisheries Management and Protection Fund (FM&P).
- **FEDERAL FUNDS** – revenue from a tax on sport fishing tackle purchases (Wallop-Breaux), and federal partner grant awards from federal taxes.
- **GENERAL FUNDS** –revenue from State taxes.
- **REIMBURSABLE FUNDS** – revenue from Maryland State agencies such as Maryland Department of Transportation (MDOT).



License Sales, Revenues and Expenditures

A. License Sales

Table 1 shows calendar year recreational license sales from 2009 to 2013. License changes, including the comprehensive Coastal & Bay fishing license, short term licenses expanded to 7 days, creation of separate trout stamp for nonresidents, and Maryland Saltwater registration, were added in 2011. The percent change in license sales from 2012 was calculated to show recent changes. Including angler registrations and tidal and nontidal fishing licenses, there were 308,882 unique anglers in Maryland in 2013. Twenty-three percent of these unique anglers are nonresidents. This does not include anglers less than 16 years of age and/or individuals who fish on free fishing days. There were also 56,540 unique recreational crabbers of which 13% are nonresidents.

Table 1. Maryland recreational license sales by calendar year

FISHING STATISTICS BY LICENSE YEAR	2009	2010	2011	2012	2013	%Change from 2012
RESIDENT NONTIDAL	120,093	111,241	105,893	108,600	112,919	4.0%
NON RESIDENT NONTIDAL	11,986	11,625	11,259	11,289	10,907	-3.4%
3 DAY NONTIDAL	8,400	8,230	6,623	6,344	6,885	8.5%
7 DAY NONTIDAL (5 Day prior to 2011)	8,145	8,065	8,175	8,094	8,695	7.4%
TROUT STAMP	59,839	56,247				
RESIDENT TROUT STAMP (New 2011)			44,187	46,744	48,319	3.4%
NON RESIDENT TROUT STAMP (New 2011)			6,827	6,986	6,724	-3.8%
NONTIDAL BLIND	124	107	104	101	82	-18.8%
SENIOR CONSOLIDATED LICENSE	21,884	22,147	23,224	24,675	25,985	5.3%
RESIDENT BAY (and Coastal) SPORT	94,688	89,985	93,074	94,291	101,077	7.2%
NON RESIDENT BAY (and Coastal) SPORT	23,373	22,471	21,011	20,937	21,045	0.5%
5 DAY BAY SPORT	17,344	15,352				
RESIDENT 7 DAY BAY AND COASTAL SPORT (New 2011)			7,032	6,410	7,227	12.7%
NON RESIDENT 7 DAY BAY AND COASTAL SPORT (New 2011)			17,274	16,880	17,289	2.4%
PLEASURE BOAT DECAL	47,001	46,886	48,584	49,350	47,086	-4.6%
BAY (and Coastal) SPORT BLIND	205	158	160	122	70	-42.6%
BAY AND COASTAL SPORT REGISTRATION (New 2011)*			58,683*	34,296	43,160	25.8%
RECREATIONAL CRABBING	39,059	42,186	44,478	44,981	39,737	-11.7%
NON RESIDENT RECREATIONAL CRABBING	5,625	7,181	6,745	6,359	5,272	-17.1%
RECREATIONAL CRABBING BOAT	3,847	4,297	4,645	5,078	5,985	17.9%
* Includes Potomac registrations.						

The following licenses are issued by the Department for recreational fishing businesses and contribute to the recreational license revenue.

Table 2. Maryland license sales and revenue for recreational fishing businesses for 2014

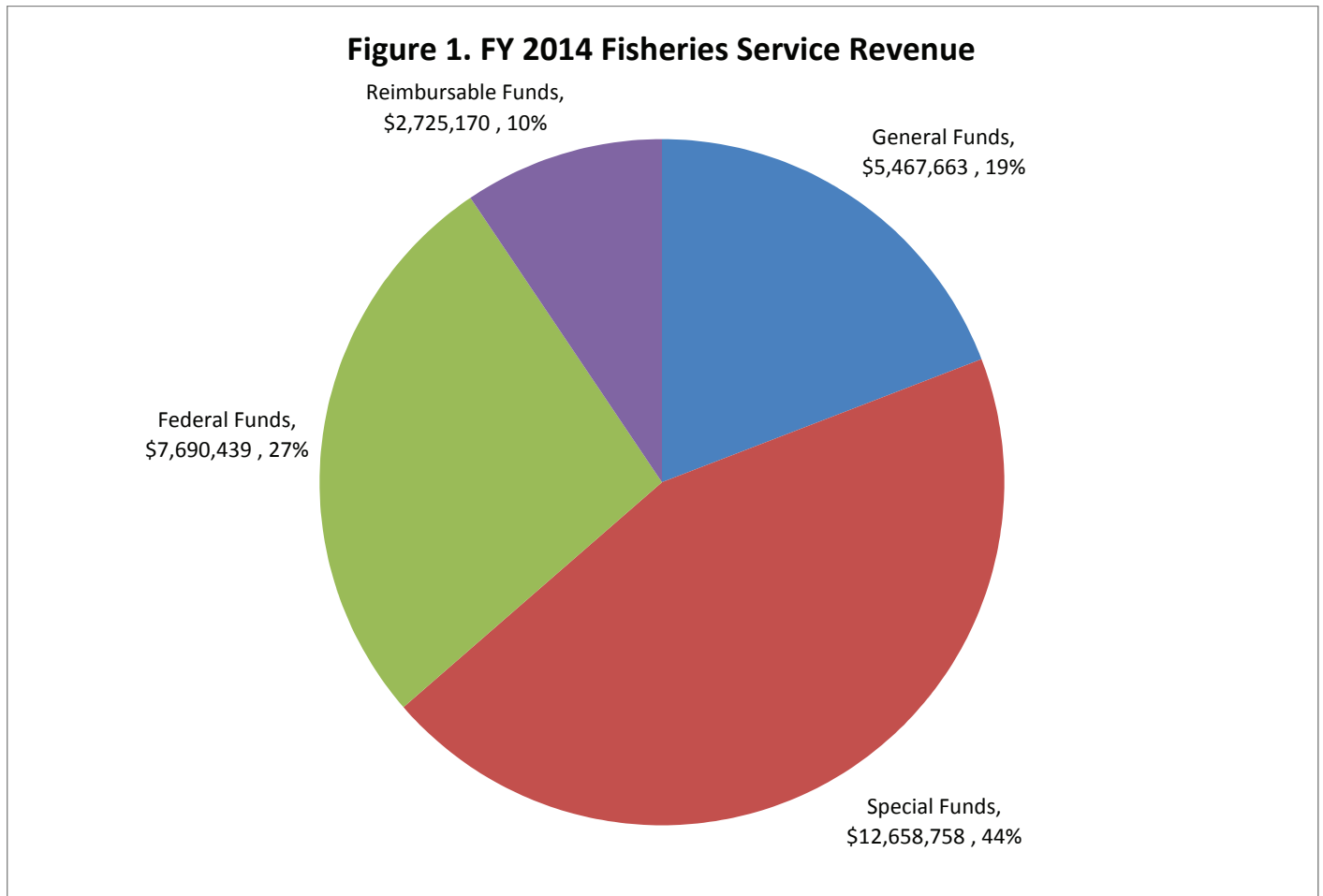
License Type	Total Sales	Total Revenue
Fishing Guide with Tidal	14	\$ 850
Limited Fishing Guide	2	\$ 100
Freshwater Fishing Guide	35	\$ 980
Commercial Fishing Pier License	2	\$ 580
Bay & Coastal Charter Boat 6 Plus	116	\$ 38,860
Bay & Coastal Charter Boat Up to 6	237	\$ 57,125



B. Revenues

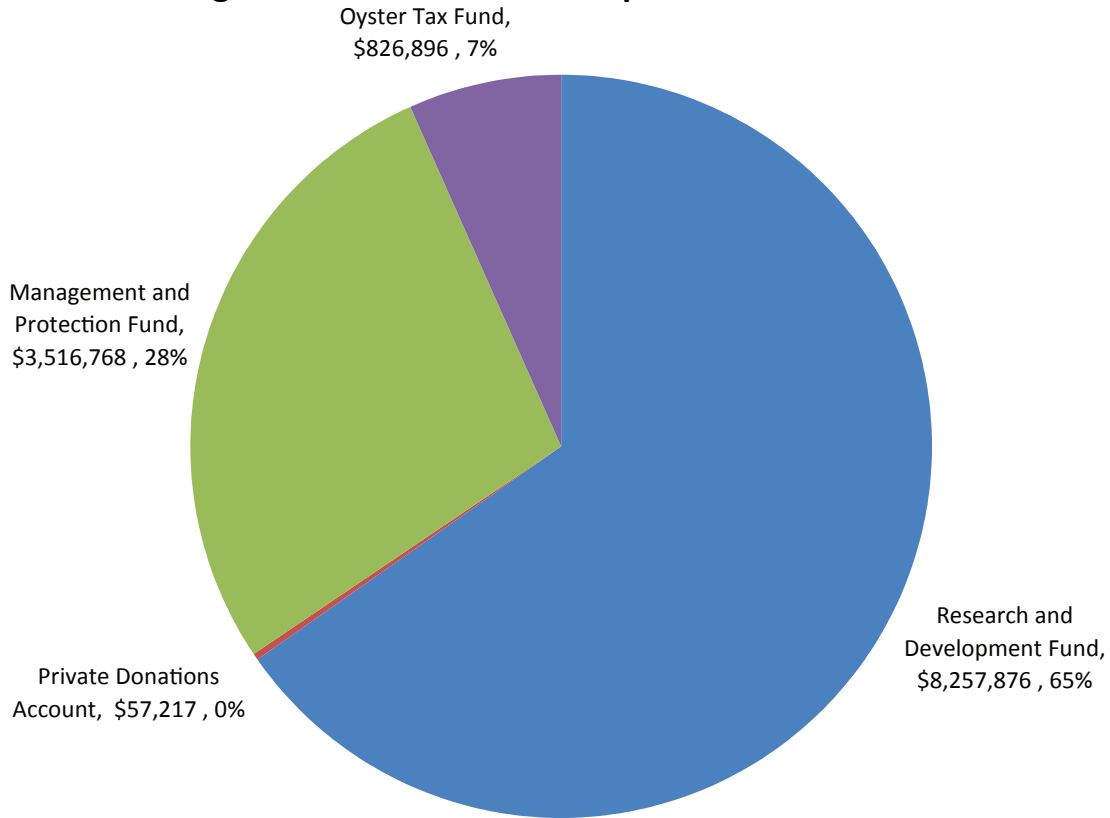
Total FY 2014 Fisheries Service revenues (all fund sources) were \$28,542,030 and are broken down as follows: 44% special fund revenue; 27% federal fund revenue; 19% general fund revenue; and 10% reimbursable fund revenue (Figures 1 and 2). FY 2014 Fisheries revenues are \$5.4 million higher than FY 2013. This increase is attributable to the following factors:

- \$0.6 million increase in general fund revenue
- \$2.5 million increase in special fund revenue
 - o \$1.7 million increase in commercial revenue as a result of Senate Bill 662
 - o \$193,871 increase in nontidal sport revenue
 - o \$188,982 increase in dedicated oyster revenue
 - o \$122,882 increase in marketing surcharge revenue also as a result of Senate Bill 662
 - o \$89,976 increase in tidal sport revenue
 - o \$13,660 increase in aquaculture revenue
- \$1.8 million increase in federal funds from a final draw down of Blue Crab Disaster Grant funds as well as an increase in sport fish revenues
- \$0.5 million in reimbursable fund revenue from other State Agencies



The breakdown of Special Fund revenues into the component sources is shown in Figure 2. Recreational tidal license sale and fee revenues are deposited into the Fisheries Research and Development Fund (FR&D). Non-tidal license sale revenues are deposited into the Fisheries Management and Protection Fund (FM&P), and dedicated oyster fees are deposited into the Oyster Tax Fund.

Figure 2. FY 2014 Fisheries Special Fund Revenue



Fisheries Service began FY 2014 with a balance of \$2,400,914 and \$1,187,459 in the FR&D and FM&P funds respectively. Total FY 2014 revenue credited to these funds included \$8,257,876 to FR&D and \$3,516,768 to FM&P (Table 3).

Table 3. Fisheries Service - FR&D and FM&P Funds			
FY 2014			
	Fisheries Research and Development Fund	Fisheries Management and Protection Fund	Total
Beginning Balance	\$ 2,400,914	\$ 1,187,459	\$ 3,588,372
Revenues	\$ 8,257,876	\$ 3,516,768	\$ 11,774,644
Gasoline Sales Surcharge & Interest	\$ 1,870,857	\$ 9,941	\$ 1,880,797
Total Funds Available	\$ 12,529,646	\$ 4,714,168	\$ 17,243,814
Summary of Expenditures			
Fisheries Service	\$ 5,842,989	\$ 2,223,826	\$ 8,066,815
Non-Fisheries Service			
NRP - Field Operations	\$ 2,248,900	\$ 770,600	\$ 3,019,500
Licensing	\$ 560,600	\$ 346,100	\$ 906,700
Information Technology Service	\$ 277,300	\$ 118,100	\$ 395,400
Finance & Administrative Service	\$ 317,100	\$ 135,100	\$ 452,200
Office of Secretary	\$ 171,300	\$ 72,900	\$ 244,200
Office of Attorney General	\$ 107,700	\$ 114,800	\$ 222,500
Human Resource Service	\$ 68,400	\$ 29,100	\$ 97,500
Office of Communications	\$ 64,600	\$ 27,500	\$ 92,100
Total Expenditures	\$ 9,658,889	\$ 3,838,026	\$ 13,496,915
(Revenue + Surcharge) - Expenditures	\$ 469,844	\$ (311,317)	\$ 158,527
Ending Balance (Total Funds Available - Total Expenditures)	\$ 2,870,758	\$ 876,141	\$ 3,746,899



C. Expenditures

In FY 2014, Fisheries Service expended (all fund sources) a total of \$ 29,262,161 (Figure 3). Included in this total is \$5,709,824 of Fisheries Service funds that were provided to other MD DNR Units in support of Fisheries Service's mission (Figure 4), consistent with many of the priorities identified in the 2008 report of the Task Force on Fisheries Management. This includes but is not limited to: enforcement of fisheries management rules (i.e. Natural Resources Police); habitat preservation and restoration (i.e. water quality monitoring, benthic habitat surveys, prioritization of critical habitats, environmental review), legal issues, and licensing services. It is important to note that the Office of the Secretary sector includes several MD DNR units: the Office of Attorney General; Finance and Administration Service; Human Resources Service; Information Technology Service; and Office of Communication.

MD DNR expended a total of \$9,658,889 and \$3,838,026 of FR&D and FM&P funds, respectively, in FY 2014. FY 2014 revenues of FR&D and FM&P funds exceeded FY14 expenditures credited into these funds by \$158,527. The FY 2014 end of year balance of FR&D and FM&P funds is \$3,746,899. FY 2014 marked the first time since FY 2010 where Fisheries Special Fund balances stabilized and increased, instead of declining.

Figure 3. FY 2014 Fisheries Service Expenditures

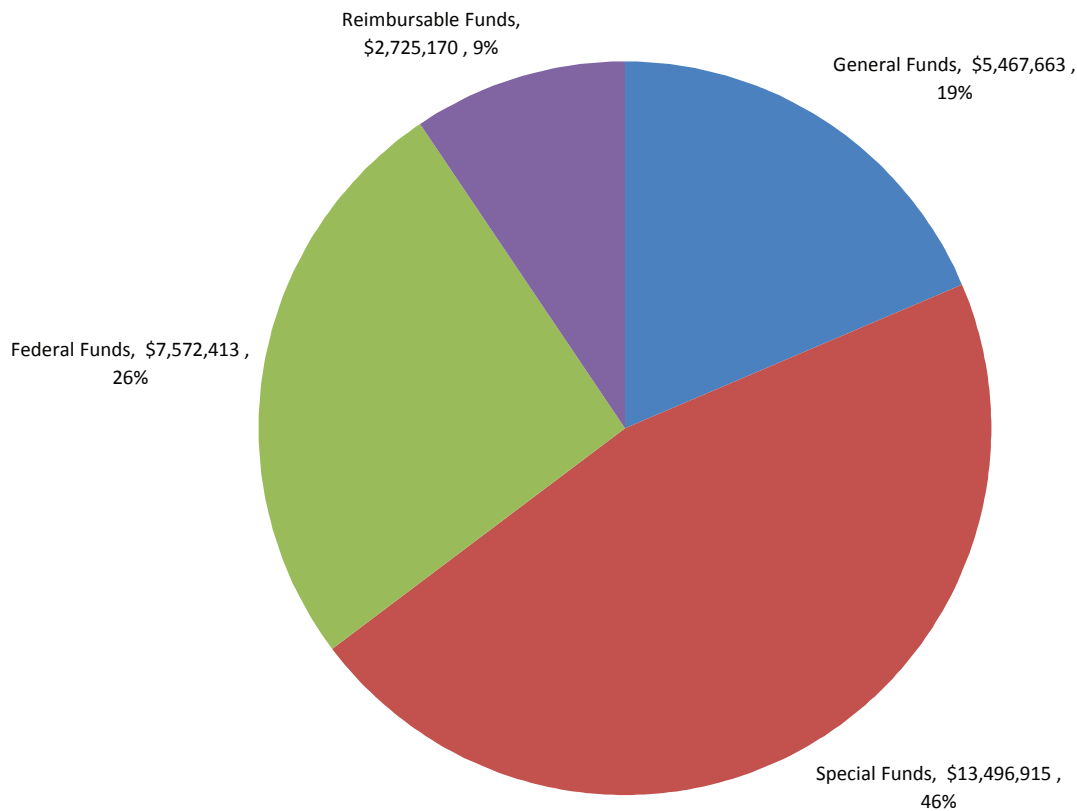
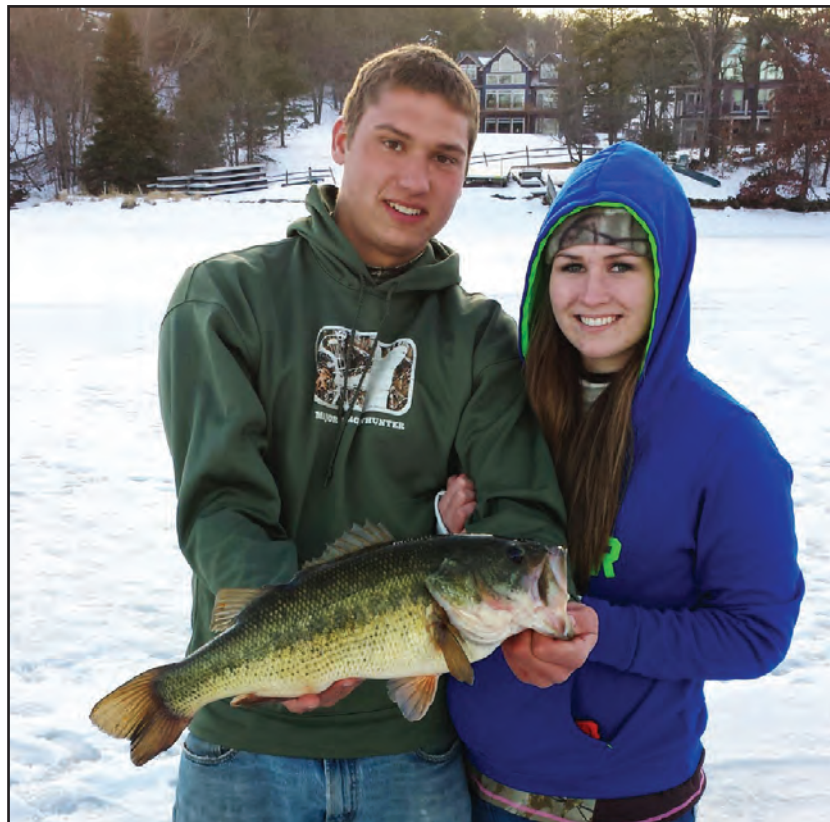
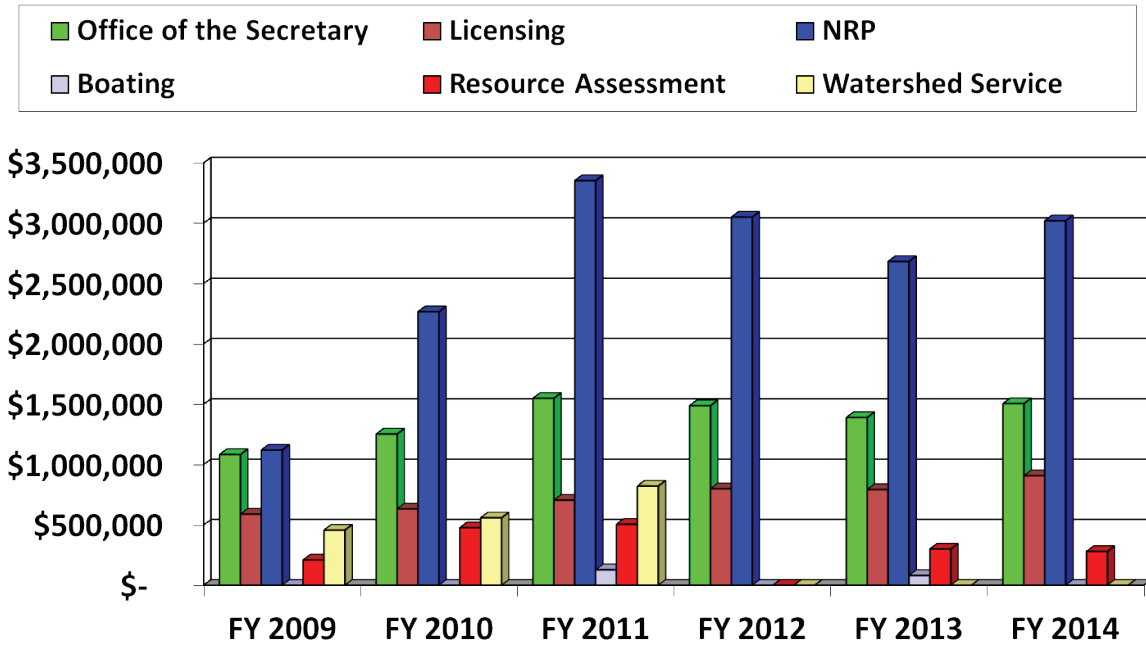


Figure 4. FY 2009 - 2014 Special Fund Transfers to Other DNR Units in Support of Fisheries Service Mission



SUMMARY

As this report demonstrates, MD DNR's ability to fund programs to assess, protect, conserve, fairly allocate and promote the sustainable utilization of wild and farm-raised fish resources of the State for balanced ecological and socio-economic benefits is not possible without anglers who support this work by paying for fishing licenses, fees and excise taxes. These revenues pay for an extensive and diverse suite of activities which meet the four core functions of the Fisheries Service:

- 1) Protect, conserve and enhance fisheries resources.
- 2) Provide and enhance fishing opportunities, including access.
- 3) Provide sustainable economic opportunities.
- 4) Promote and protect fisheries resources through public outreach and education.

In FY 2014, revenues of FR&D and FM&P funds exceeded expenditures by \$158,527. FY 2014 marked the first time since FY 2010 where Fisheries Special Fund balances stabilized and increased, instead of declining

With a FY 2015 beginning balance of \$3,746,899 million in FR&D and FM&P funds, the MD DNR will have sufficient funds to maintain the current level of Fisheries Service related services.

In FY 2015, Fisheries Service will focus on maintaining the operations performed in FY 2014 as well as the priorities listed in Appendix 1. Appendix 2 highlights some of the activities Fisheries Service accomplished during FY 2014.

The next budget report for Fisheries Service is scheduled for October 2015, and will focus on fiscal year 2015 which will close on June 30, 2015.



Fisheries Service is committed to providing a comprehensive annual report on sport fishing revenues and expenditures. We are always interested in hearing from anglers and the general public about issues of concern or new project ideas that you believe we should consider pursuing as we work to ensure Maryland's fisheries resources are sustainably managed for the benefit of those who enjoy them today as well as future generations.

If you have any questions or input regarding this budget report, please contact Karen Knotts, MD DNR Fisheries Service, Communications and Outreach Division Manager at karen.knotts@maryland.gov or 410-260-8294.

SFAC Commissioners

In June 2012, Fisheries Service announced the appointment of seven new members to the Sport Fisheries Advisory Commission (SFAC). The SFAC advises the Department on recreational fishing issues and is comprised of individuals from across the State that represent recreational fishing interests.

Public participation is vital to the Department's ability to successfully conserve, manage and restore Maryland's fisheries resources. Members of our advisory bodies serve as your representatives and we invite you to contact them with questions, concerns and/or suggestions about fisheries issues. Visit <http://www.dnr.maryland.gov/fisheries/fmp/index.asp> for the list of Commissioners who advise the Department on your behalf. Simply click on Sport Fisheries Advisory Commission to find contact information and affiliation of each member. You can also keep up with Commission activities with the meeting agendas, materials and summaries which are posted in conjunction with the quarterly SFAC meetings.



Left to Right: Scott Sewell (proxy for Roger Trageser), Micah Dammeyer, Dr. Ray Morgan, Vince Ringgold, Kate Chaney, Val Lynch, Tim Smith, Dave Sikorski (Vice Chair), Phil Langley, Bill Goldsborough (Chair), Mark DeHoff, James Womack, Ed O'Brien, Jim Gracie (Outgoing Chair), (missing Beverly Fleming)

Fisheries Service Staff Member Wins Award of Excellence in FY 2014

At the spring 2014 meeting of the Atlantic States Marine Fisheries Commission (ASMFC), Estuarine and Marine Fisheries Division Manager Mike Luisi was recognized with an ASMFC Award of Excellence in the area of Management & Policy Contributions. Read the ASMFC press release at http://asmfc.org/uploads/file/53763eaep14AAE_2014_1.pdf.



From left: ASMFC Executive Director Robert Beal, Cheri Patterson, Dr. Robert Latour, Michael Luisi, Paul Caruso, Sara Block, and ASMFC Chair Louis Daniel

Appendix 1. Fisheries Service FY 2015 Priorities

The primary focus of the Unit over the coming year will be on continuing operations. In addition, we will make as much progress on priority issues or activities as resources allow. A list of priorities by Fisheries Service 4 core functions is included below. These are not Fisheries Service's only priorities, but are the ones that focus on sport and charter fishing in some way.

PROTECT, CONSERVE AND ENHANCE FISHERIES RESOURCES

- a. **Priority Task** – Support and work with state and federal partners to implement state management of the National Marine Fisheries Service's Marine Recreational Information Program's Access Point Angler Intercept Survey (MRIP/APAIS). MRIP provides state and federal managers with estimates of recreational catch data for estuarine and marine fisheries.
Desired Task Achievement Date – January 2016
Obstacle – Inter-agency coordination
Solutions – Continue to communicate and participate in program development

- b. **Priority Task** – Streamline fisheries penalty system – In partnership with Natural Resources Police, integrate enforcement, court and Departmental databases. This will enhance DNR's ability to effectively suspend individuals who do not answer to citations for fisheries violations if they fail to appear in court for their scheduled hearing.
Desired Task Achievement Date – Ongoing
Obstacle – District Court and DNR Units including Fisheries, Licensing and Registration and Natural Resources Police use different systems and databases. The two biggest hurdles are: 1) DNRid number (a person's unique identifier in DNR licensing and registration system), is not recorded on citations, nor are they part of the District Court record. 2) Getting information fed directly into a system from District Court seems unlikely - not impossible, just unlikely.
Solutions – Need to develop a way to pull information from the District Court database to a database housed within DNR that would 1) Automatically put a hold on a person in COMPASS (licensing and registration system) and/or 2) be accessible to Fisheries and NRP staff.

- c. **Priority Task** – Develop and implement a comprehensive plan to ensure health of Maryland fish and protect against potential disease introductions from all sources (e.g. bait, pet trade, hatcheries, stocking). Continue baseline fish health survey for Chesapeake Bay and ultimately all state waters to understand current status, provide early warning of potential impacts and inform proactive land use decisions sustaining fishable waters.
Desired Task Achievement Date – Ongoing beginning spring 2015 dependent on authority
Obstacle – funds, staffing, constituents, authority
Solution – Phased implementation following stakeholder consultations; spread cost over several years, and as budget allows; seek positions and share duties across existing related positions; review existing authority and seek additional as needed

- d. **Priority Task** – Continue work towards meeting the Chesapeake Bay Agreement's oyster restoration goal of 10 restored oyster tributaries (5 in MD and 5 in VA) by 2025.
Desired Task Achievement Date – 2025
Obstacle – Continuing to obtain funding to purchase substrate and to plant oysters.
Solution – Continue working with DBM and the legislature to obtain adequate Capital funds.

- e. **Priority Task** – Maintain coordinated baywide sustainable blue crab fishery management program. Future efforts will include implementing procedures that provide accurate accountability of all commercial and rec-

reational harvest, consideration of a quota-based management system for Bay jurisdictions, and development of abundance based variable management targets and thresholds.

Desired Task Achievement Date – Ongoing

Obstacle – Coordination of inter-jurisdictional management and data sharing, and funding

Solution – Continue to work and participate with Bay partners, and seek potential funding opportunities

- f. **Priority Task** – Remove high priority fish blockages. Provide for fish passage at dams, and remove stream blockages to restore passage for migratory fish is part of the Chesapeake Bay Watershed Agreement.

Desired Task Achievement Date – Ongoing

Obstacle – Progress is slow because many of the blockages are located on private property and landowners do not have the money or incentive to remove the blockage.

Solution – Coordinate and combine forces with MDE programs to remove high priority fish blockages that are in poor condition or have sedimentation concerns. Create a tax incentives program for the landowner to facilitate removal. In addition, DNR would provide support for grants to remove the blockages.

- g. **Priority Task** – Reduce mortality in catch and release black bass tournaments.

Desired Task Achievement Date – ongoing, cooperative live well study with signatory states and Mississippi State University has a completion date of July 2017.

Obstacle – A significant percentage of fishing effort for tidal water largemouth bass occurs as tournaments. Even though handling and live wells have improved bass survival over time the cumulative effective of many tournaments can be high enough to impact populations negatively. Poor water quality and high temperatures can require altering handling techniques to ensure optimum survival.

Solution – Fishing tournament regulations, videos and safe handling instructions are being used by tournament anglers. Information from the live-well study will help to refine techniques to improve bass survival.

- h. **Priority Task** – Determine and implement measures to stabilize and enhance tidal water largemouth bass fishery.

Desired Task Achievement Date – June 2015

Obstacle – Summer and fall tidal bass fisheries have suffered from poor catch rates in recent years. Analyses of dependent and independent surveys point toward shifts in preferred habitat (mixed SAV beds) which may be changing the distribution of bass as a major problem.

Solution – Verify the problem (includes further hypothesis testing that decreasing abundance is or is not occurring). Then determine if regulations can improve fishing success and adopt appropriate regulations if analyses support that conclusion.

- i. **Priority Task** – Utilize brook trout life history and population studies to develop new guidelines and approaches to brook trout management

Desired Task Achievement Date – December 2015

Obstacle – Information from recent studies has raised new questions about effective management strategies. Distinct behaviors of genetic sub-populations and fluvial movement within a watershed may diminish the effectiveness of broad-scale strategies.

Solution – Review findings and refine current studies to increase understanding of sub-populations and life histories. Use this information to propose regulations which are effective at maximizing population robustness while still allowing for public use of this resource.

Obstacle – Some constituents may be opposed to regulation changes.

Solution – Inform the public of new information well before proposing new regulations. Perform angler preference surveys to determine opinions and the degree of usage of these fisheries and to answer questions about current management strategies.

Obstacle – Some anglers are still unaware of brook trout “in need of conservation” status in Maryland and of

MD DNR's efforts to stem the decline of populations across the state.

Solution – Develop an interactive brook trout website that could both inform the public and gather information from anglers.

- j. **Priority Task** – Reduce impacts of the Upper Potomac River Commission Wastewater Treatment Plant (UPRC WWTP) discharge to the North Branch Potomac River at Westernport, MD.

Desired Task Achievement Date – June 2015 or earliest possible date

Obstacle – The UPRC plant receives waste from the papermill at Luke. At times turbidity, suspended solids and color are so high that treatment is ineffective causing significant impacts to water quality in the river. MD DNR has worked to develop high quality trout and bass fisheries in this part of the river but the river often becomes opaque and unfishable for 10-15 miles due to this outfall.

Solutions – Work with MDE to determine if new discharge limits are too high and inconsistent with their own regulations “protected for (Use I-P) water contact recreation, fishing, aquatic life.” If discharge limits are too high, work cooperatively with MDE and plant operators to find funding to upgrade plant infrastructure to reduce discharge to acceptable levels.

- k. **Priority Task** – Continue to focus on water quality and habitat issues negatively affecting important fisheries.

Desired Task Achievement Date – Ongoing

Obstacle – Major tailwater trout fisheries are threatened by competing water uses and changing water appropriation strategies of the impoundment operators.

Solutions – Use data from continuous and real-time data sondes to negotiate for discharge protocols which maintain acceptable temperatures and flow regimes for trout populations. Continue to participate in the North Branch Advisory Group meetings. This is an ad hoc group consisting of the Army Corp of Engineers, the Upper Potomac River Commission, the Interstate Commission on the Potomac River Basin, Trout Unlimited, the Western MD Guides Association, white water paddling interests and others who negotiate for annual discharge schedules which support their interests. Stay engaged with the Baltimore City Public Works and Washington Suburban Sanitary Commission to assure similar conditions from down-state reservoirs.

Obstacle – Land use patterns are governed mainly by local planning and zoning agencies which have little knowledge of the impacts of development on water quality and aquatic habitats and resources.

Solutions – Work closely with the Integrated Policy and Review Unit to identify quality resources and resources at risk. Use this information to proactively educate communities and local governments on the effects of uncontrolled development.

- l. **Priority Task** – Develop Inland Temperature and Water Quality Database

Desired Task Achievement Date – Start January 2015, data input will be ongoing

Obstacle – A huge amount of historical stream temperature large data exist in individual data files specific to a year and site and in a variety of formats. These must be entered to standardized spreadsheets and uploaded to an MS Access database developed for these data. Some files may need to be converted from old formats (Lotus, .txt, or proprietary software).

Solutions – Data entry should start with recent data which are mainly in Excel and can be most easily converted to standardized format. Old files are important because they provide the most accurate baseline for assessing effects of land use and climate change on water quality. Conversion of these files may require IT assistance.

- m. **Priority Task** – Continue Patapsco River shad and herring restoration project and seek funding to extend the work for five years subsequent to Bloede Dam removal.

Desired Task Achievement Date – No obstacle to continue stocking work through 2015 and assessment work through 2017. Dam removal should occur in 2015 and project extension will ideally extend five years

post-removal (~2020). Secure funding for additional stocking by summer 2015 and additional assessment by summer 2017.

Obstacle – No known funding source currently available.

Solutions – Explore funding extension through Maryland Port Authority mitigation funds or funding related to dam removal habitat restoration.

- n. **Priority Task** – Support new ASMFC Atlantic sturgeon stock assessment. Findings will determine future conservation strategies. Continue to maintain captive brood population pending stock assessment. Expand and maintain acoustic telemetry arrays in Maryland. Develop breeding and spawning protocol in support of NMFS Section 10 stocking permit. Evaluate Marshyhope Creek spawning habitat and assess early life history presence subsequent to discovery of mature brood fish in putative spawning areas.

Desired Task Achievement Date – Ongoing, stock assessment scheduled for 2017 completion, Marshyhope Creek work determined by funding.

Obstacle – NMFS research permit pending for spawning research, funding for habitat and early life history assessment

Solution – Continue to work with NMFS to secure research permit, develop proposal for species recovery grant to conduct habitat and early life history assessment.

- o. **Priority Task** – Work with the Atlantic States Marine Fisheries Commission (ASMFC) and the Mid-Atlantic Fisheries Management Council (MAFMC) on the Comprehensive Summer Flounder Amendment. The amendment will involve a comprehensive review of all aspects of the Summer Flounder, Scup, and Black Sea Bass Fishery Management Plan (FMP) related to summer flounder. Specifically, the Council and Commission will consider whether modifications to the FMP's goals, objectives, and management strategies for summer flounder are needed.

Desired Task Achievement Date – 2017

Obstacle – Controversial subject matter including commercial and recreational allocations as well as goals and objective of the plan.

Solution – Maintain communication with stakeholders throughout amendment development.

- p. **Priority Task** – Advise Fisheries leadership and other Maryland representatives on management actions under consideration by ASMFC and the MAFMC.

Desired Task Achievement Date – Ongoing

Obstacle – None

Solutions – N/A

- q. **Priority Task** – Cooperative tasking with National Ocean Service (NOS) / NOAA Chesapeake Bay Office (NCBO)

Desired Task Achievement Date – ongoing

Obstacle – Funding for specific studies aligned between the different fiscal years; agency priorities between national versus state government agencies

Solutions – Flexible out-year funding commitments; flexible administration for each agency and unit driven to achieve healthy aquatic ecosystems

PROVIDE AND ENHANCE FISHING OPPORTUNITIES, INCLUDING ACCESS

- a. **Priority Task** – In coordination with state and federal partners, work to maintain and increase the number of publicly accessible areas for sport fishing consistent with the goals of the 2014 Chesapeake Bay Watershed Agreement.

Desired Task Achievement Date – Ongoing

Obstacle – Fisheries does not currently have a staff lead for public access issues.

Solution – Establish staff lead within Fisheries who will work cooperatively with DNR Public Access Matrix Team and partner with MDOT, DBED, DOT, SHA, MHT and NPS in support of state initiatives requiring coordinated and improved statewide public access information from Maryland in order to achieve success and meet their established goals. This includes Executive Order 13508, Chesapeake Bay Watershed Agreement, Chesapeake Bay Watershed Public Access Plan, HB797, and DBED/MDOT Destination Initiative, and SHA / MHT / NPS Initiative prioritizing water access in grant programs.

- b. **Priority Task** - Restore coldwater production capacity to level prior to the 2006 whirling disease outbreak that shuttered three trout production facilities. Bear Creek is back online at full production and continues to test clean. Implementation of Mettiki Coal LLC hatchery phase I experimental culture trial is underway. If the Phase I culture trial is successful, development of Phase II production facility could meet remaining state needs.

Desired Task Achievement Date – Spring 2015 to initiate Phase I full production run.

Obstacle – Nitrogen gas supersaturation in hatchery water supply requires mitigation.

Solution – Design (completed) and installation of degassing tower.

- c. **Priority Task** – Expand geographic distribution of License Free Fishing Areas to include nontidal sites. Continue working toward long term goal – that most Maryland residents live within a one hour drive of a site where they have the opportunity to fish recreationally without purchasing a license.

Desired Task Achievement Date – Ongoing

Obstacle – Identifying new areas and assuring that capacity to maintain new sites is in place. Regulation change is required to designate or remove LFFAs.

Solution – Work closely with DNR Units, particularly MD Park Service to identify new sites.

Solution - Work to develop regulatory proposal which advances progress on long term goal. Submit proposal in calendar 2014 for effective date in early 2015.

- d. **Priority Task** - Maintain and update the online Angler Access Map on the DNR Webpage

Desired Task Achievement Date – Ongoing

Obstacle – Status of public access sites change without notice. Important information such as condition of parking lots and roads, fee requirements and fishing regulations must be updated continually to insure accurate information for users of Maryland’s fisheries and waterways.

Solution – Need to keep open lines of communications internally, with other jurisdictions and agencies and with anglers. Fisheries staff will need to observe these attributes when utilizing access points and communicate changes to our technical staff as part of their ongoing duties.

- e. **Priority Task** – Develop and implement production databases for coldwater and warm water hatcheries. Stocking databases have been developed for coldwater and warmwater hatcheries. Production database has been developed to the template stage but need to be constructed and implemented.

Desired Task Achievement Date – Spring 2015 for final template

Obstacle – Lack of expertise within Hatcheries Division (assigned staff left state service); position has recently been backfilled

Solution – Seek staff support from Fisheries Service database specialists.

- f. **Priority Task** – Enhance fishing opportunities

Desired Task Achievement Date – Ongoing

Obstacle – MD Artificial Reef Initiative (MARI) permit package (20 original fish reef sites plus the newest Gooses Reef) expires in 2015.

Solution – Renew MARI permit package. Continue construction at permitted sites with clean materials such as concrete and quarry rock.

PROVIDE SUSTAINABLE ECONOMIC OPPORTUNITIES

- a. **Priority Task** - Maintain and update the Charter/Guide map on the DNR Webpage

Desired Task Achievement Date – Ongoing

Obstacle – Charter boat Captains and licensed Guides must complete and submit application in order to appear on map.

Solution – Continue efforts to advertise and increase awareness of this tool. Advertise in the 2015 Fishing Guide and work with DBED/Tourism to advertise the tool in their publications.

- b. **Priority Task** - Implement a program to acquire fundamental information on both the economic impacts of fisheries to local economies and economic benefits to anglers themselves. Maryland's diverse fisheries generate substantial economic impacts to local economies and provide economic benefits to seafood consumers and recreational anglers. Optimal, sustainable management of these fisheries requires a more thorough understanding of how management decisions affect both the economic impact and economic benefits accruing to a variety of stakeholders. There are two primary data requirements: (1) accurate and reliable data on the economic impacts (e.g., jobs, expenditures, multiplier effects) associated with recreational angling; and (2) data on the preferences of recreational anglers for aspects of the recreational fishing experience (e.g., catch rate, catch size, regulations). Information on angler preferences can be used to measure the economic benefits associated with fishing quality changes (such as more and larger fish), and thus enable a more efficient allocation of limited budgetary dollars among competing recreational fishing management alternatives.

Desired Task Achievement Date – Ongoing

Obstacle –The recreational fishery is actually many fisheries with different angler behavior patterns spread across the state and diverse non-English speaking ethnic groups. Several approaches are required. Staffing and funding are problematic.

Solution - Work with University of Maryland Extension Service and its access to diverse communities and with established angler groups to reach the many fisheries. Staffing could be addressed through seasonal university assistance and angler groups. The economic benefit is statewide, DBED funding should be accessed.

- c. **Priority Task** – Continue collaboration with the Sportsmen's Marketing Initiative, a private/public partnership between the Maryland Sportsmen's Foundation and MD Department of Business & Economic Development and the tourism industry to promote Maryland as a premier destination to fish & hunt.

Desired Task Achievement Date – Ongoing

Obstacle – None

Solution – N/A

PROMOTE AND PROTECT FISHERIES RESOURCES THROUGH PUBLIC OUTREACH AND EDUCATION.

- a. **Priority Task** – Work with Department of Planning to require local land planners to plan on a watershed basis to better address aquatic resource values and needs.

Desired Task Achievement Date – Ongoing

Obstacle – Governments/planners do not have information they need.

Solution – Help local governments/planners set watershed goals (aquatic resource goals) and provide support so they can develop comprehensive plans to support those goals.

- b. **Priority Task** – Develop angler preference surveys to measure angler usage and preferences for inland fishing opportunities.

Desired Task Achievement Date – December 2015

Obstacle – One single survey method will not reach all anglers. Mail surveys are expensive and do not reach the intended recipient. Many older anglers do not use the internet.

Solutions – Utilize several outreach methods including mail, phone, internet via Survey Monkey, Constant Contact, Facebook and Twitter. Use the license database to reach target audiences.

c. **Priority Task** – Promote recreational fishing opportunities. Show people that fishing is a way to slow down, disconnect, and spend more quality time with family.

Desired Task Achievement Date – Ongoing

Obstacle – None, other than other priorities competing for limited staff resources.

Solution – Implement marketing campaign designed to get anglers back to fishing. We have developed a pilot program to all first time anglers, as well as those that have been away from the sport for a while to get a 50% discount on their license.

Solution – Establish recreational fishing liaison to increase interactions with stakeholders, constituency groups, and businesses to support and promote sport fishing in MD.

Solution - Increase emphasis on variety of Maryland Fishing Challenge’s eligible species and use social media and advertising to highlight particular species and fisheries throughout the year. Implement new systems that will make sponsoring the MD Fishing Challenge contest easier.

Solution – Develop and conduct additional youth/family fishing events or programs.

d. **Priority Task** – Continue to focus on developing innovative outreach, communication and public engagement tools which reach the broadest possible audience.

Desired Task Achievement Date – Ongoing

Obstacle – None

Solution – Expand outreach with new blog - Fisheries Director’s message – a forum for sharing information and perspective on fisheries management with stakeholders.

Solution - Work with Recreational Boating and Fishing Foundation to leverage their Vamos A Pescar campaign to expand and enhance our Spanish web page.



Appendix 2. Fisheries Service FY 2014 Accomplishments

Following is a list of some of the activities Fisheries Service accomplished that benefit sport fishermen during FY 2014. These activities may use FR&D and FM&P special funds or other Fisheries Service funding sources.

PROTECT, CONSERVE AND ENHANCE FISHERIES RESOURCES

Oysters – Considered a keystone species of Chesapeake Bay, whereby its benefit to the ecosystem (e.g. reef habitat, improvement to water quality through removal of sediment and nutrients) are larger in comparison to its own population. Most recently estimated at 0.3% of historic levels, with an 80% reduction in the amount of remaining oyster habitat over the past 30 years.

- Based upon recommendations from the Programmatic Environmental Impact Statement (PEIS) for Oysters and in accordance with the Chesapeake Bay Watershed Agreement to restore 10 (5 in MD and 5 in VA) tributaries by 2025, Maryland launched major restoration efforts in two tributaries: Harris Creek and the Little Choptank. Harris Creek is nearly complete and the Little Choptank is underway. Additionally, the St. Mary's River which was designated a sanctuary is on track to achieve restoration metrics through natural reproduction.
- Conducted annual dredge-based surveys of oyster bars. These assessments have provided biologists and managers with information on oyster spatfall intensity, observed mortality, and more recently on parasitic infection status in Maryland's Chesapeake Bay. The long-term nature of the data set is a unique and valuable aspect of the survey that gives a historical perspective and allows the discernment of trends in the oyster population

Blue Crab – Maryland's iconic Bay species

- Implemented harvest controls in coordination with the Maryland Blue Crab Industry Advisory Committee on options to reduce mature female harvest by 10%. Efforts include the establishment of mature female vessel harvest caps and an increase in the minimum size for peelers from 3 ¼ to 3 ½ inches.

Menhaden – Considered the 'most important fish in the sea' given its importance as a forage fish for many socio-economically important fisheries, marine mammals, and other wildlife. Is the preferred food source for striped bass, and its recent historical low level of abundance is believed to be a factor in the Chesapeake Bay's striped bass resource being more susceptible to mycobacteriosis disease and associated natural mortality.

- Worked in a leadership role at the Atlantic States Marine Fisheries Commission (ASMFC) to implement more conservative management of menhaden along the Atlantic coast.

Striped Bass – Chesapeake Bay's marquee sport and charter fisheries

- Worked in concert with the ASMFC Atlantic Striped Bass Management Board to develop Addendum IV to Amendment 6 of the Interstate Fishery Management Plan for Atlantic Striped Bass. The new Addendum proposes new fishing mortality (F) reference points, as recommended by the 2013 benchmark stock assessment, and associated management measures to reduce fishing mortality to a level at or below the proposed target within one or three years. This action will affect Maryland striped bass fishermen by having the first major changes in harvest regulations in over 20 years.
- Completed Chesapeake Bay Fishery Management review for striped bass.
- Continued development of nutrition reference points for striped bass in Maryland's portion of Chesapeake Bay as an ecological indicator. Much of this work involves integrating information collected by multiple Fisheries Service programs and a citizen scientist. The ASMFC has supported the concept of nutrition reference points as an ecological indicator.

Brook Trout – The only native trout to Maryland. Considered “canaries in the coal mine” for being among the first aquatic resources to respond to degradation in a stream or watershed. A highly sought after sport fish to Marylanders and tourists, and source of economic importance to western Maryland counties.

- Completed Fishery Management Plan review for brook trout.
- Prepared five-year statewide brook trout monitoring plan and statewide standard operating procedure to standardize and coordinate statewide sampling methodology and timing.

Black Bass – The most sought after sport fish in Maryland providing significant socio-economic value.

- Entered cooperative agreement to fund study to improve the survival of largemouth bass held in live wells.
- Implemented bass tournament registration and mandatory reporting. This has improved ability to (1) instruct anglers how to improve survival of bass subjected to live-well and weigh-in procedures; and (2) monitor catch and effort related to these events.

Yellow Perch – Completed Fishery Management Plan review for yellow perch.

Shad – A historically valuable sport fishery that also serves an important ecological role as a forage fish. A harvest moratorium has been in place since 1980 given its low abundance.

- Implemented restoration stocking and assessment project for Patapsco River shad and herring species and documented survival of hatchery-origin larvae and juveniles in putative nursery areas.

Invasive Species – The introduction and spread of invasive species such as blue and flathead catfish and Northern snakehead threaten ecologically and socio-economically important native fish species due to their predatory impacts and competition for habitat and food.

- Established Invasive Species Component within the MD fishing Challenge contest with annual prizes for sport fishermen who ‘catch and keep’ blue catfish, flathead catfish or Northern snakehead.
- Continued research into invasive blue catfish and snakeheads in coordination with the multiagency, Invasive Catfish Task Force.

Fish Habitat – Utilization of state of the art tools to integrate the valuation of important fish habitat supports informed decision making at the local, state and federal levels.

- Provided brook trout stream data layer for inclusion in the western Maryland recreation database. This information will be used to identify areas where potential Marcellus Shale gas development could impact natural resource related outdoor recreation in western Maryland.
- Participated in cooperative effort to create Best Management Practices to guide Marcellus Shale gas well development in Maryland.
- Negotiated agreement to use horizontal directional drilling (HDD) for several sections of new natural gas pipeline crossing wild trout waters in central Maryland. HDD reduces surface disturbance and clear cutting.
- Conducted annual monitoring on upper Potomac River to evaluate impacts of noxious benthic algal blooms on macroinvertebrate communities and water quality and gamefish distribution.

Fish Health – Understanding fish health in wild stocks, aquaculture, bait fish, the pet industry, and hatchery stocking is the most fundamental need for protection, conservation and wise use to ensure healthy fish stocks.

- Continued investigation of mycobacteriosis in striped bass.
- Conducted baseline finfish health survey

Fish Passage – Targeted removal of stream blockages allows ecologically and socio-economically important fish species to once again utilize historical upstream habitat that serves an important role for spawning, and

other life history needs.

- With the Patapsco River Restoration partners, secured additional funds for the Bloede Dam removal construction (\$7.8 million) and completed the 60% Design Report.
- Completed 75% Design and submitted permits for the Centreville Dam Removal Project.
- Constructed an eel ladder at Daniel's Dam on the Patapsco River.

Regulation - During FY2014, 12 recreational fishing licenses were suspended and 5 were revoked. Timely action to suspend and revoke recreational and commercial fishing licenses and provided tougher administrative penalties for egregious offenses was made possible thanks to Fisheries Service's 2009 overhaul of the administrative penalty process. The implementation of these systems provides a much stronger deterrent than the previous penalty system.

Recreational Fish Harvest Estimation - Worked closely with state and federal partners to prepare a budget and workplan for the state conduct of the Marine Recreational Information Program's Access Point Angler Intercept Survey (MRIP/APAIS). APAIS is a critical element for the estimation of recreational harvest of fish along the coast.

Fisheries Management Plans – Completed the 2013 Fishery Management Annual Report to the Legislative Committees. The report updates the status and management actions of 29 commercial and recreational finfish and shellfish species.

Atlantic Sturgeon - Deployed and continue to maintain an acoustic receiver array that covers the main stem Chesapeake Bay and major historic Atlantic sturgeon spawning tributaries such as the Pocomoke, Nanticoke, Choptank, Potomac, Patuxent and Chester rivers. This array is targeted to monitor endangered Atlantic sturgeon populations, but will also detect any similarly tagged animals such as striped bass, sharks, sea turtles and marine mammals. It will also effectively monitor tagged blue catfish to assess the migratory behavior and distribution of this invasive species.

PROVIDE AND ENHANCE FISHING OPPORTUNITIES, INCLUDING ACCESS

Angler Access Map - went live on the Fisheries Service website. This interactive map helps anglers find new fishing opportunities and provides information on location, parking, ease of access (including ADA facilities), available fish species, regulations, stocking, managing agency contacts, fees and other.

Hatcheries

- Completed construction of Mettiki Hatchery Phase I and implemented experimental culture trials prior to full production run in spring 2015.
- Drafted and adopted the Hatcheries Division Employee Safety & Health Plan to address worker safety and training at all division work sites. The plan covers chemical usage, fire safety, hazard assessment and other topics to improve employee protection and well-being. Hatcheries Division adopted a master plan and each facility or project will maintain discrete records for safety inspections, training, certifications, chemical use and other safety-related documentation.
- Albert Powell Hatchery received an "A" classification for fish health. This rating is granted only after a facility tests pathogen-free for three consecutive years. This is an important milestone for the program, which has committed to strict biosecurity and fish health protocols over the past five years.

License Free Fishing Areas - Reviewed and evaluated performance of all LFFA sites for achievement of updated criteria and objectives. Working to expand geographic distribution of sites in Maryland.

Artificial Reefs

- Working in partnership with Chesapeake Bay Foundation, completed deployment of over 500 concrete

reef balls at two sections of the Bill Burton Fishing Pier Reef, Choptank River near Cambridge.

- Added 1.5 acres to Memorial Stadium Reef Ball site (permit modification) and added over 100 additional reef balls to site, working with MSSA and CBF.
- Completed Hail Cove shallow water stone reef in partnership with USFWS along Eastern Neck Refuge Shoreline, lower Chester River.
- Completed first year pilot study of angler catch rates and fish size distribution on artificial vs. natural reefs using data from angler logbooks. Recruited volunteers and began second year of volunteer logbook study.

PROVIDE SUSTAINABLE ECONOMIC OPPORTUNITIES

Aquaculture

- Executed and issued 34 Shellfish Aquaculture Leases on 665 acres. Out of the total leases executed, there were 20 Water Column and 14 Submerged Land Leases issued.
- Through our partnership with MARBIDCO, shellfish aquaculture loans were approved for 14 projects totaling \$934,745. These loans will help growers purchase the shell, seed and equipment they need to begin or expand business operations.
- Regulations were approved and the Department began issuing Shellfish Nursery Permits for in water structures (less than 200 square feet in size) that are used to produce the shellfish seed and spat on shell needed for planting on leases. The Department pursued this authority in order to streamline the permitting process for businesses interested in operating small, in water production systems. Prior to this, these businesses would have had to go through the full lease application and review process and get a shellfish lease to legally install and operate any in water structure used to grow shellfish seed. This action has reduced the approval time for these projects from 9 months to 30-60 days.

Charter/Guide Map – Expanded list of Charter boats/Guides included on the Charter/Guide map on the DNR Webpage.

PROMOTE AND PROTECT FISHERIES RESOURCES THROUGH PUBLIC OUTREACH AND EDUCATION.

Advocacy to Protect Fisheries Habitat

- Workgroup was formed to actively promote fish habitat concerns at the local level to assure local planning exercises account for fisheries needs. Land use change (urbanization) is associated with losses to fish habitat and populations. These results emphasize the need for fisheries managers and constituents to promote sound land management practices that conserve fish habitat.
- Provided information and analyses on important fish habitats to support DNR's effort to influence planning decisions in Charles County. Poorly planned growth in several county watersheds threatens habitat important to major fisheries of Maryland.

Black Bass - Held annual Black Bass Roundtable to convey information and to gain feedback from user groups and neighboring states fisheries agencies on tidal water black bass fisheries in Maryland. Conducted angler opinion poll to determine satisfaction with tidal water black bass management. Over 600 anglers responded to the poll, providing managers valuable insight to help guide future decisions.

Invasive Species – Organized a media event with the Maryland Department of Environment and Chesapeake Bay Program to increase public awareness about the problems presented by invasive blue and flathead catfish and how they can help. Event featured a cooking demonstration, catfish-dish tasting and unveiling of new public information signs. Added an invasive species component to the Maryland Fishing Challenge to increase awareness and encourage recreational anglers to catch and keep invasive species.

Marylanders Grow Oysters - Initiated this citizen-based stewardship program that engages thousands of Maryland residents and school students to enhance the Bay's oyster population. MGO is the largest oyster gardening program in the state, active in 30 tributaries, offering a hands-on connection to oysters and the Bay as the participants grow oysters at their piers in cages made by inmates, who are also active as Bay stewards.

Recreational Fishing Promotion

- Social media was a major focus this year. In 2014 we were able to build quite a large following with 6,869 likes on the Maryland Fishing Page. This offers us a very inexpensive way to reach out to the public.
- Completed 10th annual Maryland Fishing Challenge contest. Welcomed an additional premier level sponsor and maintained support of existing sponsors. Evaluated contest to identify opportunities to make it even more accessible and efficient in meeting its objective of showcasing Maryland as a great fishing destination and increasing the number of youth, families and individuals participating in sport fishing.

Youth Fishing

- Provided support to organized youth fishing events. Stocked trout or hybrid sunfish for rodeo events and provided angling education and guidance (knot tying, casting, habitat, proper tackle selection) at several fishing rodeos and other events including summer day camps, a Girl Scout Fishing Badge event, DNR Park Quest finale, and National Hunting and Fishing day.
- Provide an opportunity to approximately 50 youth from the Maryland Youth Fishing Club to assist with tagging the striped bass for the Diamond Jim component of the Maryland Fishing Challenge (MFC).
- Worked with MFC supporters to secure guided fishing trips to be awarded to Maryland Youth Fishing Club members during the MFC finale as part of the Youth Component.

