

PHYSICAL CONDITIONS



GREEN
(Global Rivers Environmental Education Network)

MAKING WATER QUALITY CONNECTIONS

PHYSICAL CONDITIONS OBSERVED	POSSIBLE ASSOCIATED PROBLEMS	POSSIBLE ASSOCIATED CAUSES
WATER APPEARANCE		
Green, Green-Blue, Brown or Red	Indicates the growth of algae	High levels of nutrient pollution, originating from organic wastes, fertilizers, or untreated sewage
Muddy, Cloudy	Indicates elevated levels of suspended sediments, giving the water a muddy or cloudy appearance	Erosion is the most common source of high levels of suspended solids in water Land uses that cause soil erosion include mining, farming, construction, and unpaved roads
Dark Reds, Purple, Blues, Blacks	May indicate organic dye pollution	Originating from clothing manufacturers or textile mills
Orange-Red	May indicate the presence of copper	Copper can be both a pollutant and naturally occurring Unnatural occurrences can result by acid mine drainage or oil-well runoff
Blue	May indicate the presence of copper, which can cause skin irritations and death of fish	Copper is sometimes used as a pesticide, in which case an acrid (sharp) odor might also be present
Foam	May indicate presence of soap or detergent	Excessive foam is usually the result of soap and detergent pollution Moderate levels of foam can also result from decaying algae, which indicates nutrient pollution
Multi-Colored (oily sheen)	Indicates the presence of oil or gasoline floating on the surface of the water. Oil and gasoline can cause poisoning, internal burning of the gastrointestinal tract and stomach ulcers	Oil and gasoline pollution can be caused by oil drilling and mining practices, leaks in fuel lines and underground storage tanks, automotive junk yards, nearby service stations, wastes from ships, or runoff from impervious roads and parking lot surfaces
No Unusual Color	Not necessarily an indicator of clean water	Many pesticides, herbicides, chemicals, and other pollutants are colorless or produce no visible signs of contamination
ODORS		
Sulfur (rotten eggs)	May indicate the presence of organic pollution	Possible domestic or industrial wastes
Musty	May indicate presence of organic pollution	Possible sewage discharge, livestock waste, decaying algae, or decomposition of other organic pollution
Harsh	May indicate presence of chemicals	Possible industrial or pesticide pollution
Chlorine	May indicate the presence of over-chlorinated effluent	Sewage treatment plant or a chemical industry
No Unusual Smell	Not necessarily an indicator of clean water	Many pesticides and herbicides from agricultural and forestry runoff are colorless and odorless, as are many chemicals discharged by industry
EROSION	Sediment and suspended solids	Land uses that cause soil erosion include mining, farming, construction, unpaved roads, and deforestation
DUMPING	Decomposition of organic material or humanmade products, presence of chemical or metal pollutants in water, presence of oil or gasoline in water	Construction, urbanization
DISCHARGE PIPES	Organic wastes, detergents, chemical/industrial runoff, sewage, temperature increase in body of water	Improper industrial waste treatment, improper sewage or gray water treatment

