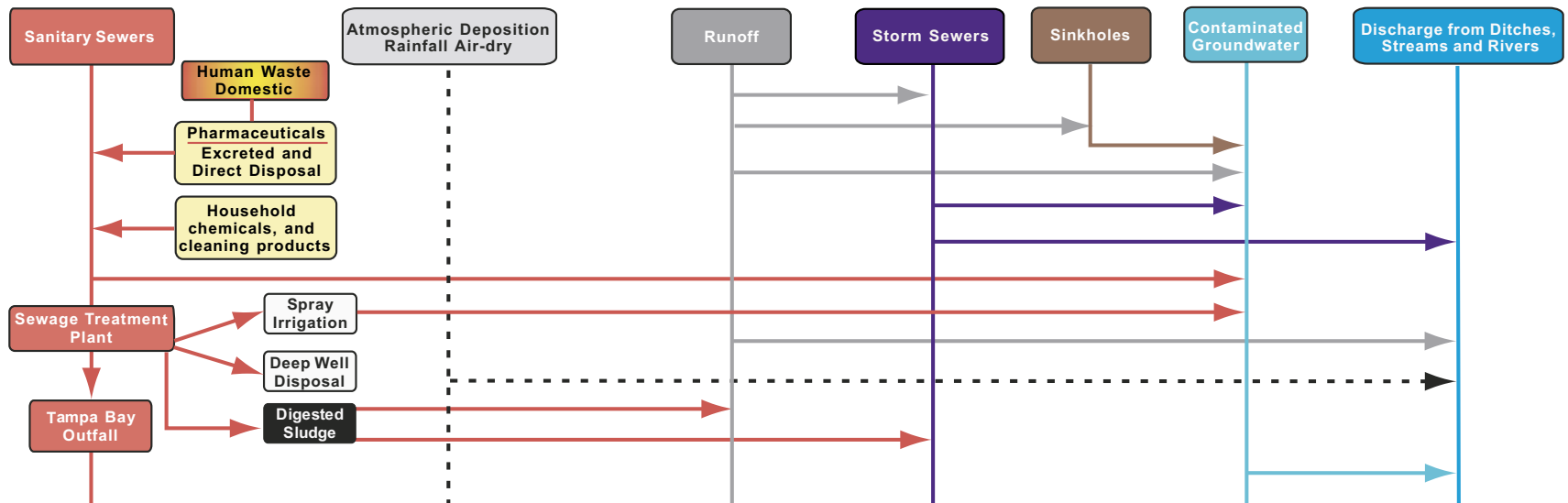


CHEMICAL CONTAMINANTS TO TAMPA BAY

Anthropogenic Contaminant Pathways



Examples of Potential Sources and Contaminants

- | | | | | | |
|---|---|---|--|---|--|
| <p>1. Human waste
Nitrogen
Phosphorus
BOD₅
Pharmaceutical Products (PP)
Analgesics
Antibiotics
Beta-Blockers
Cardiac Drugs
Hormones
Lipid regulators
Retinoids
Trace metals</p> <p>2. Personal Care Products (PCP)
Bath additives
Disinfectants/antiseptics
Fragrances (musk)
Nutraceuticals
Preservatives</p> <p>3. Household chemicals
Detergents
Disinfectants</p> | <p>1. Agriculture
Insecticides</p> <p>2. Aircraft
Fuels
PAH: Polycyclic aromatic hydrocarbons (carcinogenic and teratogenic)</p> <p>3. Vehicles
Fuels
PAH
Trace metals</p> <p>4. Boatyards/ship building
Solids (Paint chips and blasting grit with metals, (such as copper, chromium, iron))
Volatile paint additives</p> <p>5. Fuel storage tanks
Home heating
Transportation</p> <p>6. Incinerators
(Waste disposal)
Dioxins
Hydrogen chloride
Lead
Mercury</p> <p>7. Pollutant storage sites
Solvents
Petroleum hydrocarbons</p> <p>8. Power plants
Sulfur oxides
Nitrogen oxides</p> | <p>1. Aquaculture
Antibiotics</p> <p>2. Agriculture
Fertilizers
Herbicides
Insecticides</p> <p>3. Horticulture
Fertilizers
Insecticides</p> <p>4. Livestock
Insecticides</p> <p>5. Industrial and small businesses
(Will vary with types)</p> <p>6. Poultry
Pharmaceuticals</p> <p>7. Digested sludge</p> <p>8. Private Residences
Animal wastes
Fertilizers
Insecticides</p> <p>9. Right of way maintenance
Herbicides</p> <p>10. Fuel storage tanks
Home heating
Transportation</p> | <p>1. Industrial and small businesses
(Will vary with types)</p> <p>2. Private Residences
Animal wastes
Fertilizers
Herbicides
Insecticides</p> <p>3. Reuse water irrigation
(Parks and residential areas)
PCP, PP</p> <p>4. Parking areas
(Shopping centers)
Fuels
PAH</p> <p>5. Sanitary sewers overflow</p> <p>6. Streets and driveways
PAH</p> | <p>1. Agriculture
(See Runoff)</p> <p>2. Livestock
(See Runoff)</p> <p>3. Industrial and small businesses
(Will vary with types)</p> <p>4. Fuel storage tanks
Home heating
Transportation</p> <p>5. Landfills
Human waste (disposable diapers)
Medical waste?
PCP, PP
Sludge</p> <p>6. Pollutant storage tanks
Commercial/residential heating fuels
Solvents
Petroleum hydrocarbons
Pharmaceuticals</p> <p>7. Potential upward migration
Metals
Nitrates
PP, PCP
Trihalomethanes</p> <p>8. Septic tanks
(see sanitary sewers)</p> <p>9. Sinkholes
Illegal trash disposal
(see Landfills above)</p> | <p>1. Contaminants from multiple sources
Animal wastes
Dioxins
Fertilizers
Fuels
Heating fuels
Herbicides
Human waste
Insecticides
Lead
Mercury
Nitrates
Nitrogen Oxides
PAH
Personal Care Products
Petroleum hydrocarbons
Pharmaceuticals
Phosphates
Solid waste
Solvents
Sulfur Oxides
Trihalomethanes
Volatile paint additives</p> |
|---|---|---|--|---|--|

Existing Water Quality Monitoring Programs

<p>Yes</p> <p>Domestic Wastewater Facilities* Hillsborough County (HC) HC Public Utilities Department Dale Mabry¹ Rice Creek¹ Falkenburg Road¹ River Oaks¹ Northwest Regional¹ South County¹ Pebble Creek¹ Valrico¹ City of Tampa¹</p> <p>Manatee County City of Bradenton¹ City of Palmetto¹</p> <p>Pinellas County City of Clearwater¹ City of Largo¹ City of Oldsmar¹ City of St. Petersburg (four DWS)²</p> <p>Polk County City of Lakeland¹ City of Mulberry¹ Meadowlands¹</p> <p>Agencies Presently Involved in Monitoring and Studying the Contaminants in the Tampa Bay Watershed System City of Tampa Eckerd College, Department of Marine Science Florida Department of Environmental Protection Florida Marine Research Institute Hillsborough County Environmental Protection Commission Manatee County Environmental Management Department Pinellas County Environmental Management Department Southwest Florida Water Management District Tampa Bay Estuary Program U. S. Geological Survey University of South Florida, College of Marine Science</p>	<p>Yes</p> <p>HCEPC (Air Pollution Program) TBEP PCEMD</p>	<p>No*</p> <p>*Except for number 5 above which requires monitoring under NPDES and FDEP permits</p>	<p>Yes</p> <p>NPDES Permits FDEP Permits</p>	<p>Yes</p> <p>SWFWMD</p>	<p>Yes</p> <p>Hillsborough County Alafia River^{3,4} Delaney Creek^{3,4} Hillsborough River^{3,4} Little Manatee River^{3,4} Rocky Creek^{3,4} Sweetwater Creek^{3,4} Palm River^{3,4} Double Branch Creek^{3,4}</p> <p>Manatee County Braden River^{3,4} Manatee River^{3,4}</p> <p>Pinellas County Allen Creek^{3,4} Brooker Creek^{3,4} Cross Bayou Canal (north half)^{3,4}</p>
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EXPLANATION

DWS: Domestic Wastewater Facilities
FDEP: Florida Department of Environmental Protection
HC: Hillsborough County
HCEPC: HC Environmental Protection Commission
NPDES: National Pollution Discharge Elimination System
PCEMD: Pinellas County Environmental Management Department
SWFWMD: Southwest Florida Water Management District
TBEP: Tampa Bay Estuary Program

FOOTNOTES:

* Advanced waste treatment is only required of those plants that discharge directly or indirectly into Tampa Bay

¹ Advanced Waste Treatment
² Secondary Waste Treatment
³ Discharge
⁴ Water Quality

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