

A photograph of a serene landscape featuring a calm body of water, likely a lake or a wide river, surrounded by a dense forest of evergreen and deciduous trees under a bright sky with scattered clouds.

Report from the Steering Committee

March 4, 2009

CHEBUCTO WILDERNESS COALITION

Aquatic Habitat & Water Quality in the Chebucto Wilderness

Previously we have described the great assets of the public lands that we propose to protect and the progress made toward the goal of protection. Here we look at aquatic habitat and water quality and focus on their vulnerability if the land is not protected.

The Chebucto Wilderness is a mosaic of lakes, streams, ponds, wetlands (bogs, fens, marshes), granite barrens, and mixed and evergreen forest. It includes the upper part of the Woodens River watershed, major portions of the Nine mile River watershed, the Blind Bay watershed, a lower part of the Prospect Bay watershed, as well as several smaller watersheds and numerous small to medium-sized wetlands. Many of the lakes and streams remain relatively pristine at this time and support brook trout populations. Some of those closer to the sea support alewife and American eel.

Residents and visitors value these watercourses and wetlands and want to preserve their natural beauty and health for future generations of humans and other species. But this heritage is under various kinds of environmental pressures:

Subdivisions and roads in critical areas of the watersheds

An electrical conductivity signal from road salt is detectable, for example, in the Woodens River and other watersheds; other materials in runoff (e.g., hydrocarbons, rubber particles) from roads must also be entering these systems. Some lakes in settled areas show signs of the early stages of eutrophication (elevated phosphorus and presence of anoxic zones). There have been several siltation events associated with road-building or other development activities. A PCB spill in Five Island Lake identified in 1994 was quickly contained but not before causing elevated PCB levels in fish for many years. In addition to these concerns, which apply mostly to upper watersheds, there is also settlement pressure near mouths of river systems; inappropriate development in those areas could impede movement of seagoing species (alewife, American eel, possibly some trout, smelt).

Acid rain/low buffering capacity

Low acid neutralizing capacity associated with shallow soils and granitic bedrock and acidity produced by NOAs (Natural Organic Acids) make Chebucto Peninsula streams and lakes highly susceptible to acidification by acid rain. In the Halifax region, local as well as distant emissions contribute to rain acidity. Although emissions have been substantially reduced since the 70s, the reversal of declines in water pH seen in many other regions of North America and Europe have not been seen in streams and



lakes of SW Nova Scotia; further it is predicted that reversal will not occur under currently planned further reductions in acid emissions. Thus acid stress will be ongoing. Recent measurements in the Woodens River system have revealed values below 5.0 in a number of lakes and streams. Short episodic acidification events (e.g., associated with snowmelt) can be particularly damaging. The low pH values are a factor restricting revival of salmon populations, could be a factor in the decline of mayflies and, while not lethal, put stress on brook trout populations.

Climate change

Trends of increasing temperature can exacerbate pests and diseases of aquatic fauna and flora, lead to shifts in major species, facilitate establishment of invasive species and may further limit brook trout populations. Increasing intensity of storms and potential for hurricanes are additional climatic change related threats that could cause substantial habitat damage.

Recreational activities

The proposed protected area lies adjacent to a major population centre, thus is subject or potentially subject to a lot of recreational activities. Increasing numbers of visitors, if the use of the land is not regulated, could cause damage to aquatic habitats and increase the penetration by invasive species.

Trout populations

These populations appear to remain small and are subject to ongoing stresses, e.g., associated with low pH and restriction of habitat by high temperature and anoxic zones. Fishing for trout in the Woodens River system has been subject to catch & release regulations since the PCB spill. PCB levels in fish in the lower watershed lakes have now fallen below unsafe levels leading to some pressure to reinstitute a bag limit.

What can be done?

Through protection these threats can be reduced significantly and the gains made easier to preserve in three main ways. The first and most important consequence of protection is preservation of the integrity of the land as a contiguous whole. It is well-known that without this integrity the biological diversity and health of the aquatic habitat and water quality would decline precipitously and the pressures listed would be overwhelming. The second consequence is that protection reserves the land and watercourses for traditional uses and thus restricts uses known to exacerbate the pressures on aquatic habitat and water quality that already exist. Finally, protection under WAPA would place the area directly in the care of the Nova Scotia Minister of Environment and would thus greatly improve the coordination of efforts by the community, professionals, and government to monitor and improve the health of the wilderness area, including the standardization of protocols for gathering and interpreting data that is essential for effective and timely action.