

Summary of Current Conditions in the Rouge River Watershed

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Water Quality: Nutrients (Phosphorous, Nitrogen)

Current Status

- High phosphorous (P) concentrations are responsible for algae blooms and excessive aquatic plant growths (eutrophication) in local lakes and reservoirs
- Most of the P enters the river during rain storms
- To eliminate eutrophication will require reducing P inputs by about 50 %

Sources of the Problem

- Many – inappropriate fertilizer use; human and animal wastes; natural release from soil and decaying vegetation

Solutions

- Use slow-release fertilizer (N)
- Use low- or no-phosphorous fertilizer
- Control soil erosion
- Eliminate inputs of sewage and animal wastes

Water Quality: Dissolved Oxygen

Current Status

- Dissolved oxygen concentrations are periodically low in certain locations, especially in the lower portion of the Main Branch during the warm months

Sources of the Problem

- Several factors lower dissolved oxygen concentrations – sewage and animal wastes in the stream; decomposition of excessive algae and aquatic plant growths in lakes and reservoirs; higher water temperatures due to loss of streamside vegetation

Solutions

- Reduce inputs of sewage and animal wastes
- Find and eliminate illicit connections
- Protect or establish buffer strips along streambanks and lakes, to keep water temperatures lower

Water Quality: Bacteria

Current Status

- Bacteria counts (*E. coli*) during dry weather are often low enough for safe “partial body” contact (fishing, wading, canoeing) but not for “full body” contact (swimming)
- Bacteria counts during wet weather are too high for even partial body contact

Sources of the Problem

- Many - untreated sewage from combined sewer overflows (CSOs) and sanitary sewer overflows (SSOs) or failing septic systems; illegal connections to storm drains (illicit connections); pet and goose wastes

Solutions

- Intercept and treat CSOs and SSOs
- Find and eliminate illicit connections
- Control goose populations
- Inspect and repair failing septic systems
- Encourage pet owners to pick up after their pets

Water Quantity (Flow)

Status

- Stream flows during and after rain storms are too high by a factor of 2 to 4 in most of the watershed

Sources of the Problem

- Increasing development = increasing impervious surface area (parking lots, streets, roofs, sidewalks, etc.)
- Increasing impervious surface area = less infiltration of rain water or snowmelt to the ground water, and more and faster runoff directly to the river (higher peak flows)
- More and faster runoff = increased streambank erosion, destruction of fish habitat by erosion or burial, disconnection of the river channel from nearby wetlands and floodplain

Solutions

- Preserve existing wetlands regardless of size or proximity to river, and floodplains
- Intercept storm water runoff in detention basins, swales, constructed wetlands, etc.
- Disconnect downspouts, install rain barrels

Fish, Wildlife, and Other Organisms

Status

- Approximately 135 species of birds found in area
- Approximately 50 species of fish in the river; about 20% less than historically present. River is dominated by 'tolerant' fish species – carp, suckers, green sunfish, chubs – although 'sensitive' species like sculpin and redbreast sunfish, and game fish species like pike, largemouth bass, and sunfish still occur
- Small aquatic animals – benthic macroinvertebrates – are uncommon in many parts of the river, and those found are often 'tolerant' species like midge larvae and worms
- Several threatened and endangered plant and animal species found in area
- Distribution of 'sensitive' fish and wildlife species is currently limited and may be declining, due to habitat destruction and related problems

Sources of the Problem

- Many – destruction or degradation of habitat, competition from aggressive exotic species, poor water quality, excessive peak flows

Solutions

- Preserve existing habitats; wetlands, woodlands, floodplains, buffer strips; regardless of size or location in the watershed, through public land use ordinances and private actions
- Restore habitat, from county and city parks to backyard and schoolyard habitat plantings and butterfly gardens
- Minimize soil erosion from construction sites, through enforcement of erosion control measures
- Intercept storm water runoff, to lower peak flows
- Modify or remove dams or other fish migration barriers
- Use native plant species in landscaping
- Eliminate invasive exotic plant species where ever possible
- Participate in volunteer monitoring – frog and toad, benthic macroinvertebrates, water quality, 'Adopt-a-Stream', River Day trash pickups

Toxic Chemicals and Fish Consumption Advisories

Status

- Water has very low concentrations of toxic chemicals – metals, polychlorinated biphenyls (PCBs), petroleum products
- Toxic chemicals mostly restricted to sediments in the lower-most section of the Main Branch, downstream of the concrete channel
- Fish consumption advisories currently in effect for much of the river (PCBs) and in the reservoirs and lakes (mercury)

Sources of the Problem

- Historic discharges of PCBs, especially to Newburgh Lake
- Atmospheric deposition of mercury
- Currently contaminated sediments, in the lower portion of the Main Branch

Solutions

- PCB-contaminated sediments in Newburgh Lake have been removed
- Eliminate illicit connections to storm sewers
- Encourage collection of hazardous household wastes
- Separate plastics and batteries from garbage
- Institute collection of mercury-containing wastes from dentists and hospitals