

THREATS

past & current actions taken by humans that degrade a resource

1. Untreated/unmanaged runoff from existing development
 - limited P-removal from collected stormwater
 - overuse or application of lawn fertilizers
 - lack of water quality protective zoning (buffer ordinances)
 - cost of retrofitting stormwater treatment
2. Land conversion
 - loss of forest, wetland, and agricultural land resources
 - lack of stabilization following conversion/construction
 - creation of new impervious surfaces
 - not everything needs a stormwater permit; stormwater practices only reduce the rate of decline
 - lack of statewide land-use strategy
3. Discharges from farmsteads & agricultural production areas
 - lack of storage and/or treatment for manure, silage leachate, and milkhouse waste
 - improperly located and/or managed livestock concentration areas
 - allowing clean water to mix with wastes, such as manure
4. Poorly managed cropland
 - improper fertilizer and/or manure application, amount, timing, and method
 - soil loss and erosion
 - use of sensitive lands for annual crop production
 - tillage and/or manure application too close to surface water
5. Unmanaged or poorly managed pasture
 - direct livestock access to surface waters and wetlands
 - overgrazing and denuded vegetation
 - erosion at livestock crossings and other areas of concentration
6. Channel modifications
 - straightening natural waterways
 - ditching and tiling in order to drain land
 - bank armoring
 - dredging and gravel mining
 - unstable storm drain outfalls
7. Floodplain and lakeshore encroachments
 - historic development patterns
 - inadequate or absent buffers
 - removal of vegetation (new clearing)
 - lack of municipal zoning

8. Untreated or improperly treated domestic sewage
 - failed septic systems
 - inadequate P-removal from wastewater
 - illicit discharges to storm sewers
 - combined sewer overflows
9. Poor municipal and residential road construction and/or maintenance
 - poorly installed or undersized culverts
 - lack of stabilized roadside ditch networks
 - over-steepened banks
 - poor management of over-road flow (lack of grading, crowning, etc.)
10. Poor forest management practices
 - elimination of forested riparian areas
 - inadequate stream and wetland crossings
 - inadequate design and construction of forest roads, trails and log landings
 - lack of site maintenance and close-out
 - inappropriate timing of logging operations
11. Wetland modifications
 - loss/filling of wetlands
 - modification of wetland vegetation
 - modification of wetland hydrology (dredging, ditching)
 - inadequate or absent buffers
12. Legacy effects
 - erosion from massive land clearing
 - decades of untreated industrial and municipal wastewater discharges
 - development/creation of impervious surface without stormwater controls
 - historic fertilizer use
13. Failure to consider climate change in planning and design
 - increased rainfall depth and intensity, and resulting increases in runoff and stormflows
 - increased lake temperature
 - effects on lake turnover

CRITERIA FOR RATING THREATS

Scope (distribution)

- 0 – very few instances of affected areas
- 1 – affected areas are discrete and effects localized
- 2 – numerous occurrences, with regional (watershed or town-level) effects
- 3 – widespread (basin-wide)

Scale (severity, intensity)

- 0 – none or positive
- 1 – perceived, but unquantified, effect on water quality
- 2 – quantifiable, but limited, effect on water quality
- 3 – substantial, quantifiable effect on water quality

Recovery Time (project level)

- 0 – irreversible
- 1 – 25+ years to recover
- 2 – 5-25 years to recover
- 3 – 1-5 years to recover

Fixability

- 0 – irreparable
- 1 – solution is cost prohibitive
- 2 – solution is untested but affordable
- 3 – solution is well-known, tested, and affordable

Urgency of the Threat

- 0 – unlikely to occur
- 1 – occurred, but not getting worse (damage has been done)
- 2 – likely to occur and would create instability
- 3 – on-going and cause of moderate instability
- 4 – on-going and getting significantly worse over time

Other Effects Attributable to the Threat

- 0 – no impacts beyond P
- 1 – limited other social, ecological, or economic impacts
- 2 – extensive other social, ecological and/or economic impacts

THREAT RATING

	<i>RATING CRITERIA</i>					
<i>THREAT</i>	Scope <i>(0-3)</i>	Scale <i>(0-3)</i>	Recovery Time <i>(0-3)</i>	Fixability <i>(0-3)</i>	Urgency <i>(0-4)</i>	Ancillary <i>(0-2)</i>
Unmanaged runoff						
Land conversion						
Discharges from farmsteads & production areas						
Poorly managed cropland						
Poorly managed pasture						
Channel modifications						
Floodplain encroachments						
Improperly treated domestic sewage						
Poor road construction or maintenance						
Poor forest management						
Wetland modification						
Legacy effects from past practice						
Failure to consider climate change						