

# The Why's, What's, and How's of Water Clarity: Upper Western Shore

## Why is Water Clarity Important?

Bay grasses, like terrestrial vegetation, need light to grow. More light due to increased water clarity aids underwater grass growth. Bay grasses are important habitats for the crabs, fish, and waterfowl we cherish in the Bay. Improved clarity may also indicate less pollution in the water, which is a major cause of low dissolved oxygen levels and "dead zones."

## What Affects Water Clarity?

- Sediments in runoff from farms, cities, or neighborhoods.
- Soil from shoreline erosion.
- Underwater sediments stirred up from the bottom due to wind, tidal currents, or dredging.
- Algal blooms which block light.

## How is Water Clarity Measured?

Water clarity can be measured in a number of ways:



Secchi Disc

**Secchi Depth:** How far through the water column you see a black and white disc. Results are somewhat comparable to those you'll see at the wade-in.

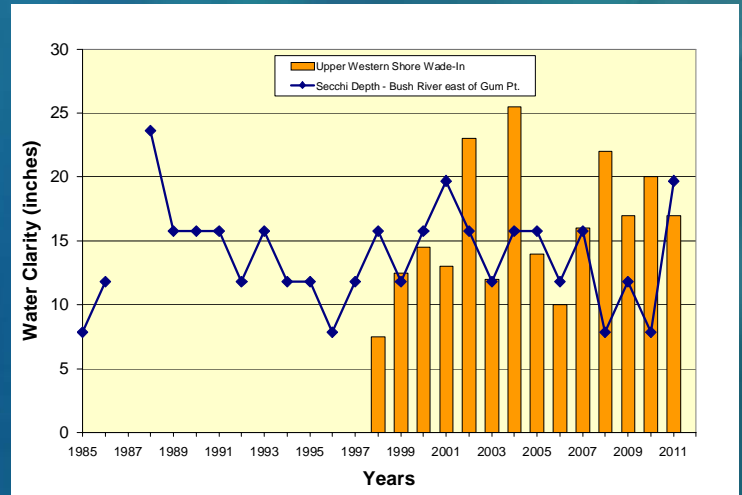
**Turbidity**, another name for water clarity, can also be measured using a transmissometer, which records turbidity values in Nephelometric Turbidity Units (NTUs). Turbidity values over a threshold of 15 NTUs can slow the growth of bay grasses.



Water Quality Sensors

**Photosynthetically Active Radiation**, or PAR, is a measure of how deep into the water column that light travels and is measured with special sensors called LICOR.

## Wade-in Results vs. Monthly Secchi Depth in Upper Western Shore



## Bay Grasses Coverage in the Bush River and Maryland-Wide

