



CRWC

CLINTON RIVER WATERSHED COUNCIL



A CITIZEN'S GUIDE TO LAND USE AND WATER QUALITY

When rain falls and snow melts, the runoff produced picks up a variety of contaminants such as oil, metals, salts, pet waste, fertilizer, and grass clippings as it flows over roofs, roadways, sidewalks and lawns.

Stormwater runoff ultimately flows into storm drains.

Remember: storm drains lead directly to our local rivers and streams.

Stormwater runoff connects land use and water quality directly. Different land uses contribute different materials to stormwater runoff. These materials change the environment of the water body they enter.

RESIDENTIAL LAND USE



In suburban areas, many household items add nutrients to the water, such as fertilizer used on lawns, grass clippings, pet waste, and detergents. This causes an overgrowth of plant life and potentially hazardous algal blooms. When household hazardous wastes (cleaning products, paints, vehicle fluids) are improperly disposed of, or improperly stored, they can end up in storm drains and add toxic chemicals to the water.

URBAN LAND USE



Cities have lots of hard surfaces like roads and parking lots. Roads and parking lots don't allow water to soak into the ground. Instead, it moves quickly to storm drains which causes flooding. These surfaces also hold heat, warming stormwater as it passes over, causing large amounts of warm water entering waterways quickly. This can harm cool, or cold-water species such as trout. Runoff also contains harmful pollutants, like oil from cars, road salt, and litter.

AGRICULTURAL LAND USE



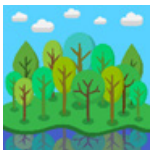
Animal waste and fertilizer from crops contain nutrients and can cause an overgrowth of plant life and algal blooms, which leads to low oxygen levels in the water. Some algal blooms* are also toxic to humans and ecosystems. Pest and weed killers used on farms can harm life in the water.

PARKS AND GOLF COURSES



Turf grass has shallow roots and are unable to soak up heavy rains, which can lead to flooding. These areas are mowed often and sometimes fertilized. Grass clippings and fertilizer contain nitrogen and phosphorous, which are nutrients that cause plants to grow. This leads to plant overgrowth, algal blooms, and low oxygen levels.

NATURE AREAS LIKE WETLANDS, PRESERVED FORESTS AND PRAIRIES



These green spaces are full of plants, trees, shrubs, and natural surfaces. They collect stormwater and filter pollutants. This helps prevent flooding and improves water quality. Natural areas help to keep our waterways healthy and clean, and reduce the amount of stormwater runoff.

**Harmful algal blooms as defined by the Environmental Protection Agency (EPA) are "a major environmental problem in all 50 states. Red tides, blue-green algae, and cyanobacteria are examples of harmful algal blooms that can have severe impacts on human health, aquatic ecosystems, and the economy".*

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