Delaware Waterways Management and Financing Advisory Committee Preliminary Report

November 2014

DELAWARE WATERWAYS MANAGEMENT AND
FINANCING ADVISORY COMMITTEE
89 KINGS HIGHWAY
DOVER, DELAWARE 19901

November 3, 2014

State of Delaware
Delaware 147th General Assembly
Legislative Hall
Dover, DE 19901

Dear Members of the 147th General Assembly,

It is with great pleasure that we submit the attached report to the General Assembly on the progress and activity related to the Delaware Waterways Management and Financing Advisory Committee. The Committee, established by SCR 64 of the 147th General Assembly, was directed to develop recommendations for sustainable and dedicated funding for waterway management activities statewide. The Committee was comprised of a broad range of interests including legislators, recreational boaters, commercial watermen, fishing interests, dock and marina owners, and business owners with staff and support provided by the Department of Natural Resources and Environmental Control (DNREC).

SCR 64 also directed that the Advisory Committee be organized and hold its first meeting by September 1, 2014 and report its findings to the General Assembly by November 3, 2014. The Committee has covered many issues in a short time. The functions of dredging and sediment management, navigational channel marking and other waterway responsibilities carried out in Delaware; the limited role of the Federal government in current activities regarding projects and funding; how other states carry out these programs and what financing sources are used to fund these programs were all discussed in detail.

DNREC provided research, data and information gleaned from other neighboring states' activities and programs. The Committee discussed various funding sources for waterway management including boat registration and titling fees, motor fuel tax options, local cost share opportunities and continued general fund support among others. While these discussions are summarized in the report, the Committee felt that additional information is needed before it could consider any final recommendations.

The Committee and DNREC should be commended for getting to this point in identifying options for sustainable funding for Delaware's waterway management which is such an important issue for our coastal environment and tourism economy. We believe that although the Committee has more work to do, the information and options contained in the report can help inform discussions that the General Assembly may undertake in addressing this matter.

We look forward to continuing the progress on this issue critical to the State of Delaware.

Sincerely,

Robert L. Venables, Sr.
State Senator and Co-Chair

David S. Small
DNREC Secretary and Co-Chair

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Additional information is available at:

http://www.dnrec.delaware.gov/swc/Shoreline/Pages/Delaware-Waterways-Management-and-Financing-Advisory-Committee.aspx

EXECUTIVE SUMMARY

The Delaware Waterways Management and Financing Advisory Committee (Committee) formed as a result of Senate Concurrent Resolution No. 64 (SCR 64), which was passed by the 147th General Assembly of the State of Delaware on July 1, 2014. The purpose of the Committee is to develop and submit recommendations for sustainable and dedicated funding for Waterway Management activities statewide. The Committee represents a broad range of interests including legislators, recreational boaters, commercial watermen, fishing interests, dock and marina owners, and business owners, with staff and support by the Delaware Department of Natural Resources and Environmental Control (DNREC).

As specified in SCR 64, the Committee is comprised of 17 members representing the following groups:

- Delaware Senate (2)
- Delaware House of Representatives (2)
- Captain/Owner of a commercial charter boating business (1)
- Retail bait and tackle/sport shop business (1)
- Delaware Center for the Inland Bays (1)
- Owner of a marine dredging and construction business (1)
- Private marina owner (1)
- Lewes-Rehoboth Canal Improvement Association (1)
- Recreational boating transportation business (1)
- U. S. Coast Guard Auxiliary (1)
- Rehoboth Bay Sailing Association (1)
- Water Use Planning and Implementation Committee (WUPIC) of the Delaware Center for the Inland Bays (1)
- Recreational fisherman (1)
- Office of Management and Budget (1)
- Delaware Department of Natural Resources and Environmental Control (1)

In addition and as specified in SCR 64:

- The Committee shall be jointly chaired by a Senate Committee member and a designee from the Department of Natural Resources and Environmental Control.
- DNREC shall provide support for the Committee.

The Committee met four times from August 25, 2014, to October 6, 2014. Topics brought before and by the Committee for presentation and discussion, included:

- History of waterway management operations in Delaware
- Beneficial use of dredged material and regional sediment management

- Funding of waterway management operations in other states along the east coast along with a corresponding funding options matrix
    a) Maine's rental car tax
    b) North Carolina's recent increase in boat registration and titling fees
- DNREC's 5-year projection for waterway management funding needs (estimated $3M - $5M annually)
- Ethanol-free gas blends for boat use and current revenues for motor fuel sales in Delaware
- 2013 marine fuel sales in Sussex County
- Delaware's current boat registration fees and business models for increased revenues
- Potential for titling boats in Delaware
- Economic value of the Inland Bays
- Sussex County Transfer Tax
- Project cost share models used in other states and the potential for local/county cost sharing options for Delaware
    a) North Carolina
    b) Maryland
    c) Florida
- Feasibility and need for conducting a survey of boaters and property owners to gauge public opinion concerning generating revenue for waterway management operations in the State
- Use of the State Revolving Loan Fund to initiate projects
- Potential for increasing and utilizing the State's Accommodations Tax for both shoreline and waterway management operations.

Several ideas and possible recommendations for sustainable and dedicated funding for waterway management activities statewide were discussed by the Committee during the four meetings. The potential revenue sources and actions the Committee felt warrant further consideration by the General Assembly, include the following:

- Utilize DelDOT's Transportation Trust Fund marine fuel tax revenue for waterway management activities
- Utilize a portion ($10,000) of legislator's individual Community Transportation Fund accounts (Rule 12)
- Increase boat registration fees
- Initiate boat titling in Delaware
- Utilize a portion of Sussex County Transfer Tax revenue
- Utilize the State's Revolving Loan Fund to initiate projects
- Increase and utilize the State's Accommodations (Lodging) Tax for both shoreline and waterway management operations statewide

Other actions discussed and supported by the Committee, included:

- Work with the University of Delaware to conduct a survey of boaters and property owners concerning their willingness to pay for waterway management operations
- Work with the University of Delaware to conduct an economic analysis of the benefits and values of Delaware's waterways with emphasis on the Inland Bays
- Any sustainable and dedicated funding developed for waterway management operations statewide must be used for that purpose only.

INTRODUCTION

Background Information

DNREC has been conducting waterway management operations in Delaware for over 40 years. Dredging was the initial and primary focus of waterway management from 1970 through 1996. Since that time, operations have expanded to include three additional functional areas, macro-algae harvesting (1997), navigational channel marking (2001), and abandoned vessel/derelict structure and debris removal (2007). Work planned in the future, includes island and wetlands rehabilitation/construction through the beneficial use of dredged material.

Over the years, waterway management activities have been conducted solely with General Fund and Bond Bill appropriations provided by the State Legislature. In recent years, these appropriations have proven to be insufficient for keeping navigational channels open and safe for the boating public. In addition, staff assigned to handle waterway management activities for DNREC has been reduced from 16 to 7 personnel over the past 20 years due to budget reductions.

Significant decreases in federal funding available to maintain the federally authorized waterways throughout the State presents a challenge to maintain adequate, safe channel navigation. Currently, there are 20 federal channels in Delaware which the U. S. Army Corps of Engineers is responsible for maintaining through dredging. Of those 20 channels, the Corps only maintains sufficient navigable depths in 3 of them (Port of Wilmington/Christina River, Chesapeake and Delaware Canal, Nanticoke River) because they meet the federal maintenance funding criteria relative to annual commercial tonnage activity. The responsibility for maintaining the other 17 channels has fallen to the Department.

The U. S. Coast Guard is responsible for placing aids to navigation (channel markers) in the federally authorized waterways in Delaware. In 2001, DNREC entered into a cooperative agreement with the Coast Guard to place channel markers in areas the Coast Guard does not mark. As a result of this agreement, DNREC is currently responsible for maintaining 187 channel markers in the State's Inland Bays. In an effort to reduce costs, the Coast Guard made a decision earlier this year to discontinue markers in two heavily used channels in the Inland Bays – Pepper Creek and White Creek. Only a major write-in campaign organized by local boaters and property owners prevented this from occurring. However, it is envisioned the Coast Guard will look to DNREC to assume the responsibility for maintaining these and other federal aids to navigation in the coming years, particularly in light of the fact that the Corps no longer surveys and maintains the other 17 federal channels. The Coast Guard cannot verify channel depths and locations making it difficult to accurately indicate navigable waters.

As mentioned above, DNREC is also responsible for conducting macro-algae harvesting operations in response to nuisance build-ups of detached and decomposing algae throughout

the Inland Bays. While harvesting activities have declined steadily over the last few years, maintaining a small fleet of harvesters is still necessary in the event this trend reverses.

The General Assembly amended the abandoned vessel/derelict structure law in 2007 and placed the responsibility for handling these obstructions to safe navigation with the DNREC, Division of Watershed Stewardship. The legislation was passed without the benefit of accompanying appropriations. The boating public has come to rely on DNREC to remove these impediments to safe navigation as well as trees and other debris that cause problems within the State's waterways.

There were 17,500 registered boaters in Delaware in 1971 compared to 59,186 at the end of 2013. The increasing use of the State's recreational waters places a higher demand on maintaining their navigability through waterway management operations.

In 2007, DNREC received a Bond Bill appropriation for waterway management and contracted Moffatt & Nichol to develop a sediment management plan for Rehoboth Bay. The goal of the study was to improve planning for future dredging needs as well as to reduce the dependency on dredging in the inland waterways that the State maintains in this Bay. The study included recommendations for the beneficial use of dredged material (e.g. wetlands restoration, island creation) and alternative management strategies that could be used to reduce shoaling in waterways (e.g. construction of flow-training walls). Funding is needed for the design and construction of these alternative management strategies (e.g. structures to reduce shoaling) and to expand this sediment management approach into other areas such as Indian River and the Little Assawoman Bay in future years.

Evolution of Senate Concurrent Resolution No. 64/Tasks Outlined within Senate Concurrent Resolution No. 64

Based on current demand, DNREC estimates its waterway management operations funding needs to be $3M - $5M annually, but lacks a dependable source of funding to meet those needs year in and year out. In response to the growing concern by the public about waterway maintenance, the 147th General Assembly of the State of Delaware passed Senate Concurrent Resolution No. 64 (SCR 64) on July 1, 2014, to establish the Delaware Waterways Management and Financing Advisory Committee. With the assistance of DNREC, the 0Committee will develop and submit recommendations to the General Assembly for sustainable and dedicated funding for Waterway Management operations statewide. DNREC shall compile the results of the Committee recommendations, develop a draft report, and solicit feedback from the Committee before finalizing the report of recommendations. The final report will then be presented to the General Assembly. Per SCR 64, the final report shall be delivered to the General Assembly by November 3, 2014.

Committee Membership

Committee membership is described in SCR 64 and is designated by the General Assembly to represent a broad range of interests including legislators, recreational boaters, commercial watermen, fishing interests, dock and marina owners, and business owners, with staff and support by the Delaware Department of Natural Resources and Environmental Control (DNREC). The Committee was Co-Chaired by Senator Robert Venables and DNREC Cabinet Secretary David Small.

Affiliation	Committee Members
Delaware Department of Natural Resources and Environmental Control	David Small, Secretary, Co-Chair
Delaware Senate	Sen. Robert Venables, District 21, Co-Chair
Delaware Senate	Sen. Gerald Hocker, District 20
Delaware House of Representatives	Rep. William Carson, District 28
Delaware House of Representatives	Rep. Ronald Gray, District 38
Captain/Owner of a commercial charter boating business	David Russell
Retail bait and tackle/sport shop business	Clark Evans
Delaware Center for the Inland Bays	Chris Bason
Owner of a marine dredging and construction business	Robert Whitford
Private Marina Owner	David Cropper
Lewes-Rehoboth Canal Improvement Association	Pierce Quinlen
Recreational boating transportation business	David Green
U. S. Coast Guard Auxiliary	David Ritondo
Rehoboth Bay Sailing Association	Neil Sands
Water Use Planning and Implementation Committee (WUPIC) of the Delaware Center for the Inland Bays	Edward Lewandowski
Recreational fisherman	Jay Little
Office of Management and Budget	Vicki Ford

Committee support included staff from DNREC's Division of Watershed Stewardship and Division of Fish and Wildlife.

Funding Options Discussed

Based on the information presented and the discussions that ensued at the four meetings referenced above, the Committee offers the following options for the General Assembly to consider for sustainable and dedicated funding for Waterway Management activities statewide.

Utilize DelDOT's Transportation Trust Fund Marine Fuel Tax Revenue for Waterway Management Activities

The Delaware Department of Transportation motor fuel tax revenue in 2012 was approximately $113M dollars. The Federal Highway Administration estimates that approximately 13,213,000 gallons of fuel were sold for marine use that year. Delaware's tax on gas is $.23 per gallon. Based on these figures, there was an estimated $3,038,000 collected for marine use. Section 5120 of the Delaware Code authorizes refunds of the motor fuel tax for the purpose of operating stationary gas engines (motorboats). In 2013, only 575 refunds were issued totaling $42,882. The amount of revenue that was not refunded for marine fuel use that year, $2,996,018, might have been available for waterway management.

Utilize Portion of Each State Legislator's Community Transportation Fund (Rule 12)

Rule 12 of the Joint Legislative Committee on the Capital Improvement Program Rules provides for each respective State Legislator (62 total) to utilize their Community Transportation Fund (CTF) on public capital projects. The current annual appropriation to each legislator for this fund is $250,000. The recommendation was made to amend Rule 12 to include the ability to fund waterway management projects and have each legislator designate $10,000 annually for these type of projects (potential total of $620,000).

Increase Boat Registration Fees

Boat registration fees were last increased in Delaware in 1990. Other states along the east coast (e.g. North Carolina) have recently increased boat registration fees and dedicated the increase in revenue directly to navigation channel dredging and other waterway management activities (e.g. channel marking). Three business models were presented during the September 22nd Committee meeting for increasing Delaware's current boat registration fees and the amount of additional revenue that would be generated. The models are included in Appendix D of this document. To summarize, and based on the number of registered boaters in Delaware at the end of 2013, doubling the current boat registration fees could generate $1,158,983 in additional revenue, adding a flat $15 waterway maintenance fee to each registration fee could generate $799,011 of additional revenue, and increasing the current fees on a graduated scale going from $5 for the smallest boats to $25 for the largest boats could generate $551,448 of additional revenue annually.

Note: Some Committee members felt that registered boaters in the State should not bear the entire burden for generating revenue for waterway management operations. Some form of a graduated increase based on boat size classification might be the preferred alternative.

Initiate Boat Titling in Delaware

Currently there is no title required for boats bought and sold in Delaware. There is no system in place to track boat sales or ownership history outside of boat registration information. The idea was previously discussed, but was dismissed due to concerns surrounding the potential loss of revenue if corporations had to pay additional fees. Three-quarters of the State's budget is comprised of taxes paid by corporations. These corporations might consider relocating if they had to pay additional fees. However, during these discussions, there were no estimates made of revenue that could potentially be generated by boat titling or could be lost if this occurred.

Note: Information presented from previous discussions about this issue indicates that lending institutions and marine tradesmen in the State support this concept. Lenders like documents for legal structure and from a lien point of view. If this idea is pursued, the idea will be to keep the title fee low enough to maintain a competitive advantage and not risk losing corporate business to other states.

Utilize a Portion of County Transfer Tax Revenue

Sussex County's share of the Real Estate Transfer Tax is currently 1.5-percent tax on the transfer of any interest in real estate within the County. The total annual income to the County from this transfer tax is estimated to be $16 Million in FY2015, which accounts for 31-percent of the County budget. Approximately 50-percent of this revenue is generated from the transfer of properties within the four zip code areas that border the coast – 19930, 19944, 19958, 19971 ("Near Shore Zip Codes" as cited in the University of Delaware 2012 Sea Grant report). According to the FY2015 Sussex County Budget, the County was expecting a $3M dollar surplus from the FY2014 Budget.

Note: Discussion was raised by several Committee members about the use of transfer tax revenue as a potential County cost share for waterway management projects. Several Committee members stated that they believed that waterways play an integral part in people's decision to move into the County. While the discussion was largely limited to Sussex County during Committee meetings, there would be a need to further explore transfer tax revenues in New Castle and Kent Counties if this recommendation is to move forward.

Utilize the State's Revolving Loan Fund to Initiate Projects

The State's Revolving Loan Fund is funded through a U. S. Environmental Protection Agency grant program. Funds may be used to borrow money for any project that benefits water quality and is compatible with a Comprehensive Management Plan for a National Estuary Program. In Delaware, there are two such programs, the Inland Bays Estuary Program and the Delaware Estuary Program. It is conceivable that DNREC could apply for a loan through this program. The

one caveat is there must be a dedicated source of revenue available to repay the loan over time (e.g. revenue from increase in boat registration fees).

Increase and Utilize State's Accommodations (Lodging) Tax for both Shoreline and Waterway Operations Statewide

One subject discussed by the Committee on more than one occasion was the possibility of amending Title 30, Chapter 61 of the Delaware Code to expand the State's Accommodations (Lodging) Tax and utilize the increase in revenue for funding waterway management operations. Currently, the 8-percent tax is only assessed on hotels, motels and tourist homes. Several beach communities have established an additional lodging tax and extended it to include rental properties as well. At the present time, 1-percent of the State Lodging Tax is dedicated to beach preservation work. DNREC has recognized that an expansion of this tax may be an option for beach preservation work as well. The Committee suggested the General Assembly consider extending the Lodging Tax to short term rental properties statewide.

Conduct a Survey of Boaters and Property Owners Concerning Their Willingness to Pay for Waterway Management Operations

The consensus of the Committee was that DNREC, with assistance from the University of Delaware, should conduct a survey of boaters and property owners to gauge public opinion concerning generating revenue for waterway management operations in the State. The survey should be no more than 3-5 questions and will be conducted during the late fall and early winter with results to be presented to the legislative members of the Committee in January 2015.

Conduct an Economic Analysis of the Benefits and Values of Delaware's Waterways

DNREC will work with the University of Delaware to conduct a review of economic data to determine the benefits and values of Delaware's waterways with emphasis on the Inland Bays. The analysis will identify and quantify the total economic contributions of water-related activity (recreational boating, fishing, etc.) to the State, as well as the economic impact of insufficient actions to keep waterways navigable, properly marked and free of debris.

SUMMARY and PATH FORWARD

The Committee meetings and discussion of information presented by DNREC staff were very thorough given the time constraints presented in SCR 64. The maintenance challenges facing Delaware waterways, the costs associated with addressing those challenges and the consequences of not addressing the need and the costs, were presented and well understood by the Committee. Data and information related to how other states fund their waterway obligations as well as Delaware specific facts related to boat registration, motor fuel

consumption and waterway management needs were all compiled and discussed in a relatively short time frame.

Two assignments that were requested by the Committee and are thought to be of value were not able to be completed in time to be summarized by the November 3 report date. The first item is a short survey of boating and fishing enthusiasts that will inform the Committee through the input of a wider range of participants, regarding user fees or willingness to pay for waterway management services. The University of Delaware will prepare this survey and it is anticipated that the results will be discussed as the Committee reconvenes before years end.

The second item discussed is a more comprehensive review of economic data, trends and benefits related to the Inland Bays waterways and other statewide waterway uses and dependencies. The level of effort will be to review existing economic data and relate that information to the benefits of investments made in waterway management. While this analysis will be used to support cost effectiveness of financial decisions moving forward, it may be early 2015 before the results of this analysis are completed.

In summary, the Committee heard and discussed financing options that exist currently within the state, as well as other funding opportunities employed by neighboring states. The options included in this report represent possibilities that in some combination may generate the revenue necessary to fund a sustainable waterway management program in Delaware. It is expected that further Committee deliberation will take place before the 148th General Assembly Legislation Session convenes in 2015.

The final Committee goal will be to recommend, possibly in various combinations, funding method(s) to meet much of the increasing public recreation and commercial needs for services in Delaware's waterways. It is anticipated that these recommendations will form the basis for any legislation for waterway funding forthcoming in 2015. The projected state needs will only become greater in the future considering the reduction of involvement by the federal government within federally authorized waterways in Delaware.

APPENDICES

APPENDIX A

- **Senate Concurrent Resolution No. 64**
- **Letter to Committee Members**
- **Committee Members**

BERNARD J. BRADY
SECRETARY OF THE SENATE

Room S-135
Home: (302) 655-0551
Office: (302) 744-4129
Fax: (302) 739-7718

SENATE
STATE OF DELAWARE
LEGISLATIVE HALL
DOVER, DELAWARE 19903

I, BERNARD J. BRADY, SECRETARY OF THE DELAWARE STATE SENATE, DO HEREBY CERTIFY THE ATTACHED IS A TRUE AND EXACT COPY OF:

SENATE CONCURRENT RESOLUTION NO. 64

PASSED BY THE SENATE AND THE HOUSE OF REPRESENTATIVES OF THE 147th GENERAL ASSEMBLY ON THE FIRST OF JULY, 2014.

Bernard J. Brady

BERNARD J. BRADY
SECRETARY OF THE SENATE

SPONSOR: Sen. Hocker & Sen. McBride & Rep. Gray
Sens. Cloutier, Lavelle, Lawson, Lopez, Peterson, Pettyjohn, Venables; Reps. Briggs King, Hudson, Kenton, Outten, D. Short, Wilson

DELAWARE STATE SENATE
147th GENERAL ASSEMBLY

SENATE CONCURRENT RESOLUTION NO. 64

ESTABLISHING THE DELAWARE WATERWAYS MANAGEMENT AND FINANCING ADVISORY COMMITTEE.

WHEREAS, Delaware's waterways are essential elements of the First State's tourism and recreation economies and support hundreds of millions of dollars of economic activity annually; and

WHEREAS, there are 27 navigable waterways in the Delaware state waterway atlas; and

WHEREAS, channels used for navigation in State waters are subject to being filled in or meandering outside of their marked location due to excessive sediment in the water or water currents that cause the channel to move; and

WHEREAS, improperly maintained or marked navigational channels lead to boats running aground which cause damage to boats, impede recreational use and disturb the bottom of the channels and the life forms found therein; and

WHEREAS, an interconnecting series of channels that are clearly marked and maintained to design depth is in the best interest of the boating public to ensure safe navigation; and.

WHEREAS, the U. S. Army Corps of Engineers has designated certain federally authorized channels in Delaware as "underutilized" because these waterways do not meet the current annual commercial product tonnage criteria and, therefore, fall below the eligibility level for federal funding; and

WHEREAS, the U. S. Coast Guard has initiated the process of discontinuing aids to navigation (channel markers) in certain waterways in the state due to insufficient funding at the federal level; and

WHEREAS, aids to navigation (channel markers) are lost each year due to currents, ice, vandalism and accidents; and

WHEREAS, it is also in the best interest of the State to reduce dredging costs and the sediment needed to be removed by dredging because upland confined disposal facilities are becoming extremely rare to locate; and

WHEREAS, Delaware is a national leader in advancing regional sediment management in which sediment dredged from within channels is used beneficially to create protective wetlands or dune systems that provide the added

benefit of protecting communities and restoring wildlife habitat to improve their resiliency to extreme weather events and other impacts.

NOW, THEREFORE:

BE IT RESOLVED by the Senate of the 147th General Assembly of the State of Delaware, the House of Representatives concurring therein, that the Delaware Waterways Management and Financing Advisory Committee be established to develop and submit recommendations for sustainable and dedicated funding for Waterway Management activities statewide. The Committee shall be comprised to represent a broad range of interests including legislators, recreational boaters, commercial watermen, fishing interests, dock and marina owners, business owners, municipal officials with staff and support by DNREC.

BE IT FURTHER RESOLVED that the Advisory Committee shall consist of the following members:

Two (2) members of the Senate one from each caucus to be appointed by the President Pro Tempore of the Senate and two (2) members of the House of Representatives one from each caucus to be appointed by the Speaker of the House of Representatives;

One (1) representative who is a Captain/Owner of a commercial charter boating business to be selected by the Committee Chairs;

One (1) representative of retail bait and tackle/sport shop businesses to be selected by the Committee Chairs;

One (1) representative of the Delaware Center for the Inland Bays to be appointed by the Board Chairman of the Center;

One (1) representative owner of a marine dredging and construction business to be selected by the Committee Chairs;

One (1) private marina owner to be selected by the Committee Chairs;

One (1) representative of the Lewes-Rehoboth Canal Improvement Association to be appointed by the president of the organization;

One (1) representative of a recreational boating transportation business to be selected by the Committee Chairs;

One (1) representative of US Coast Guard Auxiliary to be appointed by the head of the organization;

One (1) representative of the Rehoboth Bay Sailing Association to be appointed by the President of the Association;

One (1) representative of the Water Use Planning and Implementation Committee (WUPAC) of the Delaware Center for the Inland Bays to be appointed by the Chair of WUPAC ;

One (1) representative of recreational fisherman to be selected by the Committee Chairs;

One representative of the Office of Management and Budget to be appointed by the Director;

One (1) representative from the Delaware Department of Natural Resources and Environmental Control to be appointed by the Secretary of the Department.

BE IT FURTHER RESOLVED that the committee shall be jointly chaired by a Senate committee member named by the President Pro Tempore and the Secretary of the Department of Natural Resources or his/her designee.

BE IT FURTHER RESOLVED that the Department of Natural Resources and Environmental Control (DNREC) shall provide support for the Advisory Committee.

BE IT FURTHER RESOLVED that the Advisory Committee shall organize and hold its first meeting by September 1, 2014 and conclude and shall report its findings to the General Assembly by November 3, 2014.

SYNOPSIS

This Resolution establishes the Delaware Waterways Management and Financing Advisory Committee to develop and submit recommendations for sustainable and dedicated funding for Waterway Management activities statewide.

AUTHOR: Sen. Hocker

STATE OF DELAWARE
DEPARTMENT OF NATURAL RESOURCES
AND ENVIRONMENTAL CONTROL
DIVISION OF WATERSHED STEWARDSHIP
89 Kings Highway
DOVER, DELAWARE 19901

OFFICE OF THE
DIRECTOR

PHONE: (302) 739-9921
FAX: (302) 739-6724

August 11, 2014

Dear Committee Member:

Thank you for agreeing to serve on the Delaware Waterways Management and Financing Advisory Committee. Per Senate Concurrent Resolution No. 64, the Committee will assist the General Assembly in developing recommendations for sustainable and dedicated funding for waterway management activities (e.g. dredging, channel marking) statewide. We envision the committee convening a total of four to five times over the next three months to accomplishment this task.

The initial meeting will be held on August 25, 2014, at the Department's Division of Watershed Stewardship, Shoreline and Waterway Management Section field office located adjacent to the Division of Fish and Wildlife Boat Ramp at 901 Pilottown Road in Lewes. Coffee and refreshments will begin at 8:30 a.m. with the meeting to follow at 9:00 a.m. to 11:30 a.m.

A meeting agenda will be forwarded to you by the end of the week. We look forward to your participation in this important endeavor. Please contact Chuck Williams or Ariane Nichols of my staff if you require any additional information. They can be reached at 302-739-9921 or at Charles.williams@state.de.us or Ariane.nichols@state.de.us.

Sincerely,

Frank M. Piorko
Director

Delaware's good nature depends on you!

Delaware Waterways Management and Financing Advisory Committee Members

	Name	Organization	Appointing Level	Phone	Email
* Chair	Senator Robert Venables	State Senate	Senate Pro Tempore	(302) 744-4298	Robert.Venables@state.de.us
	Senator Gerald Hocker	State Senate	Senate Pro Tempore	(302) 744-4144	Gerald.Hocker@state.de.us
	Representative William Carson	House of Representatives	House Speaker	(302) 744-4113	William.Carson@state.de.us
	Representative Ron Gray	House of Representatives	House Speaker	(302) 744-4171	Ronald.Gray@state.de.us
	Dave Russell	Captain Charter Boat Business	Committee Chairs	(302) 335-3474 (302) 363-0356 (cell)	captdave4@yahoo.com
	Clark Evans	Retail Bait and Tackle/Sport Shop	Committee Chairs	(302) 227-7974 (store)	clark@oldinlet.com
	Chris Bason	Delaware Center for the Inland Bays	Board Chair	(302) 226-8105 ext. 104 (302) 228-3788 (cell)	chrisbason@inlandbays.org
	Rob Whitford	Marine Dredging and Construction Business	Committee Chairs	(302) 227-2711	docks@dmv.com
	Dave Cropper	Private Marina Owner	Committee Chairs	(302) 381-9004 (cell)	david@vinescreekmarina.com
	Pierce Quinlen	Lewes-Rehoboth Canal Improvement Association	Organization President	(302) 227-7737 (301) 509-1063 (cell)	silverfox22@yahoo.com
	Dave Green	Recreational Boating Transportation Business	Committee Chairs	(302) 245-4794	capewatertaxi@gmail.com
	Dave Ritondo	US Coast Guard Auxilliary	Head of Organization	(302) 381-6584	NO EMAIL ADDRESS
	Neils Sands	Rehoboth Bay Sailing Association	President of Organization	(302) 296-8879 (cell) (302) 227-9220 (office)	pprehoboth@comcast.net
	Ed Lewandowski	CIB WUPIC	Chair of WUPIC	(302) 645-4253 (office) (302) 228-8839 (cell)	edlew@udel.edu
	Jay Little	Recreational Fisherman	Committee Chairs	(302) 855-5935 (office) (302) 632-4714 (cell)	admin@saltfish.net
	Vicki Ford	OMB	Director of OMB	(302) 672-5108	vicki.ford@state.de.us
* Chair	Dave Small	DNREC	Secretary	(302) 739-9921	david.small@state.de.us

Delaware Waterways Management and Financing Advisory Committee
Other Contact Information

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Ashley Ridout	Legislative Aide, Rep. Carson	(302) 744-4193	Ashley.Ridout@state.de.us
Bonnie Wood	Legislative Aide, Sen. Venables	(302) 744-4298	Bonnie.Wood@state.de.us

APPENDIX B

August 25, 2014 Meeting

- Agenda
- List of Attendees
- PowerPoint Presentation
- Hand-outs
- Meeting Notes

DELAWARE WATERWAYS MANAGEMENT FINANCING AND ADVISORY COMMITTEE
August 25, 2014

AGENDA

- Introductions and Purpose of Committee (Frank Piorko)
- History of Waterway Management Operations in Delaware (Chuck Williams)
- Beneficial Re-use of Dredge Material/Regional Sediment Management (Tony Pratt)
- Funding of Waterway Management Operations in Other States (Ariane Nichols)
- Discussion of Possible Funding Options for Delaware (Frank Piorko)
- Round Robin Discussion of Waterway Management Issues (Committee Members)
- Public Comments
- Concluding Remarks and Next Meeting

DELAWARE WATERWAYS MANAGEMENT AND FINANCING ADVISORY COMMITTEE

MEETING: AUGUST 25, 2014

SIGN IN SHEET

(Please make sure ALL information is legible)

Name	Address and/or Organization	Telephone and/or Email Address
1. Jay Little	Tidal Finfish Adv. Council saltfish.net 1641 Bowers Beach Rd Frederica 19946	admin@saltfish.net
2. DAVID Russell JR	Captain owner Russells Fishing	302-363-0356 Captdave40@yahoo
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5. DAVE RITONDO	35727 BOATSUNS CIR SELBYVILLE USCGA 19975	302 381 6584
6. RON GRAY	37176 SUNSET COVE, SELBYVILLE, DE	302 436 7024 ronald.gray@state.de.us
7. Gerald Hocker	38489 Hickman Rd. Ocean View	302-539-4140 gerald.hocker@state
8. Robert L. Venables	116 Hearn Ave Laurel/ Senator	302-381-9975
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10. David Green	22549 Rocky rd Lewes DE CAPTWATERTAXI	CapewaterTAXI@gmail.com 644-7334
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	Name	Address and/or Organization	Telephone and/or Email Address
14.	Chris Bason	CENTER FOR THE INLAND BAYS	chrisbason@inlandbays.org
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19.	Ariane Nichols	DNREC, DWS	ariane.nichols@state.de.us
20.	FRANK PIORKO	DNREC, DWS	FRANK.PIORKO@state.de.us
21.	CHUCK WILLIAMS	DNREC, DWS	Charles.Williams@state.de.us
22.			
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Delaware's Waterways Management History

August 25, 2014

Delaware's Waterways Management History

- General Assembly directed DNREC into the dredging business in 1968.
- Initial focus on Inland Bays - Love Creek, White Creek, Herring Creek, Pepper Creek and Guinea Creek.
- Limited funds were appropriated through the Bond Bill.
- Love Creek and White Creek were completed by 1972. The other waterways were completed by 1995.

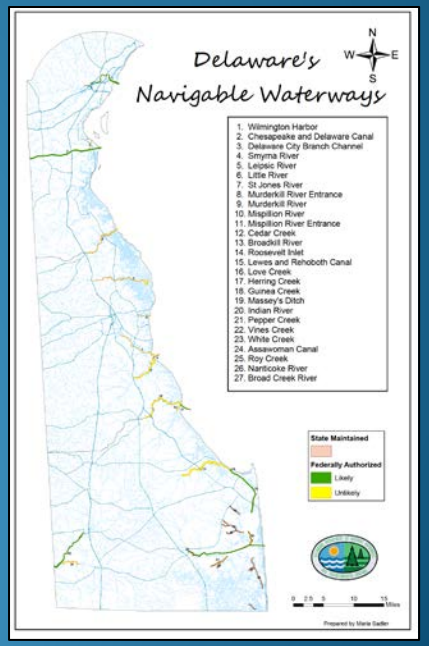
Delaware's Waterways Management History

- From 1970 – mid 1990's almost 4,000,000 cu. yds. of sediment was removed from waterways.
- Staffing levels were as high as 16 dredge employees. Permitting restrictions less stringent than today.
- Land for disposal areas was affordable and available.

Delaware's Waterways Management History
Current Challenges

- Federal activity sharply curtailed due to lack of funding. Channels such as Massey's Ditch have fallen to the state to maintain with little resources.

- Delaware has 27 navigable waterways of which 20 are federally authorized. The Corps will most likely continue some work in only 3 of these channels.



- Increasing use of our recreational waters places a high demand on maintenance. There were 17,500 registered boaters in 1971 compared to 59,186 in 2013.

Delaware's Waterways Management History Current Challenges

- Business model has changed over the last 20 years.
  - Time of year restrictions (fall and winter).
  - State crews work 37.5 hour work week. Contract dredging can work 24/7 (can produce 5x the work in same time period).
  - Providing diversified services with fewer staff (macro-algae harvesting and channel marking). Currently seven field personnel (including two District contractors) providing management activities statewide.
  - No dedicated source of funding for waterway operations - makes planning, permitting and project management difficult.

Delaware's Waterways Management History
Current Challenges

- Development and land values make upland disposal sites difficult to secure.
- Wetland impacts require greater considerations.
- Federal environmental permitting much more rigorous.
- Responsibilities have fallen to the state.

Delaware's Waterways Management History
Our Current Vision

- Seek clarity from Corps and USCG regarding their roles.

- Modify business model to match capacity.
  - Provide planning, permitting and project/contract management.

- Maintain a small staff for small waterway and pond maintenance, boat launch areas, channel marking, algae harvesting and structure removal.

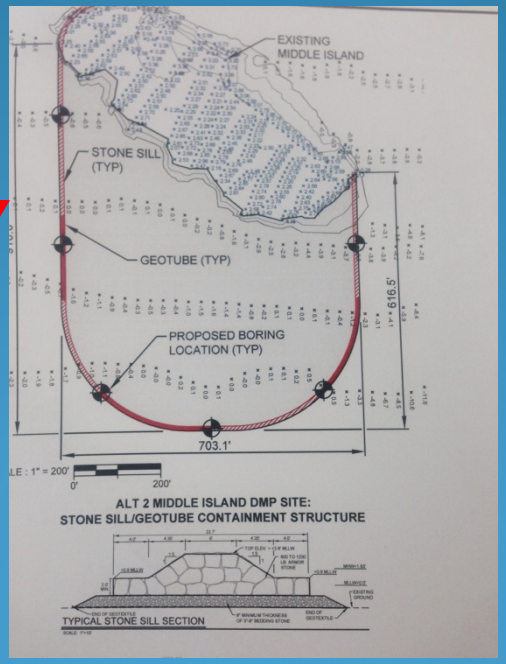
- Implement strategies for sediment management and ecological restoration with beneficial use.

Delaware's Waterways Management History
Our Current Management Strategy

- Some larger waterway construction will follow the path of the Murderkill River Project (done contractually).

Delaware's Waterways Management History
Our Current Management Strategy

- All projects will be evaluated for their potential for beneficial use of dredged materials.



Delaware's Waterways Management History
Our Current Management Strategy

Fiscal Year	General Fund	Bond Bill	Total	Dredging Projects
FY11	$150,000.00	$0.00	$150,000.00	Assawoman Canal, DE City Basin
FY12	$150,000.00	$0.00	$150,000.00	UD/CMS, Pepper Creek (started)
FY13	$150,000.00	$627,000.00	$797,000.00	Design/Engineering/Construction Management for Murderkill*
FY14	$150,000.00	$1,300,000.00	$1,450,000.00	Start Design/Engineering/Construction Management for Massey's, Little River, and Holt's Boat Ramp*, Murderkill Construction*, Pepper Creek
FY15	$150,000.00	$1,500,000.00	$1,650,000.00	Holt's Boat Ramp and Little River Construction*, Augustine Beach, Indian River (start), Complete Design/Engineering/Construction Management for Massey's*
NOTE: Includes annual funding for Contractual Employees, AtoNs, Algae Harvesting, Abandoned Vessel/Derelict Vessel Removal, Operations and Maintenance				* Contractual projects

Delaware's Waterways Management History
Our Current Management Strategy

- Maintenance Dredging
- Channel Marking
- Waterway Maintenance
- Regional Sediment Management
- Engineering and Waterway Modeling
- Macro-algae Harvesting

$ 3M - $5M / per year

Delaware's Waterways Management History
Our Current Vision

- Evaluate policy considerations and assess funding needs and options.
  - NY – Funded through toll roads
  - NC – Boat registration and titling fees
  - MD – Waterway Improvement Fund (boat sales, registration and motor fuel tax)
  - FL - Florida Inland Navigation District (FIND) from property tax revenue
  - Ohio – Fuel use tax
  - Georgia – Wait till the tide comes up

Beneficial Re-use of Dredged Material
&
Regional Sediment Management

Tony Pratt, Administrator
DNREC, Shoreline and Waterways
Management Section

- Regional Sediment Management is a national initiative developed by the Corps of Engineers in partnership with other agencies as well as state and local governments

- Its central premise is to utilize dredged material for beneficial purposes and to seek all possible efficiencies in channel maintenance projects

- Single, project by project appropriations are not conducive to comprehensive waterway planning and funding efficiencies by combining projects to reduce mobilization as well as unit costs

- Stable, reliable funding can allow broader, multi-year project planning that considers opportunities for efficiency and cost reductions

Regional Sediment Management

RSM management channel maintenance will lead to:

- Managing sediment and dredged material as a resource within a systems-based approach

- Coordination of dredged material and management activities to achieve environmental and economic benefits

- Improvement of program effectiveness through collaborative partnerships

- Identifying and overcoming policy, regulatory and/or institutional impediments

Regional Sediment Management

- Develops a comprehensive long-term blueprint to coordinate a RSM approach that identifies and leads to implementation of sediment/dredged material management actions including beneficial use opportunities

- Incorporates a multi-objective management vision (Navigation/ commerce, ecosystem restoration, and flood control) for Delaware's waterways

- Maximizes the ecological and economic benefits of Delaware's waterways

- Improves environmental conditions in sediment-starved marsh and littoral systems to facilitate ecosystem services

- Extends the useful life of existing dredged material disposal sites

Regional Sediment Management

ACTIONS and OUTCOMES

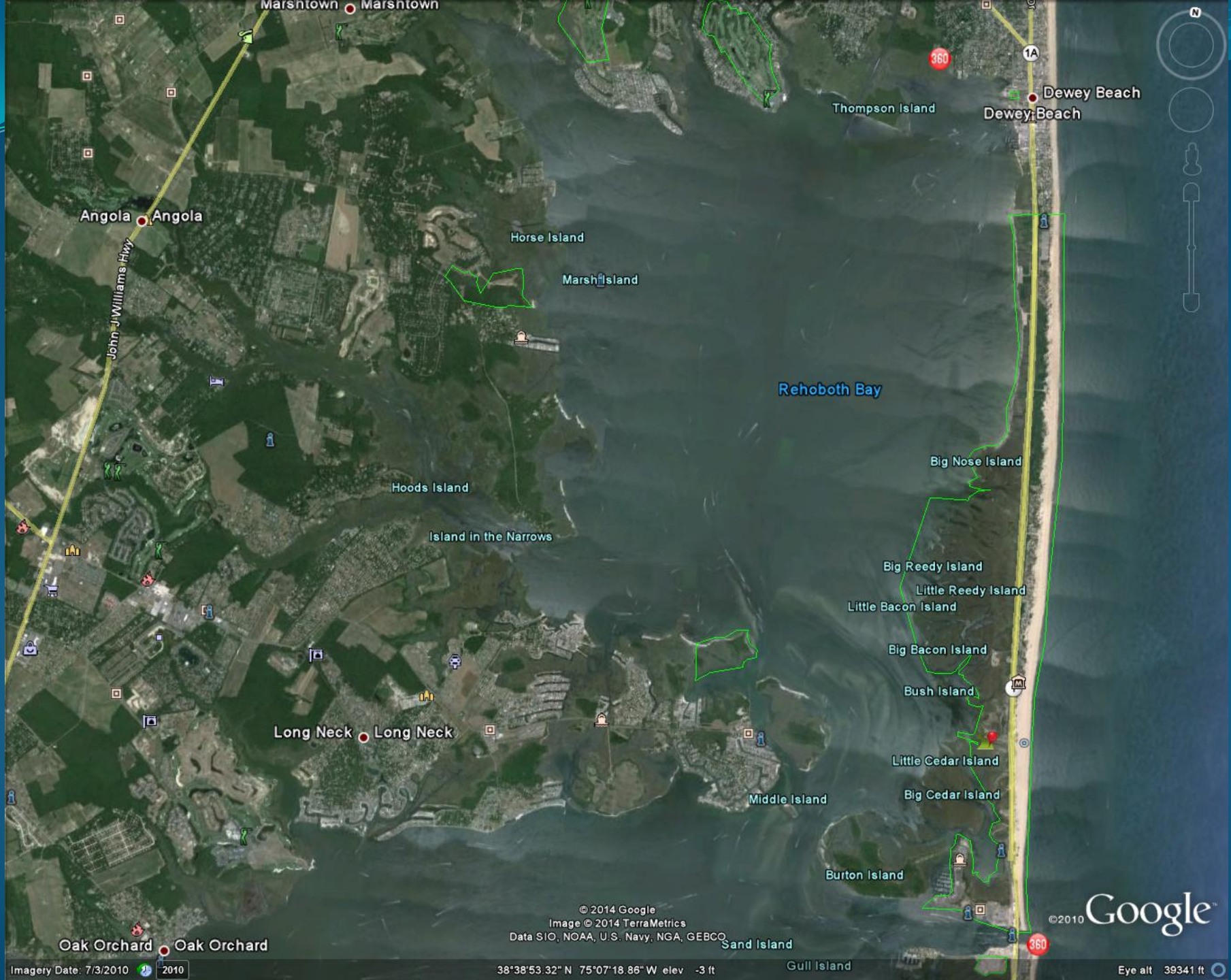
- Performing outreach activities to facilitate sediment management and beneficial use projects

- Improving the viability and sustainability of waterborne commerce

- Identify sensitive tidal wetlands and islands to be protected through beneficial use projects

- Coordinate RSM implementation with other habitat restoration plans

- Identify beneficial use of dredged material opportunities for beach nourishment


Marshtown
Marshtown
360
1A
Dewey Beach
Thompson Island
Dewey Beach
Angola
Angola
John J Williams Hwy
Horse Island
Marsh Island
Rehoboth Bay
Big Nose Island
Hoods Island
Island in the Narrows
Big Reedy Island
Little Reedy Island
Little Bacon Island
Big Bacon Island
Bush Island
Long Neck
Long Neck
Little Cedar Island
Middle Island
Big Cedar Island
Burton Island
© 2014 Google
Image © 2014 TerraMetrics
Data SIO, NOAA, U.S. Navy, NGA, GEBCO
©2010 Google
Oak Orchard
Oak Orchard
Sand Island
Gull Island
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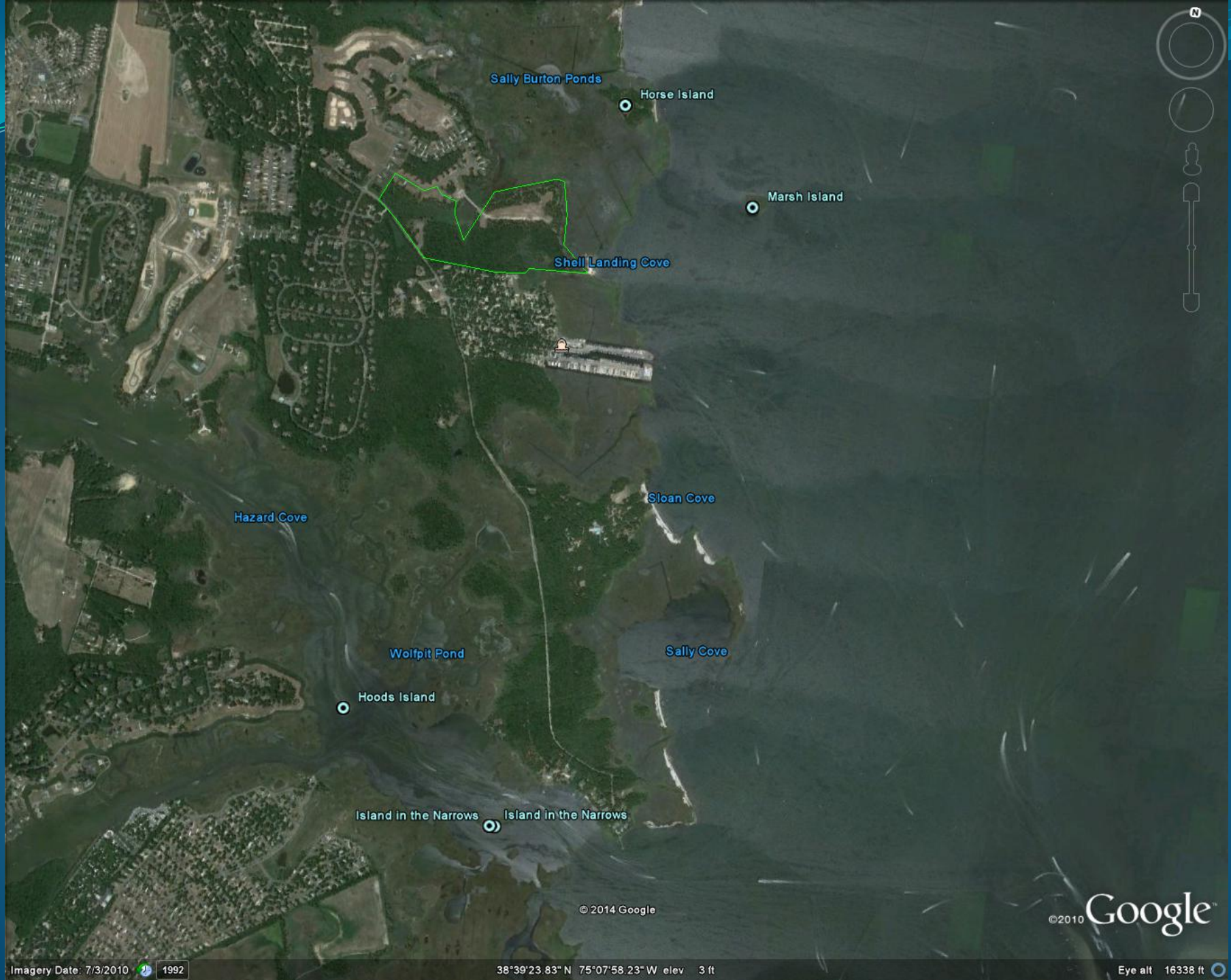
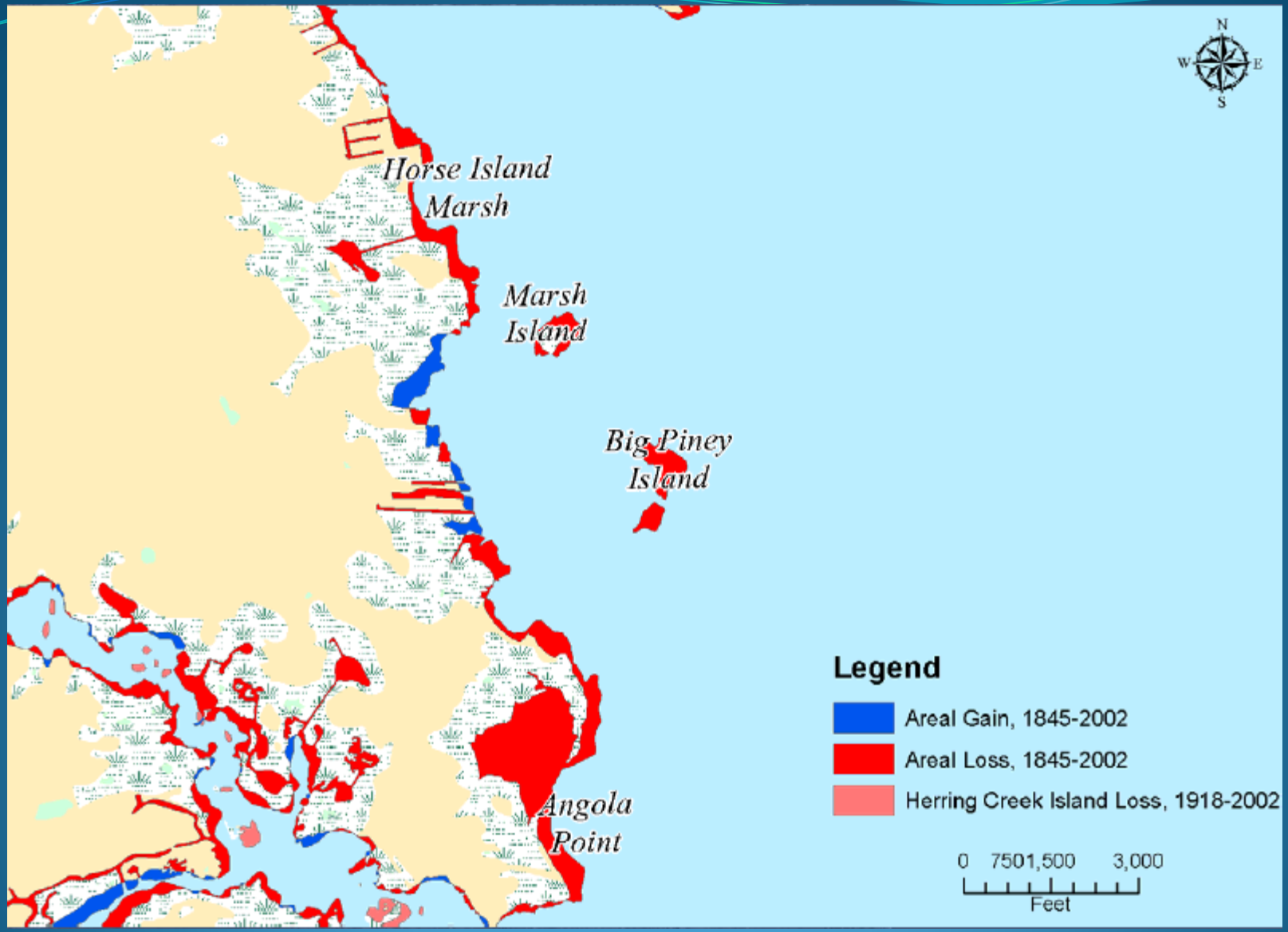
38°38'53.32" N 75°07'18.86" W elev -3 ft
Eye alt 39341 ft


Sally Burton Ponds
Horse Island
Marsh Island
Shell Landing Cove
Sloan Cove
Hazard Cove
Wolfpit Pond
Sally Cove
Hoods Island
Island in the Narrows
Island in the Narrows
© 2014 Google
©2010 Google
Imagery Date: 7/3/2010
1992
38°39'23.83" N 75°07'58.23" W elev 3 ft
Eye alt 16338 ft


Horse Island Marsh
Marsh Island
Big Piney Island
Angola Point
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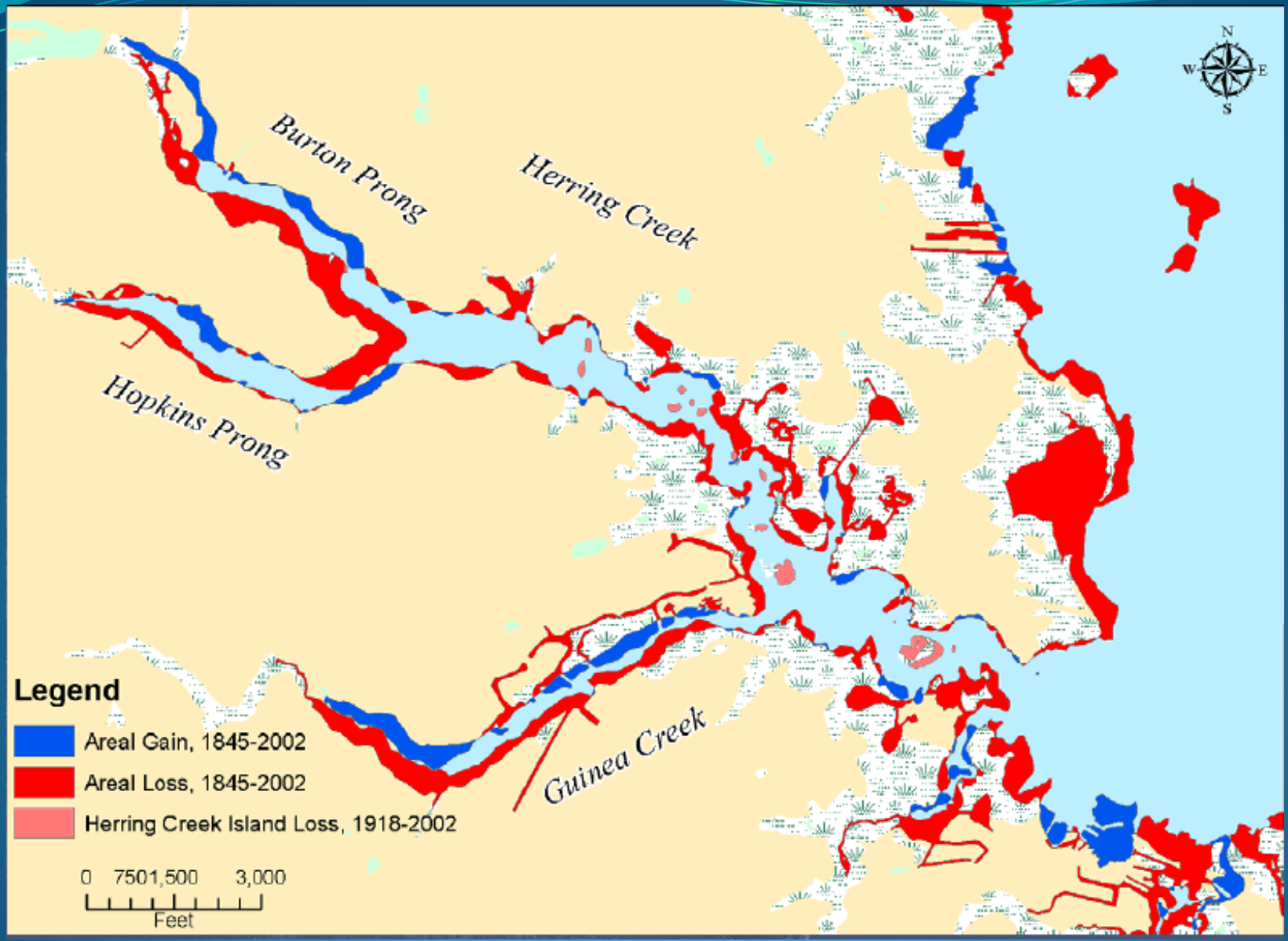
S
Legend
Areal Gain, 1845-2002
Areal Loss, 1845-2002
Herring Creek Island Loss, 1918-2002
0 750 1,500 3,000
Feet


Burton Prong
Herring Creek
Hopkins Prong
Guinea Creek
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Areal Gain, 1845-2002
Areal Loss, 1845-2002
Herring Creek Island Loss, 1918-2002
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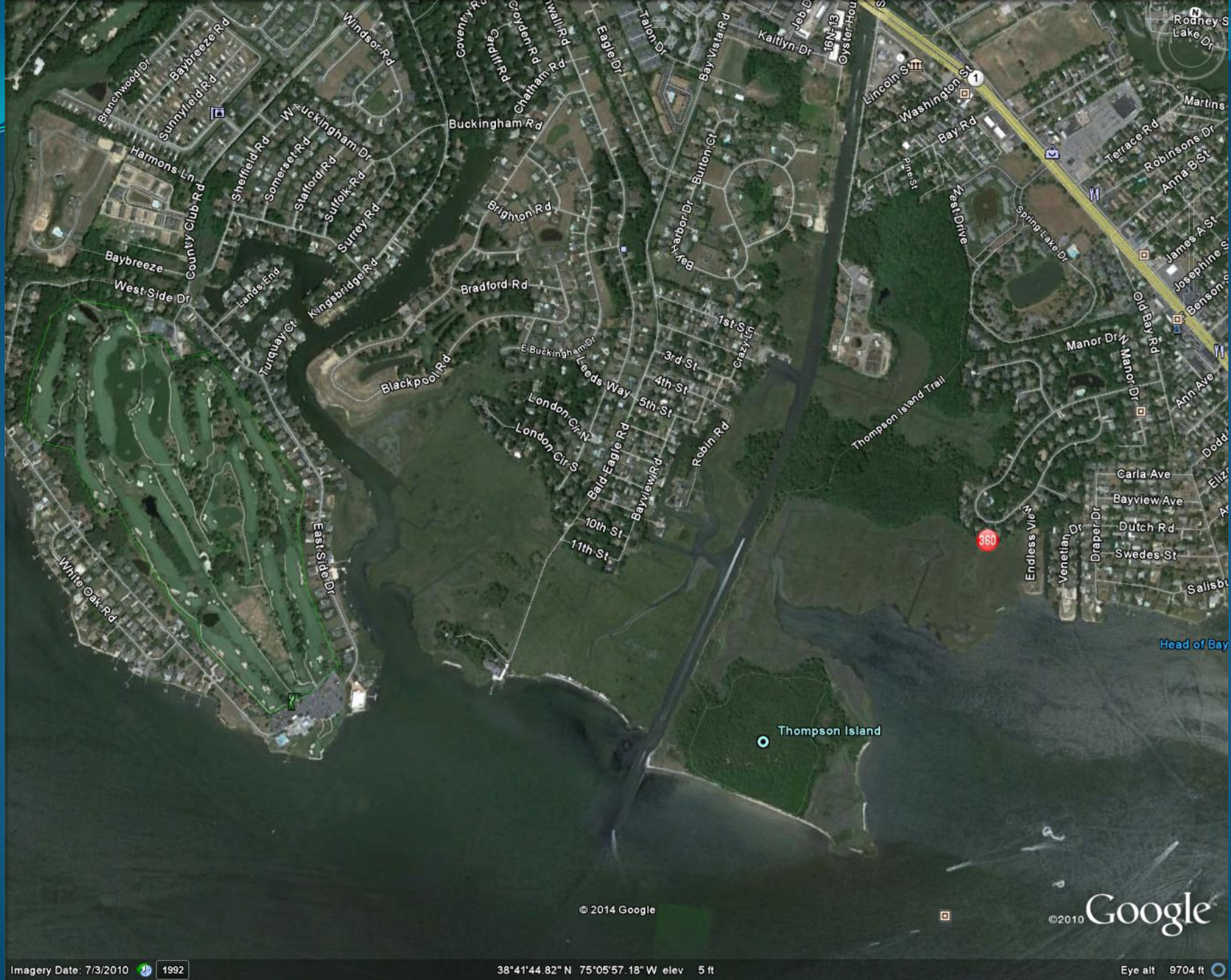
Baybreeze Rd
Windsor Rd
Branchwood Dr
Sunnyfield Rd
Coventry Rd
Cardiff Rd
Croyden Rd
Chatham Rd
Eagle Dr
Talon Dr
Bay Vista Rd
Kaitlyn Dr
16N-13
Oyster Hou
Rodney S
Lake Dr
Lincoln St
Washington St
Martins
Bay Rd
Terrace Rd
Robinsons Dr
Anna B St
Pine St
Spring Lake Dr
James A St
Josephine S
Benson
Old Bay Rd
Manor Dr
Manor Dr
Ann Ave
Dodd
Elizabeth
Thompson Island Trail
Carla Ave
Bayview Ave
Dutch Rd
Swedes St
Salisbu
Endless View
Venetian Dr
Draper Dr
360
Head of Bay
Thompson Island
Buckingham Rd
W Buckingham Dr
E Buckingham Dr
Harmons Ln
Sheffield Rd
Somerset Rd
Stafford Rd
Suffolk Rd
Surrey Rd
Kingsbridge Rd
County Club Rd
Brighton Rd
Bradford Rd
Baybreeze
West Side Dr
Lands End
Turquay Ct
Blackpool Rd
Leeds Way
London Cir N
London Cir S
Bald Eagle Rd
Bayview Rd
Robin Rd
Crazy Ln
1st St
3rd St
4th St
5th St
10th St
11th St
Burton Ct
Bay Harbor Dr
East Side Dr
White Oak Rd
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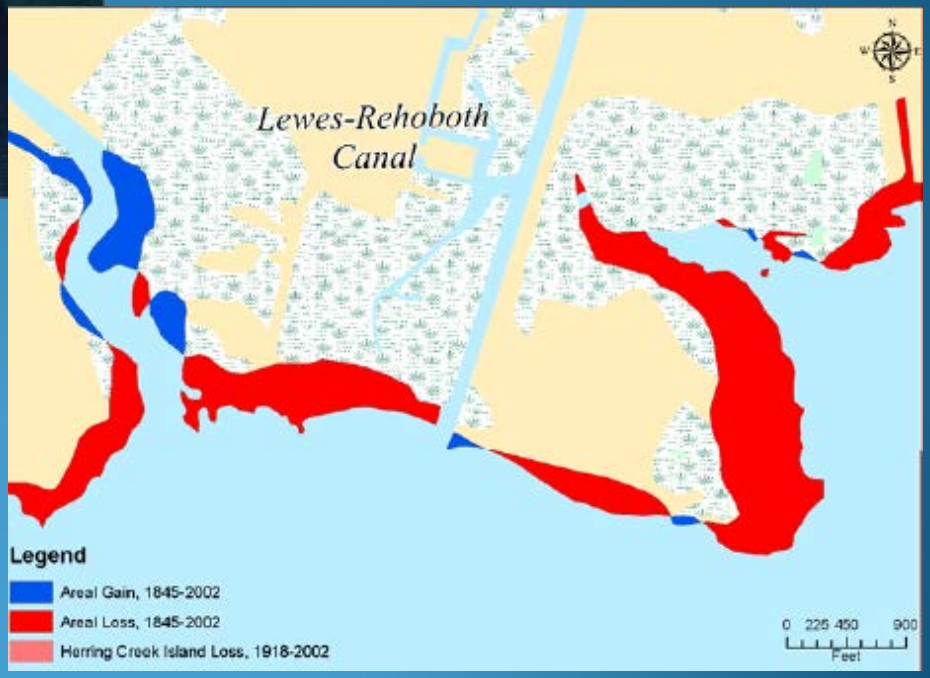
©2010 Google
Imagery Date: 7/3/2010
1992
38°41'44.82" N 75°05'57.18" W elev 5 ft
Eye alt 9704 ft


Lewes-Rehoboth
Canal
Legend
Areal Gain, 1845-2002
Areal Loss, 1845-2002
Herring Creek Island Loss, 1918-2002
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Mispillion Harbor
Project Area
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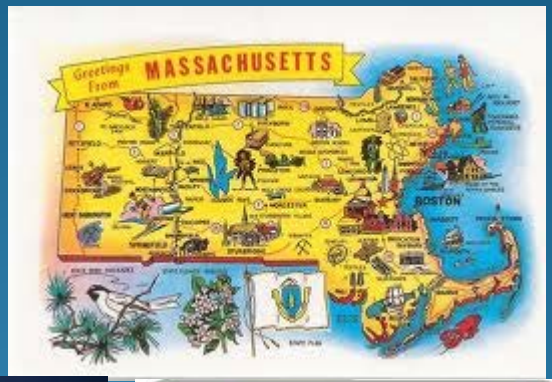
Feet
GRECO'S
CANAL
Mispillion River
BREACH
DELAWARE BAY
ROCK SILL
DUPONT
NATURE
CENTER

Funding of Waterway Management Operations in Other States

Ariane Nichols, Environmental Scientist
DNREC, Waterways Management Section

Funding of Waterway Management Operations in Other States



Funding of Waterway Management Operations in Other States

Maine
- Dredging program housed in the Department of Transportation
- Funded through Bond Bill appropriations
- "Multi-modal Fund" generated through car rental tax used for port projects, environmental studies, some dredging
- On average the Corps does 3-4 major projects per year in their federal channels
- USCG handles all channel marking

Massachusetts
- Funding for dredging projects is generated through recent Environmental Bond Bill ($55M)

Rhode Island
- Most channels are federal and maintained by Corps
- Small scale dredging, such as marinas handled privately
- Algae-harvesting equipment purchased with state Oil Prevention Account
- Abandoned vessel/derelict structure removal commission has $100K annual appropriation – surcharge on boater registration fees

Funding of Waterway Management Operations in Other States

Connecticut
- All dredging handled by Corps since channels are all federally authorized
- USCG does most channel marking, state places “slow no wake” in lakes/ponds
- No algae harvesting or abandoned vessel removal programs

New York (NY Canal Corporation)
- NYCC is part of the NY Thru-way Authority and funded by toll roads
- Extensive dredging fleet, limited contract work
- Extensive channel marking program in canals and finger lakes
- Contract our abandoned vessel work
- Annual budget of $29M, of which $5M-$10M is used for dredging

New York (Town of Hempstead)
- Town-owned dredge does all channel dredging in Hempstead Bay
- Town comptroller decides annual funding for waterways , $8M on average
- Budget is generated through general tax by the town
- Waterways funding also covers channel marking, bulkheading
- No algae harvesting program, limited abandoned vessel removal as necessary

Funding of Waterway Management Operations in Other States

New Jersey
- NJ State Channel Dredging Program is primarily funded through State Transportation Trust Fund Dollars
- Channel marking also funded through Transportation Trust Fund

Pennsylvania
- State maintains two marinas annually with state-owned dredge equipment
- Funding for dredging and channel markers comes from boat registration fees, motor boat fuel tax, and fishing fees
- No algae harvesting of abandoned vessel removal programs

Maryland
- MD, DNR, Waterways Improvement Fund established in 1966
- Funds are generated from a 5% excise tax paid when a boat is purchased
- Fund also receives 0.3% of the state motor fuel tax
- Approximately $20M-$25M total with about $8M going towards dredging
- Applications for project funding by local governments

Funding of Waterway Management Operations in Other States

Virginia

- No state dredge program, VA Port Authority works for Corps of Engineers for channel projects
- Corps cost shares on projects with local governments (towns)
- Money for that cost share comes from local revenue sources , not state funding
- USCG marks the federal channel, no state channel marking
- City of VA Beach operates dredge at Rudy Inlet, funding from city taxes

North Carolina

- Previously, Corps did most dredging, but are now doing less
- NC General Assembly passed legislation in 2013 to double boating registration and titling fees (NC is mandatory title state)
- ½ of registration fee money and $10 from each title is put in dredging fund
- Local governments can apply for the funds with 50/50 match
- Same fund is used for channel marking with the 50/50 match
- No abandoned vessel or algae harvesting programs

Funding of Waterway Management Operations in Other States

South Carolina

- All dredging work in state is what is performed by Corps of Engineers in federal channels
- SC does most of their own channel marking, except federal channels
- Funding for channel marking comes from federal boating grant, which is $1/$1 state match
- Waterways program also receives money from fuel tax 1/10 of 1%
- Coastal Resource Management Section has yearly grant of $250K for removal of marine debris (abandoned vessels), entities can apply for grant money

Georgia

- Corps maintains federal channels and state is local cost share partner
- There has never been strong demand for dredging since tide range is 7.5ft, so most people boat with the tides
- No state channel marking, only USCG in federal channels
- Abandoned vessels are big problem, program used to receive $180K annually for removal, but that funding was cut this past year due to budget deficit

Funding of Waterway Management Operations in Other States

Florida

- FL has two inland waterway navigation districts (FIND and WCIND)
- Special districts created by state to handle dredging and other waterway issues
- Primary source of funding is property tax revenues from counties along the waterways
- Rationale is that all property in the counties benefit from economic activity generated by the waterways
- Counties can apply for project funding from their District

Ohio

- Extensive dredging fleet of 12 dredges and 6-8 projects simultaneously
- Dredging is funded through the state's Fuel Usage Tax and Boater License fees
- Fuel tax is 1/10 of 1% which goes to Waterway Safety Fund
- No channel marking program
- Algae harvesting occurs in lakes, is also funded through Waterway Safety Fund

Delaware's Navigable Waterways

N
W E
S

1. Wilmington Harbor
2. Chesapeake and Delaware Canal
3. Delaware City Branch Channel
4. Smyrna River
5. Leipsic River
6. Little River
7. St Jones River
8. Murderkill River Entrance
9. Murderkill River
10. Mispillion River
11. Mispillion River Entrance
12. Cedar Creek
13. Broadkill River
14. Roosevelt Inlet
15. Lewes and Rehoboth Canal
16. Love Creek
17. Herring Creek
18. Guinea Creek
19. Massey's Ditch
20. Indian River
21. Pepper Creek
22. Vines Creek
23. White Creek
24. Assawoman Canal
25. Roy Creek
26. Nanticoke River
27. Broad Creek River

State Maintained

Federally Authorized

Likely

Unlikely

NOTE: The Corps of Engineers will investigate emergency maintenance channel dredging of low use federal projects (indicated on the map as "Unlikely") only after the State of Delaware has determined it does not have the resources necessary to do so.

DELAWARE DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL

0 2.5 5 10 15 Miles

Prepared by Maria Sadler

Waterway Management Program FY15-19

Waterway Projects	County	Feasibility Investigation	Planning	Consultant	Survey, Design, & Engineering	Permitting	Bid Process & Award	Actual Construction Start	Actual Construction Completion Date	FY14	FY15	FY16	FY17	FY18	FY19
Contractual Dredging Projects															
Little River - Dredging of 65,000 cubic yards of material from channel and placement of material in upland storage facility(s) and/or beneficial re-use. Costs include consulting services, dredging, and construction of storage facility(s) and/or beneficial re-use. UPDATE: M&N intiated project planning in March 2014	Kent	In-house	In-house	$305,000	Consultant	Consultant	Consultant			$305,000	$1,200,000				
Massey's Ditch - Dredging of 50,000 cubic yards of material from channel and beneficial re-use of material to restore eroded island (Middle Island). Costs include consulting services and dredging. (Project costs $1.3M - $2.5M based on preliminary estimates done by AMA). UPDATE: AMA intiated project planning and engineering in February 2014	Sussex	In-house	In-house	$370,000	Consultant	Consultant	Consultant			$550,000		$2,300,000			
Lewes-Rehoboth Canal -Dredging of southern reach of canal and placement of material to restore eroded wetlands at south end of waterway. (Estimated project construction $2.0M)	Sussex	In-house	In-house	$350,000	Consultant	Consultant	Consultant					$350,000	$2,000,000		
Herring Creek - Dredging of 100,000 cubic yards of material from channel and placement in upland storage facility(s) and/or beneficial re-use of material along banks of waterway. Costs include consulting services, dredging and construction of storage facility(s) and/or benficial re-use. (Estimated project construction $2.0M)	Sussex	In-house	In-house	$350,000	Consultant	Consultant	Consultant						$350,000	$2,000,000	
Love Creek - Dredging of 60,000 cubic yards of material from channel and placement in upland storage facility(s) and/or beneficial re-use of material along banks of waterway. Costs include consulting services, dredging and construction of storage facility(s) and/or benficial re-use. (Estimated project construction $2.0M)	Sussex	In-house	In-house	$350,000	Consultant	Consultant	Consultant							$350,000	$2,000,000
White Creek - Dredging of 60,000 cubic yards of material from channel and placement in upland storage facility(s) and/or beneficial re-use of material along banks of waterway. Costs include consulting services, dredging and construction of storage facility(s) and/or benficial re-use. (Estimated project construction $2.0M)	Sussex	In-house	In-house	$350,000	Consultant	Consultant	Consultant							$350,000	$2,000,000
Assawoman Canal - Annual maintenance dredging of waterway as needed. Costs include dredging and restoration/construction of upland storage facilities.	Sussex	In-house	In-house	In-house	In-house	In-house	In-house				$50,000	$50,000	$50,000	$50,000	$50,000
In-house Dredging Projects															
Indian River - Dredging of 50,000 cubic yards of material from channel and placement in upland storage facility and/or beneficial re-use. Costs include dredging, leasing and restoration of storage facility, and/or beneficial re-use. UPDATE: Project planned for construction in Fall 2014.	Sussex	In-house	In-house	N/A	In-house	In-house	In-house			$250,000					
Augustine Boat Ramp - Dredging of 2,000 cubic yards of material from boat ramp and placement of material in upland storage facility. Costs include maintenance and/or replacement of equipment, upland storage facility construction/restoration, mobilization and demobilization of equipment, supplies and materials. UPDATE: Project planned for construction in August 2014	New Castle	In-house	In-house	N/A	In-house	In-house	N/A				$75,000				
Holts Landing State Park - Dredging of 3,000 cubic yards of material from boat ramp access channel and placement of material in upland storage facility and/or beneficial re-use. Costs include dredging, boat ramp design and replacement, and consulting services. UPDATE: AMA expected to begin project planning in Spring 2014	Sussex	In-house	In-house	$200,000	In-house & Consultant	In-house & Consultant	N/A			$300,000	$100,000	$200,000			
U of D/CMS Harbor - Dredging of 24,000 cubic yards of material and placement in upland storage facility to maintain adequate depths for UD research vessel and Del. River and Bay Cooperative Oil Spill Emergency Response/Cleanup vessel moored in harbor. Contractually done either with State or NCCD dredge and UD. Costs shown include maintenance and depreciation on state owned equipment. All other costs assumed by UD.	Sussex	In-house	In-house	N/A	In-house	In-house	N/A					$50,000			
Delaware City Mooring Basin - Dredging of 24,000 cubic yards of material from basin and placement in upland storage facility. Costs include maintenance and/or replacement of equipment, upland storage facility restoration, mobilization and demobilization of equipment, supplies and materials.	New Castle	In-house	In-house	N/A	In-house	In-house	N/A					$100,000			
Indian River Inlet Marina - Dredging of 20,000 cubic yards of material from marina basin and placement in open-water disposal site. Costs include maintenance and/or replacement of equipment, mobilization and demobilization of equipment, supplies and materials.	Sussex	In-house	In-house	N/A	In-house	In-house	N/A						$75,000		

Waterway Management Program FY15-19

Waterway Projects	County	Feasibility Investigation	Planning	Consultant	Survey, Design, & Engineering	Permitting	Bid Process & Award	Actual Construction Start	Actual Construction Completion Date	FY14	FY15	FY16	FY17	FY18	FY19
Other (Non-Dredging) Waterway Management Operations															
State Dredges Equipment Maintenance - Costs include maintenance and/or replacement of state dredging equipment (FY15).	Statewide	In-house	In-house	N/A	N/A	N/A	In-house	N/A	N/A		$300,000	$75,000	$75,000	$75,000	$75,000
Channel Marking - Maintenance and/or replacement of 187 channel markers in the Inland Bays. Costs include maintenance and/or replacement of equipment, mobilization and demobilization of equipment, supplies and materials.	Sussex	In-house	In-house	N/A	In-house	In-house	N/A	N/A	N/A	$125,000	$60,000	$60,000	$60,000	$60,000	$60,000
Macroalgae Harvesting - Seasonal harvesting of nuissance macro-algae in spring and summer months in Inland Bays. Costs include maintenance and/or replacement of equipment (FY15, FY16), mobilization and demobilization of equipment, supplies and materials.	Sussex	In-house	In-house	N/A	N/A	N/A	N/A	N/A	N/A	$20,000	$35,000	$150,000	$150,000	$35,000	$35,000
Abandoned Vessel/Derelict Structure/Tree and Debris Removal - Removal of vessels, structures, and tree and debris from waterways done on an as needed basis. Costs include maintenance and/or replacement of equipment, mobilization and demobilization of equipment, supplies and materials, and/or performing work contractually.	Statewide	In-house	In-house	In-house	N/A	N/A	In-house	N/A	N/A	$30,000	$30,000	$30,000	$30,000	$30,000	
Contractual Support for Waterway Management Operations - Contract with NCCD and KCD to assist with waterway management projects, operations, and surveying services. Includes salary and other employment costs for District contractual positions.	Statewide	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	$83,000	$300,000	$300,000	$300,000	$300,000	
Funding Options for Waterway Management Operations - Contract to conduct a water use assessment/analysis to determine a sustainable funding source for waterway management operations in State.	Statewide	In-house	In-house	$325,000	N/A	N/A	In-house	N/A	N/A		$325,000				
Regional Sediment Management Plan- Expansion of the Sediment Management Plan that was previously prepared for Rehoboth Bay into Indian River Bay. Involves identifying beneficial re-use options for dredged material, waterway enhancements to reduce dredging needs, and alternative dredging opportunities. Requires extensive modeling of waterway systems.	Sussex	In-house	In-house	$150,000	Consultant	N/A	In-house	N/A	N/A		$250,000				
Massey's Ditch Assessment Report - Contract consultant to provide engineering and design services for alternative sediment management strategies to reduce shoaling in channel (e.g. Flow-train structures). Construction in FY18	Sussex	In-house	In-house	$300,000	Consultant	N/A	In-house	N/A	N/A			$300,000		$3,000,000	
										$1,413,000	$2,725,000	$3,965,000	$3,090,000	$6,250,000	$4,220,000

FY2015 WATERWAY MANAGEMENT OPERATIONS BUDGET
DREDGING, CHANNEL MARKING, MACRO-ALGAE HARVESTING,
WATERWAY MAINTENANCE & RESEARCH

Budgetary Factors to Consider

- Maintenance Dredging

  Contractual Projects – Little River, Assawoman Canal (annual maintenance)

  - Little River: Planning, Design, Engineering, Permitting, Contract Management initiated in FY2014 by Moffatt & Nichol ($305,000).

    Construction in FY2015. Contractor to be determined. Costs will include mobilization/demobilization of equipment to project site and dredging of river on a per cubic yard basis ($1,200,000 $500,000 for mobilization/demobilization; $700,000 for dredging)

  - Assawoman Canal – Annual maintenance responsibilities include confined disposal facility restoration, periodic dredging of shoaled areas (Loop Canal) and debris removal ($50,000)

  In House Projects – Augustine Beach Boat Ramp and Indian River

  - Augustine Beach: Costs include mobilization/demobilization of equipment to project site, fuel, supplies and materials, and equipment depreciation ($75,000)

  - Indian River: Costs include confined disposal facility restoration, mobilization/demobilization of equipment to project site, fuel, supplies and materials, and equipment depreciation ($275,000)

- Waterway Management Operations

  - New Equipment: Costs include replacement of one State dredge and purchasing plastic dredge pipeline ($300,000)

  - Channel Marking: Costs include operations and maintenance on equipment, fuel, supplies and materials (signs, PVC poles, buoys, lights, anchors, chains, hardware, numbers/letters), depreciation/replacement of equipment (bateaus, outboards) ($60,000)

- Macro-algae Harvesting: Costs include operations and maintenance on equipment (annual replacement of conveyors belts, hydraulic motors for belts), fuel, supplies and materials, depreciation/replacement of equipment (harvesters, dump truck) ($35,000)

- Abandoned Vessel, Derelict Structure & Debris Removal: Costs include operations and maintenance on equipment, fuel, supplies and materials; costs associated with disposing of creosote/CCM treated piling, handling and disposing of contaminated materials or removing hazardous substances such as gas and oil from vessels prior to removing them from the water; costs associated with having contractors available to remove vessels, structures or debris (trees) from waterways; depreciation/replacement of equipment (barge, outboards, excavator) ($30,000)

- Contractual Support: Costs include salaries for contractual employees hired through the NCCD or KCD plus other employment costs ($300,000)

- Research:

  - Funding Options for Waterway Management Operations: Conduct a water use assessment/analysis to determine a sustainable funding source for waterway management operations in the State through one of our consultants currently under contract ($325,000)

  - Regional Sediment Management: Expand the sediment management plan for Rehoboth Bay into Indian River Bay through one of our consultants currently under contract. Would involve identifying beneficial re-use options for dredged material, waterway enhancements to reduce dredging needs, and alternative dredging opportunities. Requires extensive modeling of waterway systems. ($250,000)

DNREC, DIVISION OF SOIL AND WATER CONSERVATION
SHORELINE AND WATERWAY MANAGEMENT SECTION

WATERWAY MANAGEMENT BRANCH SCOPING PAPER

EXECUTIVE SUMMARY

This scoping paper presents an extensive overview of how waterway management operations have been conducted by the DNREC, Division of Soil and Water Conservation since 1970. Dredging was the initial and primary focus of waterway management from 1970 through 1996. Since that time, operations have expanded to include three additional functional areas, macro-algae harvesting (1997), navigational channel marking (2001), and abandon vessel/derelict structure removal (2007). This document examines the history, equipment and funding used for these initiatives and management options for the future of these operations.

The groundwork for waterway management in the State was initiated by the Delaware Soil and Water Conservation Commission in 1968. Several assumptions were made by the Commission to secure funding for a State dredging program. One belief was that wetlands could be used for disposing of material dredged from channels, but that belief was short lived. One year into the program (1971), wetlands were determined to be valuable ecological resources that should be preserved. As a result, disposal sites for early dredging projects had to be relocated from wetlands to uplands due to environmental concerns. In addition, the belief that upland areas, which were initially used or proposed for use as disposal sites, would be available at the onset of the program and for the foreseeable future. This also proved to be unrealistic due to the development opportunities these lands presented. Currently, there are only five known disposal facilities available for use for State dredging projects in and around the Inland Bays. The Commission also felt the State could operate a dredge program at less than half of what it would cost to pay a private contractor. It became obvious during the very first project (Love Creek) that there were other costs to consider in operating a dredge program (e.g. engineering costs, increase in the cost of fuel, increase in employee salaries). Post project calculations for Love Creek showed actual costs to be about one-third less than a private contractor would have charged.

Senate Resolution No. 53 pertaining to the implementation of a dredging program was adopted by the General Assembly on June 9, 1969. It directed the Commission to dredge Love Creek, White Creek, Herring Creek, Guinea Creek and Pepper Creek in that order and specified that these five creeks should be completed before other projects were undertaken. Love Creek and White Creek were the first projects completed by the State Dredge Program (July 1970 – August 1972). However, after White Creek was completed, there were no additional legislative appropriations made available to dredge the remaining three creeks. As a result, efforts were diverted to other projects where funding was made available to pay for dredging expenses (e.g. beach nourishment projects where beach funds (CIP) could be used). When additional funding was finally made available in subsequent years, Guinea Creek, portions of Herring Creek and Pepper Creek were eventually completed, but not before several other projects before them.

The State Dredge Program was extremely productive from its inception in 1970 until the mid-1990s. The program was responsible for dredging approximately 3,903,526 cubic yards of material in carrying out various projects during that time, including navigational channel, beach nourishment, harbor/marina basin clean-out and pond restoration. The New Castle Conservation District assisted with many of these projects starting in 1984, when they initiated their own program. However, in the last 14 years, there has been a significant decline in the productivity of

the State Dredge Program, even with the District's help. These diminishing numbers can be attributed to the following factors:

- Time-of-year restrictions contained in federal and State permit approvals for dredging projects limit dredging annually to certain periods of the year (e.g. fall and winter months in the Inland Bays).

- The age and condition of dredging equipment is a large factor.

- A reduction in staff assigned to waterway management activities has also occurred. In 1991, there were 16 full time employees assigned to the section. As of January 2009, there are only eight full time positions assigned to handle waterway management related work. Three of these positions are currently vacant. The two full time employees working for the District dredge program assist the Division's employees when they are available.

- Where the work crews report to work is a factor. When dredging operations began in 1970, the project site was considered to be the location for the start and end of a dredge shift. In 2002, it was decided that dredge crews would report to the field office in Lewes and travel to the job site. Return to the office at the end of the shift is also on State time. This change effectively reduced the amount of time a crew would actually be dredging by 2.0-2.5 hours each day on average.

The Corps of Engineers is responsible for maintaining several federally authorized navigational channels in Delaware. The federally authorized designation means it is the Corps' responsibility to maintain channels using federal funding. Over the years, the State Dredge Program has dredged many of these waterways when federal funding was not available (e.g. Massey's Ditch). The Corps will continue to maintain federal channels in areas with established commercial fishing interests (e.g. Lewes-Rehoboth Canal) when federal funding is available. The State will be expected to maintain recreational use channels for the foreseeable future.

There has been a significant increase in boating in Delaware since the early 1970s. At the end of 1971, there were 17,510 vessels registered in the State. That number had risen to 55,564 by the end of 2007. While there is no statistical break down of how many boats are registered in each of the State's three counties, staff from the Division of Fish and Wildlife have confirmed the majority of the vessels are located in Sussex County. This indicates that there is a need to maintain navigable channels to support recreational boating activities in downstate Delaware.

The Division began marking navigation channels in 1996. They also entered into a cooperative agreement with the U. S. Coast Guard in 2001 to establish aids to navigation in the State's Inland Bays in waterways that the Coast Guard does not mark and to supplement areas that they do mark. Channel marking efforts are designed to adequately locate channels to ensure safe navigation for the boating public. A secondary purpose is to keep boating traffic centralized in any given waterway to the extent possible and away from adjacent ecologically sensitive areas (e.g. shallow water habitats, wetlands). They are now responsible for maintaining a total of 154 channel markers throughout the Inland Bays (Love Creek, Herring Creek, Indian River, Pepper Creek, White Creek, Beach Cove, Little Assawoman Bay and Roy Creek). Currently, there is no annual appropriation specifically designated for channel marking activities and no corresponding legislation directing the Division to carry out this work.

Waterway management work has become more diversified over the last 14 years. Eutrophication in the State's Inland Bays has led to an extensive annual growth of macro-algae. This has caused a number of problems, most notably, the seasonal accumulation of dead and dying macro-algae in shallow waters of the Bays. As a result of this occurrence, the Division implemented a program in 1997 to harvest noxious accumulations near waterfront communities. As with channel marking, there is no annual appropriation specifically earmarked for harvesting activities and no corresponding legislation.

While there is legislation mandating the Division to remove abandoned vessels and derelict structures from public waters and subaqueous lands throughout the State, there is no annual funding source specifically designated for these activities.

From 1970 to the present, there has been no dedicated funding to perform waterway management operations in Delaware. The Shoreline and Waterway Management Section receives annual General Fund appropriations for supplies and materials and contractual services. The only other funding source available for waterway management initiatives has been through Bond Bill appropriations earmarked for specific projects or purchases. This first occurred in August 1968 when the General Assembly provided $400,000 to start the State Dredge Program. The money was used to purchase a dredge and ancillary equipment and begin the process of dredging the five creeks identified by the Soil and Water Commission (Love Creek, White Creek, Herring Creek, Guinea Creek and Pepper Creek). Additional Bond Bill appropriations have followed in subsequent years for purchasing new equipment (e.g. new harvesters in 2002) and for specific projects (e.g. Assawoman Canal).

There are three possible management options to consider for the future of the Division's waterway management operations: (1) no action; (2) eliminate the State dredge program; and (2) enact legislation to provide for total waterway management (program enhancement). They are summarized below:

1. No Action – This will result in maintaining the status quo. Present funding levels will remain the same and there will be no real legislative direction to provide dedicated, comprehensive waterway management for State waters.

2. Eliminate State Dredge Program – Consideration should be given to eliminating the State Dredge program and retaining the New Castle Conservation District dredge program and continuing to fund it through the Division's budget (current funding line is $225,000). The District would then be available to do smaller scale projects (e.g. State boat launching areas, pond/lake restoration), as well as any emergency type of work that may arise (e.g. remove shoals in inland waterways). Larger scale dredging projects such as Indian River and the Assawoman Canal would be handled by private dredging contractors under this scenario, which is the same the Division now follows with bay beach nourishment projects. The costs for carrying out projects using a private contractor would be higher, but projects would probably be completed more expeditiously than they are at the present time. State personnel currently assigned to waterway management operations would be retained to perform navigational channel marking and macroalgae harvesting. They have demonstrated the ability to handle these activities over the past several years in an efficient manner because these activities are not time sensitive in nature. This is expected to carry over to abandon vessel and derelict structure removal operations, which is in its infancy at present. They will also be available to assist the District dredge program if needed.

3. Program Enhancement – Enhancing the programs under the Division's Waterway Management Branch to meet current and future needs will involve the enactment of comprehensive legislation authorizing the Department to carry out waterway management projects (i.e., dredging, macro-algae harvesting and navigational channel marking), as well as provide a steady source of funding for these initiatives, including the newly mandated abandoned vessel and derelict structure removal program.

The continuation of waterway services for the citizens of Delaware is needed considering the increase in registered boaters over the last 37 years (17,510 in 1971 to 55,500 in 2007). Without these services, boats and other vessels will run aground, channels will be hard to find or disappear, macro-algae will decompose on shorelines and constituent problems and complaints will increase. These services are embedded in the Department, but legislation currently authorizing dredging and waterway management operations is inadequate. It does not provide clear direction and guidance on how waterway management should be properly handled. The passage of such a waterway management act would provide guidance and commitment to the Department for services that the Division has been providing to the public.

The 143rd General Assembly provided a starting point for comprehensive legislation in the Epilogue of the FY2006 Bond Bill (Senate Bill No. 190). In Section 84 of the Bill, the Legislature directed the Department "to provide dedicated, comprehensive waterway management for State waters", by maintaining depths and marking navigational channels, removing nuisance algae, removing derelict structures and other debris, and performing "any other waterway management services that may be identified to preserve, maintain and enhance recreational use of the State's tidal waters." They also directed the Department to initiate a study of "the sediment sources and patterns of sediment movement that results in deposition within State waterways to determine it there are methods to reduce the dependency on dredging." The Legislature provided the Department with $250,000 to carry out this mandate. The majority of this appropriation ($126,900) was used to develop a sediment management strategy for Rehoboth Bay. The Department contracted Moffatt & Nichol to undertake this project, which was completed in November 2007. The goal of the management strategy is to improve planning for future dredging needs as well as to reduce the dependency on dredging in the inland waterways that the State maintains in this bay.

Environmental Restoration is another area that should be included in comprehensive waterway management legislation. Moffatt & Nichol investigated opportunities for the beneficial reuse of dredged material when dredging is necessary in tributaries of Rehoboth Bay. The results indicate there are several opportunities to restore degraded habitat, including eroded wetlands and eroded islands in Rehoboth Bay for shorebirds. Re-establishing submerged aquatic vegetation (e.g. eelgrass) in the Inland Bays should also be an important aspect of the restoration work. Adequate funding will be needed for these projects to occur.

DIVISION OF SOIL AND WATER CONSERVATION
SHORELINE AND WATERWAY MANAGEMENT SECTION

WATERWAY MANAGEMENT BRANCH SCOPING PAPER

DECEMBER 2008

In 1993, the Beach Preservation and Dredge Operations Programs within the DNREC, Division of Soil and Water Conservation combined to form the Shoreline and Waterway Management Section. The consolidation of these two sections was justified from a programmatic standpoint since they shared unanimity of purpose with respect to many of their activities and operations. They shared the same facility as their base of field operations. Beach Program personnel often assisted Dredge Program staff with the development and implementation of their projects by providing needed technical engineering services and by constructing upland disposal facilities. The Dredge Program also performed beach nourishment projects along the Delaware Bay coastline and performed needed maintenance and repair work on Beach Program equipment. In addition, it was felt that this merger would improve overall operational efficiency and delivery of services to the public. Prior to 1997, the Section's Waterway Management Branch was comprised entirely of the State Dredge Program. Since that time, the Branch has expanded to include three additional programs, the Macroalgae Harvesting Program (1997), the Navigational Channel Marking Program (2001) and the Abandon Vessel/Derelict Structure Removal Program (2007).

The purpose of this scoping paper is to provide a historical perspective of the four programs within the Waterway Management Branch and how they have evolved over the years. It is also designed to elicit input concerning its management direction, by laying out management options for future consideration.

STATE DREDGE PROGRAM

Background

The State Dredge Program was initiated in 1968 through an appropriation made by Chapter 209, Volume 56, Laws of Delaware, to the Delaware Soil and Water Conservation Commission for the purpose of conducting surveys of certain creeks in Sussex County. Those waterways were Love Creek, White Creek, Guinea Creek, Herring Creek and Pepper Creek. At that time, the Commission consisted of the following individuals: Mr. E. H. Talbert, Director; Mr. Carlton Blendt, Chairman; and members Dr. William E. McDaniel, Mr. Cashar Evans, Mr. Andrew J. Casey and Mr. Donald Ralph. The Commission completed the surveys and presented its findings in a "Report to the Delaware House of Representatives on Feasibility of Dredging certain Creeks in Sussex County", dated June 1, 1968. The report recommended the acquisition of a dredge to improve navigation in these waterways and presented the following as

justification for the development of a State dredge program: "On the basis of its contribution to the downstate economy alone, this entire project is probably justified". Other specific benefits stated in the report included:

1. The improvements to these waterways will inevitably increase their usage and help attract both annual visitors and permanent residents to Sussex County.

2. The Delaware Shell Fisheries Commission believes that improved accessibility to the creeks under consideration will both increase production and decrease operation costs for the commercial clammers.*

3. The dredged channels will provide safer areas for boating. Six commercial oyster boats have experienced 19 groundings in a single year in Pepper Creek. Damage was estimated at $650.00 per boat.

4. Improvement to the creeks leading to the bays could prove to be very attractive to transient boat owners and might increase the permanent boat population of the area. This in turn could cause the development of private marinas and even one or two boatyards.

5. Land values will certainly increase along the improved waterways, particularly where the placement of dredged material is carefully planned and executed.

6. It may be feasible to use dredged material to construct new land areas, which conceivably could become the property of the State.

7. Most of the marshlands (i.e., wetlands) adjacent to these creeks are relatively narrow and have limited value for game and fish interests. Judicious placement of material from dredging onto these marshes may serve to reduce the mosquito problem.*

8. The State presently owns property along Pepper Creek near Holland Point that is badly in need of filling.

9. The waterways are the property of the State and it is not altogether reasonable to expect private interests to pay for public improvements, at least not directly.

10. Dredged material disposal areas, both for initial construction and for future maintenance, have already been offered for parts of all five creeks at no cost to the State.

* By 1971, the views of various agencies within the Department had changed to the extent that these statements were no longer unanimously supported.

While the report was directed to five creeks in Sussex County, the Commission also considered the advisability of the State owning one (1) or more dredges in view of an

apparent workload for equipment of that nature. As stated in the report, "there are approximately 50 other creeks and streams that might benefit from dredging". "Many lakes have become shallow and will someday need deepening and other improvements." Reference was made to a site in New Castle County where a 100-acre lake could be developed for residents of that specific area. The Commission reasoned that "the total dredging workload is enormous" and, regardless of whether or not Federal cost-sharing was available for some projects, there was a need for a State dredge program.

The legislation authorizing the Commission study directed consideration of dredging channels in the five creeks 50 feet wide and six feet deep at low tide. However, the subsequent report provided estimates for 50 and 60 foot wide channels. The larger channel size was based on discussions with personnel from the U. S. Army Corps of Engineers who determined that a 60 foot wide channel would "constitute a better investment". According to the Corps, a reasonable estimate for contract dredging of the five creeks was $1.00 per cubic yard. The total yardage for dredging all five creeks 50 feet wide and six feet deep was 880,000 cubic yards. Dredging the creeks to a 60 foot width and the same depth would involve the removal of approximately 1,100,000 cubic yards of material. Based on these estimates, the 50 foot wide channels would cost $880,000 while the 60 foot wide channels would be about $1,100,000 if undertaken contractually.

The Commission report then went on to compare estimated contractual dredging costs to costs associated with state owned and operated programs in New York, Ohio and New Jersey. For example, the program in Bergen County, New Jersey, had been in operation for almost two years. Their engineers estimated that it cost them approximately $.44 per cubic yard for dredging with their equipment, which included a 12-inch dredge. This estimate also included all salaries, plus watchmen, supplies, tools, parts, engineering supervision and insurance. The Commission felt that a program in Delaware, if implemented, could also operate for well less than one-half competitive bid prices.

The report estimated that a 12-inch dredge and all necessary ancillary equipment and supplies, including floating and shore pipe, a 120 horsepower diesel tender, a skiff with outboard, and standard spare parts, would cost about $175,000. A 10-inch dredge with similar equipment and accessories would be in the neighborhood of $150,000. These size dredges were viewed as optimal for the State as they could be disassembled and transported over roadways without much difficulty, meaning their use would not be restricted to any specific location. It was estimated that these dredges would have a 10 to 30 year life span.

As explained in the report, a three-man crew would be adequate to operate a State owned dredge under most conditions. A night watchman was also recommended. The cost of labor, guard service, inspection, engineering design and supervision for operating a 12-inch dredge was estimated to be $70,000 per year. Fuel, supplies, parts, repairs and insurance added another $25,000 for a total of about $95,000 per year.

According to the report, the Corps of Engineers estimated that a 12-inch dredge had a working capacity of 675,000 cubic yards per year at that time. Based on a practical level of efficiency for the type of dredging proposed, a production capacity of 360,000 cubic yards per year or 30,000 cubic yards per month was used for time estimating purposes. Based on these figures, dredging a 50 foot wide channel in these creeks would require approximately 30 months to complete, while dredging 60 foot wide channels would require almost 40 months.

The Commission also provided some estimates for maintenance dredging requirements in the five creeks after they were initially constructed. The average annual sediment yield for Love Creek was estimated to be about 7,870 cubic yards. Guinea Creek was estimated to be about 2,940 cubic yards and Herring Creek about 10, 230 cubic yards, for a total of 21,000 cubic yards for these three creeks. Sediment yields for White Creek and Pepper Creek were not available at the time so the assumption was made that the total annual sediment yield for all five creeks would be about 35,000 cubic yards. The Commission then made the prediction that, if nothing were done following initial construction, at the end of 10 years, a 12-inch dredge would have a full years work re-dredging the five creeks.

Sloughing of the side slopes of the dredged channels was also recognized by the Commission in the report meaning that re-dredging of the five creeks might be necessary sooner than the predicted 10 years. In a study of Pepper Creek conducted by the Corps of Engineers in the mid-1960s, it was estimated that it would cost approximately $1.58 per cubic yard when maintenance dredging would be performed by a contractor in the creek in the future. Similar to their earlier belief relative to initial construction, the Commission felt a State owned and operated dredge program could perform needed maintenance creek dredging for less than half of what it would cost to do the work contractually.

The General Assembly accepted the report and provided funds for the initiation of the dredging program by including $400,000 in the Capital Improvement (CIP) Bond Bill (Chapter 469, Volume 56, Laws of Delaware) passed on August 12, 1968. The Commission utilized these funds to acquire the State's first hydraulic dredge, Dixie, and some support equipment over the next two years. Records indicate that the dredge was purchased new from the Dixie Dredge Corporation of Miami, Florida, for approximately $130,000. Other equipment purchased to support operations included a work boat, pontoons, float and shore line, a welder, a small boat with outboard motor, spare parts, miscellaneous tools and safety devices, and totaled about $100,000. It is unclear whether this equipment was purchased new or used or was a combination of both.

Senate Resolution No. 53 pertaining to the dredging program was adopted on June 9, 1969. It requested that the Commission "use their dredging equipment to dredge the five creeks". It further resolved that the Commission "undertake and complete said dredging before undertaking any other dredging operations". On October 21, 1969, the Commission established tentative priorities for dredging as follows: (1) Love Creek; (2) White Creek; (3) Herring Creek; (4) Guinea Creek; and (5) Pepper Creek.

With the reorganization of State government in 1970, the Department of Natural Resources and Environmental Control was given the responsibility for carrying out the mandate of the General Assembly relative to the construction of the five (5) creeks and to determine the future course of the dredging program. The day to day operation of the program was placed under the direction of the Department's Division of Soil and Water Conservation. The position of Highway Maintenance Superintendent oversaw the day to day activities of the program. This position reported to the Division Director for assignments.

1970 – 1979

The first project undertaken by the State Dredge Program was Love Creek. The project began on July 13, 1970. The dredge crew at that time consisted of one supervisor (Highway Maintenance Superintendent) and two, three man shifts. A shift was comprised of a leverman, a mate and a shoreman. While the project was in progress, the dredge superintendent was requested to provide the Division Director with an evaluation of the performance of the equipment. The Dixie, a 12-inch hydraulic cutter-head dredge, was viewed as a high performance machine capable of pumping 500 cubic yards per hour. However, under the conditions that the dredge had to operate on Love Creek (e.g. frequent moves necessitated by the small channel size; long pumping distances for ecological purposes), the hourly production rate of the dredge was estimated to be about 190 cubic yards, which is five percent less than was estimated by the Soil and Water Commission in their report to the General Assembly. The cost of dredge operation was $10.00 per hour for a three man crew and $16.00 per hour for fuel and normal maintenance of the dredge. Associated costs for the workboat, floating line and shoreline repairs and disposal facility construction costs raised the hourly rate of operation to about $40.00. The base cost per cubic yard of excavation was estimated to be $.21 per operating hour. Based on total hours, the superintendent estimated the cost of dredging per cubic yard to be about $.40 at that time.

In an effort to more accurately predict project costs for future endeavors, the Division Director estimated mobilization costs for the dredge. The 12-inch Dixie was considered a mobile dredge. It consisted of three sections: two pontoons and the central portion. During the conduct of the Love Creek project, the dredge was loaded and unloaded twice in nine months. The equipment rental costs for the second move at Love Creek was $2,544.00. Based on this amount, it was estimated that it would cost between $5,000.00 and $10,000.00 for moving the entire dredge and associated support equipment (e.g. floating and shore line) when the dredge was moved to a new project site. Translating mobilization costs into cost per cubic yard would add 10 cents per cubic yard to the base figure of $.40 for a 100,000 cubic yard job and $.20 per cubic yard for a 50,000 cubic yard job. It was also reasoned that mobilization costs would be much less if the dredge could be transported by water (i.e., towed) from one job site to another.

Another interesting observation/estimate reported by Division officials during the Love Creek project related to downtime (i.e., time when the dredge was not pumping). Normal downtime on a dredge was estimated to be about 20 percent, which allowed for

breakdowns, maintenance, adding floating lines and moving anchors. However, downtime for the State dredge was estimated to be about 60 percent. This was attributed to the fact that the same crew that was responsible for the dredging was also responsible for laying its own shoreline pipe, which was described as being a very time consuming and arduous task.

The Love Creek dredging project was completed on March 1, 1971. Funds remaining from the purchase of the dredge and ancillary equipment were sufficient to cover the operational costs of the project. According to records, approximately 115,000 cubic yards of material were dredged from the creek at a cost of about $65,876. This amount included costs associated with disposal site preparation, equipment mobilization and other miscellaneous costs not identified. Engineering costs for the project were estimated to be $2,600. The monthly amortization rate of the dredge was estimated to be $1,739.25. Based on these amounts, the total cost of dredging per cubic yard for the Love Creek project was calculated to be $.70. The following indicates how this figure was derived:

Operation cost per cubic yard	$0.572
Amortization (project length - 7 months)	$0.106
	$0.678
Engineering Costs per cubic yard	$0.022
Total Cost	$0.700
Estimated cost by contract	$1.00 per cubic yard

After the completion of the Love Creek project, Division officials noted several inefficiencies in the operation. They included the following: recruiting and training new personnel; the complete relocation of many disposal facilities from wetlands to forested uplands; delays in obtaining permits for relocating the disposal facilities; long pumping distances (up to 5,000 feet); using operating crews to prepare the disposal facilities; and dismantling the dredge for crossing Route 24 to extend dredging upstream as planned. It was reasoned that all of these factors contributed to increasing the cost of the project.

The second project the State dredge undertook was White Creek, which began in October 1971. The CIP funds that were appropriated to purchase the dredge and supporting equipment and used to complete the Love Creek project had been exhausted. New funds in the amount of $147,000 were appropriated in the FY1972 General Fund budget to undertake and complete the project. However, the project was delayed for a considerable period of time by the U. S. Fish and Wildlife Service due to concerns over potential impacts that dredging would have on fishery resources in the upstream prongs of the creek. Revised project plans were eventually approved and the project was completed during the summer of 1972. Approximately 135,000 cubic yards were dredged from the creek to create a navigable channel.

No funds were included in the General Fund budget for creek dredging in fiscal year 1973. Therefore, the efforts of the dredge were diverted to beach nourishment under

the Beach Preservation Act of 1972. Beach funds (CIP) were used to complete emergency repairs to Lewes Beach beginning in October 1972 and ending in May 1973.

The Beach Preservation Program plus miscellaneous small jobs, both public and private, occupied the dredge and its crew for the next few years. Beach nourishment work was performed at Bowers Beach and South Bowers. Miscellaneous small jobs included the Woodland Beach Causeway for the Department of Transportation, Burton's Island Marina at Indian River Inlet, the Rehoboth Bay Sailing Association and the South Shore Marina. Since records for the program are vague or no longer available for this period, it is assumed that a lack of General Fund or Bond Bill appropriations specifically earmarked for dredging operations precluded the dredge from returning to work on the five original creeks that justified its purchase.

In 1974, former State Senator Richard Cordrey introduced a bill (SB523) to provide funds ($660,000) for filling the Rehoboth Bay Borrow Pits and continue work on Herring Creek, Guinea Creek, Pepper Creek and Jefferson Creek near South Bethany, plus the Bethany Beach Improvement Canal (also known as the Loop Canal). Extensive amendments for additional projects killed the bill in the House.

In 1975, Senator Cordrey introduced a bill (SB436) for $620,000 to dredge Vines Creek, Herring Creek, Guinea Creek, Pepper Creek, Jefferson Creek near South Bethany and the Bethany Beach Improvement Canal. The synopsis on the bill estimated the time and cost of dredging Herring Creek, Guinea Creek and Pepper Creek to be three years and $375,000. Vines Creek was estimated at $85,000. Jefferson Creek and the Bethany Beach Loop Canal were estimated to cost $160,000. No time was predicted for these projects and Federal cost-sharing was anticipated for Pepper Creek, Jefferson Creek and the Bethany Beach Loop Canal. According to records, the bill was signed by the Governor on July 9, 1975.

In 1976, SB436 was amended by SB538 to add "completion of the filling of the trenches in Rehoboth Bay". The work started under a CIP appropriation in September 1975. No additional funds were requested for the estimated $80,000 project since the CIP budget included funds for Herring Creek and for Sediment Control, which could also be used for other creek dredging work. The $50,000 Sediment Control item was later reverted. It was on the Rehoboth Bay Borrow Pits project that a third crew was added to work a night shift. The night shift consisted of a leverman and shoreman, thus bringing the total number of employees assigned to the Dredge Program to nine.

The passage of SB436 and the 1976 CIP budget provided a steady source of funding for the Dredge Program, much like the initial appropriation to purchase the dredge and complete the Love Creek project and partially fund the White Creek project. As stated above, a subsequent appropriation was made to complete the work in White Creek. While budgetary records are no longer available for this time period, the $620,000 appropriation generated by SB436 and the 1975 CIP budget appear to have significantly reduced the need for the program to rely on Beach Preservation funds or private contractual money as a regular source of income.

Following the completion of the Rehoboth Bay project and a return trip to Burton's Island Marina, the Dixie was removed from service from November 1976 until March 1977 for major maintenance and repair work. It is unclear who performed this work, whether it was Dredge Program personnel, private contractors or a combination of the two.

In March 1977, the dredge was mobilized to Guinea Creek, but encountered the same problems that were experienced in Love Creek and White Creek: the relocation of disposal facilities to preclude the filling of wetlands. However, new permit approvals were obtained and the project was begun and completed in the fall of 1977.

After the completion of Guinea Creek, the Dixie was moved to Lewes Beach to undertake a beach nourishment project and also to perform maintenance dredging of the U of D, College of Marine Studies Harbor facility, the Henlopen Acres Marina and Burton's Island Marina. There are no records available to indicate who requested or authorized these projects. The Lewes Beach and Burton's Island projects would have been carried out using State funds, while the College of Marine Studies and Henlopen Acres projects would have been done contractually with the State being the contractor.

Following the completion of these projects, the dredge was mobilized to Herring Creek in May 1978 to initiate a channel dredging project at that location. While some work was completed in the main channel and in the Hopkins Prong portion of the creek (20,000 cubic yards of the estimated 282,000 cubic yards as stated in the 1968 report prepared by the Commission), the project was temporarily suspended in the fall of 1978 due to problems with locating adequate disposal facilities.

In October 1978, the dredge returned to Lewes Beach to implement and complete an emergency beach fill project. Upon completion of this work, the Dixie was assigned two jobs that were authorized by the General Assembly in 1978: Cozy Cove and Lee Joseph Creek. Both projects were undertaken to improve navigable access to two private lagoon communities located in the southwestern portion of Rehoboth Bay. Senate Bill 610, dated May 23, 1978, was an appropriation to the Division in the amount of $6,000 to dredge Lee Joseph Creek. Former Senator Cordrey was the sponsor of the bill. In the synopsis of the bill, there is a reference to the State Senate already providing the Division with $4,000 to dredge Cozy Cove.

During this period, permit approvals for Pepper Creek and Jefferson Creek were pending in the Philadelphia District Office of the U. S. Army Corps of Engineers. A permit was received for Jefferson Creek in September 1979. Pepper Creek was still under review by the Corps and was viewed unfavorably by federal and State environmental agencies involved in the permitting process.

Since the Division had no permitted projects, other than Herring Creek, for the Dredge Program in January 1979, the dredge was made available to other State agencies. An extensive job was done in the College of Marine Studies Harbor in Lewes before assisting the New Castle Conservation District with its Federal cost-shared project at

Folly Pond at Banning Park in Wilmington. Records indicate that mobilization and demobilization costs for this project were in the neighborhood of $30,000. These projects utilized the first six months of 1979 and were carried out with the College of Marine Studies and the District contracting the State dredge to perform the work.

The Dixie returned to Sussex County and underwent considerable overhaul prior to undertaking a project at Slaughter Beach in cooperation with the Corps of Engineers. The dredge was used to provide sand to fill in behind a beach erosion control demonstration device termed a "perched beach". The dredge provided "in kind" services for this Federal cost-shared project.

The Dixie finished out the decade by performing maintenance dredging work in the federally authorized channel in Cedar Creek. The work was authorized in HB271 sponsored by Senator Thurman Adams and Governor Ruth Ann Minner who was a State Representative at that time. The amount of the appropriation to perform the work is not known.

In correspondence dated December 6, 1979, from the Division Director to the Department Secretary, it was pointed out that projects funded in 1975 with 1974 cost estimates for construction would be under funded if undertaken in the 1980's. Employee salaries had risen as well as fuel and other associated costs. The following was presented as an illustration:

	1975	1979
Dredge Operator II (Leverman)	$5.18	$6.75
Dredge Operator I (Mate)	$4.28	$5.59
Dredge Shoreman	$3.19	$4.98
Diesel Fuel	$0.37	$0.73

Cost estimates for hourly use of the dredge were increased from $65.00 per hour to $125.00 per hour as a result of these increases and also due to increased down time and higher repair costs due to the age of the equipment.

In summary, the 1970's was a very active one for the State Dredge Program. The dredge completed or initiated approximately 24 projects in a variety of marine environments, including navigational channel creation/maintenance, harbor and marina basin construction/maintenance, beach nourishment, pond restoration and the filling of the "killer" trenches in Rehoboth Bay. These projects are listed in the charts that are attached to this document. In total, the dredge pumped approximately 852,866 cubic yards of material. A statistical breakdown of the amount of each type of dredging that was performed is presented below:

Channel Dredging: 383,195 cubic yards;
Beach Nourishment: 218,900 cubic yards;

Harbor/Marina Basin: 56,736 cubic yards;
Pond Restoration: 28,000 cubic yards;
Rehoboth Bay Borrow Pits: 166,035 cubic yards;
Total: 852,866 cubic yards.

Funding for the Program was provided through numerous Bond Bill appropriations as well as from the Division of Soil and Water Conservation General Fund budget. With the exception of the appropriations cited above, it would be extremely difficult to estimate how much was spent for State dredging operations during this decade since the accounting records were maintained in the Division's Georgetown Field Office and are no longer available. However, it is evident that the State Legislature more or less dictated where the dredge would work based on their appropriations for its services, which were undoubtedly in response to the demands from their respective constituents.

In their report to justify the existence of a State run dredge program, the Soil and Water Conservation Commission stated that there would be dredged material disposal areas for both initial construction and future maintenance. This was most likely based on the belief that wetlands and other low lying areas could be used for disposal purposes. This did not prove to be the case as federal and State laws and regulations were developed in the early 1970's to prevent the destruction of these ecologically important areas. As a result, obtaining permit approvals for many of the inland waterway projects became increasingly difficult for Division officials. In addition, Senate Resolution No. 53 (adopted on June 9, 1969) which mandated the Commission/Division to undertake and complete the five original surveyed creeks before undertaking any other endeavors was never fully realized. Of the five creeks, only Love Creek, White Creek and Guinea Creek had been completed by the end of the decade. Only minimal work had been completed in Herring Creek, but no work had begun on Pepper Creek due to numerous environmental concerns surrounding the project. Further, the estimated construction time of 30 to 40 months to complete the dredging of the five creeks was never realized. Finally, the Commission's belief that a State run dredge program could undertake and complete projects for less than half of what it would cost to do them contractually was short-sighted. As explained above, the total cost per cubic yard for dredging Love Creek was calculated to be $.70 when factoring in amortization and engineering costs. This is only $.30 less than what it was estimated it would cost to do the work contractually.

It is conceivable that some of the benefits presented in the Commission Report to justify the Dredge Program relating to improving navigation in these waterways would inevitably increase their usage and lead to a larger permanent boat population were probably realized. Based on a review of records provided by the Department's Division of Fish and Wildlife, the number of registered boaters in Delaware increased from 17,510 in 1971 to 30,721 by 1979. While there is no statistical breakdown by county, Division staff verify that the majority of registered boaters were in Sussex County at that time.

1980 – 1989

Division records indicate the Dredge Program added another position by the beginning of the 1980's, which resulted in the section having three, three man dredge crews. Each crew consisted of a leverman (Dredge Operator II), mate (Dredge Operator I) and shoreman (Dredge Shoreman), as well as the superintendent to supervise the crews.

Projects initiated in the 1980's were very similar to the ones undertaken in the previous decade. The Dixie completed two small private jobs at the Delaware Bay Launch Service and the Bill-Lin-Sue Marina near Slaughter Beach in January and February 1980. In March, the dredge was moved to Burton's Island Marina to implement a 113,000 cubic yard project. The project was completed in November of that year. In December 1980, dredging operations resumed in Herring Creek. By 1981, problems associated with locating additional disposal facilities to meet project requirements again surfaced and the dredge was moved to the Little River in Little Creek to begin a navigational channel project. The project was completed in February 1982. The dredge then returned to Burton's Island Marina to perform some additional maintenance dredging work at this State Park facility.

The Dredge Program acquired a second more portable dredge in March 1982, a 10-inch hydraulic cutter-head model. Budget records for FY1982 indicate the Division received a $225,000 appropriation in the Bond Bill for dredging. While not specifically stated, it is assumed this money was used to acquire the new dredge, which was purchased from the Ellicott Machine Corporation of Baltimore, Maryland, for a price of approximately $200,000. This smaller dredge, the Blue Hen, was obtained primarily for smaller navigational channels and pond restoration work. The dredge was put into service in the summer of 1982 starting with a navigational channel project in Jefferson Creek near South Bethany. As stated above, the passage of SB436 in 1975, which was sponsored by former State Senator Richard Cordrey, provided the authorization for this work. The project was completed by the end of the year. The dredge was then moved to Lake Como in Smyrna to begin a pond restoration project in January 1983. It should be noted that no additional personnel were hired to operate the new dredge.

In May 1982, the Dixie was mobilized and initiated a major beach fill project at Feeder Beach. The work involved pumping approximately 223,900 cubic yards of sand from the area known as Bottom Hills Drain onto the beach on the north side of Indian River Inlet. The project was designed to renourish the shoreline as well as protect and stabilize the approach to the inlet bridge. The work was completed in January 1983. Following the completion of Feeder Beach, the dredge was involved with four navigational channel projects, including the federal channel in Indian River near Millsboro, Wilson Creek, the Burton's Prong portion of Herring Creek, and the Mispillion River (inlet area), which was also an authorized federal channel. The work completed in Herring Creek marked the end of dredging in that waterway, which was started in 1978. According to records, however, only 85,000 cubic yards of the estimated 282,000 cubic yard project were dredged. Based on a review of the project file, locating

suitable upland areas for disposing of the material dredged from the waterway appears to have been the primary reason why the entire project was not finished. Regardless, four of the original five creeks planned for dredging and used to justify initiating the State Dredge Program had either been completed or dredged to some degree.

While budgetary files are no longer available for FY1980, an article from the Evening Journal (now the News Journal), dated May 31, 1979, indicated the State Senate passed a $30,000 appropriation for the dredging of Wilson Creek on the previous day. According to the article, there was support and opposition for the project along partisan lines. The appropriation was introduced by former State Senator Cordrey who was a Democrat. The Democrats in the Senate supported the appropriation, while the Republicans opposed it. The primary reason for the opposition was the fact that State funding was being used to undertake a project that would only benefit a private lagoon community (Nanticoke Shores Trailer Park) along Wilson Creek, which is located in the southwestern portion of Rehoboth Bay.

A note in a file relative to the Division's budget for FY1982 indicates the Dredge Program's budget was in the neighborhood of $279,700 at that time. Salaries accounted for $133,200, contractual services for $37,800, supplies and materials for $80,200, with other costs accounting for $28,500. However, since official records are no longer available for this fiscal year, these figures cannot be confirmed.

In December 1983, the Dixie started and completed a beach nourishment project at Bowers Beach. From January 1984 to March 1984, the dredge completed maintenance work in the marina basin at Summit North Marina (State Park Marina) located along the Chesapeake & Delaware Canal. The dredge also completed a maintenance project at the U of D College of Marine Studies Harbor (April 1984 – May 1984) and a similar project at the U. S. Coast Guard docking facility in Lewes in June 1984. The Dixie then completed a beach fill project at South Bowers from June 1984 to August 1984. The dredge also completed a beach fill project at Slaughter Beach between August 1984 and December 1984, before returning to the Summit North Marina in January 1985 to begin a maintenance project at that location. That project was completed in March 1985. In addition, the dredge completed a maintenance project at the Delaware City Mooring Basin in April 1985, a navigational channel project in the Mispillion River (inlet area) in May 1985, a beach nourishment project at Slaughter Beach from June 1985 through August 1985, and a breach closure project in the Mispillion River from September 1985 to March 1986. The Dixie then began a channel dredging project in the Broadkill River and worked there from March 1986 to May 1986.

In 1983, the State dredge Blue Hen began a navigational channel project in the Bethany Loop Canal, which was also authorized by SB436 in 1975. Following the Loop Canal project, the dredge completed a channel project at Cape Windsor near Fenwick Island. There are no records to indicate whether or not a special appropriation was made to dredge Cape Windsor. The project file, however, contains information indicating there was a major letter writing campaign that began in 1977 urging the Division to dredge the area.

Following the completion of Cape Windsor, the Blue Hen began a pond restoration project at Silver Lake in Milford. This was the first project initiated under the purview of the Department's recently adopted "Pond Dredging Program" (June 1984). Unfortunately, the project was not completed due to the small size of the disposal facility (3.2 acres) and problems with the effluent from the site meeting water quality standards. Finally, in November 1985, the Pepper Creek channel project got underway, which was the fifth and final original creek recommended for dredging in the 1968 Commission Report.

A year earlier, in 1984, the New Castle Conservation District (District) entered into a cooperative agreement with St. Andrew's School in Middletown which resulted in the District starting its own dredging program. St. Andrew's officials assisted the District with the purchase of a 10-inch hydraulic dredge, identical to the State dredge Blue Hen. In May 1984, the District dredge, Trapnell, began the Noxontown Pond restoration project. The District dredge followed that work with two additional pond restoration projects, Carousel Pond in New Castle County and Derby Pond near Camden. The dredge also completed the Silver Lake (Milford) project, which had been started by the State a few years earlier. By 1987, these projects had all been completed.

Also occurring in 1984, the Honorable Pierre S. du Pont, IV, Governor of the State of Delaware, selected a group of individuals with diverse interests to serve on a task force, with the specific goal of developing recommendations for the resolution of numerous problems in the Inland Bays. One of the recommendations to emerge from this group, the Governor's Task Force on the Inland Bays, concerned the State Dredge Program. It was felt that projects were conducted without the benefit of a plan to adequately determine dredging priorities, costs and benefits.

In response to the Task Force's recommendation, the Department contracted BCM, Inc., a consulting firm from Plymouth Meeting, Pennsylvania, to devise a methodology to evaluate and implement future navigational channel dredging projects, taking into account both environmental and economic factors. After a year long effort, the consultants developed a waterway management plan for the Inland Bays, which addressed State dredging needs and priorities, dredged material disposal considerations and options, environmental effects and mitigation, and the public/State costs and benefits of navigational channel projects. The most important aspect of the plan, the "Inland Bays Dredging Study", was a map of the Inland Bays indicating all creeks, rivers and tributaries in the area relative to their suitability for dredging. The plan became Department policy in 1986. It then became routine for any proposed navigational channel project in the Inland Bays to be evaluated by the DNREC Technical Committee on Dredging using this procedure before attempting to acquire the mandatory permit approvals from the federal and State regulatory agencies involved in the permitting process. The Committee was comprised of personnel from the Divisions of Fish and Wildlife, Soil and Water Conservation and Water Resources.

In May 1986, the State's first dredge, Dixie, was retired after 16 years of service and replaced by a new 14-inch hydraulic, cutter-head dredge named the Diamond State.

This larger and more modern dredge was obtained at a price of approximately $720,000 for the primary purpose of replenishing and stabilizing public beaches along the Delaware Bay coastline. The dredge completed a beach fill project at Slaughter Beach before being moved back into the Broadkill River to complete that navigational channel project. This work was finished in March 1987. After completing two additional projects in the federal navigational channels in Massey's Ditch and the Murderkill River Entrance Channel, the Diamond State completed five more beach nourishment projects, two at Broadkill Beach, and one each at Bowers Beach, Kitts Hummock and Lewes Beach. The dredge finished out the decade by completing a second breach closure in the Mispillion River, navigational channel work in the Lewes-Rehoboth Canal and initiating another beach fill project at Feeder Beach (north side of Indian River Inlet).

By March 1988, the Blue Hen had completed the downstream portion of Pepper Creek and initiated work in the upstream portion of the waterway. The project was suspended at that time due primarily to the lack of sufficient fill capacity in the disposal facility that was being utilized. The dredge completed a small shoal removal project in the Roosevelt Inlet before starting a channel construction project in Roy Creek in December 1988. The dredge remained on this project into 1990.

In May 1988, the District dredge began a maintenance project at the Delaware City Mooring Basin. That was followed by a maintenance project at the Summit North Marina and then with a pond restoration project at Smalley's Pond in Bear, which started in June 1989.

Based on the number of projects completed and the amount of material dredged, the 1980's was an extremely productive time for the State Dredge Program. Even though it became more difficult to obtain permit approvals for projects, the Program was able to initiate and/or complete approximately 41 projects with the two State dredges. The District dredge completed six projects during this same time as well. These projects are presented in the charts that are attached to this document. In total, the three dredges were responsible for pumping approximately 1,898,310 cubic yards of material. A statistical breakdown of the amount of each type of dredging that was performed is presented below:

Channel Dredging: 579,670 cubic yards;
Beach Nourishment: 654,900 cubic yards;
Harbor/Marina Basin: 311,240 cubic yards;
Pond Restoration: 290,500 cubic yards;
Mispillion River Breach Closure: 62,000 cubic yards;
Total: 1,898,310 cubic yards.

There are no budget records available for the first part of the 1980's. However, records from Fiscal Year 1985 (FY1985) to FY1989 indicate that the Program's budget increased from $564,000 to $705,700 during that period (totals factor in Debt Service). This was primarily due to the addition of the New Castle County Dredge to the Division's General Fund budget. Beginning in FY1987, the Division received $150,000

annually which was then provided to the District to assist them with funding their dredge program. Also, the Division received a $500,000 Bond Bill appropriation in the FY1986 budget to purchase the new dredge. The addition of new staff is also reflected in the budget. In FY1985, the Dredge Program had grown to include 12 full time employees. By the end of the decade, the Program expanded to include 16 full time employees. At that time, the crew consisted of the Dredge Operations Manager (formerly known as Highway Maintenance Superintendent), one mechanic, five Dredge Operator II positions, two Dredge Operator I positions and seven Dredge Shoreman positions, four of which were contractually funded through the Kent Conservation District.

Records maintained by the Division of Fish and Wildlife indicate that boater registration in Delaware again increased from 32,956 in 1980 to 41,019 in 1989. As in the 1970's, the majority of registered boaters were in Sussex County.

1990 – 1999

The Diamond State implemented two major beach fill projects at Feeder Beach in 1990 and 1992. The project in 1990 involved the placement of approximately 180,000 cubic yards of sand on the north side of the Inlet while the 1992 project involved the placement of about 150,000 cubic yards. These were the last projects implemented to renourish the north side of the Inlet because the Sand Bypass Plant situated on the south side of the Inlet was fully operational by 1992. In between these projects, the dredge was involved in five navigational channel projects, two in Massey's Ditch and one each in the Lewes-Rehoboth Canal, the Murderkill River Entrance Channel and Indian River near Millsboro. The dredge was also involved in improving navigable access to the State's launching ramp at Augustine Beach and a beach fill project at Pickering Beach. In April 1992, the dredge returned to complete additional projects at the State owned Augustine Beach launching facility, Indian River near Millsboro and the Murderkill River Entrance Channel, and also completed work at the Mispillion River Breach before shutting down for major maintenance and repairs in November 1992.

During this same time period, the State dredge, Blue Hen, completed the Roy Creek navigational channel project, private projects at the Henlopen Acres Marina, Rehoboth Beach Sailing Association and Hunter's Point Condominiums in Millsboro, channel work in the Lewes-Rehoboth Canal, maintenance dredging of the U of D College of Marine Studies Harbor, and resumed the dredging project in Pepper Creek. The District dredge completed the pond restoration project in Smalley's Pond in March 1991, maintenance dredging of the Augustine Beach launching facility in May 1991 and the Delaware City Mooring Basin in June 1991, and initiated a pond restoration project in Moores Lake, south of Dover, in November 1991.

Before shutting down a second time in the 1990's for maintenance and repairs in October 1994, the Diamond State completed maintenance dredging projects at the Summit North Marina, Augustine Beach launching facility, the Mahon River and Roosevelt Inlet, and two beach fill projects at Broadkill Beach. The Blue Hen completed the Pepper Creek and Vines Creek navigational channel projects before shutting down for

maintenance and repairs in September 1995. The District dredge completed the Moores Lake project and maintenance work at Augustine Beach launching facility and Delaware City Mooring Basin before shutting down for repairs in January 1995.

From January 1995 until the end of the 1990's, the Diamond State initiated and/or completed four navigational channel projects, including a contractual project at Quillen's Point, the Mispillion River and the Murderkill River. The dredge also completed five beach replenishment projects, two at the Ted Harvey Wildlife Area and one each at Broadkill Beach, Kitts Hummock and Bowers Beach. As the decade ended, the dredge was once again performing beach fill work at Broadkill Beach. During this same time period, the Diamond State was shut down for maintenance and repairs on three occasions: October 1996-November 1997, May 1998- July 1998 and May 1999-September 1999. The last two shut downs were related directly to time-of-year restrictions associated with conditions contained in federal and State permit approvals for projects. Time-of-year restrictions will be explained in greater detail below.

Following maintenance and repair work on the Blue Hen, which began in September 1995, the vessel was placed back into operation in December 1996 at Quillen's Point, a contractual project. Before 2000, the dredge completed other contractual projects at Cedar Landing, Banks Harbor Marina and Rogers Haven, which are all located along White Creek, and also began maintenance work in the public channel in White Creek, completing the main channel portion and dredging in one of the prongs of the creek. The dredge was also shut down from April 1997 to June 1997 for maintenance and repair work, and from April 1998 to November 1998 and May 1999 to September 1999 for the same. The latter two shutdowns were again related to time-of-year restrictions contained in federal and State permit approvals for projects.

In June 1995, the District dredge, Trapnell, resumed operations. From that time until the end of the decade, the dredge completed a maintenance project in the federal navigational channel in Indian River near Millsboro, three maintenance projects at the Augustine Beach launching facility, two maintenance projects at the U of D College of Marine Studies Harbor, three maintenance projects at the Summit North Marina and contractual projects at the Rehoboth Bay Sailing Association and the Cove, which is a private marina facility located south of Indian River Inlet. The dredge also acted as a booster for the State dredge Blue Hen during the conduct of the White Creek project. The dredge was also down for repairs twice during that time, from January 1997 to March 1997 and from May 1999 to September 1999.

The beginning of the 1990's was again a very productive time for the State Dredge Program. Thirty-six of the estimated 60 projects the Program was involved with during the decade were either initiated or completed from 1990 through 1995. Approximately 1,151,350 cubic yards of material, or 75 percent of the estimated 1,541,340 cubic yards excavated during the 1990's, was dredged during this period. However, production began to decline toward the second half of the decade. Factors contributing to this decline in production relate directly to time-of year restrictions

contained in federal and State permit approvals for projects and also to the age and condition of the equipment used by Program personnel.

Federal fishery management plans emerged in the late 1980's and early 1990's. The documents were designed to protect depleting stocks of commercially important populations of fish and shellfish. They also contained recommendations for minimizing impacts to these species. The species garnering the most attention included winter and summer flounder and horseshoe crabs. Federal and State regulatory agencies involved in the permitting process began placing time-of-year restriction conditions in permit approvals for dredging projects to preclude impacts to these species based on the recommendations contained in the documents. As a result, the time-of-year restriction for projects in the State's Inland Bays became January 1 to August 31 in any given year to minimize impacts to winter and summer flounder spawning and juvenile development periods. The restriction for beach nourishment projects in the Delaware Bay became April 15 to August 31 in any given year to minimize impacts to horseshoe crab spawning and juvenile development periods. This had a profound affect on the Dredge Program's ability to implement and complete projects in a timely manner. Dredging projects in the State's Inland Bays now had only a four month window of opportunity under which they could be conducted. Beach nourishment projects along the bay coastline were now restricted to the fall and winter months, which was not conducive to good production or safe equipment operation. Only under special circumstances would the regulatory personnel ease or waive these conditions to allow dredging to continue during the restricted time periods.

As evidenced by the increasing amount of down time, the age of the State and District's equipment was also a factor in the drop off in production. The State dredges were out of service for over three and a half years during the 1990's while the District dredge was down for about a year and three months for non time-of-year restriction reasons.

Projects initiated and/or completed during the 1990's are presented in the charts that are attached to this document. A statistical breakdown of the amount of each type of dredging that was performed is presented below:

Channel Dredging: 500,250 cubic yards;
Beach Nourishment: 689,090 cubic yards;
Harbor/Marina Basin/Boat Ramp: 207,000 cubic yards;
Pond Restoration: 120,000 cubic yards;
Mispillion River Breach Closure: 25,000 cubic yards;
Total: 1,541,340 cubic yards.

The Dredge Program also saw a drop in personnel during this decade. In 1991, the Program had 16 full time employees. The crew consisted of one Dredge Operations Manager, two Mechanics (one was a contractual employee through the Kent Conservation District), five Dredge Operator II's (levermen), four Dredge Operator I's (mates) and four Dredge Shoremen. By 1994, the crew was down to 11 full time

positions. At that time, the crew consisted of one Dredge Operations Manager, five Dredge Operator II's (levermen), three Dredge Operator I's (mates) and two Dredge Shoremen. This drop in personnel can be attributed to three factors: (1) budgetary cuts through which vacant positions were lost; (2) the reclassification of positions within the Section; and (3) the merger of the Beach and Dredge Programs into the Shoreline and Waterway Management Section, which placed the mechanics under the direct supervision of a new Chief of Field Operations position. Beginning in September 1994, this position was in charge of the daily operations of the Beach and Dredge Programs and the Sand Bypass Facility at Indian River Inlet. The incumbent was a contractual employee through the Kent Conservation District. The Dredge Program continued to operate with 11 full time positions through the rest of the 1990's. By the end of the decade, the Program had reorganized in an attempt to improve its operational efficiency. The new format eliminated the Dredge Operations Manager position which was in charge of overseeing the operation of both State dredges. Since the dredges often worked in remote locations miles apart, Section management felt that having two Dredge Captain positions, one for each of the dredges, would provide for better supervision and oversight of Program projects and initiatives. As a result of this internal reorganization, the Dredge crew consisted of the following personnel at the end of the 1990's: two Dredge Captains, three Dredge Operator IV positions, three Dredge Operator I positions and three Dredge Shoreman positions.

Budget records for the early 1990's indicate the Dredge Program received an $811,800 appropriation in the General Fund Budget for Fiscal Year 1990 (FY1990). This also included $150,000 for the New Castle Conservation District dredge. The FY1990 Bond Bill included a $20,000 appropriation from State Representative Bruce Ennis for dredging at Woodland Beach. The money was later used to fund a study by a consulting firm to determine if dredging a channel from the old boat ramp located on the Woodland Beach shoreline out into Delaware Bay was a feasible endeavor. The study determined that the channel would need constant maintenance to stay open. Disposal of the dredged material was also a major concern. As a result, the project was deemed to be undesirable. In FY1991, the Dredge Program's General Fund budget was increased to $820,900, which also included $150,000 for the District dredge. The FY1991 Bond Bill included several appropriations under the section involving Resource, Conservation and Development Projects. They included $50,000 from Representative Charles West to complete the Pepper Creek dredging project, $15,000 from then Senator Ruth Ann Minner to complete dredging in Vine's Creek and $50,000 from former Senator Richard Cordrey and then Representative George Bunting to acquire the necessary permits and begin construction of the Assawoman Canal dredging project. The Bond Bill also included $75,000 for new plastic dredge pipe under Minor Capital Improvements. In FY1992, the General Fund appropriation to the Dredge Program increased to $827,900, which again included the District dredge program. The Bond Bill included $16,000 for constructing the disposal site for the Moores Lake dredging project. The FY1993 General Fund budget reflected the merger of the Beach and Dredge Programs into the Shoreline and Waterway Management Section. As such, there is no direct appropriation listed for the Dredge Program. However, in the Bond Bill under Resource, Conservation and Development Projects, there is a $100,000 appropriation for the Assawoman Canal

dredging project and $25,000 for dredging in Pepper Creek. There is also mention of Minor Capital Improvement money for additional plastic dredge pipeline. However, no exact amount is specified for such. The FY1994 budget indicates that funding for the District dredge was increased to $225,000. It remained that way for the remainder of the decade.

According to the Division's Deputy Principal Assistant, it would be very difficult to accurately estimate the Dredge Program's annual budget since the Beach and Dredge Programs merged to form the Shoreline and Waterway Management Section in FY1993. However, in an attempt to justify maintaining a State funded program as opposed to performing dredging work contractually, the former Section Administrator estimated the Dredge Program's budget to be $654,600 in FY1997 and $647,000 in FY1998. These estimates did not include the annual appropriation for the District dredge (i.e., $225,000) since it was now considered a line item in the Division's overall operating budget. A comparison was then made based on the number of projects and the amount of dredging that was accomplished by the Program during the FY1997-FY1998 time period to what private dredging costs would have been to conduct the same work. While the annual budget estimates were "admittedly rough", it was concluded that the costs of operating a State funded program was "a good bargain for Delaware" when compared to what a private contractor would have charged (State: $1,301,600; Private: $2,166,000-$2,689,000). The conclusions were further justified with the condition that the State was going to cease contracting for privately funded dredging work.

Records maintained by the Division of Fish and Wildlife indicate that boater registration in Delaware again increased from 40,146 in 1990 to 45,854 in 1999. As in the 1970's and 1980's, the majority of registered boaters were in Sussex County.

2000 – Present

The 2000's began on a rather ominous note for the Dredge Program. On March 21, 2000, the State dredge, Diamond State, sank offshore of Broadkill Beach while working on a beach nourishment project at that location. An unexpected coastal storm with high winds and heavy surf inundated the dredge. Fortunately, there were no serious injuries to crew members. The dredge was out of service until early 2001 for repairs and maintenance after this occurrence. The dredge then began a 27,000 cubic yard beach replenishment project at Pickering Beach in March. The dredge was idle from May through mid-August of this period due to time-of-year restrictions associated with horseshoe crab spawning and juvenile development periods. The project resumed and dredging was completed in November 2001. Between January and April 2002, the Diamond State worked in the federal navigation channels in Massey's Ditch and downstream Indian River to reduce shoaling problems in these heavily used waterways. Approximately 15,000 cubic yards of material was dredged as part of this work. In September 2002, the dredge was moved to Slaughter Beach to begin a 115,000 cubic yard beach fill project along the southern portion of the shoreline. Weather and equipment problems forced dredging to be suspended in January 2003. Only about 8,600 cubic yards of sand was placed on the beach before dredging was stopped.

In mid July 2003, the dredge initiated a beach nourishment project at Broadkill Beach. The U. S. Coast Guard was requested to conduct an inspection of the dredge to determine if it was in good working order. The Coast Guard determined the vessel to be inoperable for various mechanical reasons (e.g. hydraulic leak). The dredge was towed back to Lewes and docked. It was determined by Section personnel that repair costs surpassed the current value of the dredge. After 18 years of service, the Diamond State was retired and sold to Baltimore Dredges, LLC of Baltimore, Maryland, for $350,000 in March 2004 as part of a transaction for two new State dredges. One of the new dredges, the Broadkill, was delivered, assembled and launched in Lewes in the fall of 2005. It is a Dragon Series 670, 12-inch/14-inch hydraulic cutter-head model manufactured by the Ellicott Division of Baltimore Dredges. The dredge was christened by current Secretary of State Harriet Smith Windsor during commissioning ceremonies held at the Indian River Inlet Marina on November 4, 2005. The vessel's first project was at the University of Delaware, College of Marine Studies Harbor in Lewes. Work started in September 2006 and was completed in January 2007. The project involved the removal of approximately 24,000 cubic yards from the harbor facility. The Broadkill was moved to Indian River to begin a 20,000 cubic yard maintenance dredging project in the federal navigation channel near Millsboro in the fall of 2007. The project was completed in December 2008.

The State dredge Blue Hen continued with and completed the White Creek maintenance dredging project which was initiated in September 1997. Dredging on this project officially ended in January 2001. The dredge was then moved to the U of D, College of Marine Studies Harbor in Lewes to begin a 20,000 cubic yard maintenance dredging project. The work was completed in April 2001. The dredge next worked in Indian River near Millsboro from October 2001 through January 2002 to alleviate shoaling in the federal navigation channel. The project involved dredging 20,000 cubic yards of material from the waterway. The Blue Hen was then moved to Massey's Ditch and downstream Indian River to assist the Diamond State with the dredging work at that location. The Blue Hen also worked in Massey's Ditch from September 2002 to December 2002 dredging approximately 15,000 cubic yards of material from the waterway. In September 2003, the dredge was moved to the Indian River Inlet Marina (formerly known as Burton's Island Marina) to begin a 65,000 cubic yard maintenance project in the marina basin. Approximately 32,500 cubic yards of material was dredged from the basin when work was suspended in February 2004 due to time-of-year restrictions contained in federal and State permit approvals for the project. The dredge was then retired from service after 22 years due to estimated repair costs which exceeded the current value of the dredge. Section personnel are considering converting the dredge into a booster pump to be used for future dredging projects. In the fall of 2004, the Division leased a dredge from Baltimore Dredges, LLC to complete the Indian River Marina dredging project. That work was completed in February 2005. The second new State dredge, the Indian River, was also manufactured by the Ellicott Division of Baltimore Dredges. It is a 10-inch Mud Cat, Series-2000 auger type model. The dredge was delivered during the summer of 2005. The vessel was christened during the same commissioning ceremonies as the Broadkill dredge as referenced above. The Indian River was transported to the Assawoman Canal and began working on that project in

December 2006 before time of year restrictions halted operations. The Canal project resumed in September 2007 with the District dredge, the Siedel, as described below. The work involves dredging approximately 21,000 cubic yards of material from the southern portion of the Canal extending from the Route 26 bridge in Bethany Beach/Ocean View to the Little Assawoman Bay. The purchase of both the Indian River and the Broadkill were made possible by a $650,000 Bond Bill appropriation in the FY2005 budget. The total cost for both dredges was $579,000. This included $350,000 for the trade in of the Diamond State.

Note: The northern portion of the Assawoman Canal, from its confluence with White Creek to the Route 26 bridge, was dredged via mechanical method. The Sussex Conservation District is the Division's contractor for the project. The work involves using a hydraulic excavator working from the banks of the waterway to remove approximately 13,000 cubic yards of accumulated sediment from the Canal. Excavated material is then placed in dump trucks and hauled to an approved upland confined disposal facility. The District began dredging the north end of the Canal in October 2006 and continued with the project through December. They returned in November 2007 to complete the northern end and complete the placement of rip-rap along a 220 foot section of the western bank of the waterway at its confluence with the Bethany Loop Canal. The rip-rap is designed to stabilize a severely eroded portion of the Canal bank at that location. The District will return, as needed, in the future to dip out any areas that may have sloughed in since the end of 2007.

The District dredge, Trapnell, completed maintenance dredging work in the Summit North Marina in February 2000. The dredge also completed maintenance dredging at the Augustine Beach boat ramp in April 2000 (2,000 cubic yard project). After maintenance and repair of the dredge was completed, the Trapnell served as the booster pump for the State dredge Blue Hen during the White Creek project. The New Castle Conservation District dredge crew assisted State dredge crews with projects at Pickering Beach, Slaughter Beach, Massey's Ditch and downstream Indian River from March 2001 through December 2002. From June 2003 to March 2004, the dredge completed a maintenance project in the Delaware City Mooring Basin. Approximately 23,000 cubic yards of material was removed from the area as part of this project. The dredge also completed a maintenance project at the Augustine Beach boat ramp in April 2004 (2,000 cubic yards) and maintenance work at the University of Delaware, College of Marine Studies Harbor in Lewes in August 2004 (2,300 cubic yards). The Trapnell assisted State Dredge Program personnel with completing the Indian Inlet Marina project from September 2004 through February 2005. The dredge was then sold to Baltimore Dredges, LLC in February 2005 after 20 years of service. The District received delivery of a new Dragon Series 370, 10-inch hydraulic cutter-head dredge from the Ellicott Division of Baltimore Dredges in the early summer of 2005. The dredge, the Seidel, was placed into operation in July 2005 in the Delaware City Mooring Basin to undertake a 24,000 cubic yard maintenance project at that location. The work was completed in December 2005. The dredge completed a maintenance project at the Augustine Beach boat ramp in April 2006 (2,000 cubic yards) and worked on a pond restoration project at Garrisons Lake just north of Cheswold from June 2006 to August 2007. The Garrisons

Lake project was the first for either the State or District dredge programs involving the use of a belt filter press system, which dewatered material dredged from the lake on site without the need for an upland confined disposal facility. Material was then trucked off site for final disposal. Approximately 7,800 cubic yards of material was dredged from the lake using this method. The District dredge was then transported to the Assawoman Canal to assist the State with that project as explained above. The Seidel is currently working in the Canal. The project is expected to be completed in the winter of 2009-10.

Projects initiated/or completed during the 2000's are presented in the charts that are attached to this document. A statistical breakdown of the amount of each type of dredging that was performed is presented below:

Channel Dredging: 93,000 cubic yards*;
Beach Nourishment: 35,600 cubic yards;
Harbor/Marina Basin/Boat Ramp: 164,300 cubic yards;
Pond Restoration: 7,800 cubic yards
Total: 300,700 cubic yards.

* Includes the amount dredged by the Sussex Conservation District in the Assawoman Canal.

In 1999, the State Personnel Office began a maintenance review of certain job classes in State government, including those associated with the Dredge Program. As a result, all previous Dredge Program job titles were reclassified into a new Conservation Technician series beginning in the spring of 2000. At that time, the Dredge Program had 11 full time employees and consisted of the following: two Conservation Technician V positions; three Conservation Technician IV positions; two Conservation Technician III positions; one Conservation Technician position; and three Conservation Technician I positions. However, while the jobs titles changed, the overall duties and responsibilities associated with the positions did not. In practice, the Conservation Technician V positions were equivalent to Dredge Captains, the Conservation Technician IV positions were equivalent to Dredge Operator II positions, the Conservation Technician II and III positions were equivalent to Dredge Operator I positions and the Conservation Technician I position was equivalent to a Dredge Shoreman. At the present time (December 2008), the Program consists of eight full time positions, with five of the positions being filled and three being vacant. These include two Conservation Technician V positions, one Conservation Technician IV positions, one Conservation Technician III position, and one Conservation Technician II position. The downsizing has been the result of budget cuts, the hiring freeze that is currently in effect, and the promotion of one of the employees to a position with the Section's Bypass Facility at Indian River Inlet.

The Division received a federal grant in 1999 from the Center for the Inland Bays in the amount of $20,000 to revisit the 1986 "Inland Bays Dredging Study" and bring it up to modern day standards. The Department entered into a contractual agreement with Versar, Inc., an environmental consulting firm from Columbia, Maryland, to undertake

this initiative. The primary objective was to review and, where appropriate, update the Dredging Study to ensure that the most current aquatic habitat and living resource assessment methods will be used and that dredging projects reflect the best dredging technologies and methods to minimize adverse impacts. The revised Study will include criteria specifically designed for assessing the impacts associated with dredging private ancillary channels in creeks, rivers and tributaries in the Bays. It will also include an updated look at dredged material disposal alternatives (i.e., beneficial uses of dredged material) and design guidelines and provide suggestions on where they might be implemented in the Inland Bays. The new guidance document, "Methodology for Evaluation of Proposed Dredging Projects in Delaware's Inland Bays", was completed in October 2002. Additional funding to ensure its completion was provided by the General Assembly in the FY2001 budget in the amount of $25,000. Former State Representative Shirley Price assisted with this one time item.

As stated above, it would be very difficult to accurately estimate the Dredge Program's annual budget since the Beach (Dune Maintenance) and Dredge Programs merged to form the Shoreline and Waterway Management Section in FY1993. However, there are some important budgetary matters to mention during the current decade. Salaries for all nine positions associated with the Dredge Program totaled $399,010.92 in FY2005. The total for these positions in the FY2006 budget is $442,822. In the FY2003 budget, the New Castle Conservation District dredge appropriation was reduced from $225,000 to $162,500. It was restored to $225,000 in the FY2005 budget. In addition, the FY2004 Bond Bill contained a $90,000 appropriation for excavation and equipment rental for the Assawoman Canal dredging project. The FY2005 Bond Bill contained a $2;000,000 appropriation for beach nourishment projects at Broadkill Beach and Slaughter Beach. The Section contracted with Cottrell Contracting Corporation of Chesapeake, Virginia, to do the work. The Broadkill Beach project site was completed in October 2005. The Slaughter Beach project was completed in November 2005.

At the end of 2007, there were 55,564 registered boaters in the State of Delaware. While there are no official records kept on a county by county basis, Division of Fish and Wildlife personnel state that the majority of these boaters are in Sussex County.

MACROALGAE HARVESTING PROGRAM

1997 – Present

During the summer of 1996, a considerable amount of sea lettuce (*Ulva*) and other species of macro-algae was wind driven toward the northwest quadrant of Rehoboth Bay where it accumulated in near shore areas and on shorelines. As the algae died and decomposed, the resulting septic conditions depleted oxygen from the water causing an impact to the Bay's living resources and near shore habitat. In addition, the resulting hydrogen sulfide gasses created offensive odors and caused oxidation of paint on houses, boats and other properties in the surrounding areas. The odor from the decomposing algae was present in the affected area from July until October. Area legislators, along

with State, County and local town officials received numerous complaints and requests for assistance in dealing with the odor and anoxic condition of the bay waters.

As a result of this occurrence, the DNREC Division of Soil and Water Conservation initiated macro-algae harvesting activities in the State's Inland Bays in the summer of 1997 to determine the feasibility of harvesting as a method for removing accumulated macroalgae, primarily *Ulva* (sea lettuce), from near shore areas in response to nuisance level buildups. A New York company, Adirondack Harvesting Company, was contracted to do the work. Approximately 192 tons of sea lettuce and related macro-algae were removed from several areas in northern Rehoboth Bay over 15 operating days during June and July of that year. The areas where harvesting occurred included Old Landing (Arnell Creek), the Rehoboth Bay Community, the mouth of White Oak Creek and Dewey Beach. Approximately $100,000 was allocated from the Department's Penalty Fund to pay for this work.

While the equipment was successful in removing algae along shorelines and in near shore areas in these communities, concerns arose relative to the potential detrimental effects of harvesting, including loss of by-catch and destruction of habitat. Over the next nine months, discussions occurred between representatives from all of the divisions of the Department regarding the validity of harvesting as a management practice and ways to minimize impacts should harvesting continue. Department officials decided that harvesting was an acceptable practice. As a result, the two harvesters, a 6-foot wide and an 8-foot wide model, and a land conveyor that were leased for the pilot project were purchased through a $150,000 appropriation provided by the General Assembly in the FY1998 budget. It was decided that Dredge Program personnel would operate the harvesters for the following reasons: (1) the harvesters were similar in nature to the State's dredging equipment; (2) the dredge crews were familiar with working in tidal waters of the Inland Bays; and (3) the dredge crews were available during the spring and summer months because time-of-year restrictions contained in permit approvals for dredging projects precluded dredging from occurring during those months.

Because of the concerns associated with the potential detrimental effects of harvesting, the 1998 summer season began with the intent of actively harvesting *Ulva*, though with an extensive series of checks and balances. A reconnaissance team would regularly evaluate the shorelines of the Inland Bays to more precisely direct harvesting activities. Records would be maintained as in the previous season, but with greater attention paid to by-catch monitoring. During the year, studies would be carried out independently to evaluate the extent of dissolved oxygen problems associated with rotting macro-algae and to characterize key marine species populations. It was anticipated that those studies, when completed, would put the positive and negative effects of harvesting into context.

Early in the season, however, it was decided that harvesting would be undertaken to gather samples for by-catch evaluation rather than to assuage macroalgae buildups. Unfortunately, buildups were not occurring as they did at the same time the previous year. The lack of sampling opportunities hampered the development of adequate

evaluation procedures. By mid-season, sampling opportunities increased and the evaluation protocol was starting to evolve when two significant events occurred. The first was a massive outbreak of *Chaetomorpha* in Roman T Pond, a cove located near the north end of Massey's Ditch at Rehoboth Bay. Due to the shallow water depth in the Pond area (2-2.5 feet) and the extensive growth of *Chaetomorpha*, residents of the adjacent Pot Nets Dockside development could not navigate their vessels through the algae. To alleviate this problem, Department officials agreed that a boating path could be cut through the material to provide residents with access to the Ditch and Bay. The minimal area disturbed by the harvester compared to the benefits was considered an acceptable tradeoff. While harvesting was taking place in Roman T Pond, a second event occurred along the north side of Indian River in the vicinity of Steele's Cove and White House Cove; an extensive clam kill was discovered and was attributed to a massive accumulation of *Ulva*. Preliminary by-catch sampling showed a near absence of marine species in the decomposing algae. Department officials agreed that harvesting would be appropriate; the *Ulva* had ceased to be valuable habitat and was causing mortalities in benthic species.

Due to equipment breakdowns and time restraints, the problems at Roman T Pond and Steele's Cove/White House Cove on Indian River were never fully addressed through harvesting activities. Only a partial path for boating had been cleared in the Pond area when the harvesters were moved to Indian River in an attempt to reduce the impacts of *Ulva* accumulation on clam populations at the specified location. As with Roman T Pond, only a portion of the clam kill area was harvested before mechanical difficulties forced the operation to be suspended for the remainder of the season. According to records, the harvesters worked a total of six days and harvested approximately 20 tons of macroalgae during the summer of 1998, exclusive of that harvested for by-catch evaluation.

While more extensive by-catch sampling and evaluation was involved with macro-algae harvesting efforts in 1999, mechanical difficulties again plagued operations. As a result, only one harvester, the 6-foot model, worked a total of 10 days during June and July. In June, the harvester removed six loads of *Chaetomorpha* from the lagoons of South Bethany in response to constituent complaints. The algae was severely restricting navigation in the lagoons. The harvester was then moved to the Rehoboth Bay Community where it removed five loads of *Ulva, Agardhiella* and *Gracilaria* from along the shoreline of the development over a one week period. The final area harvested during the 1999 season was Roman T Pond. Approximately 16 loads of *Chaetomorpha* were harvested from the Pond area to cut a boating path to Massey's Ditch and Rehoboth Bay for the residents of the Pot Nets Dockside development. Approximately 75 tons of algae were harvested during this season.

The 2000 season may be described as being the most active since the macro-algae harvesting program was initiated in 1997. Not only was there an overabundance of algae in the Inland Bays during the summer, several major fish kills occurred as well. The Division started receiving complaints of nuisance buildups as early as the beginning of April (Bay City Mobile Park located in the southwest portion of Rehoboth Bay). In

addition to areas investigated and/or harvested in previous years, new areas of concern were identified, including Bald Eagle Creek/Torquay Canal, the lagoons of Fenwick Island and Holt's Landing State Park.

Extensive reconnaissance was performed from the beginning of April through mid-May. Areas monitored on a weekly basis included the following locations:

- Pot Nets Dockside (Roman T Pond)
- Pot Nets Seaside (Steele's Cove area and shoreline)
- Old Landing/Rehoboth Bay Community
- Bald Eagle Creek/Torquay Canal
- Rusty Rudder/Ruddertowne
- Rehoboth Bay Marina/South Dewey Beach shoreline on Rehoboth Bay
- Lagoons of South Bethany
- Lagoons of Fenwick Island

On May 17th, representatives from the Divisions of Fish and Wildlife, Soil and Water Conservation and Water Resources met to discuss and establish protocol and operating procedures for harvesting activities for the 2000 season. They included the following:

1. The findings of Dr. Targett's 1999 Study should be incorporated into the Division's procedures for harvesting. Specifically, attached algae or algae that is in place is considered important habitat for juvenile crabs and fish as compared to detached, wind rowed or wind concentrated algae. There is very little by-catch in wind rowed algae. If the algae is detached, then it is okay to harvest per the Division of Fish and Wildlife. Also, reconnaissance and surveillance are very important.

2. Harvest attached macro-algae such as *Chaetomorpha* in selected areas for navigational improvement (e.g. Roman T Pond). Per Fish and Wildlife, *Chaetomorpha* does not support a great deal of by-catch.

3. Do not harvest live attached macro-algae, particularly red algae (e.g. *Agardhiella*, *Gracilaria*). Red algae supports good habitat.

4. Inform the Division of Fish and Wildlife immediately when wind concentrated algae appears that it could cause a clam kill. Fish and Wildlife personnel will assist in locating potential or known problem areas. Harvesting activities at other locations will be suspended and the harvester will be mobilized to address possible clam kill situations as soon as possible.

5. In lieu of routine by-catch monitoring, notify the Division of Fish and Wildlife when and where harvesting will take place so that they may have the opportunity to send one of their staff to the project site to monitor and perform spot check analysis.

6. The Division of Soil and Water Conservation is the initial contact within the Department for macro-algae harvesting. Whenever a constituent contacts the Department, they will be referred to the Division for assistance. No harvesting will be permitted until the Division has had a chance to perform a reconnaissance of the area. Staff from the Division of Fish and Wildlife will assist if necessary.

7. The Division of Water Resources will no longer issue letters of authorization for harvesting algae. All requests for harvesting must be referred to the Division of Soil and Water Conservation for investigation and possible action.

8. Harvesting in dead-end lagoons is permissible per the Division of Fish and Wildlife.

During the 2000 summer season, the harvester operated a total of 34 days and harvested over 120 tons of macro-algae from areas in the Inland Bays. The harvester worked for 24 days at the Rehoboth Bay Community, nine days at Roman T Pond and one day at Holt's Landing State Park. In addition, decomposing algae was removed from the Rehoboth Bay shoreline at the southern end of Dewey Beach using land-based equipment. Algae removed from the Rehoboth Bay Community, Dewey Beach and Holt's Landing State Park was composted at Doxsee. Material removed from Roman T Pond was composted at the Tunnell Company's maintenance yard located on Long Neck Road. Visual observations made by staff and recorded during operations indicate that by-catch density ranged from minimal to moderate in the harvested material. An effort was made during harvesting to minimize mortalities by returning as much by-catch as possible to the water column. While mechanical problems continued to plague the operation, macroalgae harvesting activities for this year far surpassed that which occurred in the previous three years.

Records indicate the 6-foot wide harvester operated a total of 39 days during the 2001 season and harvested and removed approximately 110 tons of algae from Inland Bays' waters. The equipment began operating on June 21st and completed harvesting activities on August 31st. The harvester spent 19 days at Roman T Pond, five days at the Rehoboth Bay Community, five days at Old Landing (mouth of Arnell Creek) and 10 days at Mulberry Knoll on Love Creek. While the harvester was in operation for 39 days, mechanical problems caused a significant amount of downtime during the season.

In the FY2002 Bond Bill, Representative Richard Oberle provided an appropriation in the amount of $180,000 for the Division/Section to purchase a new aquatic weed harvester. In securing bids for a new harvester, Section personnel received lower than expected prices for the equipment. As a result, the Section was able to purchase two harvesters, one with a seven foot wide harvesting head and the other with a nine foot wide harvesting head, and some ancillary equipment and materials with the appropriation. The manufacturer of the harvesters was Aquamarine of Waukesha, Wisconsin.

Harvesting was initiated on April 29th in the lagoons of South Bethany during the 2002 harvesting season. The old 6-foot wide harvester operated a total of seven days

before breaking down in mid-May. With one of the new harvesters, the 7-foot wide model named the Gannet, scheduled for delivery in the next couple of weeks, the decision was made not to repair the old harvester. It was removed from the water and transported back to the field operations base in Lewes. The new 7-foot wide harvester (cost $67,000) was delivered to South Bethany as scheduled and harvesting was completed at that location by the end of May. The harvester was then moved to Roman T Pond and began harvesting in the community's navigational channels the first of June. The second new harvester, the 9-foot wide model (cost $86,000), was delivered to this site and put into operation a week later. It was named the Albatross. The harvesters spent a total of 11 days at Roman T Pond during the 2002 season. Other sites harvested during the season included Mulberry Knoll on Love Creek (eight days), Holt's Landing State Park (two days) and Oak Orchard (three days). The harvesters also assisted with removing accumulated algae from two State owned ponds, Trap Pond (two days) and Chipman's Pond (two days). In addition, harvesting operations were conducted at South Dewey for one day using a front end loader and dump truck. In all, the harvesters worked a total of 37 days and harvested over 165 tons of algae during the 2002 harvesting season.

In 2003, harvesting was conducted at Bay City located in the southwest corner of Rehoboth Bay in late May (two days), White Creek in June (five days), Roman T Pond in June (seven days) and Massey's Landing in July (three days). Based on available records, the harvesters worked a total of 17 days and harvested approximately 70 tons of algae during the 2003 harvesting season. Harvesting operations were suspended for the rest of the summer following the EPA raid on the Lewes Field Facility on July 22nd.

The harvesters operated a total of 26 days and removed approximately 100 tons of algae from the waters of the Inland Bays during the spring and summer of 2004. The following locations were harvested during that time: Roman T Pond (10.5 days); Massey's Landing (0.5 day); the Dewey Beach shoreline at the end of Read Street and adjacent to the Rusty Rudder (four days); the mouth of Arnell Creek (two days); Mulberry Knoll on Love Creek (one day); and the Rehoboth Bay Community (eight days).

The 2005 macroalgae harvesting season was the most productive as well as the longest since the program began in 1997. Harvesting was initiated in April at Bay City and concluded in November at Joy Beach. The harvesters worked a total of 54 days during the spring, summer and fall and harvested approximately 285 tons of algae from the following locations: Mulberry Knoll on Love Creek (14 days); Roman T Pond (seven days); Rehoboth Bay Community (two days); Dewey Beach (seven days); Love Creek (six days); White House Beach (two days); and the aforementioned Bay City (seven days) and Joy Beach (three days). The harvesters were also involved in two emergency fish kill clean-ups at Holts Landing State Park in July (three days) and Pot Nets, Bayside on Indian River in October (three days).

In 2006, harvesting operations began in late May and extended to the middle of July. The harvesters operated a total of 33 days and harvested approximately 550 tons of algae from Roman T Pond (16 days), Mulberry Knoll (11 days), Joy Beach (three days),

Love Creek (two days) and the Rehoboth Bay Community (one day). In 2007, the harvesters operated a total of 39 days between May 1st and August 10th. Approximately 570 tons of algae was harvested at Joy Beach (eight days), Arnell Creek/Old Landing (two days), Mulberry Knoll (12 days), South Bethany (two days), Massey's Landing (four days) and White House Beach (11 days). In 2008, harvesting operations began on June 9th and continued until August 1st. The season began at a location that had never been harvested before, Keenwick on the Bay, a lagoon community on Roy Creek. The only other area that received attention in 2008 was White House Beach on Indian River. Approximately 255 tons of macroalgae were removed from waterways at these two locations. Harvesting activities were suspended at the beginning of August in preparation for resuming the Assawoman Canal dredging project.

CHANNEL MARKING PROGRAM

1996 – Present

The Shoreline and Waterway Management Section began placing navigational channel markers (aids to navigation) in the State's Inland Bays in 1996. As part of its initial State permit approval to dredge the Assawoman Canal, the Section agreed to mark a channel in the Little Assawoman Bay that year. The effort was designed to locate a channel in the Bay to ensure safe navigation for the boating public. A secondary purpose was to centralize boating traffic in the water body to the extent possible and keep boaters away from environmentally sensitive areas (e.g. shallow water habitats, wetlands). The channel was established using 1-inch diameter steel poles with floating buoys attached. Section staff (i.e., Dredge Program personnel) continued to maintain these markers until 2001 as explained below.

In 2001, the Section expanded its channel marking capabilities by obtaining a barge from the U. S. Coast Guard for the specific purpose of placing aids to navigation in the Inland Bays. Section personnel (i.e., Dredge Program personnel) worked with the Coast Guard during May of that year to adequately mark Massey's Ditch and portions of downstream Indian River for the boating season. They also assisted with marking the jetty at the south end of the Lewes and Rehoboth Canal at its confluence with Rehoboth Bay.

In June 2001, the Division entered into a cooperative agreement with the U. S. Coast Guard to establish aids to navigation in the State's Inland Bays in waterways that the Coast Guard does not mark. The Division also obtained a Statewide Activity Approval from the Department's Wetlands and Subaqueous Lands Section to place channel markers in the Inland Bays without having to acquire an individual permit for each initiative. Under the purview of these approvals, Section personnel established aids to navigation in the downstream and upstream portions of Herring Creek and the upstream portion of Indian River (from Conectiv Power Plant to Cupola Park in Millsboro) during the summer of 2001. Channels were marked with either 4-inch or

8-inch diameter PVC pipe with Coast Guard approved daybeacons. They also made improvements to the markers previously placed in Little Assawoman Bay by replacing the 1-inch steel poles with floating buoys with 4-inch diameter PVC pipe with Coast Guard approved daybeacons.

Section staff once again assisted the Coast Guard with marking Massey's Ditch and portions of downstream Indian River for the 2002 boating season. They also repaired/replaced any damaged or missing markers in Herring Creek, Indian River and Little Assawoman Bay, and established markers in the upstream portion of White Creek. In addition, they took over responsibility for maintaining previously established markers in Roy Creek from residents residing in communities located along that waterway (Keenwik, Keenwik West Keenwik Sound).

Any channel markers previously established in the aforementioned creeks and water bodies were repaired and/or replaced as needed for the 2003, 2004, 2005, 2006 and 2007 boating seasons. In addition, channel markers were established in Love Creek during the summer of 2004 and in upstream Pepper Creek in the spring of 2006. Thirteen additional channel markers were established in the southeastern portion of Indian River Bay in July 2007 for the residents who reside in communities located along the area known as Beach Cove. The creeks/bays and the number of markers the Section is responsible for maintaining in each as of July 2007 is presented below.

Love Creek – 20 daybeacons.
Massey's Ditch/downstream Indian River – None at present. Will re-establish as needed and in cooperation with the U. S. Coast Guard.
Herring Creek – 21 daybeacons.
Indian River – (Conectiv Power Plant to Cupola Park in Millsboro) – 36 daybeacons.
Pepper Creek – 6 daybeacons.
White Creek – 8 daybeacons.
Beach Cove/Indian River Bay – 13 daybeacons
Little Assawoman Bay - 30 daybeacons.
Roy Creek – 20 daybeacons.

Total: 154 daybeacons.

As cited above, Dredge Section personnel have been involved with the Section's channel marking activities since they were initiated in 1996. This is due primarily to the fact that little if any dredging occurs during the spring and summer months in the Inland Bays anymore because of time-of-year restrictions contained in federal and State permit approvals for projects. In addition, Dredge personnel are familiar with and can operate the equipment needed to place the channel markers.

ABANDON VESSEL/DERELICT STRUCTURE REMOVAL PROGRAM

During the 144th General Assembly (July 1, 2006 – June 30, 2007), the State Legislature passed Senate Bill #70, which was an act to amend Title 23 of the Delaware Code relating to adrift or abandoned vessels and certain property relating to vessels. The Act provides a mechanism by which an abandoned vessel or property relating to a vessel may be legally removed from public waters or subaqueous lands by the Department of Natural Resources and Environmental Control. This new initiative was placed under the guidance of the Department's Division of Soil and Water Conservation and, specifically, the Shoreline and Waterway Management Section, Waterway Management Branch. There was no fiscal note attached to the bill and no other funds were appropriated to undertake this work. At the direction of Cabinet Secretary John A. Hughes, the Department hired a local marine contractor to assist Shoreline Section personnel in removing two abandoned vessels located along the banks of the Lewes-Rehoboth Canal in Rehoboth. The work was undertaken and completed the week of July 9th, 2007, at a cost of $7,000 for removing the vessels. Additional costs for disposing of the vessels totaled approximately $2,000.

The Shoreline and Waterway Management Section received a $45,000 appropriation from the Department's FY2007 MCI Fund and $115,000 from the FY2008 MCI Fund (total of $160,000) to purchase a work barge and small hydraulic excavator, along with ancillary equipment (e.g. outboards), for its field operations programs. The work barge and excavator will be used primarily for removing abandoned vessels, derelict structures (e.g. docks, piling), trees and other debris that threaten safe navigation in waterways throughout the State. The barge and excavator will also be used to support channel marking operations in the Inland Bays and to obtain core samples from potential borrow sources for the development and implementation of beach nourishment projects along the Delaware Bay coastline. Other potential uses for the excavator include constructing/repairing dredged material confined disposal facilities, installing spillway structures in dredged material confined disposal facilities and loading dump trucks with material for constructing and repairing dune pedestrian and vehicular crossovers. The excavator was purchased in January 2008 for $100,000. The purchase of the work barge was completed in June 2008 in the amount of $84,269.68 (total of $184,269.68 for both pieces of equipment). The funding to cover the balance of $24,269.68 along with $15,497 for the purchase of two outboards to power the work barge came from Beach Bond Bill money. This was justified since the barge and excavator will also be used for work to support beach nourishment activities along the Delaware Bay shoreline as explained above. There was no additional funding provided for maintenance and repair of the new equipment when needed. This will come from the annual General Fund operating budget of the Dredge Operations and Dune Maintenance Programs.

FUTURE DIRECTION

HISTORICAL RECAP

It is apparent from a review of the history of the State's Dredge Program that the intentions of the Delaware Soil and Water Conservation Commission could not be fully realized. For example, the belief that "marshlands" (i.e., wetlands) would have limited value for wildlife and fisheries interests and could be used for disposing of material dredged from channels was short lived. As early as 1971, only one year into the program, it was determined that wetlands are valuable ecological resources that should be preserved. As a result, disposal sites for both the Love Creek (1970-71) and White Creek (1971-72) dredging projects had to be relocated from wetlands to forested uplands due to environmental concerns. This also occurred during the Guinea Creek (1977) and Herring Creek (1978) projects as well. Further, the belief that upland areas, which were initially used or proposed for use as dredged material disposal facilities, would be available at the onset of the program and for the foreseeable future also proved to be unrealistic. Of the four sites used for Love Creek, only one may still be available provided a wetlands delineation on this State owned property indicates there is enough upland area available to construct a disposal site. The majority of the disposal areas available in the 1970s and 1980s have been re-graded and developed or are scheduled for future development. Presently, there are only five known disposal facilities available for use for State dredging projects. Three of these facilities are on land owned by the State and two are on private lands that the Division leases from the respective property owners. There may be two or three more facilities that still exist. Site visits will be needed to determine if they are available. However, it is apparent that new disposal options, such as using geo-textile tubes or beneficially reusing dredged material to create shorebird nesting islands or restoring eroded wetlands, will have to be explored and utilized if the State is going to continue maintaining navigational channels in the Inland Bays. Section management has evolved into proactively seeking the opportunity to enhance both wetlands and islands. The utilization of regional sediment management principles will enhance our coastal resiliency and protect our ecosystem values.

Another point that the Soil and Water Conservation Commission miscalculated is the costs associated with operating a State funded program. In their initial assessment, the Commission felt the State could operate its own program at less than half of what it would cost to pay a private contractor to do a project (i.e., the State could carry out a project for approximately $0.44 per cubic yard while a private contractor would charge $1.00). After the very first project, Love Creek, it became obvious there were other costs to consider in operating a dredge program (e.g. engineering costs, increase in the cost of fuel, increase in employee salaries). Project costs calculated after the completion of the Love Creek project revealed it was actually $0.70 per yard as opposed to the estimated $0.44 for the State to dredge than the initial estimates. While still cheaper than a private contractor, the cost savings were not as significant as they expected.

Senate Resolution No. 53 pertaining to the implementation of a dredging program was adopted by the General Assembly on June 9, 1969. It directed the Commission to

dredge the five creeks cited in their 1968 report in the following order: Love Creek, White Creek, Herring Creek, Guinea Creek and Pepper Creek. The Resolution further specified that these five creeks should be completed before other projects were undertaken. Love Creek and White Creek were the first projects completed by the State Dredge Program (July 1970 – August 1972). However, after White Creek was completed, there were no additional legislative appropriations made available to dredge the remaining three creeks. As a result, the efforts of the Dredge Program were diverted to beach nourishment projects, where beach funds (CIP) could be used to pay expenses, and other small public and private jobs where money was made available or paid to the Division for services rendered. When additional funding was finally made available, work on the other three creeks began anew. Guinea Creek was completed in 1977. The dredging of Herring Creek began in 1978 and continued on a sporadic basis (i.e., between other projects) until 1983. The project was never completed as designed due to the lack of adequate upland disposal facilities. Due to numerous environmental concerns, Pepper Creek was not started until November of 1985. It was finally completed in August of 1995 after the completion of several other projects. This is another example of how the original intentions of the State Dredge Program were never fully realized.

PRODUCTIVITY

There has been a significant decline in the productivity of the State Dredge Program since the mid-1990s. During the 1970s, project records indicate the State dredged approximately 852,866 cubic yards of material in carrying out the various projects of that decade (navigational channel, beach nourishment, harbor/marina basin clean-out, pond restoration). The amount dredged increased to about 1,898,310 cubic yards during the 1980s in undertaking similar projects. Approximately 75 percent of the number of cubic yards dredged during the 1990s occurred from 1990-1995 (1,151,350 out of 1,541,340 cubic yards). The remaining amount, 389,990 cubic yards was dredged from 1996 to 2000. Since the beginning of 2000 to the present, the program has been responsible for dredging approximately 300,700 cubic yards of material, with over half of this amount being done in harbor, marina basin and boat launching facilities projects. These diminishing numbers can be attributed to the following factors:

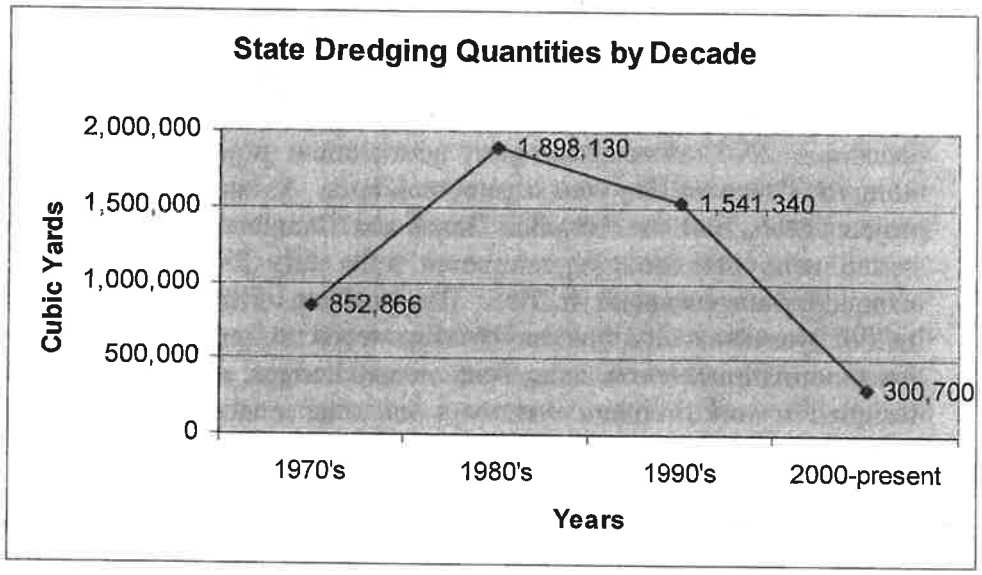
- Time-of-year restrictions contained in federal and State permit approvals for dredging projects began to emerge in the mid-1990s. In the Inland Bays, they limit dredging from September 1st to December 31st in any given year to preclude impacts to fish species under various federal management plans (e.g. summer and winter flounder). This has severely limited the ability of the program to begin and complete inland waterway navigational channel dredging projects in a timely manner. For example, the Dredge Program has removed only 93,000 cubic yards of material from inland waterway channels since the beginning of 2000. This includes the 13,000 cubic yards the Sussex Conservation District mechanically removed from the Assawoman Canal in 2006-07. Along the Delaware Bay coastline, time-of-year restrictions limit dredging from September 1st to April 15th in any given year to prevent impacts to horseshoe crab spawning and juvenile development periods. Due to the

harsh weather and bay conditions that normally occur in the Delaware Bay during the fall and winter months, it became virtually impossible to make any substantial progress on beach replenishment projects along the bay coastline. As a result, the Shoreline and Waterway Management Section made a decision in 2003 to undertake future nourishment projects at public beaches along the Delaware Bay on a contractual basis. As shown on the attached project sheets, both the Broadkill Beach and Slaughter Beach projects were started using State dredging equipment in the early 2000s, but completed using a private contractor in 2005. The purchase of the two new State dredges in 2005 was also a sign that the Division would no longer be performing beach nourishment work using State owned dredges, as both dredges are designed to work in inland waterways and other relatively sheltered areas (e.g. harbors, ponds).

- As evidenced by the increasing amount of down time, the age of the State and District's dredging equipment was also a factor in the drop off in production. The State dredges were out of service for over three and a half years during the 1990's while the District dredge was down for about a year and three months for non time-of-year restriction reasons (i.e., major maintenance and repairs). New dredges were purchased by both the State and District in 2005 to address this situation.

- Personnel related issues have contributed to the decline in productivity as well. In 1991, the Dredge Program had 16 full time employees assigned to the section. This provided for projects to be carried out using two and sometimes three shifts on any given project so the work could be completed as quickly as possible. As of the beginning of 2008, there are only eight full time positions assigned to the State program to operate two dredges. Two of these are currently vacant. The two full time employees working for the New Castle Conservation District dredge program assist the Division's employees when they are available. With two State owned dredges and the District dredge to operate, this reduction in staff has made it virtually impossible to run more than one shift a day on any project.

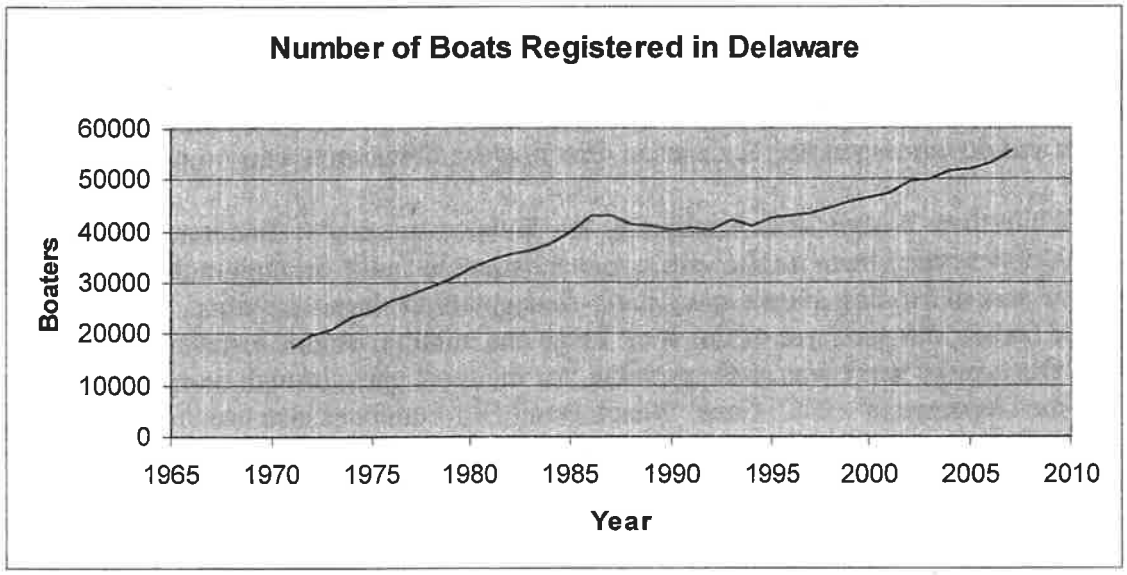
- From the beginning of the Dredge Program in 1970 to the early 2000s, the project site was considered to be the location for the start and end of a dredge shift. For example, if a dredge shift started at 6:00 a.m., then crew members were expected to be at the project site at that time. Dredging would continue throughout the day until the end of the shift at either 2:00 p.m. or 4:00 p.m., depending on whether the shift was eight or 10 hours long. In 2002, the DNREC, Human Resources Office made the determination that dredge crews would no longer report directly to a job site to start the work day. Instead, employees would report to the field office in Lewes, pick up a State vehicle and travel to the job site. This change effectively reduced the amount of time a crew would actually be dredging by 2.0-2.5 hours each day on average.



DEMAND FOR DREDGING SERVICES

The U. S. Army Corps of Engineers, Philadelphia District is responsible for maintaining several federally authorized navigational channels in Delaware. The "federally authorized" designation means it is the Corps' responsibility to maintain the channels using federal funding. Over the years, the State Dredge Program has "stepped in" and dredged many of these waterways when federal funding was not available. These waterways include the Little River (1981-82), the Murderkill River Entrance Channel (1987, 1991, 1992, 1996), the Mispillion River and Entrance Channel (1983-84, 1985, 1995), Cedar Creek (1979-80), the Lewes-Rehoboth Canal (1989, 1991), Massey's Ditch (1987, 1990, 1991, 2002), Indian River, Millsboro (1983, 1991, 1992, 1995-96, 2001-02, 2007-08), and Pepper Creek (1985-87, 1987-88, 1992-93, 1993-94, 1994-95). Since the mid-1990s, the Corps has been able to secure funding to perform needed dredging work in the Murderkill River Entrance Channel, the Mispillion River Entrance Channel, Cedar Creek and the Lewes-Rehoboth Canal, from the Roosevelt Inlet to Savannah Road in Lewes. This is primarily due to the commercial fishing industry established at or near those waterways. The only recreational type project the Corps has undertaken in the channels listed was in Indian River, between the Inlet and Millsboro. That project occurred in 1979-80. As shown by the frequency of dredging, the State has more or less assumed the responsibility for maintaining navigable depths in Massey's Ditch and Indian River. This responsibility has extended to include both Pepper Creek and the Lewes-Rehoboth Canal, from Rehoboth to the Rehoboth Bay. Based on this recent trend, the Corps has demonstrated it will continue to dredge federally authorized channels that support commercial activities (e.g. fishing) when federal funding is available. However, they will not dredge federal channels specifically for recreational boating purposes. The Waterway Management Branch/State Dredge Program will be expected to continue performing this work for the foreseeable future.

There has been a significant increase in boating in Delaware since the early 1970s as demonstrated by boating registration records maintained by the Department's Division of Fish and Wildlife. At the end of 1971, there were 17,510 vessels registered in the State. That number had risen to 55,564 by the end of 2007. While there is no statistical break down of how many boats are registered in each of the State's three counties, staff from the Division of Fish and Wildlife have confirmed the majority of the vessels are located in Sussex County. This indicates that there is a need to maintain navigable channels to support recreational boating activities in downstate Delaware.



WORK DIVERSITY

Increasing eutrophication in the State's Inland Bays has led to an extensive growth of both red and green seaweed (i.e., macro-algae). This has caused a number of problems, most notably, the seasonal accumulation of windrows of dead and dying macro-algae in shallow waters of the Bays with attendant complaints concerning obnoxious odors and nuisance build-ups of deteriorating algae along the shorelines. In response to these complaints and to requests from members of the General Assembly, the Division implemented a program in 1997 to harvest noxious accumulations near waterfront communities. In the initial year, approximately $30,000 - $35,000 of General Fund money was used to contract a private firm to harvest the algae and by staff to perform monitoring and sampling of harvested material. In FY1998, used harvesting equipment was purchased through a Bond Bill appropriation in the amount of $150,000. This money was also used for monitoring and sampling. The Division received a $180,000 Bond Bill appropriation in the FY2002 budget and purchased two new harvesters. At present, there is no annual appropriation specifically earmarked for harvesting activities. In addition, there is no corresponding legislation directing the Division to carry out harvesting operations.

The Division entered into a cooperative agreement with the U. S. Coast Guard in 2001 to establish aids to navigation in the State's Inland Bays in waterways that the Coast Guard does not mark. Channel marking efforts are designed to adequately locate channels to ensure safe navigation for the boating public. A secondary purpose is to keep boating traffic centralized in any given waterway to the extent possible and away from adjacent ecologically sensitive areas (e.g. shallow water habitats, wetlands). Division personnel previously assisted the U. S. Coast Guard with placing aids to navigation in the downstream portion of Indian River, Massey's Ditch and at the south end of the Lewes-Rehoboth Canal. They have also established markers in the Little Assawoman Bay, Roy Creek, Herring Creek, Love Creek, the upstream portions of Indian River, Pepper Creek and White Creek, and Beach Cove in Indian River Bay. They are now responsible for maintaining a total of 154 daybeacons in these waters. As with macro-algae harvesting operations, there is no annual appropriation specifically designated for channel marking activities and no corresponding legislation directing the Division to carry out this work.

While there is legislation mandating the Division to remove abandoned vessels and derelict structures from public waters and subaqueous lands throughout the State, there is no annual funding source specifically designated for these activities. As explained earlier, the purchase of the work barge and small hydraulic excavator to perform this type of work was made possible, for the most part, through money provided through the Department's MCI Fund. Beach Bond Bill Fund was also used to cover funding deficiencies, since the equipment will be used for core sampling to locate suitable borrow source material for beach nourishment projects along the Delaware Bay coastline. This should certainly be viewed as an asset to the Shoreline and Waterway Management Section and, in particular, the Waterway Management Branch. However, the costs for operating the excavator and barge, including maintenance and repair work, must come from the annual General Fund appropriation for the Dredging Operations and Dune Maintenance Programs. As emphasized in this document, this appropriation is used for supplies and contractual services for State dredging operations, macro-algae harvesting, channel marking and dune maintenance activities. In the FY2009 Budget, the Section received a total of $224,200 to operate these programs. Thirty thousand dollars of this appropriation was provided to operate the new field facility in Lewes, leaving $194,200 for supplies and contractual services for the remainder of the fiscal year. This does not include employee salaries.

FUNDING

From 1970 to the present, there has never been any dedicated annual funding to perform adequate waterway management operations in Delaware. The Shoreline and Waterway Management Section receives annual General Fund appropriations for supplies and materials and contractual services. This money is shared between the Section's Beach and Dredge Program field crews. In the FY2008 budget, the Section received a total of $194,200 for contractual services and supplies. This was increased by $30,000 to $224,200 in the FY2009 budget. The additional money was provided to operate and maintain the Section's new field facility in Lewes. The only other funding source available for waterway management initiatives has been through Bond Bill appropriations

earmarked for specific projects or purchases. This first occurred in August 1968 when the General Assembly provided $400,000 to start the State Dredge Program. The money was used to purchase a dredge and ancillary equipment and begin the process of dredging the five creeks identified by the Soil and Water Commission (Love Creek, White Creek, Herring Creek, Guinea Creek and Pepper Creek). Additional Bond Bill appropriations have followed in subsequent years for purchasing new equipment (e.g. new harvesters in 2002) and for specific projects (e.g. Assawoman Canal). However, this does not occur on an annual basis. It occurs more along the lines of an "as needed" basis.

As stated earlier herein, the State no longer does bay beach nourishment projects using State owned equipment. This has virtually eliminated the use of Beach Bond Bill money as a source of funding for Waterway Management Branch activities. Over the years, the Beach Program field crew has had the advantage of being able to use money from the aforementioned Bond Bill account to purchase supplies and other services (e.g. contract work) as needed. The Dredge Program can no longer use this money unless it involves assisting the Beach Program with one of its projects or activities (e.g. purchasing a hand tool such as a hammer to assist with erecting sand fence). In addition, Dredge Program crews handle macro-algae harvesting, navigational channel marking, and now abandoned vessel and derelict structure removal without any funding specifically dedicated to these operations.

Management Options

There are three possible management options to consider for the future of the Waterway Management Branch: (1) no action; (2) eliminate the State dredge program; and (2) enact legislation to provide for total waterway management (program enhancement).

NO ACTION (Ad Hoc Approach)

The no action alternative will involve maintaining the status quo with regard to State dredging, macro-algae harvesting, navigational channel marking, and abandoned vessel and derelict structure removal operations. This will mean that present funding levels will remain the same and there will be no real legislative direction to provide dedicated, comprehensive waterway management for State waters. As stated above, funding for these initiatives will come from the annual General Fund appropriation for the Shoreline and Waterway Management Section's Dune Maintenance and Dredge Programs, which, as explained above, is shared between the two programs, and/or from Bond Bill appropriations earmarked for specific projects or initiatives. Waterway management such as dredging will continue to be performed as it has in the past, where a legislator contacts the Department on behalf of his constituents and requests that a waterway in his/her district be dredged. Money is then appropriated by the General Assembly and the project moves forward.

There is no positive aspect associated with this option. With regard to State dredging operations, continuing with the way business has been conducted over the last 38 years does not represent a good management strategy. Dredging projects will continue to take longer to complete than they did prior to the mid-1990s. This is primarily due to time-of-year restrictions contained in federal and State permit approvals for projects. It is also due to the current schedule for Dredge Program personnel where employees report to the Lewes field office before reporting to the job site. This has effectively, as stated above, reduced the amount of time the dredges are in operation by 2.0-2.5 hours each day. In addition, the reduction of positions due to funding reductions precludes the ability to run more than one shift on any particular project.

ELIMINATE STATE DREDGE PROGRAM

Because of the significant drop in production since the mid 1990's, particularly with respect to navigational channel dredging projects, eliminating the State dredge program appears to be an option to consider. Smaller scale projects such as the dredging of harbors, marinas and boat launching facilities (e.g. University of Delaware College of Marine Studies Harbor in Lewes; Augustine Beach boat launching ramp) could be handled by the Division's sister agency, the New Castle Conservation District and their dredge program, provided they continue to receive adequate funding from the Division via the General Assembly. The current funding line is $225,000. The District would also be available to perform pond/lake restoration dredging work for the Division of Fish and Wildlife, as well as any emergency type of work that may arise (e.g. remove shoals in inland waterways). Larger scale dredging projects such as Indian River and the Assawoman Canal would be handled by private dredging contractors under this scenario. The costs for carrying out projects using a contractor would be higher, but the projects would probably be completed more expeditiously than they are at the present time.

There is also the possibility to consider that the General Assembly may eliminate the funding for the District dredge program. In which case, all future dredging work done by the Department and the Division would have to be done contractually. As a result, a steady and reliable source of funding for this work would need to be established.

Eliminating the State dredge program will not result in the termination of the current staff assigned to the program. Personnel will continue to perform other waterway management work such as navigational channel marking and macro-algae harvesting operations. They have demonstrated the ability to handle these activities over the past several years in an efficient manner because these activities are not time sensitive in nature. This is expected to carry over to abandon vessel and derelict structure removal operations, which is in its infancy at present. They will also be available to assist the District dredge program when needed and assist with contractual projects such as refurbishing and/or constructing confined disposal facilities. When they are not performing waterway management related work, personnel will assist the Beach crew with repairing and maintaining pedestrian and vehicular crossovers and erecting and maintaining sand fencing and performing overall dune maintenance along the bay and

ocean coastlines. It is recommended that current funding levels for these activities be maintained to ensure they can continue to be handled in an efficient manner.

PROGRAM ENHANCEMENT

Enhancing the programs under the Waterway Management Branch to meet current and future needs will involve the enactment of a comprehensive act authorizing the Department to carry out waterway management projects (i.e., dredging, macro-algae harvesting and navigational channel marking), as well as provide a steady source of funding for these initiatives, including the newly mandated abandoned vessel and derelict structure removal program.

With the reorganization of State government in 1970, the Department of Natural Resources and Environmental Control was given the responsibility for carrying out the mandate of the General Assembly relative to the construction of the five (5) creeks and to determine the future course of the dredging program. The day to day operations of the program were placed under the direction of the Department's Division of Soil and Water Conservation. The only corresponding legislation concerning the program is found in 7 Del. Code, Section 3905. The law was enacted by the General Assembly on July 10, 1973. It was amended on July 2, 1975, and July 10, 1990. Under Section 3905, the current law states that the Department shall: (a)(1) Formulate policies and general programs to be carried out for ….. and removal of sediment from waterways, lakes, ponds or other bodies of water; (a)(3) Advise and assist any district in developing and carrying out its program for ….. and removal of sediment from waterways, lakes, ponds or other bodies of water; (b)(3) Conduct surveys, investigations and research relating to ….. and removal of sediment from waterways, lakes, ponds or other bodies of water; (b)(4) Develop comprehensive plans for, and carry out, preventive and control measures and works of improvement for ….. and removal of sediment from waterways, lakes, ponds or other bodies of water; and (b)(13) Cooperate with other agencies and departments of the State, federal agencies, or any other landowners for use of the state dredge at the cost of the state agency and/or department, federal agency or the landowners requesting use of the state dredge. Costs for the use of the state dredge shall be limited to actual project costs incurred by the Department plus an amount equal to 10 percent of the actual project costs incurred for overhead expenses. At present, this is the only legislation related to waterway management, with the exception of the Tax Lagoon Law (2002) and the Abandon Vessel/Derelict Structure Removal Law (2007).

The Division believes it is time for a comprehensive legislative act authorizing them to carry out waterway management projects/programs. The continuation of waterway services for the citizens of Delaware is essential especially considering the increase in registered boaters over the last 37 years (17,510 in 1971 to 55,500 in 2007). Without these services, boats and other vessels will run aground, channels will be hard to find or disappear, macro-algae will decompose on shorelines and constituent complaints will increase. The program and its services are embedded in our Department, but legislation currently authorizing dredging and waterway management operations is inadequate. It does not provide clear direction and guidance on how the State Waterway

Management Program should be managed. The passage of such a waterway management act would serve as an affirmation of the services that the Division has been providing to the public.

The 143rd General Assembly provided a starting point for comprehensive legislation in the Epilogue of the FY2006 Bond Bill (Senate Bill No. 190). In Section 84 of the Bill, the Legislature directed the Department "to provide dedicated, comprehensive waterway management for State waters", by maintaining depths and marking navigational channels, removing nuisance algae, removing derelict structures and other debris, and performing "any other waterway management services that may be identified to preserve, maintain and enhance recreational use of the State's tidal waters." They also directed the Department to initiate a study of "the sediment sources and patterns of sediment movement that results in deposition within State waterways to determine it there are methods to reduce the dependency on dredging." The Legislature provided the Department with $250,000 to carry out this mandate. The majority of this appropriation ($126,900) was used to develop a sediment management strategy for Rehoboth Bay. The Department contracted Moffatt & Nichol to undertake this project, which was completed in November 2007. In developing this plan, the contractor examined environmental data, historical dredging records, sediment characteristics, hydrodynamics, sediment deposition and erosion characteristics and developed ways to strategize a long term sediment management plan for Rehoboth Bay. The goal of the management strategy was to improve planning for future dredging needs as well as to reduce the dependency on dredging in the inland waterways that the State maintains in this Bay. In other words, are there ways to reduce sediment input into the waterways or are there ways to keep sediment moving to reduce dredging needs. The remainder of the appropriation was used to purchase much needed supplies and equipment (e.g. dredge pipeline, hydraulic motors, conveyor belts) for dredging, macro-algae harvesting and channel marking operations.

Another area that should be included in comprehensive waterway management legislation is environmental restoration, which was an important component of the Moffatt & Nichol study. They investigated opportunities for the beneficial reuse of dredged material when dredging is necessary in tributaries of Rehoboth Bay. The results indicate there are several opportunities to restore degraded habitat, including eroded wetlands near the southern end of the Lewes-Rehoboth Canal and in Massey's Ditch, and eroded islands in Rehoboth Bay (i.e., Marsh Island, Big Piney Island) for shorebirds. In addition, re-establishing submerged aquatic vegetation (e.g. eelgrass) in the Inland Bays should be an important aspect of the envisioned restoration work. Adequate funding will be needed for these projects to occur.

If legislation is passed and additional money is made available in subsequent years, the work of Moffatt & Nichol should be expanded to include Indian River Bay and Little Assawoman Bay and their respective tributaries. The information generated will be used to develop a ten year management plan for making improvements to navigational channels (i.e., dredging and channel marking) in the three bays to ensure they are safe for the boating public. It will also be used to plan for future macro-algae harvesting and

abandon vessel/derelict structure removal needs, and environmental restoration projects as well.

If the legislative option moves forward, elimination of the State Dredge Program should still be given strong consideration. With time-of-year restrictions and the current schedule for Dredge Program employees as explained above, it is impossible to meet the demands of ensuring that navigational channels are properly maintained for the boating public in a timely fashion. The New Castle Conservation District dredge program should remain funded through the Division's budget for smaller scale projects and emergency related work as described above (e.g. pond restoration projects). Larger scale channel dredging projects would be best handled by private dredging contractors.

Conclusion

This discussion is meant to serve as an extensive historical overview of how waterway management operations have been conducted by the Department's Division of Soil and Water Conservation since the State Dredge Program began in 1970. It is anticipated that this paper will serve as the ground work for active dialogue about the future management direction of the Division's Waterway Management Branch. The direction determined will have impact on many aspects of management. Comprehensive legislation along with dedicated annual funding for waterway management activities, including macro-algae harvesting, navigational channel marking and abandon vessel/derelict structure removal that would be performed by current Dredge Section staff, environmental restoration work that would be handled both contractually and with current staff assistance, and dredging that will be carried out primarily through private contractors is necessary. A comprehensive look forward based on our present state of knowledge and experience, with input from the Administration and Legislature, will ensure the best course of action for maintaining Delaware's inland waterways.

DNREC, DIVISION OF WATERSHED STEWARDSHIP
SHORELINE AND WATERWAY MANAGEMENT SECTION

WATERWAY MANAGEMENT BRANCH SCOPING PAPER

ADDENDUM

This is an addendum to the Waterway Management Branch Scoping Paper dated December 2008. It provides an overview of how waterway management operations have been conducted by the DNREC, Division of Watershed Stewardship (formerly Division of Soil and Water Conservation), Shoreline and Waterway Management Section from January 2009 to the present.

Dredging Operations

In 2009, the Division/Section traded the State dredge "Indian River", a MudCat model, to Ellicott Dredges in Baltimore for a new swinging ladder dredge, the "Mispillion". The dredge was first used in June 2010 to perform maintenance dredging of the Delaware City Mooring Basin in New Castle County. The project involved the removal of approximately 24,000 cubic yards of material from the City of Delaware City's mooring facility. The project was completed in March 2011. The dredge was next used to perform a beneficial re-use, marsh restoration project in Pepper Creek during 2013. The dredge deposited approximately 10,000 cubic yards of material on degraded portions of marsh located along the northern shoreline of the creek in an attempt to raise marsh elevations and improve habitat for wetland vegetation (e.g. Spartina alterniflora).

The New Castle Conservation District dredge "Seidel" completed projects at the State boat launching facility at Augustine Beach in April 2009 (2,000 cubic yards) and the Delaware City Mooring Basin in July 2009 (10,000 cubic yards) before returning to the Assawoman Canal. The dredge worked in the canal from September 2009 until December 2010 when the project was finally completed. The dredge then performed a maintenance project at the University of Delaware, College of Marine Studies Harbor in Lewes from November 2011 through March 2012 (32,000 cubic yards). The dredge then assisted the Section with the Pepper Creek/Vines Creek maintenance dredging project from September 2013 until its completion in March 2014. The dredge is currently working at the Augustine Beach boat ramp. Its next project will be Indian River, which is scheduled to begin in the fall of 2014.

The State dredge "Broadkill" began the Pepper Creek/Vines Creek project in October 2011. The dredge worked on that project until March 2013 when major mechanical issues occurred. The Division/Section is currently planning to trade the dredge for a new more portable model.

Projects initiated or completed from January 2009 to the present are included in the charts that are attached to this document. A statistical breakdown of the amount of each type of dredging that was performed is presented below:

Channel Dredging: 87,000 cubic yards
Harbor/Marina Basin/Boat Ramp: 68,000 cubic yards
Beneficial Re-use/Marsh Restoration: 10,000 cubic yards
Total: 165,000 cubic yards

Based on records maintained by the Division of Fish and Wildlife, there are 59,186 boats registered in Delaware as of the end of 2013.

Macro-algae Harvesting

Macro-algae harvesting continued in 2009, but on a very limited basis. The harvesters worked two weeks in May at Mulberry Knoll on Love Creek and two weeks in July at Love Creek. A total of 440 tons of algae was harvested during these operations.

There were no harvesting operations conducted in 2010 or 2011 as there were no reports or occurrences of nuisance build-ups of algae.

As in 2009, harvesting operations have been conducted during the last three years, but only on a limited basis. In 2012, the harvesters worked in the lagoons of South Bethany in April and May and harvested a total of 240 tons. In 2013, the harvesting team worked in a lagoon in Keenwick on the Bay (Fenwick Island) in June and harvested approximately 40 tons of algae. This year the team worked for one week in June at Massey's Landing harvesting about 80 tons of algae.

Channel Marking

Section staff has continued to establish and improve on their navigation channel marking capabilities despite not having a steady and reliable source of funding to do so. A reconnaissance is performed in the early spring of every year to determine the condition of previously established markers. Repairs are then made to ensure all channels are adequately marked prior to Memorial Day. As of May 31, 2014, the Section is currently responsible for 187 aids to navigation in the Inland Bays. These markers are located in the following waterways:

Love Creek – 18 daybeacons.
Herring Creek – 30 daybeacons.
Massey's Ditch – 1 daybeacon. Will re-establish markers as needed in cooperation with the U. S. Coast Guard.
Baker's Channel – 18 buoys with solar lights.
Indian River (Delmarva Power Plant to Cupola Park in Millsboro) – 36 daybeacons.
Pepper Creek – 8 daybeacons.

White Creek – 8 daybeacons.
Beach Cove – 15 daybeacons.
Little Assawoman Bay – 30 daybeacons.
Roy Creek – 21 daybeacons.

In 2013, Section personnel worked with the U. S. Coast Guard to re-locate the federal navigation channel markers in Indian River and Massey's Ditch.

Administrative/Management

Section staff assigned primarily to waterway management operations has continued to decline due to the retirement of personnel and the loss of positions due to budget reductions. At present, there are five full time employees performing waterway management duties. There are also two full time contractual positions working for the Section through the New Castle Conservation District. The District's annual $225,000 appropriation for dredging operations was eliminated from the Division's General Fund budget beginning in Fiscal Year 2012. As a result, the Section assumed the responsibility for employing these positions.

As part of the Department of Natural Resources and Environmental Control reorganization in 2010, the Division of Soil and Water Conservation's name was changed to the Division of Watershed Stewardship.

In 2011, the Division and Section embarked on a new planning initiative designed to generate support for developing a steady and reliable source of annual funding for waterway management operations in the State. Based on the steady decline in the productivity of the Section's dredging operations, it was felt that a new direction was necessary in order to initiate and complete larger scale projects using private contractors rather than State crews and equipment. The State Dredge Program would still be needed to accomplish smaller scale projects such as boat launching facilities and State-owned pond restoration work. However, larger scale projects, particularly those involving navigational channel dredging, could be completed more efficiently and sooner if they were done contractually. In addition, with the expansion in channel marking responsibilities and the need for continuous maintenance on marine equipment (e.g. macro-algae harvesters), the annual General Fund appropriation for waterway management activities proved to be insufficient.

In February 2012, Section staff developed a 5-year work plan and budget for priority projects and initiatives. The information was presented to members of the General Assembly in May. In the FY2013 budget, the Division received a $627,000 Bond Bill appropriation for the dredging of the Murderkill River Entrance Channel near Bowers Beach and South Bowers.

In anticipation of receiving future funding for contractual dredging projects and as part of the new planning initiative, Section staff prepared a Request for Proposals in August 2012 to retain the services of environmental/engineering consulting firms to assist with the planning, design, permitting and contracting for contractual shoreline protection and navigational

channel dredging projects. Through this process, the Section contracted with Andrews, Miller & Associates, Easton, Maryland, Coastal Planning & Engineering, Boca Raton, Florida, Gahagan & Bryant Associates, Wilmington, Delaware, and Moffatt & Nichol, New York, New York, to handle these tasks in early 2013.

Since funding was available, the first project to be undertaken through this new process was the Murderkill River Entrance Channel. Andrews, Miller & Associates provided the consulting work to bring the project to fruition. The initial emphasis was on dredging the federally authorized navigation channel, which extends from the State-owned boat launching facility at Bowers Beach to the federal daybeacon located offshore (Entrance Approach Light 1), a distance of approximately 1.2 miles. A jetty rehabilitation and beach nourishment component was later added to the overall project. Following the preparation of plans, contractual specifications and the acquisition of all necessary federal and State permit approvals, Manson Construction of Seattle, Washington/Jacksonville, Florida, was awarded the contract to dredge the channel. The project involved the dredging of approximately 45,000 cubic yards of material from the channel. Approximately 20,000 cubic yards of the material was deemed to be sand that would be suitable for beach nourishment purposes. That material was deposited beneficially on the eroded shoreline at South Bowers. The remaining material was deposited in the approved offshore federal disposal site. Andrews, Miller & Associates and Coastal Planning & Engineering are currently working on revising the designs for the north and south jetties located at the mouth of the Murderkill River and also the major beach re-nourishment project planned for Bowers Beach and South Bowers. The jetty rehabilitation and beach nourishment work will be handled under separate contracts.

Navigational channel dredging projects planned for the future include the following:

<u>Contractual</u>

Little River
Massey's Ditch
Lewes-Rehoboth Canal
Herring Creek
Love Creek
White Creek
Assawoman Canal (re-dredging and annual on-going maintenance responsibilities)

<u>In-house</u>

Indian River, Millsboro
Holt's Landing State Park
University of Delaware College of Marine Studies Harbor
Delaware City Mooring Basin
Indian River Inlet Marina

STATE DREDGE PROGRAM PROJECTS
1970 - PRESENT

"DIXIE I/DIAMOND STATE/BROADKILL"

DATE	PROJECT	QTY. DRED. (Cu. Yds.)	PURPOSE
1. May 1970	Acquired "Dixie I" Dredge		
2. July 1970 - June 1971	Love Creek	115,000	Navigational Channel
3. Oct. 1971 - Aug. 1972	White Creek	135,000	Navigational Channel
4. Nov. 1972 - May 1973	Lewes Beach	69,800	Beach Nourishment
5. Oct. 1973 - Dec. 1973	Bowers Beach	15,800	Beach Nourishment
6. May 1974 - Sept. 1974	Bowers Beach	28,800	Beach Nourishment
7. Dec. 1974 - Jan. 1975	South Bowers Beach	15,100	Beach Nourishment
8. Jan. 1975 - March 1975	Woodland Beach	27,000	Beach Nourishment
9. March 1975 - April 1975	Burton's Island Marina	6,000	Marina Facility
10. April 1975 - May 1975	Rehoboth Bay Sailing Association	2,100	Marina Facility
11. June 1975	South Shore Marina	3,000	Marina Facility
12. Sept. 1975 - July 1976	Rehoboth Bay Borrow Pits	166,035	Filling of Bay Trenches
13. July 1976 - Aug. 1976	Burton's Island Marina	8,500	Marina Facility

14. Nov. 1976 - March 1977	Major Maintenance and Repairs		
15. March 1977 - Aug. 1977	Guinea Creek	75,450	Navigational Channel
16. Sept. 1977	Lewes Beach	11,400	Beach Nourishment
17. Oct. 1977	U of D/CMS Harbor (Lewes)	12,650	Harbor Facility
18. Nov. 1977 - Feb. 1978	Henlopen Acres Marina	7,500	Marina Facility
19. March 1978 - April 1978	Burton's Island Marina	9,000	Marina Facility
20. May, 1978 - Sept. 1978	Herring Creek	20,000	Navigational Channel
21. Oct. 1978 - Dec. 1978	Lewes Beach	31,000	Beach Nourishment
22. Dec. 1978 - Jan. 1979	Cozy Cove	17,745	Navigational Channel
23. Feb. 1979 - March 1979	U of D/CMS Harbor	7,986	Harbor Facility
24. March 1979 - July, 1979	Folly Pond/ Banning Park, Wilmington	28,000	Pond Restoration
25. July 1979 - Sept. 1979	Major Maintenance and Repairs		
26. Sept. 1979 - Nov. 1979	Slaughter Beach	20,000	Beach Nourishment
27. Nov. 1979 - Jan. 1980	Cedar Creek	20,000	Navigational Channel
28. Jan. 1980 - Feb. 1980	Del. Bay Launch Service (Slaughter Beach)	---	Marina Facility

29. Feb. 1980	Bill-Lin-Sue Marina (Slaughter Beach)	3,000	Marina Facility
30. March 1980 - Nov. 1980	Burton's Island Marina	113,000	Marina Facility
31. Dec. 1980 - Sept. 1981	Herring Creek	60,000	Navigational Channel
32. Oct. 1981 - Feb. 1982	Little River	87,200	Navigational Channel
33. March 1982 - May 1982	Burton's Island Marina	6,000	Marina Facility
34. May 1982 - Jan. 1983	Feeder Beach (North I. R. Inlet)	223,900	Beach Nourishment
35. Feb. 1983 - May 1983	Indian River, Millsboro	37,000	Navigational Channel
36. June 1983 - Aug. 1983	Wilson Creek	27,000	Navigational Channel
37. Aug. 1983 - Sept. 1983	Herring Creek/ Burton's Prong	5,000	Navigational Channel
38. Oct. 1983 - Jan. 1984	Mispillion River (Inlet Area)	9,000	Navigational Channel
39. Dec. 1983	Bowers Beach	3,000	Beach Nourishment
40. Jan. 1984 - March 1984	Summit North Marina	20,000	Marina Facility
41. April 1984 - May 1984	U of D/CMS Harbor	20,000	Marina Facility
42. June 1984	U.S. Coast Guard - Lewes	1,600	Mooring Facility
43. June 1984 - Aug. 1984	South Bowers Beach	22,000	Beach Nourishment
44. Aug. 1984 - Dec. 1984	Slaughter Beach	10,000	Beach Nourishment

45. Jan. 1985 - March 1985	Summit North Marina	60,000	Marina Facility
46. April 1985	Del. City Mooring Basin	18,000	Mooring Basin
47. May 1985	Mispillion River (Inlet Area)	5,000	Navigational Channel
48. June 1985 - Aug. 1985	Slaughter Beach	40,000	Beach Nourishment
49. Sept. 1985 - March 1986	Mispillion River Breach	50,000	Breach Closure
50. March 1986 - May 1986	Broadkill River	5,000	Navigational Channel
51. March 1986	Acquired "Diamond State" Dredge		
52. May 1986 - June 1986	Slaughter Beach	40,000	Beach Nourishment
53. June 1986 - March 1987	Broadkill River	68,000	Navigational Channel
54. May 1987	Massey's Ditch	10,000	Navigational Channel
55. June 1987	Murderkill River	10,000	Navigational Channel
56. June 1987 - Dec. 1987	Broadkill Beach	15,000	Beach Nourishment
57. Jan. 1988 - May 1988	Bowers Beach	50,000	Beach Nourishment
58. May 1988 - June 1988	Kitts Hummock	25,000	Beach Nourishment
59. June 1988 - Oct. 1988	Broadkill Beach	100,000	Beach Nourishment
60. Nov. 1988 - April 1989	Lewes Beach	111,000	Beach Nourishment

61. May 1989	Mispillion River Breach	12,000	Breach Closure
62. Aug. 1989 - Sept. 1989	Lewes-Rehoboth Canal	20,000	Navigational Channel
63. Nov. 1989 - March 1990	Feeder Beach (North I. R. Inlet)	180,000	Beach Nourishment
64. April 1990 - May 1990	Massey's Ditch	15,000	Navigational Channel
65. June 1990	Augustine Beach Boat Ramp	2,000	Boat Launching Facility
66. July 1990 - Aug. 1990	Pickering Beach	55,000	Beach Nourishment
67. Feb. 1991 - June 1991	Lewes-Rehoboth Canal	10,000	Navigational Channel
68. July 1991	Massey's Ditch	7,000	Navigational Channel
69. Aug. 1991	Murderkill River	7,000	Navigational Channel
70. Sept. 1991 - Dec. 1991	Indian River, Millsboro	40,000	Navigational Channel
71. Jan. 1992 - April 1992	Feeder Beach (North I. R. Inlet)	150,000	Beach Nourishment
72. April 1992	Augustine Beach Boat Ramp	2,000	Boat Launching Facility
73. May 1992 - Aug. 1992	Indian River, Millsboro	30,000	Navigational Channel
74. Aug. 1992	Murderkill River	6,000	Navigational Channel
75. Oct. 1992	Mispillion River Breach	25,000	Breach Closure
76. Nov. 1992 - March 1993	Major Maintenance and Repairs		
77. March 1993 - April 1993	Summit North Marina	5,600	Marina Facility

78. April 1993	Augustine Beach Boat Ramp	2,000	Boat Launching Facility
79. June 1993 - Oct. 1993	Broadkill Beach	37,000	Beach Nourishment
80. Dec. 1993 - May 1994	Mahon River	40,000	Navigational Channel
81. May 1994 - June 1994	Roosevelt Inlet	15,000	Navigational Channel (DELRIVER Shoal)
82. June 1994 - Sept. 1994	Broadkill Beach	30,000	Beach Nourishment
83. Oct. 1994 - Dec. 1994	Major Maintenance and Repairs		
84. Jan. 1995 - March 1995	Quillen's Point	12,000	Navigational Channel
85. May 1995 - June 1995	Mispillion River (Inlet Area)	15,000	Navigational Channel
86. June 1995 - Sept. 1995	Mispillion River, Milford	40,000	Navigational Channel
87. Oct. 1995 - May 1996	Ted Harvey Wildlife Area	50,000	Beach Nourishment/ Dune Restoration
88. May 1996 - June 1996	Murderkill River	5,000	Navigational Channel
89. June 1996 - July 1996	Broadkill Beach	25,000	Beach Nourishment
90. Aug. 1996 - Oct. 1996	Kitts Hummock	32,850	Beach Nourishment
91. Oct. 1996 - Nov. 1997	Major Maintenance and Repairs		
92. Jan. 1998 - Feb. 1998	Ted Harvey Wildlife Area	3,000	Beach Nourishment/ Dune Restoration

93. March 1998 - May 1998	Bowers Beach	46,240	Beach Nourishment
94. May 1998 - July 1998	Major Maintenance and Repairs*		* Due to Permit Time of Year Restrictions
95. Aug. 1998 - Nov. 1998	Bowers Beach	40,000	Beach Nourishment
96. Dec. 1998 - April 1999	Ted Harvey Wildlife Area		Beach Nourishment/ Dune Restoration
97. May 1999 - Sept. 1999	Major Maintenance and Repairs*		* Due to Permit Time of Year Restrictions
98. Sept. 1999 - March 2000	Broadkill Beach	40,000	Beach Nourishment
99. March 2000 Jan. 2001	Major Maintenance and Repairs*		* Due to Dredge Sinking
100. March 2001 Nov. 2001	Pickering Beach	27,000	Beach Nourishment
101. Jan. 2002 - April 2002	Massey's Ditch Indian River (downstream)	15,000	Navigational Channel
102. Sept. 2002 - Dec. 2005	Slaughter Beach	114,970	Beach Nourishment*
103. July 2003 - Dec.. 2005	Broadkill Beach	152,170	Beach Nourishment*
104. Oct. 2004	"Diamond State" sold to Baltimore Dredges, LLC		
105. Sept. 2005	Acquired "Broadkill" Dredge		
106. Sept. 2006 - Jan. 2007	U of D/CMS Harbor	24,000	Harbor Facility
107. Sept. 2007 - Jan. 2008	Indian River, Millsboro	15,000	Navigational Channel

108. Oct. 2011 - March 2013	Pepper Creek	50,000	Navigational Channel
109. March 2013 - Present	Major Maintenance and Repairs		

- Started by State: completed using a private contractor.

STATE DREDGE PROGRAM PROJECTS
1970 - PRESENT

"BLUE HEN/INDIAN RIVER/MISPILLION"

DATE	PROJECT	QTY. DRED. (Cu. Yds.)	PURPOSE
1. March 1982	Acquired "Blue Hen" Dredge		
2. July 1982 - Dec. 1982	Jefferson Creek	38,820	Navigational Channel
3. Jan. 1983 - Sept. 1983	Lake Como, Smyrna	35,000	Pond Restoration
4. Oct. 1983 - July 1984	Bethany Loop Canal	25,650	Navigational Channel/ Drainage Relief
5. Sept. 1984 - March 1985	Cape Windsor	22,000	Navigational Channel
6. April 1985 - Oct. 1985	Silver Lake, Milford	20,500	Pond Restoration
7. Nov. 1985 - Feb. 1987	Pepper Creek - Phase I	70,000	Navigational Channel
8. Feb. 1987 - March 1988	Pepper Creek - Phase II	80,000	Navigational Channel
9. June 1988 - Aug. 1988	Lewes Beach (Roosevelt Inlet)	15,000	Beach Nourishment/ Shoal Removal

10. Dec. 1988 - Oct. 1990	Roy Creek	60,000	Navigational Channel
11. Jan. 1991 - Feb. 1991	Henlopen Acres Marina/ Sandy Bottoms	8,500	Marina Facility
12. Feb. 1991 - June 1991	Lewes-Rehoboth Canal	10,000	Navigational Channel
13. July 1991 - Oct. 1991	U of D/CMS Harbor	24,000	Harbor Facility
14. Nov. 1991 - March 1992	Major Maintenance and Repairs		
15. June 1992 - July 1992	Rehoboth Bay Sailing Association	1,800	Marina Facility
16. Sept. 1992 - Oct. 1992	Hunter's Pointe Condominiums	1,250	Navigational Channel
17. Nov. 1992 - April 1993	Pepper Creek	20,000	Navigational Channel
18. April 1993	Gull's Way Campground Marina	7,200	Marina Facility
19. Nov. 1993 - April 1994	Pepper Creek	20,000	Navigational Channel
20. June 1994 - July 1994	Vines Creek	6,500	Navigational Channel
21. August 1994	Hunter's Pointe Condominiums	500	Navigational Channel
22. Sept. 1994 - August 1995	Pepper Creek	30,000	Navigational Channel
23. Sept. 1995 - Nov. 1996	Major Maintenance and Repairs		
24. Dec. 1996 - March 1997	Quillen's Point	15,000	Navigational Channel

25. April 1997 - June 1997	Major Maintenance and Repairs		
26. June 1997 - August 1997	Cedar Landing Subdivision Lagoon & Access Channel	10,000	Navigational Channel
27. Sept. 1997 - Dec. 1997	White Creek (main channel)	30,000	Navigational Channel
28. Dec. 1997	Banks Harbor Marina	900	Marina Facility
29. Dec. 1997 - March 1998	Cedar Landing Subdivision Lagoon & Access Channel	10,000	Navigational Channel
30. April 1998 - Nov. 1998	Major Maintenance and Repairs*		* Due to Permit Time of Year Restrictions
31. Dec. 1998 - Jan. 1999	Rogers Haven Access Channel & Lagoon	10,000	Navigational Channel
32. Feb. 1999 - May 1999	White Creek (west prong)	5,000	Navigational Channel
33. May 1999 - Sept. 1999	Major Maintenance and Repairs*		* Due to Permit Time of Year Restrictions
34. Oct. 1999 - April 2000	White Creek (west prong)	10,000	Navigational Channel
35. Oct. 2000 - Feb. 2001	White Creek (east prong)	15,000	Navigational Channel
36. Feb. 2001 - April 2001	U of D/CMS Harbor	20,000	Harbor Facility
37. Oct. 2001 - Jan. 2002	Indian River, Millsboro	20,000	Navigation Channel
38. Jan. 2002 - March 2002	Massey's Ditch Indian River (downstream)	-	Assisted Diamond State with project
39. Sept. 2002 - Dec. 2002	Massey's Ditch	15,000	Navigational Channel

40. Sept. 2003 - Feb. 2004	Indian River Inlet Marina – Phase I	32,500	Marina Facility
41. Feb. 2004	"Blue Hen" Retired from Service		
42. Sept. 2004 - Feb. 2005	Indian River Inlet Marina – Phase II	32,500	Marina Facility (completed with leased dredge)
43. June 2005	Acquired "Indian River" Dredge		
44. Sept. 2006 - Dec. 2006	Assawoman Canal		Navigational Channel
45. Jan. 2009	"Indian River" traded to Baltimore Dredges, LLC		
46. Sept. 2009	Acquired "Mispillion" Dredge from Ellicott		
47. June 2010 – March 2011	Delaware City Mooring Basin	24,000	Mooring Basin/ Launching Facility
48. Jan. 2013 - March 2013	Pepper Creek	5,000	Marsh Restoration
49. Sept. 2013 - Dec. 2013	Pepper Creek	5,000	Marsh Restoration

NEW CASTLE CONSERVATION DISTRICT DREDGE
1984 - PRESENT

"S. A. S. TRAPNELL/SEIDEL"

DATE	PROJECT	QTY. DRED. (cu. Yds.)	PURPOSE
1. April 1984	Acquired "Trapnell" Dredge		
2. May 1984 - Dec. 1985	Noxontown Pond (Middletown)	125,000	Pond Restoration
3. Jan. 1986 - March 1986	Major Maintenance and Repairs		
4. March 1986 - June 1986	Carousel Pond	30,000	Pond Restoration
5. July 1986 - Aug. 1986	Silver Lake, Milford	10,000	Pond Restoration
6. Sept. 1986 - Sept. 1987	Derby Pond	70,000	Pond Restoration
7. Oct. 1987 - April 1988	Smalley's Pond Project Set-up		
8. May 1988 - Aug. 1988	Delaware City Mooring Basin	19,700	Mooring Facility
9. Sept. 1988 - April 1989	Summit North Marina	50,000	Marina Facility
10. June 1989 - March 1991	Smalley's Pond	50,000	Pond Restoration
11. May 1991	Augustine Beach Boat Ramp	2,000	Boat Launching Facility
12. June 1991	Delaware City Mooring Basin	18,000	Mooring Facility
13. Nov. 1991 - Aug. 1993	Moores Lake	70,000	Pond Restoration

14. Sept. 1993 - March 1994	Major Maintenance and Repairs		
15. April 1994	Augustine Beach Boat Ramp	2,000	Boat Launching Facility
16. May 1994 - Dec. 1994	Delaware City Mooring Basin/Ft. Delaware Launching Facility	24,000	Mooring Basin/ Launching Facility
17. Jan. 1995 - May 1995	Major Maintenance and Repairs		
18. June 1995 - Jan. 1996	Indian River, Millsboro	20,000	Navigational Channel
19. Feb. 1996 - April 1996	Quillen's Point	10,000	Navigational Channel
20. June 1996	Augustine Beach Boat Ramp	2,000	Boat Launching Facility
21. July 1996 - Dec. 1996	U of D/CMS Harbor	16,000	Harbor Facility
22. Jan. 1997 - March 1997	Major Maintenance and Repairs		
23. April 1997	Augustine Beach Boat Ramp	2,000	Boat Launching Facility
24. May 1997 - June 1997	Rehoboth Bay Sailing Association	2,000	Marina Facility
25. June 1997 - July 1997	U of D/CMS Harbor	3,000	Harbor Facility
26. Aug. 1997 - Feb. 1998	Summit North Marina	40,000	Marina Facility
27. March 1998 - April 1998	Augustine Beach Boat Ramp	2,000	Boat Launching Facility
28. June 1998 - Oct. 1998	Summit North Marina	30,000	Marina Facility

29. Dec. 1998 - Feb. 1999	The Cove	10,000	Marina Facility & Access Channels
30. Feb. 1999 - May 1999	White Creek	-	Acted as Booster for Blue Hen
31. May 1999 - Sept. 1999	Major Maintenance and Repairs		
32. Sept. 1999 - Feb. 2000	Summit North Marina		Marina Facility
33. April 2000	Augustine Beach Boat Ramp	2,000	Boat Launching Facility
34. May 2000 - Sept. 2000	Major Maintenance and Repairs		
35. Oct. 2000 - Feb. 2001	White Creek	-	Served as Booster for Blue Hen
36. June 2003 - March 2004	Delaware City Mooring Basin	23,000	Mooring Basin/ Launching Facility
37. April 2004	Augustine Beach Boat Ramp	2,000	Boat Launching Facility
38. August 2004	U of D/CMS Harbor	2,300	Harbor Facility
39. Sept. 2004 - Feb. 2005	Indian River Inlet Marina – Phase II	-	Marina Facility (amount dredged included in State total)
40. Feb. 2005	"Trapnell" sold to Baltimore Dredges, LLC		
41. June 2005	Acquired "Seidel" Dredge		
42. July 2005 - Dec. 2005	Delaware City Mooring Basin	24,000	Mooring Basin/ Launching Facility
43. April 2006	Augustine Beach Boat Ramp	2,000	Boat Launching Facility

44. June 2006 - Aug. 2007	Garrisons Lake	7,800	Pond Restoration
45. Sept. 2007 - Dec. 2008	Assawoman Canal	21,000	Navigational Channel
46. April 2009	Augustine Beach Boat Ramp	2,000	Boat Launching Facility
47. June 2009 - July 2009	Delaware City Mooring Basin	10,000	Mooring Basin/ Launching Facility
48. Sept. 2009 - Dec. 2010	Assawoman Canal	17,000	Navigational Channel
49. Nov. 2011 - March 2012	U of D/CMS Harbor	32,000	Harbor Facility
50. Sept. 2013 - Dec. 2013	Pepper Creek	10,000	Navigational Channel
51. Jan. 2014 - March 2014	Vines Creek	10,000	Navigational Channel
52. August 2014	Augustine Beach Boat Ramp	2,000	Boat Launching Facility

DELAWARE WATERWAYS MANAGEMENT AND FINANCING ADVISORY COMMITTEE MEETING

DNREC, DIVISION OF WATERSHED STEWARDSHIP
SHORELINE AND WATERWAY MANAGEMENT SECTION FIELD OFFICE
901 Pilottown Road, Lewes, DE 19958
August 25, 2014 Meeting Notes

AGENDA

- Introductions and Purpose of Committee (Frank Piorko)
- History of Waterway Management Operations in Delaware (Chuck Williams)
- Beneficial Re-use of Dredge Material/Regional Sediment Management (Tony Pratt)
- Funding of Waterway Management Operations in Other States (Ariane Nichols)
- Discussion of Possible Funding Options for Delaware (Frank Piorko)
- Round Robin Discussion of Waterway Management Issues (Committee Members)
- Public Comments
- Concluding Remarks and Next Meeting

Agenda Item 1 – Introductions and Purpose of Committee (Frank Piorko)

The meeting began at 9:00AM with **Frank Piorko** introducing the DNREC, Shoreline & Waterways Section staff, including **Tony Pratt**, **Chuck Williams**, and **Ariane Nichols**. Introductions continued with each of the committee members and the groups whom they represent: Co-Chair **Secretary Dave Small** (DNREC), Co-Chair **Senator Venables** (Senate), **Senator Gerald Hocker** (Senate), **Representative William Carson** (House of Representatives), **Representative Ron Gray** (House of Representatives), **Dave Cropper** (private marina owner), **Dave Russell** (captain of commercial charter boat business), **Jay Little** (representative of recreational fisherman), **Chris Bason** (Delaware Center for the Inland Bays (CIB), **Rob Whitford** (marine dredging and construction business owner), **Neil Sands** sitting in for **Roger Anderson** (Rehoboth Bay Sailing Association), **Pierce Quinlen** (Lewes-Rehoboth Canal Improvement Association), **Dave Ritondo** (US Coast Guard Auxiliary), **Dave Green** (recreational boating transportation business), **Ed Lewandowski** (CIB, Water Use Planning and Implementation Committee), and **Vicki Ford** (Office of Management and Budget), who joined the meeting via telephone. **Clark Evans** (retail bait and tackle/sport shop business) was absent.

Other interested parties in attendance were **Larry Horan** and **Nick Couch**, both representing the DNREC, Division of Fish & Wildlife.

Following the introductions, **Mr. Piorko** read the Senate Concurrent Resolution No. 64 to the committee explaining that the purpose of the Committee is to develop and submit recommendations for sustainable and dedicated funding for Waterway Management activities statewide. He also explained that the problems, issues and things that are to be addressed through this committee have been long

standing issues throughout the State. These issues were brought to a head recently at a meeting that was convened by **Senator Hocker** and **Representative Gray** at the Millville Fire House. The floor was then turned over to the Co-Chairs, **Senator Venables** and **Secretary Small**.

Senator Venables explained that he lives in Laurel and not in the Inland Bays, but is an avid fisherman. He understands that the Corps and the Coast Guard aren't maintaining their obligations to the same level they used to. He also explained how it was really **Senator Hocker** who had the idea for the committee to be formed. **Senator Venables** also expressed that he feels it is not an easy time right now to raise fees or taxes, but that there is the chance that this may be different. He understands how this is really important to the residents of the Inland Bays.

DNREC Secretary Small also expressed that he didn't think it was time to talk about raising fees yet at least. **Secretary Small** then echoed what **Mr. Piorko** had mentioned earlier about the Committee being the result of a meeting that **Senator Hocker** and **Representative Gray** had in Sussex County and subsequent discussions in the spring of this year leading to the Resolution, which passed in late June 2014. **Secretary Small** acknowledged that many of the people present in the room had been involved in discussions in bits and pieces about dredging issues around the State. Over the past decade or longer, it has been a hodge-podge of funding that has found its way for dredging projects, whether it has been a little bit of money out of the DNREC budget for Shoreline and Waterway Management or whether it is line items in the Capital budget on an annual basis. This really provides an opportunity for a lot of great different points of view represented around the table to have a comprehensive discussion about the future of dredging in the State of Delaware. It does not appear as though federal funding will be coming in any significant amounts any time in the near future. The Corps of Engineers, with funding that it has to have, has really based its work around commercially important projects. In Delaware, what that translates to primarily is the Port of Wilmington, the Christiana River and then the main channel of the Delaware River, and the Nanticoke River. **Secretary Small** then continued that he felt that this really is an opportunity to take a comprehensive look at the need and then some opportunities and possibilities for funding because there is a lot of competition around the state for dollars these days. He thanked everyone for giving their time for this meeting and for a few meetings into the future. The Committee should not be meeting much past the fall as there is a pretty tight deadline to come up with a report. He then asked that everyone keep the meeting very focused to get as much input as we can and keep things formal to the discussion. **Secretary Small** concluded by stating his appreciation for Frank, Tony and the team, Chuck and Ariane, for putting the meeting materials and presentations together. He stated he had a chance to view the presentations last week and was very impressed with what he saw. He said he thought it is a good reminder to take a look where we have been and it will help turn our future.

Mr. Piorko then stated his staff had prepared a little bit of information as background and that some of that information was in the binders given to Committee members. He announced that the first presentation would be given by **Chuck Williams,** who would give a brief overview of the history of the program, followed by **Tony Pratt** talking about regional sediment management and **Ariane Nichols** talking about how other states fund waterway management operations. He explained that after the presentations, the meeting would continue with comments from committee members around the table offering their thoughts.

Agenda Item 2 – History of Waterway Management Operations in Delaware (presentation attached).

Chuck Williams gave a presentation on the history of waterway management operations in the State. Waterway operations in the State of Delaware got underway in 1968 when the General Assembly initiated the State's dredging program. Four hundred thousand dollars were appropriated the following year to purchase a dredge and operations began in 1970. He explained that our current vision is to seek clarity from the U.S. Coast Guard and the Corps of Engineers regarding their roles in dredging and marking federal navigation channels. **Mr. Williams** explained the need for funding to do larger scale projects contractually, while still maintaining a small staff to do waterway management work in the State like pond maintenance, boat launch areas, channel marking, algae harvesting and abandoned vessel removal. (Reference Tab 6 in Committee folders)

Agenda Item 3 – Beneficial Re-use of Dredge Material/Regional Sediment Management (presentation attached).

Tony Pratt gave a presentation on how regional sediment management is an opportunity to make a beneficial use out of material that is dredged. This is the approach that the Corps of Engineers is adopting for the nation. Historically, dredged material has been placed in upland sites, but there are very few of those sites left to place material in due to development. The navigation channels should be viewed as a transportation system on the water to serve the boating public. There is a need for a strategic way forward rather than responding to a project where a problem has occurred in the past. (Reference Tab 7 in Committee folders)

Agenda item 4 – Funding of Waterway Management Operations in Other States (presentation attached).

Ariane Nichols presented information that was collected by DNREC staff on how other states along the east coast were performing and funding waterway management operations. The information presented was an update from an inventory that was originally started 5 years ago. There is much variation in what types of waterway management operations each state has and their funding sources. (Reference Tab 8 in Committee folders).

Agenda Items 5 & 6 – Discussion of Possible Funding Options for Delaware/Round Robin Discussion of Waterway Management Issues

After the presentations were complete, a round-robin discussion was initiated so that the Committee members had a chance to voice their ideas, thoughts, or concerns.

Senator Venables said he would be interested in hearing more information about the way that other states handle boat titling.

Senator Hocker began a discussion about the need for ethanol-free gas for boaters. The State is losing a lot of revenue because boaters are going to Maryland to buy this fuel. He believes boaters would pay the estimated 0.26 cents per gallon tax for this if it was available and that the State does not need legislation to accomplish this.

Mr. Little agreed that ethanol-free fuel should be explored for Delaware and that many boaters on his forum discuss traveling out of state to purchase non-ethanol gas.

Representative Carson thanked DNREC for holding this forum. He said that he believes we need legislation to accomplish the goals of this committee, including how to deal with non-ethanol gas. Having legislation would make the funding more reliable into the future regardless of changes in administration.

Representative Gray said that if there is success in raising dedicated money to maintain our waterways, we need to make sure it is used exclusively for that and not something else.

Mr. Russell explained how he worked with **Senator Venables** and other legislators a few years ago to secure funding for dredging the Murderkill River. The project was done earlier this year, but he felt the channel has already filled in. He believes that there needs to be maintenance measures set for projects so that they money is not wasted with the channels filling in after being dredged.

Mr. Little stated that he also believed that the channel at Murderkill was beginning to fill in since the dredging project. (Mr. **Williams** responded that he would have the Division's survey crew re-survey the area in question).

Mr. Bason calculated that it looks like the number of registered boaters in Delaware increases at a rate of about 1,000 boats per year. He discussed the need to ensure the funding is sustainable. He also requested a matrix of funding sources from other states and also one for Delaware showing how much can be raised from each possible source per year.

Mr. Couch explained that revenue raised by the boater registration fees is currently going for enforcement and boating safety programs.

Mr. Sands suggested the Committee consider the County Transfer Tax because of the impact new development has on increasing sedimentation in waterways. He also suggested the group look at what sources of funding have been reliable and successful in other states.

Senator Venables replied to the inquiry about the transfer tax and suggested that other funding options may be better to consider before the use of County Transfer Tax money.

Senator Hocker impressed upon the group that he felt strongly that any legislation passed needs to be specifically for dredging, channel marking and waterway maintenance. This would deter the funding from being able to be taken from the waterways and used for other purposes.

Representative Carson shared with the group that there are no county roads in Delaware. The State owns every road so there needs to be care when discussing raiding the road tax. He also suggested that the group examine the County Transfer Tax. Large developments result in sedimentation problems in waterways.

Mr. Quinlen asked the group to look at a funding source for expanding the Lewes-Rehoboth Canal water taxi service by supporting additional dockage along the canal. He stated that $250,000 is needed to complete the design and engineering for that project. He suggested changing Rule 12 so that legislators could use CTF money for waterway transportation improvements as well as roadways.

Senator Venables reminded **Mr. Quinlen** that Rule 12 does not allow transportation money to be used for water transportation, but said that he will look into having this changed so that it can be used for that.

Mr. Ritundo commented that we have the Transfer Tax in Sussex County because we don't have a sales tax and that the Transfer Tax is used to pay for many things.

Mr. Lewandowski stressed to the group how undervalued waterways are in the State. These waterways attract many visitors and generate much economic activity.

Mr. Green stated that he agreed the need to get rid of ethanol fuel and make non-ethanol fuel available in the State. He explained that he drives to Maryland to purchase the non-ethanol fuel for his vessels and that boaters are spending a lot of money for repairs because of the damage ethanol gas does to fittings, lines, etc. **Mr. Green** also relayed that dredging is needed in the Lewes-Rehoboth Canal from the Inlet to Rehoboth Bay (area known as Mussel Bed in particular).

Senator Venables described how there have been conversations about the possibility of having a separate license for salt water fishing before, but that would require legislation that would be tough to introduce at this time. He requested a lay out of how much each of the suggestions that were discussed, including titling and increasing registration fees, would generate in funding.

Mr. Lewandowski also requested to see what the projected $3 million to $5 million annually that DNREC thinks it needs for waterway management over the next 5 years will be used for.

Mr. Piorko wrapped up the Committee discussion by agreeing that DNREC will gather more information on the several topics discussed to bring to future meetings. Topics include: ethanol free fuel, how other states title boats, county transfer tax, how DNREC would spend money and prioritize projects, and funding source matrices.

Agenda Item 7 – Public Comments

None.

Agenda Item 8 – Concluding Remarks and Next Meeting Dates

Monday, September 8 and Monday September 22 – Lewes Facility @ 8:30 a.m. Coffee/Refreshments @ 8:00 a.m.

APPENDIX C

September 8, 2014 Meeting

- Agenda
- List of Attendees
- PowerPoint Presentation
- Hand-outs
- Meeting Notes

DELAWARE WATERWAYS MANAGEMENT AND FINANCING ADVISORY COMMITTEE
September 8, 2014 – 8:30 a.m. to 10:30 a.m.
DNREC, Division of Watershed Stewardship
Shoreline and Waterway Field Office
901 Pilottown Road
Lewes, DE 19958

AGENDA

- Welcome and Announcements – 8:30 a.m.
- Review and Acceptance of August 25 Meeting Notes
- Presentation of Funding Options Matrix for Other States
- Presentation of DNREC's 5 Year Projection for Waterway Management Funding Needs
- Round Robin Committee Discussion – Ethanol Free Gas Blends for Boat Use and Current Revenues for Motor Fuel Sales
- Public Comments
- Concluding Remarks and Next Meeting

DELAWARE WATERWAYS MANAGEMENT AND FINANCING ADVISORY COMMITTEE MEETING

SEPTEMBER 8, 2014

SIGN IN SHEET

(Please make sure ALL information is legible)

Name	Address and/or Organization	Telephone and/or Email Address
1. Rob Whitford	Precision Marine Rehoboth	302-227-2711 Rob@precisionmarine.us
2. Clark Evans	Old Inlet Bait + Tackle	227-7906 Clark@oldinlet.com
3. Ron Gray	State Rep. 38th District	436-7024 ronald.gray@state.de.us
4. Gerald Hocker	State Sen 20th District	539.4140 gerald.hocker@state.de.us
5. Bill Carson	State Rep. 28th District	744-4193 William.Carson@state.de.us
6. Robert L Venables	State Senate	744-4298 381-9975
7. David Small	DNREC	739-9000
8. David Green	Cape Water Taxi	245-4794
9. Ed Lewandowski	U.D.	EDLEW@UDEL.EDU
10. Pierce Quinlan	LRCIA	301 509 1063
11. Neil Sands	Rehoboth Bay Sailing Assoc.	302 329 9587 nasands@comcast.net
12. Jay Little	Tidal Finfish Adv. Council / saltfish.net	admin@saltfish.net
13. David Crapp	31261 Helms Land Rd Dagsboro De	302-381-9004

	Name	Address and/or Organization	Telephone and/or Email Address
14.	VICKI FORD	Office of Mngmt + Budget CIB	3026725108 VICKI.ford@state.de.us
15.	Chris Bason		
16.	DAVE RITONDO	USCGA	30238/658X
17.	Douglas Messeck	DNREC - DEW	Douglas.Messeck@state.de.us
18.	David Saveikis	DNREC - DFW	David.saveikis@state.de.us
19.	LARRY HORAN	" "	LARRY.HORAN@STATE.DE.US
20.	Tony Pratt	DNREC	
21.	ARIANE NICHOLS	"	
22.	CHUCK WILLIAMS	"	
23.	DAN BROWER	"	
24.	FRANK PIORKO	"	
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Delaware Waterways Management and Financing Advisory Committee 9/8/14

- Review and Acceptance of Notes
- Presentation of Funding Options Matrix
- Presentation of DNREC's 5 Year Funding Projection
- Committee Discussion – Ethanol Free Gas Blends for Boating Use and Current Revenues for Motor Fuel Sales

Delaware Waterways Management and Financing Advisory Committee 9/8/14

- Last Meeting Discussion
  - Lots of interest in understanding non-ethanol gas.
  - Concerns raised that dedicated revenue would have to be “hands off” for other uses.
  - Possibility of using CTF funds for water transportation funding needed to be explored.
  - Request future meetings explore ethanol-free fuel, motor fuel tax, boat titling and registration, county transfer tax, program budget and prioritization.

Delaware Waterways Management and Financing Advisory Committee
9/8/14

Presentation of Funding Options Matrix

	Transportation Funds	*Bond Bill Appropriations*	*Car Rental Tax*	*General Fund Budget*	*Boat Registration Fees*	*Federal Aid/Grants*	*Motor Boat Fuel Tax*	*Fishing License Fees*	*Excise (Boat Sales) Tax*	*Boat Titling Fees*	*Special Tax Districts along Waterways*
Delaware		X									
Maine		X	X								
Massachusetts		X									
Rhode Island				X	X						
Connecticut						X*					
New York - Canal Corporation	X										
New York - Town of Hempstead				X							
New Jersey	X										
Pennsylvania					X		X	X			
Maryland							X		X		
Virginia				X							
North Carolina					X					X	
South Carolina						X**					
Georgia											
Florida							X				X
Ohio					X						

*USFW Federal Aid - Wallop-Breaux funds used for small scale dredging projects at boat ramp areas

**Channel marking program funded through federal boating safety grant

Delaware Waterways Management and Financing Advisory Committee 9/8/14

Presentation of DNREC's Projection for Waterway Management Funding Needs

$ 3M - $ 5M / per year for

- Maintenance Dredging
- Channel Marking
- Macro-algae Harvesting
- Waterway Maintenance
- Regional Sediment Management
- Engineering & Waterway Modeling

Delaware Waterways Management and Financing Advisory Committee 9/8/14

FY2015 – Maintenance Dredging

- 1 major contractual project per year – Little River (planning, design, engineering, permitting initiated in FY2014 ($ 305K) with construction in FY2015 - $ 1.2M)
- In house projects include Augustine Beach Boat Ramp ($ 75K) and Indian River ($ 275K)
- Assawoman Canal – annual maintenance dredging and debris removal ($ 50K)

Delaware Waterways Management and Financing Advisory Committee 9/8/14

FY2015 – Waterway Management Operations

- New Equipment – replacement of State dredge ($ 300K)

- Channel Marking ($ 60K)
- Macro-algae Harvesting ($ 35K)
- Waterway Maintenance

- Abandoned Vessel/Debris Removal ($ 30K)
- Contractual Support ($ 300K)

(operations and maintenance costs for fuel, equipment, replacement equipment, supplies and materials, funding for contractual employees)

Delaware Waterways Management and Financing Advisory Committee 9/8/14

FY2015 – Research: Funding Options for Waterway Management Operations and Regional Sediment Management

- Conduct a water use assessment/analysis to determine a sustainable funding source for waterway management operations ($ 325K)

- Expansion of the regional sediment management plan previously done for Rehoboth Bay into Indian River Bay (identify beneficial re-use options for dredged material, waterway enhancements to reduce dredging needs) ($ 250K)

Delaware Waterways Management and Financing Advisory Committee 9/8/14

Committee Discussion of Non-Ethanol Gas Blends for Boat Use.

Delaware Waterways Management and Financing Advisory Committee 9/8/14

Senator Hocker, Members of the Committee and Boaters have asked about non-ethanol gas blends for boaters.

We have heard concerns about boaters going out of state to purchase ethanol free fuel.

Boaters have concerns that the ethanol in the fuel causes damage from fittings, lines etc.

Is there a revenue source to be gained (23 cents) by the sale of ethanol free gas in Delaware?

Delaware Waterways Management and Financing Advisory Committee 9/8/14

Counties in Maryland are selling non-ethanol gas that is not RFG compliant.

Non-ethanol gas can be sold in marinas in Delaware now as long as it meets RFG (Reformulated Gas) requirements. Supply is difficult.

Sussex County was brought into the federal Clean Air Act RFG mandate by the Governor in 1993.

To opt out of RFG in Sussex County would require an offset.

Delaware Waterways Management and Financing Advisory Committee 9/8/14

The availability of non-ethanol blends of gasoline is likely to decrease over time under the Federal requirements of RFS (Renewable Fuel Standard).

Ethanol is blended into gas by refiners because it is an octane enhancer, lowers the retail $/gal., and is classified as a renewable which helps meet RFS requirements.

Is there a compelling case to be made for going through the process of providing an offset in Sussex County to opt out of RFG and pursue sales of non-ethanol gas in marinas?

Estimates of fuel sales from marinas in Sussex County is XXXX

Delaware Waterways Management and Financing Advisory Committee
9/8/14

Committee Discussion of Motor Fuel Tax Rebate

Delaware Waterways Management and Financing Advisory Committee 9/8/14

Section 5120 Delaware Code Refunds of Motor Fuel for the purpose of operating stationary gas engines… motorboats.

Delaware's tax on gas is $.23/gal.

In 2013, 575 refunds were issued totaling $42,882. Most of the refunds were from pleasure crafts and many are for out of state users.

Those seeking a refund have to request the refund and provide documentation.

Delaware Waterways Management and Financing Advisory Committee 9/8/14

Commercial boaters use red dye diesel which does not include the tax, as the tax is settled at the time of purchase.

Federal Highway Administration estimates 13,213,000 gal fuel sold for marine use in 2012.

13,213,000 x $.23 = $3,038,990 collected for marine fuel tax - $42,882 refunded =
$2,996,018 not refunded for marine fuel use.

Total TTF Motor Fuel Tax Revenue 2012 was $113M.

East Coast States Waterway Operations Funding Sources - UPDATED 9.22

	Transportation Funds	*Bond Bill Appropriations*	*Car Rental Tax*	*General Fund Budget*	*Boat Registration Fees*	*Federal Aid/Grants*	*Motor Boat Fuel Tax*	*Fishing License Fees*	*Excise (Boat Sales) Tax*	*Boat Titling Fees*	*Special Tax Districts along Waterways*
Delaware		X									
Maine		X	X								
Massachusetts		X									
Rhode Island				X	X						
Connecticut						X*					
New York - Canal Corporation	X										
New York - Town of Hempstead				X							
New Jersey	X										
Pennsylvania					X		X	X			
Maryland							X		X		
Virginia				X							
North Carolina					X		X			X	
South Carolina						X**					
Georgia											
Florida											X
Ohio					X		X				

*USFW Federal Aid - Wallop-Breaux funds used for small scale dredging projects at boat ramp areas

**Channel marking program funded through federal boating safety grant

PRIVATE AND COMMERCIAL NONHIGHWAY USE OF GASOLINE - 2012 (1)

JULY 2013 (THOUSANDS OF GALLONS) TABLE MF-24

STATE	AGRICULTURE	AVIATION **(2)**	INDUSTRIAL AND COMMERCIAL	CONSTRUCTION	MARINE	MISCELLAN-EOUS **(3)**	TOTAL
Alabama	9,984	2,819	8,469	6,748	24,486	-	52,506
Alaska	1,202	2,870	3,973	1,847	7,051	3,643	20,586
Arizona	12,998	8,452	9,134	11,986	14,498	2,777	59,845
Arkansas	23,026	1,521	5,303	3,565	16,468	1,898	51,781
California	78,308	16,754	77,789	61,674	59,130	76	293,731
Colorado	18,345	5,054	9,680	9,541	6,251	-	48,871
Connecticut	4,620	1,211	7,644	5,919	13,354	473	33,221
Delaware	3,929	7,606	1,322	1,635	13,213	-	27,705
Dist. of Col.	-	284	282	945	508	-	2,019
Florida	24,995	18,672	21,314	33,336	149,916	10,942	259,175
Georgia	17,764	5,001	16,958	15,023	23,690	-	78,436
Hawaii	1,106	424	1,122	3,384	2,323	-	8,359
Idaho	20,924	1,842	2,393	2,777	7,294	1,111	36,341
Illinois	32,874	4,243	31,566	20,353	27,738	5,962	122,736
Indiana	20,077	2,942	18,226	9,557	16,843	23,625	91,270
Iowa	45,952	1,698	6,996	4,285	12,166	89,281	160,378
Kansas	15,621	6,317	5,900	3,972	4,182	2,603	38,595
Kentucky	15,283	1,601	9,038	5,383	16,412	-	47,717
Louisiana	13,525	2,685	16,320	9,596	32,072	-	74,198
Maine	9,527	2,192	1,778	1,872	6,677	228	22,274
Maryland	10,305	1,963	7,333	12,120	21,266	-	52,987
Massachusetts	10,079	1,622	12,447	11,387	15,582	-	51,117
Michigan	16,870	2,128	18,602	11,456	57,740	-	106,796
Minnesota	31,658	3,387	11,933	9,448	38,492	26,635	121,553
Mississippi	16,830	1,753	4,870	4,043	13,012	187	40,695
Missouri	20,345	2,814	10,015	7,621	24,034	-	64,829
Montana	9,670	1,951	1,271	1,873	2,963	77	17,805
Nebraska	20,335	1,770	3,987	2,886	5,316	2,223	36,517
Nevada	2,195	1,870	3,474	6,363	4,846	-	18,748
New Hampshire	2,573	1,030	2,435	1,867	7,899	1,848	17,652
New Jersey	10,022	2,490	17,102	14,513	30,230	191	74,548
New Mexico	9,695	1,683	3,629	3,147	2,974	53	21,181
New York	29,458	2,098	27,276	33,090	55,334	2,078	149,334
North Carolina	29,112	4,621	21,007	14,158	41,044	49,295	159,237
North Dakota	9,682	1,057	1,664	1,390	3,507	421	17,721
Ohio	21,430	3,333	23,169	12,473	41,005	-	101,410
Oklahoma	20,347	5,001	8,346	5,000	19,533	5,120	63,347
Oregon	10,118	3,175	12,709	5,750	12,218	-	43,970
Pennsylvania	38,236	3,358	23,348	18,813	27,166	-	110,921
Rhode Island	1,046	185	1,365	1,861	4,195	-	8,652
South Carolina	5,491	2,904	7,180	6,741	40,386	-	62,702
South Dakota	11,627	3,946	1,325	1,245	3,148	-	21,291
Tennessee	15,716	-	12,813	7,269	21,514	1,587	58,899
Texas	92,243	19,467	78,326	48,860	48,905	4,691	292,492
Utah	3,559	2,817	5,042	5,084	7,599	-	24,101
Vermont	4,439	338	933	932	1,612	-	8,254
Virginia	9,152	2,861	12,170	15,363	26,387	1,404	67,337
Washington	17,664	3,614	12,998	12,606	25,017	4,162	76,061
West Virginia	1,313	804	3,127	2,582	4,786	240	12,852
Wisconsin	20,385	2,998	12,689	7,663	29,218	18	72,971
Wyoming	3,170	11,726	3,371	1,691	1,981	15,194	37,133
Total	874,825	192,952	621,163	502,693	1,093,181	258,043	3,542,857
Percentage	24.69	5.45	17.53	14.19	30.86	7.28	100.00

(1) This table is one of a series providing an analysis of motor-fuel consumption. A complete and uniform classification of nonhighway use is not possible due to differences among the States as to what classes of nonhighway use are eligible for exemptions or refunds and because some eligible refunds are not applied for. In order to make the data uniform and complete, nonhighway uses of gasoline were estimated by the Federal Highway Administration or data were obtained from other sources. These estimates may not be comparable to data for prior years due to revised estimation procedures. All data are subject to review and revision. Figures in bold type are State-Reported data.

(2) Excludes aviation jet fuel.

(3) An amount is shown in this column only when reported by the State, and when it could be determined that the State reported figure did not include fuel represented in other categories.

There are four main federal requirements that regulate gasoline sold in Delaware that are related to the two questions identified above:

- Reformulated Gasoline (RFG) (see 40 CFR Part 80, Subpart D). RFG was mandated by Section 211(k) of the federal Clean Air Act (CAA) for metropolitan areas with the worst smog beginning in 1995. This includes New Castle and Kent County Delaware; and Sussex County which was opted in by the Governor in 1993. RFG is blended to burn more cleanly than conventional gasoline, reducing emissions of ozone-forming and toxic pollutants. About 30% of the gasoline sold in the U.S. is subject to RFG requirements.

- Reid Vapor Pressure (RVP) (see 40 CFR Part 80, Subpart B ((80.27). RVP requirements are designed to reduce the volatility of commercial gasoline during the summer ozone control season, and apply nationwide. Summertime (i.e., June 1 to September 15) RVP is 9.0 in all attainment areas, 9.0 in northern nonattainment areas (including Delaware and to the north) and 7.8 in southern nonattainment areas. Note that although these RVP requirements apply to both RFG and conventional gasoline, the volatile organic compound (VOC) emissions performance standards in RFG effectively require lower RVP levels.

- Renewable Fuels Standard (RFS) (see 40 CFR Part 80, Subpart M). RFS requires that transportation fuel sold in the U.S. contain a minimum volume of renewable fuel. The RFS applies to any refiner or importer of gasoline within the 48 contiguous states. Refiners have substantially met the RFS requirements to date by adding 10% ethanol to gasoline.

- Mobile Source Air Toxics Standard (MSATS) (see 40 CFR Part 80, Subparts J and L). MSATS reduces hazardous air pollutants, also known as air toxics. Air toxics include benzene and other hydrocarbons such as 1,3-butadiene, formaldehyde, acetaldehyde, acrolein, and naphthalene. These are national requirements that require each refinery and importer to meet specific compliance baselines for conventional and reformulated gasoline.

For the question, "can marina's supply non-ethanol blend gasoline," the answer is "yes." Delaware itself has no regulations that require ethanol in gasoline -- in fact Delaware has no air quality regulations that cover gasoline. There are two federal requirements that apply in Delaware that benefit refiners use of ethanol -- RFG and RFS. While ethanol is used by refiners to help them meet these two federal requirements, the use of ethanol is not specifically required by either.

A more relevant question may be "can marina's obtain non-ethanol blended gasoline." Ethanol is blended into gasoline by refiners because it serves as an octane enhancer, is cheaper than gasoline on a volumetric basis (i.e., it lowers the retail $/gal), and it is classified as a renewable fuel (i.e., helps meet RFS requirements). Gasoline is currently available that contains no ethanol, however the quantity of non-ethanol blend gasoline is declining with time primarily because of the RFS. Gasoline blended with 10% ethanol (E10) has proven the most expedient means for refiners to comply with the RFS.

DELAWARE WATERWAYS MANAGEMENT AND FINANCING ADVISORY COMMITTEE MEETING

DNREC, DIVISION OF WATERSHED STEWARDSHIP
SHORELINE AND WATERWAY SERVICES FACILITY
901 Pilottown Road, Lewes, DE 19958
September 8, 2014 Meeting Notes

AGENDA

- Welcome and Announcements
- Review and Acceptance of August 25th Meeting Notes
- Presentation of Funding Options Matrix for Other States
- Presentation of DNREC's 5 Year Projection for Waterway Management Funding Needs
- Round Robin Committee Discussion – Ethanol Free Gas Blends for Boat Use and Current Revenues for Motor Fuel Sales
- Public Comments
- Concluding Remarks and Next Meeting

Members Present:

- **Robert Venables, Co-Chair – State Senate 21st District**
- **David Small, Co-Chair – DNREC Cabinet Secretary**
- **Frank Piorko – DNREC Division Director of Watershed Stewardship**
- **Chris Bason – Center for the Inland Bays**
- **Vicki Ford – Director of Office of Management and Budget**
- **David Cropper – Vines Creek Marina**
- **Jay Little – Tidal Finfish Advisory Council/Saltfish.net**
- **Neil Sands – Rehoboth Bay Sailing Association**
- **Pierce Quinlan - Lewes-Rehoboth Canal Improvement Association**
- **Gerald Hocker –State Senate 20th District**
- **Bill Carson – House of Representatives 28th District**
- **Ron Gray - House of Representatives 38th District**
- **Rob Whitford – Precision Marine**
- **Dave Ritondo – United States Coast Guard Auxiliary**
- **Ed Lewandowski – University of Delaware**
- **David Green – Cape Water Taxi**
- **Clark Evans – Old Inlet Bait & Tackle**

Not present:

- **Dave Russell – commercial charter boat captain**

Other parties in attendance:

- **David Saveikis – DNREC Division Director of Fish & Wildlife**
- **Douglas Messeck – DNREC Division of Fish & Wildlife Enforcement Officer**
- **Larry Horan – DNREC Division of Fish & Wildlife Construction Project Manager**
- **Tony Pratt – DNREC Division of Watershed Stewardship Administrator**
- **Dan Brower - DNREC Division of Watershed Stewardship Environmental Program Manager**
- **Chuck Williams – DNREC Division of Watershed Stewardship Environmental Program Manager**
- **Ariane Nichols - DNREC Division of Watershed Stewardship Environmental Scientist**

Senator Venables opened the meeting at 8:29am with a call to approve last month's meeting minutes and they were passed unanimously. He stated there was a general consensus that everyone on the committee was in agreement that a formal Waterway Management Plan was needed. Last meeting focused on discussing needs and possible funding options. **Frank Piorko** was asked to look further into what other states were doing and how they funded their waterway projects. **Mr. Piorko** thanked the committee for all "pulling in the same direction" as they moved forward with discussions.

Mr. Piorko welcomed committee members **Clark Evans & Vicki Ford**, since **Mr. Evans** was unable to attend the August 25 meeting and **Ms. Ford** was present via conference call.

Handouts were provided showing information on current revenue for motor fuel sales, a matrix of other coastal states' funding sources, FY2015 budget considerations, a revised Waterway Management Program five-year plan, and an updated list of committee members.

Ariane Nichols presented the matrix showing what other states are using as funding mechanisms. It was noted that two states are using transportation funds (NY & NJ), three states are using bond bill appropriations (DE, ME & MA), and a variety of other funding sources such as car rental tax, general fund budget, boat registration fees, federal aid/grants, motor boat fuel tax, fishing license fees, excise (boat sales) tax, boat titling fees, and special tax districts along waterways. A discussion followed regarding the wide variety of funding for waterway projects. **Mr. Piorko** also stated that the matrix did not show possible cost sharing of state & federal funds with local government revenue.

Mr. Piorko recognized other people in attendance including Dave Saveikis, Doug Messeck & Larry Horan, from the Division of Fish & Wildlife along with Dan Brower from Shoreline & Waterway Management.

From the last meeting, there was a request to provide more detail regarding the planning budget for the next 3 – 5 years and a breakdown of costs and expenses in the program. **Chuck Williams** gave a presentation showing needs for maintenance dredging, channel marking, macro-algae harvesting, waterway maintenance, regional sediment management, and engineering & waterway modeling. He provided details on maintenance dredging projects for FY2015 including Little River ($1.2M), Augustine Beach Boat Ramp ($75K), Indian River ($275K) and the Assawoman Canal ($50K). Waterway Management Operations for FY2015 include new equipment (purchase of the New Castle Conservation District dredge ($300K)) since that program is no longer funded by the General Assembly, channel marking ($60K), macro-algae harvesting ($35K), waterway maintenance, abandoned vessel/debris removal ($30K), and contractual support ($300K). Research funding for FY2015 would include conducting a waterway management plan that needs a sustainable funding source ($325K) and

expanding the regional sediment management plan from the Rehoboth Bay into the Indian River Bay with considerations for beneficial re-use options for dredged material and waterway enhancements to reduce dredging needs ($250K). **Mr. Williams** emphasized that this was not a final plan and that it will most likely change over time.

Mr. Piorko added that this was not the FY2015 or FY2016 budget, but more of a wish list. Each year his team is forced to look at needs and resources and prioritize accordingly. Concerns come from the boating community, legislators and their constituents. Funds were not available to address needs at Massey's Ditch, but work was done with the Coast Guard to mark the channel and lay the groundwork to complete Massey's, which is a multi-year project with a projected cost of $2.5M. Each year it's a balancing act and requires going to the legislature and bond bill committee to explain what needs are.

Ed Lewandowski asked how much money is received each year from the federal government. **Mr. Piorko** referred the question to **Tony Pratt** who explained we don't have direct cash flow from the federal level. There are 27 waterway channels in the state of Delaware, 20 of which are federally identified, but funding is restricted. The Federal Office of Management and Budget prioritizes funding by commercial waterway tonnage (over 75M of product annually) and only three Delaware waterways meet the criteria: The Christina River in the Port of Wilmington, the C&D Canal, and the Nanticoke River. All the other channels including Massey's, Indian River, the Mispillion, and Little River are showing up on the federal inventory base each year, but he doubts the state will ever see any returns on those channels being dredged. As a result, Delaware has inherited the responsibility to maintain the other channels. A question was asked about the return on these waterway projects to the state of Delaware. **Mr. Pratt** explained that we don't have a measurable return but it's apparent there is a direct benefit from people using the waterways (fuel, bait, food, lodging, etc.). Economic analyses have been done in the past to evaluate value to human use on the shoreline, but that waterway use is not valued at this time.

Mr. Lewandowski asked what the current federal tax was on marine fuel. **Mr. Piorko** referred to the handout regarding federal requirements of regulated gas sold in Delaware. The handout provided explanation of reformulated gasoline and renewable fuel standards. Discussion followed on non-ethanol gas blends for boaters and fuel purchased out of state.

David Small explained the interaction between air quality policy and waterway management. The topic of ethanol and non-ethanol blends in Delaware was brought up last year by **Senator Hocker**. There are federal requirements for reformulated fuels and renewable fuel standards. The reformulated gasoline requirement grew out of the Clean Air Act amendments that Congress passed in 1990 (the Act originally passed in 1970). The amendments in 1990 took an aggressive approach to controlling criteria of pollutants and controlling air quality standards. Delaware faces a challenge with ground level ozone. Both New Castle County and Kent County did not meet the air quality standards for ozone attainment, which is a summertime phenomenon. Hot days in the summer, combined with drifting air from the west, affect Delaware air quality. Federal requirements dictate that if a state does not meet ozone attainment you have to have reformulated gasoline. In 1993, it was decided to sell reformulated gasoline in all three counties for consistency. The EPA was notified accordingly so that Delaware could maintain their attainment status. An additional federal requirement was put in place that a certain percent of gasoline sold had to come from renewable fuels. Ethanol fits the federal requirement. **Mr. Small** explained there was a question of whether non-reformulated fuel could be sold in Delaware. Better air quality and fewer ozone forming compounds are a result of reformulated and ethanol mix gas. The EPA requires air quality standards under the Clean Air Act and Delaware has a state implementation

plan that looks at the ways all sources contribute. An offset would need to be established in order to do away with reformulated gasoline in Sussex County. One possibility would be to require a modification to the onboard emissions testing done by the DMV in Georgetown. Kent and New Castle Counties both have onboard diagnostics to test emissions. Many factors would need to be considered to make a change in Sussex County. The impact on the market is unknown on the sale of two different types of fuels. Additional conversations should occur with the Department of Transportation, Division of Motor Vehicles, and the petroleum market (at the wholesale and retail level) if a potential change is made.

Representative Carson asked if Maryland sells non-ethanol gasoline. **Mr. Small** stated they do. However, he is unsure how they sell different fuel types. **Mr. Small** said it is frustrating that the Eastern Shore of Maryland does not monitor their air quality the same way that Delaware does given they must have the same issue of contaminants coming from the West.

Neil Sands asked two questions: 1. Is it true that ethanol costs more to produce than regular gasoline? 2. Doesn't ethanol based fuel get better gas mileage and in turn create less air pollutants?

Mr. Small said there are ongoing debates on these points and that one can make arguments on either side. Considerations would have to be made based on data moving forward and include input from industry experts.

Jay Little stated he took away from the last meeting a focus on bringing in more money by taxing non-e gas. Currently there is a rebate for non-highway use for fuel. He wondered if the rebate would be eliminated in addition to a tax on non-e gas.

Senator Venables said there is currently a $.23 cent per gallon tax that boaters can apply for a rebate.

Senator Hocker said he has spoken with many boaters who would be OK with doing away with the rebate if non-e gas would be available.

Mr. Little stated he has a blog on his website (Saltfish.net) and asked the question if fishermen would be in favor of eliminating the rebate and instituting a tax if non-e gas was available. The question was viewed 1,624 times, 60 people responded and 40 people weighed in with a vote. Of those, the majority (52.5%) said to leave the issue alone and don't change anything.

Comments made included this was more of an issue ten years ago, but there were newer practices of treating fuel to eliminate problems and that non-ethanol gas is more of an issue for older equipment and small engines like chainsaws, trimmers, mowers, etc.

There seemed to be a general concern for eliminating the gas rebate all together.

Mr. Little noted that ethanol gas prices at marinas are higher than the price paid at a gas station. Currently gas is selling for $4.00 per gallon for 89 octane at the Indian River Marina.

Gas prices in Maryland (for non-ethanol) range from $4.45 - $4.80 per gallon.

Senator Hocker remarked many boaters he has spoken to are willing to pay more for non-ethanol gasoline as they see no benefit in using ethanol since fuel treatment is used and maintenance costs are greater.

Mr. Little stated that comments he heard in the boating community were not necessarily about ethanol vs. non-e gas but more of a concern regarding the elimination of the fuel rebate program.

Chris Bason asked **Mr. Small** to explain the possible offset that DMV could offer with regard to air quality. **Mr. Small** said that Delaware gets a benefit from Sussex County selling reformulated gasoline. It's measured in tons per year of compounds that are released into the air. If the type of gas that's sold changes, some other type of reduction would need to offset the air quality for Delaware to comply with the Clean Air Act. Another mechanism to achieve those reductions may be changing the way DMV does their emissions testing in Sussex County.

Rob Whitford stated that for every $1K purchased in fuel, an additional $160 is spent on fuel additive to reduce the ethanol. He questioned how that affected air quality.

Mr. Small responded that the ethanol issue is more about it being renewable and less about air quality. Adding the fuel additive probably does eliminate any air quality factors and/or benefit.

Dave Cropper questioned how Maryland gets away with selling non-e gas in certain counties.

Mr. Small stated that the ethanol requirement is for refineries. They could use credits to make non-e gas. The issue for the Eastern shore of Maryland is they are in an area that is not required to use reformulated gas.

Mr. Bason asked a question on the handout regarding the number of gallons of gas purchased for commercial vs. recreation marine use. **Mr. Small** said most of it was recreational.

Mr. Piorko led a discussion on the handouts related to fuel sales in Delaware. Currently the tax on gasoline in Delaware is $.23 cents per gallon and generates over $3M in revenue. In 2013, 575 refunds were given totaling $42,882. It was estimated that 13,213,000 gallons was for marine use. Commercial vessels use red-dye diesel, which has no tax. In 2013, the total Motor Fuel Tax revenue was $113M.

Mr. Piorko stated it would be beneficial to know how much non-e fuel is sold in Maryland and how much fuel is sold in Sussex County marinas.

It was noted that it appears the rebate is not really taken advantage of in Delaware and that the balance goes to DelDOT and into the Transportation Trust Fund.

Mr. Piorko stated his observation was that there was about a $.70 per gallon differential between Maryland's non-e gas and Delaware's blend. He asked what type of revenue could be derived from bringing non-e fuel to Delaware

Senator Hocker said his Pep-Up representative quoted him $.35 - $.40 cents more per gallon for non-e gas.

The question was raised where the non-e gas would be sold. Would it be available at the pump (gas stations) or only be available at marinas?

Mr. Lewandowski asked if the Delaware marine fuel tax was always obligated to support the DelDOT trust fund. **Senator Venables** responded it has been that way since the fund was created back in 1987.

Dave Green said he has taken advantage of the rebate program; however, it is a difficult process at best. Receipts obtained at marinas are OK, but gas station receipts need to be stamped by the attendant and a form needs to be filled out. The forms are available through DelDOT.

Senator Venables said the transportation trust fund doesn't look like the only source of funding for waterway management needs.

It was stated that taxing red-dye diesel was not something that would be supported by the boating community, and especially not the local farming industry.

Mr. Piorko asked if there is any revenue benefit in bringing non-e fuel to marinas at a higher cost if no additives were needed.

Mr. Bason asked if any of the current fuel tax was designated for channel marking, waterway maintenance, etc. and the answer was "no." **Senator Venables** stated the argument would have to be made that waterways could be classified as transportation highways for boaters.

Mr. Bason asked what the motorboat fuel tax was and can that be directed for waterway management as compared to other states. Legislation would have to designate additional marine fuel tax or carve out a portion of current taxes to be used for waterway management.

The Transportation Trust Fund is already under funded. It was supposed to be used only for construction projects. In 1992, a change was made to aid the administration due to shortfalls in the budget.

Mr. Small expressed concern about moving revenue from DelDOT for waterway management as the farming community, aviation industry, and many others will speak out.

Other comments:

- Waterway use needs to be supported by data.
- Non-e fuel with a new tax added to the current tax should be investigated.
- The $.23 cent tax has been static since 1995.
- New revenue should be estimated.
- There is a need to determine how much fuel is sold at marinas.
- There are 59,186 boats registered in Delaware, but no boat titling program in place
- There is a need to capture trailered boats too.

- Charter boats may go out of business if tax is levied.

Mr. Small raised the question: If the gas rebate is eliminated along with the exemption on red-dye fuel, would it raise a lot of arguments? The answer was a resounding "yes."

It was noted that the rebate was only $42K last year.

Senator Venables said perhaps there should be a surcharge to boat licenses.

Mr. Piorko said that the new revenue would have to be dedicated for waterway management. He said future discussions should focus on ethanol free fuel, boat titling & registration, county transfer taxes, the program budget and prioritizing projects.

Senator Venables said there are 62 legislators who each get $250K of the CTF Fund annually for special projects. DelDOT adds an additional 50 – 100%. It may be a good idea to ask each of them to dedicate $10K for the waterway management program.

He explained that Rule 12 is a group of items that have been allowed to use the CTF to fund their projects and that waterway management/maintenance may fall under it.

Bulk heading, pilings, bike paths, street lights, drainage, landscaping, sidewalks, etc. were all state projects added in the past as allowable expenditures under Rule 12.

$3M - $5M per year would be needed to fund the waterway management program and funds would only be used on waterways owned by the state. Boat fees should be considered in future conversations.

Representative Carson asked how East Coast funding came from car rental tax and a short discussion followed.

A summary was given on ethanol free blends and it was stated there is a need to determine how much Delaware could realize in revenue. Will the tax be enough? Will it be worth it?

Senator Hocker said that the amount of Delaware people going to Maryland to buy fuel is not a defined figure, but that it's larger than realized.

Mr. Small asked if it is worth adding an additional tax on diesel fuel for marine use. Feedback indicates that boaters are comfortable with the current user model and diesel sold at marinas is currently exempt.

Mr. Little stated charter boats are already operating at a small profit margin and that any tax consideration should be spread out to be more palatable for everyone. Other tax options should be considered.

It was stated that the use of Delaware waterways greatly impacts coastal tourism revenue. Considerations should be made for users of the waterways to help pay for maintaining them.

Delaware has an 8% accommodations tax and 1% of it goes to beach management. There is no room to deduct additional funds for waterway management.

It was asked where the gross receipts tax revenue goes and the answer was the General Fund. Comments followed that the General Fund is already hard to balance.

Senator Venables said the committee is collective in agreement that something needs to be done.

Mr. Small said the homework is to determine if an additional fuel tax is applicable on non-reformulated gas/non-e fuel and to refine numbers to see what the volume looks like. He also said a review on Delaware's boat licensing fees and titling considerations will be discussed at the next meeting.

Senator Hocker said he sees three possible funding sources: bond bill appropriations, boater registration fees, and motor boat fuel tax. He also said that non-e fuel from North Carolina would cost an additional $.05 - $.06 per gallon cost.

A Committee report is due by mid-November. Meetings will follow a regular two week schedule moving forward.

Next meeting: September 22, 2014 in the DNREC Shoreline & Waterway Services Facility conference room at 8:30am

Meeting adjourned at 10:31am

APPENDIX D

September 22, 2014 Meeting

- Agenda
- List of Attendees
- PowerPoint Presentation
- Hand-outs
- Meeting Notes

DELAWARE WATERWAYS MANAGEMENT AND FINANCING ADVISORY COMMITTEE
September 22, 2014 – 8:30 a.m. to 10:30 a.m.
DNREC, Division of Watershed Stewardship
Shoreline and Waterway Field Office
901 Pilottown Road
Lewes, DE 19958

AGENDA

- Welcome and Announcements – 8:30 a.m.
- Review and Acceptance of September 8 Meeting Notes
- Recap of Last Meeting's Discussion – Funding Options Matrix, DNREC's 5-year Projection of Waterway Management Funding Needs, Non-Ethanol Gas Blends for Boat Use, Motor Fuel Tax Rebate
- Presentation of Information on 2013 Marine Fuel Sales in Sussex County, Maine's Rental Car Tax, North Carolina's Increase in Boat Registration and Titling Fees
- Presentation of Delaware's Current Boat Registration Fees – What is the money used for at present and Business Models for Increased Revenues
- Round Robin Committee Discussion – Waterway Management Maintenance Fee, Boating Survey
- Public Comments
- Concluding Remarks and Next Meeting

DELAWARE WATERWAYS MANAGEMENT AND FINANCING ADVISORY COMMITTEE MEETING

SEPTEMBER 22, 2014

SIGN IN SHEET

(Please make sure ALL information is legible)

Name	Address and/or Organization	Telephone and/or Email Address
1. Rob Whitford	Precision Marine 202 Woodbridge Mills Rehoboth	227-2711 Rob@precisionmarine.us
2. Jay Little	Tidal Fin Fish Adv. Council Saltfish.net	admin@saltfish.net
3. Douglas J Messeck	DFW Enforcement	Douglas.messeck@state.de.us
4. Clark Evans	Old Inlet Bait	Clark@oldinlet.com
5. Ron Gray	302 436 7024	ronald.gray@state.de.us
6. Gerald Hocker	38489 Hickman Rd. Ocean View	gerald.hocker@ " " "
7. Robert L Venables	State Senate	381-9975
8. C.A. Swanborski	U.D.	EPLEW@UDEL.EDU
9. Dave Ritondo	USCGA	302 381 6584
10. Pierce Cranford	Rehoboth/Lewes Creed	SILVERFOX27@YAHOO.COM
11. Neil Sands	Rehoboth Bay Sailing Associat.	nasands@comcast.net
12. David Cropper	Pagsboro PC.	
13. Vicki Ford	OMB	vicki.ford@state.de.us
14 Tom Fowler	Ocean View Marina	302-388-1915 backbaytours@verizo.net

Name	Address and/or Organization	Telephone and/or Email Address
14. Chris Beaton	CIB	
15. DAVID SMALL	DNREC	
16. DAVID SAVRIKAS	"	
17. TONY PRATT	"	
18. CINDI CLEAVER	"	
19. ARIANE NICHOLS	"	
20. CHUCK WILLIAMS	"	
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Delaware Waterways Management and Financing Advisory Committee 9/22/14

- Review and Acceptance of Notes
- Last Meeting Discussion
  - Funding Options Matrix
  - DNREC's 5-Year Funding Needs for Waterway Management ($3M - $5M annually)
  - Non-Ethanol Gas Blends for Boat Use
  - Motor Fuel Tax Rebate. (FHA estimates of 13M gal. $3M+collected for marine fuel tax. $42,882 was refunded to boaters leaving $3M not refunded)

Delaware Waterways Management and Financing Advisory Committee 9/22/14

- Last Meeting Discussion
  - Utilizing TTF Motor Fuel Tax revenue for waterway management needs would cut into Transportation needs.
  - Suggestion was made to utilize some portion ($10K) from individual CTF accounts (Rule 12).

- Today's Discussion
  - 2013 Marine Fuel Sales in Sussex County
  - Maine's Rental Car Tax
  - North Carolina's Increase in Boat Registration and Titling Fees
  - Delaware's Current Boating Registration Fees and Business Models for Increased Revenue

Delaware Waterways Management and Financing Advisory Committee 9/22/14

Ethanol Free Gas Sales on Eastern Shore MD

- Approximately 506,000 gallons ethanol-free fuel sold on MD Eastern Shore during 2013.
- To date sales for 2014 are approximately 415,000 gallons.

2013 Marine Fuel Sales in Sussex County

- Currently 15 marinas in Sussex sell fuel to boaters.
- As of today, only 5 have provided information on fuel sales - totaling 304,970 gallons of gasoline sold. (IR Inlet Marina is a substantial portion of those sales).
- Based on information gathered, roughly estimate that total gasoline sales were approximately 450,000 gallons in Fy2013 (assuming an average of 15,000 gallons from marinas who have not provided information).
- Diesel sales reported total 244,630 gals. Estimated total 275K-300K gals.

Delaware Waterways Management and Financing Advisory Committee 9/22/14

Maine's Rental Car Tax

- Dredging projects primarily funded through Bond Bill appropriations every 2 years by the State legislature (averages $500K).
- Car Rental Tax revenue averages $6M annually (10% tax on rental vehicles weighing less than 26,000 lbs.).
- Revenue goes into Maine's Department of Transportation's "multi-modal fund".
- Fund can be used for a variety of transportation projects (transit, aeronautic, marine, railway).
- Also periodically receive funds from Maine Port Authority for projects (ex. $100K to relocate lobsters from a federal navigation channel for a Corps project).

Delaware Waterways Management and Financing Advisory Committee 9/22/14

Delaware's Rental Car Tax

- Delaware does have a tax on rental cars that is imposed on both the lessee and lessor.
- The tax falls under the Lessee/Lessor of Tangible Personal Property category.
  - Lessee Rate = 0.020114%
  - Lessor Rate = 0.003017%
- The money generated from this tax goes into General Gross Receipts.

Delaware Waterways Management and Financing Advisory Committee 9/22/14

North Carolina's Increase in Boat Registration and Titling Fees

- NC General Assembly enacted legislation in 2013 (Section 14.22 of Senate Bill 402).
- Increased fees for boat registration and titling.
  - Reg. for vessels <26 feet: $15 to $30 for 1-year and $40 to $90 for 3-years
  - Reg. for vessels >26 feet: $40 to $50 for 1-year and $120 to $150 for 3-years
  - Titling: from $20 to $30 for all vessels
- 50-percent of increase for registration and $10 increase for titling goes to new Shallow Draft Navigation Channel and Lake Dredging Fund.

Delaware Waterways Management and Financing Advisory Committee 9/22/14

North Carolina (continued)

- In FY2013, 146,737 boats registered in NC - 30,302 1-year boat registrations and 116,435 3-year registrations ($5,111,930 in revenue).
- In FY2014 after fee increase went into effect on October 1, 2013, 144,316 boats registered – 50,358 1-year registrations and 93,958 3-year registrations ($8,097,525 in revenue).
- $3,527,970 going to shallow draft dredging fund – includes increased revenue from registration and titling.

Delaware Waterways Management and Financing Advisory Committee 9/22/14

North Carolina (continued)

- Titling required for the following vessels:
  - All jet skis
  - Vessels over 14 ft.
  - Any vessel with a lien

- FY2013 – 45,850 vessels titled, generating revenue of $917,000

- FY2014 – 45,243 vessels titled, generating revenue of $1,208,830
  - Fee increases began Oct. 1, which was after the months that most titling occurs (June/July/August).

Delaware Waterways Management and Financing Advisory Committee 9/22/14

Presentation of Delaware's Current Boat Registration Fees

Delaware Waterways Management and Financing Advisory Committee 9/22/14

Boat Registration Statutory Authority
Administered by Division of Fish & Wildlife
TITLE 23
Navigation and Waters
CHAPTER 21. MOTORBOATS
Subchapter II. Registration, Equipment and Operation

§ 2113 Licensing and registration fees.

(f) Beginning July 1, 2000 and annually thereafter, the funds derived by the State from Boat Registration Fees shall be deposited as Appropriated Special Funds by the Department with the State Treasurer.

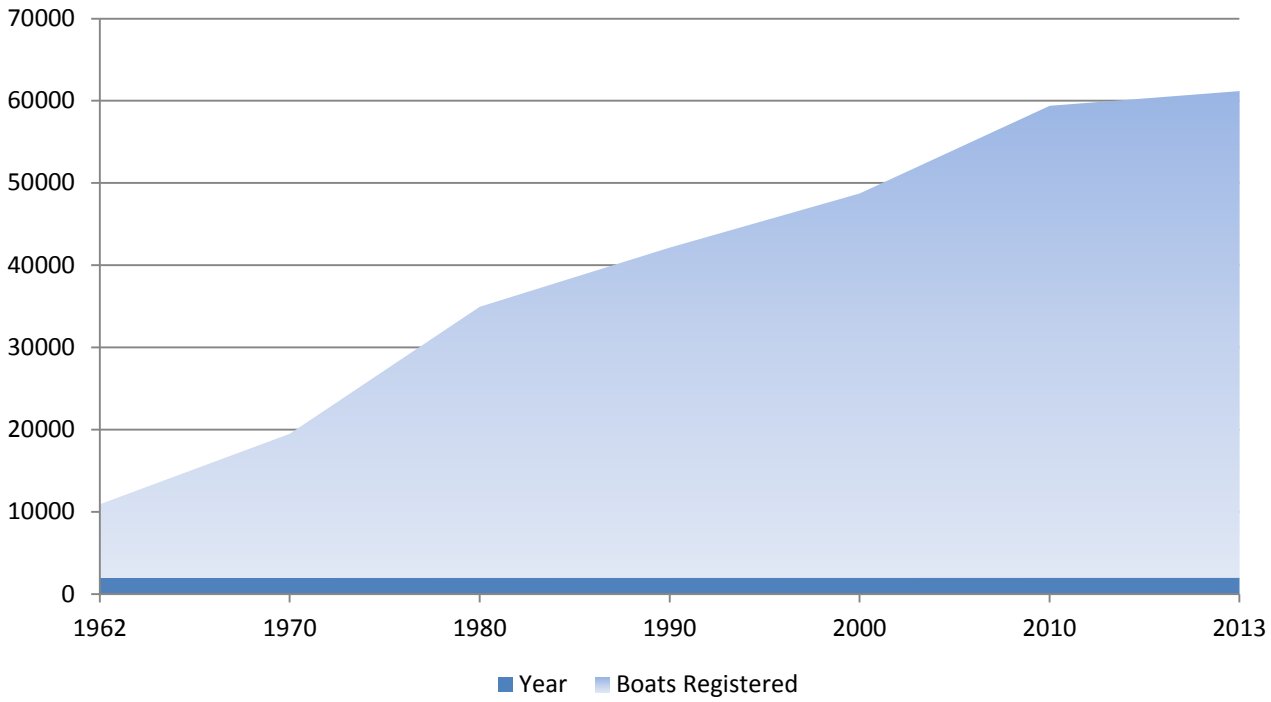
§ 2118 Public facilities; administration and enforcement of subchapter.

(b) The Department shall assign a Boating Administrator who shall be qualified by training and experience to perform the duties of office. The Boating Administrator shall train and maintain a staff of Fish and Wildlife Agents who are capable of insuring compliance with state law and Department regulations of all vessels using, moored or anchored on state waters. The Boating Administrator shall train and maintain a clerical staff to operate the boating safety office and all boat registration offices.

§ 2119 Annual appropriation.

(a) For purposes of implementing this subchapter, there shall be appropriated annually the funds necessary to establish and maintain reasonable support in terms of equipment and personnel to carry out the purposes of this subchapter.

Delaware Boat Registration Numbers
1962 - 2013

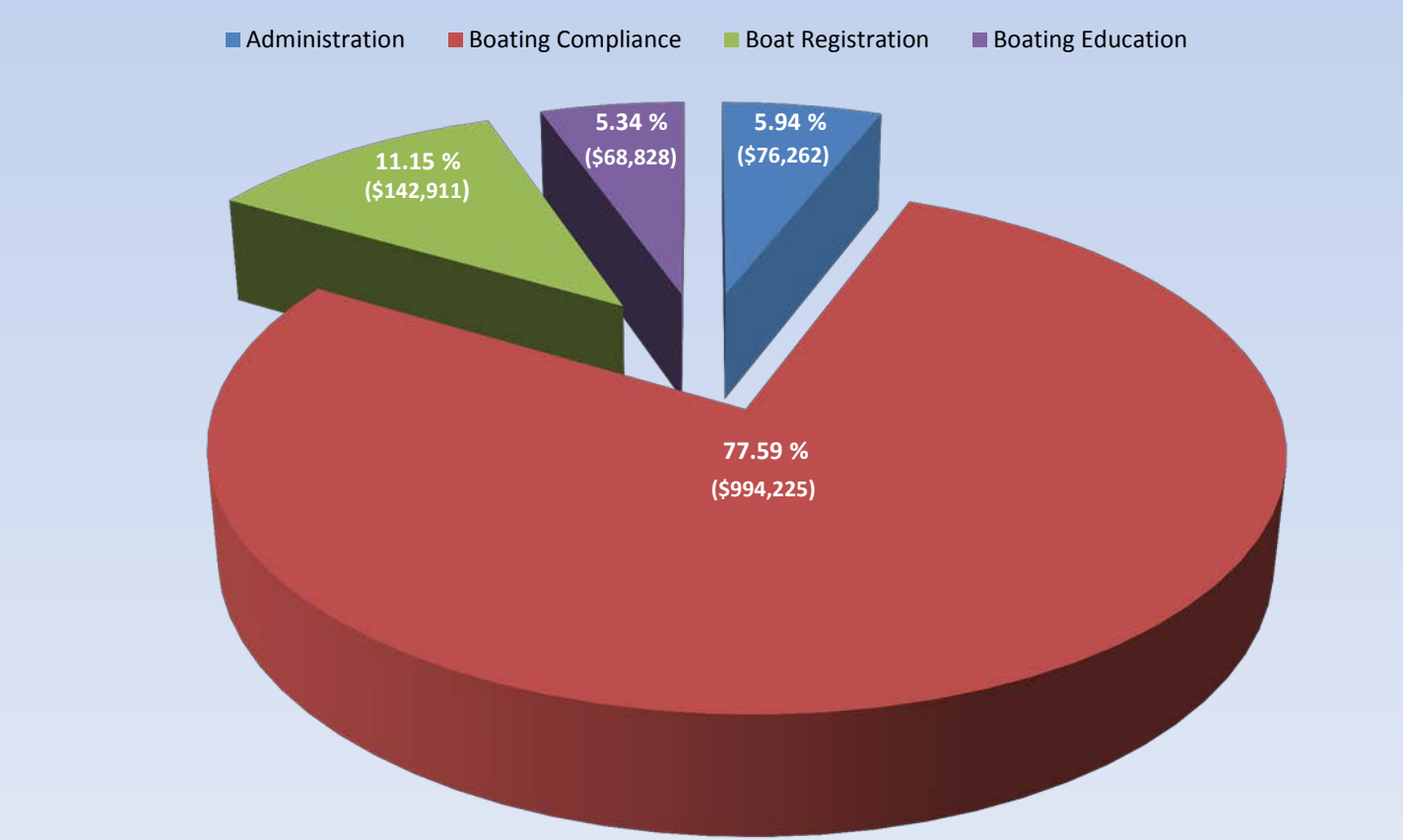


Boat Registrations began in Delaware 1962

- 1962 ➢ 8,974 Boat Registrations
- 1970 ➢ 17,510 Boat Registrations
- 1980 ➢ 32,956 Boat Registrations
- 1990 ➢ 40,146 Boat Registrations
- 2000 ➢ 46,719 Boat Registrations
- 2010 ➢ 57,401 Boat Registrations
- 2013 ➢ 59,186 Boat Registrations

Delaware Boat Registration Funding
$1,282,225 per year

September 22, 2014



Administration		Boating Compliance		Boat Registration		Boating Education	
Salaries and Fringe	5.62 %	Salaries and Fringe	59.65 %	Salaries and Fringe	6.57 %	Salaries and Fringe	2.04 %
Equipment	0.00 %	Equipment	0.44 %	Equipment	0.00 %	Equipment	0.00 %
Travel	0.08 %	Travel	0.29 %	Travel	0.00 %	Travel	0.01 %
Supplies	0.00 %	Supplies	4.51 %	Supplies	2.00 %	Supplies	0.44 %
Contractual	0.24 %	Contractual	12.70 %	Contractual	2.58 %	Contractual	2.85 %

Delaware Waterways Management and Financing Advisory Committee 9/22/14

Boat Length	Delaware	New Jersey	Pennsylvania	Maryland *
<16 ft	$10	$12	$13.00 ($9.00 for unpowered)	No fee
16ft - <26ft	$20	$28	$19.50 (16ft - <20ft) $26.00 (20ft +)	$12.00
26ft - <40ft	$30	$52	$26.00	$12.00
40ft - <65ft	$50	$80	$26.00	$12.00
65ft and over	$60	$250	$26.00	$12.00
Additional fees			$25.00 – Commercial Passenger	$5.00 – Documented Decal
Tax on boat sales	0%	7%	6%	5% Excise tax in lieu of sales tax

Delaware Waterways Management and Financing Advisory Committee 9/22/14

Boat Length	Rate (annually)	No. Reg. Vessels	Current Revenue	Additional Revenue from Doubling Fees
<16 ft.	$10	17,106	$171,060	$171,060
16ft. to <26 ft.	$20	27,991	$559,820	$559,820
26 ft. to <40 ft.	$30	7,746	$232,380	$232,380
40 ft. to <65 ft.	$50	5,497	$274,850	$274,850
65 ft. and over	$60	846	$50,760	$50,760
Total		59,186	$1,288,870	$1,288,870
Less 10% (anticipated registration decrease)				$1,158,983

Delaware Waterways Management and Financing Advisory Committee 9/22/14

Boat Length	Rate (annually)	No. Reg. Vessels	Current Revenue	Additional Revenue from $15 Main. Fee
<16 ft.	$10	17,106	$171,060	$256,590
16ft. to <26 ft.	$20	27,991	$559,820	$419,865
26 ft. to <40 ft.	$30	7,746	$232,380	$116,190
40 ft. to <65 ft.	$50	5,497	$274,850	$82,455
65 ft. and over	$60	846	$50,760	$12,690
Total		59,186	$1,288,870	$887,790
Less 10% (anticipated registration decrease)				$799,011

Delaware Waterways Management and Financing Advisory Committee 9/22/14

Boat Length	Rate (annually)	No. Reg. Vessels	Current Revenue	Additional Revenue from Increased Rates Based on Graduated Scale
<16 ft.	$10	17,106	$171,060	$85,530 (+$5)
16ft. to <26 ft.	$20	27,991	$559,820	$279,910 (+$10)
26 ft. to <40 ft.	$30	7,746	$232,380	$116,190 (+$15)
40 ft. to <65 ft.	$50	5,497	$274,850	$109,940 (+$20)
65 ft. and over	$60	846	$50,760	$21,150 (+$25)
Total		59,186	$1,288,870	$612,720
Less 10% (anticipated registration decrease)				$551,448

Delaware Waterways Management and Financing Advisory Committee 9/22/14

Titling Vessels in Delaware

- Currently no title required for boats bought and sold in State.
- No system currently in place for tracking boats sales or ownership history outside of registration information.
- Idea was previously discussed by DNREC and Department of State, but was quickly dismissed.

  - Concerns surrounded potential loss in revenue - if corporations had to pay additional fees they might consider relocating elsewhere (3/4's of State's budget is comprised of taxes paid by corporations).

SECTION 14.21.(m) Of the funds appropriated to the Department of Environment and Natural Resources in this act, at least three million two hundred thousand dollars ($3,500,000) for the 2013-2014 fiscal year and at least five million dollars ($5,000,000) for the 2014-2015 fiscal year shall be used for grants to local government units for public water system-related projects and wastewater-related projects. The State Water Infrastructure Authority established by G.S. 159G-70, as enacted by subsection (b) of this section, shall determine the distribution of funds between public water system-related projects and wastewater-related projects, depending upon the number of applications for grants received and the priorities established by the State Water Infrastructure Authority. Grants awarded to local government units for public water system-related projects shall be credited to the Drinking Water Reserve established in G.S. 159G-22 to be used for grants to local government units in accordance with the provisions of Chapter 159G of the General Statutes, as amended by this section. Grants awarded to local government units for wastewater-related projects shall be credited to the Wastewater Reserve established in G.S. 159G-22 to be used for grants to local government units in accordance with the provisions of Chapter 159G of the General Statutes, as amended by this section. Funds allocated by this subsection are limited to projects in development tier one or two areas, as defined by G.S. 143B-437.08. The State Water Infrastructure Authority shall report no later than May 1, 2014, to the Environmental Review Commission, the Senate Appropriations Committee on Natural and Economic Resources, the House of Representatives Appropriations Subcommittee on Natural and Economic Resources, and the Fiscal Research Division on the distribution of grant funds awarded under Chapter 159G of the General Statutes, as amended by the section, and whether changes are needed to the existing grant program under Chapter 159G of the General Statutes or other available grant programs to better facilitate the dissemination of funds and meet the project needs of rural, economically distressed local governments.

SECTION 14.21.(n) The terms for the members who are appointed initially to the State Water Infrastructure Authority established by G.S. 159G-70, as enacted by subsection (b) of this section, shall commence July 1, 2013. Notwithstanding the provisions of G.S. 159G-70, as enacted by subsection (b) of this section, in order to establish staggered terms, the terms for the members who are appointed initially to the State Water Infrastructure Authority under G.S. 159G-70(b)(4), (6), and (8) shall expire July 1, 2016.

SECTION 14.21.(o) The Revisor of Statutes may conform names and titles changed by this section and may correct statutory references as required by this section throughout the General Statutes. In making the changes authorized by this section, the Revisor may also adjust subject and verb agreement and the placement of conjunctions.

INCREASE FUNDING FOR DREDGING

SECTION 14.22.(a) G.S. 75A-3 reads as rewritten:

"**§ 75A-3. Wildlife Resources Commission to administer Chapter; Vessel Committee; funds for administration.**

(a) The Commission shall enforce and administer the provisions of this Chapter.

(b) The chair of the Commission shall designate from among the members of the Commission three members who shall serve as the Vessel Committee of the Commission, and who shall, in their activities with the Commission, place special emphasis on the administration and enforcement of this Chapter.

(c) The Boating Account is established within the Wildlife Resources Fund created under G.S. 143-250. Interest and other investment income earned by the Account accrues to the Account. All moneys collected pursuant to the numbering and titling provisions of this Chapter shall be credited to this Account. Motor fuel excise tax revenue is credited to the Account under G.S. 105-449.126. The Commission shall use revenue in the Account, subject to the Executive Budget Act and the Personnel Act, for the administration and enforcement of this Chapter; for activities relating to boating and water safety including education and waterway marking and improvement; and for boating access area acquisition, development, and maintenance. The Commission shall use at least three dollars ($3.00) of each one-year certificate of number fee and at least nine dollars ($9.00) of each three-year certificate of number fee collected under the numbering provisions of G.S. 75A-5 for boating access area acquisition, development, and maintenance. The Commission shall transfer on a quarterly basis fifty percent (50%) of each one-year certificate of number fee and fifty percent (50%) of each three-year certificate of number fee collected under the numbering provisions of G.S. 75A-5 to

the Shallow Draft Navigation Channel and Lake Dredging Fund established by G.S. 143-215.73F."

SECTION 14.22.(b) G.S. 75A-5 reads as rewritten:

"**§ 75A-5. Application for certificate of ~~number and fees; number; fees;~~ reciprocity; change of ownership; conformity with federal regulations; records; award of certificates; renewal of certificates; transfer of partial interest; destroyed or junked vessels; abandonment; change of address; duplicate certificates; display.**

(a) Application for Certificate of ~~Number and Fees.~~Number. – The owner of each vessel requiring numbering by this State shall file an application for a certificate of number with the Commission. The Commission shall furnish application forms and shall prescribe the information contained in the application form. The application shall be signed by the owner of the vessel or the owner's agent and shall be accompanied by a ~~fee. The fee is fifteen dollars ($15.00) for a one-year period or forty dollars ($40.00) for a three-year period.~~fee, as set out in subsection (a1) of this section. The fee does not apply to vessels owned and operated by nonprofit rescue squads if they are operated exclusively for rescue purposes, including rescue training. The owner shall have the option of selecting a one-year numbering period or a three-year numbering period. Upon receipt of the application in approved form, the Commission shall enter the application in its records and issue the owner a certificate of number stating the identification number awarded to the vessel and the name and address of the owner, and a validation decal indicating the expiration date of the certificate of number. The owner shall paint on or attach to each side of the bow of the vessel the identification number in such manner as may be prescribed by rules of the Commission in order that it may be clearly visible. The identification number shall be maintained in legible condition. The validation decal shall be displayed on the starboard bow of the vessel immediately following the number. The certificate of number shall be pocket size and shall be available for inspection on the vessel for which the certificate is issued at all times the vessel is in operation. Any person charged with failing to so carry a certificate of number shall not be convicted if the person produces in court a certificate of number previously issued to the owner that was valid at the time of the alleged violation.

(a1) Fees. – The fees for certificates of number are as set out in this subsection:

(1) The fee for a certificate of number for a one-year period is:

a. Thirty dollars ($30.00) for a vessel that is less than 26 feet in length.

b. Fifty dollars ($50.00) for a vessel that is 26 feet or more in length.

(2) The fee for a certificate of number for a three-year period is:

a. Ninety dollars ($90.00) for a vessel that is less than 26 feet in length.

b. One hundred fifty dollars ($150.00) for a vessel that is 26 feet or more in length.

...

(h) Renewal of Certificates. – An owner of a vessel awarded a certificate of number pursuant to this Chapter shall renew the certificate on or before the first day of the month after which the certificate expires; otherwise, the certificate shall lapse and be void until such time as it may thereafter be renewed. Application for renewal shall be submitted on a form approved by the Commission and shall be accompanied by a fee in the amount set in subsection ~~(a)~~(a1) of this section. ~~No fee is required for a period of one year for renewal of certificates of number that have been previously issued to commercial fishing vessels as defined in G.S. 75A-5.1, upon compliance with all of the requirements of that section.~~

...."

SECTION 14.22.(c) G.S. 75A-5.1 is repealed.

SECTION 14.22.(d) G.S. 75A-7 reads as rewritten:

"**§ 75A-7. Exemption from numbering requirements.**

(a) A vessel shall not be required to be numbered under this Chapter if it is:

(1) A vessel that is required to be awarded an identification number pursuant to federal law or a federally approved numbering system of another state, and for which an identification number has been so awarded: Provided, that any such vessel shall not have been within this State for a period in excess of 90 consecutive days.

(2) A vessel from a country other than the United States temporarily using the waters of this State.

(3) A vessel whose owner is the United States, a state or a subdivision thereof.
(4) A ship's lifeboat.
~~(5) A vessel that has a valid marine document issued by the federal Bureau of Customs or any federal agency successor thereto.~~
(6) A sailboat of not more than 14 feet on the load water line (LWL).
(7) A vessel with no means of propulsion other than drifting or manual paddling, poling, or rowing.

(b) The Commission is hereby empowered to permit the voluntary numbering of vessels owned by the United States, a state or a subdivision thereof.

(c) Those vessels owned by the United States, a state or a subdivision thereof and those owned by nonprofit rescue squads may be assigned a certificate of number bearing no expiration date but which shall be stamped with the word "permanent" and shall not be renewable so long as the vessel remains the property of the governmental entity or nonprofit rescue squad. If the ownership of any such vessel is transferred from one governmental entity to another or to a nonprofit rescue squad or if a vessel owned by a nonprofit rescue squad is transferred to another nonprofit rescue squad or governmental entity, the Commission shall issue a new permanent certificate of number, displaying the same identification number, without charge to the successor entity. When any such vessel is sold to a private owner or is otherwise transferred to private ownership, the applicable certificate of number shall be deemed to have expired immediately prior to the transfer. Prior to further use on the waters of this State, the new owner shall obtain a certificate of number pursuant to the provisions of this Chapter. The provisions of this subsection applicable to a vessel owned by a nonprofit rescue squad apply only to a vessel operated exclusively for rescue purposes, including rescue training."

SECTION 14.22.(e) G.S. 75A-34 reads as rewritten:

"**§ 75A-34. Who may apply for certificate of title; authority of employees of Commission.**

(a) Any owner of a motorized vessel or sailboat 14 feet or longer or any personal watercraft, as defined in G.S. 75A-13.3(a), that is applying for a certificate of number for the first time in this State pursuant to G.S. 75A-5(a), and any new owner of a motorized vessel or sailboat 14 feet or longer or any personal watercraft to whom ownership is being transferred under G.S. 75A-5(c) shall apply to the Commission for a certificate of title for that vessel. Any other vessel may be titled in this State at the owner's option. A vessel may not be titled in this State if it is titled in another state, unless the current title is surrendered along with the application for a certificate of title in this State. The Commission shall issue a certificate of title upon reasonable evidence of ownership, which may be established by affidavit, bill of sale, manufacturer's statement of origin, certificate of title in this State, certificate of number or title from another state, or other document satisfactory to the Commission. Only one certificate of title may be issued for any vessel in this State. A vessel may not be titled in this State if it is documented with the United States Coast ~~Guard.~~ Guard, unless the documentation has expired or been deleted by the United States Coast Guard. The Commission shall issue a certificate of title upon receipt of a completed application, along with the appropriate fee and reasonable evidence of ownership. The Commission shall require a manufacturer's statement of origin for all new vessels being issued a certificate of number and a certificate of title for the first time. The Commission may request a pencil tracing of the hull identification number (serial number) for vessels being transferred, in order to positively identify the vessel before issuance of a certificate of title for that vessel.

(b) Employees of the Commission are vested with the power to administer oaths and to take acknowledgements and affidavits incidental to the administration and enforcement of this section. They shall receive no compensation for these services."

SECTION 14.22.(f) G.S. 75A-38 reads as rewritten:

"**§ 75A-38. Commission's records; fees.**

(a) The Commission shall maintain a record of any title it issues.

(b) The Commission shall charge a fee of ~~twenty dollars ($20.00)~~ thirty dollars ($30.00) to issue a new or transfer certificate of title. The Commission shall transfer on a quarterly basis at least ten dollars ($10.00) of each new or transfer certificate of title to the Shallow Draft Navigation Channel and Lake Dredging Fund established by G.S. 143-215.73F. The Commission shall charge a fee of ten dollars ($10.00) for each duplicate title it issues and for the recording of a supplemental lien."

SECTION 14.22.(g) G.S. 105-449.126 reads as rewritten:

"**§ 105-449.126. Distribution of part of Highway Fund allocation to Wildlife Resources ~~Fund.~~Fund and Shallow Draft Navigation Channel and Lake Dredging Fund.**

(a) The Secretary shall credit to the Wildlife Resources Fund one-sixth of one percent (1/6 of 1%) of the amount that is allocated to the Highway Fund under G.S. 105-449.125 and is from the excise tax on motor fuel. Revenue credited to the Wildlife Resources Fund under this section may be used only for the boating and water safety activities described in G.S. 75A-3(c). The Secretary must credit revenue to the Wildlife Resources Fund on an annual basis.

(b) The Secretary shall credit to the Shallow Draft Navigation Channel and Lake Dredging Fund one-sixth of one percent (1/6 of 1%) of the amount that is allocated to the Highway Fund under G.S. 105-449.125 and is from the excise tax on motor fuel. Revenue credited to the Shallow Draft Navigation Channel and Lake Dredging Fund under this section may be used only for the dredging activities described in G.S. 143-215.73F. The Secretary shall credit revenue to the Shallow Draft Navigation Channel and Lake Dredging Fund on an annual basis."

SECTION 14.22.(h) Article 21 of Chapter 143 of the General Statutes is amended by adding a new Part to read:

"Part 8B. Shallow Draft Navigation Channel and Lake Dredging Fund.

"**§ 143-215.73F. Shallow Draft Navigation Channel and Lake Dredging Fund.**

The Shallow Draft Navigation Channel and Lake Dredging Fund is established as a special revenue fund. The Fund consists of fees credited to it under G.S. 75A-3, 75A-38, and 105-449.126. Revenue in the Fund may only be used to provide the State's share of the costs associated with any dredging project designed to keep shallow draft navigation channels located in State waters or waters of the state located within lakes navigable and safe. Any project funded by revenue from the Fund must be cost-shared with non-State dollars on a one-to-one basis. For purposes of this section, "shallow draft navigation channel" means (i) a waterway connection with a maximum depth of 16 feet between the Atlantic Ocean and a bay or the Atlantic Intracoastal Waterway, (ii) a river entrance to the Atlantic Ocean through which tidal and other currents flow, or (iii) other interior coastal waterways. "Shallow draft navigation channel" includes the Atlantic Intracoastal Waterway and its side channels, Beaufort Harbor, Bogue Inlet, Carolina Beach Inlet, the channel from Back Sound to Lookout Back, channels connected to federal navigation channels, Lockwoods Folly River, Manteo/Shallowbag Bay, including Oregon Inlet, Masonboro Inlet, New River, New Topsail Inlet, Rodanthe, Rollinson, Shallotte River, Silver Lake Harbor, and the waterway connecting Pamlico Sound and Beaufort Harbor."

SECTION 14.22.(i) Nothing in this section shall affect the validity, term, or cost of any certificate of number or certificate of title issued prior to October 1, 2013.

SECTION 14.22.(j) This section authorizes a Long Term Dredging Memorandum of Agreement with the U.S. Army Corps of Engineers which may last beyond the current fiscal biennium and which shall provide for all of the following:

(1) Prioritization of projects through joint consultation with the State, applicable units of local government, and the U.S. Army Corps of Engineers.

(2) Compliance with G.S. 143-215.73F. Funds in the Shallow Draft Navigation Channel Dredging Fund shall be used in accordance with that section.

(3) Annual reporting by the Department on the use of funds provided to the U.S. Army Corps of Engineers under the Long Term Dredging Memorandum of Agreement. These reports shall be made to the Joint Legislative Commission on Governmental Operations, the Fiscal Research Division, and the Office of State Budget and Management and shall include all of the following:
   a. A list of all projects commenced.
   b. The estimated cost of each project.
   c. The date that work on each project commenced or is expected to commence.
   d. The date that work on each project was completed or is expected to be completed.
   e. The actual cost of each project.

SECTION 14.22.(k) The Department of Environment and Natural Resources may use available funds for the 2013-2014 fiscal year and the 2014-2015 fiscal year in the Shallow Draft Navigation Channel and Lake Dredging Fund established in G.S. 143-215.73F, as enacted by subsection (h) of this section, to provide the State's share of costs associated with

projects that comply with that section. These funds are hereby appropriated for that purpose, but the Department of Environment and Natural Resources shall approve a project before it is eligible to receive any funds under this section.

SECTION 14.22.(l) Subsection (b) of this section becomes effective October 1, 2013, and applies to applications submitted on or after that date. Subsection (f) of this section becomes effective October 1, 2013, and applies to new or transfer certificates of title issued on or after that date. The remainder of this section becomes effective October 1, 2013.

ENVIRONMENTAL MANAGEMENT COMMISSION

SECTION 14.23.(a) G.S. 143B-283 reads as rewritten:

"**§ 143B-283. Environmental Management Commission – members; selection; removal; compensation; quorum; services.**

~~(a) The Environmental Management Commission shall consist of 13 members appointed by the Governor. The Governor shall select the members so that the membership of the Commission shall consist of:~~

~~(1) One who shall be a licensed physician with specialized training and experience in the health effects of environmental pollution;~~

~~(2) One who shall, at the time of appointment, be actively connected with the Commission for Public Health or local board of health or have experience in health sciences;~~

~~(3) One who shall, at the time of appointment, be actively connected with or have had experience in agriculture;~~

~~(4) One who shall, at the time of appointment, be a registered engineer with specialized training and experience in water supply or water or air pollution control;~~

~~(5) One who shall, at the time of appointment, be actively connected with or have had experience in the fish and wildlife conservation activities of the State;~~

~~(6) One who shall, at the time of appointment, have special training and scientific expertise in hydrogeology or groundwater hydrology;~~

~~(7) Three members interested in water and air pollution control, appointed from the public at large;~~

~~(8) One who shall, at the time of appointment, be actively employed by, or recently retired from, an industrial manufacturing facility and knowledgeable in the field of industrial air and water pollution control;~~

~~(9) One who shall, at the time of appointment, be actively connected with or have had experience in pollution control problems of municipal or county government;~~

~~(10) One who shall, at the time of appointment, have special training and scientific expertise in air pollution control and the effects of air pollution; and~~

~~(11) One who shall, at the time of appointment, have special training and scientific expertise in freshwater, estuarine, marine biological, or ecological sciences.~~

(a1) The Environmental Management Commission shall consist of 15 members as follows:

(1) One appointed by the Governor who shall be a licensed physician.

(2) One appointed by the Governor who shall at the time of appointment have special training or scientific expertise in hydrology, water pollution control, or the effects of water pollution.

(3) One appointed by the Governor who shall at the time of appointment have special training or scientific expertise in hydrology, water pollution control, or the effects of water pollution.

(4) One appointed by the Governor who shall at the time of appointment have special training or scientific expertise in air pollution control or the effects of air pollution.

(5) One appointed by the Governor who shall at the time of appointment be actively connected with or have had experience in agriculture.

June 26, 1991
Revised May 16, 2001
Revised June 6, 2001
Revised June 24, 2002
Revised March 19, 2003
Revised April 16, 2003
Revised September 24, 2003
Revised June 24, 2004
Revised June 30, 2004
Revised October 3, 2005
Revised June 26, 2006
Revised June 25, 2007
Revised January 16, 2008
Revised June 24, 2008
Revised June 28, 2009
Revised June 23, 2010
Revised June 23, 2011
Revised June 21, 2012
Revised June 19, 2013
Revised June 19, 2014

JOINT LEGISLATIVE COMMITTEE ON THE CAPITAL IMPROVEMENT PROGRAM
RULES

RULE 1. A quorum shall consist of five (5) members, except that a quorum shall consist of seven (7) members for bill drafting.

RULE 2. A quorum must be present in order to:

1. Conduct bill drafting sessions;
2. Open and conduct an executive session;
3. Amend the rules;
4. Make any motion.

RULE 3. A quorum need not be present to open and conduct public hearings in which the department/agency shall make a presentation of its budget.

RULE 4. The Co-Chairs shall preside over all meetings of the Joint Legislative Committee on the Capital Improvement Program. A temporary Chair may be designated by the Co-Chairs.

RULE 5. In the interest of order and decorum, all questions and comments must be directed to and acknowledged by the Co-Chairs.

RULE 6. All questions or comments in the public hearings shall be acknowledged by the Co-Chairs in the following order:

1. Members of the Joint Legislative Committee on the Capital Improvement Program.

2. Members of the General Assembly.
3. Other elected or appointed officials.
4. Any group, with a common purpose relevant to the subject at hand, must have one spokesman who shall be limited to five (5) minutes.
5. Any Delaware citizen may speak to the subject at hand and shall be limited to three (3) minutes.
6. Any member of the press may speak to the subject at hand and shall be limited to three (3) minutes.

RULE 7. All motions shall require a majority of those members who are present and voting, except bill drafting motions which require a majority vote of the entire Committee membership.

RULE 8. The schedule of public hearings of the Joint Legislative Committee on the Capital Improvement Program shall be distributed to at least the following:

1. Members of the Joint Legislative Committee on the Capital Improvement Program;
2. Members of the General Assembly;
3. Governor and Lieutenant Governor;
4. As appropriate, elected or appointed officials;
5. Department/agency concerned;
6. News media.

RULE 9. Minutes of the Joint Legislative Committee on the Capital Improvement Program meetings shall include the following:

1. Record of those members present;
2. A record by individual member of each vote taken and each action agreed upon.

RULE 10. The Controller General shall be the custodian of the records for the Joint Legislative Committee on the Capital Improvement Program.

RULE 11. The Joint Legislative Committee on the Capital Improvement Program declares that any project which falls in the category of a Grant-in-Aid project, private non-profit organizations shall not be considered for inclusion in the annual Bond and Capital Improvements Act.

RULE 12. Community Transportation Funds

a. Eligible Community Transportation Fund projects shall be limited to the following public capital projects:

- Paving a street or road (public)
- Traffic signals, signs, and lighting (luminaries)
- Repair of radar signs

- Noise abatement solutions, including fences, landscaping, berms, etc. Fences are intended for situations where completed transportation projects create a measurable increase in background noise.
- Curb and gutter improvements
- Drainage improvements
- Drainage improvements involving state maintained roads within municipalities. (Municipal drainage systems are the responsibility of the individual municipality)
- Transportation/Drainage studies
- Opticoms and emitters
- Majority of land acquisition for Greenways
- Transportation element of Greenways
- Permanent landscaping along trails and sidewalks. Funds may not be used for pots or planters less than 30 inches in diameter.
- Permanent landscaping installation in medians and traffic islands, with Department approval.
- Public Sidewalks
- Soil and water conservation projects funded by the General Assembly or other government agency.
- Transit shelter
- Bikeways
- Dry hydrants
- Bulkheads and pier pilings
- Parking lots
  - Public Schools
  - Parks
  - State agencies
  - "Others" on public land (for-profit entities are ineligible)
- Greenways
  - Paths
  - Lighting
  - Repair of paths
  - Funds to purchase Greenways used by the public
  - Funds to expand Greenways used by the public
- Traffic Calming Devices & Traffic Control Devices
- 5310 Bus Program
- Any project that qualifies under the Safety or Transportation Enhancement Program administered by the Department of Transportation
- Purchase of surplus DelDOT land at fair market value accompanied by legislation waiving the provisions of 17 Del. C. 137(b)
- All property within the State's right-of-way is eligible for the expenditure of Community Transportation Funds during any streetscape improvement project.
- Capital expenditures in support of open space uses on properties acquired, managed by, or controlled through agreements entered into by the

Department of Natural Resources, Department of Agriculture or the Department of Transportation, municipalities and counties such as fencing, tables, bike racks, kiosks, and comfort stations.

- For Fiscal Year 2009 only, median maintenance in those communities with contractual agreements with the Department.
- Banner signs attached to street lighting poles announcing the names of municipal neighborhoods and municipalities, similar to the Caesar Rodney signs used for suburban subdivisions, subject to confirmation of proposed signs as meeting applicable MUTCD rules and 17 Del.C. Chapter 11.

b. Projects Performed by Entities other than DelDOT:

- DelDOT matches cost estimates with funds available.
- DelDOT enters into contractual agreement with entity outlining the project's scope.
- All contractual agreements must be approved by the Secretary of Transportation and DelDOT's Deputy Attorney General.
- Project shall be tracked in DelDOT's accounting system.
- DelDOT shall pay 10% of the total project cost prior to construction for expenditures related to planning, design etc.
- Remaining funds shall be paid using one of the following methods of payment (to be outlined in the contractual agreement between DelDOT and entity):
  - Full reimbursement upon project completion;
  - Billing DelDOT on a regular schedule (e.g. every 2 weeks);
  - Pay full amount upon execution of contractual agreement if a contractor estimate is provided and the total project cost is less than $40,000;
  - Pay full amount upon execution of contractual agreement for any phase of a project (i.e., Conceptual Planning, Preliminary Engineering or Construction) with a County Conservation District or other State agencies as long as a contractor estimate or an in-house estimate for that phase of work is provided.
- DelDOT auditors shall perform a risk assessment annually for all projects closed during the fiscal year. Projects for audit shall be selected from this risk assessment to ensure that all projects over $50,000 are reviewed and that all recipients are audited no less than once every three years.

c. Project Estimates for FY 2012 through FY 2015: (Estimate expiration and cost adjustment)

- For projects to be built by December 31, 2015, legislators must submit their signed authorization to the Department no later than November 30, 2014. All estimates prepared prior to and including FY 2012 shall expire.
- Effective November 30, 2014, all estimates made during FY 2013 will be increased by 2%.
- Effective November 30, 2014, all estimates made during FY 2014 will be increased by 1%.

Note: On May 16, 2001, the Joint Legislative Committee on the Capital Improvement Program voted to update the rules by deleting Rules 12 and 13 and inserting a new Rule 12.

Note: On June 24, 2002, the Joint Legislative Committee on the Capital Improvement Program voted to update Rule 12.

Note: On March 19, 2003, the Joint Legislative Committee on the Capital Improvement Program voted to update Rule 12.

Note: On April 16, 2003, the Joint Legislative Committee on the Capital Improvement Program voted to update Rule 12.

Note: On September 24, 2004, the Joint Legislative Committee on the Capital Improvement Program voted to update Rule 12a by adding "Traffic Control Devices."

Note: On June 24, 2004, the Joint Legislative Committee on the Capital Improvement Program voted to update Rule 12b by allowing for payment of phases of a project providing the proper estimate has been provided by the contractor or in-house.

Note: On June 30, 2004, the Joint Legislative Committee on the Capital Improvement Program voted to update Rule 12a by adding "Right of Ways."

Note: On October 3, 2005, the Joint Legislative Committee on the Capital Improvement Program voted to update Rule 12 by adding a new subsection "c".

Note: On June 26, 2006, the Joint Legislative Committee on the Capital Improvement Program voted to update Rule 12 (c) by adjusting the dates by one year. Also increased two-year old estimates from "20%" to "30%" and increased one-year old estimates from "15%" to "20%".

Note: On June 25, 2007, the Joint Legislative Committee on the Capital Improvement Program deleted prior language "DelDOT auditors shall audit all projects not less than three years from the completion of the project" with language above.

Note: On June 25, 2007, the Joint Legislative Committee on the Capital Improvement Program voted to update Rule 12 (c) by adjusting the dates by one year. Also decreased two-year old estimates from "30%" to "25" and decreased one-year old estimates from "20%" to "5%".

Note: On January 16, 2008 the Joint Legislative Committee on the Capital Improvement Program voted to update Rule 12 by allowing "Capital expenditures in support of open space……".

Note: On June 24, 2008, the Joint Legislative Committee on the Capital Improvement Program voted to update Rule 12 (a) by adding the words "and pier pilings" after

bulkheads and added a new bullet “For Fiscal Year 2009 only, median maintenance in those communities with contractual agreements with the Department.” Also voted to update Rule 12 (c) by adjusting the dates by one year. Also decreased two-year old estimates from “25%” to “10”.

Note:
On June 28, 2009, the Joint Legislative Committee on the Capital Improvement Program voted to update Rule 12 (c) by adjusting the dates by one year.

Note:
On June 23, 2010, the Joint Legislative Committee on the Capital Improvement Program voted to update Rule 12 (c) by adjusting the dates by one year. Also, decreased two-year old estimates from “10%” to “5%” and decreased one-year old estimates from “5%” to “3%”.

Note:
On June 22, 2011, the Joint Legislative Committee on the Capital Improvement Program voted to update Rule 12 (c) by adjusting the dates by one year.

Note:
On June 23, 2011, the Joint Legislative Committee on the Capital Improvement Program voted to update Rule 12 by allowing banner signs attached to street lighting poles announcing the names of municipal neighborhoods, similar to the Caesar Rodney signs used for suburban subdivisions, subject to confirmation of proposed signs as meeting applicable MUTCD rules and Del.C. Chapter 11.

Note:
On June 21, 2012, the Joint Legislative Committee on the Capital Improvement Program voted to update Rule 12 (c) by adjusting the dates by one year. Also, decreased two-year old estimates from “5%” to “2%” and decreased one-year old estimates from “2%” to “1%”.

Note:
On June 19, 2013, the Joint Legislative Committee on the Capital Improvement Program voted to update Rule 12 (c) by adjusting the dates by one year.

Note:
On June 19, 2014, the Joint Legislative Committee on the Capital Improvement Program voted to update Rule 12 (c) by adjusting the dates by one year.

Note:
On June 19, 2014, the Joint Legislative Committee on the Capital Improvement Program voted to update Rule 12 by allowing banner signs attached to street lighting poles announcing the names of municipal neighborhoods and municipalities, similar to the Caesar Rodney signs used for suburban subdivisions, subject to confirmation of proposed signs as meeting applicable MUTCD rules and Del.C. Chapter 11.

Note:
On June 19, 2014, the Joint Legislative Committee on the Capital Improvement Program voted to update Rule 12 by allowing permanent landscaping installation in median and traffic islands, with Department approval.

Note:
On June 19, 2014, the Joint Legislative Committee on the Capital Improvement Program voted to update Rule 12 by allowing Drainage improvements involving state maintained roads within municipalities. (Municipal drainage systems are the responsibility of the individual municipality)

Note:
On June 19, 2014, the Joint Legislative Committee on the Capital Improvement Program voted to update Rule 12 by allowing Capital expenditures in support of open space uses on properties acquired, managed by, or controlled through agreements entered into by the Department of Natural Resources, Department of Agriculture or the Department of Transportation, municipalities and counties such as fencing, tables, bike racks, kiosks, and comfort stations.

Note:
On June 19, 2014, the Joint Legislative Committee on the Capital Improvement Program voted to update Rule 12 by allowing repair of radar signs.

DELAWARE WATERWAYS MANAGEMENT AND FINANCING ADVISORY COMMITTEE MEETING

DNREC, DIVISION OF WATERSHED STEWARDSHIP
SHORELINE AND WATERWAY SERVICES FACILITY
901 Pilottown Road, Lewes, DE 19958
September 22, 2014 Meeting Notes

AGENDA

- Welcome and Announcements – 8:30 a.m.
- Review and Acceptance of September 8 Meeting Notes
- Recap of Last Meeting's Discussion – Funding Options Matrix, DNREC's 5-year Projection of Waterway Management Funding Needs, Non-Ethanol Gas Blends for Boat Use, Motor Fuel Tax Rebate
- Presentation of Information on 2013 Marine Fuel Sales in Sussex County, Maine's Rental Car Tax, North Carolina's Increase in Boat Registration and Titling Fees
- Presentation of Delaware's Current Boat Registration Fees – What is the money used for at present and Business Models for Increased Revenues
- Round Robin Committee Discussion – Waterway Management Maintenance Fee, Boating Survey
- Public Comments
- Concluding Remarks and Next Meeting

Members Present:

- **Robert Venables, Co-Chair – State Senate 21st District**
- **David Small, Co-Chair – DNREC Cabinet Secretary**
- **Chris Bason – Center for the Inland Bays**
- **Vicki Ford – Director of Office of Management and Budget**
- **David Cropper – Vines Creek Marina**
- **Jay Little – Tidal Finfish Advisory Council/Saltfish.net**
- **Neil Sands – Rehoboth Bay Sailing Association**
- **Pierce Quinlan - Lewes-Rehoboth Canal Improvement Association**
- **Gerald Hocker –State Senate 20th District**
- **Ron Gray - House of Representatives 38th District**
- **Rob Whitford – Precision Marine**
- **Dave Ritondo – United States Coast Guard Auxiliary**
- **Ed Lewandowski – University of Delaware**
- **Clark Evans – Old Inlet Bait & Tackle**

Not present:

- **Dave Russell – commercial charter boat captain**
- **Bill Carson – House of Representatives 28th District**
- **Frank Piorko – DNREC Division Director of Watershed Stewardship**
- **David Green – Cape Water Taxi**

Other parties in attendance:

- **David Saveikis – DNREC Division Director of Fish & Wildlife**
- **Douglas Messeck – DNREC Division of Fish & Wildlife Enforcement Officer**
- **Tony Pratt – DNREC Division of Watershed Stewardship Administrator**
- **Chuck Williams – DNREC Division of Watershed Stewardship Environmental Program Manager**
- **Ariane Nichols - DNREC Division of Watershed Stewardship Environmental Scientist**
- **Tom Fowler – Ocean View Marina**

David Small opened the meeting at 8:34 am with a call to approve last month's meeting minutes. One correction was made: **Ron Whitford** made the fuel additive comment and not **Clark Evans**. With the correction, the minutes were passed unanimously.

Mr. Small stated that there was a lot of information covered during the last meeting, including the funding matrix of other states and projected five-year capital needs of the Waterway Management Program presented by **Chuck Williams** and **Ariane Nichols**. Discussions from the last meeting also included non-ethanol gas blends for boat use and the motor fuel tax rebate.

Chuck Williams explained there was a change in the state matrix for North Carolina. They use a percentage of fuel tax to fund waterway/marine operations. It is based on all types of fuel sold. **Mr. Williams** stated that using DelDOT's Transportation Trust Fund for Waterway Management was discussed at the last meeting, but it may cut into transportation needs. He also referred to the comment previously made by **Senator Venables** that each legislator could possibly offer $10K from their respective Community Transportation Fund (CTF), which would total $620K annually for waterway management. **Mr. Williams** presented a handout with Rule 12 and the CTF account.

Mr. Williams said this meeting's focus is to review the 2013 marine fuel sales in Sussex County, review the rental car tax in Maine, North Carolina's increase in boat registration and titling fees, including a handout of the legislation that was passed on October 1, 2013, in North Carolina, and to review Delaware's current boating registration fees with some different business models for increased revenue.

Ariane Nichols reported the amount of ethanol-free fuel that was sold on the Eastern Shore of MD was 506K gallons in 2013. The year to date (YTD) sales for 2014 are 415K. The sales for 2014 are expected to exceed 2013 sales. The 15 marinas in Sussex County, Delaware sold approximately 450K gallons of gas in 2013 with 205K sold just at the Indian River Marina. Diesel sales were 244,360 gallons so far with a projected total of 275K – 300K. Most marinas in Delaware do not sell diesel fuel.

Neil Sands asked what the average retail price per gallon was for non-ethanol gas. **Senator Hocker** stated it was about $.40 cents more per gallon. **Jay Little** reported results from a survey he did where ethanol gas was $4.00/gallon at Indian River. Non-ethanol prices in Maryland were $4.70/gallon in Ocean City, $4.45/gallon in Ocean Pines and $4.80/gallon at Sunset Marina.

Senator Venables stated it cost approximately $3,000 to charter a fishing boat and that the boating industry as a whole is in a recession. Many vessels stay at the dock because of gas prices. He questioned if they could afford a fuel tax and if the problem was as bad as reported.

Tom Fowler, representing the public, gave the following information on fuel sales at his marina in Ocean View, Delaware:

- 2012 - 14,665 gallons
- 2013 - 11,611 gallons
- 2014 YTD - 9,600 gallons

He said there is a definite decline in boating due to overhead.

Ms. Nichols said that many marinas have not provided gas sales information, but she has called repeatedly. There are only two marinas outside Sussex County and they are in New Castle County.

Mr. Williams provided information on Maine's rental car tax. Dredging projects in Maine are primarily funded through bond bill appropriations and average about $500K every two years. The rental car tax generates approximately $6M annually and is 10% on vehicles weighing less than 26,000 lbs. Proceeds go into Maine's Department of Transportation's "multi-modal fund". The fund can be used for a variety of transportation related projects (transit, aeronautic, marine, railway), but there is no breakdown available for how much of the $6M goes toward marine projects. They also periodically receive funds from the Maine Port Authority for projects ($100K to relocate lobsters from a federal channel for a Corps project).

Senator Venables stated the State's Bond Bill doesn't look good as a funding source. It is the lowest it has been in six years and the operating budget is skyrocketing. Capital projects used to be anywhere from $800M - $900M, but are now only $420M.

Ms. Nichols reported that Delaware also has a car rental tax and that proceeds go to General Gross Receipts.

Mr. Williams presented findings on North Carolina's increase in boat registration and titling fees and reported the increased revenue goes to their new Shallow Draft Navigation Channel and Lake Dredging Fund. The new fees went into effect October 1, 2013, and have contributed $3,527,970 to the shallow draft dredging fund. Titling is required on jet skis, all vessels over 14" and any vessel with a lien. FY2013 boat registrations were higher than FY2014 and titling was about even.

David Saveikis presented information on Delaware boating registration, including Boat Registration Statutory Authority for the Division of Fish & Wildlife, a graph with boat registration data from 1962 - 2013, and a pie chart showing how the boat registration fund is spent. He stated the Division of Fish & Wildlife has the statutory authority and responsibility to deposit and spend boating registration revenue to ensure compliance with safe boating laws and that an annual appropriation of funds is needed to support the program. The number of boats that are registered in Delaware has gone from approximately 10K in 1962 to almost 60K in 2013. However, there has been a flatter trend the past few years. **Mr. Saveikis** explained the enforcement section of his Division is funded by three primary sources:

- Boat registration fees
- Federal RBS (recreational boating safety) grants
- General Fund appropriations

There is a 1-1 match of state and federal money for the grants where state funds come from the boating registration funds and/or general fund appropriations. As a point of reference, **Mr. Saveikis** stated in recent years a large portion of the general fund appropriation was re-directed to the general state budget and boating registration funds had to make up the difference.

Mr. Saveikis broke down how $1,282,225 in boating registration fees is spent: 77.59% for boating compliance, 11.15% for boat registration, 5.94% for administration, and 5.34% for boating education. He said there is added pressure on boating registration fee income to compensate for losses in general funds. In addition, there currently are insufficient State funds to match the federal RBS grant, therefore, federal money is left on the table.

Tony Pratt gave an overview of the federal Water Resources Development Act. He explained that Congress is addressing the concern of diverted funds out of the Harbor Maintenance Trust Fund. The 2014 Act will dictate that by:

- 2015 67% of the fund be used for harbor maintenance projects
- 2019 77%
- 2022 87%
- 2025 100%

In addition, 10% of the appropriations will go to emerging harbors, which are not being addressed by the Harbor Maintenance Trust Fund and Corp of Engineers. The considerations for these projects will be based on tonnage and how much each harbor is paying into the fund vs. services received.

Senator Venables said that when he read in the report that $13B was being put into the program he thought the waterway management funding issue was resolved. **Mr. Pratt** stated that it remains to be seen how long it takes for Delaware to see any benefit based on the criteria and backlog of projects.

Mr. Small asked how harbors pay into the Harbor Maintenance Trust Fund. **Mr. Pratt** explained that is it based on commercial usage and that fees are based on tonnage. The Port of Wilmington and the C&D Canal pay into the fund.

Mr. Williams presented three business models to see how much revenue could be generated with an increase in boat registration fees. First he provided what the current fees were for vessels as compared to NJ, MD & PA. Delaware (with 59,186 vessels registered in 2013) generated $1,288,870 in boat registration revenue. The first model represented revenue if the current fees were doubled at $1,158,983. The second model indicated an increase of $799,011 if a flat $15 fee was levied and the third model reflected an additional $551,448 if a graduated scale of increased fees was implemented. Each model's calculations took into consideration a possible 10% decline in boat registration if the increased fees went into effect.

Mr. Small asked **Mr. Saveikis** how much his Division is short on the federal grant match and the reply was $200K-$300K average per year.

Mr. Small asked if other states charge more for out of state vessels. **Doug Messeck** stated that boats are registered by state of principle use. He explained that Maryland polices marinas and that many commercial vessels are incorporated in Delaware.

Mr. Sands asked if it was true that Delaware used to do private dredging of channels to access marinas. **Mr. Williams** explained that DNREC used to do private dredging, but time of year restrictions and other project priorities have put a stop to that practice. The law allows DNREC to do private work at their cost plus 10% for overhead. **Mr. Sands** said there is justification to do waterway management based on the cost of repairs for vessels that bottom out on sand bars.

Mr. Small asked when the last adjustment was made to boat registration fees. **Mr. Saveikis** reported that 1990 was the last time boating registration fees were increased.

Mr. Williams stated that Delaware does not title boats that are bought and sold in the State. The Department also does not have a system in place to track boat sales. The idea of titling vessels was previously by DNREC and the Department of State. However, it was dismissed due to concerns over the potential loss of revenue. Many corporations register boats in Delaware. If corporations had to pay additional fees, they might consider relocating elsewhere (3/4's of State's budget is comprised of taxes paid by corporations).

Rob Whitford asked if titling referred to documented vessels. **Doug Messeck** explained they accept federal documentation at registration, but that Delaware does not receive revenue from documentation.

Mr. Little reported that the New Jersey boat title fee is $60. There is also an additional $25 fee if there is a name on the boat. Their registration fees range from $12 - $80. Virginia has a title fee of $7 and the registration fee is $9 - 15 per year depending on boat size. North Carolina has a boat title fee of $35 and registration fees for recreational boats are $33 - $55. His information was derived from responses on Saltfish.net.

A conversation followed on boat sales tax and titling fees and where the revenue goes related to waterway management. **Mr. Small** said there was a boat title discussion a few years ago and there was an interest in Delaware by the lending institutions and marine tradesmen to move forward with it. Lenders like documents for legal structure and from a lien point of view. The issue was to keep the fee low enough to maintain a competitive advantage and not lose business to other states.

Mr. Little asked if boats that have titles in other states could be registered in Delaware. **Doug Messeck** replied that boat titles are proof of ownership. Without one, a person needs to have a notarized bill of sale to register a boat in Delaware.

Mr. Sands asked how much it would cost to start a title program. **Mr. Small** responded that it would cost approximately $200K - $250K for hardware, software and start up expenses.

Mr. Williams stated the excise tax on boat sales in Maryland is the primary portion of the waterway management fund. The fund generates about $8M annually in revenue for waterway management and most of that comes from boat sales.

Representative Gray asked if there is a hidden value for boat dealers. **Mr. Small** answered "yes" since there is no title fee or sales tax in Delaware.

Mr. Whitford asked if it's possible to draw a line between recreational and commercial vessels less than 100 feet vs. over 100 feet for the purposes of titling. Mr. **Small** said that it would need to be reviewed to determine any benefit.

Senator Hocker asked if states competing with Delaware for incorporations have boat titling. **Mr. Williams** said he would look into it.

Representative Gray asked who sells boat licenses and made the comment that any increase in boating registration fees would be nice if boaters could see a direct benefit.

Mr. Small stated that establishing steady funding will help with working with contractors and consultants during the year to design and engineer projects. He asked for any feedback on the three business models presented at today's meeting by **Mr. Williams**.

Mr. Whitford said it was not long ago that Delaware doubled its motor vehicle registration fees.

Mr. Sands commented that a nominal increase in boat registration fees would not be a big deal if fees are known to help better waterways and money is focused on projects.

Mr. Little stated that his website discussions about piling on fees indicate they will go somewhere else if costs are on forced boaters alone. An incremental increase would be okay, but it would be best to also find other funding sources so that boaters don not shoulder the entire cost, especially since fuel use is currently down and boat registrations are flat.

Pierce Quinlan would like to see if fishing license sales are also down.

Senator Hocker stated that this committee was formed after his meeting with **Representative Gray** and 150-plus boaters in Millville last May. Overall, they will be willing to pay something toward waterway management, but not more than their fair share.

Mr. Sands said other forms of revenue would need to be considered in addition to boating fees. These may include a hotel tax/fee or transfer tax.

Senator Hocker said it is unfortunate that people buy homes and cannot get their boats out so it is reasonable to look to the county (transfer tax) for a possible match and not have the program funded all on the backs of boaters.

Mr. Pratt commented that he thought Maryland had a boat ramp fee and that perhaps Delaware should consider it.

Mr. Saveikis said that public boat ramp management is funded through fishing license fees with a federal match of excise tax funds. Because of the federal funding, they cannot charge a fee or the federal money is lost. The Division of Fish & Wildlife maintains about 60 – 70 boat ramps statewide.

Mr. Pratt reported that the projected total revenue for the Harbor Maintenance Trust Fund (HMT) for 2014 was $1.79B. At 67% target, $1.17M could be used for the nation's emerging harbors.

Senator Venables said that he sees lots of money put into bicycle paths and that the Bond Bill committee can possibly add $500K to waterway management projects instead.

Mr. Small said that there's not one thing that will fund the $3M - $5M needed. It may require an increase in registration fees for boaters, but it's important to see what is tolerable. Sussex County may be able to contribute something in addition to a portion of the CTF fund. It's important to get a sustainable program up and running. The agency (DNREC) has challenges with clean water quality and beach maintenance.

From the accommodations tax on hotel rooms (8%), 1% goes toward beach maintenance, 1% goes to the state tourism office and 1% is for the local county convention and business bureau. There is a shared benefit from the federal government for ocean beaches (60/40 split). However, the bay beaches are not available for federal funding.

Senator Venables asked to clarify that the 8% accommodations tax is for hotels and motels only and not on rentals. A brief conversation followed regarding what some coastal towns (like Dewey & Rehoboth) charge for rentals. Typically it is a 3% tax on rentals and it is collected by real estate firms. **Mr. Small** explained that beach communities can charge a rental accommodations tax under the same law as hotels and motels and that perhaps it's worth having a discussion to see about possible revenue opportunities.

Mr. Little remarked that Delaware should learn from its neighboring states about putting the cost on the back of the boaters through one time fees and/or increased boating registration fees per a commentary on Maryland, which lost 50% of their Waterway Improvement Fund revenue from 2005 – 2011.

Mr. Saveikis said the federal Sport Fish Restoration funds derived from the federal excise tax on fishing equipment prohibits the use of matched funds for maintenance dredging of navigational channels. Like Augustine Beach in New Castle, the funds can be used for sediment removal near a boat ramp, but there use is limited.

Mr. Small asked if it is a good idea for **Ed Lewandowski** from the University of Delaware to conduct a survey to determine what the public opinion may be on some of the ideas discussed by the committee. This might possibly assemble the opinion of the boating community and gauge what boaters are willing to pay.

Mr. Quinlan commented that there was quite a spending history on maintenance dredging and that regional sedimentation plans and capital improvement projects should be considered to reduce sedimentation and dredging needs and annual expenses of the program. **Mr. Pratt** stated that DNREC contracted a firm (Moffitt & Nichol) to do a report five years ago to identify what was needed to keep the navigational channels open to reduce dredging needs.

Chris Bason said t is his opinion that the long term needs of the program are valid. He also heard from the boating community that something needs to be done.

David Small asked the committee if there were any other topics that should be explored moving forward. He said the next meeting would be to refine the concepts already discussed.

Mr. Bason asked what product/deliverable the committee had to prepare given there were only two more meetings scheduled. **Mr. Small** replied that options would be presented with a cost associated for each. Funding would need to be identified along with any need for potential legislation. He did say, however, that the Department was recently given authorization to increase fees without moving through the General Assembly and that may extend to boat registration fees.

Mr. Bason remarked that the waterway management program should be reviewed for ways to reduce expenses like cutting or cost sharing the Algae Harvesting Program. He also suggested that some of the fuel tax that goes to DelDOT should be reallocated to the waterway management program. A discussion followed suggesting that an increase to the fuel tax with a split going toward the program could be considered.

Mr. Little said he liked the way **Mr. Williams** presented the three business models with different revenue potential. He suggested the committee prepare a report structured the same way for a public survey. **Mr. Lewandowski** said it would be a good idea to get feedback on the choices that have been discussed to date by the committee.

Mr. Williams said the next meeting will be in two weeks and then the final meeting will be on October 20, 2014, to wrap things up.

During the Public Comment period, **Mr. Fowler** shared a few comments:

- People at his marina are willing to pay an increase in boating registration fees.
- A new fuel tax may be opening a can of worms.
- Smaller boats will go to the pump instead of paying higher fuel rates at marinas.
- A sales tax on boats will cause Delaware registrations to go to other states.
- Bad weather affects fuel sales, but registrations are predictable.
- If revenue is marked as being used only for waterway management, then the pushback from boaters will be minimal.

Senator Hocker asked **Mr. Fowler** what boaters thought about boat titles. **Mr. Fowler** stated he didn't really pose that question, however, he felt it would not be a bad thing if it was voluntary and nominal in cost.

Mr. Sands asked if someone could reach out to Sussex County to get them in the discussion and **Senator Hocker** said he would work on it.

Senator Venables adjourned the meeting at 10:17am.

Next meeting: October 6, 2014 in the DNREC Shoreline & Waterway Services Facility conference room at 8:30am.

APPENDIX E

October 6, 2014 Meeting

- Agenda
- List of Attendees
- PowerPoint Presentation
- Hand-outs
- Meeting Notes

DELAWARE WATERWAYS MANAGEMENT AND FINANCING ADVISORY COMMITTEE
October 6, 2014 – 8:30 a.m. to 10:30 a.m.
DNREC, Division of Watershed Stewardship
Shoreline and Waterway Field Office
910 Pilottown Road
Lewes, DE 19958

AGENDA

- Welcome and Announcements – 8:30 a.m.
- Review and Acceptance of September 22 Meeting Notes
- Recap of Last Meeting's Discussion – 2013 Marine Fuel Sales in Sussex County, Maine's Rental Car Tax, North Carolina's Increase in Boat Registration and Titling Fees, Delaware's Current Boat Registration Fees and Business Models for Increased Revenues
- Presentation of Information on Economic Value of the Inland Bays, Sussex County Transfer Tax, Project Cost Share Models Used in Other States
- Round Robin Committee Discussion – Potential for Local/County Cost Sharing Options, Need for a Boating Survey
- Public Comments
- Concluding Remarks and Next Meeting

DELAWARE WATERWAYS MANAGEMENT AND FINANCING ADVISORY COMMITTEE MEETING

OCTOBER 6, 2014

SIGN IN SHEET

(Please make sure ALL information is legible)

Name	Address and/or Organization	Telephone and/or Email Address
1. DAVID RITONDO	USCGA	302 381 6584
2. PIERCE QUIRLEAN	LRCLA	SILVERFOX222@YAHOO.COM
3. David Cropper	31201 Helms Landing Rd Pagsboro	david@VinesCreekMarine
4. Vicki Ford	OMB	Vicki.ford@state.de.us
5. Ariane nichols	DNREC	ariane.nichols@state.de.us
6. Chuck Williams	DNREC	charles.williams@state.de.us
7. Jay Little	Tidal Finfish Adv Council / Saltfish. Net	
8. Clyde Evans	Old Inlet B+T	
9. BILL CARSON	STATE REP.	
10. Gerald Hocker	State Senate	
11. ED LEWANDOWSKI	U.D./SEA GRANT	EDLEW@UDEL.EDU
12. NEIL SANDS	REHOBOTH BAY SAILING ASSOC	nasands@comcast.net
13. FRANK PIOTKO	DNREC	

	Name	Address and/or Organization	Telephone and/or Email Address
14.	Tony Patt	DNREC	
15.	Doug Messick		
16.	Dave Savelas		
17.	Cindi Cleaver		
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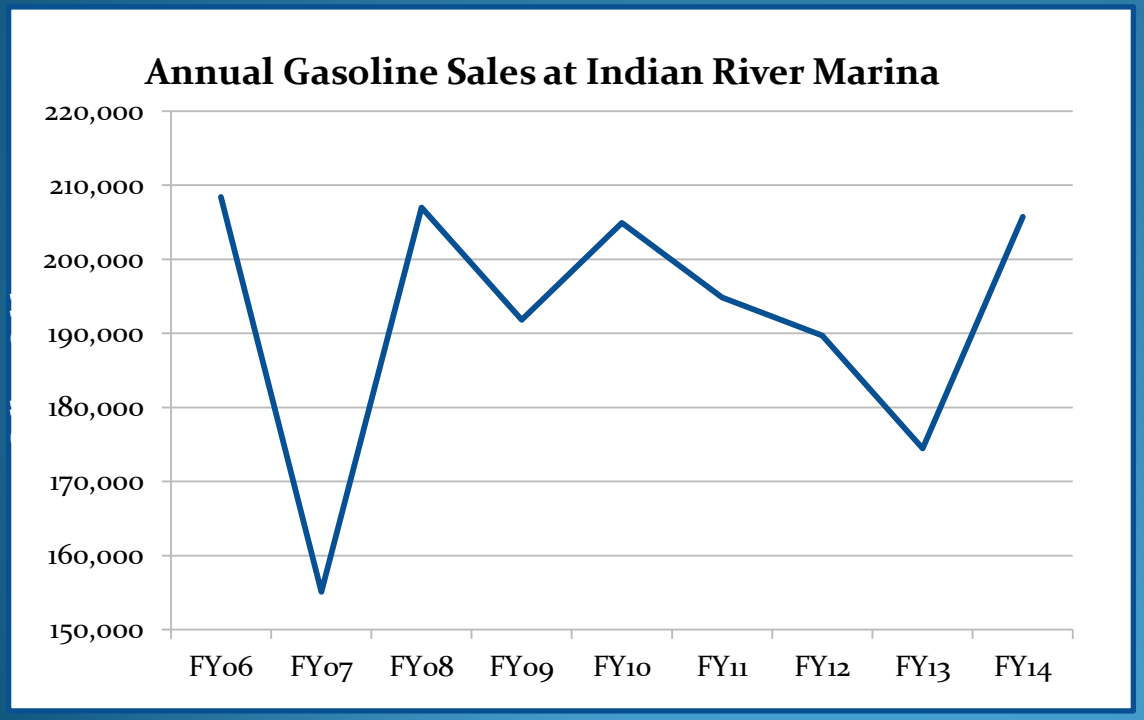
Delaware Waterways Management and Financing Advisory Committee 10/06/14

- Review and Acceptance of Notes
- Last Meeting Discussion
  - 2013 Marine Fuel Sales in Sussex County (Ten Year Trend – Indian River Marina)
  - Maine's Rental Car Tax
  - North Carolina's Increase in Boat Registration and Titling Fees
  - Delaware's Current Boating Registration Fees
  - Business Models for Increased Revenue (Waterway Maintenance Fee for Boaters)
  - Survey of Boaters Willingness to Pay for Waterway Maintenance

Delaware Waterways Management and Financing Advisory Committee 10/06/14

Trends in Marine Fuel Sales



Delaware Waterways Management and Financing Advisory Committee 10/06/14

- Possible Funding Sources Discussed to Date
  - Utilize TTF Marine Motor Fuel Tax revenue for waterway management needs (would cut into DelDOT transportation needs).
  - Utilize some portion ($10K) of legislators individual CTF accounts (Rule 12).
  - Increase Boater Registration Fees (double current fees, add flat rate, graduated scale based on size of boat).
  - Initiate Boat Titling in Delaware.

Delaware Waterways Management and Financing Advisory Committee 10/06/14

Today's Presentation and Discussion

- Economic Value of Inland Bays
- Sussex County Transfer Tax (where does it come from and what is it used for)
- Project Cost Share Models Used in Other States
- Potential for Cost Sharing in Delaware
- Need for a Boating Survey

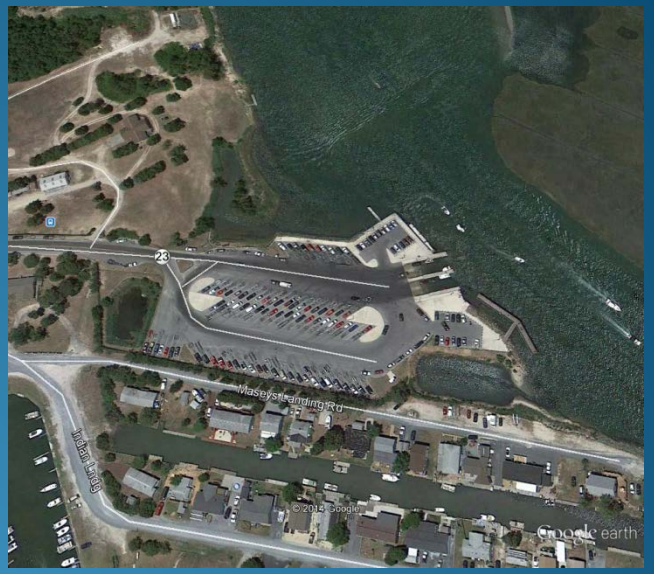
Delaware Waterways Management and Financing Advisory Committee 10/06/14

Economic Value of Inland Bays

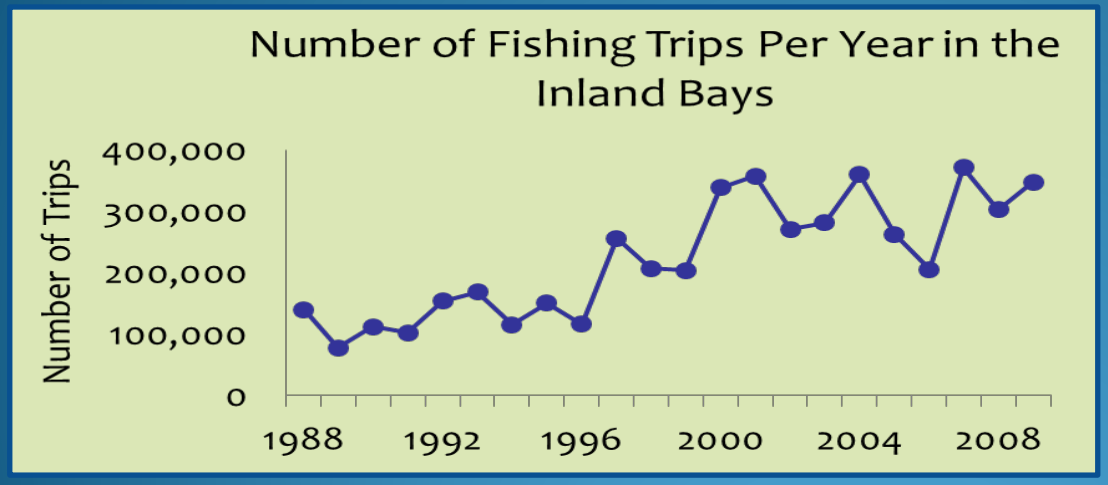
- 300 square mile watershed, 32 square mile estuary with 87,000 full time residents
- UD SeaGrant 2012 publication indicates State's coastal economy is a multi-billion dollar sector
  - $6.9B added to industry production
  - 59,000 additional jobs supported
  - $711M of additional taxes annually
- Although exact value is unknown, water-related activities in Inland Bays is included in these figures (fishing, boating)
- "Near Shore Zip Codes", the four bordering the coast and Bays (19930, 19944, 19958, 19971) contain the most direct coastal activities

Delaware Waterways Management and Financing Advisory Committee 10/06/14

Economic Value of Inland Bays (cont.)



- Inland Bays is a fishing mecca



- Massey's Landing is State's busiest boat ramp
- $149M spent on recreational fishing in Delaware in 2011 (ASA – American Sportfishing Association)
- $343M spent on recreational boating in Delaware in 2010 (USFWS)

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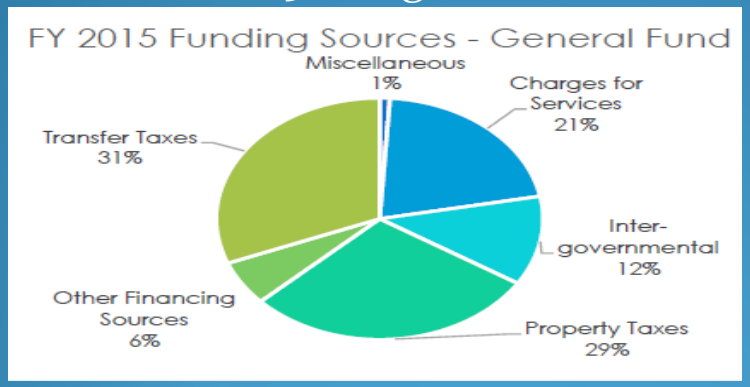
Sussex County Transfer Tax

- Transfer tax rate in Sussex is 1.5%
  - Paid to the county in connection with the transfer of any interest in real estate
- Transfer tax budgeted to be $16M in FY2015 (same as FY2014)
  - 50% of the RTT generated from unincorporated areas in the 4 "Near Shore Zip Codes"
- Accounts for 31% of the FY2015 Budget



- According to FY2015 Budget, surplus from FY2014 predicted to be $3M
- FY2013 surplus of $4.5M

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Cost Share Models in Other States

- North Carolina Model
- Maryland Model
- Florida Model

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North Carolina Cost Share Model

- Water Resources Development Project Grant Program
- Revenue generated from increase in registration and titling fees, motor fuel tax (1/6th of 1%), and general assembly appropriations
- NC DNR is authorized to provide grants to local governments for water resource development projects (ex. navigation, water management, stream restoration, beach protection, aquatic weed control, engineering studies)
- Units of local gov't and local political subdivisions are only eligible parties for grants
- Includes projects planned by federal agency with local match and those without federal assistance
- 50/50 Match

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North Carolina Cost Share Model (cont.)

- Grant applications are ranked using the following criteria:
  - Economic, social, and environmental benefits to be provided by the project
  - Regional benefits of project to an area greater than the area under the jurisdiction of the local sponsoring entity
  - Financial resources of the local sponsoring entity
  - Environmental impact of the project
  - Any direct benefit to State-owned lands and properties

Delaware Waterways Management and Financing Advisory Committee 10/06/14

Maryland Cost Share Model

- Maryland Waterway Improvement Fund created in 1966 to support development, use, and enjoyment of State waters for the general boating public
- Funds are obtained primarily from the one-time 5% excise tax that is paid to the State when a boat is purchased and registered/titled in the State
- Fund provides financial support to local governments, the DNR, and federal agencies in the form of grants and/or loans
  - Channel marking
  - Debris removal
  - Dredging
  - Boating information and education
  - Boating related shoreline erosion projects

Delaware Waterways Management and Financing Advisory Committee 10/06/14

Maryland Cost Share Model (cont.)

- Type of funding for eligible projects depends on:
  - Scope of project
  - Statutory guidelines
  - Technical & environmental considerations
  - Benefits to general boating public
- Funding options include:
  - 100% State grant:
    - Minor construction, repair or navigation at boating facilities (up to $5K)
    - Development and maintenance of boating facilities (up to $100K)
    - Dredging, channel marking, jetty construction, debris removal (up to $100K)
  - Matching grants (max 50% state cost share)
    - Engineering, construction, maintenance of public boating facilities
    - Dredging channels and harbors (primarily serve local communities)
    - Acquisition of marine fire/rescue boats and equipment
  - 100% Interest Free Long Term Loans to local governing bodies (max 25 years)
    - Dredging/navigation, spur channels, boating access facilities

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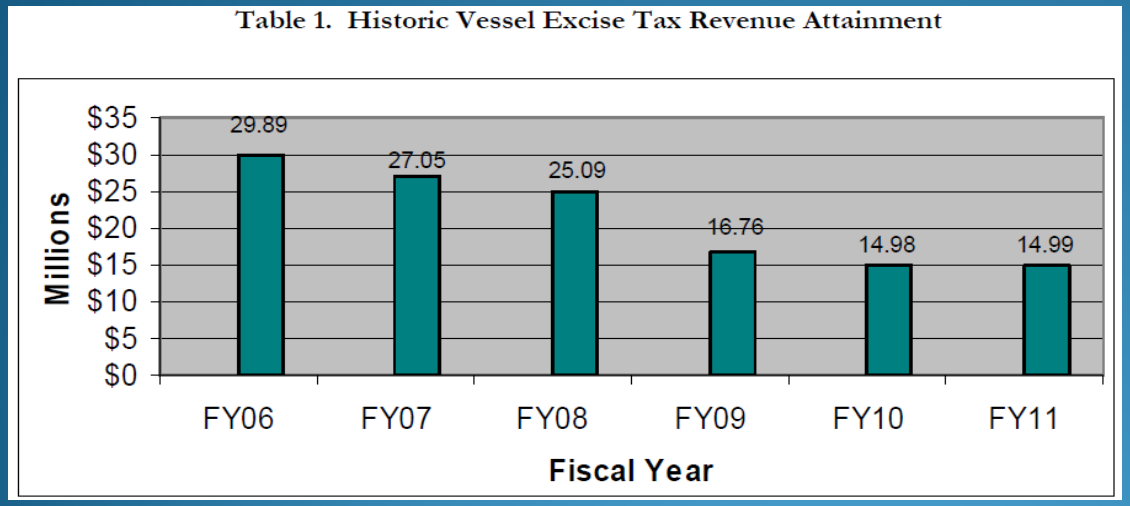
Maryland Cost Share Model (cont.)

- Downward trend in revenue due to decreased boat sales



- Exploring revenue enhancement opportunities:
  - Graduated registration fee
  - Increased titling fee
  - Raising excise tax to meet current sales tax rate (6%)
  - Decals on non-motorized vessels
  - Supplemented with bond bill or general funds

Delaware Waterways Management and Financing Advisory Committee 10/06/14

Florida Cost Share Model

- Two inland navigation tax districts in Florida - Florida Inland Navigation District (FIND) and West Coast Inland Navigation District (WCIND).
- Both created by Florida State Legislature – FIND in 1927 and WCIND in 1947.
- Created when Corps of Engineers needed local sponsors for dredging intracoastal waterways, but now handle local waterway management issues as well (dredging, channel marking, fishing & docking facilities).
- Primary source of funding is property tax revenues from counties along the waterways (all properties in each county are assessed).
- Rationale for tax is all property in the counties benefit from economic activity generated by waterways and their use.

Delaware Waterways Management and Financing Advisory Committee 10/06/14

Florida Cost Share Model

- Current assessment for FIND is $3.80/$100K property value and $3.94/$100K for WCIND
  - FIND FY2014 revenue – approx. $21M
  - WCIND FY2014 revenue - approx. $5M

- Tax assessment collected annually and counties can apply for project funding, not to exceed the amount that their county contributed.
- Applications must be submitted by local governments annually for funding of waterway projects in their jurisdiction
- FIND – 75% navigation, 50% all others (ex: channel marking, boat ramps)
- WCIND – 100% marine law enforcement, navigation, environmental education, 50% boating safety and boating recreation

Delaware Waterways Management and Financing Advisory Committee 10/06/14

Round Robin Committee Discussion

- Potential for Local/County Cost Sharing Options in Delaware
- Next Steps for Boating Survey

Delaware Waterways Management and Financing Advisory Committee 10/06/14

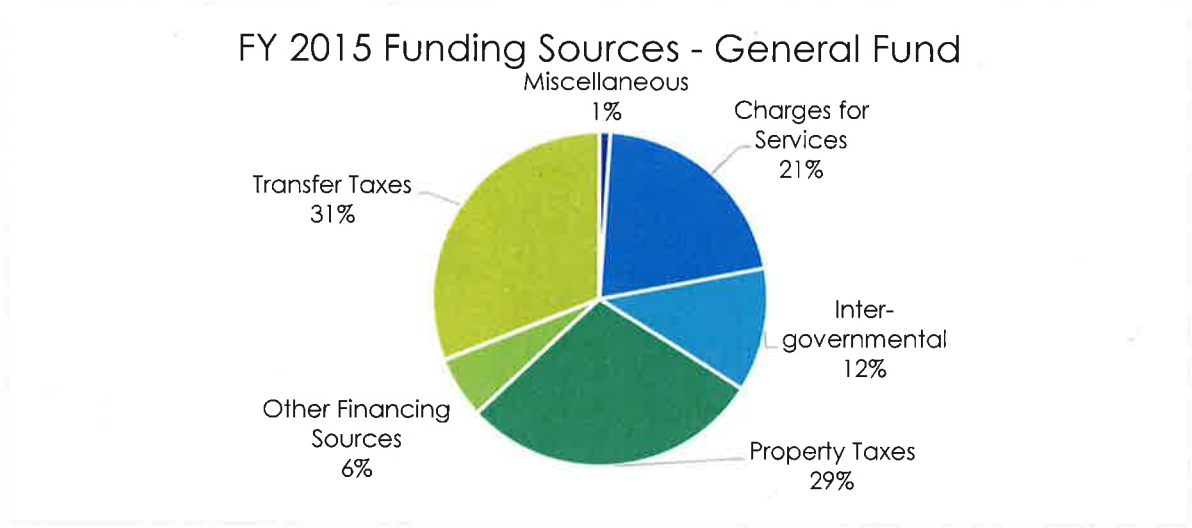
Public Comments

Concluding Remarks

Next Meeting (Monday Oct. 20th)

General Fund Revenue Summary

The General Fund accounts for all financial transactions and resources in Sussex County, other than those required to be accounted for in another fund. Revenues in the General Fund are primarily derived from property and realty transfer taxes, constitutional office fees, intergovernmental sources and other charges for services.



General Fund revenue and funding sources increased $1,808,000, or 3.6 percent compared to the Fiscal 2014 budget. The budget reflects an increase in expected prior year revenues over expenditures.

Property Taxes

The current tax rate is $.445 per $100 of taxable assessments. This rate has not increased in 25 years. No property tax increase is recommended again this year. The local library rate will remain at $.0467 as well. The remaining $.3983 is available for operating expenses.

The estimated total property tax revenue has increased 1.8 percent. This increase reflects the addition of new construction placed on the tax assessment rolls.

Realty Transfer Tax

Realty transfer tax is budgeted to be $16 million FY 2015. This is the same as FY 2014.

In keeping with our conservative budget approach, we estimate to collect over $20 million in FY 2014. With the uncertainty in the housing market, we budgeted 80 percent of what is expected to be collected. In

addition, anything collected over the $16 million would go directly to the Capital Projects fund to pay for future needs.

Intergovernmental Funds

Grants from other governmental agencies are projected to decrease by $28,400, which is a result of a decrease in federal housing funding. The State paramedic grant, which is based on 30 percent of the paramedic expenses, increased $53,500.

Constitutional Office Fees

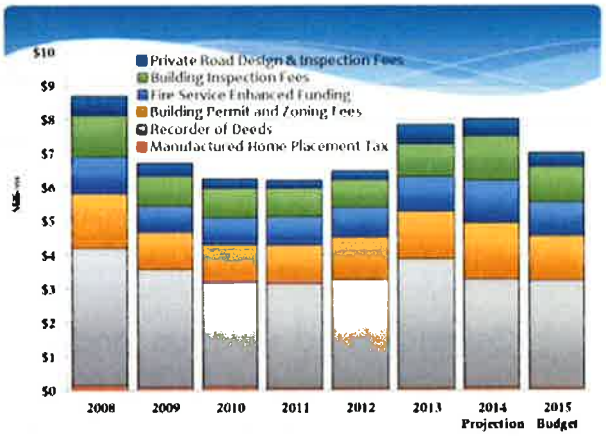
Constitutional offices include the Marriage Bureau, Recorder of Deeds, Register of Wills and Sheriff Departments. Revenues are expected to increase only slightly by $107,000, or 1.6 percent. Revenues from Sheriff sales of properties has flattened since 2013. The Register of Wills is seeing a slight decline in their revenue as people are putting their assets in trusts. However, the Marriage Bureau is seeing an increase in activity resulting in a $19,000 increase.

Miscellaneous Revenue

Miscellaneous revenues are projected to increase $226,000, or 59.6 percent due to an increase in investment income. The County changed its investment policy a couple of years ago to allow the County to invest in fixed income. As a result, the County is now receiving a higher return on its investments.

General Government Fees and Services

The majority of these fees are real estate and economy sensitive, such as building permits and private road inspections. In general, these fees are projected to increase 20 to 30 percent. Revenues from the 9-1-1 system fee are capped by the State. The chart below shows housing related revenue trends and projections. The last column shows the conservative nature of our budget as we are budgeting only 80 percent of projections.



Appropriated Reserve

Appropriated reserve is revenue earned in a prior budget year. This year it is FY 2014's projected revenues over expenditures of $3 million. This revenue does not support daily general operating expenses. The projected FY 2014 projected surplus will be allocated once it is confirmed by the County's independent auditors.

Sussex County Council
General Fund Revenue

	2013 Actual	2014 Budget	2015 Budget
Taxes			
Property - County	$11,151,058	$12,237,907	$12,452,070
Property – Library	1,424,065	1,434,874	1,460,016
Realty Transfer	17,422,526	16,000,000	16,000,000
Fire Service	1,041,506	900,000	1,000,000
Penalties and Interest	167,244	100,000	120,000
Total Taxes	**31,206,399**	**30,672,781**	**31,032,086**
Intergovernmental			
Federal Grants			
Emergency Operations	164,875	160,000	160,000
Emergency Management	23,817	3,250	6,200
Housing and Urban Development	1,314,726	1,856,300	1,775,000
Housing Project Income	149,383	-	-
Payment in Lieu of Taxes	5,393	5,600	5,000
State Grants			
Paramedics	4,005,099	3,941,135	3,994,650
Library	340,938	340,938	340,000
Local Emergency Plan Commission	69,963	69,000	66,950
Department of Health	11,786	10,000	10,000
Total Intergovernmental	**6,085,980**	**6,386,223**	**6,357,800**
Charges for Services			
Constitutional Offices Fees			
Marriage Bureau	123,622	115,000	134,000
Prothonotary	10,744	2,000	-
Recorder of Deeds	3,818,801	3,300,000	3,300,000
Recorder of Deeds – Town RTT	30,996	30,000	30,000
Recorder of Deeds – Maintenance	49,194	40,000	40,000
Register of Wills	1,004,104	1,000,000	950,000
Sheriff	2,471,611	2,010,000	2,150,000
General Government Fees			
Building Permit and Zoning Fees	1,392,906	1,315,000	1,325,000
9-1-1 System Fees	559,637	559,630	559,630
Manufactured Home Placement Fees	81,540	74,000	74,000
Building Inspection Fees	961,999	856,000	1,040,000
Airpark Operation Fees	553,024	430,912	472,820
Miscellaneous Fees	42,464	25,000	86,000

	2013 Actual	2014 Budget	2015 Budget
Dog Licensing	75,808	72,000	74,000
Rents other than Airpark	35,632	37,210	38,170
Private Road and Inspection Fees	538,600	250,000	377,000
Sewer Review and Inspection	16,700	4,400	-
Total Charges for Services	**11,767,382**	**10,121,152**	**10,650,620**
Miscellaneous Revenue			
Contributions and Donations	70,418	25,000	25,000
Economic Loan Repayments	31,808	45,560	45,000
Fines and Forfeits	23,179	24,000	22,000
Investment Income	-318,529	170,000	400,000
Reimbursements – Medicare	105,344	96,000	94,080
Miscellaneous Revenue	28,340	17,900	18,000
Total Miscellaneous Revenue	**-59,440**	**378,460**	**604,080**
Other Financing Sources			
Reimbursements from other funds	53,966	300,000	300,000
Appropriated Reserves	-	2,278,232	3,000,000
Total Other Financing Sources	**53,966**	**2,578,232**	**3,300,000**
Total Revenue	**$49,054,287**	**$50,136,848**	**$51,944,586**

The chart below shows the fluctuation of the County's largest revenue source, Realty Transfer Tax. The FY 2015 operating budget keeps this volatile revenue source to pre-2013 levels.

Pat McCrory, Governor

John E. Skvarla, III, Secretary

NCDENR
North Carolina Department of Environment and Natural Resources

N.C. Department of Environment and Natural Resources

Release: Immediate
Date: Aug. 14, 2014

Contact: Sarah M. Young
Phone: 919-707-9033

State officials provide funding for 37 water resources projects

RALEIGH – The state recently awarded more than $2.2 million in grants for 37 projects that will help North Carolina towns and counties restore streams, reduce erosion, study future water supplies and benefit other water resources.

The N.C. Division of Water Resources awarded $2,244,877 as a part of its 2014 spring grant cycle for the Water Resources Development Project Grant Program. Money for the grants was generated by appropriations from the General Assembly.

The division awarded:

- Ashe County New River Soil and Water a $65,000 grant for a stream restoration project at Bowlin-Peak Creek.
- Bladen County Soil and Water a $4,000 grant for the Butter-Richardson community drainage study.
- Burgaw a $25,000 grant for a stormwater management plan.
- Haywood County Soil and Water a $1,500 grant for a water management project adjacent to Raccoon Creek.
- Haywood County Soil and Water a $23,948 grant for a stream restoration project on Richland Creek.
- Henderson County a $199,000 grant for the second phase of a dam removal on the Big Hungry River.
- Jonesville a $41,750 grant for the second phase of the Yadkin River Greenway Bridge.
- Lenoir a $50,000 grant for a downtown stormwater facility at Harper Avenue.
- Wilmington a $45,000 grant for waterfront planning.
- Washington County a $19,000 grant for the Lake Phelps Hydrologic Study.

The state awarded $756,788 in funding for the shallow draft navigation channel and lake dredging projects in Brunswick, Carteret, Dare and Mecklenburg counties. A total of $1,013,891 was awarded to soil and water conservation districts in Alleghany, Alexander, Avery, Buncombe, Lincoln, Macon, McDowell, Polk, Surry, Watauga and Yadkin counties as part of the Environmental Quality Incentives Program (EQIP).

The EQIP program is part of the N.C. Natural Resources Conservation Service in the U.S. Department of Agriculture. EQIP provides financial and technical assistance to agricultural producers to address natural resource concerns and delivers environmental benefits such as improved water and air quality, conserved ground and surface water, and reduced soil erosion. For more about EQIP, go to http://www.nrcs.usda.gov/wps/portal/nrcs/main/nc/programs/financial/eqip/.

The water resources program provides cost-share grants and technical assistance on a competitive basis to local governments in North Carolina. Applications are accepted for general and recreational navigation, water management, stream restoration, beach protection, land acquisition and development of water-based recreation facilities.

There are typically two grant cycles each fiscal year with application deadlines of July 1 and Jan. 1. Units of local government and local political subdivisions are eligible for these grants. The full list of grant recipients can be found at: http://www.ncwater.org/files/grants/Spring_2014_Grant_Awards.pdf. For more information, contact Jeff Bruton, state-local grant program coordinator with the N.C. Division of Water Resources, at 919-707-9006, or jeff.bruton@ncdenr.gov.

# # #

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RSS feed: http://portal.ncdenr.org/web/opa/news-releases-rss
Twitter: http://twitter.com/NCDENR

SHALLOW DRAFT NAVIGATION & LAKE MANAGEMENT PROJECTS in NORTH CAROLINA
(funded to date)

1. Brunswick County, Town of Holden Beach, Lockwood Folly Inlet Crossing Bend Widener, $454,300

2. Carteret County, Town of Pine Knoll Shores, Pine Knoll Shores Waterway Dredging, $20,000

3. Dare County, Dare County, Colington Harbor Entrance Channel, $94,615

4. Mecklenburg County, Mecklenburg Soil and Water, Brown's Cove Dredging, $187,873

5. Pender County, Town of Topsail Beach, New Topsail Inlet Navigation Project 2014, $1,000,000 (partial funding to date - $3,808,028 request)

6. Brunswick County, Town of Oak Island, Lockwood Folly Navigation Project 2014, $1,100,000 (partial funding to date - $1,772,682 request)

7. Onslow County, Onslow County, New River Inlet Dredging, $50,982

Funding also provided to the USACE-Wilmington District (under the long term MOA w/ Corps) for work at:

1. Onslow County, New River Inlet, $105,650

2. Carteret County, Town of Beaufort, Bulkhead Channel, $89,775

3. New Hanover County, Carolina Beach Inlet, $103,450

4. Carteret County, Bogue Inlet Spring 2014, Various local gov'ts, $65,000

5. Carteret County, Bogue Inlet Summer 2014, Various local gov'ts, $60,000

6. Carteret County, Town of Beaufort, Bulkhead Channel, $55,000

Water Resources Development Project Grant Program

Administered by: Water Projects Section, Division of Water Resources (DWR), North Carolina Department of Environment and Natural Resources (NCDENR), 1611 Mail Service Center, Raleigh, N.C. 27699-1611 (919) 733-4064

Authority: The NCDENR (the department) is authorized to provide grants to local governments for water resources development projects by General Statutes 143-215.70-.73. These statutes can be viewed on the web at the following:

<http://www.ncleg.net/Statutes/GeneralStatutes/HTML/ByChapter/Chapter_143.html>

Application Deadlines: Applications are received throughout the year for two standard grant cycles that occur in the summer/fall and winter/spring. The deadlines for those grant cycles are July 1 and January 1, respectively.

Who is Eligible: Units of local government and local political subdivisions. *(In the case where projects provide broad regional benefits, or where assignment of non-federal responsibilities to local government is not appropriate in the opinion of the department, the department may assume sponsorship on behalf of the state and may pay up to 100 percent of the total [or the non-federal share of the costs] of planning, construction, or operation of said water resources project.)*

Eligible Purposes and Respective Cost-Share Percentages: *(Projects planned and constructed by a federal agency with a local cost-share and projects without federal assistance are both eligible for state financial assistance. Small watershed projects of the U.S. Soil Conservation Service reviewed by the North Carolina Soil and Water Conservation Commission are not eligible for cost-sharing.)*

General Navigation **80%**

Recreational Navigation **25%**

Water Management **66 2/3%**

Stream Restoration **66 2/3%**

Beach Protection **75%**

Water-based Recreation Sites **50%**

Aquatic Weed Control **50%**

Feasibility or Engineering Study **50%**

Application Package

An application for a water resources development project grant should include the following five items:

I. **Sponsor and Primary Contact Information** - All applications should identify the official resolution signatory and a primary contact person responsible for project oversight and management. Contact information for both should include ten-digit telephone number and U.S. Postal mailing address, and email address if available. *(It is the applicant's responsibility to update this information as necessary.)*

Project Sponsor *(from Resolution)*

Unit of Local Government _____
Signatory *(Print Name and Title)* _____
U.S. Postal Mailing Address _____
_____
_____
Ten-digit Telephone Number _____
Email Address _____

Primary Contact

Name _____
U.S. Postal Mailing Address _____
_____
_____
Ten-digit Telephone Number _____
Email Address _____

II. **Official Resolution** - The local sponsor shall include a resolution adopted by the governing board stating the amount of state aid requested and accepting the applicant's responsibilities. The following responsibilities should be included: *(A standard model resolution can be found in Appendix A. An aquatic weed control model resolution can be found in Appendix B. A feasibility or engineering study model resolution can be found in Appendix C. Sample resolution template in a Word format can be downloaded at the following:* http://www.ncwater.org/?page=7/*.)*

(1) Assume full obligation for payment of the balance of project costs.

(2) Obtain all necessary state and federal permits.

(3) Comply with all applicable laws governing the award of contracts and the expenditure of public funds by local governments.

(4) Supervise construction of the project to assure compliance with permit conditions and to assure safe and proper construction according to approved plans and specifications.

(5) Obtain suitable spoil disposal areas and all other easements or rights-of-way that may be necessary for the construction and operation of the project without cost or obligation to the state.

(6) Assure that the project is open for use by the public on an equal basis with no restrictions.

(7) Hold the state harmless for any damages that may result from the construction, operation, and maintenance of the project.

(8) Accept responsibility for the operation and maintenance of the completed project.

III. **Project Narrative** - The local sponsor should name the water body on which the project is located, identify its river basin, and describe the project and its benefits in as much detail as needed for a competitive evaluation of the project along with other applications for the limited state funds available.

IV. **Project Plan and Location Map** - A drawing and location map of the proposed project should be prepared with sufficient detail to allow someone unfamiliar with the project to understand what is proposed and where the project features will be located in relationship to roads, bodies of water, or other landmarks.

V. **Project Budget** - The project budget should identify costs and income by major category in a tabular format as shown in the Sample Budget in Appendix D. Major categories should also identify income source and whether it is cash or in-kind.

Grant Application Review and Approval

All proposed projects are subject to environmental review under federal and state laws. Environmental documentation that might be required for a project is the local sponsor's responsibility. Upon completion of environmental review, the following criteria will be used to approve, approve in part, or disapprove grant applications.

(1) The economic, social, and environmental benefits to be provided by the projects;

(2) Regional benefits of projects to an area greater than the area under the jurisdiction of the local sponsoring entity;

(3) The financial resources of the local sponsoring entity;

(4) The environmental impact of the project;

(5) Any direct benefit to State-owned lands and properties.

Guidelines for Documenting Costs of State-Local Civil Works Projects

I. **(1)** Local governments should submit a reimbursement request that consist of an accounting statement and an updated version of their approved tabular project budget showing actual costs (expenses) by major category - see attached Sample Budget *(Appendix D.)*.

(2) The statement should indicate the total amount spent on the project and the amount of the reimbursement request. In the case of projects in which the local government sponsor is requesting a partial payment, all costs to date. The amount of state funds requested should not exceed the awarded grant amount.

(3) The statement should be signed and dated by the project officer appointed by the local government. *(All written correspondence should include primary contact information that includes telephone number and U.S Postal mailing address, and email address if available.)*

(4) Copies of receipts or other documentation for materials and other project costs should be provided.

(5) The salvage value of any equipment bought for the project should be deducted from the purchase price before the local and state cost-shares are determined.

(6) The statement, budget and supporting documentation should be sent to:

Division of Water Resources
North Carolina Department of Environment and Natural Resources
1611 Mail Service Center
Raleigh, N.C. 27699-1611.

(7) If you have questions about this process, please call the DWR at (919) 733-4064.

II. Upon receipt of reimbursement request from local government, or the final statement for projects where multiple invoices have been submitted, DWR will contact the local government sponsor to arrange an inspection of the project. A staff member of DWR together with a representative of the local sponsor will normally carry out the inspection. However, in order to keep State expenses low, DWR may substitute its personnel with that of other state or federal agencies that are located in closer proximity to the project. Inspection will verify that construction was done according to plans and specifications.

III. After the project is inspected and accepted, DWR will review the accounting statements and request the department to pay the local government sponsor the state cost-share.

Grant Payments

When state cost-sharing has been approved by the DWR, the project sponsor will request the department to pay the state's portion of the non-federal costs of a federal project when requested by the sponsoring federal agency and to pay the state's portion of the costs of a non-federal project when the project has been completed, unless the local political subdivision or unit of government requests a partial payment in writing.

(1) A local government may request a partial payment during construction by providing an accounting of expenses made as of a specified date. A portion of these funds, normally 10 percent, may be withheld until the project is completed and inspected.

(2) The department will normally pay the sponsoring local government by check or electronically within 30 days of receipt of the statement of expenses, provided that inspection shows the project has been completed in accordance with the project information shown in the initial request or as amended.

(3) If the project sponsor decides that significant changes to a project are necessary, the sponsor must send a request **in writing** to DWR and receive approval of those changes from the DWR. **Unapproved changes will not be eligible for state cost-sharing.**

(4) Grant funds will be available for use by the local government recipients for the fiscal year in which the grant was made plus one fiscal year (July 1st through June 30th). Funds may be extended beyond that period if the project sponsor requests such an extension **in writing**, and the DWR approves it **in writing**.

Special Beach Erosion Control Requirements

The following requirements are applicable to any beach erosion control or hurricane protection project in which the state participates by action of the department: (References to Chapter 15A of the North Carolina Administrative Code (NCAC) may be viewed on the web at the following:

<http://ncrules.state.nc.us/ncadministrativ_/title15aenviron_/chapter07coasta_/default.htm>

(1) Before the start of project construction, the sponsoring local government (s) will establish land-use controls to conserve protective dunes and to insure that the damage potential is not significantly increased by further development. Such land use controls must meet or exceed all requirements of the state guidelines for Areas of

Environmental Concern (15A NCAC 7H) and be consistent with the approved local land use plan prepared under the provisions of the state guidelines for Land Use Planning (15A NCAC 7B).

(2) The sponsoring local government must provide adequate public access to the project area. All such accessways must be designed to adequately protect the beach and dune system and be handicapped accessible.

(3) No beach erosion control project shall significantly interfere with or create a hazard to public enjoyment of the beach.

(4) Any building line established as a part of a beach erosion control project shall not be seaward of the oceanfront setback line as established in 15A NCAC 7H .0306(a) GENERAL USE STANDARDS FOR OCEAN HAZARD AREAS.

North Carolina Aquatic Weed Control Program

Each year the DWR invites local units of government to apply for inclusion in the North Carolina Aquatic Weed Control Program. Approval of applications for this type of funding is competitive, based on project benefits, and is limited by the amount of State funds available. The DWR is equipped and staffed to handle most aquatic weed problems, however, projects requiring extraordinary measures, such as aerial application, or those which can be done more effectively by private applicators, will be done by contract. In either case, total project expenses are shared among cooperators. Government entities seeking assistance should contact DWR Aquatic Weed Control program representatives at:

Division of Water Resources
Department of Environment and Natural Resources
1611 Mail Service Center
Raleigh, N.C. 27699-1611

or visit the Aquatic Weed Control program web site at the following:

<http://www.ncwater.org/?page=72/>

Appendix A.

Model Resolution

(Note: This is a model resolution that may be used by local governments to request State assistance for water resources development projects. The model should be adapted to fit the circumstances of each specific project.)

WHEREAS, the _____ City/Town/County Council/Board of Commissioners desires to sponsor ... (Describe the nature of the proposed project and the benefits to be received from it.)

NOW, THEREFORE, BE IT RESOLVED THAT:

1) The Council/Board requests the State of North Carolina to provide financial assistance to _____ City/Town/County for (state project name) in the amount of $____ or ___ percent of project construction cost, whichever is the lesser amount;

2) The Council/Board assumes full obligation for payment of the balance of project costs;

3) The Council/Board will obtain all necessary State and Federal permits;

4) The Council/Board will comply with all applicable laws governing the award of contracts and the expenditure of public funds by local governments.

5) The Council/Board will supervise construction of the project to assure compliance with permit conditions and to assure safe and proper construction according to approved plans and specifications;

6) The Council/Board will obtain suitable spoil disposal areas as needed and all other easements or rights-of-way that may be necessary for the construction and operation of the project without cost or obligation to the State;

7) The Council/Board will assure that the project is open for use by the public on an equal basis with no restrictions;

8) The Council/Board will hold the State harmless from any damages that may result from the construction, operation and maintenance of the project;

9) The Council/Board accepts responsibility for the operation and maintenance of the completed project.

Adopted by the _____ City/Town/County Council/Board of Commissioners this day of _____, 20___.

_____
Clerk to the Council/Board

_____
Mayor/Chairman,City/Town/
County,Council/Board of Commissioners

Appendix B.

Aquatic Weed Control Model Resolution

(Note: This is a model resolution that may be used by local governments to apply for assistance under the North Carolina Aquatic Weed Program. The model should be adapted to fit the circumstances of each specific project.)

WHEREAS, the _____ City/Town/County Council/Board of Commissioners desires assistance from the North Carolina Aquatic Weed Program for ... (Describe the nature of the aquatic weed problems and the benefits to be gained by controlling the problem).

NOW, THEREFORE, BE IT RESOLVED THAT:

1) The Council/Board requests that the North Carolina Aquatic Weed Control Program conduct the _____ (give name of body of water) aquatic weed control project in the City/Town/County of _____;

2) The Council/Board assumes full obligation for payment of fifty percent of non-federal costs associated with _____ (name) aquatic weed control project;

3) The Council/Board will assist the North Carolina Department of Environment and Natural Resources in quantifying its aquatic weed problems and determining the public benefits of the proposed control project;

4) The Council/Board will assure that the public will have access to the waters that are benefited by the control project;

5) The Council/Board will hold the State harmless from any damages that may result from the implementation of the project;

6) The Council/Board will be responsible for notifying all landowners whose property is adjacent to the body of water in which the control project is located and for sponsoring any public information meetings that may be needed; and

7) The Council/Board will notify the public of any temporary restrictions on use of the body of water as required by the specific method of treatment used.

Adopted by the _____ City/Town/County Council/Board of Commissioners this day of _____, 20___.

_____
Clerk to the Council/Board

_____
Mayor/Chairman,City/Town/
County,Council/Board of Commissioners

Appendix C.

Study Model Resolution

(This is a model resolution that may be used by local governments to request State assistance for a preliminary feasibility or engineering study of a water resources development project.)

WHEREAS, the _____ County Board of Commissioners (or the _____Town/City Council) desires to sponsor a study of .....(describe the proposed project for which a study is necessary to more accurately determine project costs, benefits, design, or scale of development.)

NOW, THEREFORE, BE IT RESOLVED THAT:

1) The Board (or Council) requests the State of North Carolina to provide financial assistance to _____ County (Or City/Town of _____) for a feasibility study (or engineering study) of _____ (project), in the amount of $_____ or 50 percent of the study costs (or non-federal portion), whichever is the lesser amount;

2) The Board (or Council) assumes full obligation for payment of the balance of the study costs (or non-federal portion);

3) The Board (or Council) will comply with all applicable laws governing the award of contracts and the expenditure of public funds by local governments.

Adopted by the _____ City/Town/County Council/Board of Commissioners this day of _____, 20__.

_____
Clerk to the Council/Board

_____
Mayor/Chairman,City/Town/
County,Council/Board of Commissioners

Appendix D.

Sample Budget for a State-Local Water Resources Development Project Grant Application

Sample Budget for a Stream Restoration Project (up to 66 2/3%)

	DWR	Local Match	Other Non-Federal Match	Match Totals	Category Totals
Administration					
Cash				-	-
In-kind		5,000		5,000	5,000
Design					
Cash	23,000			-	23,000
In-kind				-	-
Survey					
Cash				-	-
In-kind		8,000		8,000	8,000
Construction Oversight					
Cash				-	-
In-kind		3,000		3,000	3,000
Construction					
Cash	94,000	10,000	10,000	20,000	114,000
In-kind				-	-
Construction Materials					
Cash	34,000	5,000		5,000	39,000
In-kind		2,500	2,500	5,000	5,000
Plant Materials					
Cash	34,000	15,000		15,000	49,000
In-kind		2,750	2,750	5,500	5,500
Education					
Cash				-	-
In-kind		1,500		1,500	1,500
Monitoring					
Cash		2,250		2,250	2,250
In-kind		1,125	1,125	2,250	2,250
Land					
Cash				-	-
In-kind			20,000	20,000	20,000
Cash Sub-total	185,000			42,250	227,250
In-kind Sub-total				50,250	50,250
Total	185,000			92,500	277,500
	66.67%			33.33%	

* *A sample budget template in an Excel spreadsheet format (*Budget Template*) can be downloaded at the following:* http://www.ncwater.org/?page=7.

MARYLAND
DEPARTMENT OF
NATURAL RESOURCES

Boating Services
Maryland Waterway Improvement Fund

Your Boat Tax At Work!

The Waterway Improvement Fund was created in 1966 by Natural Resources Article 8-701 to support the development, use, and enjoyment of all waters of the State of Maryland for the benefit of the general boating public. **Revenues for this Fund are obtained primarily from the one-time 5% excise tax that is paid to the State of Maryland when a boat is purchased and titled in the State.**

The Fund provides financial support to local governments, the Department of Natural Resources, and federal agencies in the form of grants and/or loans for a wide variety of capital projects and services for the boating public including:

- Marking of channels and harbors and establishing aids to navigation.
- Clearing of debris and obstructions from navigable waters of the State.
- Dredging channels and harbors, and constructing jetties and breakwaters, including those projects in cooperation with the U.S. Army Corps of Engineers.
- Constructing/maintaining public marine facilities beneficial to the general boating public.
- Improving, reconstructing, or removing bridges, drawbridges or similar structures over or across water if those structures delay, impede, or obstruct the boating public.
- Installing marine sewage pump-out stations.
- Evaluating water-oriented recreation needs and capacities of Maryland waterways and the development of comprehensive plans for waterway improvement projects.
- Supporting marine operations for the Natural Resources Police.
- Boating information and education.
- Constructing facilities and acquiring vessels/equipment for State and local marine firefighting, police, first aid and medical assistance, and communications for promoting safety of life and property and general service to the boating public.
- Completing boating related shoreline erosion control projects.

MARYLAND

Maryland's Waterway Improvement Fund

The type of grant or funding selected for an eligible project is dependent upon the scope of the project, statutory guidelines, technical and environmental considerations, as well as to what degree the project benefits the general boating public.

- **100% State Grants (Not to exceed $5,000)**
  The Department may expend a total of $125,000 each fiscal year, for a total of 25 grants not exceeding $5,000 each, for minor construction, repair, and navigation projects located at public boating facilities.

- **100% State Grants (Less than $100,000)**
  Grants are awarded to public agencies to engineer, construct, and maintain public boating facilities.

- **100% State Grants**
  Dredging major public recreational boat channels and harbors, marking channels and harbors, constructing jetties and breakwaters, clearing debris and obstructions from navigable waters, installing marine sewage pumpout stations, and constructing boating facilities on Department of Natural Resources lands which provide significant benefits to the general boating public.

- **Matching Grants**
  Provide up to 50% in Waterway Improvement Funds to local, state, and federal agencies to plan, engineer, construct, dredge, and maintain public boating facilities, as well as acquire marine fire/rescue boats and equipment.

- **100% Interest Free Tax District Loans**
  A local governing body may borrow interest free funds for a maximum 25 year term for waterway improvement projects within a Waterway Improvement Tax District.

For more information please contact:

Carla Fleming, Director
Boating Implementation Program
Tawes State Office Building, E-4
580 Taylor Avenue, Annapolis, MD 21401

Phone: 410-260-8447
Fax: 410-260-8453
Email: Carla.Fleming@maryland.gov

Visit us on the Web! http://www.dnr.Maryland.gov

Boating Access Guide: http://mddnr.chesapeakebay.net/fish/state2.html

Everything Boating: http://www.dnr.state.md.us/boating/

Updated 6-12-2014

Florida Inland Navigation District

A Special State Taxing District
for the continued management & maintenance
of the Atlantic Intracoastal Waterway

Waterways Assistance Programs

The Waterway Assistance Program is a grant program established by the Florida Legislature and the District for the purpose of financially cooperating with local governments to alleviate problems associated with the Atlantic Intracoastal Waterway and associated waterways within the District. The program is authorized by Section 374.976, Florida Statutes, and is administered under the provisions of Chapter 66B-2, Florida Administrative Code.

Eligible local governmental agencies include municipalities, counties, port authorities and special taxing districts within the twelve counties of the District. Eligible local governmental agencies are notified of the application process and provided an application package on January 1st of each year. Applications are then due at the District office by April 1st.

Applications are initially reviewed by the District staff for compliance with District rules. If the application is in compliance, the applicant presents his application to the District's Board of Commissioners. The Board then evaluates the application utilizing a rating form. Projects scoring the minimum number points become eligible for funding which is subject to statutory and budget limitations.

For those projects which are approved for funding by the District Board, funds become available on October 1st.

Waterway related projects must be located on natural, navigable waterways within the District. Eligible waterway related projects include navigation channel dredging, channel markers, navigation signs or buoys, boat ramps, docking facilities, fishing & viewing piers, waterfront boardwalks, inlet management, environmental education, law enforcement equipment, boating safety programs, beach re-nourishment, dredge material management, environmental mitigation, and shoreline stabilization.

The limitation on funding has been established by the Legislature to be equal to the tax revenue that the District receives from the county in which the applicant is located. There may be several applicants from within a county competing for these funds.

The District is authorized to provide up to 75% for public navigation projects, while all other project categories are eligible for up to 50% funding assistance. Annually the District allocates approximately $6.2 million dollars for the program. Cash, in-kind services and other grant funds may be utilized as the local match.

- Waterway Assistance Project Listing
- Total Project Types Funded
- County Assistance Totals
- Quarterly Status Report Form
- Quarterly Status Report Form (Acrobat Reader is required)
- Payment Reimbursement Requests and Project Closeout Procedures
- Waterway Assistance Application Package (Word Document)
- Waterway Assistance Application Package (Acrobat Reader is required)

Download a free copy of Acrobat Reader, click here.

For more information, please contact Janet Zimmerman.

Delray Beach Police Boat


Dutton Island Preserve Atlantic Beach


Navigation Channel Dredging


Buena Vista Park New Smyrna Beach

WCIND

West Coast Inland Navigation District

The West Coast Inland Navigtion District (WCIND) is a multi-county special taxing body, covering Manatee, Sarasota, Charlotte, and Lee counties, encompassing an estimated 1.1 million people. The district plays a pivotal role in the waterway projects that promote safe navigation from the "Open Water" of the Gulf of Mexico or the Gulf Intracoastal Waterway (GIWW) to the systems of secondary waterways and supports boating, fishing, and beach-oriented projects.

WCIND supports county and local governments in maintaining and enhancing:

- public navigation channels and inlets
- boating access facilities
- waterfront parks
- piers and special structures

WCIND also distributes boating guides and waterway maps- and other resource and information publications- with an emphasis on use and stewardship of our precious marine resources.

Due to reduced federal funding, local sponsors of the U.S. inland navigation systems must now carry more of the cost of maintaining those systems. Yet, with the annual budget of approximately $4 million, WCIND currently assesses only about 20% of its statutorily allowable millage rate. The member counties of the district collaborate closely to benefit from the resources afforded by a regional approach.

Mission

To preserve and enhance the commercial, recreational, and ecological values of District

West Coast Inland Navigation District
200 E. Miami Avenue Venice, FL 34285
Phone: (941) 485-9402 or 486-1872
Fax: (941) 485-8394
Email: wcind@comcast.net

DELAWARE WATERWAYS MANAGEMENT AND FINANCING ADVISORY COMMITTEE MEETING

DNREC, DIVISION OF WATERSHED STEWARDSHIP
SHORELINE AND WATERWAY SERVICES FACILITY
901 Pilottown Road, Lewes, DE 19958
October 6, 2014 Meeting Notes

AGENDA

- Welcome and Announcements – 8:30 a.m.
- Review and Acceptance of September 22 Meeting Notes
- Recap of Last Meeting's Discussion – 2013 Marine Fuel Sales in Sussex County, Maine's Rental Car Tax, North Carolina's Increase in Boat Registration and Titling Fees, Delaware's Current Boat Registration Fees and Business Models for Increased Revenues
- Presentation of Information on Economic Value of the Inland Bays, Sussex County Transfer Tax, Project Cost Share Models Used in Other States
- Round Robin Committee Discussion – Potential for Local/County Cost Sharing Options, Need for a Boating Survey
- Public Comments
- Concluding Remarks and Next Meeting

Members Present:

- **Frank Piorko – DNREC Division Director of Watershed Stewardship**
- **Vicki Ford – Director of Office of Management and Budget**
- **David Cropper – Vines Creek Marina**
- **Jay Little – Tidal Finfish Advisory Council/Saltfish.net**
- **Neil Sands – Rehoboth Bay Sailing Association**
- **Pierce Quinlan – Lewes-Rehoboth Canal Improvement Association**
- **Gerald Hocker – State Senate 20th District**
- **Bill Carson – House of Representatives 28th District**
- **Dave Ritondo – United States Coast Guard Auxiliary**
- **Ed Lewandowski – University of Delaware**
- **Clark Evans – Old Inlet Bait & Tackle**

Not present:

- **Robert Venables, Co-Chair – State Senate 21st District**
- **David Small, Co-Chair – DNREC Cabinet Secretary**
- **Dave Russell – commercial charter boat captain**
- **Ron Gray - House of Representatives 38th District**
- **Chris Bason – Center for the Inland Bays**
- **Rob Whitford – Precision Marine**
- **David Green – Cape Water Taxi**

Other parties in attendance:

- **David Saveikis – DNREC Division Director of Fish & Wildlife**
- **Douglas Messeck – DNREC Division of Fish & Wildlife Enforcement Officer**
- **Tony Pratt – DNREC Division of Watershed Stewardship Administrator**
- **Chuck Williams – DNREC Division of Watershed Stewardship Environmental Program Manager**
- **Ariane Nichols - DNREC Division of Watershed Stewardship Environmental Scientist**

At the request of **David Small**, Committee Co-Chair, who was unable to attend, **Frank Piorko** opened the meeting at 8:37 am with a call to approve minutes from the last meeting. They were approved as prepared. He stated that the last meeting's focus was on the cost/revenue models presented by **Chuck Williams** and **Ariane Nichols**. The charge of the committee for this meeting would be to see if there were any other areas to consider and focus work on preparing a report for the General Assembly which is due in early November.

Mr. Williams gave a recap of the last meeting's discussion on 2013 Marine Fuel Sales in Sussex County, Maine's Rental Car Tax, North Carolina's Increase in Boat Registration and Titling Fees, Delaware's Current Boat Registration Fees and Business Models for Increased Revenues. He also said the committee discussed looking into a public survey to gauge a willingness to pay for waterway management.

Ms. Nichols discussed the trends in marine fuel sales at the Indian River Marina and said they are the largest seller of boat fuel with a market share of approximately 35 – 40%.

Mr. Williams said the four possible funding sources discussed to date were:

- Utilize TTF Marine Motor Fuel Tax revenue for waterway management needs (would cut into DelDOT transportation needs)
- Utilize some portion ($10K) of legislators individual CTF accounts (Rule 12)
- Increase Boater Registration Fees (double current fees, add flat rate, graduated scale based on size of boat)
- Initiate Boat Titling in Delaware

Mr. Williams stated that the meeting discussions would focus on the Economic Value of the Inland Bays, the Sussex County Transfer Tax (where does it come from and what is it used for), Project Cost Share Models Used in Other States, the Potential for Cost Sharing in Delaware, and the Need for a Boating Survey.

Mr. Williams began the discussion by stating that the data concerning the Economic Value of the Inland Bays was obtained from a 2012 publication done by the University of Delaware through their SeaGrant Program in addition to information provided by **Chris Bason** of the Center for the Inland Bays.

- 300 square mile watershed, 32 square mile estuary with 87,000 full time residents
- UD SeaGrant 2012 publication indicates State's coastal economy is a multi-billion dollar sector
  - $6.9B added to industry production
  - 59,000 additional jobs supported
  - $711M of additional taxes annually

- Although the exact value is unknown, water-related activities in Inland Bays is included in these figures (fishing, boating)
- "Near Shore Zip Codes", the four bordering the coast and Bays (19930, 19944, 19958, 19971) contain the most direct coastal activities
- Inland Bays is a fishing mecca
- Massey's Landing is State's busiest boat ramp
- $149M spent on recreational fishing in Delaware in 2011 (ASA – American Sportfishing Association)
- $343M spent on recreational boating in Delaware in 2010 (USFWS)

Ms. Nichols referred to a handout on the Sussex County Transfer Tax and pointed out that it is the largest revenue source for Sussex County bringing in 31% of their annual budget.

- Transfer tax rate in Sussex is 1.5%
- Paid to the county in connection with the transfer of any interest in real estate
- Transfer tax budgeted to be $16M in FY2015 (same as FY2014)
- 50% of the RTT generated from unincorporated areas in the 4 "Near Shore Zip Codes"
- Accounts for 31% of the FY2015 Budget
- According to FY2015 Budget, surplus from FY2014 predicted to be $3M
- FY2013 surplus of $4.5M

Neil Sands commented that the chart presented is volatile. **Pierce Quinlan** said it appears the surplus is going into some type of fund.

Ms. Nichols then presented Information on cost share models used in other states (NC, MD & FL):

<u>North Carolina Cost Share Model</u>

- Water Resources Development Project Grant Program
- Revenue generated from increase in registration and titling fees, motor fuel tax (1/6th of 1%), and general assembly appropriations
- NC DNR is authorized to provide grants to local governments for water resource development projects (ex. navigation, water management, stream restoration, beach protection, aquatic weed control, engineering studies)
- Units of local gov't and local political subdivisions are only eligible parties for grants
- Includes projects planned by federal agency with local match and those without federal assistance
- 50/50 Match
- Grant applications are ranked using the following criteria:
    - Economic, social, and environmental benefits to be provided by the project
    - Regional benefits of project to an area greater than the area under the jurisdiction of the local sponsoring entity
    - Financial resources of the local sponsoring entity
    - Environmental impact of the project
    - Any direct benefit to State-owned lands and properties

<u>Maryland Cost Share Model</u>

- Maryland Waterway Improvement Fund created in 1966 to support development, use, and enjoyment of State waters for the general boating public

- Funds are obtained primarily from the one-time 5% excise tax that is paid to the State when a boat is purchased and registered/titled in the State
- Fund provides financial support to local governments, the DNR, and federal agencies in the form of grants and/or loans
    - Channel marking
    - Debris removal
    - Dredging
    - Boating information and education
    - Boating related shoreline erosion projects
- Type of funding for eligible projects depends on:
    - Scope of project
    - Statutory guidelines
    - Technical & environmental considerations
    - Benefits to general boating public
- Funding options include:
    - 100% State grant:
        - Minor construction, repair or navigation at boating facilities (up to $5K)
        - Development and maintenance of boating facilities (up to $100K)
        - Dredging, channel marking, jetty construction, debris removal (up to $100K)
    - Matching grants (max 50% state cost share)
        - Engineering, construction, maintenance of public boating facilities
        - Dredging channels and harbors (primarily serve local communities)
        - Acquisition of marine fire/rescue boats and equipment
    - 100% Interest Free Long Term Loans to local governing bodies (max 25 years)

  - Dredging/navigation, spur channels, boating access facilities
- Downward trend in revenue due to decreased boat sales
- Exploring revenue enhancement opportunities:
    - Graduated registration fee
    - Increased titling fee
    - Raising excise tax to meet current sales tax rate (6%)
    - Decals on non-motorized vessels
    - Supplemented with bond bill or general funds

<u>Florida Cost Share Model</u>

- Two inland navigation tax districts in Florida - Florida Inland Navigation District (FIND) and West Coast Inland Navigation District (WCIND).
- Both created by Florida State Legislature – FIND in 1927 and WCIND in 1947.
- Created when Corps of Engineers needed local sponsors for dredging intracoastal waterways, but now handle local waterway management issues as well (dredging, channel marking, fishing & docking facilities).
- Primary source of funding is property tax revenues from counties along the waterways (all properties in each county are assessed).
- Rationale for tax is all property in the counties benefit from economic activity generated by waterways and their use.
- Current assessment for FIND is $3.80/$100K property value and $3.94/$100K for WCIND
  - FIND FY2014 revenue – approx. $21M
  - WCIND FY2014 revenue - approx. $5M

- Tax assessment collected annually and counties can apply for project funding, not to exceed the amount that their county contributed.
- Applications must be submitted by local governments annually for funding of waterway projects in their jurisdiction
- FIND – 75% navigation, 50% all others (ex: channel marking, boat ramps)
- WCIND – 100% marine law enforcement, navigation, environmental education, 50% boating safety and boating recreation

A discussion followed regarding the State Revolving Loan Program. **Mr. Piorko** said it is funded by the EPA through a grant and the cost share is 80% EPA and 20% State of Delaware. In recent years, the use of the fund has expanded through the Clean Water Act. It states that the loan can be used for any use that is compatible with a comprehensive management plan for a national estuary program. Mr. **Piorko** pointed out that there is the Inland Bays Estuary Program and the Delaware Estuary Program in Delaware. It is conceivable DNREC could apply for a loan for certain projects through this program. He said the caveat would be to have a dedicated source of revenue to repay the loan over time.

Mr. Quinlan asked if the loan could be used for a docking system. **Mr. Piorko** said he wasn't sure and that Section 312 of the Clean Water Act would need to be reviewed. **Ed Lewandowski** said he liked the idea of using the loan program to fix problems resulting from natural disasters like Superstorm Sandy and act quickly instead of waiting for the federal response. **Mr. Sands** commented that borrowing money would increase the debt service and that the focus needs to be on finding a sustainable revenue source.

Senator Hocker stated the goal of the committee is to find waterway management funding sources and that loans should be considered secondarily.

Representative Carson said the economic impact was statewide. Each year there are approximately $600K in violations and that perhaps adding a $2 fee for motor vehicle and boat infractions would generate some of the income. Recently a $10 ambulance fee was added for the volunteer ambulance service. **Senator Hocker** stated the fee did not generate the amount of income expected.

Mr. Piorko asked if there was enough of a correlation between a motor vehicle infraction fee and using it for waterway management. **Tony Pratt** said it would as it falls under transportation. Representative **Carson** commented that it should be something to take a look at.

Vicki Ford asked **Mr. Piorko** if Delaware was maximizing funds from the Clean Water Act and he said no. The loans go through a process by the financial assistance branch and that only a few projects are approved each year. By having a smaller revenue generator to repay a loan that funds a large project would get it completed faster. This in turn may create goodwill in exchange for any fees that get passed down. **Senator Hocker** agreed there are many current large projects that need to be completed now and not later.

Mr. Pratt explained there are two lists: waterways that are currently navigable and those that require navigational management.

Mr. Piorko pointed out that in looking at the three other states' waterway plans, most are using multiple revenue sources for a variety of uses. He asked if it's practical for counties or municipalities in Delaware to contract out waterway projects. **Senator Hocker** said he felt the state should handle these

projects, but the counties should be part of the process. **Mr. Sands** agreed the county (Sussex) should step up because these projects are assets that attract people to visit the area. However, it will be difficult to secure funding from them. He said funding should be statewide and generated by people who use the waterway. Discussions followed regarding the state accommodations tax of 8% on hotels and motels. This tax has been extended to rentals (in select municipalities), but on a limited basis and the rates vary.

Ed Lewandowski asked if there was any consideration to adding waterway user fees similar to purchasing a duck stamp for hunting. **Mr. Piorko** said it had not been discussed, but that that the state of Maryland was looking into a decal for non-motorized vessels such as kayaks. **Douglas Messeck** explained that the Maryland boat ramps are part of a county system and revenue generated are district funds that cannot be used.

Mr. Pratt said the funds currently received for waterway management are inadequate and projected to be so for the next 4 – 6 years. The beach side of things is stable; however, the beach is defined as the Atlantic coast from Fenwick Island to Cape Henlopen and the bay coast up to Pickering Beach. The shoreline erosion problems are wider than that defined area. The state is restricted where they spend their funds but there are some additional opportunities coming up with beneficial use sites through projects by the Army Corp of Engineers. The current erosion problems have become much more complex since the Beach Preservation Act was established in 1971. One recent success was in Pepper Creek where DNREC was able to build wetlands and raise the marsh with dredged material. The goal is finding a revenue stream to address dredging and shoreline protection through users paying into the fund. **Mr. Pratt** explained the concept of proximity value in real estate and that it's reflected in transfer taxes. There is also an expectation that waterways are navigable from these properties. The main concentration now is to focus on main channels and then address issues in spur channels.

Mr. Piorko mentioned that other states maintain their waterways along with the Army Corps of Engineers. In Delaware, there are only three main waterway "highways" that are maintained. He said it's similar to DelDOT plowing snow on main roads vs. side streets. The waterway management plan would address the secondary waterway needs since the Army Corps of Engineers only focuses on the three main channels.

Mr. Piorko asked the Committee about developing a simple survey and what questions should be asked. **Mr. Lewandowski** stated that Coast Day would have been an ideal place to capture an audience. His opinion was that a web based survey would be the best way to expedite the process. Ideally there would be three questions, the URL could be communicated through a press release, and **Jay Little** could share it on his website. **Mr. Little** stated there is a national fishing registry and that perhaps a mass e-mail could be sent to target a specific group. **David Saveikis** said it could be done, but confidentiality may need to be a consideration. **Mr. Sands** asked specifically what the survey would reveal. Mr. **Piorko** replied that it could address the proposed fee structure. **Representative Carson** stated there are different types of boaters (fresh vs. salt water) and **Mr. Piorko** commented the issue also extends beyond just boaters and fishermen. Currently there are 87K full-time Inland Bay households and it may be helpful to query the non-boating residents if they would support a waterway management fee in addition to their annual property tax.

Mr. Sands said to help gauge the approval of increased registration fees, he could send the survey to 150 sailing members. **Mr. Piorko** stated the process should be doable and not expensive. **Mr. Little** said there are tools such as Survey Monkey that make the process easy, but that determining a sample may

be more difficult. He stated the results vary depending on audience surveyed and that it's important to be careful or the data would be skewed on the poll.

Mr. Piorko explained that the committee was charged with creating a report to give to the General Assembly in three weeks, but it did not have to be detailed in all the steps required to fund the waterway program. Legislation would dictate exactly how the program would be funded. Senator **Hocker** agreed that the report is a recommendation and that it should address how much funding is needed along with possible funding options.

Representative Carson asked how long ago the Accommodations Tax was modified. **Mr. Pratt** explained it was increased by 2% back in 1988 or 1989 and that 1% goes to the Convention and Visitors Bureau and the other 1% goes toward beach preservation.

Mr. Sands said there is a clear need for a waterway management program and the three revenue options he sees are: transfer tax based on proximity, fees for users of the waterways, and a possible hotel tax increase. He said other revenue sources may be a stretch to justify a tax.

Mr. Piorko commented that the survey should be done with the help of **Mr. Lewandowski** from the University of Delaware. A short discussion followed stating the need for a survey to back up recommendations made to the General Assembly.

Senator Hocker said that any increase to the Accommodations Tax would have to be for beach replenishment. **Mr. Pratt** agreed that the funds should be used for the beaches, but that it's also important to look at shoreline erosion all over the state. **Representative Carson** asked if it would free up money currently being used elsewhere. **Mr. Pratt** answered it would not as there is a constant deficit vs. needs. There would, however, be an added value to the boating public through jobs and services. The survey could help show an economic value and social value. A waterway system that is functional has a huge value that benefits more than just the boating public. **Representative Carson** added that there is an economic impact on all of Delaware and not just the beaches. It would be important to capture that point in a survey. **Mr. Pratt** stated the last survey done by the University of Delaware was hugely valuable because it educated people and can be used as an information piece. **Mr. Sands** agreed the survey should consider the general public.

Senator Hocker stated the next step is to conduct a survey and then work on the committee report. **Mr. Piorko** confirmed the goal of the report is to capture the conversations that have taken place, convey recommendations, and to identify steps moving forward. He asked if the committee wanted to meet again or if sending a draft report via email would be appropriate. It was agreed that electronic distribution would work unless the survey feedback dictated a follow-up meeting. Discussions followed regarding the survey, data collection, and that decision making should be based on findings.

Mr. Piorko summarized the meeting by stating the survey instrument needed to be created with the help of **Mr. Lewandowski** and the University of Delaware. A report for the General Assembly needed to be crafted in the next three weeks on the progress of the meetings and funding considerations should be defined in the document. **Mr. Pratt** suggested there be a review of the economic benefits and values of Delaware's waterways. He stated he would be contacting the University of Delaware to see if they could assist. **Representative Carson** thanked DNREC for their assistance with the entire process.

Mr. Piorko adjourned the meeting at 10:12 am.

APPENDIX F

- List of Navigational Channels in Delaware

APPENDIX F

LIST OF NAVIGATIONAL CHANNELS IN DELAWARE

Federally Authorized Channels

- Wilmington Harbor
- Chesapeake and Delaware Canal
- Delaware City Branch Canal
- Smyrna River
- Leipsic River
- Little River
- St. Jones River
- Murderkill River Entrance Channel
- Murderkill River
- Mispillion River Entrance Channel
- Mispillion River
- Cedar Creek
- Broadkill River
- Roosevelt Inlet
- Lewes and Rehoboth Canal
- Massey's Ditch
- Indian River
- Pepper Creek

- Nanticoke River
- Broad Creek

State Maintained Channels

- Love Creek
- Herring Creek
- Guinea Creek
- Vines Creek
- White Creek
- Assawoman Canal
- Roy Creek