

- Human health

Specifically, wastewater treatment allows for the following:

1. Mitigates deterioration of the receiving waters' ecosystem

In the receiving waters, inadequately treated wastewater discharge depletes dissolved oxygen levels due to:

- Wastewater containing nitrogen and phosphorus based pollutants (plant nutrients) entering a water body such as a lake or river will promote plant and algae growth which will seriously impact its normal aquatic life including fish through a process similar to the following:
 - Nutrient promote algae bloom
 - Algae bloom prevent sunlight to the native plant species below the water's surface causing native plants to die
 - The organic material from the dead plants and algae promote growth of aerobic bacteria which will consume the dissolved oxygen in the water resulting in oxygen depletion.
 - The natural aquatic life including fish, frogs, and turtles will not be able to survive under oxygen depleted conditions and will die or leave that zone.
- Other organic material in present in wastewater, will similarly promote growth of aerobic bacteria intensifying the eutrophication of the receiving waters.

Thus, treating wastewater prevents **eutrophication** which is the process by which a body of water becomes enriched in dissolved nutrients (such as phosphates) that stimulate the growth of aquatic plant life usually resulting in the depletion of dissolved oxygen resulting in a progressively destroying normal aquatic life.

2. Removal of other harmful pollutants

Organic and inorganic pollutants including metals, such as mercury, lead, cadmium, chromium and arsenic can have acute and chronic toxic effects on aquatic species and wildlife including migratory birds, are removed during the wastewater treatment process.

3. Removal of pathogens

Wastewater treatment removes parasites and disease-causing pathogens including bacteria and viruses which allow for:

- People to continue enjoying recreational activities in the receiving bodies of waters such as lakes and rivers
- Preventing the contamination of fish and other consumable products obtained from the waters
- Allow the water body to remain as the source of potable water

4. Reclaim water for recycle or reuse

Besides protecting human health and the environment, wastewater treatment paves way for establishing the reuse or recycle of treated wastewater. This benefit is particularly important for densely populated areas with limited access to fresh water supplies.