

Appendix H – Massachusetts - Small MS4

Analytical Methods for Impaired Waters Monitoring – Part 3.0 – Parameters & Methods

Pollutant Causing Impairment ¹	Monitoring Parameter ²	EPA or Approved Method Nos. ³
Ammonia (Unionized)	Ammonia/Nitrogen	350.1
Cause Unknown, or Bioassessments	NMR	
Chlorine	NMR	
Exotic species*, or Eurasian Water Milfoil* NonNative Plants*	NMR	
Flow alterations*, or Low flow alterations* Other flow regime alterations*	NMR	
Mercury in Fish Tissue	NMR	
Metals or Other*	Total: Aluminum Arsenic Cadmium Chromium Copper Iron Lead Nickel Zinc	200.7; 200.8; 200.9
Noxious aquatic plants, or Excess Algal Growth Aquatic Plants (Macrophytes) Chlorophylla	NMR	
Nutrients ⁴ , or Phosphorus (Total) Nitrogen (Total) Nutrient/Eutrophication Biological Indicators	Phosphorus, Total Nitrogen, Total	365.1; 365.2; 365.3; SM 4500PE 351.1/351.2 + 353.2; USGS I465003
Objectionable Deposits*, or Debris/Floatables/Trash* Foam/Flocs/Scum/Oil Slicks* Bottom Deposits*	NMR	
Oil and Grease	NMR	
Organic enrichment/low DO, or Dissolved oxygen saturation Oxygen, Dissolved Organic Enrichment (Sewage) Biological Indicators	NMR	
Other habitat alterations*, or Alteration in streamside or littoral vegetative covers* Fish Passage Barrier* Habitat Assessment (Streams)* Physical substrate habitat alterations*	NMR	
Other Inorganics	NMR	
Pathogens ⁵ , or Escherichia Coli (E. Coli) Enterococcus Fecal Coliform	E. Coli Enterococcus Fecal Coliform	1103.1; 1603 1106.1; 1600 1680; 1681
Pesticides, or Chlordane DDT Dioxin (2,3,7,8Tetrachlorodibenzop)	NMR	

¹ As identified in Massachusetts Year 2008 Integrated List of Waters an “*” indicates that the cause of the impairment is a nonpollutant

² NMR – indicates no monitoring required

³ Partial listing only; additional EPA approved methods available at 40 CFR 136.

See Massachusetts Year 2008 Integrated List of Waters to determine if monitoring is required for nitrogen, phosphorus, or both. If listed for:

- Nutrients – monitor for total phosphorous and/or total nitrogen
- Phosphorous (total) – monitor for total phosphorous
- Nitrogen (total) – monitor for total nitrogen
- Nutrient/ Eutrophication Biological indicators
 - If discharge is to coastal or marine water (Class SA, SB) monitor for total nitrogen
 - If discharge is to fresh water (Class A or B) monitor for total phosphorus

Pathogens:

- If discharge is to coastal or marine waters (Class SA, SB) or any brackish fresh water influenced by saline backwaters, enumerate enterococci
- If discharge is to fresh water (Class A or B), enumerate *E. Coli*
- If discharge is to a water designated for shellfishing, enumerate fecal coliform

See Massachusetts Surface Water Quality Standards (314 CMR 4.00) for surface water classes and uses

pH	pH	150.2
Priority organics, or Polychlorinated biphenyls (PCBs) PCBs in Fish Tissue Polycyclic Aromatic Hydrocarbons (PAHs)	NMR	
Salinity/TDS/Chloride	NMR	
Siltation	Total Suspended Solids	160.2
Taste, odor, color	NMR	
Thermal modifications or Temperature, water	Temperature	SM 2550
Suspended Solids, or Total Suspended Solids (TSS)	Total Suspended Solids	160.2
Turbidity, or Secchi disk transparency	Turbidity	180.1
Unknown toxicity or Bioassays	NMR	