

# Brief Overview of the Washington State Surface Water Quality Standards and the Waste Discharge Permitting Process

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In 1972, what is known today as the Clean Water Act was passed by Congress.

# What does the Clean Water Act do?

- Eliminate the discharge of pollutants into navigable waters by 1985
- Establish federal and state Water Quality Standards
- Establish the National Pollution Discharge Elimination System (NPDES) permitting system
- Establish the process for determining what type of treatment would be needed for various types of industries

The U.S. Environmental Protection Agency has delegated the Washington State Department of Ecology the regulatory authority to make sure the Clean Water Act is being followed in Washington State

# Types of Water Uses Protected by the Clean Water Act

1. Water supply; domestic, industrial, agricultural
2. Stock watering
3. Fish and shellfish: migration, rearing, spawning, and harvesting for salmonids, other fish, clam, oyster, and mussels, crustaceans, and other shellfish
4. Wildlife habitat
5. Recreation: primary contact recreation, sport fishing, boating, and aesthetic enjoyment
6. Commerce and navigation

# Types of pollutants regulated in the State Surface Water Quality Standards

- Fecal coliform
- Dissolved oxygen
- Total dissolved gas
- Temperature
- pH
- Turbidity
- Toxic, radioactive, or deleterious pollutants
- aesthetics

# Fecal coliform (# colony forming units/100 mL)

- Measures the amount of bacteria found in the water
- Fecal coliform is abundant in the digestive tracts of warm-blooded animals such as humans, dogs, beavers, birds, etc.

# Dissolved oxygen (mg/L)

- Measures the amount of oxygen (gas) in the water
- If there isn't enough oxygen in the water, most aquatic life will die
- This is a big issue right now in Hood Canal and Willapa Bay

# Total dissolved gas (% of saturation)

- Measures the amount of gases saturated in water
- Too much gas in water is lethal to fish
- This is mostly a concern where there are dams releasing/spilling water to a receiving water

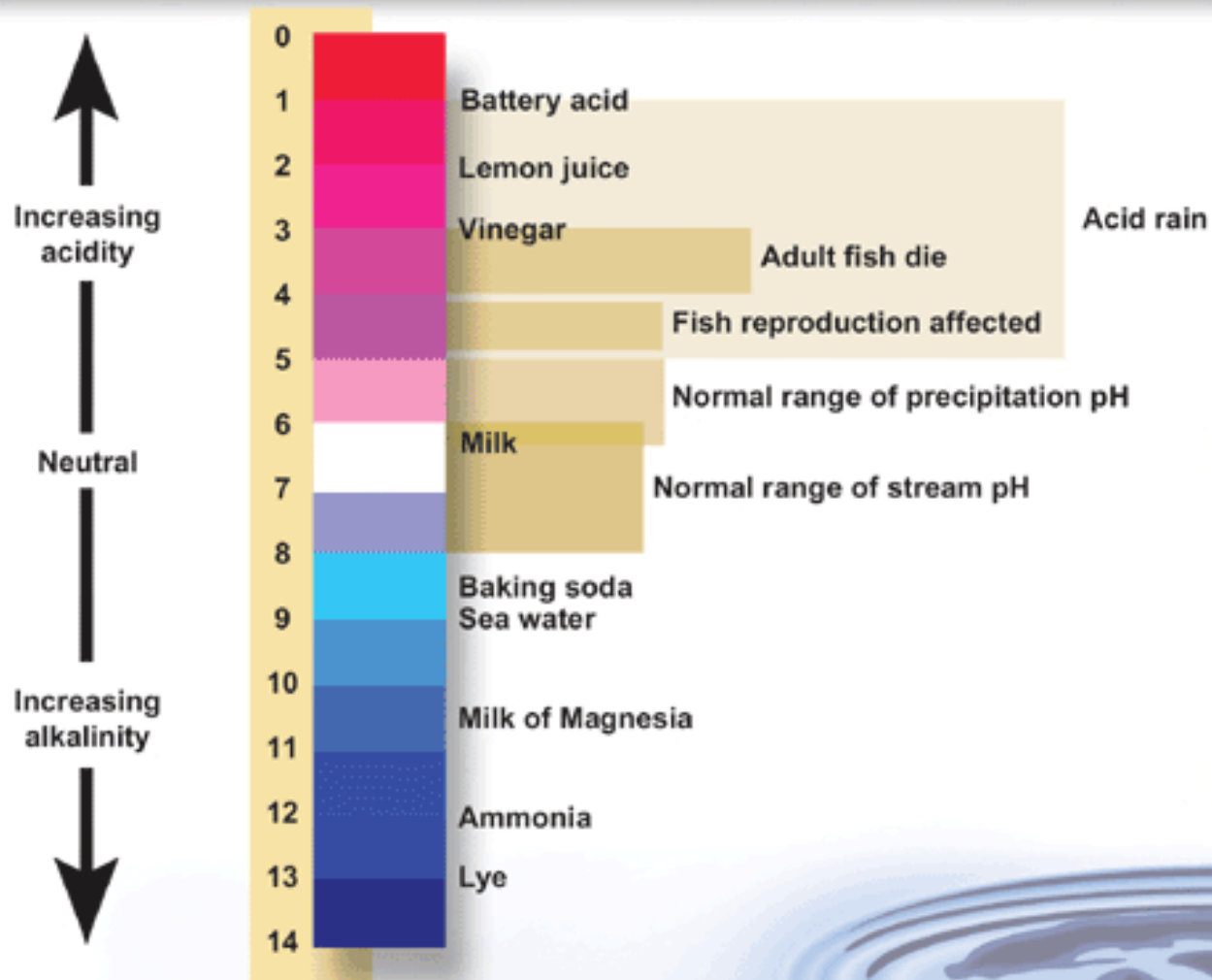
# Temperature (degrees Celsius)

- Measures the amount of heat in water
- This is important because if the water gets too warm, it has been found that salmonids will not develop correctly and also inhibits their ability to migrate

# pH (s.u.)

- Measures the alkalinity or acidity of water
- This is important because if a water is too acidic or alkaline, aquatic life will die
- High pH is alkaline/low pH is acidic

# The pH scale



# Turbidity (NTU)

- Measures the cloudiness of water
- Turbidity is often an indicator of how many solids are in the water
- If there are too many fine particles which settle onto the river bottom, salmon eggs will suffocate and the embryos will die

# Toxic, radioactive, or deleterious pollutants

- Heavy metals
- PCBs
- PAHs
- Pesticides/Herbicides
- Other organic compounds
- Radioactive waste
- Ammonia, chlorine
- Etc.

# Aesthetics

- No objectionable odor, visual appearances, taste, or touch

# Methods Used to Protect Water Quality

- Through the issuance of NPDES and State Waste Discharge Permits
- Through the issuance of 404 permits (for dredging/filling of wetlands)
- Through Total Maximum Daily Load (TMDL) Wasteload Allocations
- Through local government and improvement districts codes and bylaws
- By concerned citizens—please report a concern or an illegal activity to the Department of Ecology at (360) 407-6300

# Types of Waste Discharge Permits

- NPDES Permits – regulate any pollutant discharge to surface waters
- State Waste Discharge Permits – regulate any pollutant discharge to a publicly owned treatment works (POTW) or to ground
- General Permits – can be issued to regulate similar types of discharges from similar facilities and/or regional areas
- Individual Permits – are issued to facilities where a General Permit does not exist to provide coverage; and/or where there are unique discharge characteristics/environmental concerns

# Types of permits issued by the Department of Ecology

- General Permits
  - Aquatic Pesticide General NPDES Permit
  - Boatyard General NPDES Permit
  - Concentrated Animal Feeding Operation (CAFO) General NPDES Permit
  - Dairy General NPDES Permit
  - Fresh Fruit Packing General NPDES Permit
  - Sand and Gravel General NPDES Permit
  - Industrial Stormwater General NPDES Permit
  - Municipal Stormwater Phase I NPDES Permits
  - Municipal Stormwater Phase II NPDES Permits
  - Aquaculture General NPDES Permits
  - Water Treatment Plants General Discharge Permits
  - Construction Stormwater General NPDES Permits
- Individual Permits
  - Industrial NPDES and State Waste Discharge Permits
  - Municipal NPDES and State Waste Discharge Permits

# Other permit requirements that must be met in Washington State

- Meet Groundwater Quality Standards
- Meet Sediment Quality Standards
- Meet Solid Waste Management Regulations
- Meet Spill Protection Regulations
- Meet Whole Effluent Toxicity Criteria

# Overview of Permit Development Process

1. Draft permit is developed
2. Peer Review Process — permit is reviewed internally by Agency staff
3. Entity Review Process — permit is reviewed by permittee to correct for any factual errors (individual permits only)
4. Public Review Process — permit is reviewed by the public for 30-days
5. Public Comments are addressed and permit is revised
6. Permit is issued
7. Permit may be appealed within 30-days of issuance