

Stormwater Run-off:

The Pointless Pollutant

Tampa Bay Delegation:

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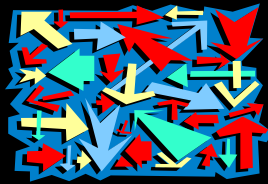


Topics of Discussion

- What is stormwater run-off?
- Why is stormwater run-off a problem?
- Why is it important to manage stormwater?
- What can be done?
- Our commitment.

Stormwater

- **Stormwater** is water that runs off the land into waterways with rainfall. It contains grease, fertilizer, chemical residue, grass clippings, dirt, trash, and many other forms of pollutants.



It has no single source, thus it is the POINT-less pollution. Get the point???

SOURCES OF POLLUTION



Why Is Stormwater a Problem?

- Stormwater carries viruses and bacteria – disease organisms.
- ◆ This causes the state to close waterways to shellfish harvesting and swimming.



Why Is Stormwater a Problem?

- Stormwater deposits 80-95% of the heavy metals that reach Florida waterways.
- ◆ Examples: Lead, zinc, copper, cadmium, and chromium.
- ◆ Heavy metals are toxic to plankton, fish, and other aquatic organisms reducing their ability to reproduce.

Why Is Stormwater a Problem?

- Stormwater pollution can cause declines in fisheries, disrupt habitats and limit water recreation activities.



Why Is Stormwater a Problem?

- Stormwater flushes nutrients into water bodies at a rate comparable to discharge from waste water treatment plants.

- ◆ One significant nutrient:

NITROGEN



Where Nitrogen Comes From:



- Fertilizers
- Auto Emissions
- Sewage Treatment Plants
- Power Plants
- Animal Waste
- All are results of human actions!




Why Is Nitrogen Bad?

- Promotes the growth of algae
- Clouds the water and reduces sunlight
- Robs the water of oxygen

Tampa Bay

Tampa Bay is 400 square miles. But, its watershed is more than 2000 square miles!

In this vast area anything that runs off the land will eventually enter Tampa Bay as ***stormwater!***



A map of the Tampa Bay watershed. The map shows the bay and surrounding land areas. Key locations labeled include Clearwater, St. Petersburg, Tampa, and St. Petersburg. The map also shows the Pinellas County, Hillsborough County, Manatee County, and Pasco County. The map highlights the flow of water from the surrounding land into the bay.

In this vast area anything that runs off the land will eventually enter Tampa Bay as ***stormwater!***

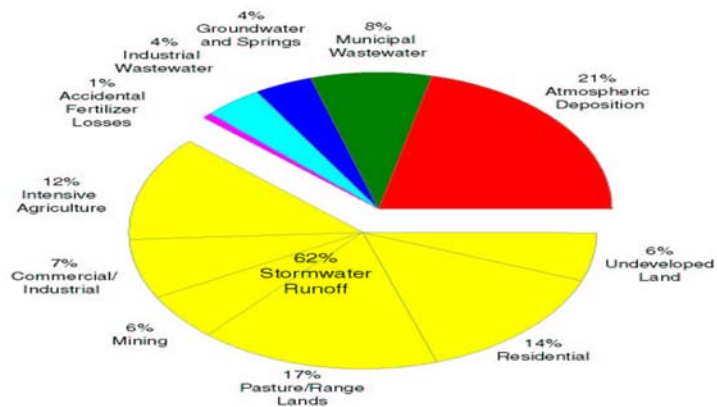


Total Nitrogen Loadings to Tampa Bay (1995-1998 average)

All Sources = 5,130 tons/year

Source	Percentage
Stormwater Runoff	62%
Atmospheric Deposition	21%
Pasture/Range Lands	17%
Residential	14%
Intensive Agriculture	12%
Commercial/Industrial	7%
Mining	6%
Undeveloped Land	6%
Municipal Wastewater	8%
Groundwater and Springs	4%
Industrial Wastewater	4%
Accidental Fertilizer Losses	1%

All Sources = 5,130 tons/year



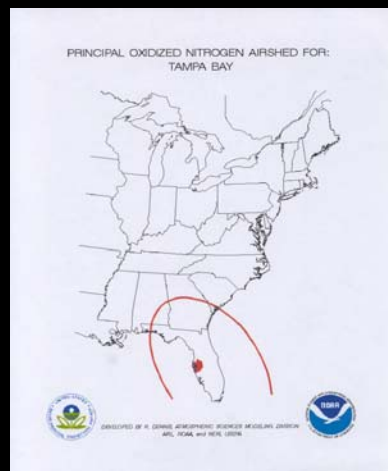
Tampa Bay

- Much of the nitrogen in Tampa Bay comes from the air. It falls on to the bay directly, or washes into the bay with rainfall as ***STORMWATER!***



Tampa Bay

Preliminary results indicate the nitrogen airshed for Tampa Bay includes all of Florida and north almost to Atlanta.



Who Is Responsible?

- You!



- Communities & Neighborhoods

- Government



What This Means:

- Stormwater management is necessary to protect Florida's unique natural ecosystems.
- Stormwater management should mimic (and use) the features and functions of the natural environment.
- These are Best Management Practices (BMPs).



What Can You Do to Reduce Pointless Pollution?



- Use water and fertilizer sparingly
- Landscape your yard with native plants
- Clean up after your pets
- Ride a bike, take a bus, or carpool
- Use smaller fuel efficient cars
- Turn the thermostat up in the summer, down in the winter

What Can Communities Do?



- Preserve natural drainage systems
- Provide mass transit systems
- Create new green spaces and waterfront landscape as a buffer zone
- Control soil erosion during construction
- Revise development plans to include: detention ponds, berms & swales, retention basins, constructed wetlands

What Can Government Do?



- Revise, Strengthen, and Redirect Pollution Laws to Focus on Non-point Source Pollution on a Watershed Basis.
- Strengthen Control of Toxic Pollutants.
- Create a Network of Nations to Address Non-Point Pollution.

Personal Commitment

- Storm drain marking campaign
- Public Service Announcements on morning shows at area schools
- Elementary School Presentations
 - ◆ Puppet show
 - ◆ Play



