

Waterway Improvement Capital Program Benefits, Needs, and Opportunities



Prepared in Response to the 2011 Joint Chairmen's Report

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EXECUTIVE SUMMARY

In light of the precipitous decline in capital funding available for waterway navigation and public boating projects from the Waterway Improvement Fund, during the 2011 session of the Maryland General Assembly, the Department of Natural Resources was directed by the Joint Chairmen's Report to submit a report outlining options for raising vessel excise tax revenues, the possibility of operating budget expenditure reductions, and a prioritization plan for the use of available funding for capital improvements. The following report also provides additional revenue options, background information on the Fund, recent developments that may likely require additional capital funding, as well as a summary of new funding policies recently implemented by the Department.

The Chesapeake Bay and Maryland's other waterways are known throughout the United States and abroad as one of the best locations for recreational boating. In-state spending by boat owners was estimated in 2007 by the University of Maryland to total more than \$2 billion and support 35,000 jobs, making boating a major factor in our local economy. Since 1965, the Waterway Improvement Fund (WIF) has been essential in financing projects and activities that promote, develop, and maintain Maryland's waterways for the benefit of the boating public. This Fund has completed nearly 4,600 boating related grant projects valued at approximately \$300 million in cooperation with federal, state, and local governments. It is in essence the "Transportation Trust Fund" for the general boating public.

State funded public boating facilities and public navigation channels are essential to the boating industry and local commercial watermen to provide them with the ability to serve their customers and support their work related activities. The WIF is critical in that it is the only source of state funding that finances these dredging and public boating access sites to ensure that they will remain both safe and accessible to local and transient boaters. This is even more essential given that the U.S. Army Corps of Engineers can no longer maintain their federal shallow water channels in Maryland. Without reliable and safe channels and public boating facilities, local marine related business and watermen will lose customers and associated income, which could lead to a loss of jobs.

Revenues for the Waterway Improvement Fund (WIF) have decreased 50% since FY 2006. In addition, the high demand for WIF grants continues to exceed the amount of funds available for state and local boating access and dredging projects. The Department was only able to fund 19% of the state and local grant requests for FY 2012. Revenue enhancements for the Waterway Improvement Fund are needed in order to provide sufficient funding to continue maintaining Maryland's boating access, waterway navigability, boating safety, and environmental-related boating projects.

The WIF is primarily financed by the 5% vessel excise tax (VET), paid by all vessels owners who principally use Maryland waters. The Fund also receives some limited additional income from repayments on outstanding tax district loans, boat tax violation penalties/interest, and land rent which totals approximately \$500,000. Over the past several years, VET attainment has decreased 50% as a result of reduced boat sales. The total VET revenues for the Fund in FY 2011 were \$14.9 million. This has resulted in less funding available to complete boating related capital projects. At the same time, requests for WIF grants have far exceeded the amount of available funding for proposed boating projects. In addition, the U.S. Army Corps of Engineers recently indicated that they do not have the estimated \$6 million (annual) federal funds needed to maintain their shallow

water boating channels. Furthermore, a number of federal initiatives designed to increase boating access in Maryland pose additional pressure on the Fund. The Department estimates that the annual funding needed to support the demand for boating related capital projects in Maryland totals \$21 million. Given that the WIF provides \$14 million for the Department's operating budget for statewide boating services, the total annual revenue attainment for the Fund would need to be approximately \$35 million. If the State is required to begin maintaining existing federal shallow water channels, the total annual revenue would need to be approximately \$41 million.

The WIF is used by DNR to support important statutory projects and services within the Department that are critical to protecting sensitive environmental resources, fisheries habitat, and boating safety. In addition, these funds are used by the Department to complete boating related planning and regulatory activities, project management, construction, provide technical assistance to local governments for boating related projects, and support marine operations for the Natural Resources Police. The Fund is also used to collect the vessel excise tax, complete titling and registration of vessels in accordance with federal and state requirements as well as provide fiscal and support functions for the Department. Since these functions are critical to carrying out our statutory mandates, the Department does not believe that it is in the best interest of the state or the boating public to make any major changes to the operating budget at this time.

Creating a new, diverse revenue portfolio for the WIF will better enable DNR to meet its statutory mandates and ensure that Maryland's boating industry and opportunities remain competitive with other Atlantic coastal states. The report describes several potential funding opportunities to increase revenues to the WIF. These include increasing the vessel excise tax from 5% to 6%; establishing graduated boat registration charges to support additional marine enforcement and capital projects; expanding boat registration to non-motorized vessels; alternative vessel excise tax rates during low boat sales months to spur boat sales; and general obligation bond supplementation.

In an effort to maximize the limited amount of Waterway Improvement Funds that are currently available, the Department has implemented new grant funding policies in cooperation with local governments that will encourage more local cost sharing for proposed projects. These funding policies will supplement our existing grant funding criteria as a means to better direct our funding to those projects that provide the greatest benefit to the boating public.

Through these efforts, Maryland can help ensure that the Waterway Improvement Fund will remain viable and meet essential infrastructure and public safety needs for recreational and commercial boaters.

INTRODUCTION

With 196,024 registered vessels principally using Maryland waters as of December 31, 2010, thousands of visiting boaters, and an estimated 57,000 undocumented and non-motorized (paddle) craft in Maryland, boating is a very popular activity throughout our state. A 2007 study by the University of Maryland calculated that annual spending by boat totaled more than \$2 billion and supports 35,000 jobs, making boating a major factor in our local economy. It is a priority of the Department to support boating safety, improve upon and increase boating access opportunities, enhance the quality of the recreational boating experience, and support the economic viability of the recreational boating industry.

Due to the lack of adequate funding for boating access projects, the Waterway Improvement Fund was established by the Maryland General Assembly in 1966 to finance projects and activities which promote, develop, and maintain Maryland's waterways for the benefit of the general boating public in cooperation with federal, state, and local governments. Since its inception, the Fund has enabled completion of nearly 4,600 boating related grant projects valued at \$300 million. Revenues for the WIF are derived from the 5% vessel excise tax that is paid by all vessels principally using Maryland waters. The Fund does not receive any General Funds.

A continuing demand exists to maintain, develop, and improve the infrastructure that supports boating. An increasing demand also exists to expand facilities, replace aging infrastructure and modify facilities in order to meet ADA guidelines. The Waterway Improvement Fund finances projects and activities that benefit the general boating public including:

- Marking channels and harbors and establishing aids to navigation in cooperation with the U.S. Coast Guard;
- Clearing debris and obstructions from navigable waters of the State;
- Dredging channels and harbors, and constructing jetties and breakwaters in cooperation with the U.S. Army Corps of Engineers;
- Constructing, maintaining, and renovating new and existing marine facilities beneficial to the general boating public (boat ramps, piers, landings, and parking);
- Funding marine operations for the Natural Resources Police;
- Installing marine sewage pump-out stations to maintain and improve water quality;
- Improving, reconstructing, or removing bridges, drawbridges or similar structures over or across water if those structures delay, impede, or obstruct the boating public;
- Evaluating water oriented recreation needs and capacities of Maryland waterways and developing comprehensive plans for waterway improvement projects;
- Providing boating information and education;

- Constructing marine facilities and acquiring vessels/equipment for marine firefighting, enforcement, first aid and medical assistance, and communications for promoting safety of life and property and general service to the boating public; and
- Implementing boating-related shoreline erosion control projects.

Due to funding availability, the Department has only been able to fund about 50% of the grant requests for the above referenced projects. The Department's Managing for Results (MFR) includes a target to fund 80% of the grant requests submitted annually. However, this has been impossible due to decreased revenues in recent years. As such, DNR may have to significantly reduce its MFR funding target percentage for future capital projects.

REVENUE ATTAINMENT – WATERWAY IMPROVEMENT FUND

Historic Revenue Sources and Transfers to the General Fund

The Waterway Improvement Fund has historically been the only source of state funds that support boating access, boating safety, and the public boating infrastructure in Maryland. It is in essence the Transportation Trust Fund for the general boating public.

Historically, there were two sources of revenues for the Waterway Improvement Fund, the 5% vessel excise tax and 0.3% of the State Motor Fuel Tax. The Fund does not receive any revenues from Maryland boat registration fees. Those fees go to the State Boat Act Fund that is used primarily for boating safety for the Natural Resources Police. In addition, the Fund also receives some income from repayments on outstanding WIF tax district loan projects, payments from boat tax titling penalties/interest, and land rent.

VET revenues have varied greatly over the years and are heavily influenced by boat loan interest rates, fuel prices, and consumer confidence. In recent years, VET revenues for the Fund have ranged from \$15 million to \$31 million depending upon the influence of the above referenced economic factors on boat sales. On the other hand, the state motor fuel tax was a steady form of revenue for the Fund and averaged \$1.5 to \$1.75 million per year. The motor fuel tax revenue was recently eliminated from the Fund as a means to bolster revenues for the Transportation Trust Fund.

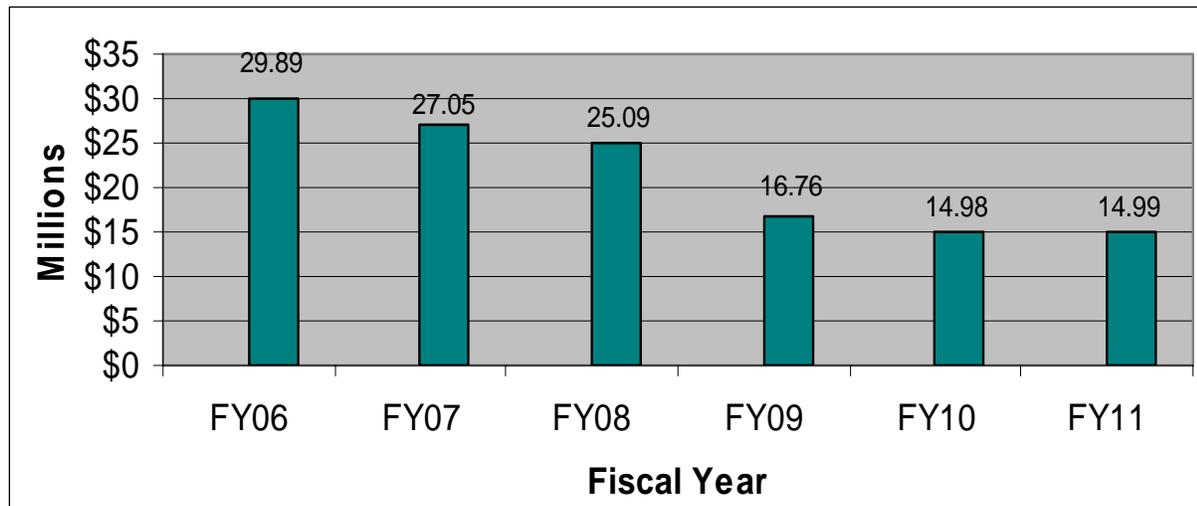
Between 1991 and 2004, \$48 million was transferred from Waterway Improvement Fund to the General Fund to help offset statewide budget shortfalls. This resulted in the elimination of 790 grant projects. The Budget Reconciliation and Finance Act for 2010 and 2011 transferred \$17,539,000 from WIF projects to the General Fund. However, all of these funds were replaced with GO Bonds as per the Maryland Consolidated Capital Bond Loan for 2010 and 2011, allowing these projects to proceed.

Current Revenue Source

Currently, the primary source of revenue for the Waterway Improvement Fund is the 5% vessel excise tax. Historically, the VET has been the same percentage as the Maryland sales tax. However, the VET percentage was not raised when the Maryland sales tax increased from 5% to 6% in 2007.

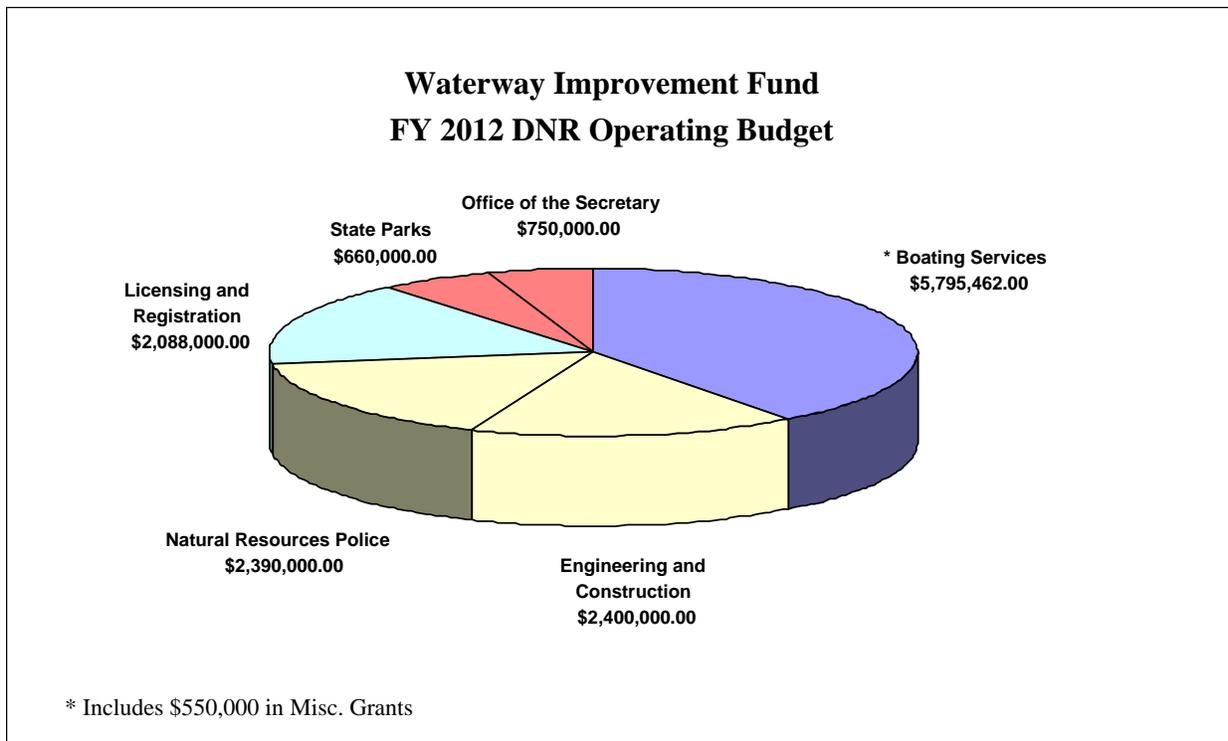
The significant and dramatic reduction in VET began in FY 2008, as a result of decreased boat sales in Maryland. Currently, VET revenues are approximately 50% less than what they were in FY 2006.

Table 1. Historic Vessel Excise Tax Revenue Attainment



FINANCIAL DEMANDS ON THE WATERWAY IMPROVEMENT FUND

The Waterway Improvement Fund supports both the operating and capital budgets at DNR. The total expenditures for the operating budget at the Department attributed to the WIF for FY 2012 is \$14,083,462. The chart below shows a summary of the funding provided by the WIF to support the operating budget at DNR.



The following is a summary of the services provided by each of these Departmental units.

Boating Services:

- Hydrographic Operations: Service 3,000 regulatory buoys/markers/signs critical to boating safety and protecting fisheries and aquatic resources, charting, field surveys for oyster leases, and winter ice breaking activities.
- Boating Implementation: Administer 459 grant projects valued at \$23.1 million, complete project assessments, site inspections, review and approve project plans/specifications, and provide technical assistance to government agencies and the public, etc.
- Facility/Access Planning: Complete statewide waterway use and site specific boating facility plans, complete boating related reports, create and distribute water trail guides, oversee boating regulatory process, staff State Boat Act Advisory Committee, and oversee Ft. Washington and Somers Cove Marinas.
- Miscellaneous Grants: Provide \$550,000 for small project, service contracts, and abandoned boat/debris removal grants.

Engineering and Construction:

- State Projects: Provide engineering staff to manage Waterway Improvement Capital Projects located on DNR lands.
- Marine Construction Crew: Dedicated in-house marine construction crew to complete public boating access projects on state and local lands and remove debris that is hazardous to boaters in state waters.

Natural Resources Police:

- Marine Operations: Support police officers assigned to marine operations including patrols, boating safety, and tax fraud investigations.

Licensing and Registration:

- Collect vessel excise tax and boat registration fees; address questions from the public regarding boat registration and boat titling; and ensure that boat titles and boat registration transactions are completed in accordance with state and federal statutes/regulations.

Maryland Park Service:

- Operate boating facilities within Maryland's state parks.

Office of the Secretary:

- Provide general administrative support functions such as communications, payroll, fleet vehicles, fiscal services, Office of the Attorney General, etc.

The Department recently reduced expenditures from the operating budget supported by the WIF. These included reducing funds provided to the Maryland Park Service by more than \$150,000 in FY 2012, along with reducing approximately 500 regulatory buoys/markers statewide and eliminating staff positions in Boating Services and Engineering and Construction since 2009 as part of cost containment efforts.

The Department does not believe that additional major reductions in operational costs are in the best interest of the boating public. As indicated above, there are six primary operational units that expend Waterway Improvement Funds within DNR. Boating Services, Engineering and Construction, Natural Resources Police and State Parks provide services that directly benefit and support public boating access and boating safety. Licensing and Registration and the Office of the Secretary provide administrative support for these units as well as collect the vessel excise tax and ensure that Maryland abides by federal and state titling/registration requirements. Nonetheless, the Department will continue to assess potential savings in operating costs that can be used to complete additional capital projects.

FEDERAL BUDGET AND POLICY IMPACTS

The U.S. Army Corps of Engineers recently indicated that they no longer have the funds necessary to maintain federally authorized shallow water boating channels in Maryland. These channels serve thousands of recreational boaters and commercial watermen each and every year. The Corps is currently exploring a potential new pilot program where they would complete the engineering phase for dredging projects and then require the local sponsor to provide the dredging funds to complete the project. This is in addition to the local sponsor having to provide the dredged material placement site, as currently required by the Corps of Engineers.

Historically, the only cost to a local sponsor for an existing federal shallow water channel project was to provide the dredged material placement site. That local cost was typically financed by a grant from the Waterway Improvement Fund. Due to the current lack of Waterway Improvement Funds, local jurisdictions will now have to cover this cost. Local jurisdictions have informed DNR that they do not have the funding required to complete these dredging projects. The result is that these channels will continue to shoal, creating a navigation hazard for both local and transient boaters.

Federal projects impacted by this potential new funding policy include heavily used channels such as Kent Narrows in Queen Anne's County, Knapps Narrows in Talbot County, Rock Hall in Kent County, and Rockhold Creek in Anne Arundel County. There are over 60 federally authorized shallow water channels that would be impacted by this new funding policy (See Appendix I – impacted channels are highlighted in yellow.). Some of these channels are either in a restricted condition (channel is shoaling) or are currently in a highly restricted condition (difficult to safely navigate). It is estimated that the annual cost to dredge these federal shallow water channels will be approximately \$6 million.

In addition to the above, recent federal initiatives and trail designations are starting to impact Maryland boating programs at the state and local levels. The sampling of federal initiatives listed below has identified goals related to increased public access and creation of new amenities:

- Chesapeake Bay Public Access Strategy (2011)
- America's Great Outdoors Agenda (2011)
- Treasured Landscapes Initiative (2010)
- Presidential Executive Order 13508 and Section 202e report (May 2009)
- Star-Spangled Banner Water Trail (2009)
- Washington Rochambeau Trail (2009)
- Captain John Smith Water Trail (2008)
- Annual reporting and tracking associated with Bay Program, NOAA, EPA and NPS

These initiatives set goals for the creation of hundreds of additional public boating access sites and suggest that planning, design, construction, management and maintenance of these sites will be the responsibility of the state and local governments. All of these initiatives require considerable coordination, planning, investment, and staff time from state programs, yet none of these federal initiatives provide funding to cover or compensate state or local governments for the considerable workload and increased impact to resources. Due to the decreased capital budget, Maryland will not be able to meet these new boating access initiatives unless considerable additional funding is obtained from either federal sources and/or the Waterway Improvement Fund.

REVENUE ENHANCEMENT OPPORTUNITIES

Revenue enhancements for the Waterway Improvement Fund are necessary in order provide sufficient funding to maintain DNR's ability to carry out the mandates of the State Boat Act that support boating access, dredging, and various boating safety and environmental related boating projects.

The estimated annual capital costs for Waterway Improvement Fund projects total approximately \$21 million and include:

- State and Local Boating Access Projects - \$8 million
- Local Dredging/Navigation Boat Channel Projects - \$11 million
- State Matching Funds for Federal Boating Access and CVA Grants: \$0.8 million
- Boating Safety Fire/Rescue/Patrol Boats and Equipment - \$0.65 million
- Boating Related Shoreline Erosion Control Projects - \$0.7 million

In addition, the potential new federal funding policy that would require the local sponsor to finance dredging existing shallow water U.S. Army Corps of Engineers channels would cost an estimated \$6 million annually. If DNR provides the local cost share to dredge these federal channels, total annual capital costs would increase to \$27 million. Given that the annual operating budget supported by the Waterway Improvement Fund is \$14 million, the total necessary revenues required to fund both the operating and capital budgets would total \$41 million.

There are several potential opportunities that can be implemented to provide additional funding for Waterway Improvement Fund projects.

Graduated Boating Registration Fee

Altering Maryland's existing \$24 biennial boat registration fee, set in 1983, offers the greatest potential for enhanced revenues. Implementing a graduated fee system could increase annualized revenues by an estimated \$7.51 million (See Table 2). This would include charging a fee to vessels under 16 feet with motors of 7.5 horsepower or less that currently receive free registration decals from the Department. Eleven out of fifteen Atlantic coastal states use a graduated vessel registration fee schedule.

Table 2. Potential Annual Cost of Boat Registration		
	# Vessels	Potential Cost (Annualized)
<16 feet & motor less than 7.5hp	29,164	\$12
<16 feet	47,629	\$25
16 feet but less than 26 feet	88,991	\$50
26 feet but less than 40 feet	25,976	\$100
40 feet but less than 65 feet	4,176	\$200
65+ feet	88	\$300
Total Revenue		\$9,449,443
Additional Annualized Revenue (above FY 2012 level)		\$7,510,942

Increasing the Vessel Titling Fee to Cover Processing Costs

The fees for issuing a title when a vessel's ownership changes, or for issuing a duplicate title, were set by law at \$2 in 1965 and have not been adjusted since to account for inflation and increased processing costs. Increasing the fee for vessel titling to \$15 would make the fee more in line with the actual cost of checking paperwork and processing the transaction. The change would increase annual revenues by approximately \$312,000.

Raising the Vessel Excise Tax

Equalizing the vessel excise tax (5%) with Maryland's existing sales tax (6%) could raise an additional \$3.1 million or more annually (based on existing total estimated boat sales).

General Obligation Bonds and/or Supplemental General Funds

The WIF could be supplemented with state general obligation bonds and/or general funds until such time that other revenues can be secured for the Fund and/or when vessel excise tax revenues improve to the extent that it can adequately support boating access, dredging, and other boating needs.

Requiring Use Decals on Non-motorized Vessels

Requiring use decals on the estimated 57,000 non-motorized, paddle craft (kayaks and canoes) using Maryland waters offers additional revenue potential. Currently, these vessels are not required to have identification decals in Maryland. It is estimated that requiring these boats to obtain a decal in Maryland would generate an additional \$285,000 annually if a \$5 annual (\$10 biennial) fee is charged for these vessels.

Paddle craft owners benefit from capital improvement projects (soft launches, water trails, etc.), yet do not generally contribute to the fund enabling these projects. Paddle craft owners would also receive safety and property security benefits from registering their vessels given that the Natural Resources Police would be able to identify the owner of lost, stolen, or separated vessels. At least 9 other states across the nation register or require identification decals on non-motorized, paddle craft.

Alternative Vessel Excise Tax Rates

A pilot initiative can also be explored that would allow for a temporary reduction in the VET during months when historic boat sales are the lowest, such as January and February. The purpose would be to see if such an action would spur boat sales during that time period which could potentially increase the overall revenue attainment for the WIF.

Other

In 2009 the Department of Legislative Services (DLS) completed an evaluation of potential revenue alternatives for the Waterway Improvement Fund. The analysis included four main components

including establishing a graduated boat registration fee and redirecting these revenues to the WIF; reducing the VET from 5% to 3%; establishing a cruising permit for visiting boaters; and registering previously exempted vessels.

DNR estimates that this revenue package today could generate approximately \$19.26 million in total revenues for the WIF (net additional revenue of \$4.27 million). Appendix II includes an analysis completed by DNR for the graduated boat registration fee proposal made by DLS in 2009 based on current boat registration data.

DNR does not believe that the proposed cruising permit for long term transient boaters is a viable revenue option given that the majority of the revenue in the DLS analysis fell within the first 21 days for boats that stay in Maryland over the current 90 day limit before being subject to paying the VET. A boater will likely not seek to obtain a cruising permit if only staying in Maryland a few days over the 90 day limit. The Department also believes that a cruising permit will be very difficult to administer and enforce. Additionally, the vessel excise tax is the only revenue source for the Waterway Improvement Fund. As such, DNR is leery of any actions that could jeopardize the amount of revenues from the vessel excise tax.

Given that \$2.37 million of this amount (current boat registration revenue) is used to support the Natural Resources Police, only \$16.89 million of the DLS plan would be available for the WIF. Since \$14 million of this amount is required to support the Department's operating budget, this would only provide \$2.89 million for capital projects.

The Department remains committed to efficiently utilizing our existing and future resources. Efforts to reduce the Department's operating budget, as it relates to the Waterway Improvement Fund, are outlined in more detail on page 15 of this report.

CAPITAL PROJECT PRIORITIZATION PLAN

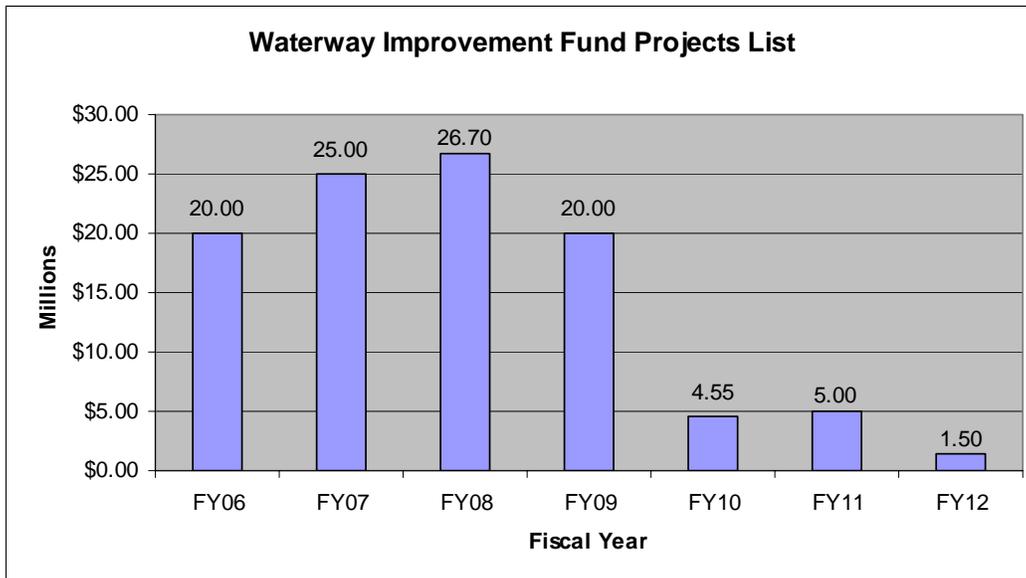
Projects found to be eligible for State assistance from the Waterway Improvement Fund may receive funds in the form of grants or loans as described below. The type of funding selected for a project is dependent upon the scope of the project, statutory guidelines as well as to what degree the project benefits the general boating public. The funding categories for Waterway Improvement Fund Projects are as follows:

- \$5,000 Small Project Grants
- 100% State Grants less than \$100,000
- 100% State Funds for Projects on DNR Lands and for Select Navigation Projects
- Matching Funds (50/50)
- 25 Year Interest Free Tax District Loans

Through the 1990's until 2008, DNR received an increasing number of grant requests, culminating in a high of \$34 million in funding requests (FY 2008). The increase was largely due to a steep increased need for dredging local boating access channels. In addition, there was a significant rise in funding requests to upgrade older existing public boating facilities in need of structural upgrades and site modifications in order to meet increased user demands and current ADA requirements. DNR has also become more aggressive in acquiring federal U.S. Fish and Wildlife boating access and Clean Vessel Act grants, both of which require state matching funds.

After the VET revenues began to fall in FY 2008, DNR encouraged local governments to only request those projects that had the highest priority and would provide the greatest benefit to the boating public. As such, annual grant requests have dropped to approximately \$18 million. However, this action has created a backlog of state and local projects such as dredging channels and upgrading public boating facilities. For example, DNR has over \$6 million in projects that have been designed and could proceed if construction funds were available. The Department also anticipates that the amount of grant requests would return to higher levels if the available funding for capital projects is increased.

Historically, the WIF capital budget has been determined by the balance of funds that remain after the Department's operating costs have been satisfied. As such, the capital budget has been significantly impacted by the 50% reduction in VET revenues. The rapid decline in the funding available for capital projects occurred due to a significant decrease in VET revenues and a reduction in the reserve balance of the WIF. The Department relies almost exclusively on the annual revenue attainment to fund capital waterway improvement projects.



Recent Policy Changes for Waterway Improvement Fund Grants

Due to the dramatic reduction in VET revenues and increased financial demands on the WIF, there are no longer sufficient funds available to support the large number of grant requests that DNR receives for state and local waterway improvement projects. As a result, the Department recently amended the existing policies used by DNR for funding these projects in cooperation with local governments to better align these policies with the level of state funding that is currently available. Effective for FY 2013, the new funding policies are described below.

Dredging & Navigation Projects:

- DNR will provide 100% state funds only for dredging or navigation projects that directly serve a publicly owned public boating facility, for projects cost shared with the U.S. Army Corps of Engineers, or for projects that support major public thoroughfare channels. These are the projects that have historically provided the greatest benefit to the general boating public.
- All other dredging or navigation projects, including those that primarily serve local communities, will be funded through 50/50 matching state grants, tax district loans, or local special benefit districts (privately financed loans) depending on the level of benefit that the project provides to the general boating public.
- Dredging or navigation projects that benefit publicly owned boating facilities, U.S. Army Corps of Engineers projects, major public thoroughfare channels, or have multiple funding sources that require less than 50% state matching funds will be top priority. This will provide funding to those projects that provide the greatest benefit to the boating public and maximize leverage of our limited state funds.

Boating Access Facility & Boating Safety Projects:

- DNR will continue providing 100% state grants where the total project costs are below \$100,000 to the extent of available funding.
- DNR will continue to provide matching state grants to acquire fire and rescue boats and equipment to the extent of available funding. This policy supports the existing statute and is important to boating safety.

All Waterway Improvement Fund Grants:

- DNR will only consider reimbursing mitigation costs if the mitigation is completed and is required by federal/state/local regulatory agencies as part of the overall project. Any required storm water retrofits will be the responsibility of the project sponsor.
- Boat counts will be used when appropriate to help determine the level of benefit that a project will provide to the general boating public.
- Projects that primarily benefit commercial watermen will require 50% matching funds since over 90% of the Fund revenues come from recreational boaters.
- Local jurisdictions that elect to charge a countywide fee for use of their public boat ramps/landings or to use just a stand alone boating facility (individual ramp or boat slips) will be limited to a single \$25,000 to \$50,000, 100% state grant during any fiscal year (depending upon availability of funds). Anything beyond that amount will require a 50/50 matching fund grant. This policy does not apply to facilities that only charge a user fee to out-of-state boaters.

Project Selection Criteria

The following project criteria are used by DNR to help evaluate and rank proposed projects that are eligible for grants through the Waterway Improvement Fund.

- Extent project will expand or improve public boating access;
- Impact on boating safety;
- Project cost/benefit;
- Status of regulatory permits;
- Projected expenditure rate;
- Continuation of a current project;
- Impact on boating congestion;
- Sustainable building elements; and
- State and/or local priority

ECONOMIC AND BOATING SAFETY CONSIDERATIONS

Boaters have a direct impact on Maryland's economy. A study completed by the University of Maryland Sea Grant Program in 2004, estimated that every 8 boats registered in Maryland leads to a full-time job in the state and that each boat contributes approximately \$7,200 annually in economic activity. Based on the current number of registered boats in Maryland, that equates to \$1.4 billion in annual economic activity and over 24,000 jobs. Furthermore, a similar study completed in 2005 for visiting boaters found that transient boater spending contributed \$186 million to Maryland's economy and supported 2,627 jobs.

There will be significant short and long term negative consequences to the local and regional economy if additional revenues are not identified for the Waterway Improvement Fund.

Capital Construction Projects

Since the beginning of the current recession, state and local Waterway Improvement Fund projects have been critical to the economic well being of engineering firms that specialize in marine construction, local marine contractors, and suppliers that support the completion of capital projects financed by the WIF. Losses in wages and jobs will be a consequence that will directly impact these companies and associated employees if funding for dredging and boating access projects is not secured to complete future projects.

In 2008, DNR budgeted nearly \$25 million to design and construct waterway improvement projects that included dredging boating channels, developing and maintaining public boating facilities including public boat ramps, docks, and other boating related infrastructure, as well as other technical related projects. In 2012, the Department only had revenues available to budget \$1.24 million for construction related projects. A sustained lack of funding for such projects will result in a loss of jobs and economic spin-offs associated with construction related activities.

Maryland Marine Trades, Commercial Watermen and Associated Businesses

Many marine related businesses (marinas, boatyards, boat dealers and retailers) and water accessible restaurants in the Chesapeake Bay are located on tributaries serviced by federal, state and local boat channels that require frequent maintenance dredging. This includes federal shallow water channels that have historically been maintained by the U.S. Army Corps of Engineers. These businesses are highly dependent on these public navigation channels. These channels are in essence the roads and highways for the general boating public.

Many of these channels serve as connective thoroughfares to multiple locations and waterways that are popular with the boating public. This makes them critical in that they serve businesses in multiple areas. For example, Kent Narrows in Queen Anne's County serves boaters from Annapolis, Baltimore, and other regions in the Chesapeake Bay that travel not only to the Narrows but also St. Michaels and other waterways on the Eastern Shore. Knapps Narrows in Talbot County is another heavily used channel that provides access to multiple waterways including Chesapeake/Eastern Bay and the Choptank River. Both of these channels provide boaters with a means to shorten their travel times as well as save expensive fuel making them an attractive and convenient pathway.

Local commercial watermen are also highly dependent on having channels that provide reliable access during normal tide cycles. Without properly maintained federal, state, and local channels, watermen may be forced to use channels only during high tides in order to prevent their boats from running aground and being damaged. This could lead to less working time which could negatively impact their personal income.

In addition to the above, many of the boating facilities supported by the WIF such as public boat ramps, docks, slips and landings are used by boat dealers and commercial watermen on a routine basis. Boat dealers use these facilities for demonstrating and testing various types of boats. Commercial watermen are highly dependent on public landings for unloading catch. In addition, public dockage space is critical since most private recreational marinas will not accommodate commercial watermen.

State funded public boating facilities and public navigation channels are essential to the boating industry and local commercial watermen to provide them with the ability to serve their customers and support their work related activities. The WIF is critical in that it is the only source of state funding that finances these dredging and public boating access sites to ensure that they will remain both safe and accessible to local and transient boaters. This is even more essential given that the U.S. Army Corps of Engineers can no longer maintain their federal shallow water channels in Maryland. Without reliable and safe channels and public boating facilities, local marine related business and watermen will lose customers and associated income which could lead to a loss of jobs.

Local Governments

Local governments will have negative economic consequences as a result of reduced funding for waterway improvement projects. The reduction in revenues to the WIF will require additional local funding for future dredging and boating facility projects. In addition, local tax revenues may be reduced if fewer boaters use marine related businesses due to shoaled channels. In addition, many waterfront property owners may decide to challenge their property assessment if they feel that their property has been devalued because of reduced boating access from not dredging channels that provide deep water access to their properties. This could lead to reduced property values and less tax revenue to local jurisdictions.

General Boating Public

Reduced state funding to dredge public boating channels and developing and maintaining public boating facilities will impact the type of vessels purchased by boaters, determine where they decide to recreate, and create safety hazards for those that use public channels and boating facilities that are not properly maintained.

When purchasing a boat, a buyer takes into consideration how and where the boat will be used. Water depth is a major consideration for those purchasing larger boats. The location and condition of public boat ramps are a major consideration for those purchasing a trailer or car-top boat. Channels that serve public boat ramps need an average of 3 to 4 feet of water depth to enable boaters to launch and retrieve their boats while channels that serve deep draft (minimum depth required to operate a vessel) boats will often need 5 or more feet in depth at mean low water. In addition, trailer and car/top power boaters want to use boat ramps that are well maintained,

including having a good boarding pier(s) and a high quality concrete ramp. Paddle boaters prefer to use launch sites that have off road parking and a more natural launching surface like sand.

It is very stressful to local and transient boaters not knowing if they are going to have adequate water depth while using an existing federal, state or local navigation channel or launching a power boat from a public ramp. Depending on the vessel speed, draft, and type of bottom sediments in a channel, a boat can sustain considerable damage running aground that can require hundreds or thousands of dollars in repairs.

In addition, shoaled channels create a serious safety hazard because it requires boats to pass too close to each other. In channels more exposed to higher winds and wave action, this can greatly increase the likelihood of boat collisions. Given that many larger vessels can weigh 10+ tons, significant damage can occur if boats of this size collide with one another. Another situation which often occurs in shoaled channels is that one boat will run aground, creating a blockage for other vessels using the channel, which can lead to multiple groundings, especially if the channel is highly restricted and exposed to the elements. Such incidents not only damage the boats, but also create a safety hazard to passengers.

If channels are not maintained and/or remain in a shoaled condition for an extended period of time, a local or transient boater will often decide to recreate elsewhere, resulting in decreased revenues for marine related businesses, restaurants, and retailers that are served by these channels. These conditions may also become a reason for some to get out of boating entirely or for transient boaters to not visit Maryland. This could cost the state and local jurisdictions millions in annual lost revenue.

Long Term Impacts

There will be significant long term impacts to boating in Maryland if existing channels and boating facilities are not properly maintained. This is especially true given modern instant communications and social media such as Facebook, Twitter, and marine related blogs have become a mainstay for many boaters.

If boaters begin to run aground in channels and have issues using public boating facilities, the word will quickly spread through social media and the internet that our state, or certain areas in Maryland, are no longer a safe and reliable destination for boating. This could create long term economic impacts if the state's boating reputation becomes tarnished. Once this occurs, it could take years to get resident boaters back into boating and for transient boaters to return to Maryland.

Potential long term negative economic impacts could include reduced property values and tax revenues to local governments; a loss in marine trade, marine construction and restaurant/retail related income and jobs; and further reductions in boats sales. This would also lead to decreased revenues for the Waterway Improvement Fund.

APPENDIX I – U.S. Army Corps of Engineers Channels
(Shallow Water Channel Projects Highlighted in Yellow)

PROJECT NUMBER	PROJECT	STATE	Authorized Dimensions			Current Status	Depth Full Width	Depth M Half Width	Date Last Survey	Last Dredged
			Depth (Feet)	Width (Feet)	Length (Miles)					
# 1	BALTIMORE HARBOR & CHANNELS	MD&VA	15 - 50		212 1/					
	Cape Henry Channel (width in turn)	VA	50	1,000 (1,425)	3	Open, Restricted	45	48	Apr10	
	York Spit Channel (width in turns)	VA	50	800 (1,275) 2/	18.4	Open, Restricted	44	49	Apr10	Feb 09
	Rappahannock Shoal Channel (width in turn)	VA	50	800 (2,475) 2/	10.3	Open, Restricted	47	49	Mar 10	
	Craighill Entrance	MD	50	700 3/	3.6	OPEN	47	51	Jan 11	Mar 09
	Craighill Channel	MD	50	700 4/	3.2	OPEN	47	50	Feb 11	Jan 07
	Craighill Angle (width in turn)	MD	50	700 (1,830) 4/	1.8	Open, Restricted	44	48	Mar 11	Feb 08
	Craighill Upper Range	MD	50	700 4/	2.4	OPEN	50	50	Aug 10	May 09
	Cutoff Angle (width in turn)	MD	50	700 (1,650) 4/	1.1	Open, Restricted	49	49	Mar 09	Feb 09
	Brewerton Channel	MD	50	700 4/	3.4	OPEN	49	50	Jun 10	Mar 09
	Brewerton Angle (width in turn)	MD	50	700 (1,375) 4/	1	OPEN	49	50	Jan 09	Apr 08
	Fort McHenry Channel	MD	50	700 4/	4.2	OPEN	48	51	Mar 10	Mar 08
	Curtis Bay Channel (turning basin)	MD	50	400 (1,275) 5/	2.2	OPEN	50	50	Nov 09	Oct 09
	Curtis Creek Channel to 750 below Pennington Ave. E	MD	35	200	0.9	OPEN	33	34	Aug 08	
	Curtis Creek Channel to U.S. Ordnance Depot	MD	22	200	1.2	OPEN	48	48	Sep 06	
	Curtis Creek Basin at U.S. Ordnance Depot	MD	18	320	0.1	OPEN	33	34	Sep 06	
	Curtis Creek Basin at U.S. Ordnance Depot	MD	15	450	0.2	OPEN	13	17	Sep 06	
	Curtis Creek Channel to U.S. Coast Guard Depot	MD	22	200	0.5	OPEN	30	30	Sep 06	
	Curtis Creek Anchorage at U.S. Coast Guard Depot	MD	22	700	0.1	OPEN	33	35	Sep 06	
	Curtis Creek Channel to Arundel Cove	MD	22	200	0.5	OPEN	31	35	Sep 06	
	Curtis Creek Channel to Arundel Cove	MD	22	100	0.4	OPEN	35	35	Sep 06	
	Northwest Branch East Channel (turning basin)	MD	49	600 (950)	1.3	OPEN	43	45	Dec 10	Nov 09
	Northwest Branch West Channel (turning basin)	MD	40	600 (1,050)	1.3	OPEN	39	40	Apr 11	
	Ferry Bar Channel	MD	42	600	1.4	OPEN	41	42	Apr 10	Nov 09
	Dundalk Marine Terminal East Channel	MD	42	400	1.2	OPEN	42	43	Jan11	May 09
	Dundalk Marine Terminal West Channel	MD	42	500	1.5	OPEN	50	50	Nov 10	
	Dundalk Marine Terminal Connecting Channel	MD	38-42	500	0.5	OPEN	29	34	Oct 06	
	Dundalk-Seagirt Connecting Channel	MD	42	500	0.5	OPEN	43	44	Aug 10	
	Seagirt Marine Terminal West Channel	MD	42	500	1.2	OPEN	42	44	Aug 10	
	South Locust Point Channel	MD	36	600	1.4	OPEN	34	37	Dec 10	
	Fort McHenry Anchorage (Anchorage No. 1)	MD	35	600	0.7	OPEN			Dec 06	
	Riverview Anchorage No. 1a (Anchorage No. 3a)	MD	42	2,200	0.4	OPEN	39	42	Mar 11	
	Riverview Anchorage No. 1b (Anchorage No. 3b)	MD	42	1,800	0.3	OPEN			May 10	
	Riverview Anchorage No. 1c (Anchorage No. 3c)	MD	35	1,500	0.1	OPEN			May 10	
	Riverview Anchorage No. 2 (Anchorage No. 4)	MD	35	1,800	0.3	OPEN	32	35	Feb 11	
	Brewerton Channel Eastern Extension	MD	35	600	6.3	Open, Restricted	32	34	May 11	Apr 09
	Swan Point Channel	MD	35	600	2.8	OPEN	35	35	Jun 09	Apr 07
	Tolchester Channel (including S-Turn)	MD	35	600	7.2	OPEN	31	35	Jun 09	Dec 09

41	NANTICOKE RIVER, MD	7	60	0.15	Open, Restricted	4	4	Jun 08	2003
40	NANTICOKE RIVER AT BIVALVE, MD	7	60	0.1	OPEN	4	5	Jun 08	1974
37	NANTICOKE RIVER, DE & MD	12	100	56.2	Open, Restricted	8	8	Aug 10	1990
	NEABSCO CREEK, VA	5	50	1.1	Open, Restricted	2	3	Mar 10	1998
109	NEALE SOUND, MD	6	80	1.75	Open, Restricted	5	6	Aug 09	2002
21	NEAVITT HARBOR, MD	6	60	0.13	OPEN		4	Sep 04	1968
121	NOMINI BAY & CREEK, VA	9	150	1.25	Open, Restricted	4	6	Mar 11	1927
6	NORTHEAST RIVER, MD	6	60	5.3	Open, Restricted	2	2	Jul 09	1999
127	OCCOQUAN CREEK, VA	8	150	6	OPEN	8	8	Mar 10	2005
52	OCEAN CITY HARBOR & INLET, MD	10	300	17.8	Open, Restricted	5	8	May 10	2009
63	PARISH CREEK, MD	8	50	0.75	OPEN	8	8	Mar 10	1987
56	PATUXENT RIVER, MD	10	100	0.15	OPEN		7	Jun 88	1945
50	POCOMOKE RIVER, MD	7	100	40	Open, Highly Restricted	2	6	Aug 10	2004
130	POTOMAC RIVER AT ALEXANDRIA, VA	24	100	1.27	OPEN	13	13	Aug 08	2000
105	POTOMAC RIVER BELOW WASHINGTON	24	200	110	Open, Restricted	19	20	Aug 09	2000
107	POTOMAC RIVER AT LOWER CEDAR PT	10	150	0.42	OPEN		9	Apr 29	1911
129	POTOMAC RIVER AT MT VERNON, VA	10	150	0.45	OPEN	6	7	Aug 08	2002
12	QUEENSTOWN HARBOR, MD	10	200	1.2	Open, Restricted	4	6	Aug 09	1985
54	RHODES POINT TO TYLERTON, MD	6	50	2.4	OPEN	6	6	Dec 10	2003
9	ROCKHALL HARBOR, MD	8	100	0.75	Open, Highly Restricted	4	4	Nov 10	1998
51	SHAD LANDING STATE PARK, MD	6	60	0.3	OPEN			Dec 06	1966
1.3	SHALLOW CREEK, MD	5	50	0.76	OPEN	4	5	Jan 11	2000
32	SLAUGHTER CREEK, MD	7	100	0.33	OPEN	6	6	May 08	1987
115	SMITH CREEK, MD	12	150	0.2	Open, Restricted	8	10	Oct 10	1931
110	ST. CATHERINE SOUND, MD	6	80	2.4	Open, Restricted	3	3	Jul 09	1989
	ST. GEORGE CREEK, MD	7	60	0.39	Open, Restricted	3	3	Sep 07	1991
55	ST. JEROME CREEK, MD	7	100	0.93	Open, Restricted	5	5	Dec 08	2006
15	ST. MICHAELS, MD	6	50	0.12	OPEN	5	6	May 08	1964
111	ST. PATRICKS CREEK	7	60	0.46	Open, Restricted	1	5	Jul 09	1987
47	ST. PETERS CREEK, MD	6	60	1.4	Open, Restricted		3	Nov 08	1962
4	SUSQUEHANNA RIVER AT HAVRE DE GRACE, MD	15	200	5.5	Open, Restricted	10	11	Jan 11	1985
5	SUSQUEHANNA RIVER AT WILLIAMSPORT, PA	5	180	11.4	OPEN			Apr 71	1971
20	TILGHMAN ISLAND HARBOR, MD	6	60	0.17	OPEN	6	6	Jun 07	2007
23	TOWN CREEK, MD	10	100	0.9	OPEN			Aug 99	1949
22	TRED AVON RIVER, MD	12	150	9.7	Open, Restricted	8	11	May 08	1988
28	TUCKAHOE RIVER, MD	8	150	11	OPEN		4	Jan 80	1914
53	TWITCH COVE & BIG THOROFARE	7	60	6.1	OPEN	7	7	Dec 10	2010
39	TYASKIN CREEK, MD	9	120	0.66	OPEN		4	Mar 93	1908
124	UPPER MACHODOC CREEK, VA	6.5	100	6.5	OPEN	4	4	Oct 09	1914
43	UPPER THOROFARE, MD	9	100	0.63	OPEN	4	7	Aug 09	2005
29	WARWICK RIVER, MD	10	100	1.5	OPEN	4	5	Jul 09	1948
101	WASHINGTON HARBOR, DC	24	400	2.4	Open, Restricted	8	10	May 11	1980
42	WICOMICO RIVER, MD	14	150	30.6	Open, Restricted	12	13	Mar 11	2010

				212						
128	ACCOTINK, VA	5	40	1.75	OPEN				no data	
104	ANACOSTIA RIVER BASIN DC & MD	8	80	6.7	Open, Restricted	4	4	Aug 10	1993	
67	ANNAPOLIS HARBOR, MD	15	100	0.75	OPEN	11	12	Apr 11	1940	
125	AQUIA CREEK, VA	6	100	6	OPEN			Aug 05	1913	
66	BACK CREEK, AA COUNTY, MD	8	100	0.17	OPEN	7	9	Apr 11	1939	
19	BLACK WALNUT HARBOR, MD	6	60	0.85	Open, Restricted	2	2	May 08	1982	
118	BONUM CREEK, VA	6	60	0.72	Open, Restricted	3	3	Feb 11	2004	
119	BRANSON COVE, VA	7	60	0.3	OPEN	5	6	Mar 11	1950	
112	BRETON BAY, MD	10	150	6.25	Open, Restricted			Sep 05		
49	BROAD CREEK, MD	6	100	3.2	Open, Restricted		4	Aug 06	1996	
38	BROAD CREEK RIVER, DE	8	70	8.2	OPEN	4	6	Jun 08	1964	
30	CAMBRIDGE HARBOR, MD	25	150	1.3	OPEN	16	20	Jun 10	1988	
10	CHESTER RIVER, MD	7	75	44.8	Open, Restricted	5	7	May 10	2007	
27	CHOPTANK RIVER, MD	8	75	53.8	OPEN		5	Jun 79	1963	
16	CLAIBORNE HARBOR, MD	14	100	0.8	Open, Restricted	1	3	Sep 07	1987	
123	COAN RIVER, VA	10	60	0.2	OPEN	10	10	Jun 07	2003	
11	CORSICA RIVER, MD	8	100	5.3	Open, Restricted	1	2	Aug 09	1948	
48	CRISFIELD HARBOR, MD	12	266	7.5	Open, Restricted	3	4	Mar 11	1990	
69	CYPRESS CREEK, MD	7	75	0.3	OPEN	6	9	Feb 09	1940	
35	DUCK POINT COVE, MD	6	60	0.83	Open, Restricted	3	4	Mar 07	1982	
7	ELK & LITTLE ELK RIVERS, MD	7	40	16.4	Open, Restricted	0	0	Nov 38	1931	
36	FISHING BAY, MD	6	60	3	Open, Restricted	1	1	Mar 07	1997	
60	FISHING CREEK, MD	7	100	0.8	Open, Highly Restricted	3	4	Jan 10	2003	
46	GOOSE CREEK, MD	6	60	0.74	Open, Restricted	3	3	Jul 08	1972	
61	HERRING BAY & ROCKHOLD CREEK,	7	60	1.38	Open, Restricted	7	7	Nov 10	2009	
113	HERRING CREEK, MD	6	60	0.3	OPEN		4	Nov 00	1987	
33	HONGA RIVER & TAR BAY, MD	7	60	5	Open, Highly Restricted	1	1	Feb 11	2009	
25	ISLAND CREEK, MD	8	75	0.26	Open, Restricted	4	4	Apr 11	1940	
114	ISLAND CREEK, ST GEORGE IS, MD	5	50	0.38	Open, Restricted	3	3	Sep 07	1995	
18	KNAPPS NARROWS, MD	9	75	1.7	Open, Restricted	6	7	May 10	2008	
26	LA TRAPPE RIVER, MD	8	75	3.5	OPEN	4	4	Apr 11	1908	
13	LITTLE CREEK, MD	7	60	0.35	OPEN	5	5	Aug 07	1957	
116	LITTLE WICOMICO RIVER, VA	8	150	0.9	OPEN	9	9	Mar 10	2010	
120	LOWER MACHODOC CREEK, VA	9	150	0.26	OPEN	8	9	Mar 11	1903	
44	LOWER THOROFARE, MD	7	60	0.88	Open, Highly Restricted	2	3	Aug 10	1999	
17	LOWES WHARF, MD	7	60	0.28	Open, Restricted	1	3	Sep 07	1984	
32A	MADISON BAY, MD	6	60	0.57	OPEN	4	5	May 08	1977	
45	MANOKIN RIVER, MD	6	100	8.7	OPEN		4	Mar 92		
2	MIDDLE RIVER & DARK HEAD CR, MD	10	200	3.6	OPEN	6	9	Oct 09	1942	
122	MONROE BAY & CREEK, VA	8	100	0.55	OPEN	6	6	Jul 09	1989	
34	MUDDY HOOK & TYLER COVES, MD	6	60	0.71	Open, Restricted	2	3	Apr 07	2004	
58	NAN COVE, MD	6	40	0.42	Open, Restricted	2	2	Feb 10	1965	

APPENDIX II - Updated Graduated Boat Registration Fee (2009 DLS Alternative)

Quantity 9 Aug 2011	Biennial Renewals	Length Category	DLS Proposed Fees	Annual Total Revenue	Current DNR Fee	Current Revenue	Increased Revenue
188,764	94,382	MD Numbered		\$ 8,892,390		\$ 2,265,168	\$ 7,139,311
9,090	4,545	Documented		\$ 936,330		\$ 109,080	\$ 827,250
197,854	98,927			\$ 9,828,720		\$ 2,374,248	\$ 7,966,561

Quantity 9 Aug 2011	Biennial Renewals	Length Category	DLS Proposed Fees	Annual Total Revenue	Current DNR Fee	Current Revenue	Increased Revenue
73,576	36,788	< 16'	\$60	\$ 2,207,280	\$24 **	\$ 370,823	\$ 1,836,457
58,553	29,277	16' to 20'	\$90	\$ 2,634,885	\$24	\$ 702,636	\$ 1,932,249
32,065	16,033	21' to 25'	\$120	\$ 1,923,900	\$24	\$ 384,780	\$ 1,539,120
13,220	6,610	26' to 30'	\$150	\$ 991,500	\$24	\$ 158,640	\$ 832,860
6,450	3,225	31' to 35'	\$180	\$ 580,500	\$24	\$ 77,400	\$ 503,100
3,175	1,588	36' to 40'	\$210	\$ 333,375	\$24	\$ 38,100	\$ 295,275
1,125	563	41' to 45'	\$240	\$ 135,000	\$24	\$ 13,500	\$ 121,500
392	196	46' to 50'	\$270	\$ 52,920	\$24	\$ 4,704	\$ 48,216
130	65	51' to 55'	\$300	\$ 19,500	\$24	\$ 1,560	\$ 17,940
48	24	56' to 60'	\$330	\$ 7,920	\$24	\$ 576	\$ 7,344
16	8	61' to 65'	\$360	\$ 2,880	\$24	\$ 192	\$ 2,688
14	7	> 65'	\$390	\$ 2,730	\$24	\$ 168	\$ 2,562
188,764	94,382	MD NUMBERED		\$ 8,892,390		\$ 1,753,079	\$ 7,139,311

Quantity 9 Aug 2011	Biennial Renewals	Length Category	DLS Proposed Fees	Annual Total Revenue	Current DNR Fee	Current Revenue	Increased Revenue
	0	< 16'	\$60	\$ -	\$10	\$ -	\$ -
	0	16' to 20'	\$90	\$ -	\$10	\$ -	\$ -
61	31	21' to 25'	\$120	\$ 3,660	\$10	\$ 732	\$ 2,928
1,285	643	26' to 30'	\$150	\$ 96,375	\$10	\$ 15,420	\$ 80,955
2,594	1,297	31' to 35'	\$180	\$ 233,460	\$10	\$ 31,128	\$ 202,332
2,680	1,340	36' to 40'	\$210	\$ 281,400	\$10	\$ 32,160	\$ 249,240
1,446	723	41' to 45'	\$240	\$ 173,520	\$10	\$ 17,352	\$ 156,168
641	321	46' to 50'	\$270	\$ 86,535	\$10	\$ 7,692	\$ 78,843
226	113	51' to 55'	\$300	\$ 33,900	\$10	\$ 2,712	\$ 31,188
83	42	56' to 60'	\$330	\$ 13,695	\$10	\$ 996	\$ 12,699
43	22	61' to 65'	\$360	\$ 7,740	\$10	\$ 516	\$ 7,224
31	16	> 65'	\$390	\$ 6,045	\$10	\$ 372	\$ 5,673
9,090	4,545	DOCUMENTED		\$ 936,330		\$ 109,080	\$ 827,250