A Local Government Guide to the Chesapeake Bay

Module Development Update

Paula Jasinski | Green Fin Studio | December 2020

Where Are We?

1. Matrix: Literature search to cross-walk key messages between CBP Outcomes and Local Government Priorities. *Completed June 2020*

2. Module Outline: Identifying the themes and broad objectives for the 7 modules. *Completed August 2020.*

3. Module Development: Modules consist of a presentation (.ppt), a video file of the presentation, and a one-page summary fact sheet. *Underway, final delivery date of March 31, 2021*

List of Modules

1. How Your Watershed Works
2. Foundations of Clean Water and Clean Air
3. Healthy Environment is an Economic Engine
4. Benefits of Increased Tree Canopy
5. Land Conservation and Comprehensive Planning
6. Stormwater Resiliency and Community Infrastructure
7. Developing the Workforce of Tomorrow

Module Purpose Example

As a local leader, your decisions set the course for your community. Your actions determine the health and vitality of your jurisdiction, as well as that of local waterways and the Chesapeake Bay. You can achieve win-win outcomes by prioritizing local economic development, infrastructure resiliency, public health, and education while also protecting your environment.

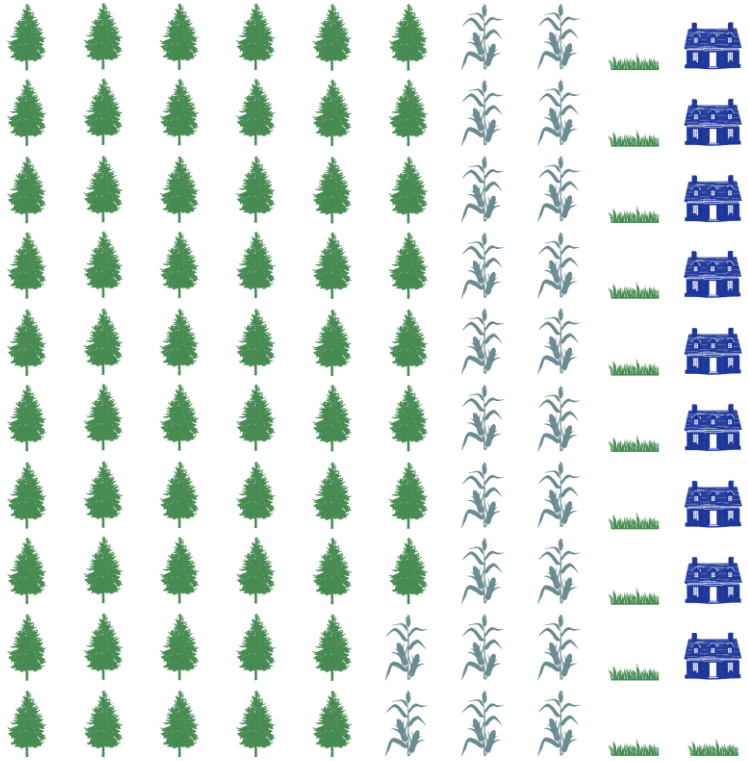
This module is one in a series created by the Chesapeake Bay Program to support decision making by local officials.

Local priorities discussed here include:

- Economic Development
- Public Health & Safety
- Infrastructure Maintenance & Finance
- Education

Chesapeake Bay: By the Numbers

Land use



= **58%** forests

= **22%** farms

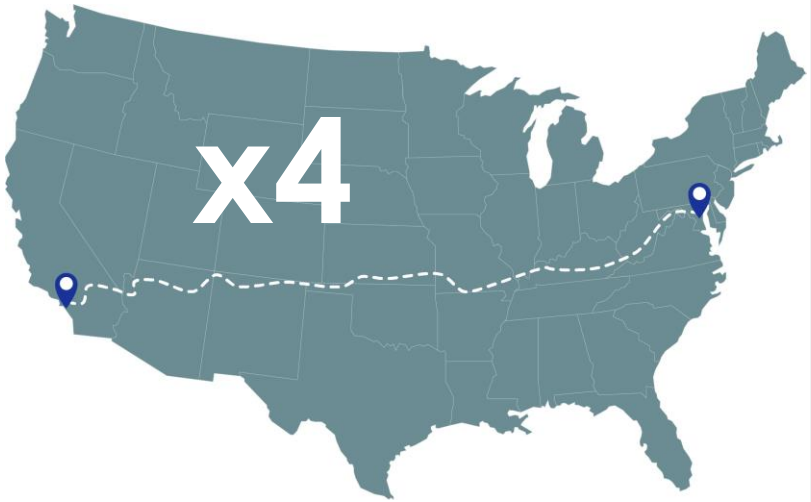
= **11%** other development
(e.g., golf courses, cemeteries, & parks)

= **9%** suburban and urban

11,656 miles

of residential, natural, urban & recreational shoreline

That's more shoreline than the entire West Coast



and more than the equivalent of 4 trips between Annapolis, MD & Los Angeles, CA.

51 billion

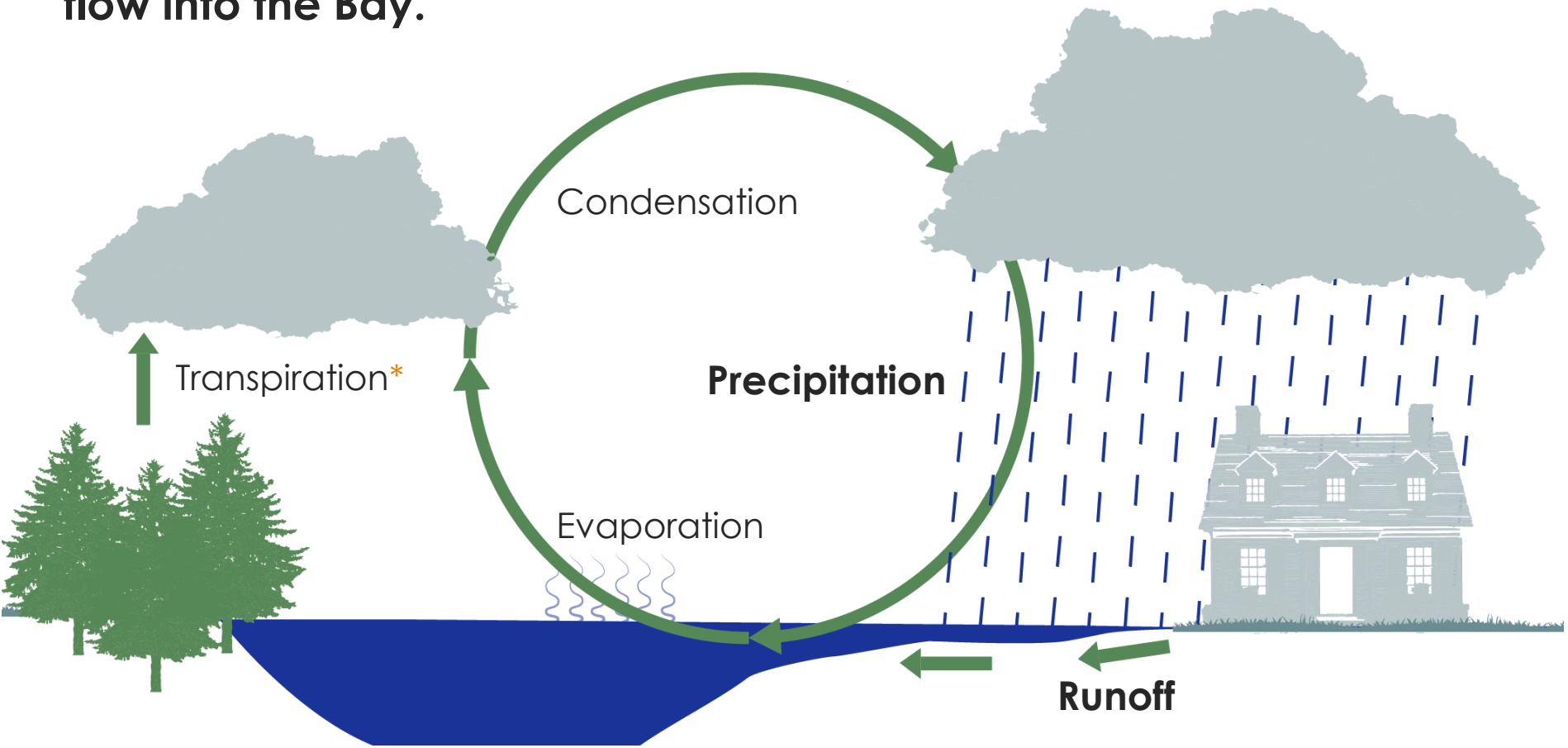
gallons flow into the Bay from its rivers each day

18.2 million

people live in the watershed

The Water Cycle

Clean water is essential for people. How water moves (and how much) is at the heart of community and Bay health. Let's start the water cycle as evaporating water forms clouds. **Precipitation then falls on land and drains into the creeks, streams, and rivers that flow into the Bay.**



Climate Connection

Warmer temperatures mean more intense and frequent storms (**precipitation**).

In combination with sea level rise, flooding becomes more likely and damaging as the climate warms.

How Your Watershed Works | Go with the Flow

*Transpiration is plants releasing water vapor from their leaves

Economic Development: Benefits of Trees

The trees of the Chesapeake Bay watershed provide

$22 billion
in forestry products

$24 billion
in other benefits (like CO_2 removal & flood control)

Case study: Pembroke Woods

Developers in Frederick County, MD saved over **$360k** by leaving trees and wetlands undisturbed in a residential subdivision. The savings primarily came from storm water management benefits and reduced clearing/grubbing costs.

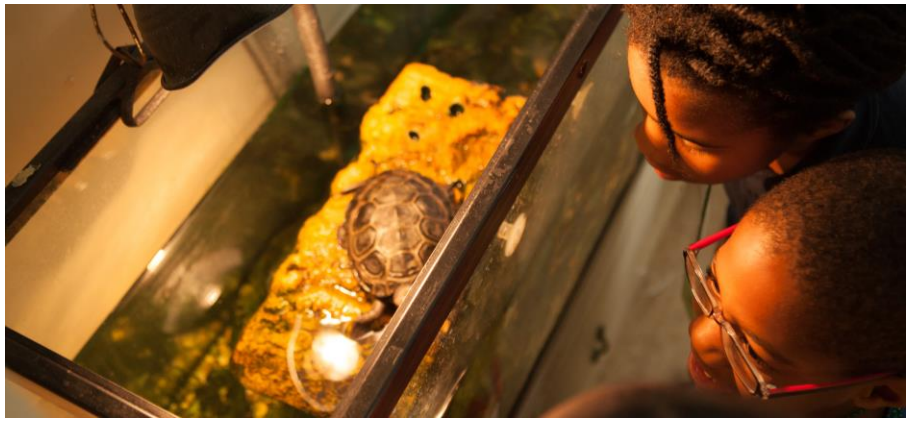
Customers spend **more time** & **11% more money** in well-treed areas

Homes near natural forests earn **$10k** property premiums (more than homes near golf courses or specialty parks)

Well-placed trees can save
- **21-24%** in cooling costs
- up to **25%** in heating costs

Education

96% of parents support environmental education



85% want government agencies to support environmental education

A healthy watershed and restoration projects in your community provide educational and demonstrational opportunities.

Case study: Camp Hill, PA

A new aquaponics lab in Cedar Cliff High School provides hands-on learning for students across the school district to develop skills in science, business and leadership as part of a workforce development strategy.

Education is an indicator of current and future workforce quality and quality of life for employees, making good public education attractive for businesses and workers.

WANT TO INVEST IN YOUR OWN SCHOOLS?

EPA provides grants to support environmental education and sustainable school projects

Learn more at https://www.epa.gov/education/grants

What You Can Do

Slow the flow of precipitation before it carries pollutants into local waterways, including by increasing vegetated area & reducing impervious surfaces in your jurisdiction.

Investments in environmental education and onsite projects within your school systems provide dividends in citizen stewardship, community health, and clean water protections.

Explore the resources provided here to **find technical assistance and external funding** to help your community achieve environmental and local government goals.

Learn from these modules, share the information with others, and take actions to create an even stronger, more resilient community.

To Learn More

- US EPA's How's My Waterway
  - Learn the condition of your local waterways and what challenges they face
- Video Series: Chesapeake Bay Program's Bay 101
  - Learn more about topics ranging from invasive insects to wastewater treatment in bite-sized video clips
- NOAA's Chesapeake Bay Ecosystem Atlas
  - Learn about the history and current dynamics of the system with this free, interactive iBook
- Alliance for the Chesapeake Bay's RiverWise Communities Manual
  - Learn how to increase awareness and motivate people to adopt and maintain environmentally friendly landscapes and stormwater best management practices on their own properties and in their communities
- Stroud Water Research Center's Model My Watershed
  - Learn about how different conservation or development scenarios could modify your local runoff and water quality with an interactive modeling tool

Example One Pager

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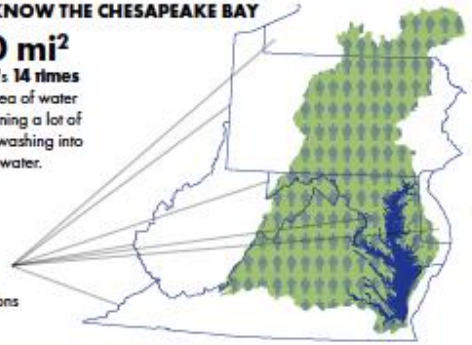
HOW YOUR WATERSHED WORKS

As a local leader, your decisions set the course for your community. Your actions determine the health and vitality of your jurisdiction, as well as that of local waterways and the Chesapeake Bay. You can achieve win-win outcomes by prioritizing local economic development, infrastructure resiliency, public health, and education while also protecting your environment.

GETTING TO KNOW THE CHESAPEAKE BAY

64,000 mi²
watershed — that's **14 times** larger than the area of water it drains into, meaning a lot of on-land pollution washing into a little bit of water.



18+ million
people live in the watershed

11,656 miles
of shoreline. This mileage is equivalent to four cross-country trips between Annapolis, MD and Los Angeles, CA

7
jurisdictions

CLEAN WATER = THRIVING COMMUNITIES

Clean water supports vital fisheries, raises home values, and supports tourism, agriculture, and local businesses.

In the watershed states
$4.2 billion spent while fishing | **47,000** jobs supported
Data from the American Sportfishing Association

Clean water increases property value

Fine dining	✓
Recreational opportunities	✓
Local breweries	✓
Parks and open spaces	✓
Attracts businesses	✓
Property value	$$$

Clean water is a necessity for your community's health. Good water quality means clean drinking water, fish and shellfish that are safe to eat, and safe recreation on, in, and near local waterways. In 2019, **80%** of participants were personally worried about the pollution of rivers, lakes and reservoirs and **79%** were concerned by pollution in drinking water.
Data from GALLUP

Green infrastructure, or systems that harness natural processes and technology inspired by nature, can save money over traditional systems.

Education is ~40% of local budgets. Get more out of your investment by raising environmental stewards & incorporating hands-on, visible schoolyard projects with environmental benefits.

Please visit Chesapeake Bay Program website for more information.

PROTECT YOUR COMMUNITY

WHAT YOU CAN DO

Slow the flow of precipitation before it carries pollutants into local waterways, including by increasing vegetated area & reducing impervious surfaces in your jurisdiction.

Investments in environmental education and onsite projects within your school systems provide dividends in citizen stewardship, community health, and clean water protections.

Explore the resources provided below and on the Chesapeake Bay Program website to find technical assistance and external funding to help your community achieve environmental and local government goals.

Learn from these modules, share the information with others, and take actions to create an even stronger, more resilient community.

KNOWLEDGE IS POWER

US EPA's How's My Waterway
https://mywaterway.epa.gov/
Look up the condition of and threats to your local waterways.

Video Series: Chesapeake Bay Program's Bay 101
https://bit.ly/CBPBay101
Learn more about a variety of topics in bite-sized video clips.

Alliance for the Chesapeake Bay's RiverWise Communities Manual
https://bit.ly/RiverWise
Motivate people to adopt and maintain environmentally friendly practices on their own properties and in the community.

Chesapeake Monitoring Cooperative
https://www.chesapeakemonitoringcoop.org
Play a hands-on role in the monitoring of your local waters and encourage others to get involved.

NOAA's Chesapeake Bay Ecosystem Atlas
https://bit.ly/ChesBayAtlas
For teachers: https://bit.ly/ChesBayAtlasTE
Learn about the history and current dynamics of the system with this free, interactive iBook.

Stroud Water Research Center's Model My Watershed
https://bit.ly/ModelMyWatershed
Learn how different conservation or development scenarios could modify your local runoff and water quality with an interactive modeling tool.

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What's Next

- Expert review process
  - Proposed reviewers listed next slide
- Begins Dec. 7th, proposed reviewer questions:
  - Does this presentation provide information you feel is essential for local officials to understand on this topic?
  - Are there any topics that we are missing?
  - Are the learning objectives appropriate and addressed thoroughly by the materials?
  - Are the graphics clear? Are there graphics that you would like to see that we did not include?
  - Any other thoughts?
- Questions for you:
  - Reactions to what has been presented?
  - Review process and schedule?
  - Must include information on any of the modules? Or must include resources?

Number	Module	1st Review Timeline	LGAC
1	**How Your Watershed Works**	12/7-12-18	Ann Simonetti Bruce Williams
2	**Foundations of Clean Water**	12/7-12-18	Richard Baugh
3	**Bay as an Economic Heavyweight**	1/18-1/29	Penny Gross
4	**Taking Cover: Benefits of Increasing Tree Canopy**	1/18-1/29	Patty Bubar
5	**Land Conservation and Comprehensive Planning**	1/25-2/5	Mark Dobbins
6	**Protecting Community Infrastructure Through Stormwater Resiliency**	1/25-2/5	Andria McClellan
7	**Developing the Workforce of Tomorrow**	1/25-2/5	Don Philips Jasmine Gore