PhotonTec™

Smart Sensing for Safer and Cleaner Tomorrow

A Missing Monitoring Layer at the Water Surface

Why effective water quality monitoring requires more than submerged probes and sampling alone

Surface events often precede subsurface detection and lab confirmation

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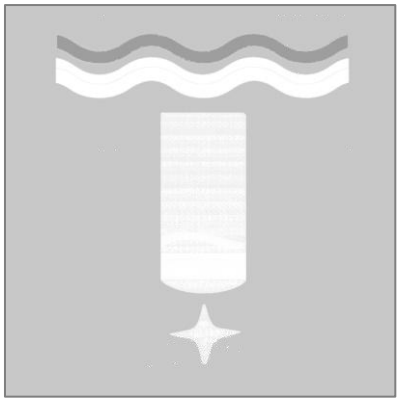
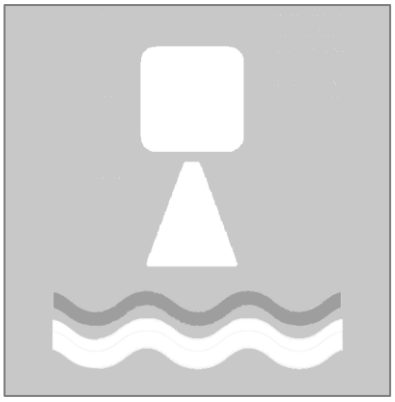
Grab Sampling & Lab Analysis

- Confirmation & compliance
- Episodic, delayed



In-Water Sensors (Sondes)

- Continuous subsurface trends
- Miss surface events



Surface Non-Contact Monitoring

- Early detection at the surface
- Continuous, real-time

Each method serves a different role. No single approach provides complete visibility across all contamination pathways.

Many critical water quality threats — including hydrocarbon sheens, early-stage harmful algal blooms, and organic loading — emerge or concentrate at the water surface before mixing into the water column. This **surface-first** behavior means certain contamination events can be detected earlier at the surface, before they appear in submerged measurements or are confirmed through laboratory analysis. Because this surface layer is often not directly monitored, these early signals may go unnoticed at the time they first occur.

Because most traditional monitoring approaches are optimized for in-water conditions or post-sampling verification, detection often occurs only after dilution, dispersion, or operational impact. Adding a surface-focused monitoring layer improves early awareness and supports more timely operational response, particularly at intakes and other locations where in-water sensing or sampling may be constrained.

PhotonTec™ provides non-contact, surface-first water monitoring sensors that add continuous, real-time visibility where traditional monitoring methods have inherent limitations.