THE WEALTH & WORTH OF DELAWARE WETLANDS
So ... what's the big deal about wetlands?
The big deal is ... that wetlands are ... prominent features of DE’s landscape and watersheds

a key element of DE’s natural heritage and vital to the economy of the region

great resources for teaching and learning

“Wetlands are powerful places in which to learn.”

fun places for exploring!
So ... what are wetlands anyway?

**WETLANDS** are those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal conditions do support, a prevalence of vegetation typically adapted for life in saturated soil conditions."

*Federal Register, EPA, 1982*
For a more operational definition, try this ...

"Wetlands are lands that are periodically flooded or saturated with water near the surface for periods long enough to affect plant growth and soil development ..."

"the minimum wetness ... is saturation within 1 foot of the ground surface for 2 weeks or more of the growing season in most years."

Tiner, 2001
So... now that we know what wetlands are ... what kinds of wetlands do we have in DE?
Some key Delaware wetland types

Tidal marshes

Hardwood swamps

Cypress swamps

*Delmarva Bays* are a special kind of seasonal wetland found on the coastal plain. They appear as small, shallow pools, surrounded by woods. In winter/spring they’re wet. In summer they dry up.
So ... we have all these wetlands, but what good are they anyway?
The answer is ... They are good in lots of ways ...

serve as refuges for recreating & reconnecting with the natural world

provide critical habitat for many of our rarest and threatened species

buffer land areas from the full effects of storms and floods

improve water quality by trapping, filtering and removing pollutants

offer valuable nursery and growing areas for fish and shellfish

"When I would recreate myself, I seek the darkest wood, the thickest and most interminable and most dismal swamp. I enter the swamp as a sacred place - a sanctum sanctorum. This is the strength, the marrow of nature."

Henry David Thoreau
For those of you who like that old bottom line ...

$22,100,000,000 estimated direct value of all U.S. wetlands to fishing/hunting/trapping

$11,700,000,000 value to flood control & shoreline protection

$1,600,000,000 value to filtering and improving water quality

Grand Total: $38 billion

Wetlands are often transitional places between deepwater habitats and the upland areas where we live, play, shop, etc. As such, they help buffer us from the damaging impacts of storms and floods.

Because wetlands are very good at uptaking, trapping and removing pollutants, they help clean water coming off the land before it runs off to our rivers and bays.

Wetlands also hold water in times of drought. This helps recharge our drinking water aquifers.

Wetland plants hold soils together, reducing and preventing erosion and the problems it causes.
Hard lessons from recent “natural disasters”

Wetlands provide the primary line of defense against storms and floods.

Satellite images from the 2004 Asian tsunami showed that coastal areas where mangrove swamps were still present (not lost to human development) suffered far less damage than places where wetlands had been removed.

The same lessons apply to Hurricane Katrina and the Gulf Coast in 2005.

Since 1930, 1900 square miles of Louisiana's coastal wetlands have been lost (about the size of DE). For every 2.7 miles of coastal wetlands present, storm surges reduce by as much as one foot!

Although protection is a higher priority today, >25 square miles of Louisiana’s valuable coastal wetlands are still lost each year (roughly two acres every hour).
Like many states, Delaware has lost its share of wetlands.

We now have about half of what we had before European settlement.
30% of Delaware’s land area today (>350,000 acres) is classified as wetland.

The two bands (coastal yellow and inland green) represent the two predominate wetland types in DE:

- Estuarine (tidal) marshes
- Freshwater forested wetlands

Aside from the northern Piedmont part of the state, wetlands form a substantial share of all DE watersheds. *Can you guess why this is so?*

The Piedmont - being hillier, less low-lying and more developed - offers fewer places where water can collect at or near the ground level.
So ... if wetlands are so valuable, how well are we doing in conserving and protecting them?
Over the last several decades, rate of wetland loss in Delaware has declined dramatically. Although some of these losses are offset by wetland creation and restoration projects, we’re still losing some wetlands every year.

Those losses are mainly impacting the smaller, more inland freshwater wetlands, not the larger, better-protected expanses of coastal marshes.

**COASTAL Wetlands: Protected!**
(averaging <11 acres lost/year)

**FRESHWATER Wetlands: Need help!**
(averaging >200 acres lost/year)
So ... what should we be watching out for?
residential development - the urbanization of the coastal plain

THREATS TO DELAWARE WETLANDS TODAY

habitat loss/fragmentation

loss of protection for small, seasonal, isolated wetlands

Causes of wetland loss on DE's coastal plain (source: Tiner, 2001)

maintaining and restoring the quality of wetlands remaining
So, what can we do to help?
What people like
YOU can DO

to help preserve
DE wetlands

Contact your state or federal representatives in support of legislation that protects our wetlands, watersheds and wildlife resources.


If you have wetlands on your property, schoolgrounds or community, get involved in projects that help restore or enhance those habitats.

Learn all that you can about the wonders and workings of wetlands and teach others to appreciate their many benefits and values.
And if you really want to get hands-on ... we have some resources that can help
WETLAND ACTIVITIES FOR DELAWARE EDUCATORS

innovative set of 8 interactive learning stations designed with H.S. students’ help for gr. 4-8 workshop attendance required for kit loan/use guidebook w/DE-standards-correlated lessons
And if you want to get involved in real on-the-ground stewardship, check out Adopt-a-Wetland.

Adopt-a-Wetland is a community-based environmental stewardship program developed to heighten public awareness of the many functions and intrinsic value of wetlands to humans and the natural world.

AAW engages school groups, youth groups, businesses, organizations and even families, in adopting wetland areas near them, and serving as volunteer stewards of those resources for future generations.
WHAT ADOPT-A-WETLAND OFFERS

- Sign for adopted site
- Video programs
- Workshops & other hands-on trainings
- Adopter’s Guidebook
- Loan kits for wetland monitoring projects
Testing the Waters kit utilizes fast and easy-to-use test strips and tabs to provide a rough assessment of key water quality conditions in the wetland. It provides testing & informational materials useful for assessing: pH, salinity, dissolved oxygen, nitrates, phosphates & turbidity.
Mac-Pac Kit

this compact backpack-based kit features a variety of materials for exploring the fascinating world of aquatic invertebrates; includes dip nets, sorting trays, mini-microscopes, field guides and a specially-created set of critter identification cards
Helping with Herps kit

provides an assortment of materials for familiarizing adopters with the amphibian and reptile components of the wetland fauna.

emphasizes opportunities to get involved at monitoring frog populations, including a frog call CD and protocol from the DE Non-Game Program.
So, a few last closing thoughts ...
"A different world cannot be built by indifferent people."

"What can I do???
I am only one.
But I am one.
I cannot do everything,
But I can do something."

Anonymous
There is hope ... and it is us!
The following individuals/agencies contributed photos used in this slide show:

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