



Conservation Halton & Hamilton Conservation Authority

Watershed Report Card 2013
Hamilton Public Works
Committee
June 3, 2013



Conservation Authorities

- Conservation Authorities are community based environmental agencies that protect local ecosystems in partnership with their watershed municipalities.
- As agencies established under the Conservation Authorities Act of Ontario, Conservation Authorities provide solid partnerships between the Province of Ontario and local municipalities to effectively manage natural hazard and natural heritage resources.



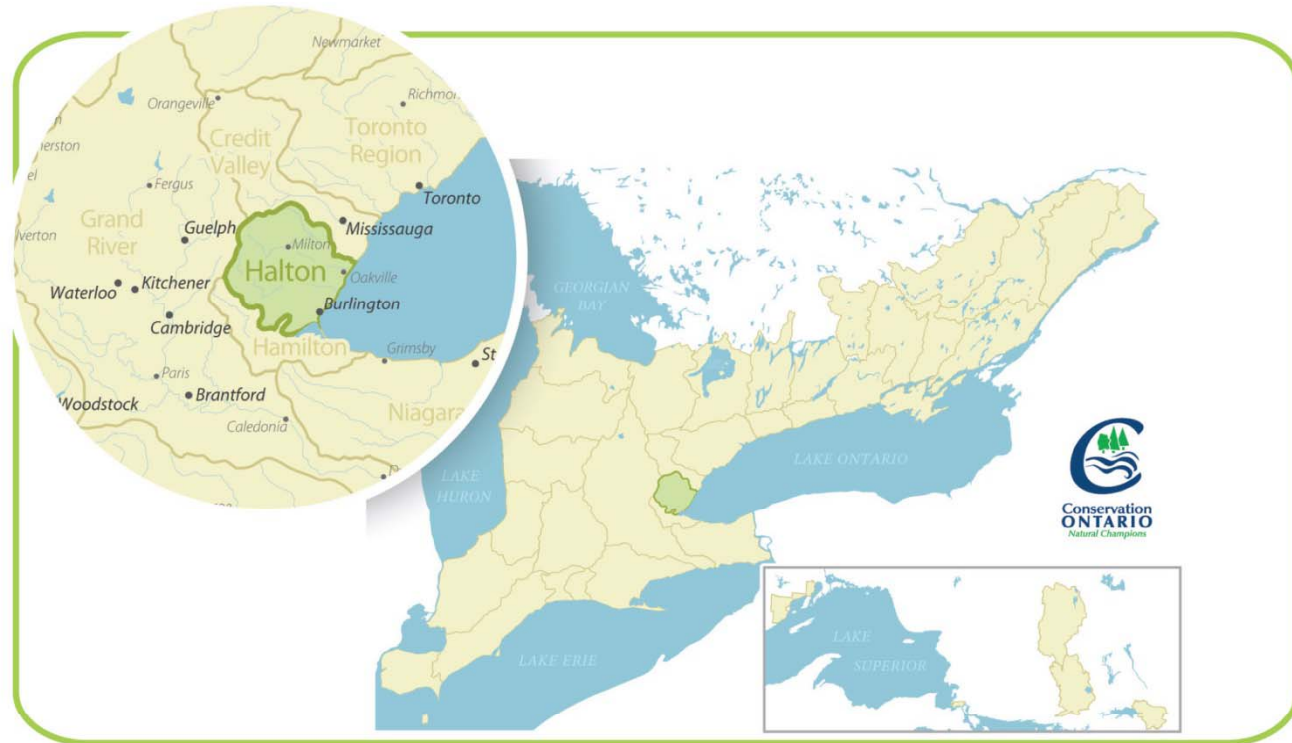
36 Conservation Authorities in Ontario

- Watershed-based agencies
- Mandate to ensure the conservation of Ontario's water, land and natural habitats
- Governed by Board of Directors selected by Member Municipalities

12 million people live in a watershed managed by a Conservation Authority



Conservation Halton Watershed



Hamilton CA Watershed



Conservation Halton Watershed



- 1000 Sq. Km. - over 450,000 residents
- Halton Region and Region of Peel, City of Hamilton, Wellington County
- Land uses: urban and rural residential, agricultural, industry, leisure, aggregate, transportation
- Niagara Escarpment, Lake Ontario, wetlands, forest cover
- Lake water is dominant source of drinking water
- Rapidly expanding communities

Hamilton Conservation Authority Watershed

- 477 Sq. Km. - approximately 400,000 residents
- City of Hamilton, Wellington County
- Land uses: urban and rural residential, agricultural, industry, leisure, aggregate, transportation
- Niagara Escarpment, Lake Ontario, wetlands, forest cover
- Lake water is dominant source of municipal drinking water
- Rapidly expanding communities

Local Watershed Programs

- Flood control
- Land stewardship, water quality improvement
- Watershed planning and regulation
- Environmental monitoring
- Education and public involvement
- Natural heritage protection
- Drinking water source protection
- Recreation
- Others



Conservation Authority Watershed Report Cards



- A reporting process that gets scientific information to local decision-makers in watersheds across Ontario
- Concise, visual, public-friendly reports produced every 5 years using standardized environmental indicators
- Management and evaluation tool for CAs, municipalities and other partners to measure environmental change and target programs
- Improve local knowledge and motivate action

Why Monitor and Report

- Monitoring helps us to identify issues, project future conditions, focus natural resource actions where needed, and track progress over time
- A healthy environment ensures safe drinking water, resilient biodiversity, and enables us to adapt to a changing climate





How Do We Monitor?

Conservation Authorities collect data using a combination of their own monitoring sites, using standardized protocols, and information from outside sources and partnerships.

- Provincial Water Quality Monitoring Network (PWQMN)
- Provincial Groundwater Quality Monitoring Network (PGMN)
- Ontario Benthos Biomonitoring Network (OBBN)
- Ontario Stream Assessment Protocol (OSAP)
- GIS Mapping Data
- Southern Ontario Land Resource Information System (MNR)
- Ontario Invasive Plant Council
- Other sources: Municipalities, Environment Canada

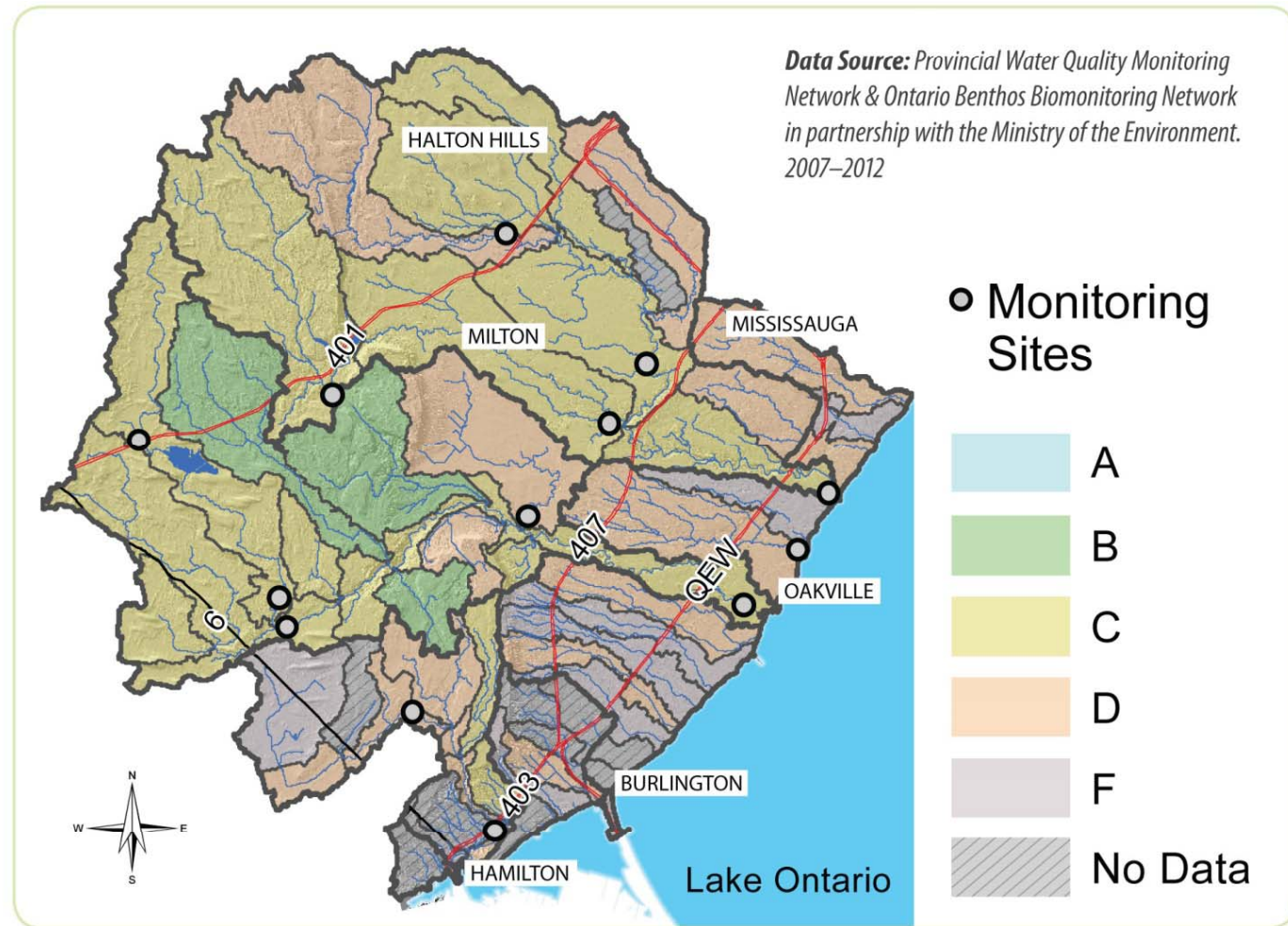
Benefits of Watershed Report Cards



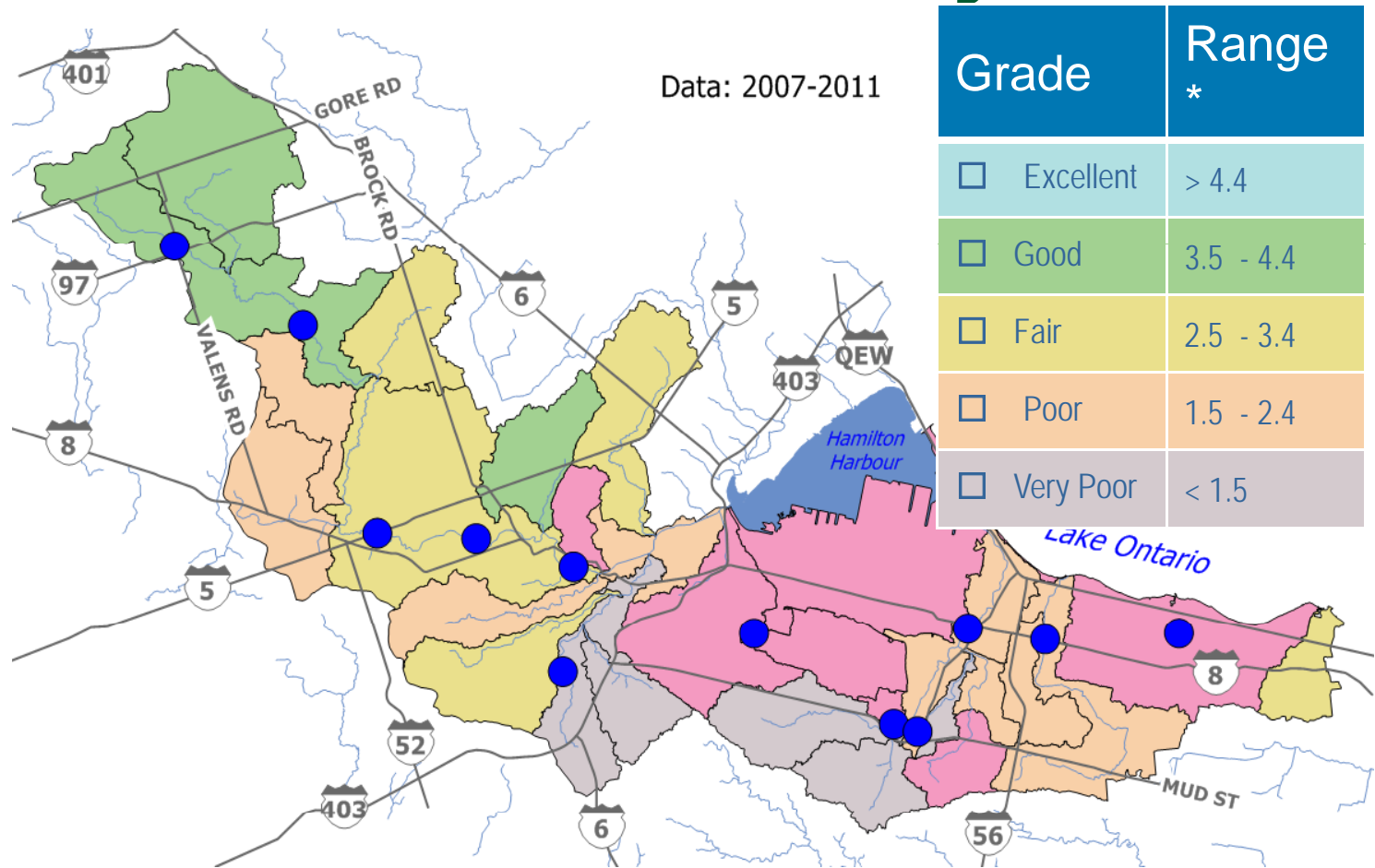
- Translates the science and familiarizes people with their watersheds & conditions or issues that impact them.
- Informs decision-making and guides local planning
- Recognizes local partnerships & CA programs
- Helps people learn what they can do to be part of the solution to improving environmental health



Surface Water Quality



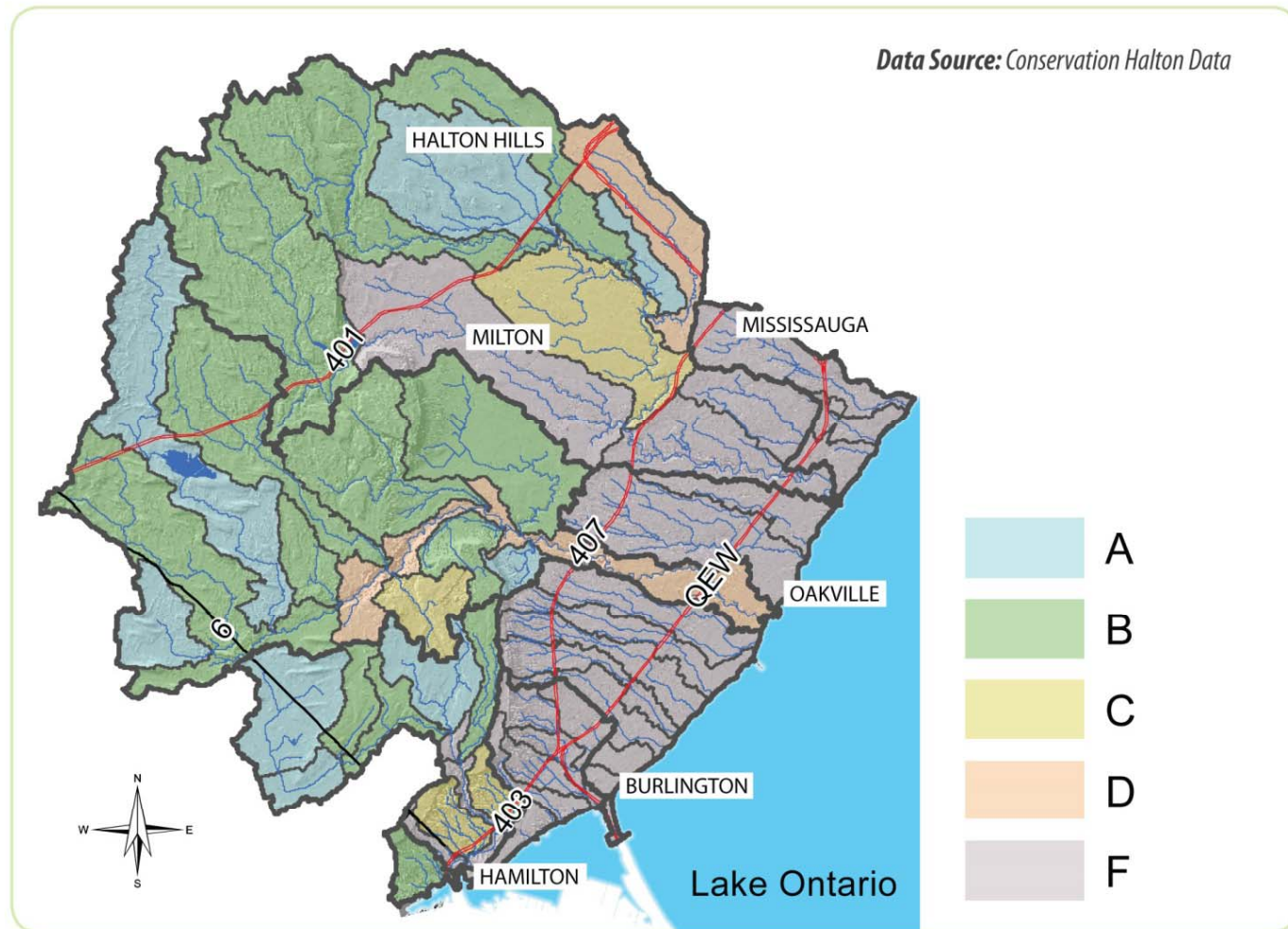
Surface Water Quality



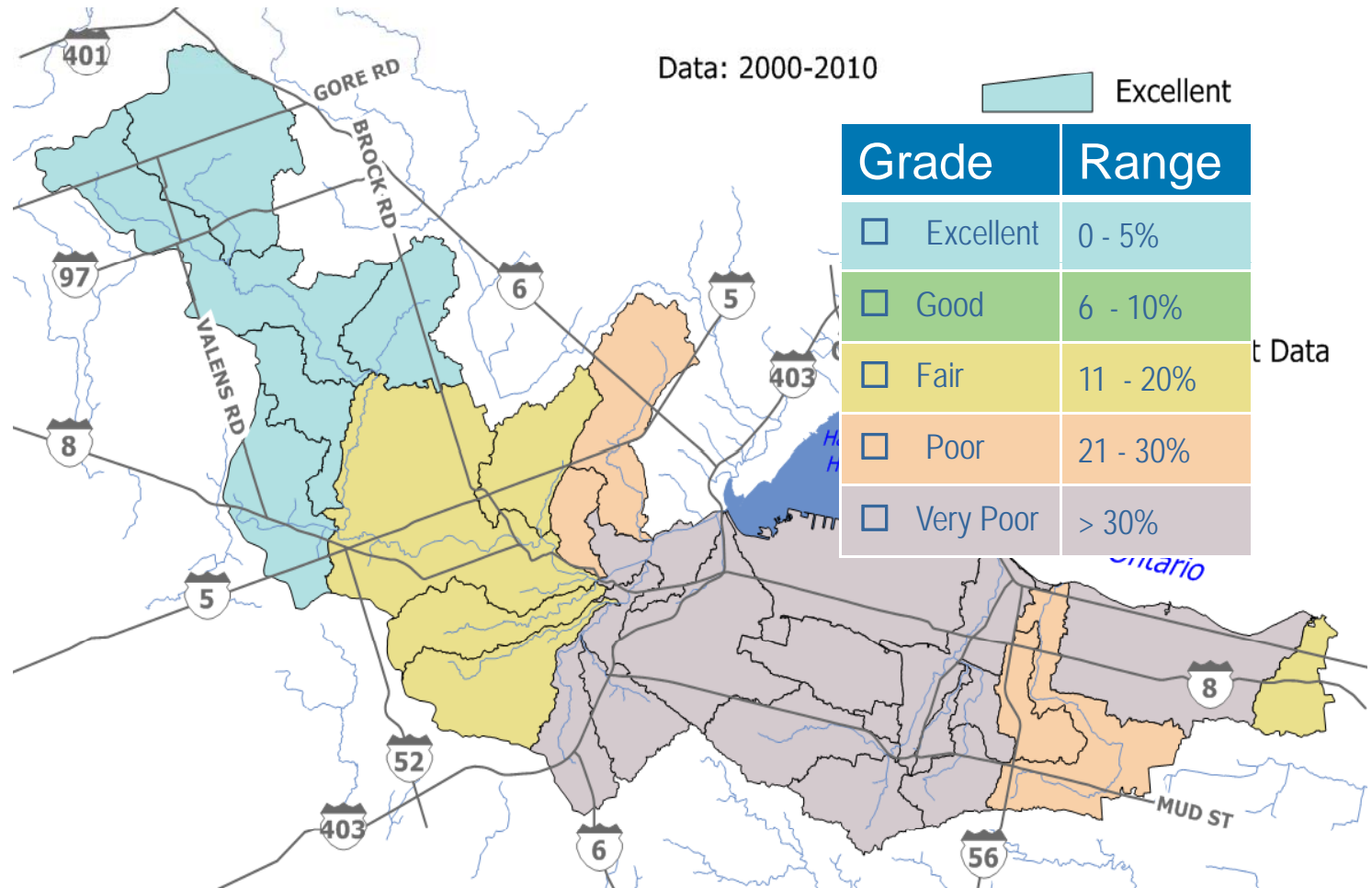
What Are We Finding?

- Surface water quality in Conservation Halton's watershed varies from watershed to watershed based on local conditions, with an overall average of C
- Surface water quality in Hamilton CA's watershed has an overall average of D
- Best water quality is found in the headwaters where human activities have the least negative impact

Impervious Land Cover



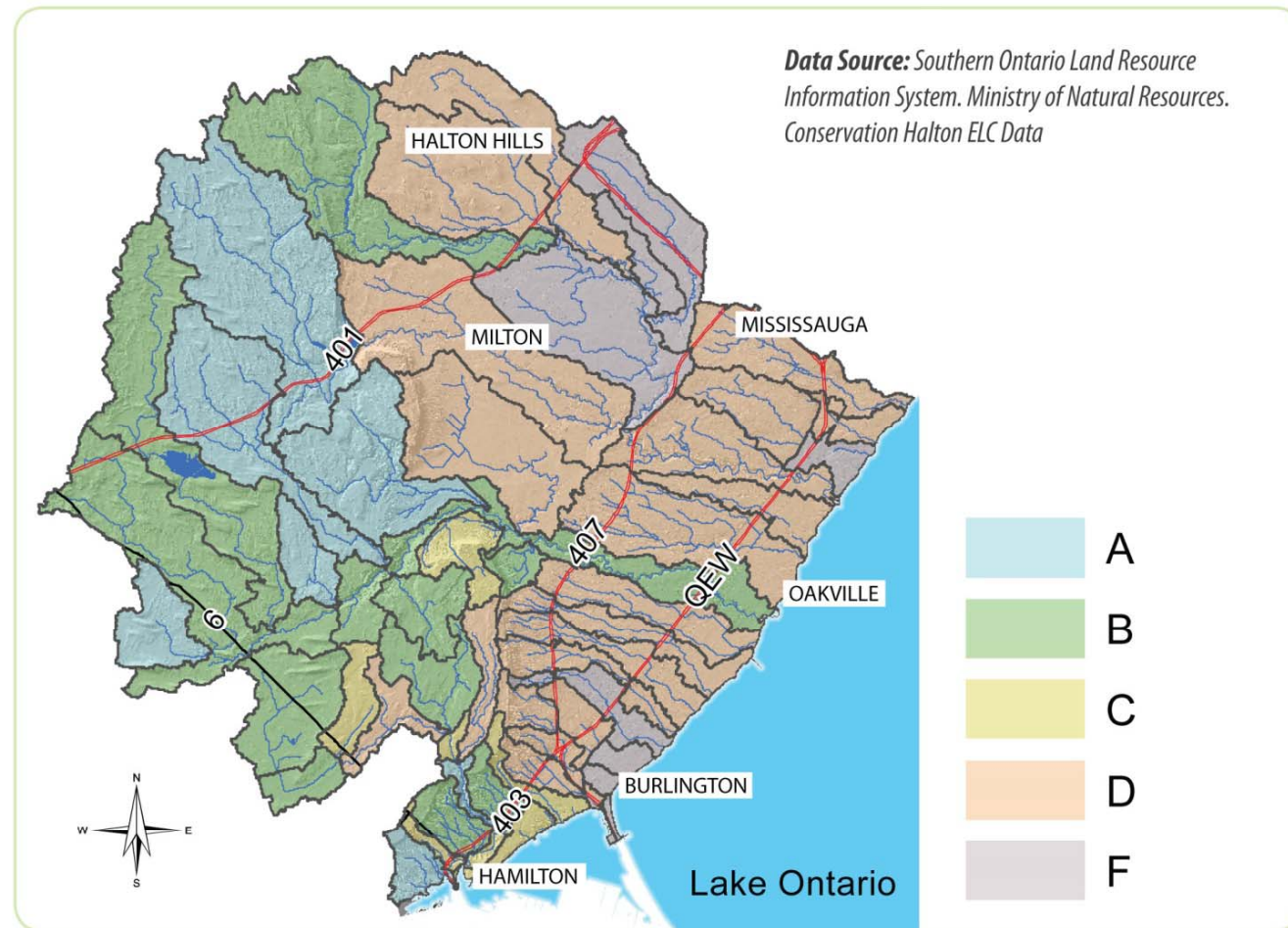
Impervious Land Cover



What Are We Finding?

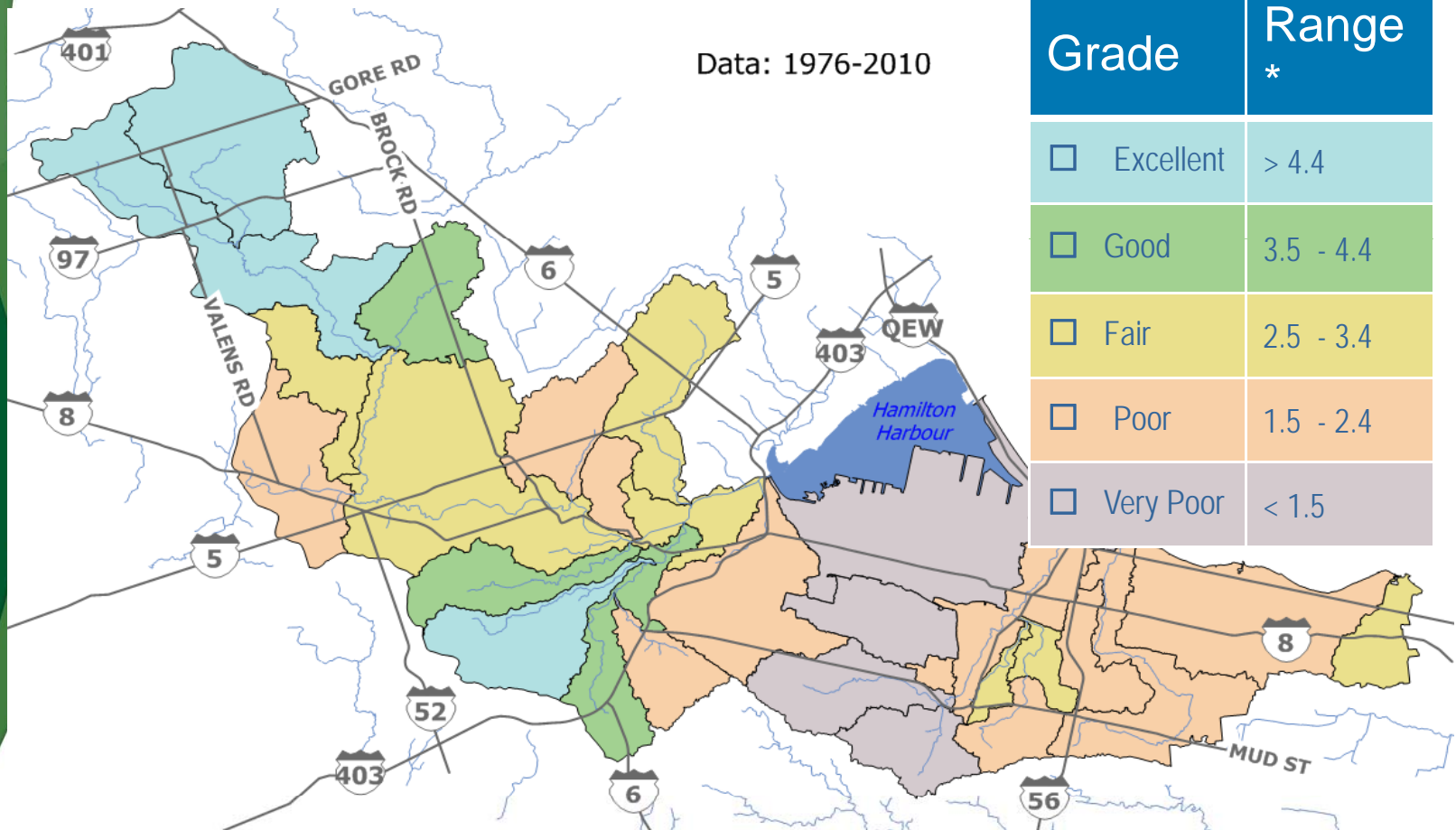
- Imperviousness in Conservation Halton's watershed is 21.4%; heavy urban component to our watershed
- Imperviousness in HCA's watershed is 35%; heavy urban component in the lower reaches of the watershed.
- Imperviousness of our land base is measured in terms of the 'ecological' value and contributions to ecosystem features and function
- Land use with over 10% imperviousness starts to impair local aquatic habitat
- As it reaches an upper limit of 26-30% impervious land cover, it represents a threshold for degraded systems

Forest Conditions



Forest Conditions

Data: 1976-2010



What Are We Finding?

- Forest cover in Conservation Halton's watershed is at 26.4% or a grade of C
- Forest cover in HCA's watershed is at 19% or a grade of C.
- Forests provide many ecological benefits such as wildlife habitat, air purification, erosion control, and recreational opportunities
- A minimum of 30% forest cover is typically necessary to sustain species biodiversity within a watershed

What Can We Do To Improve the Health of our Watersheds...Our Communities

- Don't mow lawns to the edge of creeks; allow natural vegetation to grow and naturally filter sediment from water entering our creeks; plant native species/vegetation on public and private lands
- Participate in community planting and cleanup events
- Reduce the use of fertilizers
- Reduce/manage road salt
- Educate ourselves on good land & water stewardship practices and implement them

What Can We Do To Improve the Health of our Watersheds...Our Communities

- Redevelopment Activities in Urban Areas:
 - Encourage the use of permeable paving in parking lots; implement other low impact development techniques in commercial, residential and industrial areas when property upgrades are planned (bioswales, infiltration trenches, green roofs)

What Can We Do To Improve the Health of our Watersheds...Our Communities

- New Development Activities:
 - Protect and enhance green corridors and natural habitats for birds, fish and animals and to help cool the air in urban environments; encourage native plantings
 - Educate contractors and enforce the proper installation and maintenance of soil erosion and sedimentation controls on construction sites.
 - Educate land owners about the natural areas adjacent to them and about good stewardship practices (i.e. no dumping of garbage, including lawn waste, into our natural areas; don't drain pool water over valley slopes; don't dump oils, detergents into storm drains)

Conservation Authority Programs and Services

- Environmental land-use planning
- Administration of Ontario Regulation 162/06, which ensures that development does not impact wetlands, shorelines or waterways
- Ecological monitoring
- Sustainable forest management
- Education programs
- Recreational experiences
- Voluntary stewardship program to provide landowner assistance.



Thank you

Natural Champions for a Healthy Watershed

