

Region Sediment Management Data to “What’s Mud Got to Do with It”

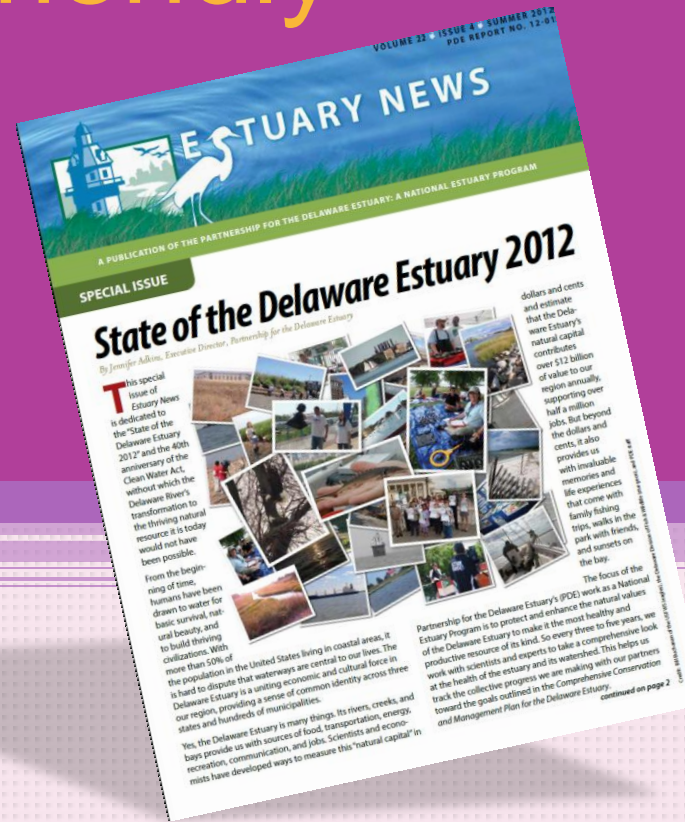
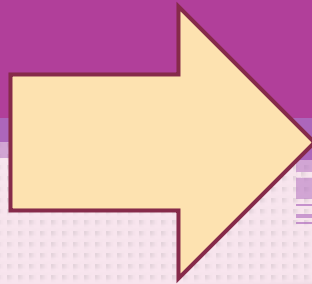


Lisa Wool & Elizabeth Horsey
Partnership for the Delaware Estuary

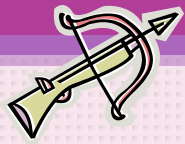
Methods to Make Technical Reports Public Friendly



Technical Report for the Estuary and Basin



State of the Estuary Public Piece



Why Write a “Public” Piece?

- Reach a broader audience with YOUR work!
- Ensure key messages are conveyed to readers
- Provide scientific basis for behavior changes
- Build affinity (& funding!!) for the resource



Sediment Fight!!!

- Older than sediment
- A stick in the sediment
- Dragged through the sediment
- Get – that – sediment off your shoulder
- Bury your head in the sediment
- Like sediment through the hour glass, so are the days of our lives.



Estuary Knowledge – Are **We** the 1%?

6+ Million Residents

~1.6 Million College Graduates

260 Summit Attendees

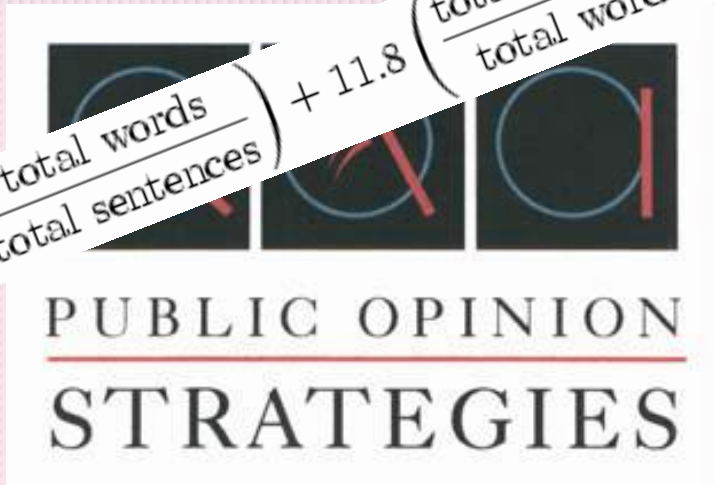
NO!
We are the
~.004%
or 4.33×10^{-5}

Language Selection



- Research Public Opinion Polls
- Write for proper “grade level”
- Replace jargon and unfamiliar words with common speak

$$0.39 \left(\frac{\text{total words}}{\text{total sentences}} \right) + 11.8 \left(\frac{\text{total syllables}}{\text{total words}} \right) - 15.59$$



Counts	
Words	603
Characters	3115
Paragraphs	11
Sentences	25
Averages	
Sentences per Paragraph	3.1
Words per Sentence	23.4
Characters per Word	5.0
Readability	
Passive Sentences	8%
Flesch Reading Ease	44.2
Flesch-Kincaid Grade Level	12.6

Words to Avoid

Ecosystems Services

Aquifer

Nutrients

Riparian

Increase Canopy Coverage

Good Words to Use

Nature's Benefits

Groundwater

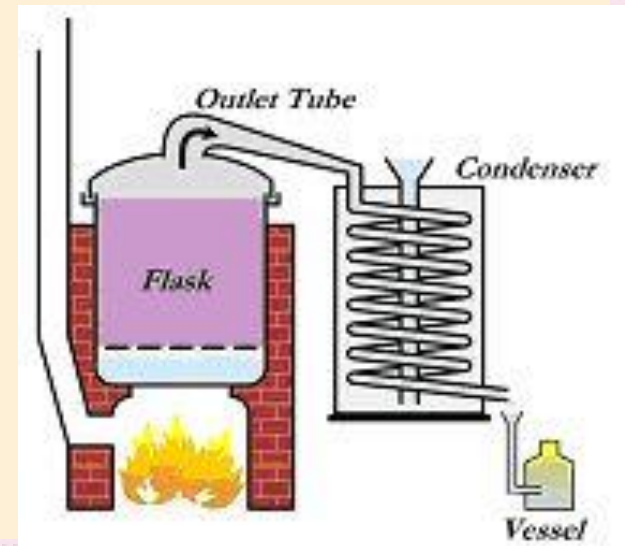
Pollution

Land along lakes and streams

Plant more trees!

Distillation Process

- Select sub set of indicators
- Identify 1-3 key points for each indicator
- Work backwards from key points to draft text
- Scientist's review public friendly text
- Choose and/or create graphics
- Final scientific review
- Production & distribution



Indicator Selection Criteria

- Has compelling new developments or tells a good, representative story
- Has an actionable item
- Creates a balanced mix of indicator types
- Various audiences will have an affinity for, or interest in reading



WATER POLLUTION

EXCELLENT
↑
POOR

DESCRIPTION: A fish's gills absorb oxygen from the water, just like our lungs absorb oxygen from the air. When a stream is not shaded by trees, for example, the sun beats down on the stream, increasing the water temperature, which causes oxygen held within the water to be released.

Nutrients may sound like a good thing, but not when it comes to water quality. Nitrogen and phosphorus are nutrients that, at high levels, become water pollution that harms fish, wildlife, and drinking water sources. These nutrients can cause a chain reaction which eventually lowers oxygen levels in the water. Below a certain oxygen level, fish can suffocate, resulting in massive fish kills and dead zones where nothing can survive.

BACKGROUND: In the mid-1900s, a dead zone existed in the Delaware River near the Benjamin Franklin Bridge in Philadelphia due to poor water quality. Some of the main pollution sources during that time were industries and sewage treatment plants that collected waste from homes. In 1972, Congress passed the Clean Water Act, which required communities to reduce the amount of pollution entering waterways. For the first time, industries were required to clean their wastewater before returning it to the river. By 1984, significant upgrades in Philadelphia's sewage treatment plants reduced pollutants found in wastewater by 95%.

Credit: box.com of the Philadelphia Water Department

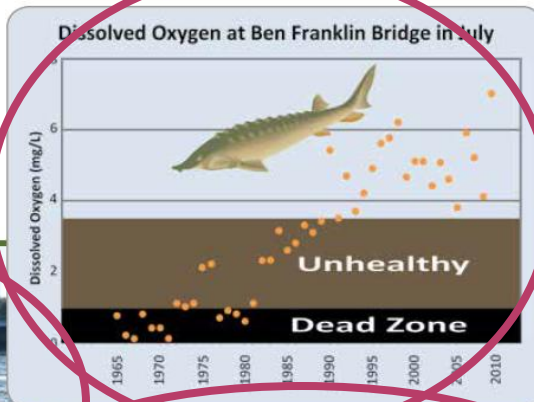


Fish like striped bass are now able to spawn (reproduce) in the Delaware River because the water is much cleaner than it used to be. However, water pollution and contaminants (see next section) continue to affect fish.

STATUS: Since the 1960s, the estuary has seen a remarkable recovery in dissolved oxygen, with fish such as striped bass and sturgeon now able to spawn. But oxygen concentrations remain a critical issue. While phosphorus and nitrogen levels in the estuary's waterways are lower than historic levels, they remain high compared to other estuaries. In the next 20 years, water temperatures are expected to rise between one and three degrees Fahrenheit, which will significantly reduce the amount of oxygen in the water.

Today, more than half the country's water bodies are negatively affected by nitrogen and phosphorus pollution. Some of this pollution still comes from wastewater, but much of it comes from "non-point" sources like homes, lawns, and farms.

WHAT YOU CAN DO: When it is time to fertilize, use the directed amount of slow-release, organic fertilizers, or use none at all. Never apply fertilizer on walkways or before a predicted rainfall; it will wash into the nearest creek or river!



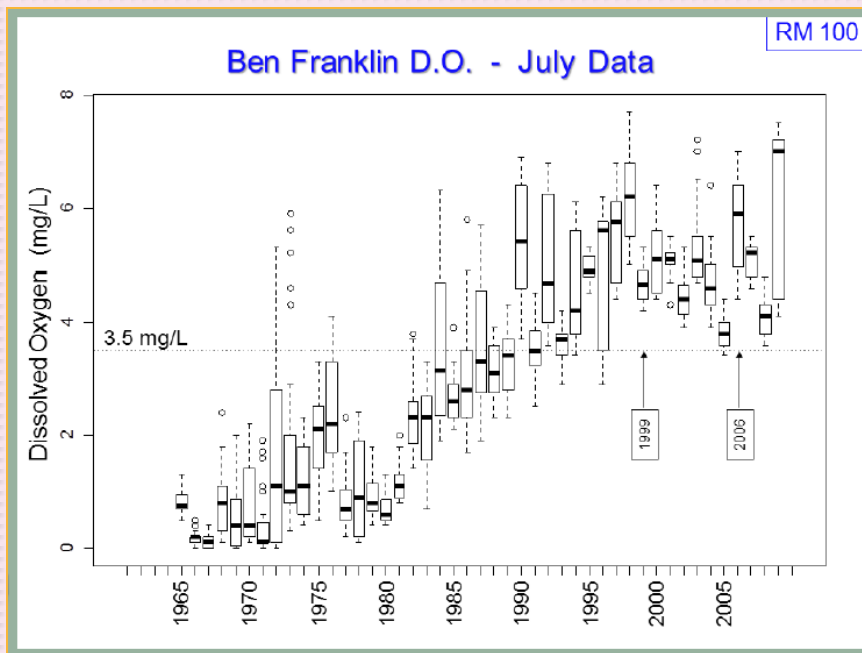
The dead zone is where nothing can survive or even migrate through a waterway; some creatures are more sensitive to low oxygen than others. The dots in the chart above represent median (midpoint) dissolved-oxygen levels.

Bottom Line Water in the Delaware River is the cleanest it has been since before the Industrial Revolution, but we still have a long way to go to be fishable and swimmable, and some of the toughest problems (non-point source and legacy pollutants) we have yet to solve.

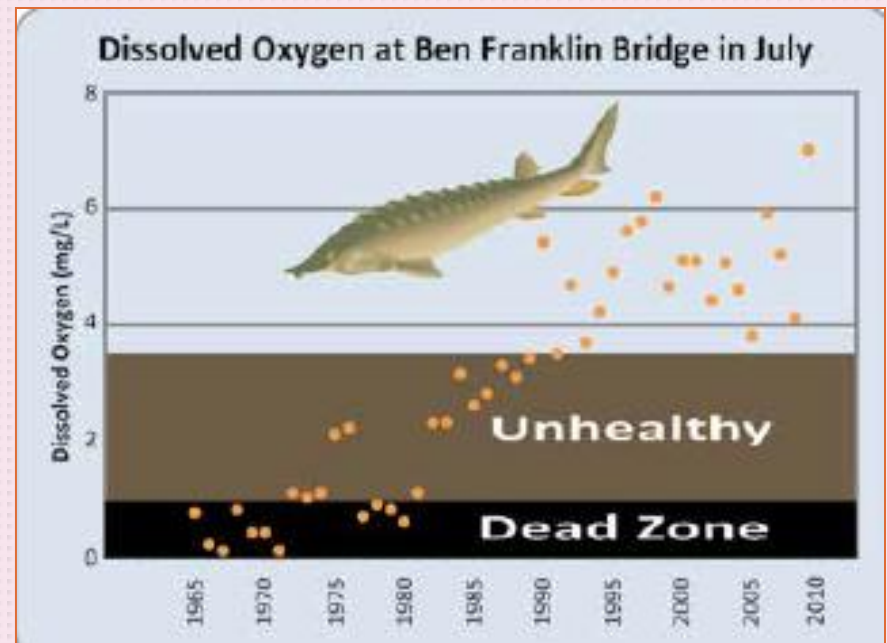


Clear and Attractive Graphics

Technical Report

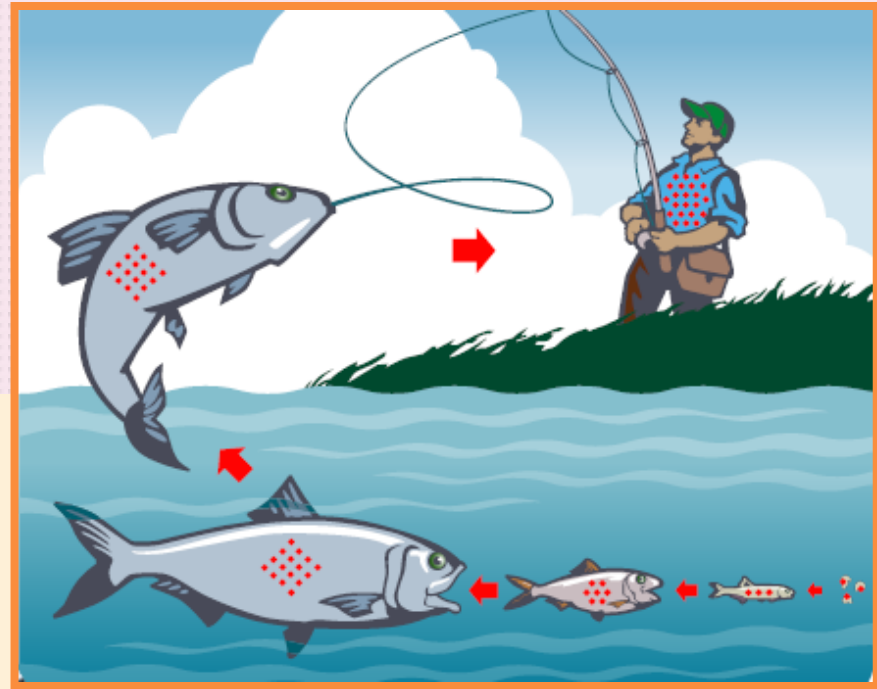


Public Piece



More Tips:

- Use people in graphics
- Connect to public health
- Provide examples for technical terms
- Reiterate key definitions throughout a piece
- And even if you do all these things...



Some Just Go to the Kids Page!



DELAWARE ESTUARY FUN AND GAMES!

SPOT the DIFFERENCES



Can you spot the 10 differences between these two blue crabs?

A-MAZE-ING ESTUARY!



WHAT IS AN ESTUARY?

An estuary is a body of water where salt water from the ocean mixes with fresh water flowing off the land and down from streams. Estuaries are important to people and industries as well as to birds, fish, mammals and other creatures living in and along our waterways. See if you can find your way through our a-MAZE-ing estuary!

ACROSS

- Port/city where all bananas coming to the U.S. pass through
- Major city outside the Delaware Estuary that draws almost half its drinking water from the Delaware River
- Commander who crossed the Delaware River with his troops in 1776
- The area of land that drains into a river
- Color of a horseshoe crab's blood
- Falling and rising of the level of the ocean
- Area where salt water from the ocean mixes with fresh water from rivers
- This bird's nests are often found on top of utility poles
- The _____ Navy blockaded the Delaware Bay during the War of 1812
- Shellfish that can clean up to 10 gallons of water per day
- _____ people get their drinking water from the Delaware River
- America's national bird, recently taken off the endangered species list
- Migrating birds that eat horseshoe crab eggs
- Things we should never flush down the toilet
- Longest un-dammed river east of the Mississippi
- Planted area that helps reduce flooding

DOWN

- Water-saturated areas of land lining the bay where many birds and fish live
- Native American tribe that lived along the Delaware River
- Famous Philadelphiaian that petitioned PA Assembly to stop waste dumping in mid-1700s
- Plants that are local to our area and require less water and care
- _____ on the half shell
- Container that collects water from rooftops
- Oysters and mussels do this to the water in our rivers and Delaware Bay
- This shellfish was once sold from carts like hot dogs
- An ancient fish that can weigh up to 800 pounds

DELAWARE ESTUARY CROSSWORD



- Dog _____ is not a fertilizer and is not good for our streams
- Substance from the Delaware River that is rubbed on every major league baseball
- River where the country's first water treatment plant was established
- In Delaware they are known as beaches, but in New Jersey people visit the _____
- Underwater areas where oysters live
- Large wading bird, called the Great Blue
- Abbreviation for Partnership for the Delaware Estuary
- Month in which Earth Day is celebrated
- Period when there is little rainfall and water restrictions are put in place

Casting a Broader Net



Can we eat blue crabs and oysters from Delaware Bay? **Yes,**

Is the Delaware River getting cleaner? **Yes,**

Will sea level rise affect Delaware? **& Yes!**

The Delaware River and Bay keeps water in our glasses and food on our plates — in more ways than one! Get the full story on how it's doing and what's needed to keep it healthy in the **State of the Delaware Estuary 2012** report. This health check-up for the tidal Delaware River and Bay was compiled by the Partnership for the Delaware Estuary with the help of scientists from around the region. It looks at more than a dozen animals, habitats, and other conditions related to our rivers and bay.

The Delaware Estuary is the tidal part of the Delaware River & Bay, reaching from Trenton, New Jersey, to the mouth of the Bay between Cape Henlopen in Delaware and Cape May in New Jersey — and including all of Delaware's streams that feed into it (like the Christina, Brandywine, St. Jones, and Mispillion.)

Get your free copy of the **State of the Delaware Estuary 2012** report (and answers to the Delaware Estuary Crossword puzzle!) online at www.DelawareEstuary.org or by calling 1-800-445-4935, ext.106.

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DELAWARE ESTUARY CROSSWORD



The Partnership for the Delaware Estuary, a National Estuary Program, is a private, nonprofit organization established in 1994. The Partnership for the Delaware Estuary leads collaborative and creative efforts to protect and enhance the Delaware Estuary and its tributaries for current and future generations.

- 1,929,565 impressions on print ads
- 190 phone calls requesting 560 copies of the report
- 579 web page views
- 365 report downloads

