出國報告(出國類別：其他)

104 年度國際環境夥伴計畫—「環境執法策略交流活動」

服務機關：行政院環境保護署

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派赴國家：美國

出國日期：104 年 8 月 8 日至 8 月 17 日

報告日期：104 年 10 月 30 日

摘要

本項出國計畫為 104 年國際環境夥伴計畫活動，並配合本署組團赴美出席「臺美環保技術合作協定雙年會暨國際環境夥伴計畫推廣」行程辦理，先後前往美國華府及舊金山，拜會美國環保署總部環境執法及守法確認辦公室(Office of Enforcement and Compliance Assurance,OECA)、美國環保署第 9 區環境執法處，就兩國環境執法策略及未來合作方向進行交流，另參加「臺美環保技術合作協定雙年會」、「全球環境夥伴會議」、「國際環境夥伴計畫推廣成果回顧會議」、本署魏署長於威爾森中心(Wilson Center)發表之專題演說等，

本次赴美行程得到具體成果評估及心得建議如下：

一、美國環保署律師，除協助稽查人員於環境執法時熟悉環保法規外，幫助蒐集違法者不法事證，並參與執法告發案件法院訴訟業務，此一律師制度設計對第一線稽查員偵辦重大案件幫助相當大，值得借鏡。

二、就重要環境議題擬定年度專案稽查執行計畫，藉由資料分析篩選稽查目標，有效運用人力及資源，達到高效率執法目的。

三、美國國家環境執法調查中心(National Enforcement Investigations Center, NEIC)鑑識實驗室提供第一線稽查人員協助，包括執法現場專業蒐證取樣和現地物理檢測、監控等，其組織及功能可提供我國參考。

四、透過環境執法國際合作交流，除可分享各國執法經驗，亦可以環保外交方式，達到提高我國國際能見度目的。

關鍵字：

環境執法、國際環境夥伴計畫、美國環保署、美國國家環境執法調查中心、環境遵法確認辦公室(OECA)

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目的

本項出國計畫為 104 年國際環境夥伴計畫活動，並配合本署組團赴美出席「臺美環保技術合作協定雙年會暨國際環境夥伴計畫推廣」行程，本計畫主要目係加強臺美雙方環境執法高層官員交流，就國家環境執法策略及執行經驗進行分享，並就雙方未來合作方向及加強於亞洲地區共同推動國際環境執法交流活動等議題進行討論。

本次訪美先後前往華盛頓及舊金山，除拜會美國環保署總部環境執法及守法確認辦公室(Office of Enforcement and Compliance Assurance,OECA)、美國環保署第 9 區環境執法處等政府機關外，另參加「臺美環保技術合作協定雙年會」、「全球環境夥伴會議」、「國際環境夥伴計畫推廣成果回顧會議」、本署魏署長於威爾森中心(Wilson Center)發表之專題演說等國際活動，以環保外交方式，達到提高我國國際能見度目的。

過程

一、出國行程與內容概要

天數	日期	行程與內容
1	8 月 8 日 週六	啟程（搭機前往美國華府，於洛杉磯轉機）
2	8 月 9 日 週日	抵達美國華府
3	8 月 10 日 週一	- 參加第 1 屆全球環境夥伴會議 - 美國環境鑑識實驗室運作情形 - 參加城市清潔空氣夥伴研討會
4	8 月 11 日 週二	- 臺美雙邊環境執法策略觀摩與交流 - 臺美環保技術合作計畫回顧雙年會—環境執法合作項目執行情形及成果報告 - 參與臺美慶祝城市清潔空氣夥伴城市配對成功儀式
5	8 月 12 日 週三	- 環境執法與環境鑑識 - Chesapeake 灣復育計畫污染總量削減(TMDL)及環境執法策略 - 聽取美國環保署科技專題簡報 - 參加署長於威爾森中心之專題演說
6	8 月 13 日 週四	搭機前往舊金山
7	8 月 14 日 週五	- 公職律師於美國環境執法體系中之角色 - 環境執法優先計畫擬定及稽查對象篩選
8	8 月 15 日 週六	- 檢討及綜合討論 - 赴機場等候登機
9	8 月 16 日 週日	搭機返臺
10	8 月 17 日 週一	抵達臺灣

二、參加第 1 屆全球環境夥伴會議

本項活動由美國環保署國際合作處代理助理署長 Ms. Jane Nishida 主持，主要在展現國際環境夥伴計畫 IEP 在過去 1 年來的具體成就，由各項目負責單位進行成果簡報，邀請華府各國代表參加，希望吸引更多國家參與 IEP 活動。

本署魏署長應邀致詞時表示，IEP 是臺灣在與美國環保技術緊密合作 20 年後，從受幫助轉而來貢獻國際社會的方式，環保是全球性問題，希望透過這個計畫各國一起攜手合作來改善地球環境。

計畫成果簡報包括：

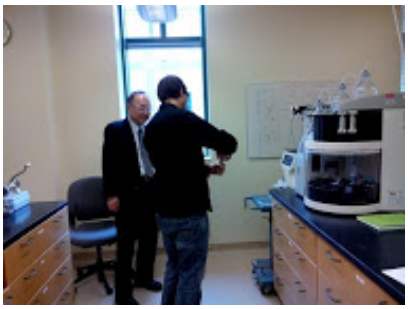
1. “Kids Making Sense”空氣品質監測體驗營
2. “U.S.-Taiwan Eco-Campus Partnership Program”臺美生態 學校伙伴計畫。
3. “ Cities Clean Air Partnership” 城市清潔空氣夥伴。
4. “Site Remediation”場址復育。
5. “The Asia-Pacific Mercury Monitoring Network”亞太汞監測網絡。
6. “International E-waste Management Network”國際電子廢棄物管理網絡。
7. ”The Global Environmental Education Partnership (GEEP)”全球環境教育夥伴。

	
會前本署、美國環保署與駐美代表處舉行會談	美國環保署代理副署長 Ms. Nishida 致詞

	
本署魏國彥署長致詞	環境執法合作項目成果現場展示

三、美國環境鑑識實驗室運作情形

美國環保署第 3 區分署環境實驗室位於馬里蘭州奧登頓市米德堡(Fort Meade)環境科學中心內，該實驗室有約 200 位員工，其中 100 位負責檢驗分析工作，主要分析空氣、廢棄物、自來水及廢水樣品，檢驗項目為無機分析（含重金屬及汞）、有機分析（含殺蟲劑及多氯聯苯 PCB）及微生物分析（大腸桿菌），並經檢驗認證通過，檢驗儀器齊全，包括前處理萃取設備（extractor）、空氣採樣器（Canister）、感應耦合電漿光譜儀（ICP）、氣相層析儀（GC）、氣相層析質譜儀（GC/MS）、液相層析質譜儀（LC/MS）、高效液相層析儀（HPLC）及氣相層析儀（GC）+傅氏轉換紅外線光譜分析儀（FTIR）+顯微鏡（Microsopy）等儀器，其中令人好奇的是，運用氣相層析儀（GC）+傅氏轉換紅外線光譜分析儀（FTIR）+顯微鏡（Microsopy）組合儀器為鑑識分析不明物質用途，曾協助警方鑑識分析毒品，藉由此儀器鑑識不易由氣相層析質譜儀（GC/MS）分析有機物成分，常協助鑑識犯罪案件；另液相層析質譜儀（LC/MS）可分析微量水溶性極性有機物，價格昂貴達數千萬元昂貴，國內環保單位檢驗室尚未有購置此儀器。除例行性檢驗分析業務外，非例行性檢驗業務包括承接超級基金（Superfund）計畫，及配合環保犯罪案件現場採樣檢驗工作。

	
Ms. Sue Warner 講解氣相層析質譜儀(GC/MS)圖譜分析	Mr. Adam Molnar 講解氣相層析儀（GC）+傅氏轉換紅外線光譜分析儀（FTIR）+顯微鏡（Microsopy）儀器
	
Ms. Karen Costa 與姜副總隊長合影	Mr. Adam Molnar 講解樣品分析程序

四、臺美環保技術合作計畫回顧雙年會

本項活動由本署魏國彥署長與美國環保署國際合作處代理助理署長 Ms. Jane Nishida 共同主持，就目前雙邊合作項目執行成果及未來合作方向，由計畫經理進行專案報告並討論。

施勝鈞科長於會中就「環境執法與遵循」合作項目進行報告(簡報如附錄 1)。美國環保署總部環境執法及守法確認辦公室主管 Ms. Susan E. Bromm 對於目前雙邊合作關係表示肯定，並對於西元 2015 年 9 月將在泰國曼谷，舉行之「亞洲下一世代環境執法」國際研討會(Next Generation Compliance in Asia)表示高度期待。魏署長就本項合作項目表示就臺灣在稽查環保犯罪及非法繞流或偷排廢水行為很有經驗，可以在未來舉辦研討會時分享各國參考。

	
本署魏署長致詞	討論情形
	
進行環境執法與遵循項目報告	全體與會人員合影

五、環境執法策略交流(美國環保署總部環境執法及守法確認辦公室)

由美國環保署環境執法與遵循確保辦公室副助理署長 Mr. Lawrence Starfield、聯邦活動處長 Ms. Susan Bromm 及國際事務亞太計畫資深顧問 Mr. Mark Kasman 負責接待，雙方就目前臺美雙方環境執法合作情形交換意見，並就西元 2015 年 9 月臺美將於泰國曼谷共同舉辦之「亞洲下一世代環境執法」研討會籌辦情形進行討論，會中並對於臺美雙方在環境執法人員組織及執法策略等交換意見。

	
會談情形	蕭總隊長代表本署致贈禮品表示感謝

六、環境執法與環境鑑識(美國國家環境執法調查中心)

於美國環保署總部與該署國家環境執法調查中心(National Enforcement Investigations Center, NEIC)人員進行視訊會議，

本項視訊會議由該中心代理處長 Mr. Tom Norris 及相關人員向本署進行該中心任務及功能簡報，美國環保署環境執法辦公室副助理署長 Mr. Lawrence Starfield 及聯邦活動處長 Ms. Susan Bromm 在場陪同。

美國環保署國家環境執法調查中心位於科羅拉多州，協助美國環保署執行環保犯罪案件，是唯一經認證許可鑑識中心，擁有高科技鑑識實驗室包括化學分析儀器，及執法現場專業蒐證取樣和現地物理檢測、監控等，並提供專家協助司法部法官訴訟判決諮詢專業證人，協助環保署各區分署、州政府和地方政府稽查員和律師偵辦環保犯罪案件，並提供人員訓練。

	
NEIC 代理處長 Mr. Tom Norris 等美方人員介紹該中心組織及功能	雙方進行視訊會議討論情形

七、Chesapeake 灣復育計畫污染總量削減(美國環保署第 3 區分署)

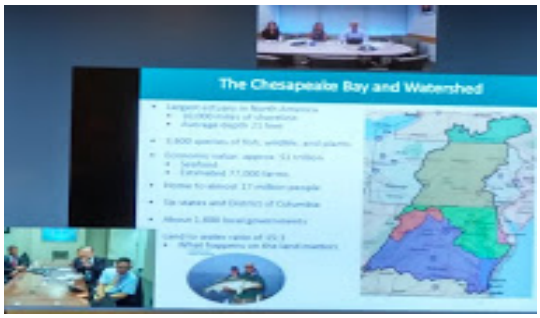
與美國環保署第 3 區分署水部門處長 Mr. Jon Capacasa 以視訊會議方式向本署說明 Chesapeake 灣復育計畫最大每日負荷 Total Maximum Daily Load(TMDL)污染總量削減策略(簡報如附錄 2)。

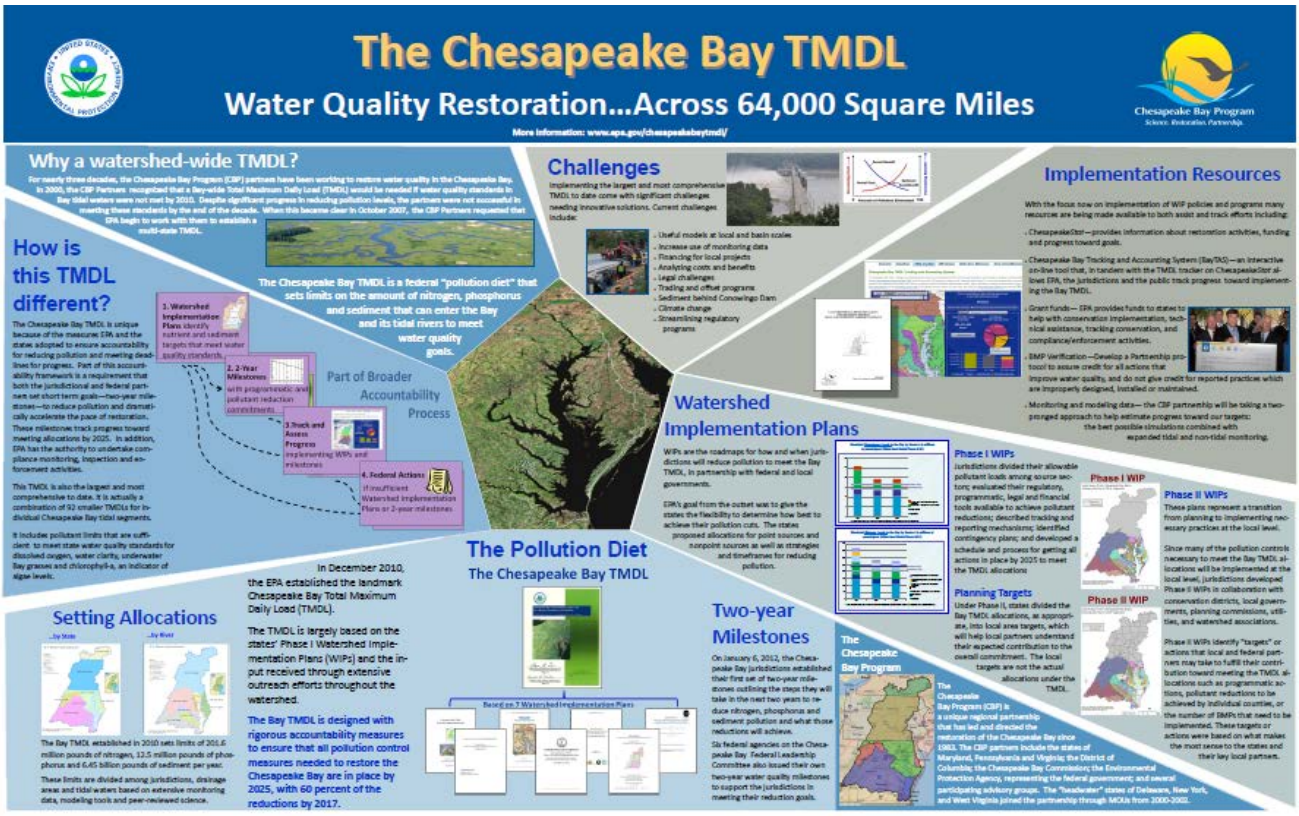
Chesapeake 灣涵蓋 6 個州（紐約州、賓州、馬里蘭州、德拉瓦州、維吉尼亞州及西維吉尼亞州）和華盛頓特區，流域面積達 6 萬 4,299 平方英里，含 1,800 個 地方政府管轄，北美最大的河口灣，海岸線 1 萬英里，150 條河川小溪，平均水深 21 英呎，擁有 3,600 種魚、野生生物和植物，後因大量氮、磷和沉積物進入水體，使得 Chesapeake 灣優養化，導致流域內生態退化，魚和野生生物減少、水質惡化和動植物棲息地減少等。

美國政府為使該流域 1 千 7 百萬居民擁有乾淨水質，並使受污染河川生態復原，西元 2010 年 12 月 29 日美國環保署發布該灣區最大每日負荷 Total Maximum Daily Load(TMDL)，污染來源主要為農業（動物飼養、肥料）、空氣污染（車輛廢氣、發電廠排放廢氣）、都市和郊區暴雨逕流（肥料、河川侵蝕）、廢水（生活污水處理廠、工業廢水），依水質模式模擬估算排入污染量，設定以西元 2017 年達到削減 60%污染量，西元 2025 年完全復原為目標，同時各州政府在污染嚴重約 92 地區，訂定各別最大每日負荷 TMDL 目標值，以氮、磷

和沉積物 3 種污染物，總共訂有 276TMDL 目標值，貢獻污染量最多的污染源須完成最大的減量，並制定三階段期程流域執行計畫（Watershed implementation plans）管制污染源，由每 2 年里程碑目標評估確認是否符合水質目標，藉此評估執行計畫有效性及可信度，假如流域執行計畫和里程碑顯示無法改善進步，則彈性修正計畫調整更嚴格手段管制排入流域內河川污染減量（pollution diet），最後以河川溶氧（DO）、水透明度、河床水草面積及葉綠素 A 作為檢視水質復原指標，促使河川生態復原，水質變乾淨。

近期執行成效包括廢水處理廠設備功能更新、新暴雨許可規定申請者需現地有足夠水量貯留場、通過肥料成分和使用的立法程序、公告禁用含磷清潔劑、農業特定計畫之立法及動物糞便轉為能源創新技術。另美國環保署針對除參與協助訂定最大每日負荷(TMDL)削減計畫外，並扮演監督角色，針對州政府執行計畫結果成效不佳會公布媒體，讓民眾輿論力量逼迫州政府改變執行計畫以達成目標。

	
美國環保署 Mr.Jon Capacasa 說明計畫內容	雙方進行視訊會議討論情形



圖：Chesapeake 灣區最大每日負荷 Total Maximum Daily Load(TMDL)計畫內容及執行策略

八、公職律師於美國環境執法體系中之角色(美國環保署第 9 區分署)

由美國環保署第 9 區分署主任秘書 Ms. Jessica Kao、資深律師主管 Ms. Sylvia Quast 負責接待，Ms. Sylvia Quast 表示區顧問(律師)辦公室負責準備違反環保法規行政的、司法的及犯罪案件，這些案件涉及到後續發展及使用技術和法律策略，來進行與違反者談判或做為其他法律目的使用。

美國環保署第 9 分區共有 850 位職員，目前該辦公室有 70 幾位律師(稽查員約有 60 位)，除了準備環境執法行動外，律師們也負責對區分署長及各處處長解釋環保法令。律師們也被期待能更進一步參與提供意見給司法部所起訴的民法或刑事法律案件。

事實上，美國環保案件真正上法院訴訟的案件並不多，律師們花大部分的時間在與違法者談判達成和解方案(Settlements)，方案內容包括要求改善之行政命令、罰鍰或非法行為之禁止等。

	
蕭總隊長代表本署致贈禮品表示感謝	雙方進行會談情形

九、環境執法優先計畫擬定及稽查對象篩選(美國環保署第 9 區分署)

由美國環保署第 9 區分署主任秘書 Ms. Jessica Kao、環境執法處 Ms. Kathleen Johnson 處長、Ms. Amy Miller 副處長接待，並由 Ms. Amy Miller 就第 9 區環境執法現況進行簡報(簡報資料如附錄 3)，並進行臺美雙方異同、執法策略交換意見及經驗。

2011 年第 9 區分署成立環境執法處，將原散佈於各業務處的稽查員集中起來，目的有幾個：

(一)口徑一致，避免稽查人員跨不同類別事實認定及判斷有所差異。

(二)集中人力專注於最重要的執法及環境議題。

(三)在執行環保法規時變得更有效率。

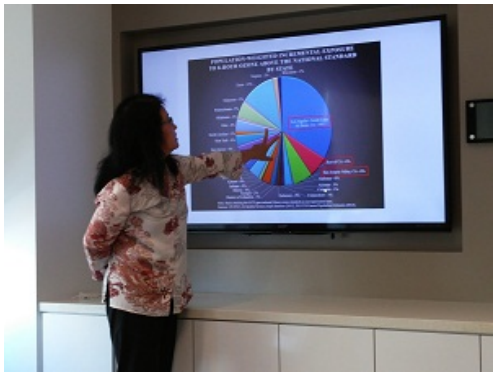
(四)Move beyond stovepipe enforcement 更深入查核污染表象後面的情況。

稽查對象篩選方法包括：

(一)使用數據資料及分析結果來界定特定目標。

(二)將稽查與全國和分區的環境改善優先目標結合。

(三)為各稽查專案發展目標篩選方式。

	
Ms. Jessica Kao 解說美國各州對大氣臭氧濃度貢獻度情形	聽取第 9 分署環境執法策略簡報情形

心得及建議

一、美國環保署第 9 區分署有 70 位律師，除協助稽查人員於環境執法時熟悉環保法規外，幫助蒐集違法者不法事證，特別涉及不法利得之環保犯罪案件，並參與執法告發案件法院訴訟業務，律師因案件開始偵辦即參與，幫助稽查人員取得違法者完整違規證據，因此法院敗訴案件相對減少，此一律師制度設計對第一線稽查員偵辦重大案件幫助相當大，提供法律意見諮詢外並參與偵辦，值得借鏡

二、 就重要環境議題擬定年度專案稽查執行計畫，並思考如何讓環境執法管制污染源更有效率，藉由資料分析篩選稽查目標，使稽查行動與全國各地重要環保業務同步結合，發展達成執行成效目標之稽查方法。

三、美國國家環境執法調查中心(National Enforcement Investigations Center, NEIC)鑑識實驗室提供第一線稽查人員協助，包括執法現場專業蒐證取樣和現地物理檢測、監控等，該中心專家並協助擔任司法部訴訟時諮詢之專業證人，對於稽查任務及違法處理非常有幫助，其組織及功能可提供本署參考。

四、透過環境執法國際合作交流，除可分享各國執法經驗，亦可以環保外交方式，達到提高我國國際能見度目的。

附錄

1.臺美環保技術合作計畫回顧雙年會「環境執法與遵循」合作項目簡報

2. Chesapeake 灣復育計畫 TMDL 污染總量削減策略簡報及資料

3.美國環保署第 9 區分署環境執法現況簡報

Environmental Law Compliance and Enforcement

Taiwan EPA

Bureau of Environmental Inspection(BEI)

Priorities

- Improve the system for addressing violations of environmental law.
- Strengthen the abilities of inspectors through training programs.
- Cooperate with countries and organizations in the region.

Engagements with International Partners

2013

- **Regional partnership activity:**
  - ✓ Enforcement Workshop and Train-the-trainer session
  - ✓ Experts from U.S., Taiwan, Thailand, Vietnam, Singapore, Philippine, Indonesia participated
- **Workshop on Field Inspection & Enforcement**

2014

- **Study tour to U.S. EPA R9**
  - ✓ Focused on system and measures of enforcement and compliance in the U.S.

Engagements with International Partners

2015

- Participated in the Next Generation Compliance Workshop in Washington D. C. in March
- Taiwan EPA high-level delegates will visit US EPA in August
- New round inspection study tour to US EPA Region 9

Upcoming Programs in 2015

- **International workshop to share best enforcement and compliance practices.**
  - Taiwan EPA will co-host Next Generation Compliance Workshop in Thailand with US EPA and AECEN in September.
  - More than 22 partnership countries will engage in the activity, including 17 Asian countries, the Netherland, Australia, New Zealand, UE EPA and Taiwan EPA.

Challenges

Need more effective tools to ensure compliance and appropriately enforce against violators.

Need more trained personnel, including inspectors, police, technicians, program managers, and prosecutors, to build a strong enforcement presence.

Need more equitable sanctions and enforcement mechanisms to ensure appropriate deterrence.

Thank You for Listening

The Chesapeake Bay TMDL

December 29, 2010

Protecting and Restoring the Chesapeake Bay Watershed

Jon M. Capacasa, Water Division Director

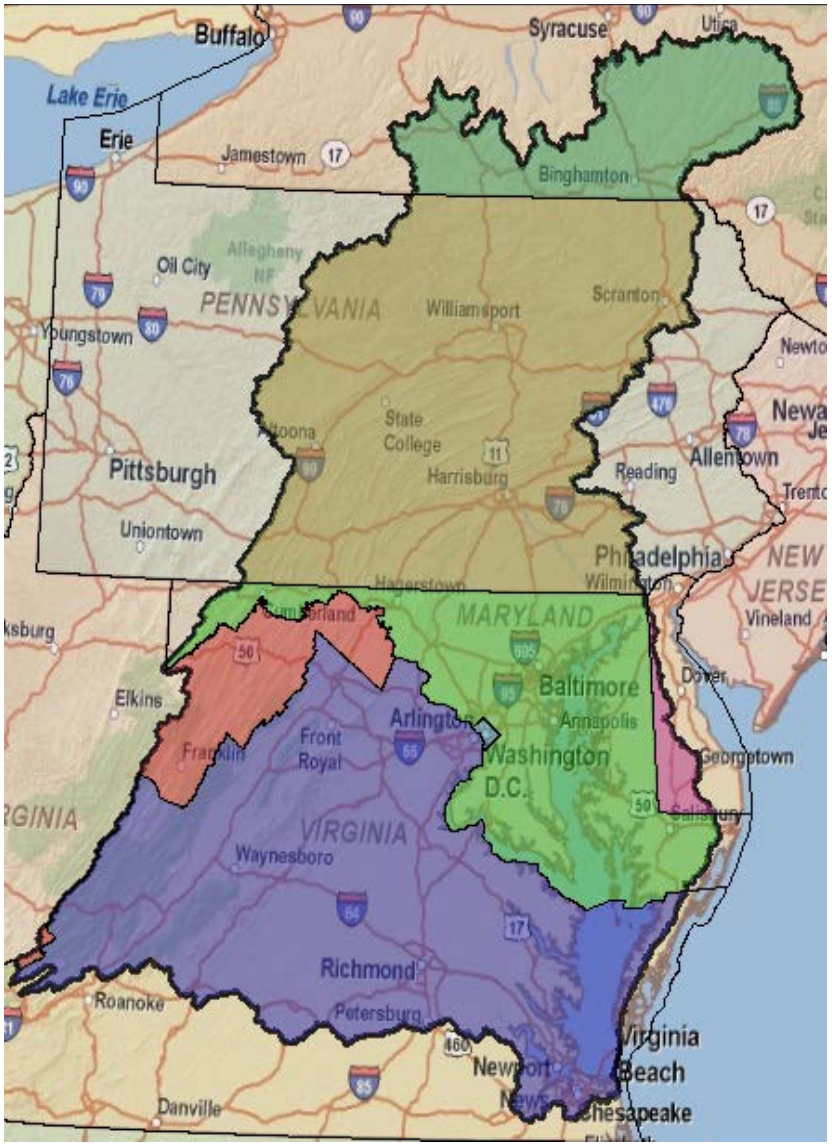
US EPA Region III
August 2015

Overview

- Chesapeake Bay Watershed, its Health and Sources of Pollution
- History of the Chesapeake Bay Partnership
  - Bay ecosystem remains impaired, but progress being made
- The Bay TMDL Approach
  - Numeric standards established strong foundation
  - Setting the state-basin targets
  - Watershed Implementation Plans
- Ground-Breaking Elements of the Approach
  - Ongoing Accountability for Results
  - Early Progress and Successes

The Chesapeake Bay and Watershed

- Largest estuary in North America
  - 10,000 miles of shoreline
  - Average depth 21 feet
- 3,600 species of fish, wildlife, and plants
- Economic value: approx. $1 trillion
  - Seafood
  - Estimated 77,000 farms
- Home to almost 17 million people
- Six states and District of Columbia
- About 1,800 local governments
- Land to water ratio of 15:1
  - What happens on the land matters



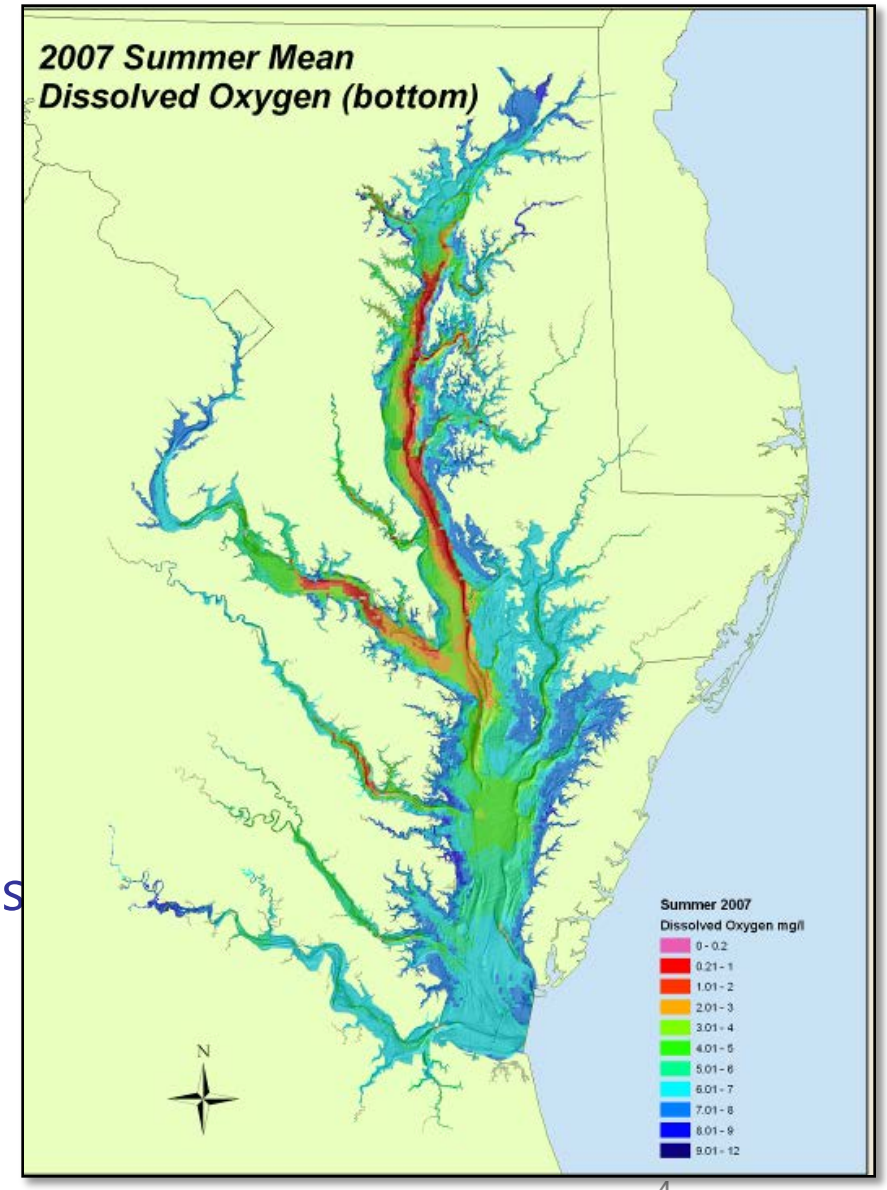
Bay Health

Degraded Ecosystem

- Declining fish and wildlife
- Poor water quality
- Dead zones every summer
- Loss of habitat

Caused by…

- Excessive Nitrogen, Phosphorus and Sediment
- Increased impervious surfaces
- Loss of natural areas
- Over harvesting of fisheries



Restored Bay

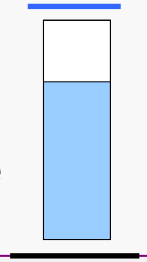
Other Priority Areas

Riparian Forest Buffer Planted

6% of Executive Order Goals Achieved

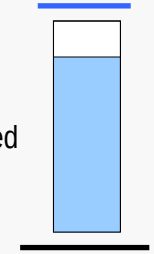
Chemical Contaminants

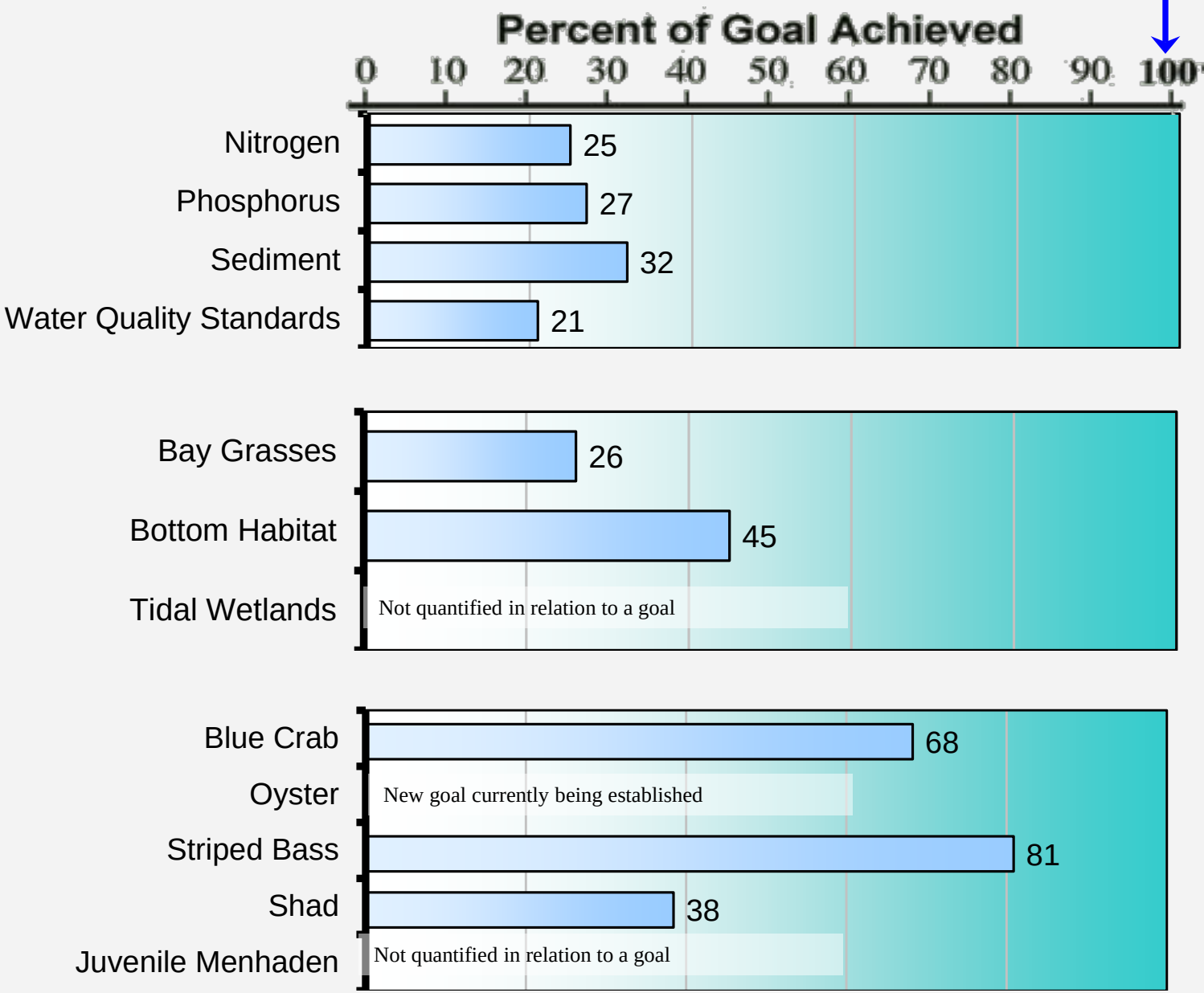
72% of 92 segments analyzed were impaired



Fish Passage Restored

91% of Goals Achieved

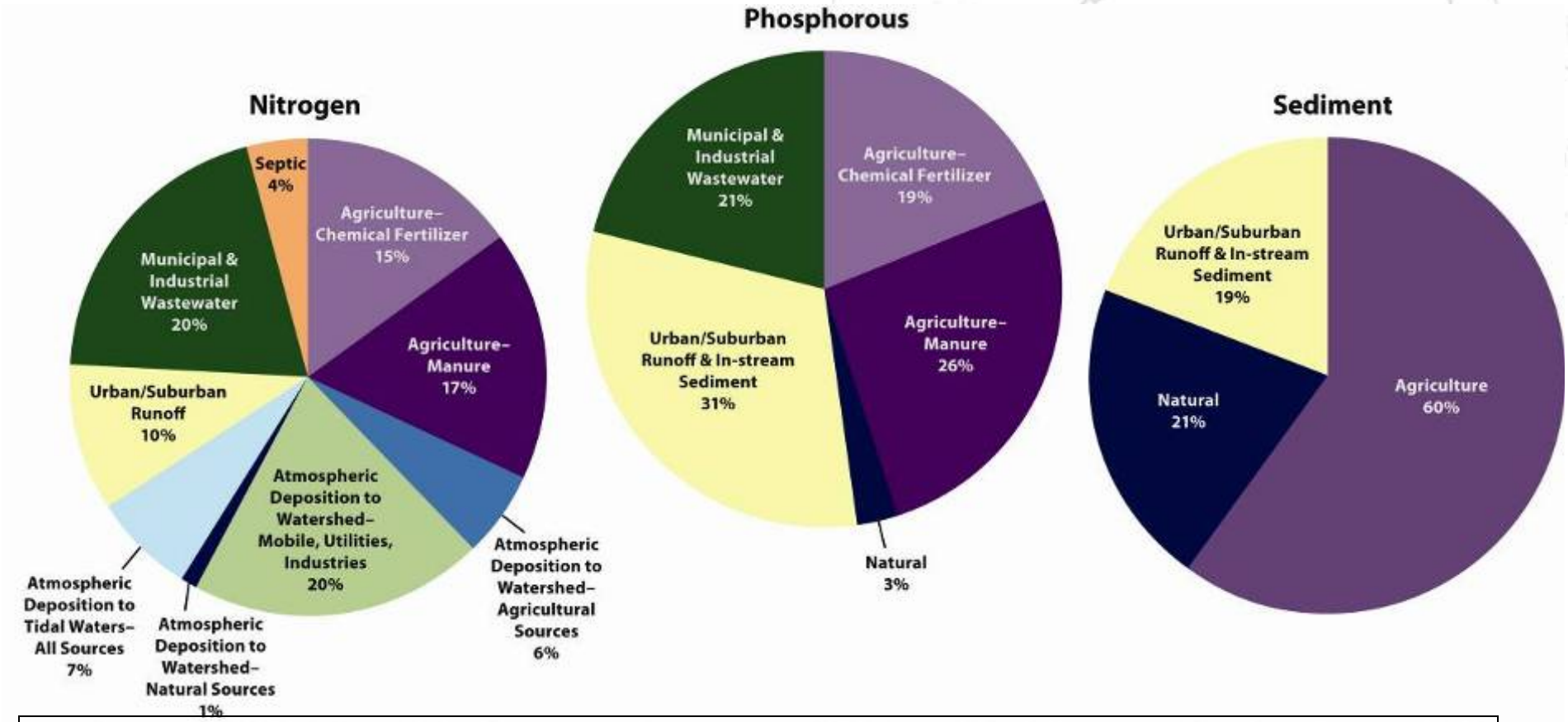




Data and Methods: www.chesapeakebay.net/status_bayhealth.aspx

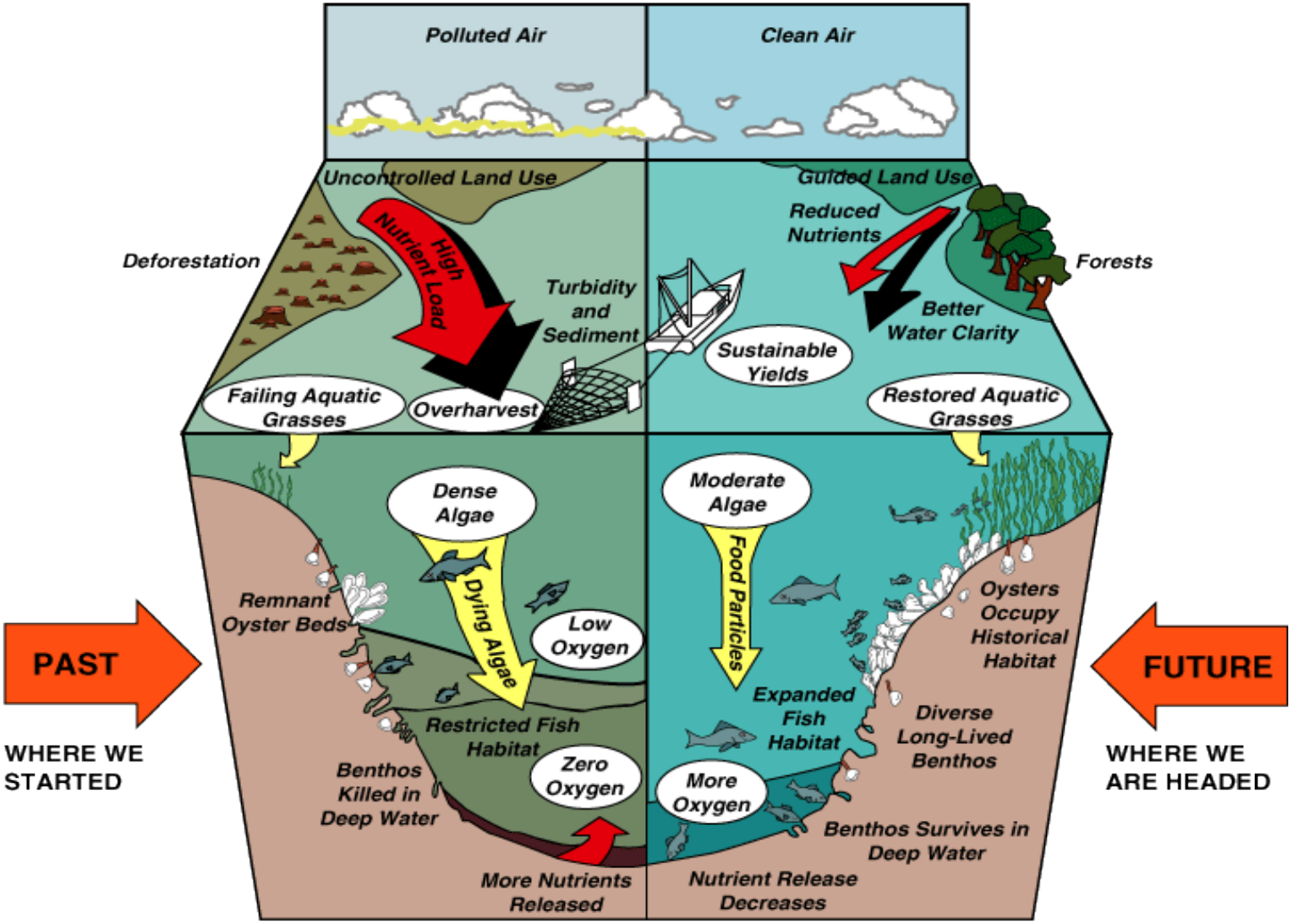
Sources of Pollution

- **Agriculture** – animal manure, commercial fertilizer
- **Air pollution** – tailpipes, power plants
- **Urban/suburban runoff**– fertilizer, stream erosion
- **Wastewater** – sewage treatment plants



Note: Does not include loads from tidal shoreline erosion or the ocean. Urban/suburban runoff loads due to atmospheric deposition are included under atmospheric deposition loads. Wastewater loads based on measured discharges; other loads are based on an average hydrology year using the Chesapeake Bay Program Airshed Model and Watershed Model Phase 4.3 (CBPO, 2009).

Chesapeake Bay Health - Past and Future



Chesapeake Bay Partnership

Since 1983, a series of Chesapeake Bay agreements have achieved progress through a mix of incentives and regulatory approaches

History of the Partnership

Early History

Late 1970s – U.S. Senator Charles “Mac” Mathias (R-Md.) sponsored Congressionally funded $27 million, five-year study to analyze the Bay’s rapid loss of wildlife and aquatic life.

- Report published in the early 1980s – identified excess nutrient pollution as the main source of the Bay's degradation. Initial findings led to formation of the Chesapeake Bay Program.

The Chesapeake Bay Agreement of 1983 –

- A simple, one-page pledge signed in 1983.
- Recognized a cooperative approach was necessary.
- Established a Chesapeake Bay liaison office in Annapolis, Maryland.

The 1987 Chesapeake Bay Agreement –

- Set first numeric goals to reduce pollution and restore the Bay ecosystem.

Aimed to reduce nitrogen and phosphorus entering the Bay by 40 percent by 2000.

Congressional Authorization

• Section 117(a) of the Federal Water Pollution Control Act -- amended in 1987 to establish the *Chesapeake Bay Program*

History of the Partnership

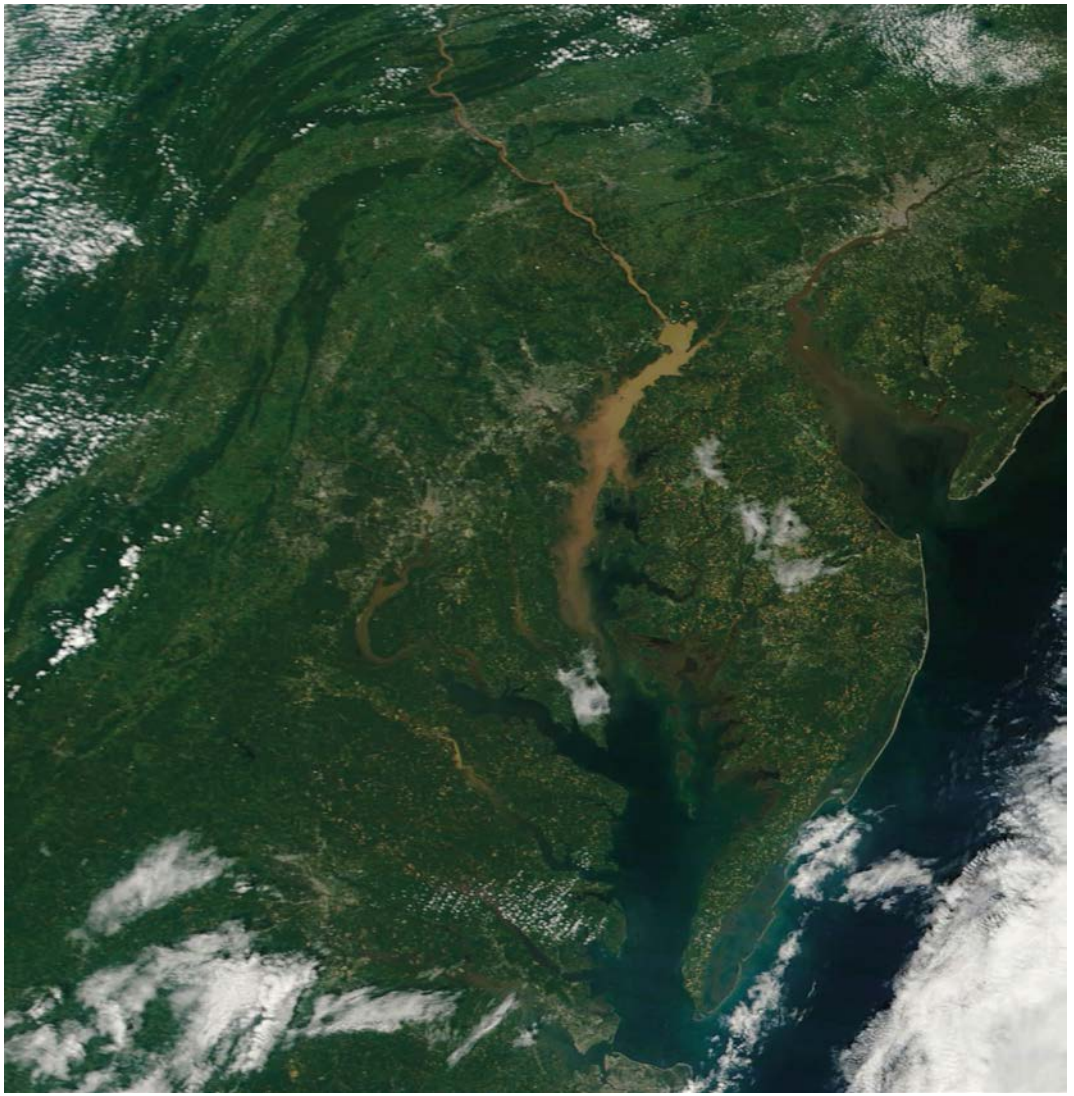
Original Partners
MD, VA, PA, DC, the Chesapeake Bay Commission and EPA as lead Federal Government agency

Key Agreements

- 1983 - Chesapeake Bay Partnership Formed simple, one-page pledge by the partners work together to restore the Bay
- 1987 - Chesapeake Bay Agreement
- 2000 - ***Chesapeake 2000*** Agreement
- 2014 – Bay Agreement
  - Aligns Federal and state goals
  - Headwater states join partnership (DE, NY WV)

CBP Vision Statement: To lead and empower others to protect and restore the Chesapeake Bay ecosystem for future generations.

Slow pace of progress triggered additional actions



Progress and Path Forward

- **Nitrogen Load Reductions**
  - **27.1 % progress since 1985** in the face of substantial watershed growth and development (26% pop increase)
  - **The Path Forward: 25%** further reduction from 2009 levels over the next **15 years (2025)** while holding the line*

- **Phosphorus Load Reductions**
  - **31.5% progress since 1985** in the face of substantial growth
  - **The Path Forward: 24%** further reduction from 2009 levels over the next **15 years*** and holding the line

*Offsetting new and increased loadings in the interim

Path forward: Chesapeake Bay Total Maximum Daily Load (TMDL)

Our Path Forward - Chesapeake Bay TMDL

- A rigorous and historic “pollution diet” to restore clean water to Bay and the region’s streams, creeks and rivers.
- Bay TMDL is the most comprehensive roadmap for restoration we have ever had for Chesapeake Bay. Addresses all sectors and major sources of nutrient and sediment pollution.
- Uses Clean Water Act authority supplemented by state strategies (“Watershed Implementation Plans”).

Why a Chesapeake Bay TMDL?

» Clean water is our obligation to the watershed’s 17 million residents and countless communities.

» Insufficient restoration progress through current voluntary and regulatory measures.

» Required under the Clean Water Act and responds to court orders and legal settlements. Cornerstone of Executive Order Strategy.

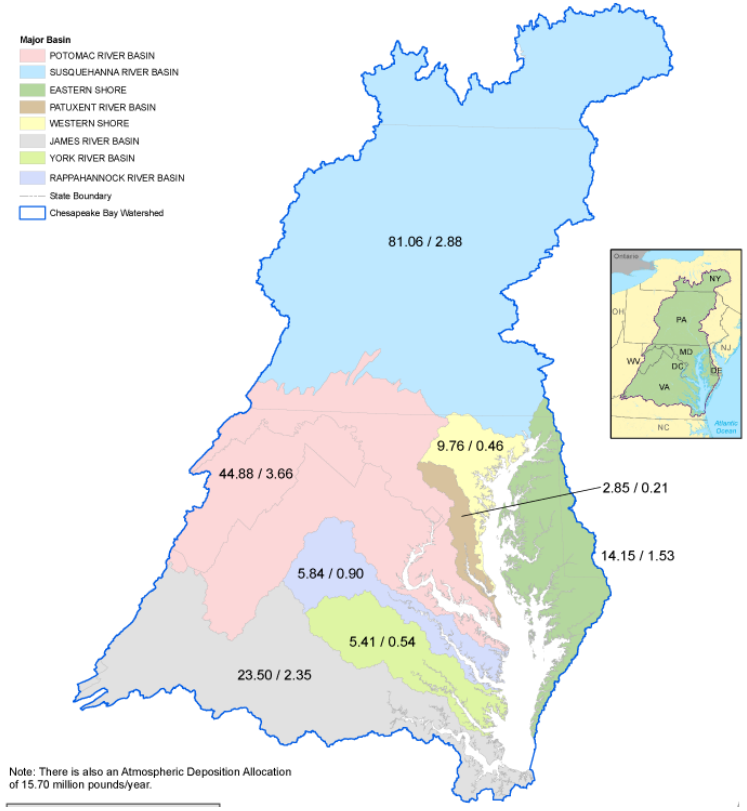
Chesapeake Bay TMDL

Total Maximum Daily Load = A **Pollution Diet** for the Bay

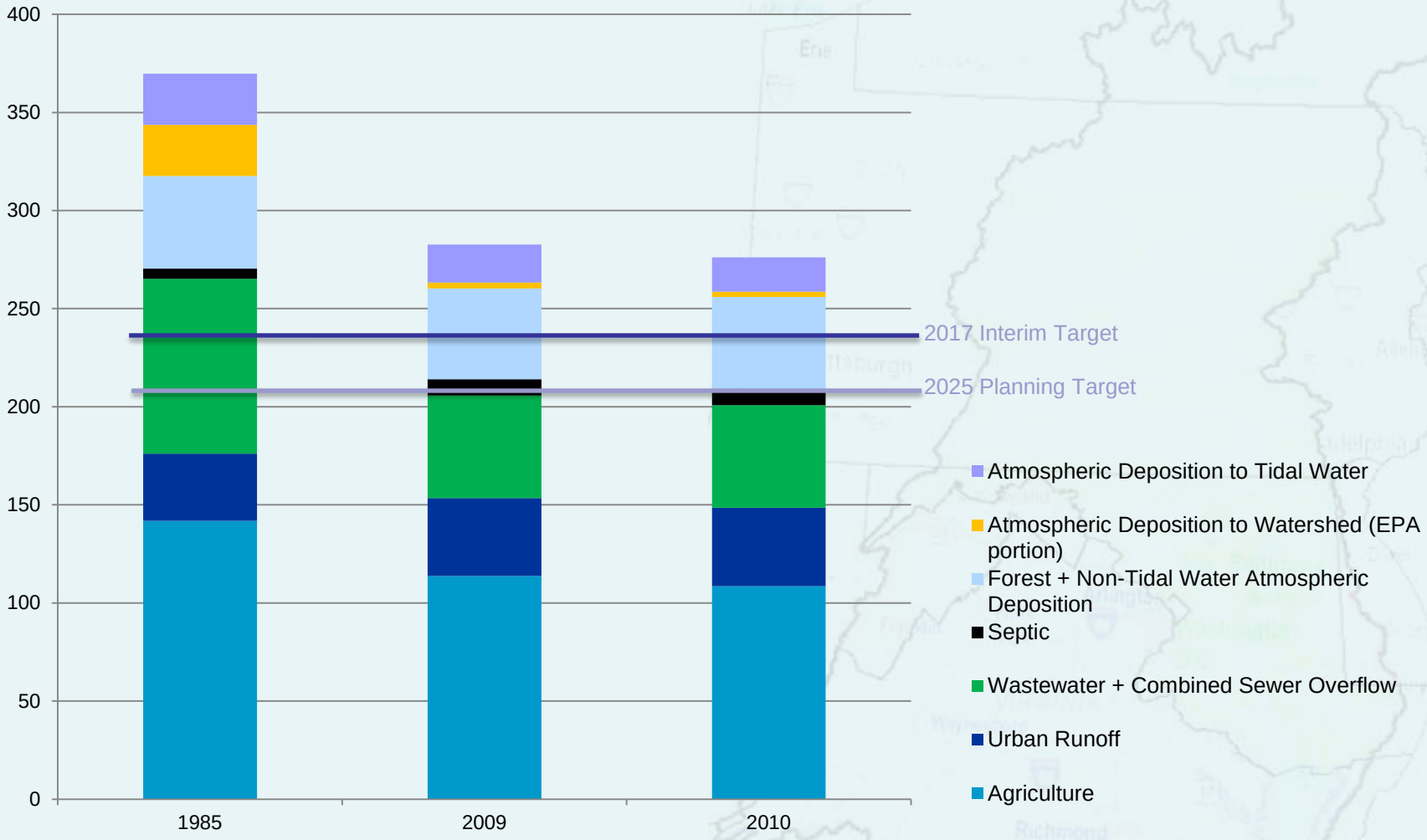
- TMDL defines the amount of pollution a waterbody can handle and still meet water quality standards.
- Partners recognized in 2000 **that a Bay TMDL would be needed if water quality standards in tidal waters were not met by 2010.**
- Issued December 29, 2010 after 2 yrs in development
- EPA worked extensively with the six States and the District of Columbia
- Shaped by extensive input from public & stakeholder groups
- Designed with rigorous accountability measures to ensure that all pollution control measures needed to restore Bay are in place by 2025, with 60 percent by 2017
- Restoration activities can enhance the economic value of the Bay and rivers, and be a driver for local economies.

Final Chesapeake Bay TMDL Watershed Limits

- **Nitrogen:** 185.9 million pounds/year (25 percent reduction)
- **Phosphorus:** 12.5 million pounds/year (24 percent reduction)
- **Sediment:** 6.45 billion pounds/year (20 percent reduction)
- Limits further divided by jurisdiction and major river basin based upon:
  - State-of-the-art modeling tools
  - Extensive monitoring data
  - Peer-reviewed science
  - Close interaction with jurisdiction partners.



Simulated Nitrogen Loads to the Bay by Source* in millions of pounds/year (Watershed Model Phase 5.3.2)



* Loads simulated using 5.3.2 version of Watershed Model using constant delivery factors and allocation air for jurisdictional loads.

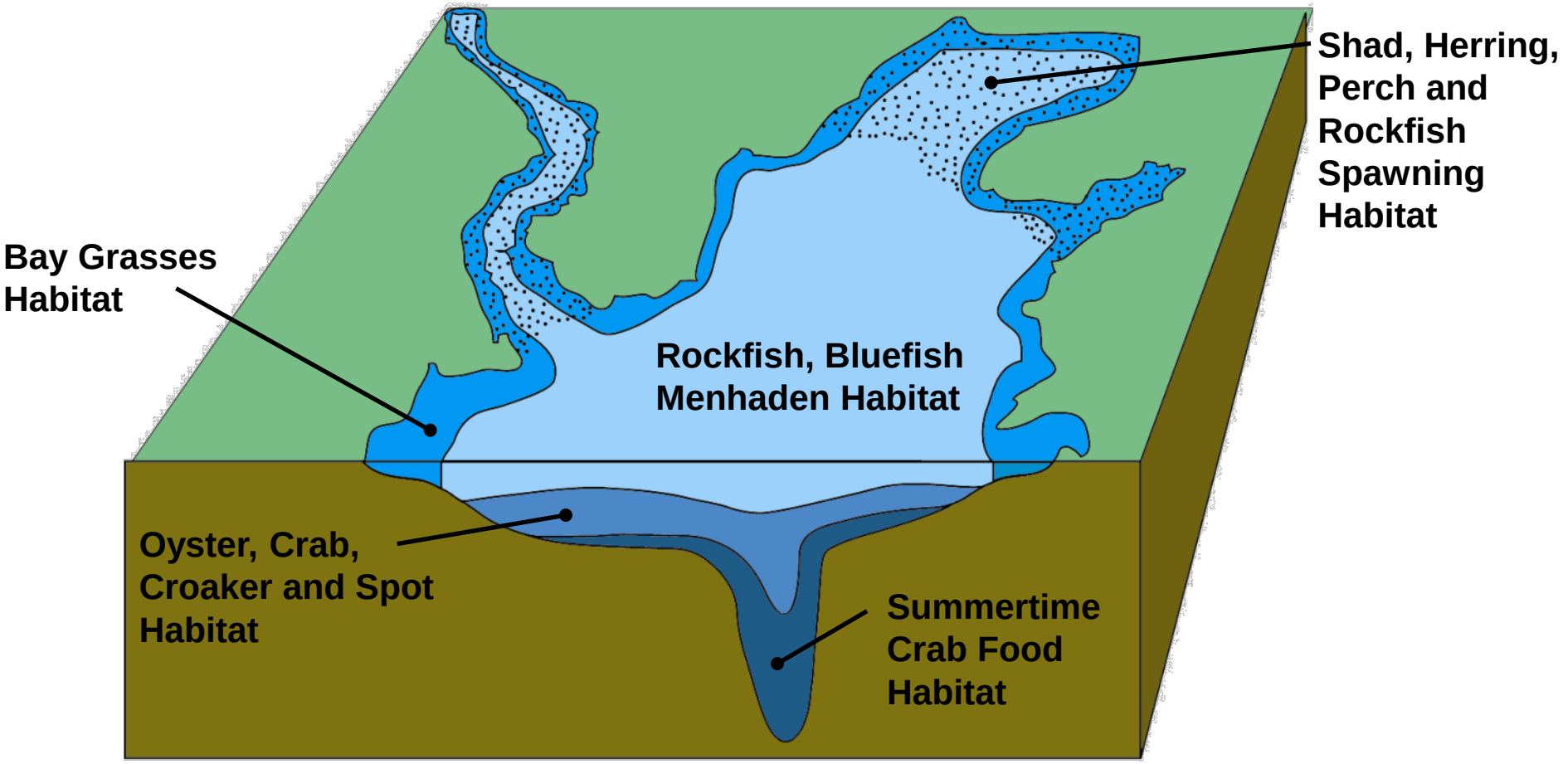
Numeric Standards Established Solid Regulatory Foundation

Consistent across the Bay and all tidal rivers

Agreed by all 7 watershed jurisdictions

Adopted by the 4 Bay Jurisdictions

Local “Zoning” for Bay and Tidal River Fish, Crab and Grasses Habitats



Redefined ‘swimmable/fishable’ in terms the public could relate to

Bay Dissolved Oxygen Criteria

Minimum Amount of Oxygen (mg/L) Needed to Survive by Species

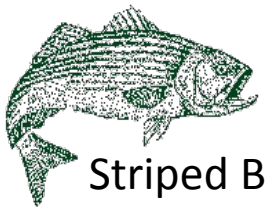
Migratory Fish Spawning & Nursery Areas

Shallow and Open Water Areas

Deep Water

Deep Channel

6
5
4
3
2
1
0



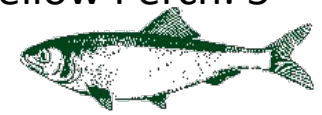
Striped Bass: 5-6

American Shad: 5

White Perch: 5

Yellow Perch: 5

Hard Clams: 5



Alewife: 3.6

Crabs: 3

Bay Anchovy: 3

Spot: 2

Worms: 1

Chesapeake Bay WQ Standards

- *Chesapeake 2000* agreement commitment
- Partnership derived, reviewed, approved criteria
    - DO, water clarity, underwater grasses acres, chlorophyll *a* for protection of five tidal water designated uses
- EPA published the Bay criteria document in 2003 on behalf of the partnership
- EPA worked closely with 4 tidal jurisdictions—MD, VA, DE and DC—to adopt into WQS regulations during 2004-2005
    - Criteria fully consistent with 2003 EPA published value
    - Common set of tidal water designated uses across tidal waters
    - Common set of criteria assessment procedures adopted by reference
    - Consistent 303(d) listing/delisting procedures adopted by reference
- EPA publication of criteria addendums followed by state adoption process continues through today

Building the Pollution Budget

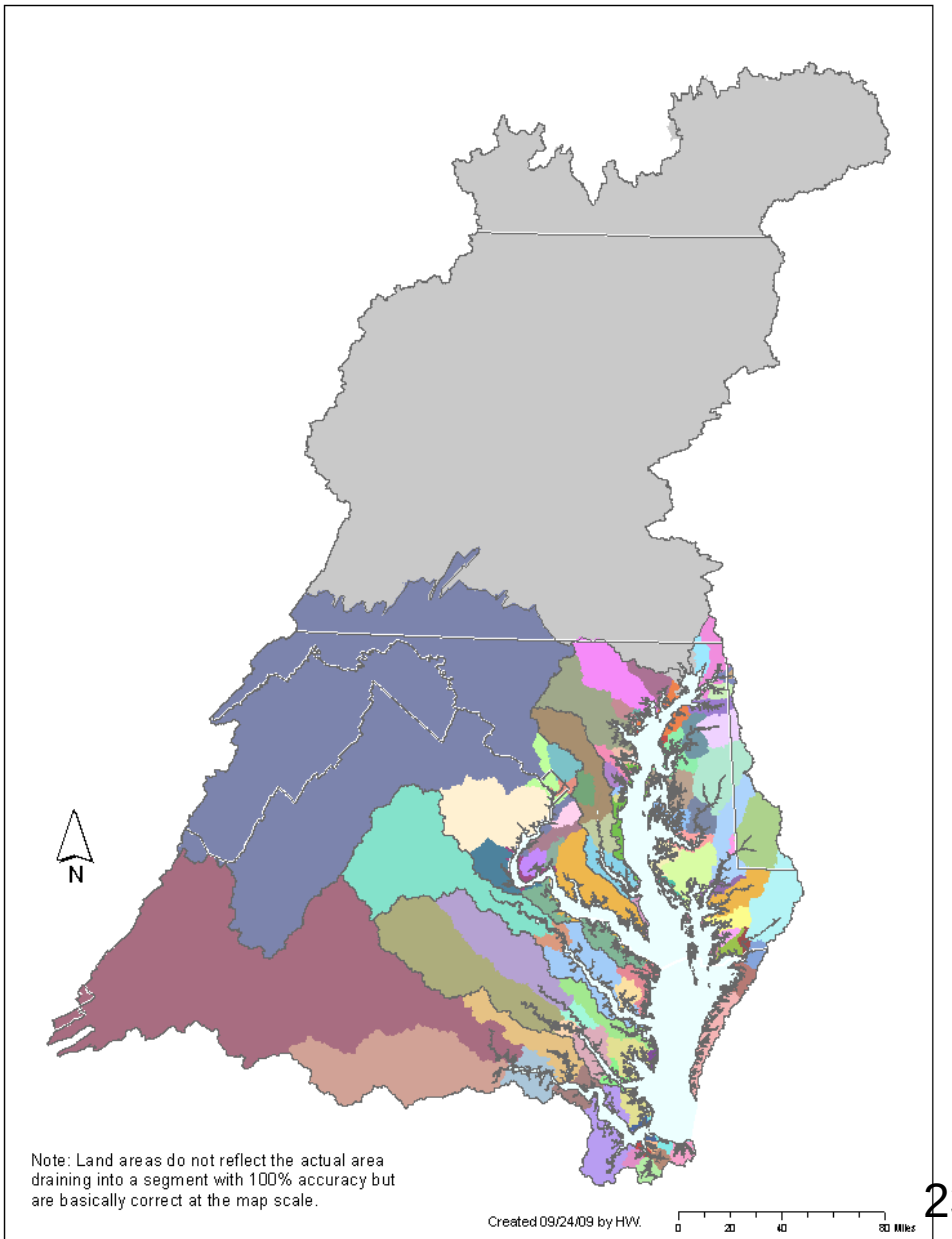
TMDL for each impaired segment (92)

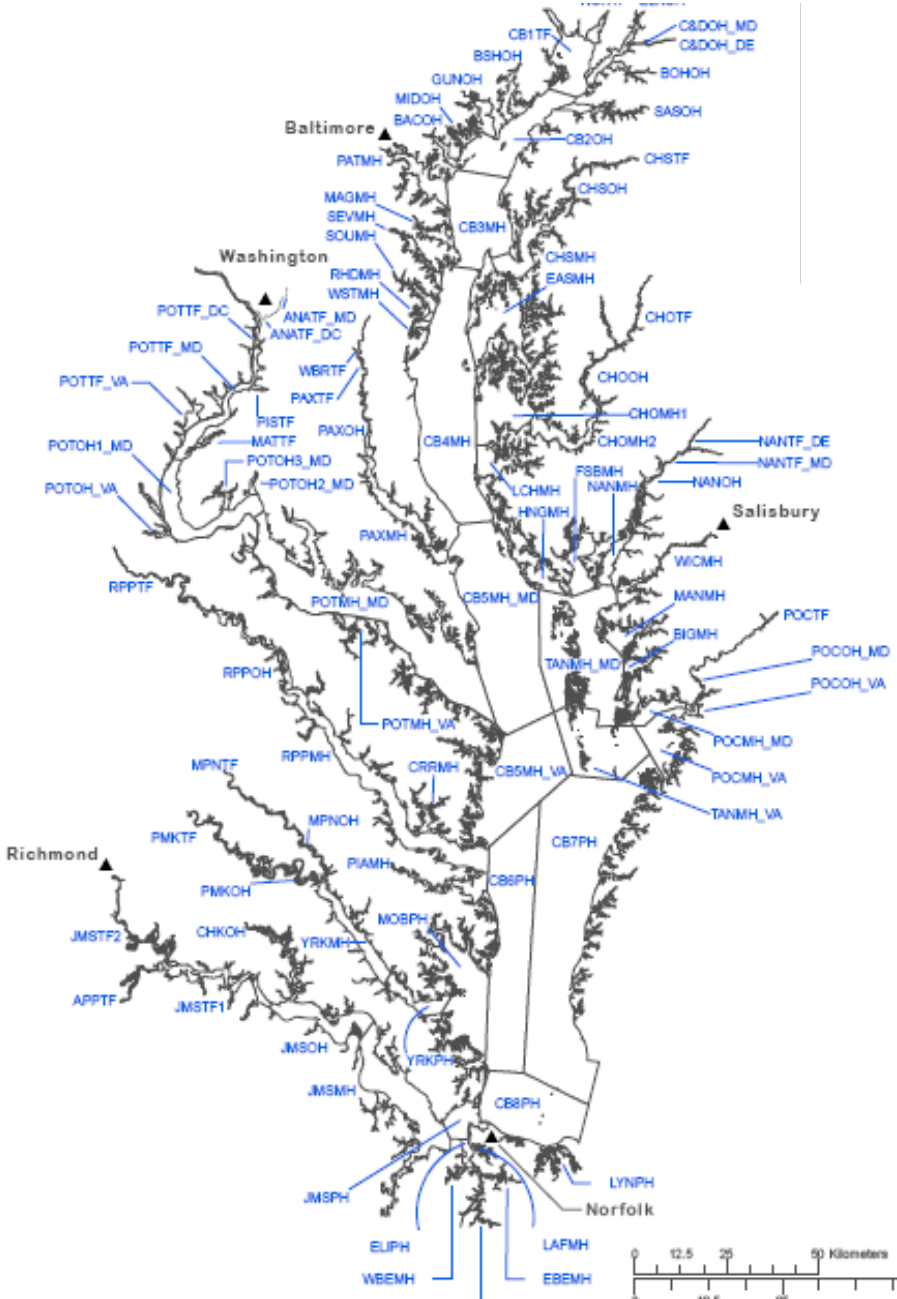
Agreement on what is equitable

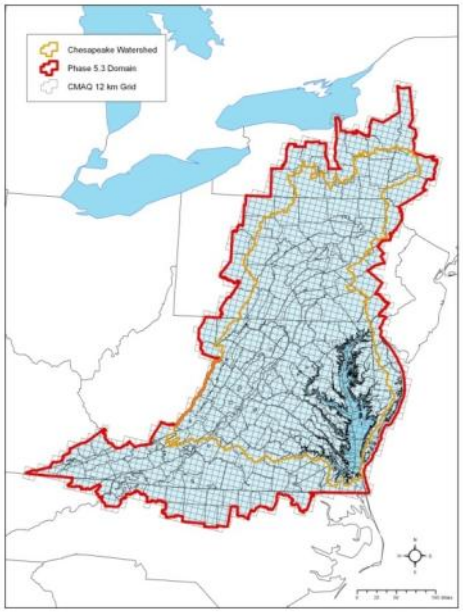
Allocations for major basins, jurisdictions

Jurisdictions decide on source sector allocations

Pollution Diet for Each Tidal Water Segment

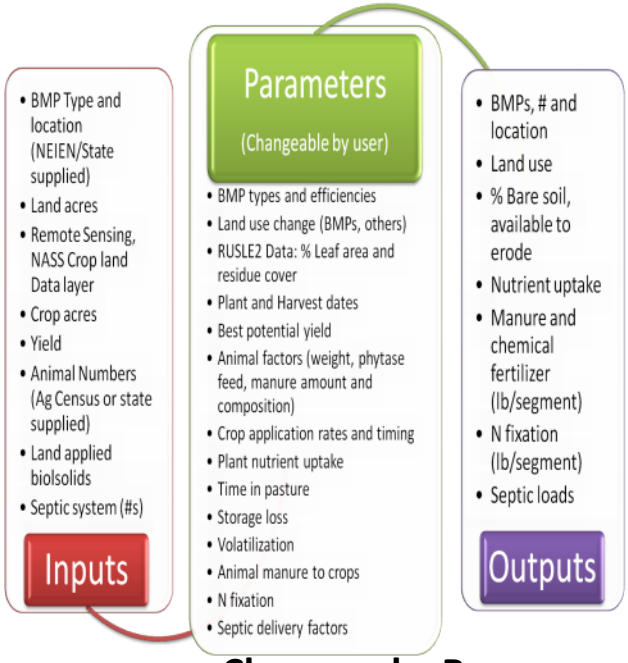




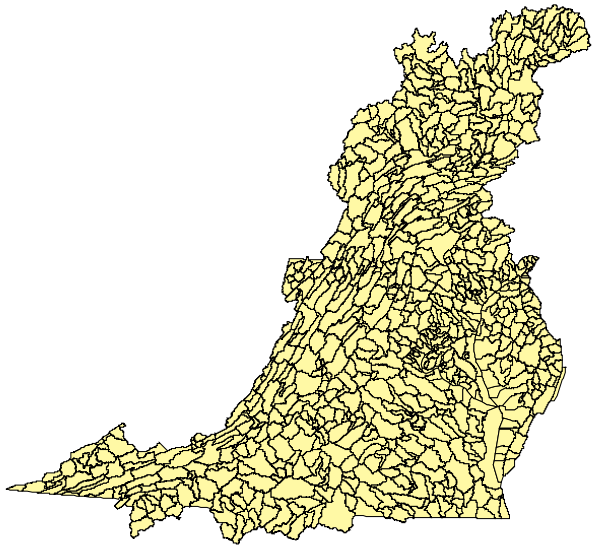


Chesapeake Bay Airshed Model

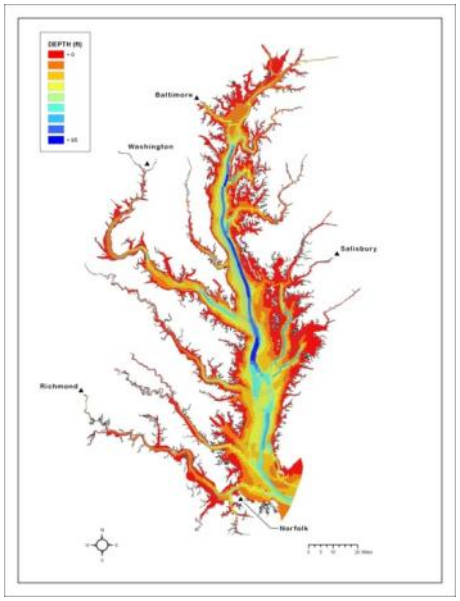
Chesapeake Bay Land Change Model



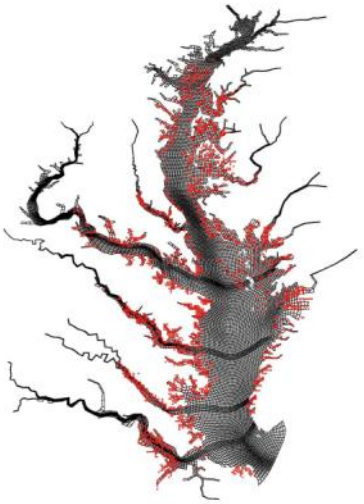
Chesapeake Bay Scenario Builder



Chesapeake Bay Watershed Model

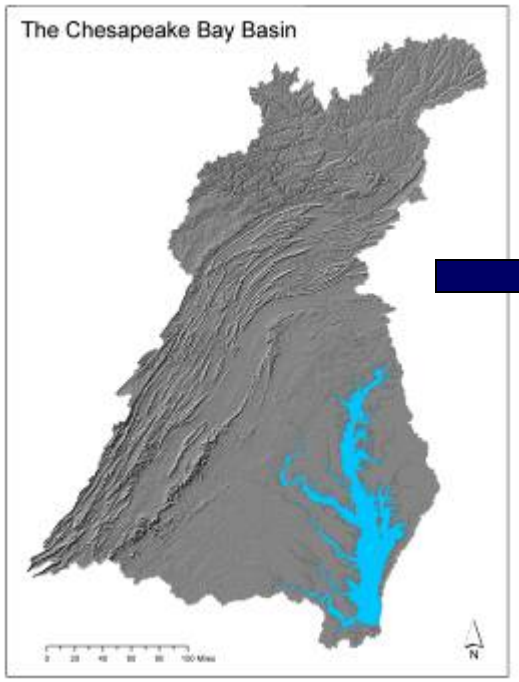


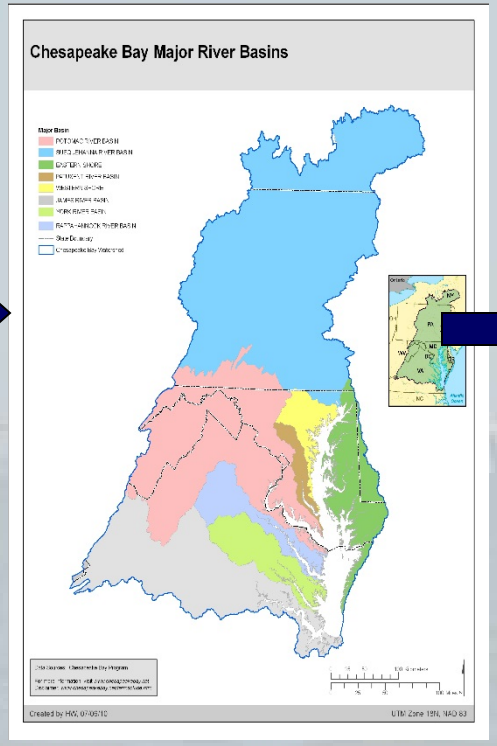
Chesapeake Bay Water Quality and Sediment Transport Model

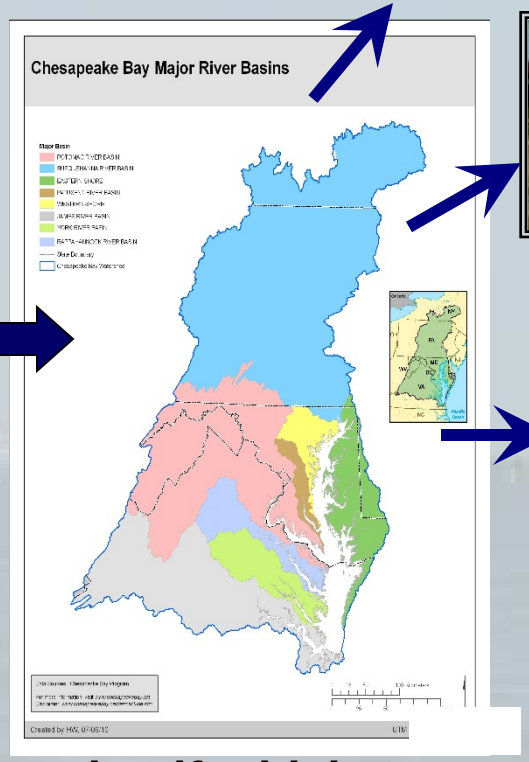


Chesapeake Bay Filter Feeder Model

Steps for Establishing the Bay TMDL







Identify basinwide target loads

EPA, States, DC

Identify major basin by jurisdiction target loads

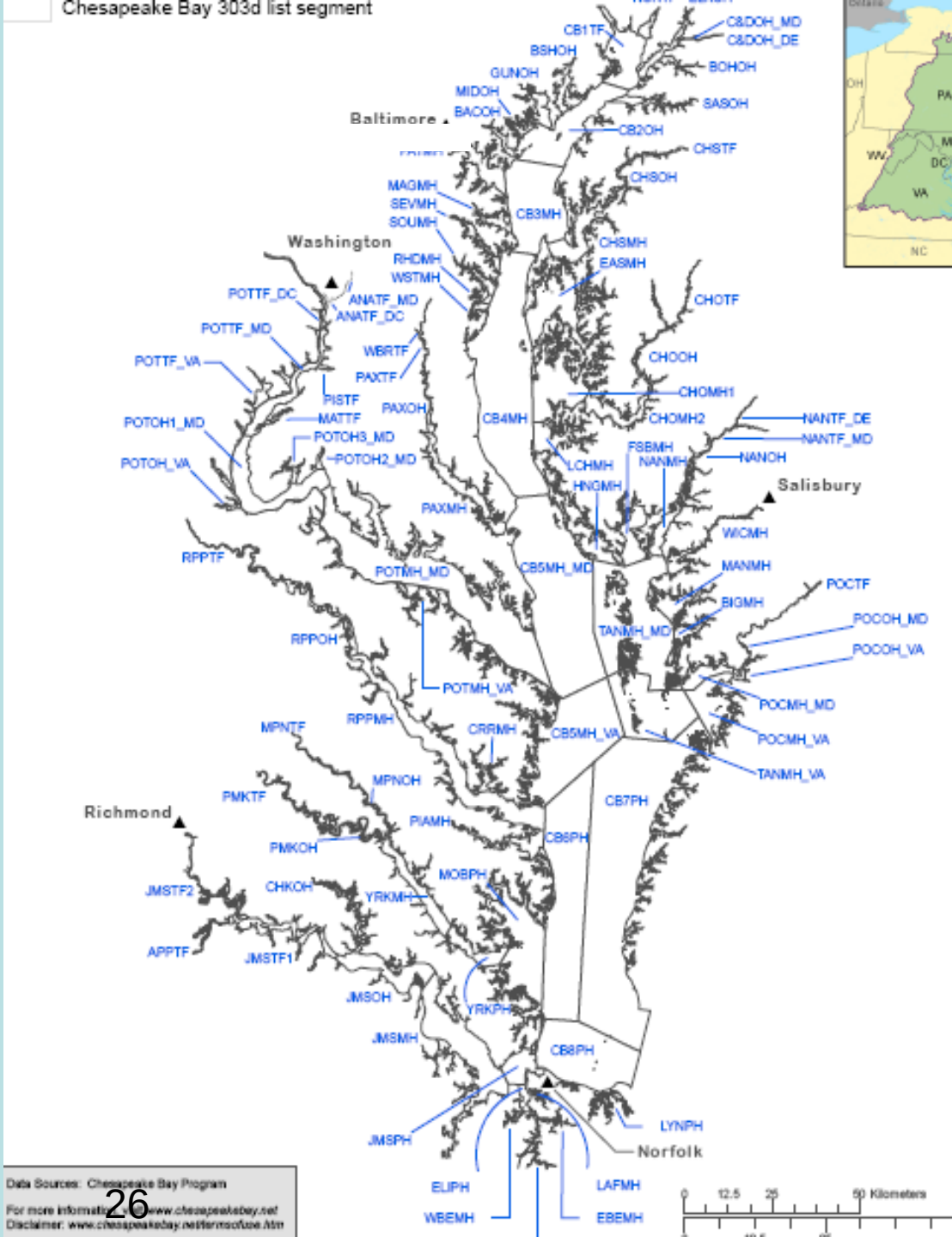
EPA, States, DC

Identify tidal segment watershed and source sector target loads

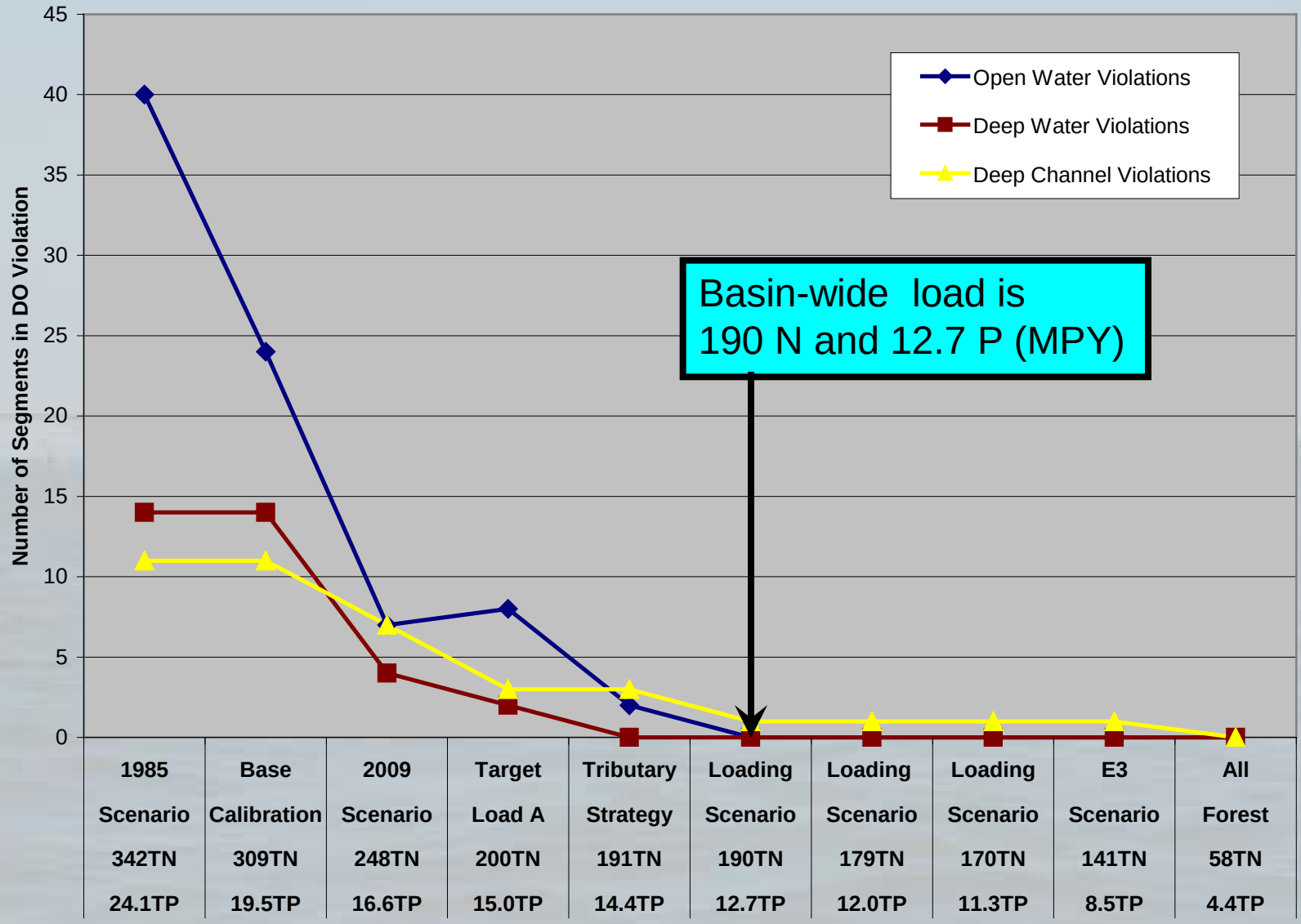
States, DC, local governments & local partners

Step 1:

Set the basin-wide nutrient loads based on attaining dissolved oxygen in the main bay, lower river and major embayment segments (those who's water quality is influenced by loads from multiple jurisdictions)

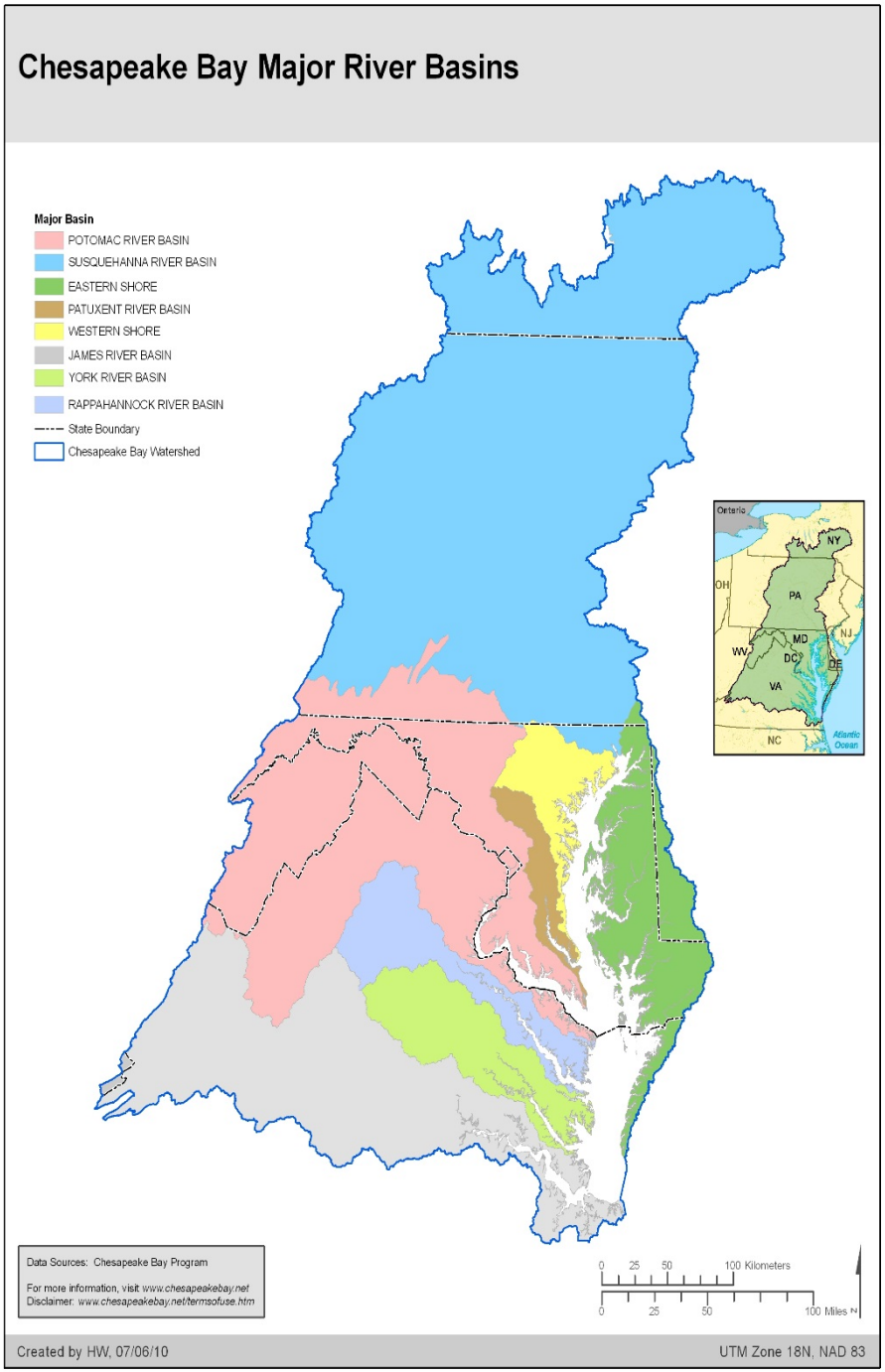


Dissolved Oxygen Criteria Attainment



Step 2:

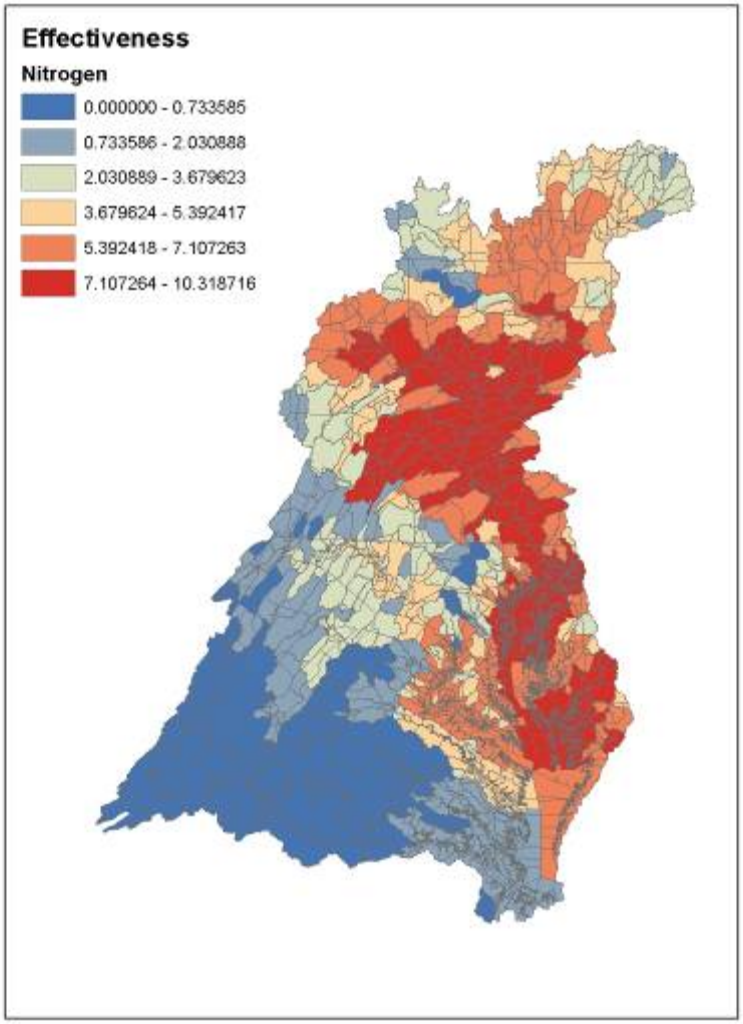
Distribute the basin-wide nutrient loads (based on attaining dissolved oxygen) by jurisdiction and major river basin following the methodology agreed upon by the partnership

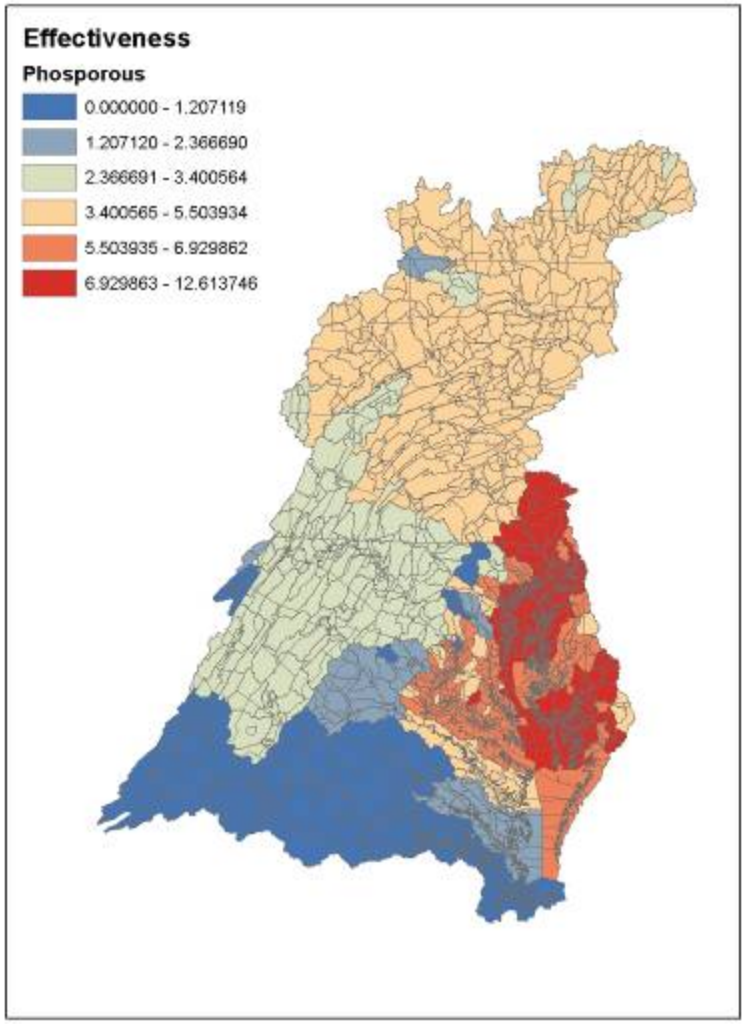


Guidelines for Distributing the Basinwide Target Loads

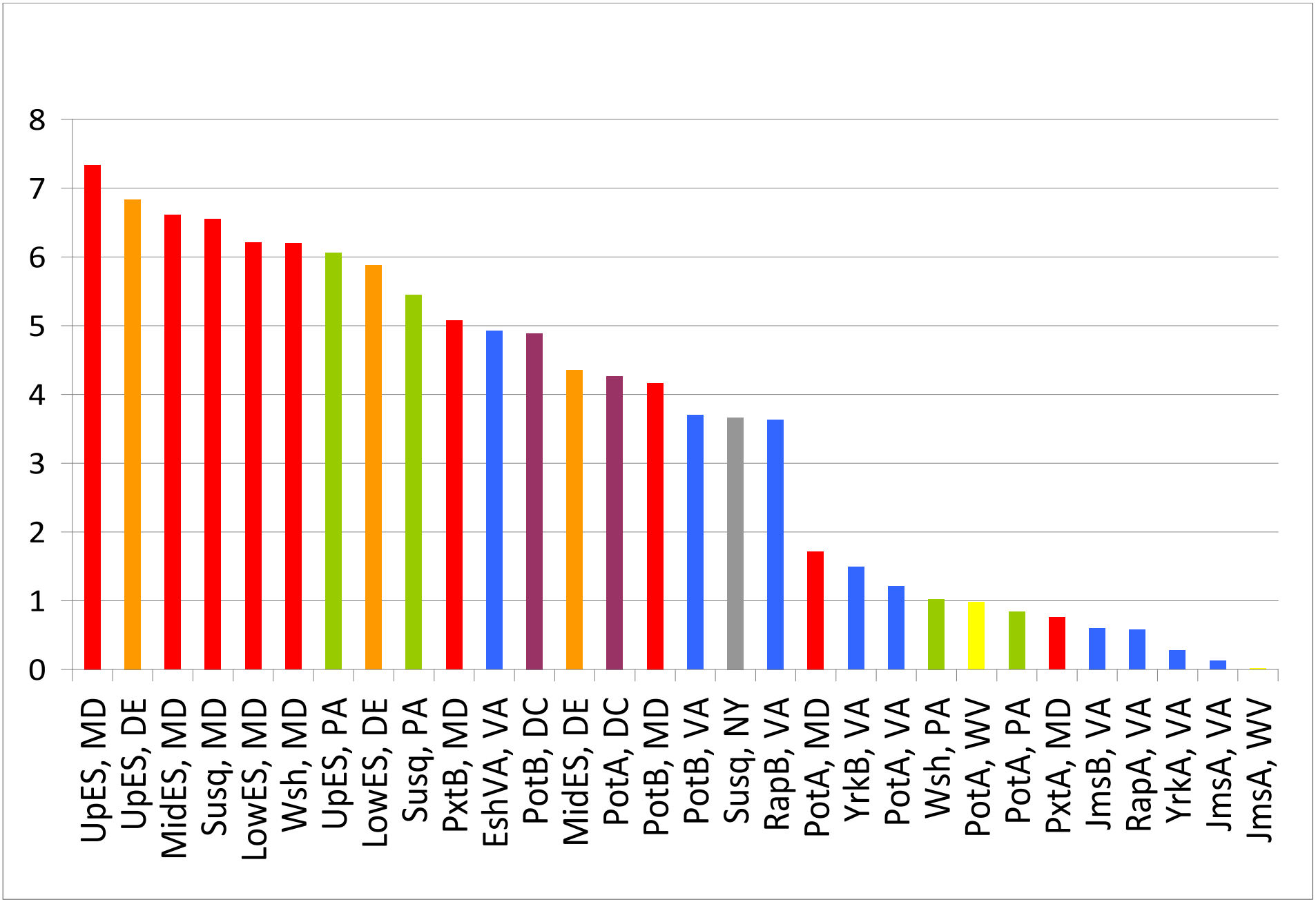
- Water quality and living resource goals should be achieved.
- Waters that contribute the most to the problem should achieve the most reductions.
- All previous reductions in nutrient loads are credited toward achieving final cap loads.

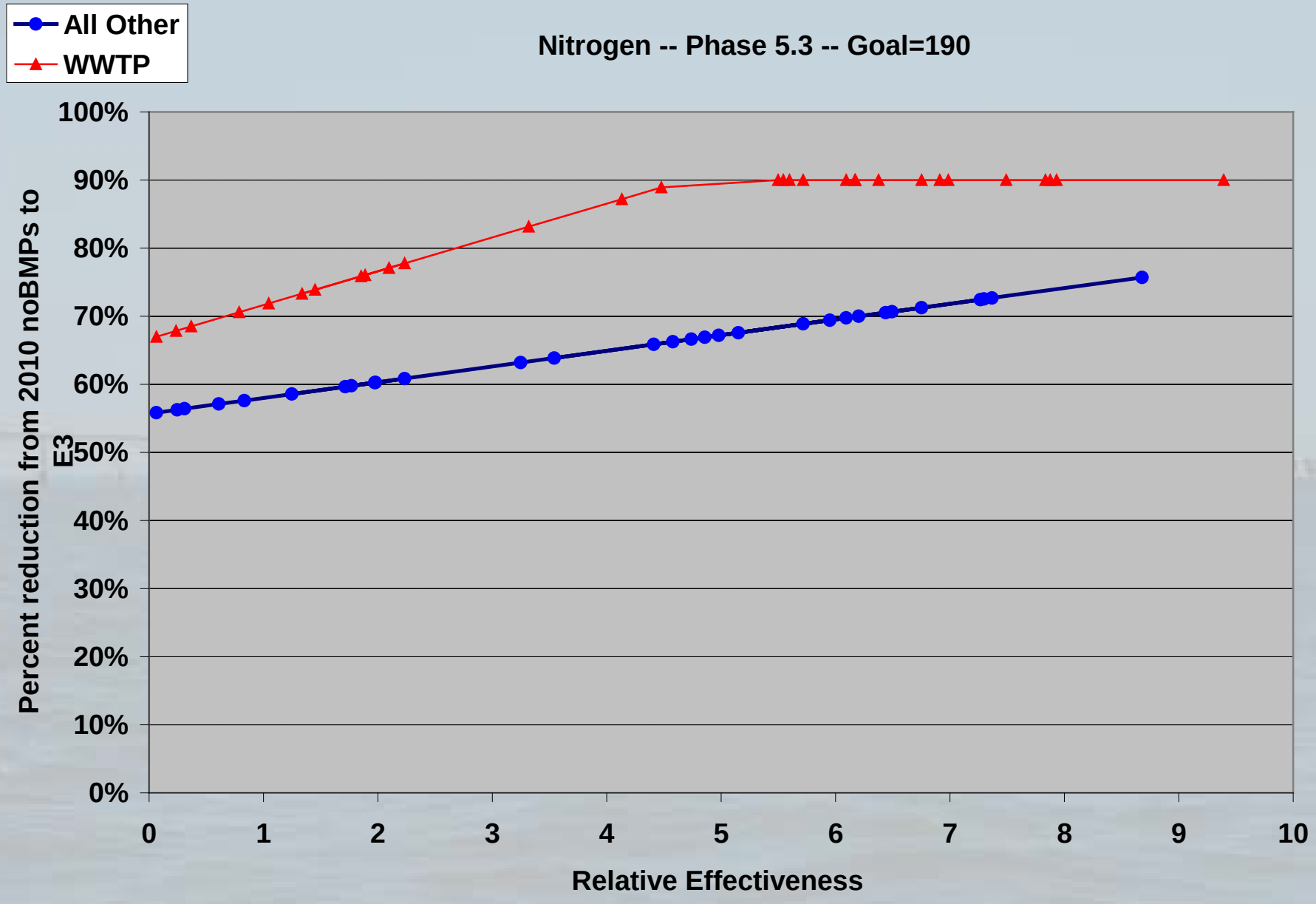
Nutrient Impacts on Bay WQ

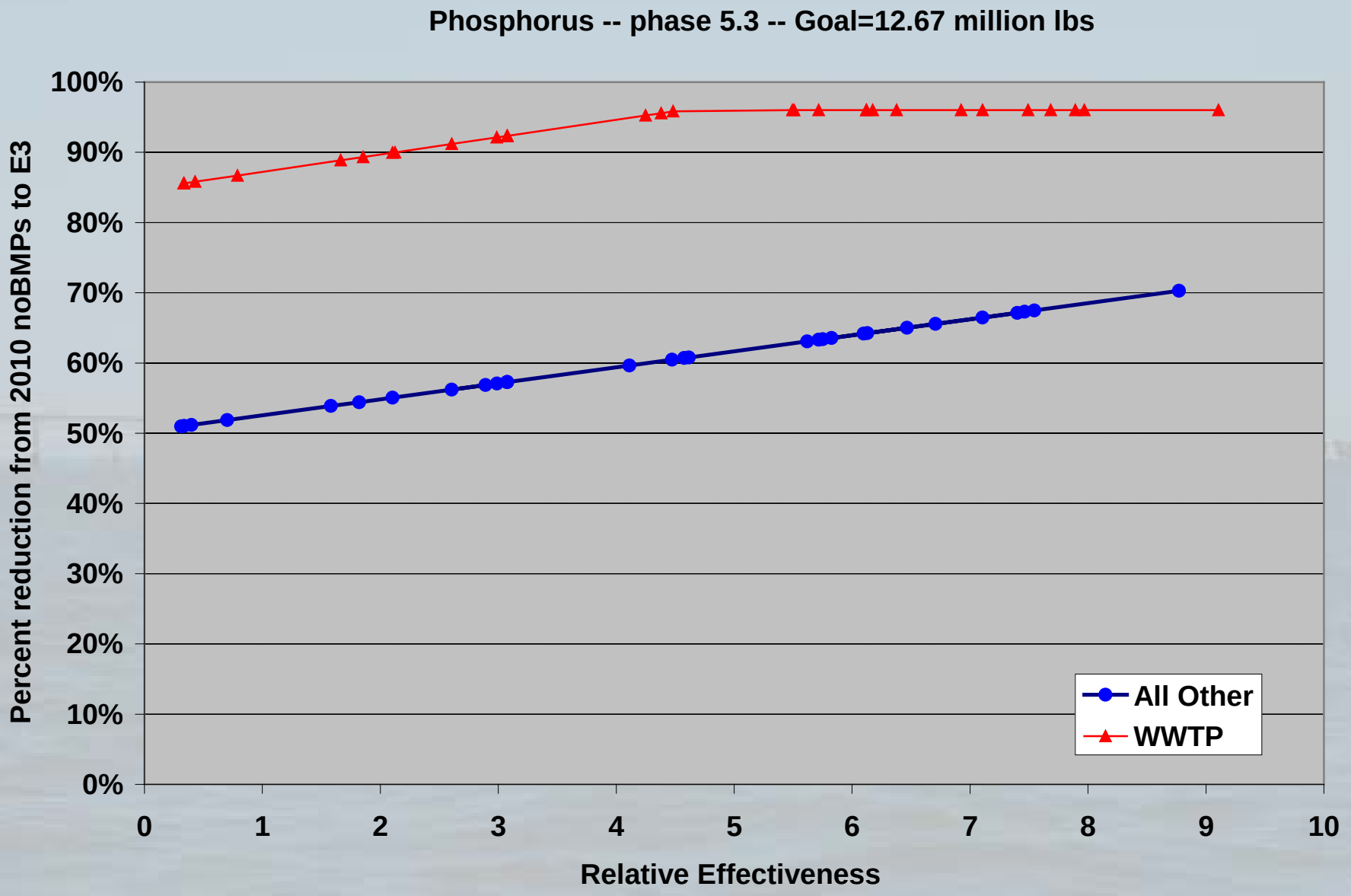




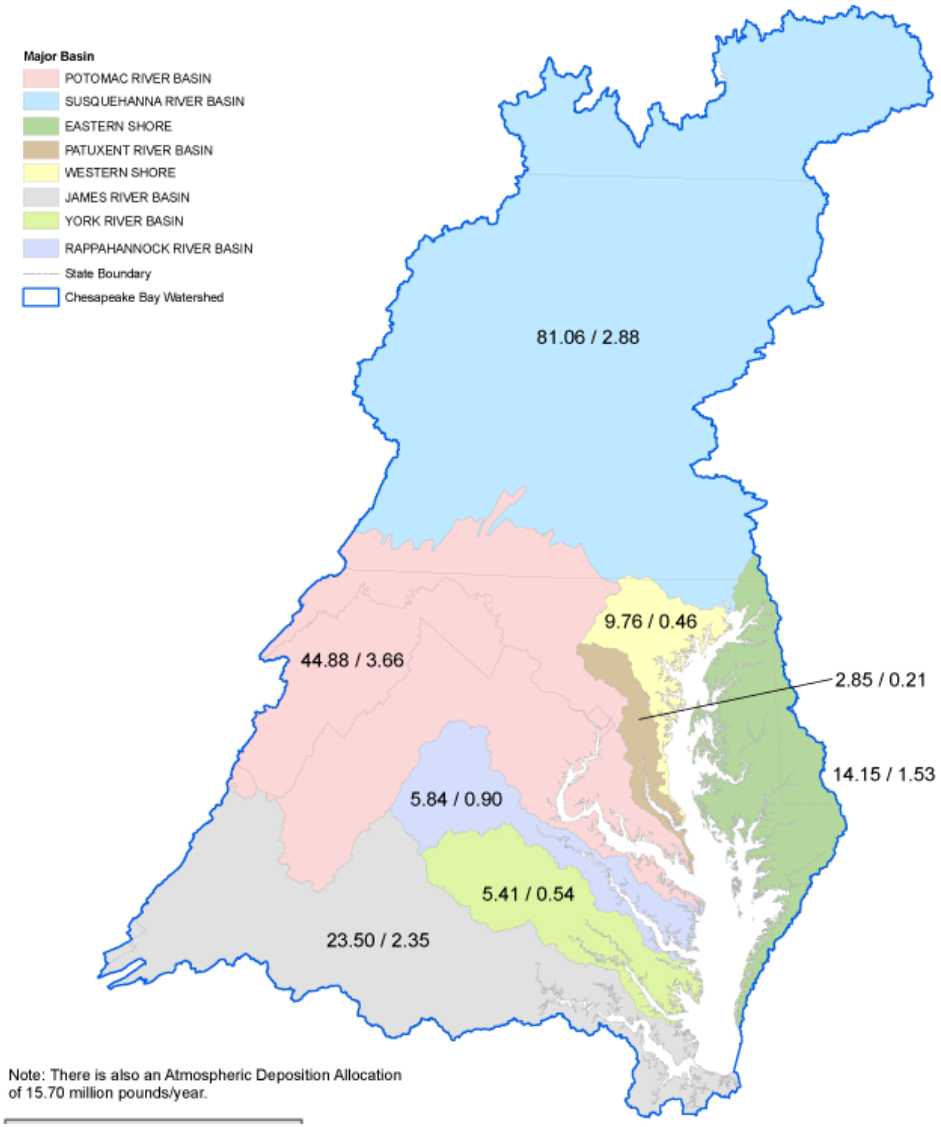
Major River Basin by Jurisdiction Relative Impact on Bay WQ



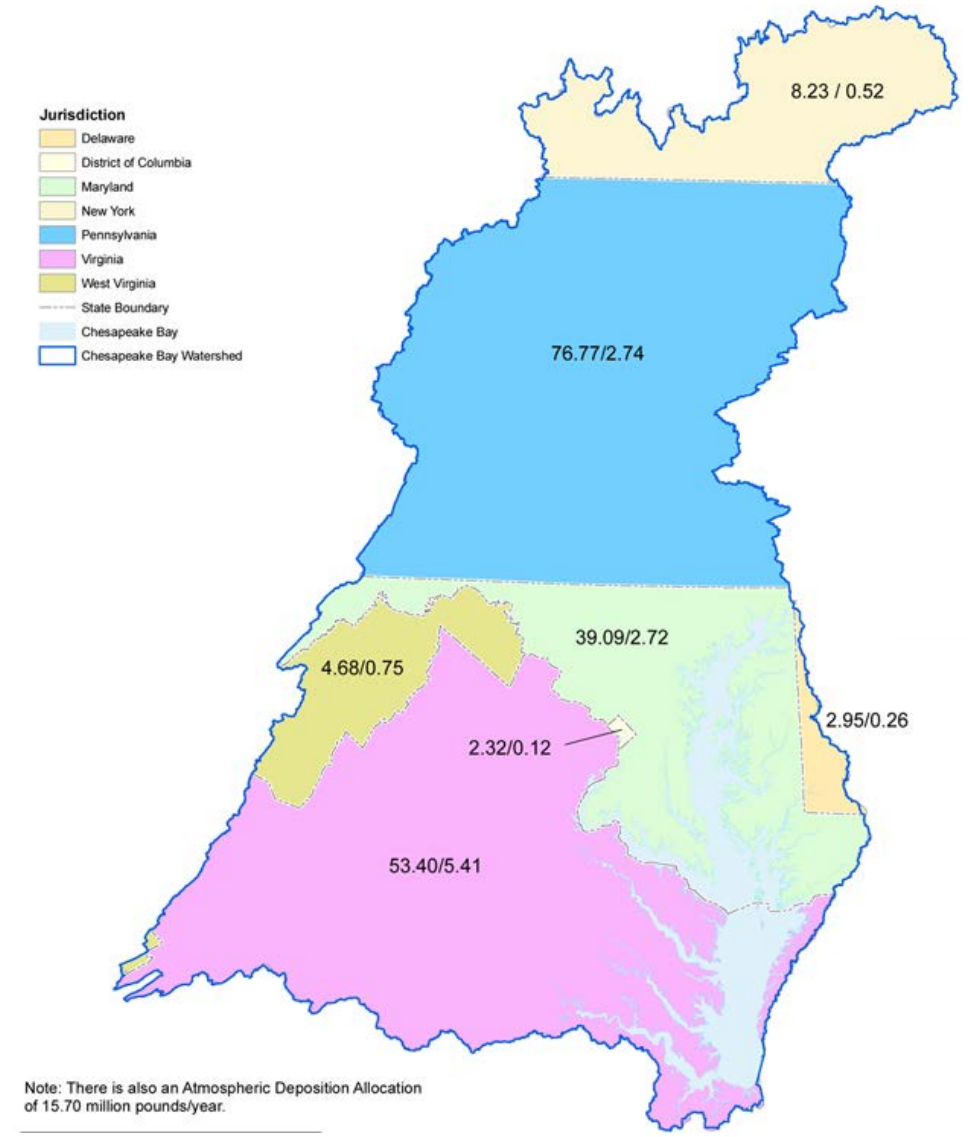

All Other
WWTP
Nitrogen -- Phase 5.3 -- Goal=190
Percent reduction from 2010 noBMPs to E3
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
0
1
2
3
4
5
6
7
8
9
10
Relative Effectiveness


Phosphorus -- phase 5.3 -- Goal=12.67 million lbs
Percent reduction from 2010 noBMPs to E3
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
0
1
2
3
4
5
6
7
8
9
10
Relative Effectiveness
All Other
WWTP

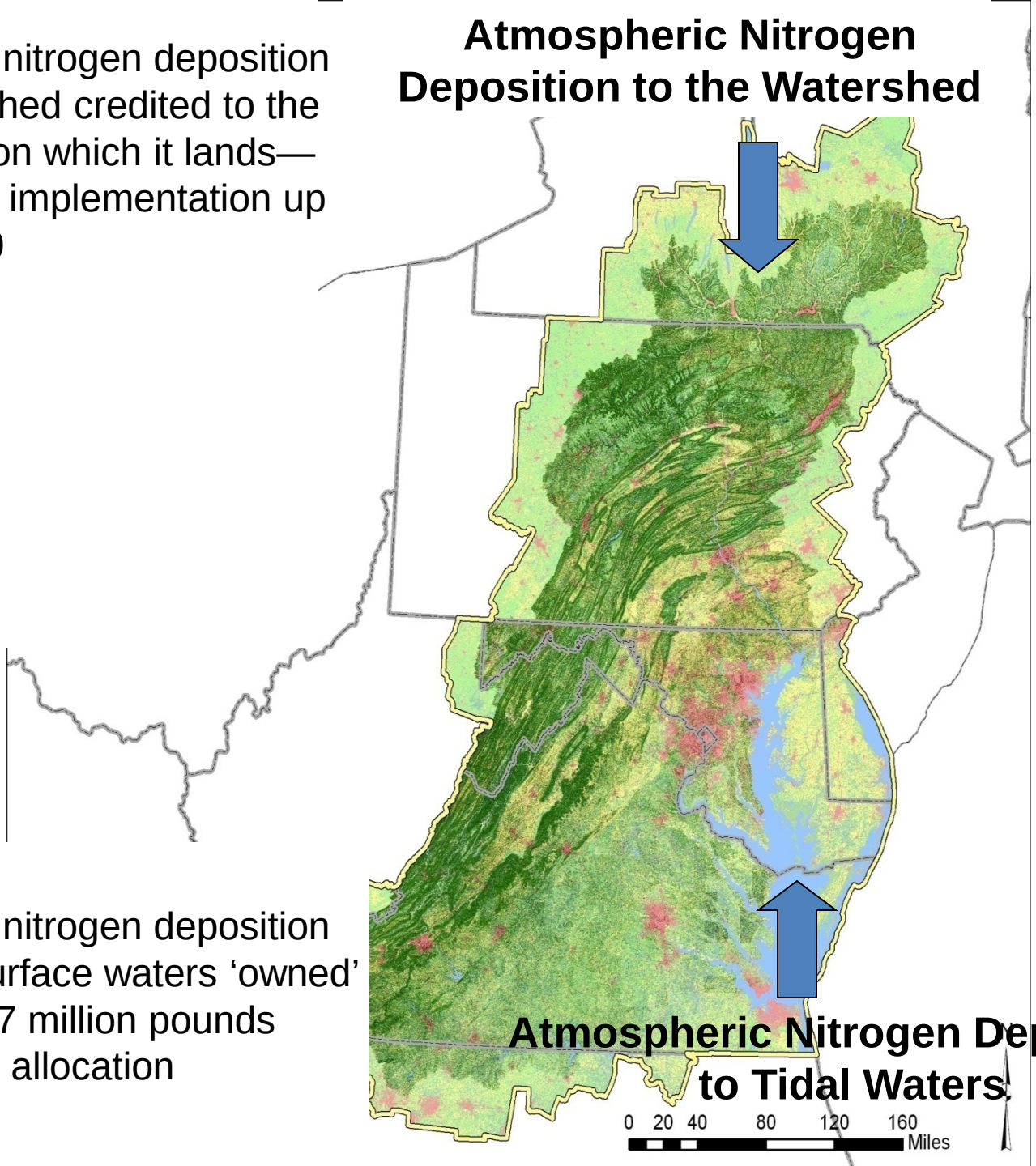
Pollution Diet by River



Pollution Diet by State



Atmospheric nitrogen deposition to the watershed credited to the jurisdictions on which it lands—Clean Air Act implementation up through 2020



Atmospheric nitrogen deposition to the tidal surface waters ‘owned’ by EPA—15.7 million pounds nitrogen load allocation

Watershed Implementation Plans (WIPs)

The how, when and where of attaining the TMDL diet.

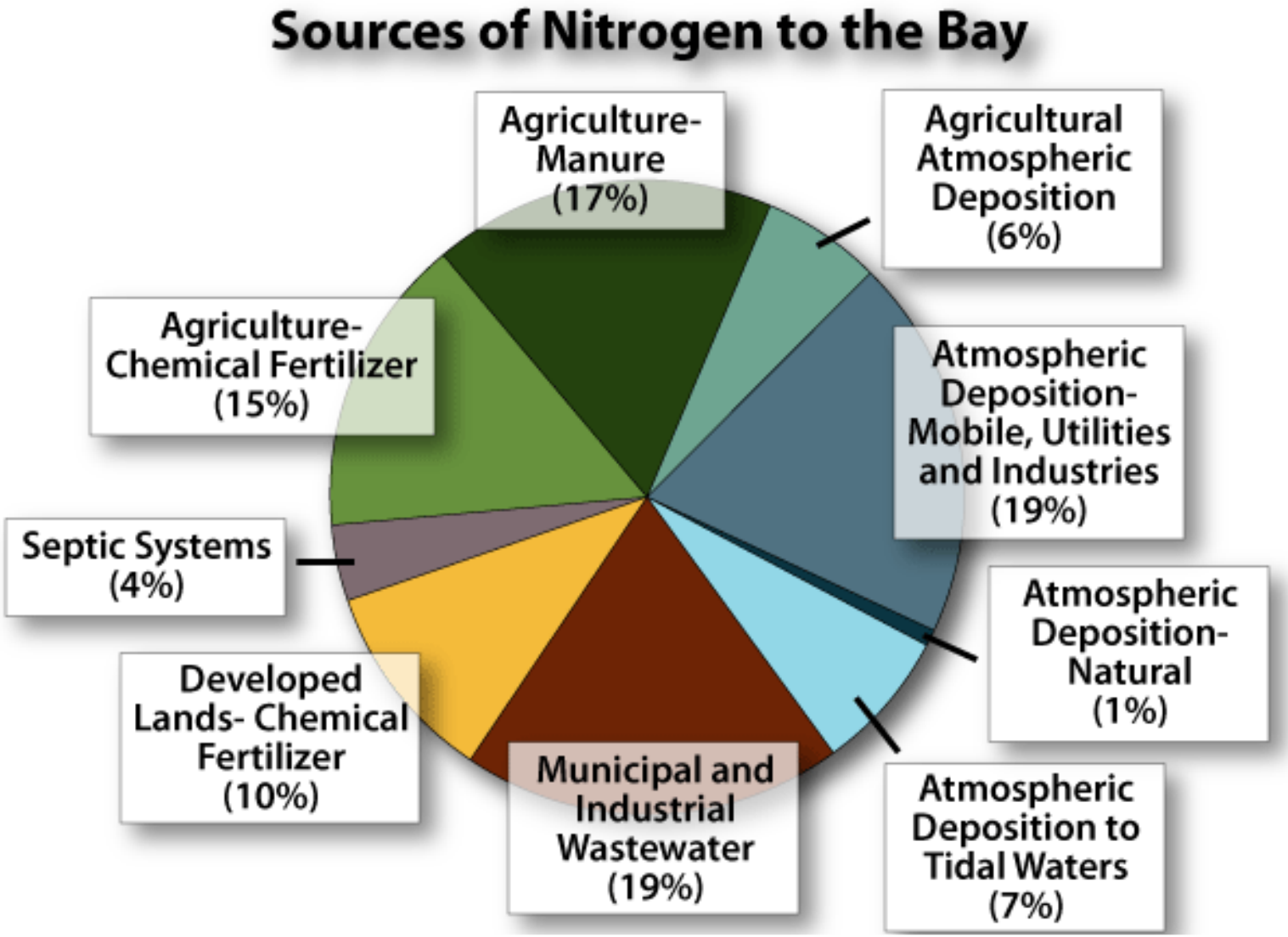
Goal: EPA strongly preferred to use jurisdiction WIPs as the basis for final TMDL allocations. Backstop allocations and adjustments are provided by EPA where this was necessary and appropriate.

Expect WIPs to:

- achieve pollution reduction targets
- provide reasonable assurance

Chesapeake Bay TMDL Based on 7 Watershed Implementation Plans

Watershed Jurisdictions Made Source Sector Allocation Decisions

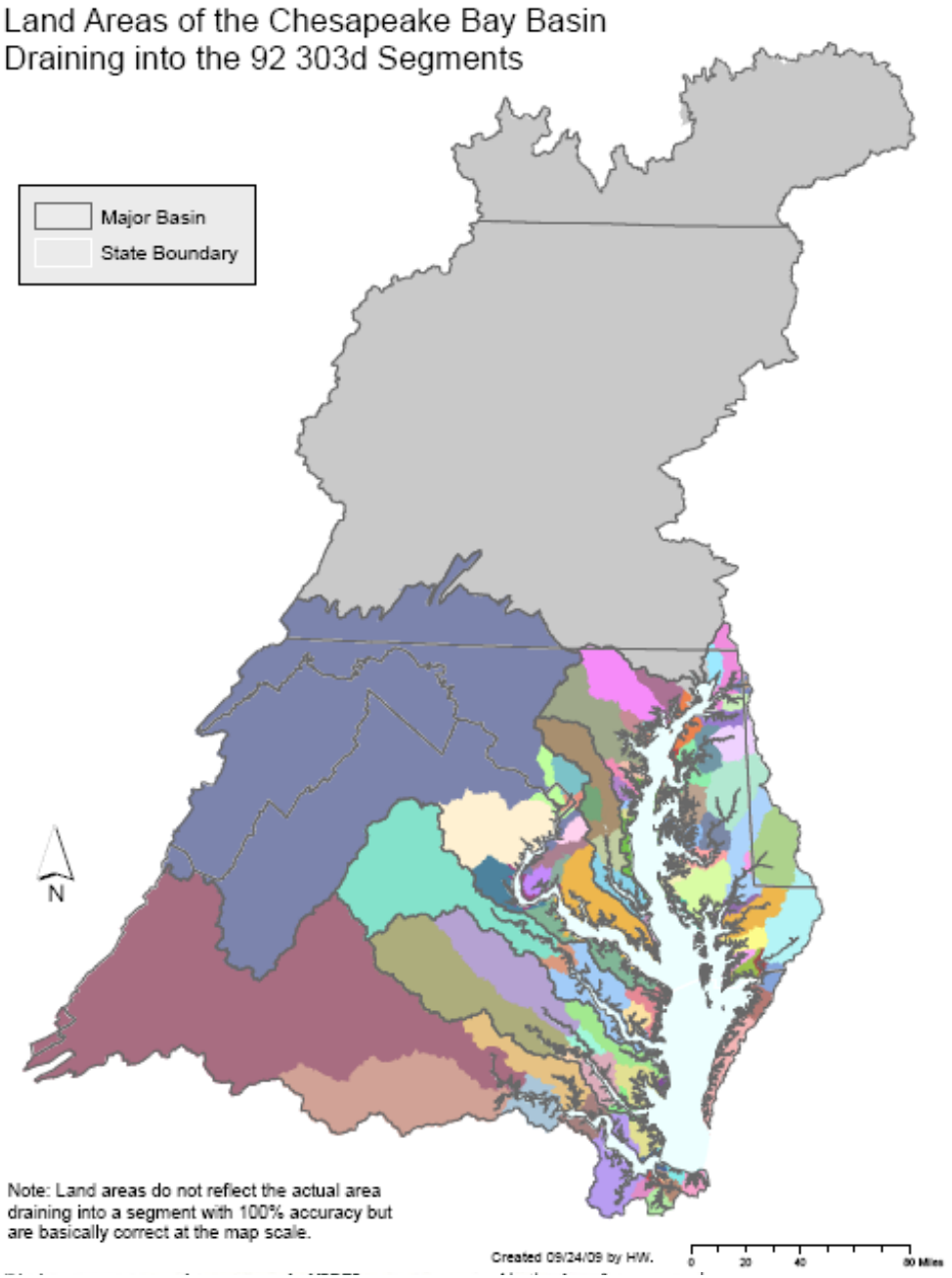


Jurisdictions' Watershed Implementation Plans

92 Individual TMDLs

Table B2. Format for Submitting Phase I Watershed Implementation Plan Outputs t

St.	Maj. Basin	Impaired Segment Drainage	Unique Code	Source Sector[b]	Type[c]	NPDES Permit
MD	W. Shore	PAXTF	MWPTF	Agriculture-CAFO	Agg. WLA	
				Agriculture-CAFO	Ind. WLA	MD356913
				Agriculture	LA	
				Subtotal: Agriculture		
				Wastewater: POTW#1	Ind. WLA	MD012452
				Wastewater: POTW#2	Ind. WLA	MD013943
				Wastewater: Indus #1	Ind. WLA	MD821672
				Wastewater: Indus #2	Ind. WLA	MD853653
				Subtotal: Wastewater		
				Onsite	LA	
				Urb/Suburb Runoff: MS4	Agg. WLA	MD546195
				Urb/Suburb Runoff: Non-MS4	LA	
				Urb/Suburb Runoff: MS4	Ind. WLA	MD892645
				Industrial Stormwater	Agg. WLA	
				Industrial Stormwater	Ind. WLA	MD246139
				Construction	Agg WLA	
				Subtotal: Urb/Suburb		
				Forest	LA	
MD	W. Shore	SEVMH	MWSeM	Agriculture-CAFO	Agg. WLA	MD382614
				Agriculture	LA	
				Subtotal: Agriculture		
				Wastewater: POTW#1	Ind. WLA	MD083699
				Wastewater: POTW#2	Ind. WLA	MD054732
				Wastewater: Indus #1	Ind. WLA	MD836679
				Wastewater: Indus #2	Ind. WLA	MD854469
				Subtotal: Wastewater		
				Onsite	LA	
				Urb/Suburb Runoff: MS4	Agg. WLA	MD588578
				Urb/Suburb Runoff: Non-MS4	LA	
				Subtotal: Urb/Suburb		
				Forest	LA	
	…					
MD	W. Shore			Reserve for Growth	WLA/LA	
MD	**W Shore**		**MW**	**Total**		



Key Strengths of this Approach

- **EPA Role**: INTERSTATE EQUITY
  - Provided a fair, equitable interstate allocation of load reductions
  - Based on degree to which jurisdictions/river basins impact the Bay water quality
  - Set the 19 major river basin by jurisdiction loading targets to start the process

- **State Role**: FLEXIBLE IMPLEMENTATION PLANNING
  - Have the lead and the flexibility to define WIP strategies to produce the reductions
  - Responsible for sub-allocations among pollutant source sectors
  - Three phases of action allow for adaptive process:
    - Phase 1 - 2010, Phase 2 - 2012, and Phase 3 - 2017

- **EPA Oversight:** OUTLINED IN ACCOUNTABILITY FRAMEWORK
  - EPA does not prescribe the solutions - monitors the results
  - Maintains oversight of the strategies, determines reasonable assurance, and takes actions on deficient progress – calls “Balls and Strikes”
  - Allowed a 15-year timeframe for implementation—Governors agreed to 2025

Ensuring Success: Tracking Progress through the Accountability Framework

Overview of Accountability Process

Watershed Implementation Plans identify nutrient and sediment targets that meet water quality standards. Plans include:

Evaluation of Program Capacity necessary to fully restore water quality

Federal Actions if insufficient Watershed Implementation Plans or 2-year milestones are not met

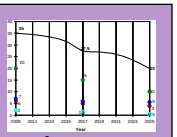
Chesapeake Bay TMDL: Set Pollution Reduction Goals for Point and Non-point Sources to Meet Bay Water Quality Standards

Model and Monitor to assess progress

2-Year Milestones with program enhancements and nutrient and sediment reduction commitments

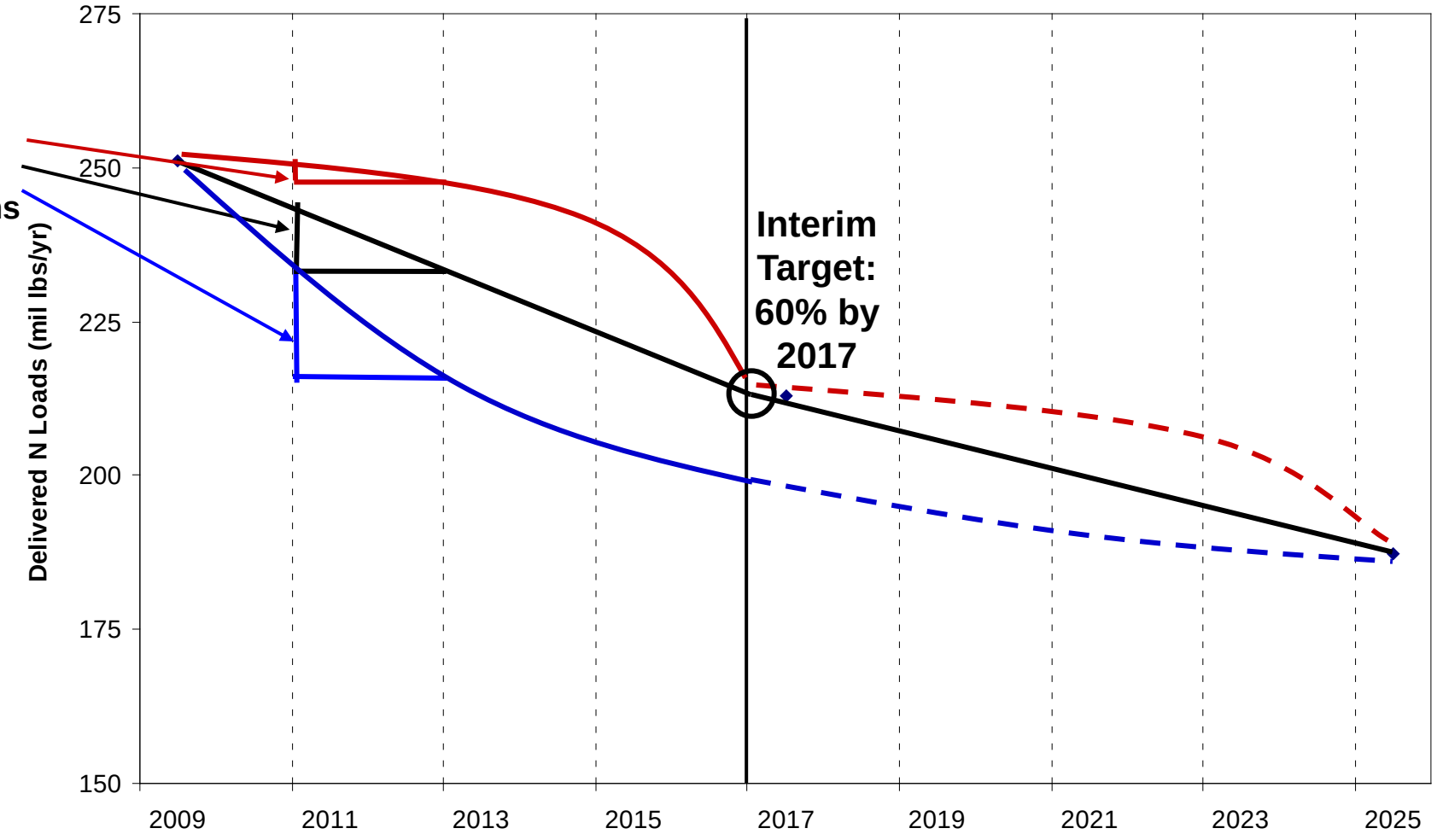
Identification of Gaps between needed and existing program capacity

Schedule and Strategies to enhance programs and reduce nutrients and sediment



Two-Year Milestones and 2017

EPA Will Assess if Milestone Reductions are on Schedule



Assumes Upfront Program-Building and Future Reductions

Assumes Constant Reduction Over Time

Assumes Upfront Low-Hanging Fruit and More Difficult Future Reductions

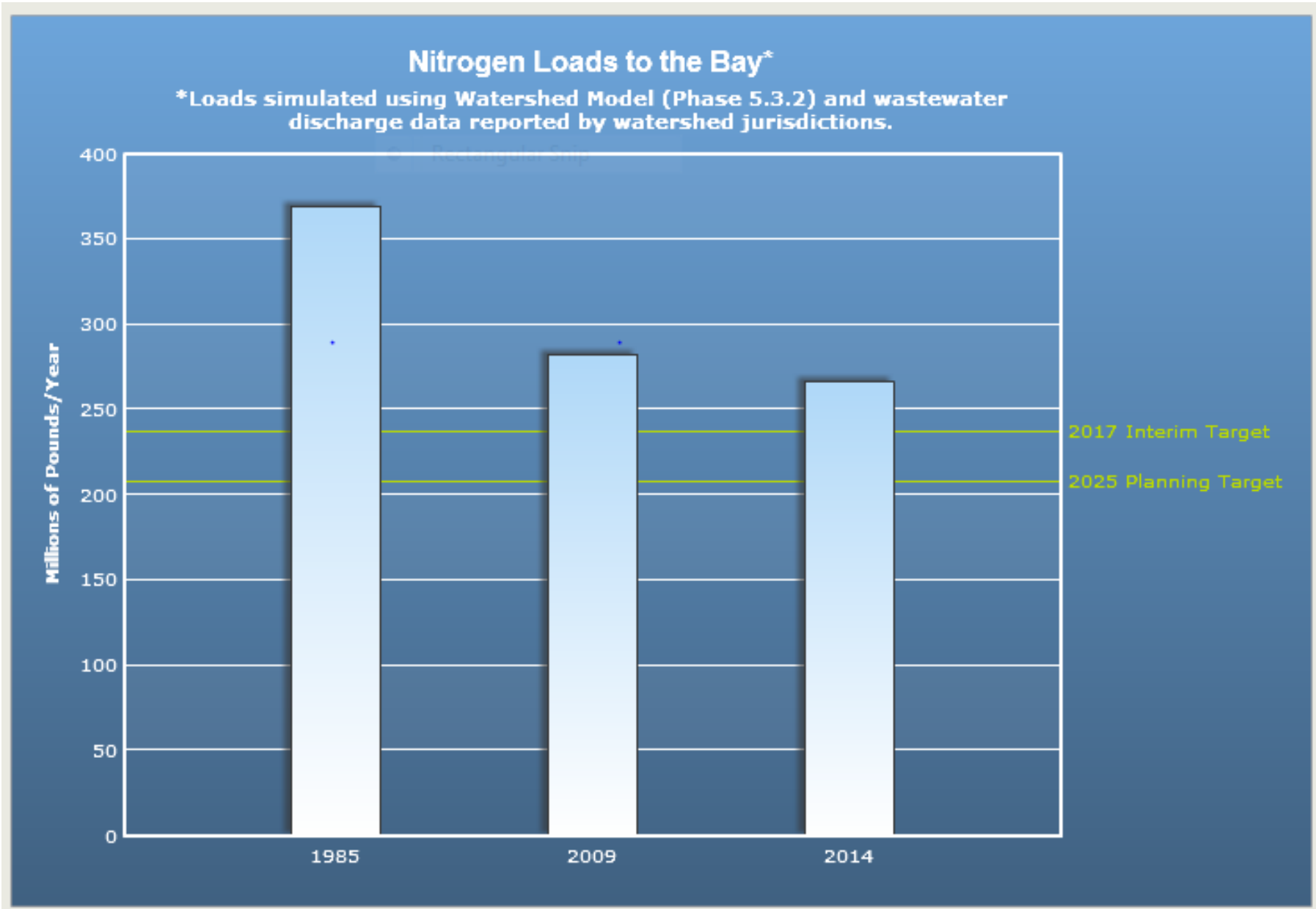
A Rigorous Evaluation of Reasonable Assurance (RA)

- Requiring states' WIPs upfront
- Allocations "can and will be achieved"
    - Are actions "enforceable or otherwise binding?"
- Teams of EPA source sector experts evaluated state-proposed WIPs
    - Judged effectiveness and credibility
    - Provided detailed comments back to states
    - Documented EPA backstop recommendations where plans had gaps or not credible
- Backstop actions were taken by EPA in draft and final TMDL – by sector

On-going Milestone Evaluations

- Ensure regular check-ins along the way to meeting water quality goals (every 2 years)
- Tracking progress numerically through modeling estimates and programmatically through regulations and capacity-building
- Incorporation of monitoring data into evaluations
- On-going evaluations have recognized:
  - Significant progress being made toward restoration;
  - Identified specific areas where more needs to be done; and
  - Increased EPA oversight where needed to get back on track

Overall Nutrient Load Reduction Progress is Occurring – Rivers to the Bay Are Running Cleaner



Three Tiers of EPA Oversight & Actions - for an ongoing evaluation

- **Ongoing Oversight**– Ongoing program and permit reviews and assessments of TMDL and WIP implementation through WIPs and 2-year milestones
- **Enhanced Oversight** – Indication that EPA may consider backstop allocations and adjustments if WIPs and milestones don't show progress
- **Backstop Actions**–Backstops were included in the final Bay TMDL and actions may be taken in the future

2014 Oversight Status

	Agriculture:	Urban/Suburban:	Wastewater:	Trading/Offsets:
DE	Ongoing Oversight	Ongoing Oversight	Ongoing Oversight	Ongoing Oversight
DC	Not Applicable	Ongoing Oversight	Ongoing Oversight	Ongoing Oversight
MD	Ongoing Oversight	Ongoing Oversight	Ongoing Oversight	Ongoing Oversight
NY	Ongoing Oversight	Ongoing Oversight	Enhanced Oversight	Ongoing Oversight
PA	Backstop Actions Level	Backstop Actions Level	Ongoing Oversight	Enhanced Oversight
VA	Ongoing Oversight	Enhanced Oversight	Ongoing Oversight	Ongoing Oversight
WV	Enhanced Oversight	Ongoing Oversight	Ongoing Oversight	Ongoing Oversight

Early Successes - Implementation Phase

Promoting innovation in finding solutions

Early Implementation Successes

- Wastewater treatment plant upgrades
- New stormwater permit with high on-site retention
- Legislation for lawn fertilizer composition and use
- Detergent phosphorus bans
- Legislation for agriculture certainty programs
- Innovative manure waste-to-energy technologies

Summary: Ground-Breaking Elements of the Chesapeake Bay TMDL

Ground-Breaking Elements: Allocations

- The Scale of the TMDL – 64,000 sq miles
  - Six states, District of Columbia
  - 92 segments x 3 pollutants = 276 TMDLs
- Strong, consistent numerical WQ standards foundation agreed to in advance by all 7 watershed jurisdictions
- Upstream jurisdictions accountable for downstream WQ standards and water quality impairments
  - Equitable allocations based on relative effects of pollutant loads on tidal water quality
- Nitrogen atmospheric deposition allocation to EPA
  - Based on cap on atmospheric loads to tidal surface water

Ground-Breaking Elements: WIPs

- Watershed Implementation Plans completed BEFORE the TMDL was developed
  - Used to define sub-allocations down to the individual watersheds draining to the 92 tidal segments and source sectors in the TMDL (WIP Phase I)
- The "WIP" Conceptual Model
  - Allowed states full flexibility to assign responsibilities
  - EPA not dictating how states achieve the goals
- The Scale of the Planning
  - Phase II going down to county, conservation district, small watershed scale

Ground-Breaking Elements: Adaptation

- Allowing for adaptive implementation over 15 years based on three phases of the WIPs
  - 2010: define strategies, propose Bay TMDL allocations
  - 2012: refine strategies; assign responsibilities to local scales, local sources
  - 2017: make mid-course adjustments

- Requirement that state Offset programs be put in place to address new and increased discharges
  - Section 10 and Appendix S of the 2010 Bay TMDL
  - Becomes an assumption and requirement of the TMDL for permitting of new sources (40 CFR 122)

Ground-Breaking Elements: Accountability

- Ongoing Framework for Accountability with the allocations
  - 2-year milestones and progress reporting to public
  - EPA's Ongoing Oversight process
  - Federal actions defined well in advance of the TMDL - for gaps/shortfalls in implementation

- EPA invoked federal backstops for weak state WIPs
  - Published in the draft Bay TMDL distributed for public review
    - Yielded state improvements in final Phase I WIPs
    - Changed the allocations where necessary in final Bay TMDL
    - Applied greater traditional point source controls where needed
  - Federal oversight process continues post-TMDL

Questions

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capacasa.jon@epa.gov

www.epa.gov/chesapeakebaytmdl

New site later this year:
https://wcms.epa.gov/chesapeake-bay-tmdl

www.chesapeakebay.net

US Environmental Protection Agency
Office of Enforcement and Compliance Assurance (OECA)

Chesapeake Bay
Compliance and Enforcement Strategy

May 2010

I. Introduction

The Chesapeake Bay (Bay) is North America's largest and most biologically diverse estuary, home to more than 3,700 species of plants and animals. It is approximately 200 miles long, contains more than 11,000 miles of tidal shoreline, and is fed by more than 100,000 creeks, streams, and rivers. The watershed spreads over 64,000 square miles and includes parts of six states—Delaware, Maryland, New York, Pennsylvania, Virginia, and West Virginia—and the entire District of Columbia. As of 2007, approximately 17 million people lived in the Bay watershed. The Bay provides significant economic and recreational benefits, estimated to exceed $33 billion annually, to the watershed's population.[1] The Bay's waters are threatened by pollution from a variety of sources. To address non-compliance with environmental laws and associated environmental impacts to this watershed, the U.S. Environmental Protection Agency (EPA) has developed this Chesapeake Bay Compliance and Enforcement Strategy (Strategy), which guides the use of EPA's compliance and enforcement tools to target pollution sources impairing the Bay watershed and regulated by federal environmental statutes.

a. Current Health of the Bay

The current status of the Bay's health remains unacceptable. While total pollution levels have declined since 1985, most of the Bay's waters are degraded and are incapable of fully supporting fishing, crabbing, or recreational activities. Algal blooms fed by nutrient pollution block sunlight from reaching underwater Bay grasses and lead to low oxygen levels in the water. Suspended sediment from urban development, agricultural lands, and some natural sources is carried into the Bay and clouds its waters. Portions of the Bay and its tidal tributaries are contaminated with chemical pollutants that can be found in fish tissue. The Bay's critical habitats and food web are at risk. Nutrient and sediment runoff have harmed Bay grasses and bottom habitat, while disproportionate algae growth has pushed the Bay food web out of balance. The Bay's habitats and lower food web (benthic and plankton communities) are functioning at 45 percent of desired levels. Many of the Bay's fish and shellfish populations are below historical levels. The blue crab population continues to be low, and the stock is not rebuilding; oyster restoration efforts are hampered by disease, and the stock remains at low levels; American shad continues at depressed levels; the menhaden population in the Bay is low despite healthy populations along the Atlantic coast; and while striped bass are plentiful, but there is concern about disease and malnutrition. The Bay's fish and shellfish populations are at 48 percent of desired levels. Fish kills occur in a number of rivers leading to the Bay.[2]

b. Significant Pollutants and Sources

The greatest pollution threats to the Bay are from nutrients (nitrogen and phosphorus) and sediment. These pollutants come from many sources, including agricultural operations,

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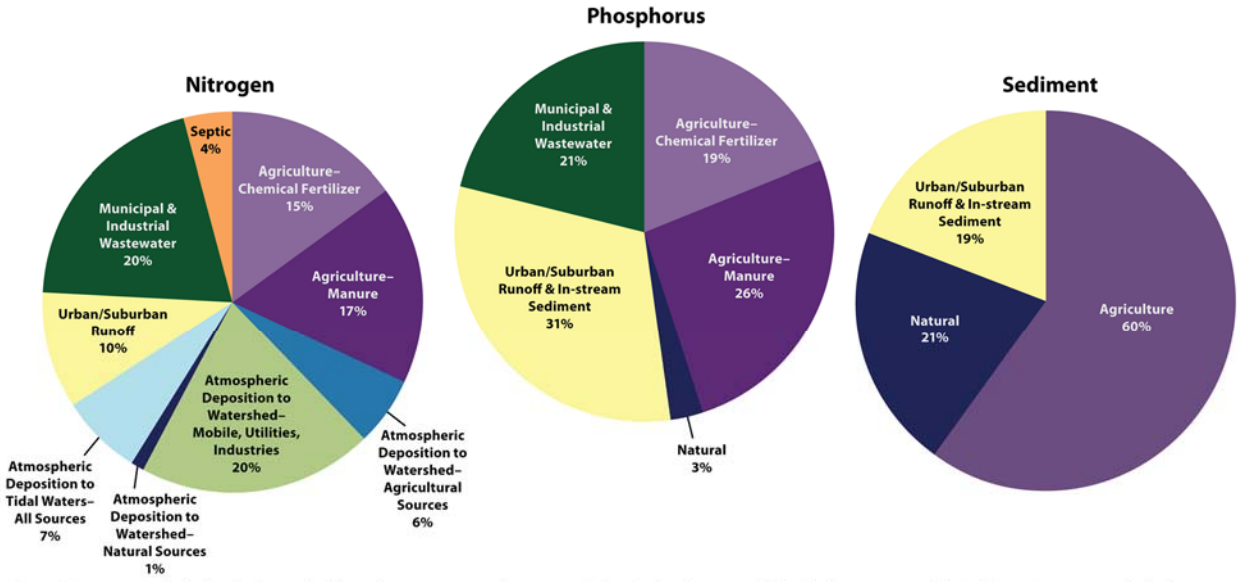
[1] EPA, Office of Inspector Gen., Rep. No. 08-P-0199, *EPA Needs to Better Report Chesapeake Bay Challenges: A Summary Report 3* (July 14, 2008), at http://www.epa.gov/oig/reports/2008/20080714-08-P-0199.pdf.

[2] Chesapeake Bay Program, *Bay Barometer: A Health and Restoration Assessment of the Chesapeake Bay and Watershed in 2008*, CBP/TRS-293-09, EPA-903-R-09-001, (March 2009), at http://www.chesapeakebay.net/content/publications/cbp_34915.pdf.

wastewater treatment facilities, urban storm water runoff, and air deposition from power plants and cars. Agricultural sources contribute the largest nutrient and sediment pollution in the watershed, accounting for approximately 38 percent of nitrogen loading, 45 percent of phosphorus loading, and 60 percent of the sediment loading. About one-half of the nitrogen from agriculture is from animal manure. Municipal and industrial wastewater treatment facilities account for approximately 20 percent of the nutrient loading to the Bay. Urban and suburban storm water runoff accounts for approximately 10 percent of the nitrogen loading, 31 percent of phosphorous loading, and 19 percent of sediment loading. Population growth and development and the rapid increase in the amount of impervious surfaces have caused storm water pollution to be a growing concern.

Air pollution contributes approximately 34 percent of the total nitrogen loading to the Bay.[3] Modeling estimates based on projected emissions for 2020 indicate that the relative contributions of different source sectors of airborne nitrogen oxide (NO_x) emissions to oxidized nitrogen deposition to the Bay watershed will be 26 percent from on-road mobile sources; 21 percent from non-road/marine/construction mobile sources; 17 percent from industrial sources; 15 percent from power plants; 12 percent from residential and commercial sources; and 9 percent from other sources.[4] Figure 1 shows the relative responsibility for pollutant loadings to the Bay.



Note: Does not include loads from tidal shoreline erosion or the ocean. Urban/suburban runoff loads due to atmospheric deposition are included under atmospheric deposition loads. Wastewater loads are based on measured discharges; other loads are based on an average hydrology year using the Chesapeake Bay Program Airshed Model and Watershed Model Phase 4.3.

Figure 1. Relative responsibility for pollution loads to the Bay.

[3] Chesapeake Bay Program, *Questions and Answers from the Senate Environment and Public Works Committee Hearing on the Chesapeake Bay on April 20, 2009* (June 3, 2009).

[4] Robin Dennis, *Report on Relative Responsibility Assessment of Sectors and States: Oxidized-Nitrogen Deposition in 2020* (final numbers), Chesapeake Bay Modeling Subcommittee Meeting, Annapolis, MD. (April 8, 2008).

Other pollutants of concern in the Bay include hazardous wastes, like polychlorinated biphenyls (PCBs), polycyclic aromatic hydrocarbons (PAHs), and metals in river sediment. These contaminants can leach into the groundwater or discharge directly into the Bay from different sources in the watershed and airshed, such as industrial facilities, hazardous waste sites, landfills, urban storm water runoff, and mobile and stationary air sources.

II. Compliance and Enforcement Role

In the Bay watershed, only a portion of the nutrient and sediment pollution is regulated under the Clean Water Act (CWA) or the Clean Air Act (CAA). According to estimates by EPA's Chesapeake Bay Program Office, *only approximately 49 percent of total nitrogen, 35 percent of total phosphorus, and 4 percent of total sediment* is subject to federal regulation. The best modeling indicates that nitrogen pollution to the Chesapeake Bay must be reduced by 30 percent, and phosphorus pollution must be reduced by 8 percent to meet water quality standards. Achieving that level of reduction will require significant and sustained reductions by all source categories, including agriculture. Yet, even full compliance with existing regulations will not result in the necessary pollution reductions to restore the health of the Bay.

Agricultural sources and urban storm water runoff account for about half of the nitrogen and three-quarters of the phosphorus pollution to the Bay. Air deposition of nitrogen from stationary and mobile sources accounts for about one-third of the nitrogen pollution. EPA regulates pollution discharges from some of these sources, including concentrated animal feeding operations (CAFOs) and municipal separate storm sewer systems (MS4s), through the CWA National Pollutant Discharge Elimination System (NPDES) permitting program and regulates other sources through the CAA. Many sources, however, are not subject to federal environmental regulations, including row crop agricultural operations and suburban storm water runoff outside specific municipal storm water sewersheds.

EPA will use all available enforcement mechanisms to address significant violations, and to ensure permanent, consistent compliance with the federal environmental laws. EPA will also exercise its enforcement authority and use compliance programs where the states have either failed to act or impede action. EPA will identify where permit program improvements are needed to further ensure effective compliance and environmental protection. For example, MS4s are not typical *end-of-pipe* permits with clearly defined numeric effluent limits. Instead, permit conditions often emphasize actions that should be taken to achieve certain outcomes and are frequently written with imprecise provisions. Without expanded regulatory coverage and stronger permit requirements, compliance and enforcement cannot remedy the Bay's pollution problems.

The magnitude of resources and effort needed to improve Bay water quality is significant and requires a new generation of federal and state regulatory actions. These include: (1) finalizing total maximum daily loads (TMDLs) throughout the Bay watershed; (2) expanding the definition of CAFO to encompass smaller animal feeding operations (AFOs); (3) defining more stringent permit conditions related to the land application of animal manure; (4) expanding NPDES storm water regulations to apply to high-growth, urban/suburban areas; (5) creating more stringent permit conditions including standards for discharges of storm water from

new/redevelopment projects and retrofit criteria for large facilities with impervious surfaces such as shopping malls, roads, and parking lots; and (6) ensuring adequate, enforceable NPDES permits for MS4s.

Many of these program and regulatory improvements may require additional time to develop and implement before pollutant reductions needed for a healthy Chesapeake Bay are realized. In the interim, immediate action can be undertaken. For example, EPA can:

- Monitor compliance with major milestones for installing controls at wastewater treatment plants and take appropriate enforcement;
- Audit, inspect, and provide compliance assistance to (or take enforcement against) MS4s to improve best management practices and storm water management plans;
- Enforce storm water requirements at large construction sites to reduce sediment;
- Designate AFOs as CAFOs, making them subject to permitting requirements;
- Seek to ensure that all CAFOs that discharge or propose to discharge obtain and comply with NPDES permits;
- With other EPA, state, and federal partners, engage in education and outreach to the CAFO/AFO community about statutory and regulatory requirements;
- Take judicial or administrative actions against livestock integrators for discharges from CAFOs;
- Enforce new source review, NSPS, and state implementation plan (SIP) requirements at stationary sources reduce NO_x emissions;
- Pursue enforcement-led cleanup activities at hazardous-waste sites identified as contributing to specific impairments to water quality in the Bay;
- Achieve pollutant reductions through strategic use of endangerment authorities; and
- Enhance effectiveness in overseeing state enforcement programs and initiate supportive federal enforcement actions, as appropriate.

Without program and regulatory improvements, EPA's use of compliance activities and enforcement actions can assure only modest nutrient and sediment pollution reductions to the Bay. However, compliance and enforcement efforts aimed at key regulated sectors and pollutants affecting the Bay will deter activities contributing to the Bay's impairment. Compliance and enforcement efforts will continue into the future after EPA develops new environmental requirements that expand coverage of existing permitting programs and establish new, enhanced standards of performance for preventing pollutants from entering the Bay's watershed. At that time, enforcement will have an even greater impact.

While EPA will continue to play an important enforcement role in the Bay states, the states are the critical *cops on the beat*, conducting a large percentage of the compliance monitoring (*.e.g.*, compliance inspections), and enforcement. As such, EPA will coordinate compliance and enforcement efforts with states (and commonwealth) partners around the Bay to ensure robust

watershed and airshed-wide compliance and enforcement programs that establish clear expectations for the public and the regulated community regarding compliance. Through our coordinated efforts, EPA and state compliance and enforcement programs will strengthen actions to ensure compliance. Our complementary enforcement and compliance efforts will identify opportunities to promote sound management practices to reduce pollution in the Bay.

To enhance transparency, EPA has developed a Chesapeake Bay compliance and enforcement Web site where this Strategy and other relevant information related to compliance and enforcement is posted. The Web site is at www.epa.gov/compliance/civil/initiatives/chesapeakebay.html.

III. Strategy

a. Overview

This is a multiyear and multistate strategy combining our water, air and waste enforcement authorities to achieve maximum protection. The Strategy is designed to augment and enhance existing work to identify and address violations of federal environmental laws resulting in nutrient, sediment and other pollution in the Bay. This is a focused and aggressive plan to address pollution sources that are violating federal environmental laws, both in the Bay's watershed and the airshed. Under the Strategy, EPA will identify and address industrial, municipal, and agricultural sources releasing significant amounts of nitrogen, phosphorus, sediment, and other pollutants to the Bay in excess of amounts allowed by applicable environmental laws. Specifically, EPA will:

- *Identify nutrient and sediment impaired sub-watersheds*. The identification of the sub-watersheds is guided by specific threats to the Bay's health, including:
    - The extent of impairments from pollutants of concern;
    - The degree of excess pollutant loads;
    - The number and types of regulated sources located in the watershed segment (or depositing pollutants to that watershed for some air sources);
    - The water quality rating (good, threatened, or impaired);
    - The number of primary contact recreation beaches;
    - The number of shellfish beds/beaches;
    - Fish consumption advisories;
    - The magnitude of wetland loss;
    - The prevalence of minority populations, populations disproportionately below the poverty line, or sensitive populations such as subsistence fishermen;
    - Urban waters; and
    - Contaminated site cleanup opportunities.

- *Identify key regulated sectors that, when in non-compliance with applicable environmental regulations, contribute significant amounts of nutrients, sediment and other pollutants to impaired sub- watersheds or that have otherwise been determined to have a detrimental impact on Bay water quality*. At this juncture, the key regulated sectors are: concentrated animal feeding operations (CAFO); municipal and industrial wastewater facilities; storm water National Pollution Discharge Elimination System (NPDES) point sources including Municipal Separate Storm Sewer System (MS4s) and storm water discharges from construction sites and other regulated industrial facilities; and air deposition sources of nitrogen regulated under the Clean Air Act, including power plants.

- *Analyze the compliance records for facilities in the key regulated sectors* including: the pattern and seriousness of noncompliance; the occurrence of un-permitted discharges; ownership status/relationships and location (across states); and the volume and nature of the facility's discharges.

- *Investigate and inspect facilities in the key regulated sectors*, pursue appropriate enforcement actions to ensure compliance, and estimate pollutant-loading reductions for nitrogen, phosphorous and sediment related to those completed actions. Investigations and inspections of the highest priority include:

    - CAFO operations located in the Delmarva peninsula, south-central Pennsylvania and the Shenandoah Valley;

    - Significant wastewater treatment plants as designated by the Bay states based on design flow or nitrogen and phosphorus loading, which are in noncompliance with nutrient-related requirements;

    - Geographic areas with high nitrogen and phosphorus loadings and counties with high rates of growth and development for storm water NPDES point sources; and

    - Large sources of nitrogen oxide and ammonia emissions located within the Bay airshed.

- *Identify appropriate opportunities for compliance and enforcement activities related to other sources of pollution* affecting the Bay including the Clean Water Act wetland protection program, federal facilities, and Superfund sites, including remedial action and removal sites, and Resource Conservation Recovery Act (RCRA) corrective action facilities.

- *Explore opportunities to use imminent and substantial endangerment authorities* under the Clean Water Act, Safe Drinking Water Act, Resource Conservation Recovery Act, Superfund, and the Clean Air Act to address significant pollution problems affecting the Bay.

- *Continuous and comprehensive review of ongoing water and air protection work impacting the Bay*, much of which addresses some of the most significant discharges of pollutants to the Bay, to ensure a constant focus on sources that have not yet been addressed.

- *Leverage EPA and states' limited compliance and enforcement resources* through close coordination with the states on targeting strategies to pursue the most serious contributors to Bay impairment. Specific projections of enforcement and compliance activities will be developed, monitored, and readjusted as the work goes forward.

b. Sector Strategies

i. Municipal and Industrial Wastewater

Overview

Wastewater treatment facilities discharge approximately 20 percent of total nitrogen and 21 percent of total phosphorus to the Bay. Over 3,000 wastewater facilities discharge to the Bay watershed. Using design flow and nutrient loading as the criteria, the Bay states designated 483 of these wastewater facilities as "significant" as determined by their water quality affects on the Bay. More than 90% of the nitrogen and phosphorous added to the Bay from wastewater treatment facilities comes from these 483 significant facilities.

Due largely to treatment plant upgrades and pollution prevention measures, nitrogen and phosphorus loads discharged by significant wastewater treatment facilities have decreased by 40 percent and 65 percent, respectively, since 1985. Many of the significant municipal and industrial wastewater treatment plants in the Bay watershed will require additional treatment upgrades or process changes and either are already subject to, or may be placed on, enforceable schedules to meet more stringent annual nutrient limits for total nitrogen and total phosphorus. EPA and Bay states will monitor compliance with major milestones for this work and with the new annual nutrient limits. EPA and the Bay states will also ensure that facilities with permit violations receive appropriate enforcement.

Goal

EPA is focusing on significant wastewater facilities with permit schedules for upgrading nutrient treatment, with the goal of ensuring those facilities remain on schedule and addressing emerging non-compliance. To achieve these goals, EPA is working with states to implement the NPDES program, using the full breadth of EPA and state compliance programs and enforcement responses. EPA will (1) continue its oversight of authorized state NPDES enforcement programs; (2) work closely with the Bay states to ensure timely and appropriate enforcement action is initiated in response to identified violations of compliance schedules and permit limits; and (3) provide technical assistance to the states where needed.

ii. Storm water

Municipal Separate Storm Sewer Systems (MS4)

Overview

Urban and suburban storm water discharges account for approximately 10 percent of nitrogen, 31 percent of phosphorus, and 19 percent of sediment discharged to the Bay. However, most of the nutrients and sediment discharged to the Bay in urban/suburban storm water runoff are discharged through storm water outfalls that are not in designated MS4 areas regulated by the NPDES program. *Only approximately 2 percent of the nitrogen, 6 percent of the phosphorus, and 4 percent of sediment delivered to the Bay through urban/suburban storm water discharge outfalls are regulated by EPA and the Bay states under the NPDES MS4 program*.

The NPDES permitting program requires MS4s to develop and implement storm water management programs to minimize the discharge of pollutants to the maximum extent practicable. Components of an adequate storm water management plan include programs to oversee construction activities, eliminate illegal discharges to the storm sewer system, educate the public about pollution prevention, and manage storm water discharges from areas of new development and redevelopment. Large and medium MS4 programs determined by population size must also develop and implement a program for overseeing industrial and commercial facilities that have a significant effect on water quality.

EPA relies primarily on audits and inspections to identify non-compliance with MS4 permits. Common deficiencies documented include inadequate construction oversight programs and poor assessment of storm water management practices to assure protection of water quality standards. Furthermore, permit quality remains a concern for MS4 enforcement efforts. Results from audits and inspections will continue to inform needed improvements to these permits and EPA will work with Bay states to improve MS4 permit quality.

Goal

EPA and the Bay states will review and evaluate MS4 storm water programs, strengthen permits as needed, and address MS4s that are in significant non-compliance with their permits. In the Bay watershed, there are approximately 450 MS4s most of which are located in Maryland, Virginia, and Pennsylvania. The location of the MS4s coincides with areas with high nutrient loadings and counties experiencing high rates of growth and development. To achieve this goal, EPA will focus compliance monitoring and enforcement efforts on all MS4s in the Bay watershed with initial focus on larger MS4s and on clusters of smaller MS4s located within the same watersheds.

Storm water Industrial (including Construction)

Overview

Storm water runoff from several industrial sectors, including construction sites equal to or greater than one acre are regulated by the NPDES program. At these sites, industrial processes and material handling and storage are often exposed to precipitation. As storm water

runoff or snowmelt comes into contact with these processes, pollutants can be transported to nearby storm drains or directly to surface waters. Pollutants can include sediment, oil and grease, and chemical and/or biological oxygen demand. Concrete and asphalt operations, such as ready-mix concrete facilities, and mineral extraction have been identified as industrial storm water potential sectors of concern in the Bay.

The construction sector is one of the 10 industrial sectors regulated under the NPDES program for industrial storm water discharges. Clearing, grubbing, grading, and other construction activities disturb and expose the soil surfaces, allowing significant amounts of sediment transport through storm water runoff into storm drains and other discharge points into waterbodies. In addition, the loss of vegetation, soil compaction, and increase in the amount of impervious surface result in increased storm water flow amounts and velocity. Such increases, contribute to streambed and bank scour and erosion, channel widening, and stream bank undercutting, which, in turn, increase the amount of sediment discharged to the Bay.

The Chesapeake Bay Program Office has identified the 20 fastest growing counties in the Bay watershed. Previous inspection targeting by EPA also found that much of the recent residential construction in the greater Chesapeake Bay watershed has occurred in and around the population centers of York, Pennsylvania; Baltimore, Maryland; Washington, D.C.; Wilmington, Delaware; and Richmond, Virginia. The priority areas for targeting construction site and industrial facility inspections will generally be within these high growth and development areas with one notable exception – New York. Because none of the 20 fastest growing counties identified by the Chesapeake Bay Program Office are located in New York, the focus within this state will be construction activities located near sediment impaired waters.

Goal

For construction sites and other priority industrial sectors, EPA will address, through the appropriate enforcement mechanism, construction sites and industrial facilities that are in significant non-compliance. To achieve this goal, EPA will focus in areas experiencing high rates of growth and development and those near sediment impaired water bodies. In addition, EPA will gather information to determine if currently unregulated priority urban/suburban separate storm sewer systems should be covered by CWA requirements.

iii. Concentrated Animal Feeding Operations

Overview

Agriculture is the single largest source of nutrients to the Chesapeake Bay. Agricultural operations deliver nitrogen and phosphorus to the Bay accounting for 38 percent of nitrogen and 45 percent of phosphorus.[5] Seventeen percent of the nitrogen and 26 percent of phosphorus from agriculture is from animal manure, and an additional 6 percent of nitrogen delivered to the Bay comes from livestock and fertilized soil emissions. *About one-third of animal manure is regulated (contributing 6 percent of nitrogen and 8 percent of phosphorus delivered to the Bay). The remaining nitrogen and phosphorus from agriculture is from non-animal agriculture (e.g., rowcrops) and smaller animal feeding operations or emissions which are not subject to the*

[5] This estimate assumes that these sources are in full compliance with their current NPDES permit requirements.

regulatory restrictions imposed on CAFOs. Thus, EPA can only address a portion of nutrients from animal agriculture pursuant to existing regulatory authority.

Three areas represent the greatest contributions of manure-based agricultural nutrient loads to the Bay: (1) *Delmarva Peninsula*: Delaware, and the Eastern Shores of Maryland and Virginia; poultry—broiler chickens—is the dominant industry sector; (2) *South-central Pennsylvania*: Susquehanna River watershed/Lancaster and York counties; dairy is the dominant industry sector; to a lesser extent, swine and poultry (broiler and egg-laying chickens) also operate in this priority area; and (3) *Shenandoah Valley*: Virginia and West Virginia; poultry—broiler chickens and turkeys—is the dominant industry sector; small- and medium-dairies and to a lesser extent, swine and beef cattle facilities also operate in this priority area. The watersheds in those areas suffer from significant nutrient imbalances and nutrient-related, local water quality impairments. Densely populated animal agriculture operations in these areas cause the highest agricultural nutrient loads to the Bay by comparison to other areas. Inconsistent implementation of sound nutrient management practices has resulted in manure over-application and nutrient loading.

Goal

The goal is to reduce nutrient loads to the Bay by addressing non-compliance and by focusing compliance and enforcement activities on facilities in three key areas—the Delmarva Peninsula, South-central Pennsylvania, and the Shenandoah Valley. EPA will initially focus its CAFO compliance and enforcement activities on facilities in these three geographic areas. However, EPA will also maintain its CAFO compliance and enforcement presence throughout the Bay watershed. After addressing facilities in the initial three areas, EPA will build on its existing presence and expand its CAFO compliance and enforcement activities to facilities in other Bay watershed areas with CAFO-related nutrient impairments.

To achieve this goal, EPA will prescribe actions calculated to increase CAFOs' regulatory compliance and reduce their nutrient loads to the Bay. EPA will achieve deterrence in the watershed by targeting enforcement actions and remedies at facilities located in watersheds impaired for nutrients that are critical to the restoration of the Bay. Specifically, EPA will work with states to target implementation of the CAFO program to minimize CAFO nutrient effects on the Bay, by investigating and inspecting facilities that pose the most risk to the Bay watershed and taking enforcement actions to compel compliance. EPA will maximize the extent to which current state CAFO programs are achieving their intended water quality benefits by working with states to expand the permitted facility universe and issue sufficiently stringent permits. Permits should, at a minimum, require that nutrient management plans be based on existing soil saturation levels. EPA will also work with states to build sustainable programs for compliance monitoring and enforcement (*e.g.*, undertake universe-identification and information-gathering activities, conduct joint and oversight inspections with state partners to ensure appropriate implementation of federal standards). Finally, EPA will seek to address CAFO air emissions and develop appropriate remedies to reduce emissions and their adverse water quality effect on the Bay.

iv. Air Deposition

Overview

Nitrogen emissions from sources within the Chesapeake Bay airshed contribute approximately 75 percent of the nitrogen deposition to the Bay watershed. The remaining 25 percent of the nitrogen deposition is from long-range transport of emissions from sources outside the airshed, including emissions from portions of southeastern Canada. Of the inorganic nitrogen deposited to the Chesapeake Bay watershed from air emission sources, approximately 67 percent is from air emissions of NO_x. The remaining 33 percent is from emissions of ammonia (NH_3). The contributions from any single facility in the long-range emissions transport category are unlikely to be significant. Sources of NO_x include electric generating units, other industrial stationary sources, on- and off-road mobile sources (cars, trucks, ships, tractors), lightning, and soil. Sources of ammonia include AFOs, fertilized fields, mobile sources, and industrial stationary sources.

Goal

The goal is to reduce nitrogen air deposition by addressing non-compliance with existing air pollution control requirements. Coal-fired power plants, acid, glass, and cement manufacturing are already national enforcement priorities for the Agency because of the substantial emissions of NO_x and other pollutants from those industries. EPA is pursuing a coordinated, integrated compliance and enforcement strategy to address CAA New Source Review compliance issues at the nation's coal-fired power plants. Many of these cases have already resulted in settlements that will reduce nitrogen deposition to the Bay, such as the settlement with American Electric Power, which when fully phased in, will reduce NO_x emissions from the company's power plants in the Chesapeake airshed by more than 150,000 tons per year. EPA also intends to seek additional NO_x reductions through enforcement of New Source Performance Standards (NSPS) and SIP provisions governing NO_x emissions. EPA will continue to vigorously pursue these priorities but with a new emphasis on sources that contribute to nitrogen pollution in the Bay.

To achieve this goal EPA will target enforcement actions at sources in the Chesapeake Bay airshed, which includes Pennsylvania, West Virginia, Virginia, Maryland, Delaware, New York, North Carolina, South Carolina, Tennessee, Kentucky, Indiana, Michigan, Ohio, New Jersey, and the District of Columbia. EPA will focus on achieving reductions in NO_x to reduce nitrogen loading to the Bay. Specifically, EPA will seek reductions from stationary sources of NO_x emissions by enforcing New Source Review, NSPS, and SIP requirements pertaining to NO_x emissions and obtaining either judgments or enforceable settlement agreements to install pollution control technology and incorporate best management practices. Enforcement actions designed to reduce nitrogen deposition to the Chesapeake Bay could also result in substantial reductions in sulfur dioxide, mercury, and other pollutants if the Agency and its state partners are successful in obtaining binding commitments from utilities and other sources to install pollution-control technologies. Such additional pollution reductions, in turn, could yield significant public health and welfare benefits, including reduced respiratory problems and fewer fish consumption advisories.

v. Toxics Cleanup

Overview

In addition to nutrients and sediments other serious contaminants are negatively affecting water quality in the Bay, such as PCBs; PAHs; and metals—such as mercury, endocrine disruptors, and pesticides. The U.S. Geological Survey estimates that 72 percent of the Bay segments are impaired by contaminants. Such contaminants can leach into the groundwater or directly into the Bay from sources in the watershed, such as industrial facilities, hazardous waste sites, landfills, urban storm water runoff, and mobile and stationary air sources.

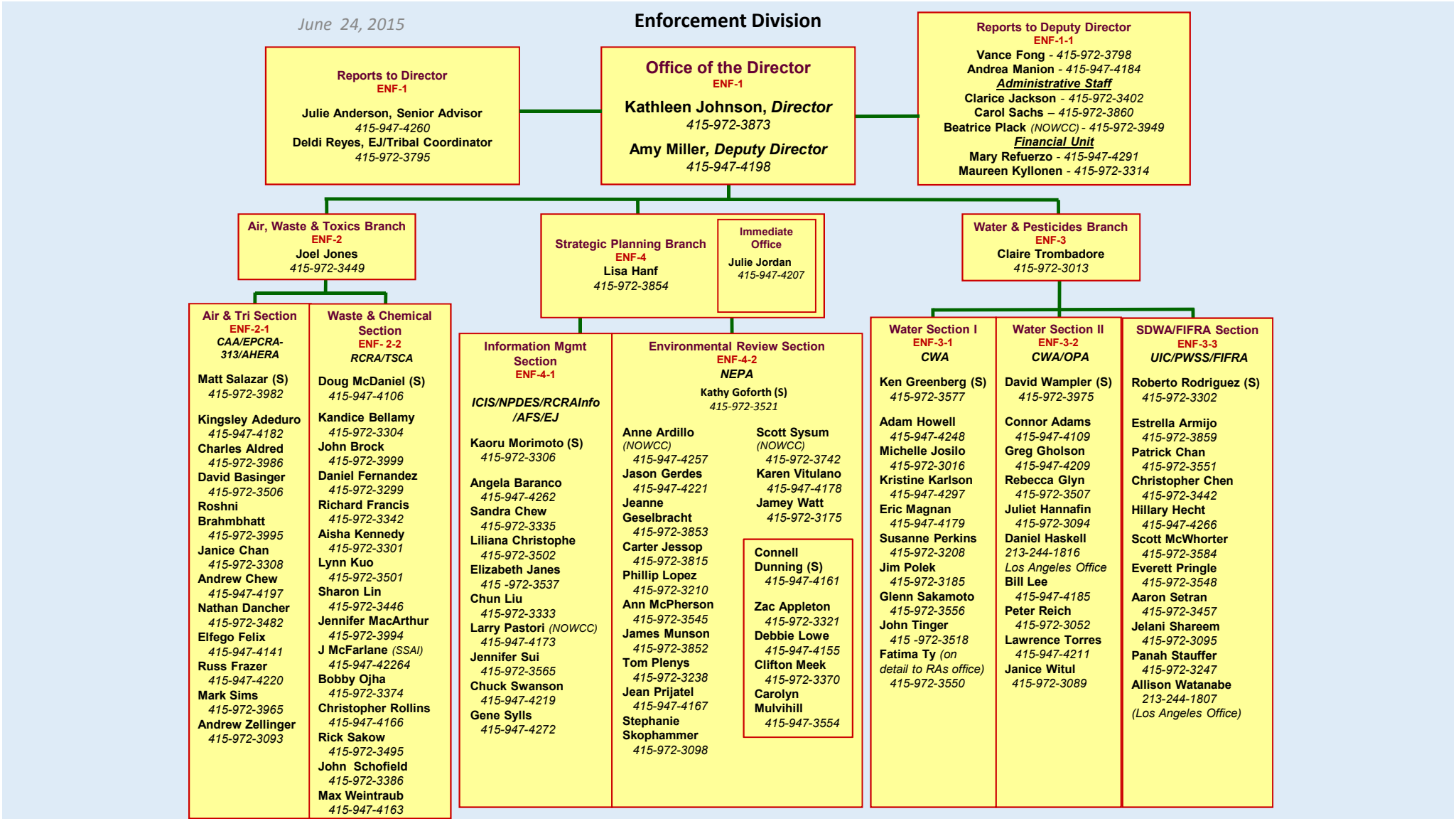
Goal

EPA will look broadly at the sources of toxic contamination to the Bay and work with the states and other federal agencies to reduce the effect of hazardous substances on the Bay. In particular, EPA will address on toxics in three geographic areas in the watershed and closely tied to the Bay: (1) the Elizabeth River; (2) the Anacostia River; and (3) Baltimore Harbor/Patapsco River. Those areas have been identified as the waters most affected by toxic contaminants and contain current and/or historical RCRA facilities, federal facilities, and Superfund sites. To achieve this goal, EPA will use Superfund and RCRA authorities and partner with other federal departments/agencies and states. We will seek to access and leverage resources, authorities and compliance and enforcement strategies to address contaminants in these three areas. Over time, EPA will continue to look for opportunities to use its Superfund, RCRA corrective action and Toxic Substances Control Act authorities to address sources of hazardous substances within the Bay watershed.

In addition, actions taken pursuant to other parts of this Strategy are likely to also have an impact on toxics in the Bay. For example, air enforcement actions designed to reduce nitrogen deposition to the Bay could also result in reductions in mercury; improvements in wastewater treatment and MS4 permits, facilities, and practices could also result in reduced toxics; and better management of chicken litter from CAFOs could reduce the amount of arsenic entering the Bay. Finally, ongoing efforts to reduce toxic contaminants entering the Bay and its tributary waters, for example, for new TMDLs for local streams and larger-scale TMDLs for listed chemical impairments (*e.g.*, PCBs in the Potomac Basin) will also have a positive effect on toxic levels in the Bay. EPA will continue to look for opportunities to address nutrients, sediments, and contaminants together.

Pacific Southwest Region Enforcement Division Briefing

August 2015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Goals for the New Division

- Speak with one voice.
- Focus on the most important enforcement and environmental issues.
- Become more efficient in how we enforce environmental regulations.
- Move beyond stovepipe enforcement.

Strategic Planning

- FY2016 Regional Strategic Plan – March, 2015
  - Section Operating Plans
  - Targeting Plans

2015 Highlights...so far!

- *On track for increase in enforcement actions.*
- *Focus on SEPs*
- *Big Settlements focus on a variety of sources and statutes*
  - *Clean Air Act – Coal Fired Power Plant (4 corners)*
  - *Clean Air Act – Retail use of Ozone Depleting substances (Costco)*
  - *Clean Air Act – Landfill (Kapaa Landfill)*
  - *RCRA – Gold Mines (Newmont and Barrick)*
  - *CWA – Municipal Harbor (HDOT)*
  - *CWA – Metal Recycler (Simms Metal)*
  - *CWA – Cement (Lehigh)*
  - *CWA – Farmer (Anchorduguy)*

Recent Settlements -Lehigh Cement

Recent Settlements - California Department of Transportation-Antlers Bridge

Recent Settlements –Cargill and Safety Kleen

Cargill

Safety Kleen

Targeting

- Using data and analysis to identify inspection targets
- Align inspections with national and regional priorities
- Develop targeting approaches for all Enforcement programs

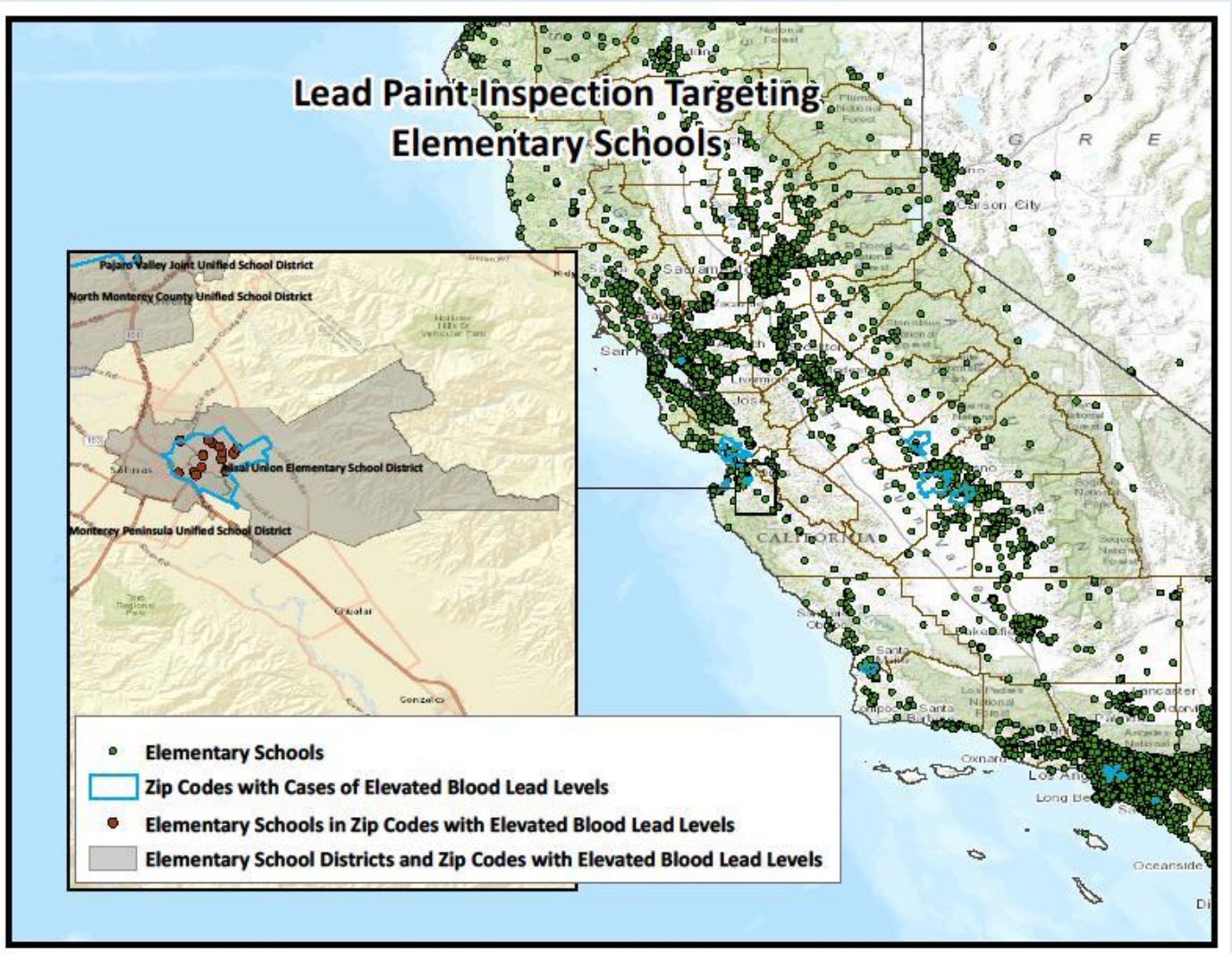
Lead Paint Inspection Targeting

The issue:

- Widespread noncompliance
- Looking for repair and renovation activities that affect children
- Use data to find areas of elevated blood lead levels

The approach:

- Matched zip codes with elevated blood lead levels
- Mapped zip codes
- Mapped schools (14,000)
- Identified elementary schools (7,700) with elevated blood lead levels (336)
- Determine which schools have recent construction permits.


Lead Paint Inspection Targeting
Elementary Schools
Pajaro Valley Joint Unified School District
North Monterey County Unified School District
Alisal Union Elementary School District
Monterey Peninsula Unified School District
Elementary Schools
Zip Codes with Cases of Elevated Blood Lead Levels
Elementary Schools in Zip Codes with Elevated Blood Lead Levels
Elementary School Districts and Zip Codes with Elevated Blood Lead Levels

Preliminary Results

- Most school districts are hiring certified lead abatement contractors.
- No cases
- In other areas we are finding many cases:

  Blue Mountain Homes settlement

  -Paid $51,030

  - Use press release of settlement on Angie's List

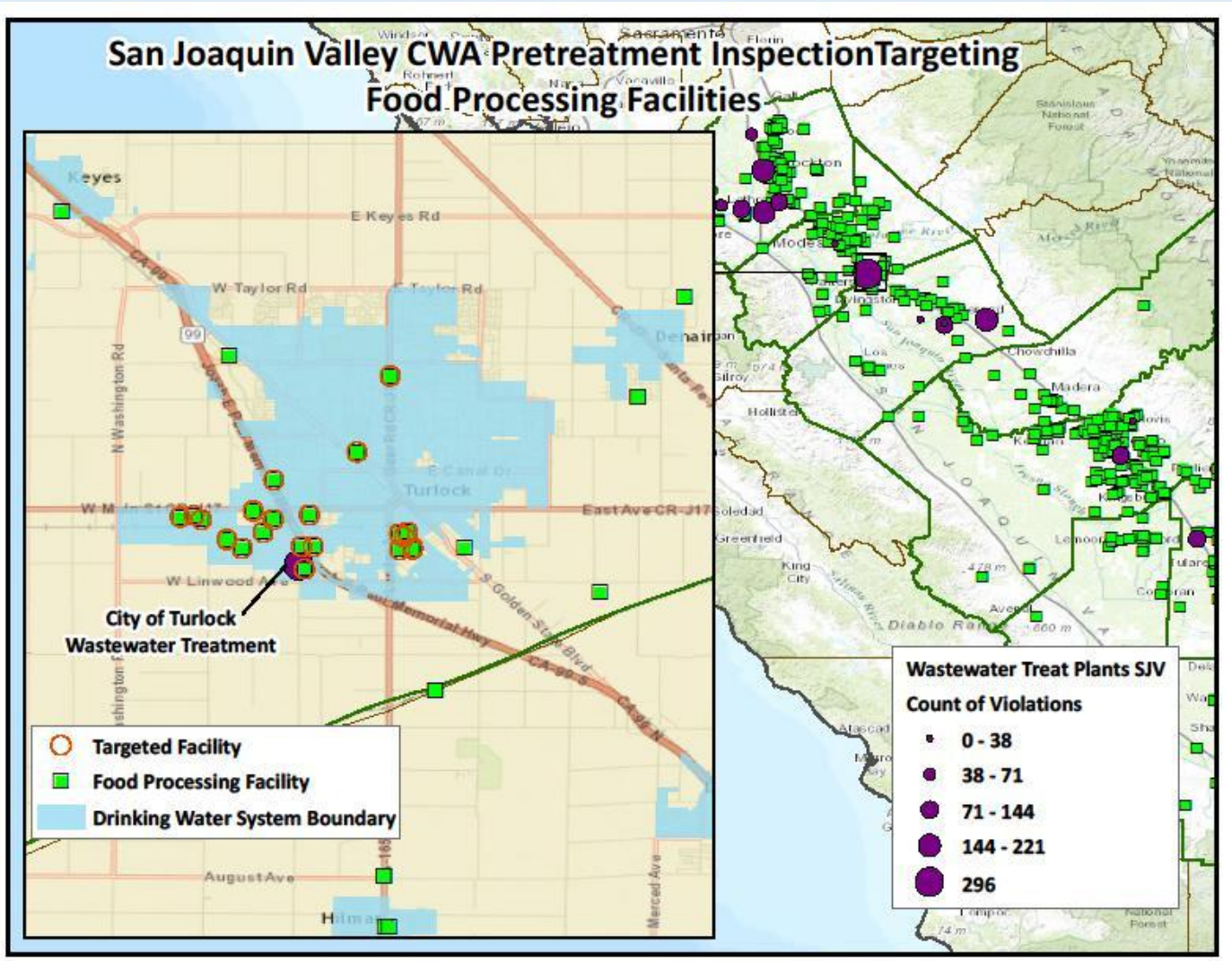
CWA Pretreatment Inspection Targeting

The issue:

- Upstream violations cause NPDES violations at POTWs (pass-through)
- Food processors have caused these violations

The approach:

- Pilot approach in Hawaii, then transfer to California's San Joaquin Valley
- Identify violations at Wastewater Treatment Plants from California'sdatabase (18)
- Identify food processors using industrial codes (900)
- Turlock wastewater plant violates (27 food processors)



ENFORCEMENT CONFIDENTIAL

Success!

Milk Specialties

Univar

Advanced Food Specialty

Air Quality Enforcement Priorities (FY15-16)

Partnerships/Collaboration

- OECA Air Enforcement Division, California Air Resources Board, South Coast AQMD, NEIC GMAP, OAR, R9 Air Division

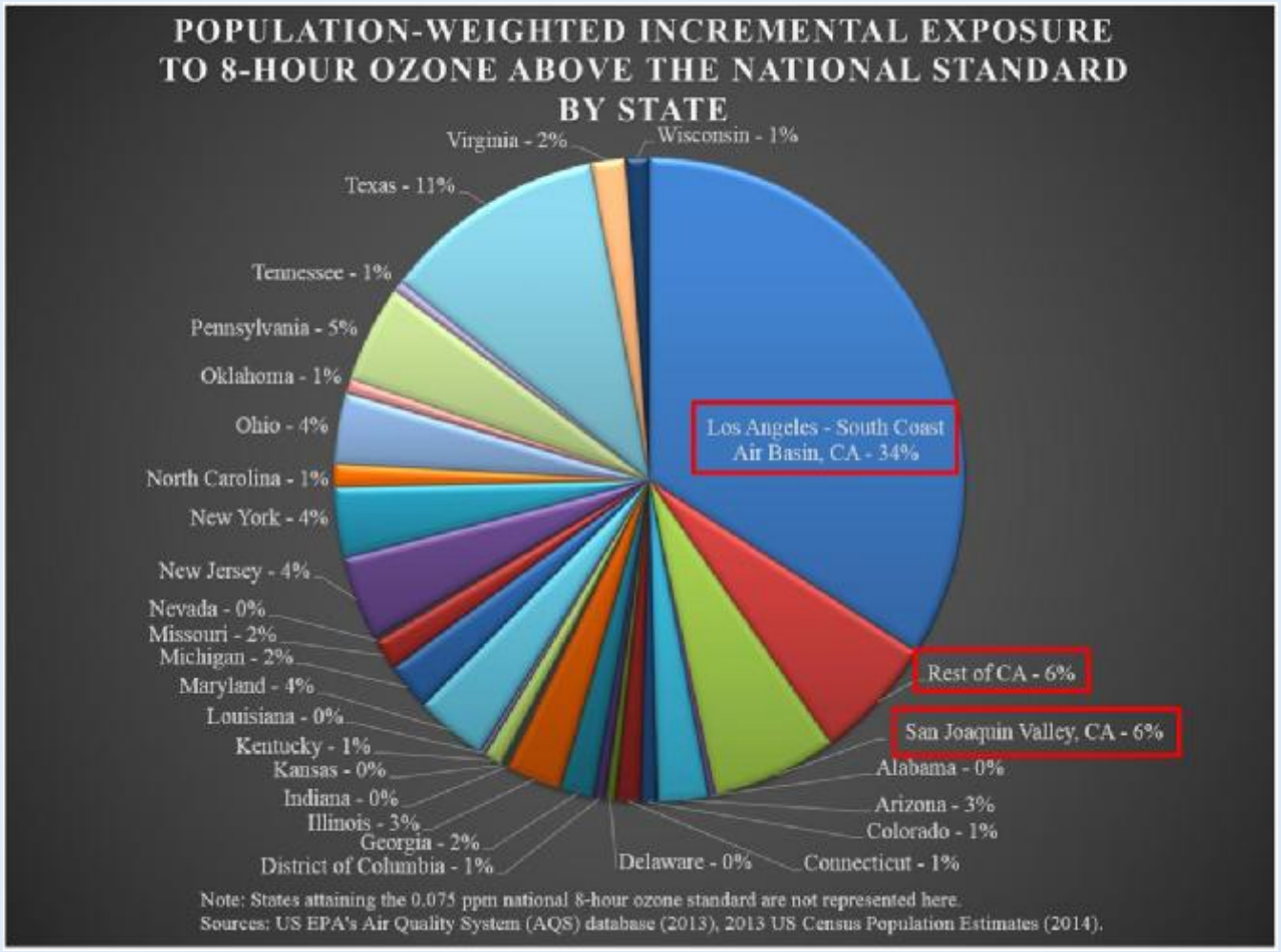
CAA Stationary Sources

CAA Mobile Sources

- Port of LA/Long Beach and SF/Oakland U.S. Customs and Border Protection – Imports
- Diesel Truck & Bus Rule, MARPOL Annex VI, and After-market Engine Defeat Devices "Rolling Coal"

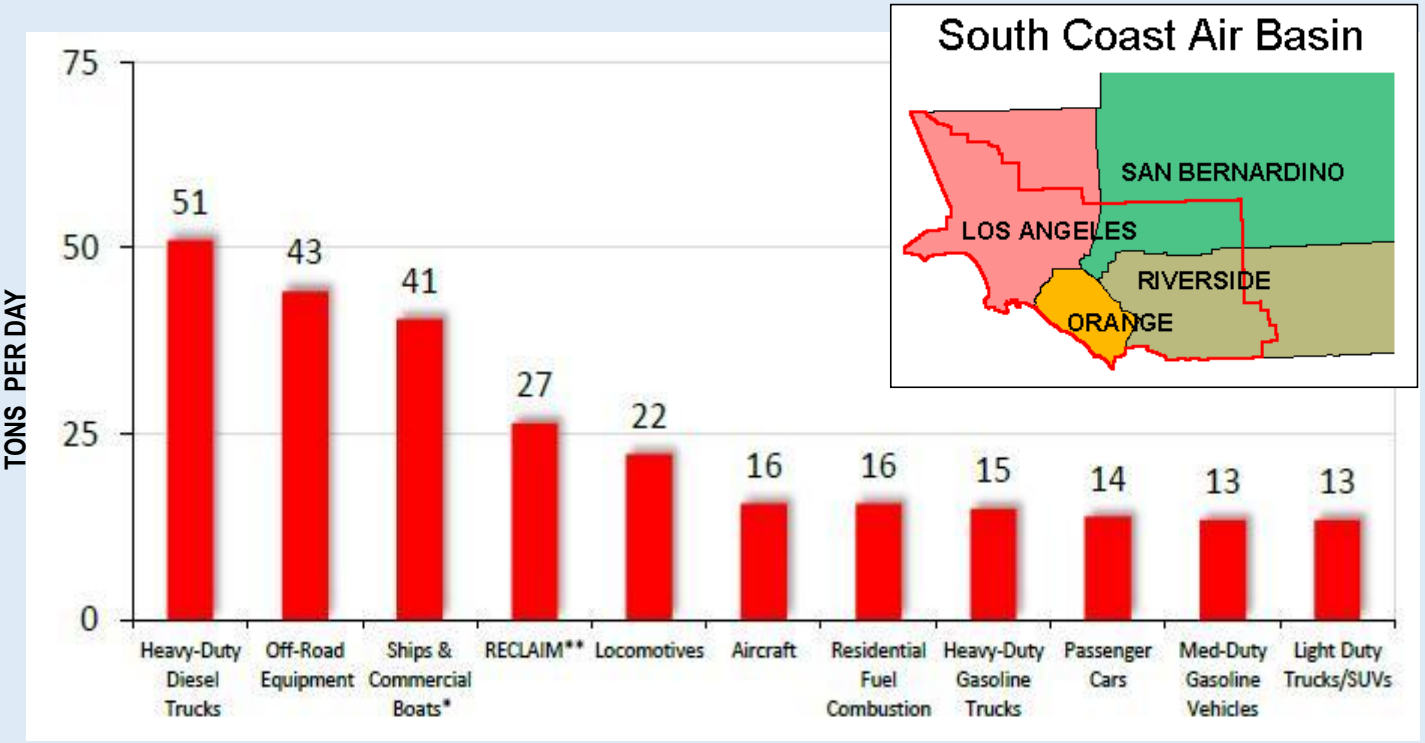
Green House Gas Rule:

- Compliance and enforcement coordination with OAR and ARB


POPULATION-WEIGHTED INCREMENTAL EXPOSURE TO 8-HOUR OZONE ABOVE THE NATIONAL STANDARD BY STATE
Virginia - 2%
Wisconsin - 1%
Texas - 11%
Tennessee - 1%
Pennsylvania - 5%
Oklahoma - 1%
Ohio - 4%
North Carolina - 1%
New York - 4%
New Jersey - 4%
Nevada - 0%
Missouri - 2%
Michigan - 2%
Maryland - 4%
Louisiana - 0%
Kentucky - 1%
Kansas - 0%
Indiana - 0%
Illinois - 3%
Georgia - 2%
District of Columbia - 1%
Delaware - 0%
Connecticut - 1%
Colorado - 1%
Arizona - 3%
Alabama - 0%
San Joaquin Valley, CA - 6%
Rest of CA - 6%
Los Angeles - South Coast Air Basin, CA - 34%
Note: States attaining the 0.075 ppm national 8-hour ozone standard are not represented here.
Sources: US EPA's Air Quality System (AQS) database (2013), 2013 US Census Population Estimates (2014).

South Coast NO_x Emissions

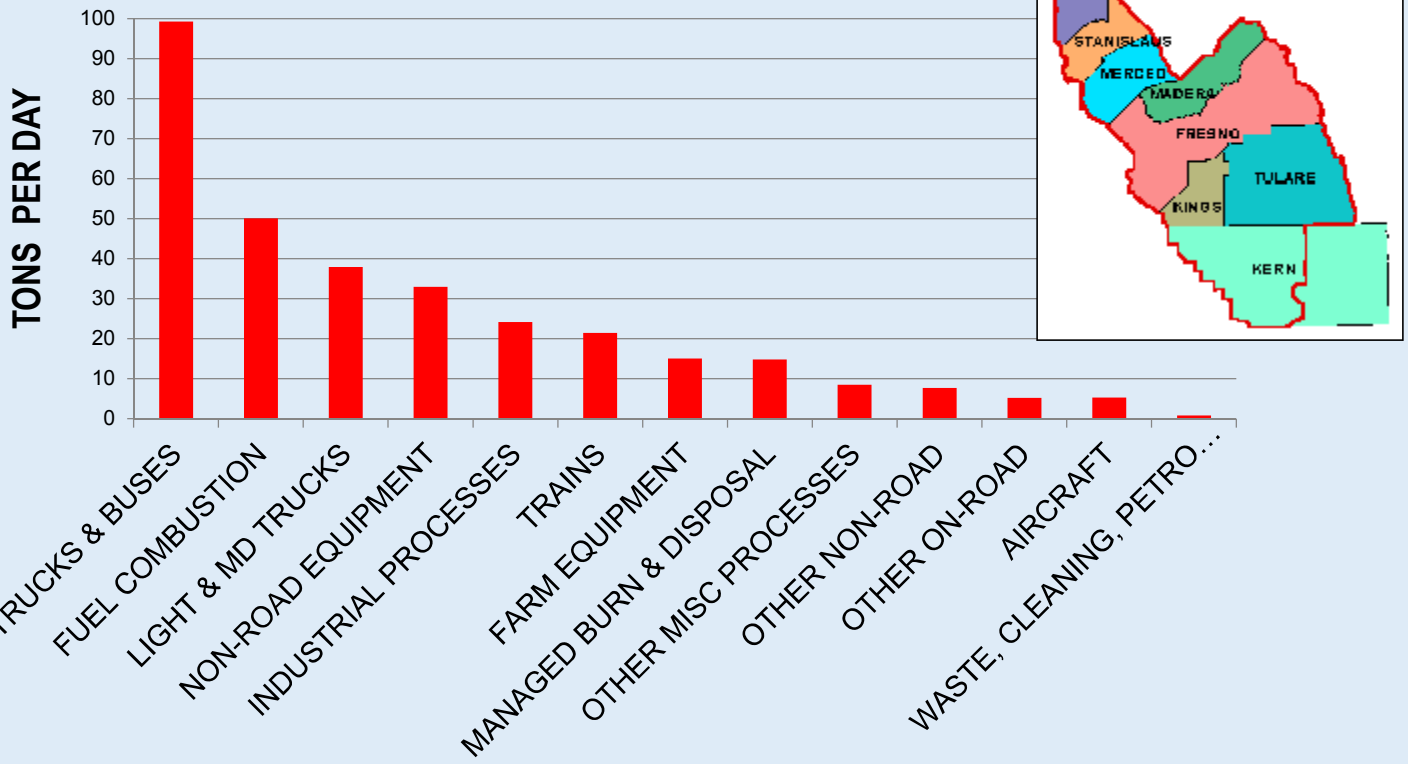
(2023 estimates)



Source: SCAQMD (2012)

San Joaquin Valley NO_x Emissions

(2020 estimates)



Source: CARB (2012)

Types of Vehicles, Engines, and Equipment

- Mini-Trucks
- All-Terrain Vehicles/ UTVs
- Motorcycles
- Gasoline Engines and Equipment
- Diesel Engines
- Over 95 inspections in FY 14-15

Cases Settled in FY 14-15

- ESAs
  - Alliance Powersports, Inc. (2014)
  - BMS Motorsports Inc. (2015)
  - BV Powersports LLC (2015)
  - CLC Logistics Inc. (2015)
  - Denebola Motor Sports USA, Inc. (2014)
  - Dongfang Motor Inc. (2014)
  - Dynamic Power Equipment, Inc. (2015)
  - Infinity (China Hangyu Group) (2015)
  - Kandi USA, Inc. (2014)
  - Nan Fang Distribution Group, LLC (2014)
  - Sanven Corporation (2015)
  - Vantage Vehicle International, Inc. (2014)
- ASA
  - Yamazuki Inc. (2015)

- Most cases involved catalytic converter nonconformity

TSCA/RCRA Enforcement Priorities (FY15-16)

Lead-based Paint Renovation, Repair and Painting

Significant non-compliance.

RCRA (Hazardous Waste)

Refinery Investigations

Core TSCA (New Chemicals)

-Focus on imports

PCBs and Underground Storage Tanks

Core work

CWA Enforcement Priorities

- CWA Wastewater
  - National Enforcement Initiative (NEI)-Sanitary Sewer Overflows: 124 Systems, 96% complete
  - NEI CSO: 3 Systems, 100% complete
  - NEI CAFO: 38 of 47 in CA North Coast addressed
  - 2015 focus: pretreatment and direct implementation/tribes
- CWA Stormwater
  - NEI Municipal stormwater: 35 Phase Permits. 26 assessed, 13 addressed, 9 remaining
  - 2015 focus: Municipal stormwater plus industrial stormwater
- Other CWA work
  - Multimedia cases (RCRA/CWA)
  - Oversee settlements –multi year
  - Wetlands -core
  - Oil - core

Drinking Water & Pesticides Enforcement Priorities

- Drinking Water
  - Enforcement Targeting Tool
  - Arsenic Maximum Contaminate Level compliance
  - Tribes
  - State oversight
- Pesticides
  - New staff/team
  - Imports
- Regional Priority: SDWA/UIC
  - Enforce 2005 ban of Large Capacity Cesspools
  - Federal facilities

STATE OVERSIGHT

STATE REVIEW FRAMEWORK

- Arizona: Round 3 review conducted in 2014. State comments received.
- Hawaii: Round 3 review begins in 2015
- California: hazardous waste local enforcement agencies.