

"Google Street View" for Maine Lakes: Creating public-domain shoreline images for research, public policy, and education

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BELGRADE
REGIONAL
CONSERVATION
ALLIANCE



Maine COLA

Maine Congress of Lake Associations

North Pond
Association



— Maine —



McGrath Pond
Salmon Lake
Association



East Pond Association
Oakland & Smithfield Maine

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National Lakes Assessment: A Collaborative Survey of the Nation's Lakes

Office of Wetlands, Oceans, & Watersheds Office of Water U.S. Environmental Protection Agency, 2010

Lake Physical Habitat - Of the stressors included in the NLA, poor lakeshore habitat is the biggest problem in the nation's lakes; over one-third exhibit poor shoreline habitat condition. Poor biological health is three times more likely in lakes with poor lakeshore habitat (Figure ES-2).

Nutrients - About 20% of lakes in the U.S. have high levels of phosphorus or nitrogen. High nutrient levels are the second biggest problem in lakes. Lakes with excess nutrients are two-and-a half-times more likely to have poor biological health (Figure ES-2).

Algal Toxins - The NLA conducted the first-ever national study of algal toxins in lakes. Microcystin – a toxin that can harm humans, pets, and wildlife – was found to be present in about one-third of lakes and at levels of concern in 1% of lakes.

Fish Tissue Contaminants - A parallel study of toxins in lake fish tissue shows that mercury concentrations in game fish exceed health based limits in about half of lakes (49%); polychlorinated biphenyls (PCBs) at potential levels of concern are found in 17% of the lakes.



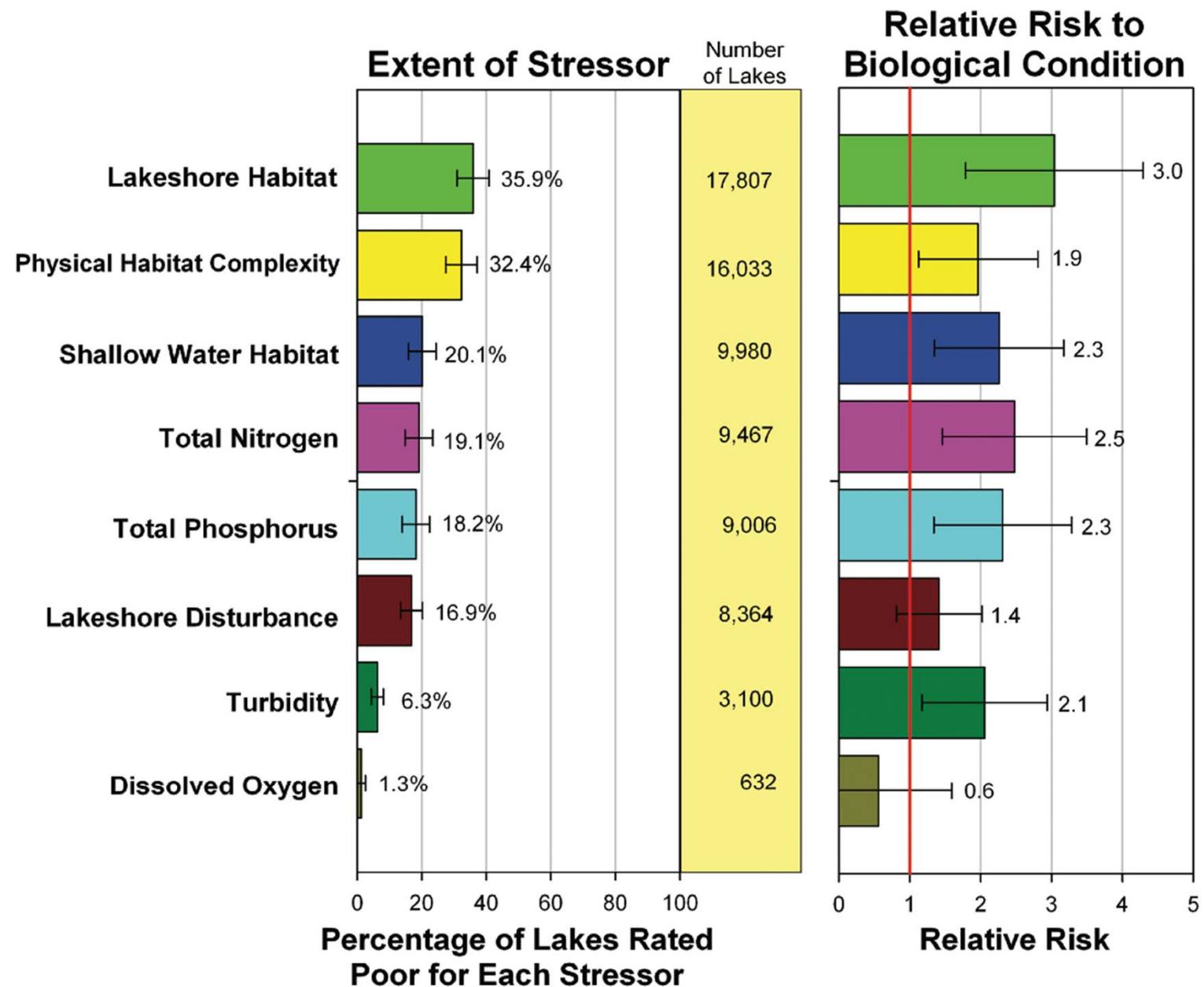


Figure ES-2. Extent of stressor and relative risk of stressor to biological condition.

National Lakes Assessment: A Collaborative Survey of the Nation's Lakes (2010) US EPA

Shoreline Assessment Program

- ▶ A perennial problem with Shoreland Zoning compliance and environmental protection is the lack of documentation on existing lots as to the degree of tree/shrub cover, shoreline disturbance, building location, and other conditions within the Shoreland zone. Frequently, applicants meet with the Planning Board or CEO and propose projects which could be better evaluated with visual documentation. Also common is a situation where a violation has occurred and it is difficult to establish what the antecedent conditions were.
- ▶ This project would establish a simple, reproducible process for documenting shoreline conditions, at least from the water side, and evaluate a pathway to promote municipal use of this type of information. The goal is to improve the ability to assess property conditions before alterations are permitted and to make compliance and enforcement more effective and even handed
- ▶ Items to evaluate include:
 - ▶ 1) How to know if the Selectpersons will support the CEO in its use
 - ▶ 2) What format(s) make sense for the Towns
 - ▶ 3) How much would it cost ?
 - ▶ 4) Can we design something that needs as little state support as possible, such as a manual that allows them to use local volunteers and equipment?
 - ▶ 5) Will such a product be useable for enforcement? Will it be useable for Planning Board use?
 - ▶ 6) What are the legal implications of creating and disseminating a “Lake View” product.



<http://web.colby.edu/epscor/shoreline-photos/>



Belgrade Lakes Watershed Sustainability Project

Colby

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Shoreline Photos

Overview of shoreline photo project.

During the summer of 2011 Colby Researchers are conducting comprehensive photographic surveys of the shoreline of all of the Belgrade Lakes. The National Lake Assessment conducted by the US Environmental Protection Agency found that lakeshore habitat is the single most important factor in determining lake water quality (http://water.epa.gov/type/lakes/lakessurvey_index.cfm). Efforts to conserve shoreline ecosystems will improve water quality, biodiversity, as well as the value of all properties in the watershed. For these reasons, Belgrade Lakes stakeholders, including local municipalities, the Maine DEP, code enforcement officers, and sportsmen groups have specifically requested shoreline photos of all the Belgrade Lakes in a format that is easily accessible over the internet using free software tools.

In response to these requests we have taken over 4000 shoreline photographs in the watershed. This menu includes links with directions on how to view/download the photos and provides access to lake specific photo collections.

Photographs were always taken from a public waterway between 50 and 100 feet from the shoreline. Care was taken not to capture incriminating images of people during the photo collection process. In addition, all photos were reviewed a second time to ensure that they meet our established protocols for privacy.

