

## Nonpoint Source Priority Watersheds List

**LAKES****Impaired Lakes**

As a starting point, all lakes on the 2018/2020/2022 Integrated Water Quality Monitoring and Assessment Report listed as impaired i.e. Category 4A: Impaired Use other than Mercury, TMDL Completed; 5A: Needing TMDLs; and 5-Alt: Lakes impaired by a pollutant and have had a Watershed-based Management Plan are considered for inclusion on the priority list. Lakes on the Integrated Report Impaired List due to hydrologic reasons (Category 4C: Impairment not Caused by a Pollutant) were excluded from the priority list. These lakes are impaired primarily due to hydrologic reasons, such as a major dam. Lakes falling under this category are: Aziscohos Lake, Brassua Lake, Flagstaff Lake, Graham Lake, Otter Pond, and Scopan Lake.

Several lakes were not added to the priority list if they are believed to have a **low feasibility** for restoration due to having limited existing watershed development or legacy nutrient accumulations in sediments. Lakes removed from the list for this reason are Arnold Brook Lake in Presque Isle, Lovejoy Pond in Albion, and Sewall Pond in Arrowsic.

**Impaired Lakes Priority List (22 lakes)**

Lake	Town
Alamoosook Lake	Orland
Annabessacook Lake	Winthrop
China Lake	China
Christina Reservoir	Ft Fairfield
Cochnewagon Lake	Monmouth
Cross Lake	T17 R5 Wels
Daigle Pond	New Canada
East Pond	Smithfield
Great Pond	Belgrade & Rome
Lilly Pond	Rockport
Long Pond	Rome & Belgrade
Monson Pond	Fort Fairfield
Pleasant Pond	Richmond
Sabattus Pond	Greene
Sebasticook Lake	Newport
Threemile Pond	Windsor
Togus Pond	Augusta
Toothaker Pond	Phillips
Trafton Lake	Limestone
Unity Pond	Unity
Webber Pond	Vassalboro
Wilson Pond	Wayne

## Threatened Lakes

Unimpaired lakes were assessed based on threats to water quality and value of the resource. Threatened lakes include lakes on the DEP Watch List, lakes having a recent or long-term significant negative trend in water clarity, lakes determined as being sensitive to additional phosphorus inputs, and lakes having a recent increased threat to the watershed by development or agriculture. Lake value was designated as ‘high’ if a drinking water supply, if designated a priority water body by a partner agency, or if determined to have outstanding water quality and being in need of protection. Lakes which had either a significant threat to water quality and/or significant value were added to the priority list. The details of these selection criteria are below.

Unimpaired lakes were determined to have priority threatened lake watersheds if they met one of the following criteria:

- Listed on the DEP’s **watch list**. Lakes are included on the watch list if they were recently impaired and therefore still sensitive, or data suggests their water quality is near the impairment threshold.
- Licensed by the Maine CDC Drinking Water Program as a **public water system** with a lake or pond as the surface water source.
- Has a strong long or short-term **negative water clarity trend**. This was determined by running the lake water clarity trend analysis model for lakes with secchi disk transparency readings for a significant number of years. The model was run for the whole dataset for each lake to determine the long-term trend, and for the past 10 years for the short-term trend. Data was needed for eight years or more to run the short-term trend model. Results of -0.5 or lower were deemed to be a significant negative trend. Lakes with a significant negative trend were then further analyzed to determine if the negative trend was likely the result of a natural cycle or an overall shift in water quality. See the exclusion criteria section below for a description of what was not included.
- Are **sensitive** to additional phosphorus inputs due to the lake’s hydrology and threats in the watershed. A lake was determined to be sensitive if DEP’s vulnerability modeling predicts the number of years for the lake’s phosphorus concentration to increase by 1 ppb is 25 years or less. The vulnerability model predicts changes in lake phosphorus concentration using watershed growth projections to estimate changes in phosphorus loading and the 1976 version of Vollenweider’s lake model to convert load to concentration. The model compensates for the influence of upstream lakes. If these sensitive lakes were determined to have watershed threats, they were then added to the priority list.
- Are **sensitive due to sediment chemistry**. Sediment chemistry has been analyzed in a subset of Maine lakes to determine susceptibility to internal phosphorus release. The analysis of sediment chemistry involves collecting shallow sediment cores and performing a complicated extraction process. Studies have shown that lake sediment with ratios of aluminum to iron less than three to one ( $Al:Fe < 3:1$ ) and aluminum to phosphorus less than 25 to one ( $Al:P < 25:1$ ) are more vulnerable to the release of sediment-bound phosphorus, which can lead to internal phosphorus loading. Lakes

with both ratios indicating vulnerability are listed under this criterion. In addition, lakes with low or borderline Al:Fe ratios that also have high bottom total phosphorus grab readings (consistently >40 ppb) are considered sensitive due to sediment chemistry and are included on the priority list unless there was a reason for them to be excluded (as described below).

- Identified as a **priority watershed** by the Maine Natural Resources Conservation Service National Water Quality Incentive (**NWQI**, previously identified in this priority list as Environmental Quality Incentives Program (EQIP)) or by Maine Municipal Separate Storm Sewer System (**MS4**) community plans.
- Having **outstanding water quality** in need of protection from threats in the watershed. The list of lakes with outstanding water quality was determined from review of long-term water quality data. Lakes with outstanding water quality were added to the priority list if they were on 1998 NPS Priority List or their watershed was known to have a significant threat of development.
- Have recent increased impacts or significant potential threats from **agriculture or development**. This was determined through use of best professional judgment of the impact or significant threat of impact due to recent activities in the watershed. The sensitivity of the lake to more phosphorus inputs, extent and location of the agriculture or development, and cumulative effect of other watershed activities were considered in this determination. The lakes added due to these criteria have had significant DEP involvement with the lake and the associated agriculture or development.
- The lake or pond serves as a water source to state or federal **fish hatcheries**. Six lakes in Maine are utilized for intake water for fish hatcheries operated by either the Maine Department of Inland Fisheries and Wildlife or U.S. Fish and Wildlife Service. Declines or negative changes in lake water quality could seriously impact the operation of these culture facilities, which are an important public resource in the state. One of the six, West Grand Lake, does not meet the other eligibility criteria and has not been added to the priority list.

Some lakes were not included on the priority list even if they met some of the above criteria due to the following reasons:

- The water quality data for some lakes with a significant negative water clarity trend (-0.5 or lower) indicated it was **not indicative of a water quality shift**. Each lake that had a long- or short-term significant negative water clarity trend was analyzed to determine if the negative trend was likely an overall negative shift in water quality or not. This was determined by analyzing any available water quality history data, including water clarity, phosphorus, chlorophyll, and dissolved oxygen readings. Lakes having a short-term negative trend as a result of water clarity returning to a stable state after drought conditions in the early 2000's resulted in artificially 'improved' water quality, were not put on the priority list. Lakes whose negative trend were based on insufficient data or included multiple Secchi readings which hit the lake bottom were not put on the priority list.

- Lakes (that are not public drinking water sources) having a significant portion of their watershed **protected** either by being part of Acadia National Park or by having other watershed protection were also not included on the priority list, since there did not seem to be a significant threat.
- **Small lakes** (less than or equal to 50 acres) with limited existing watershed development were not included on the priority list, unless there was a compelling reason to add it to the list. Compelling reasons were if it is a public water supply or has outstanding water quality and is in need of protection from threats in the watershed.

#### Threatened Lakes Priority List (178 lakes)

Lake	Town	Priority List Reasoning
Abrams Pond	Eastbrook	Watch List, Sensitive – Sediment Chemistry
Adams Pond	Boothbay	Public Water System, Sensitive
Allen Pond	Greene	Sensitive
Anasagunticook Lake	Canton	Public Water System
Androscoggin Lake	Leeds	Watch List, Sensitive – Sediment Chemistry
Battle Ave Ponds	Castine	Public Water System
Bauneg Beg Pond	Sanford	Sensitive
Bay Of Naples/Brandy	Naples	Public Water System, Sensitive
Beaver Pond	Bridgton	Sensitive
Beech Hill Pond	Otis	Outstanding Water Quality
Bell Marsh Reservoir	York	Public Water System
Berry Pond	Winthrop	Sensitive
Big Wood Pond	Jackman	Public Water System
Bonny Eagle Lake	Buxton	Sensitive
Boulter Pond	York	Public Water System
Boyden Lake Stream Imp	Perry	Public Water System
Branch Lake	Ellsworth	Public Water System
Branch Pond	China	Sensitive
Brettuns Pond	Livermore	Sensitive
Brewer Lake	Orrington	Watch List
Buker Pond	Litchfield	Sensitive
Bunganut Pond	Lyman	Sensitive
Burnt Land Pond	Stonington	Public Water System
Carlton Pond	Winthrop	Public Water System
Center Pond	Sangerville	Sensitive – Sediment Chemistry
Chases Pond	York	Public Water System
Chickawaukie Pond	Rockport	Sensitive, Sensitive – Sediment Chemistry
Clary Lake	Whitefield	Negative clarity trend
Cobbossecontee Lake	Winthrop	Watch List, Sensitive, Sensitive – Sediment Chemistry

Lake	Town	Priority List Reasoning
<b>Coffee Pond</b>	Casco	Sensitive
<b>Cold Stream Pond</b>	Enfield	Outstanding Water Quality, Fish Hatchery
<b>Crawford Pond</b>	Warren	Sensitive
<b>Crescent Lake</b>	Raymond	Sensitive
<b>Crystal Lake</b>	Gray	Sensitive
<b>Crystal Pond</b>	Turner	Sensitive – Sediment Chemistry
<b>Damariscotta Lake</b>	Nobleboro	Watch List, Sensitive – Sediment Chemistry
<b>David Pond</b>	Fayette	Sensitive – Sediment Chemistry
<b>Dexter Pond</b>	Winthrop	Sensitive, Sensitive – Sediment Chemistry
<b>Dodge Pond</b>	Rangeley	Sensitive
<b>Duckpuddle Pond</b>	Waldoboro	Watch List
<b>Eagle Lake</b>	Bar Harbor	Outstanding Water Quality, Public Water System
<b>Echo Lake</b>	Presque Isle	Watch List
<b>Echo Lake</b>	Readfield	Sensitive – Sediment Chemistry
<b>Embden Pond</b>	Embden	Fish Hatchery
<b>Estes Lake</b>	Sanford	Watch List, Sensitive
<b>Ferguson Lake</b>	Millinocket	Public Water System
<b>Floods Pond</b>	Otis	Public Water System
<b>Folly Pond</b>	Vinalhaven	Public Water System
<b>Folly Pond</b>	York	Public Water System
<b>Forest Lake</b>	Windham	Sensitive
<b>Fresh Pond</b>	North Haven	Public Water System
<b>Georges Pond</b>	Franklin	Watch List, Sensitive – Sediment Chemistry
<b>Granny Kent Pond</b>	Shapleigh	Negative clarity trend
<b>Grassy Pond</b>	Rockport	Public Water System, Sensitive
<b>Great East Lake</b>	Acton	Outstanding Water Quality, Development Threat
<b>Great Pond</b>	Franklin	Watch List
<b>Green Lake</b>	Ellsworth	Fish Hatchery
<b>Hall Pond</b>	Paris	Public Water System
<b>Hancock Pond</b>	Embden	Public Water System
<b>Harriman Pond</b>	Dedham	Outstanding Water Quality, Development Threat
<b>Hatcase Pond</b>	Dedham	Public Water System
<b>Highland Lake</b>	Bridgton	Watch List
<b>Highland Lake</b>	Windham	MS4 Priority Water, Watch List, Sensitive
<b>Hobbs Pond</b>	Hope	Sensitive – Sediment Chemistry
<b>Hogan Pond</b>	Oxford	Sensitive
<b>Holland Pond</b>	Limerick	Sensitive
<b>Horne Pond</b>	Limington	Sensitive

Lake	Town	Priority List Reasoning
<b>Hosmer Pond</b>	Camden	Sensitive
<b>Indian Pond</b>	Greenwood	Watch List
<b>Ingalls Pond</b>	Bridgton	Sensitive
<b>Island Pond</b>	Waterford	Sensitive
<b>Jimmie (Jamies) Pond</b>	Manchester	Sensitive
<b>Jimmy Pond</b>	Litchfield	Sensitive
<b>Jordan Pond</b>	Mt. Desert	Public Water System
<b>Kennebunk Pond</b>	Lyman	Sensitive
<b>Knickerbocker Pond</b>	Boothbay	Public Water System
<b>Lake Auburn</b>	Auburn	Negative clarity trend, Watch List, Public Water System, Sensitive – Sediment Chemistry
<b>Little Cobbossee</b>	Winthrop	Watch List, Sensitive
<b>Little Ossipee</b>	Waterboro	Sensitive
<b>Little Pennessewassee Pond (Hobbs Pond)</b>	Norway	Watch List
<b>Little Pond</b>	Damariscotta	Public Water System
<b>Little Pushaw</b>	Hudson	Sensitive – Sediment Chemistry
<b>Little Sebago Lake</b>	Windham	Sensitive
<b>Little Wilson Pond</b>	Turner	Sensitive
<b>Long Lake</b>	Bridgton	Watch List
<b>Long Lake</b>	T17 R4 Wels	Watch List, Agriculture Threat
<b>Long Pond</b>	Parsonsfield	Negative clarity trend, Sensitive – Sediment Chemistry
<b>Long Pond</b>	Bucksport	Sensitive
<b>Long Pond</b>	Sullivan	Public Water System
<b>Long Pond</b>	Mt. Desert	Public Water System
<b>Lovejoy Pond</b>	Wayne	Sensitive – Sediment Chemistry
<b>Lower And Upper Ponds</b>	Skowhegan	Public Water System
<b>Lower Hadlock Pond</b>	Mt Desert	Public Water System
<b>Lower Narrows Pond</b>	Winthrop	Sensitive
<b>Lower Range Pond</b>	Poland	Sensitive
<b>Madawaska Lake</b>	Westmanland	Watch List
<b>Maranacook Lake</b>	Winthrop	Sensitive, Sensitive – Sediment Chemistry
<b>Mattakeunk Lake</b>	Lee	Sensitive – Sediment Chemistry
<b>Mcgrath Pond</b>	Oakland	Sensitive
<b>Meduxnekeag Lake</b>	Oakfield	Development Threat
<b>Megunticook Lake</b>	Lincolnvile	Sensitive, Sensitive – Sediment Chemistry
<b>Messalonskee Lake</b>	Sidney & Belgrade	Watch List, Sensitive – Sediment Chemistry
<b>Middle Pond</b>	York	Public Water System

Lake	Town	Priority List Reasoning
<b>Middle Range Pond</b>	Poland	Sensitive
<b>Mirror Lake</b>	Rockport	Public Water System
<b>Molasses Pond</b>	Eastbrook	Sensitive – Sediment Chemistry
<b>Moose Hill Pond</b>	Livermore Falls	Public Water System
<b>Moose Pond</b>	Bridgton	Development Threat
<b>Mousam Lake</b>	Shapleigh	Watch List, Sensitive, Sensitive – Sediment Chemistry
<b>Nequasset Pond</b>	Woolwich	Public Water System, Sensitive
<b>Nickerson Lake</b>	New Limerick	EQIP Priority Water
<b>No Name Pond</b>	Lewiston	Sensitive
<b>Nokomis Pond</b>	Newport	Public Water System
<b>North Pond</b>	Norway	Sensitive
<b>North Pond</b>	Sumner	Public Water System
<b>North Pond</b>	Smithfield	Development Threat, Watch List
<b>North Pond</b>	Warren	Sensitive – Sediment Chemistry
<b>Norton Pond</b>	Lincolntonville	Sensitive
<b>Notched Pond</b>	Raymond	Sensitive
<b>Oakes Pond</b>	Skowhegan	Agriculture Threat
<b>Otter Pond</b>	Bridgton	Sensitive
<b>Panther Pond</b>	Raymond	Sensitive
<b>Papoose Pond</b>	Waterford	Watch List
<b>Paradise Pond</b>	Damariscotta	Negative clarity trend
<b>Parker Pond</b>	Casco	Sensitive
<b>Parker Pond</b>	Jay	Public Water System
<b>Parker Pond</b>	Vienna	Sensitive – Sediment Chemistry
<b>Pattee Pond</b>	Winslow	Sensitive, Sensitive – Sediment Chemistry
<b>Pease Pond</b>	Wilton	Sensitive – Sediment Chemistry
<b>Pemaquid Pond</b>	Waldoboro	Sensitive
<b>Pennesseewassee</b>	Norway	Sensitive
<b>Phillips Lake</b>	Dedham	Outstanding Water Quality
<b>Pleasant Lake</b>	Otisfield	Outstanding Water Quality, Fish Hatchery
<b>Pleasant Pond</b>	Turner	Sensitive
<b>Pleasant Pond</b>	T4 R3 WELS	Outstanding Water Quality
<b>Province Lake</b>	Parsonsfield, S. Effingham, NH	Development Threat (Listed as Impaired by New Hampshire DES)
<b>Pushaw Lake</b>	Orono	Development & Agriculture Threat
<b>Quimby Pond</b>	Rangeley	Sensitive
<b>Raymond Pond</b>	Raymond	Sensitive
<b>Roberts Wadley Pond</b>	Lyman	Sensitive
<b>Round Pond</b>	Rangeley	Sensitive

Lake	Town	Priority List Reasoning
Round Pond	Vinalhaven	Public Water System
Roxbury Pond	Roxbury	Watch List
Sabbathday Lake	New Gloucester	Sensitive
Salmon L (Ellis P)	Belgrade	Watch List, Sensitive – Sediment Chemistry
Salmon Stream Pond	Guilford	Public Water System
Sand Pond	Monmouth	Sensitive
Sawyer Pond	Greenville	Negative clarity trend
Sebago Lake (including Crooked River)	Sebago	Outstanding Water Quality, Public Water System
Sennebec Pond	Appleton	Sensitive – Sediment Chemistry
Shaker Pond	Alfred	Sensitive
Sheepscot Lake	Palermo	Fish Hatchery
Silver Lake	Bucksport	Public Water System
Spectacle Pond	Vassalboro	Sensitive
Square Lake	T16 R5 WELS	Watch List, Development Threat
Square Pond	Acton	Sensitive – Sediment Chemistry
St George Lake	Liberty	Outstanding Water Quality
Swan Pond	Lyman	Sensitive
Taylor Pond	Auburn	Sensitive, Sensitive – Sediment Chemistry
Thomas Pond	Casco	Sensitive
Thompson Lake	Oxford	Outstanding Water Quality, Sensitive
Threecornered Pond	Augusta	Watch List, Sensitive, Sensitive – Sediment Chemistry
Torsey (Greeley) Pond	Mount Vernon	Sensitive – Sediment Chemistry
Trickey Pond	Naples	Outstanding Water Quality, Sensitive
Tripp Pond	Poland	Sensitive
Upper Narrows Pond	Winthrop	Public Water System, Watch List, Sensitive
Upper Range Pond	Poland	Sensitive
Varnum Pond	Wilton	Public Water System, Sensitive – Sediment Chemistry
Ward Pond	Sidney	Sensitive
Wassookeag Lake	Dexter	Negative clarity trend, Public Water System, Sensitive – Sediment Chemistry
Watchic Pond	Standish	Sensitive
West Harbor Pond	Boothbay Harbor	Sensitive
Whetstone Pond	Kingsbury Twp	Negative clarity trend
Whitney Pond	Oxford	Sensitive
Wilson Pond	Wilton	Watch List
Wood Pond	Bridgton	Sensitive
Woodbury Pond	Monmouth	Sensitive

Lake	Town	Priority List Reasoning
<b>Youngs Lake</b>	Westfield	Public Water System