

MAITLAND WATERSHED PARTNERSHIPS

Terrestrial Team

Background:

The Maitland Watershed Partnerships was established in 1999. The MWP's was formed to act as a forum for organizations, agencies and businesses to learn and collaborate on issues related to water and natural areas management within the Maitland, Nine Mile and Eighteen Mile watersheds.

The goal of the MWP's is to: identify innovative approaches for improving the long term social, economic and environmental health of the watershed.

The rationale for forming such a forum was due to the fact that responsibility and jurisdiction for dealing with water and related land management issues is fragmented across 4 levels of government and many departments at each level. The private sector is also involved in providing environmental services as well. Over the years community environmental groups have formed around the watershed as well.

It was also felt that collaboration and partnerships were an effective way to move forward in dealing with the water and related land management issues in the watershed.

The objectives that were identified by the partners in the MWP's are as follows:

1. develop a better understanding of the major natural resource management issues
2. build the capacity of local service providers to deal with these issues(both private and public)
3. build alliances among service providers to deal with these issues

In 2000 the Maitland Watershed Partnerships broke into two teams: A Water Action Team to focus on water and related issues and a Terrestrial Team to focus on issues related to natural environment areas (forests, wetlands etc.).

Each Team developed a strategic plan for dealing with the major issues that were identified. These strategies were reviewed and updated in 2005. It was decided at that time to retain the targets that were identified but to develop additional targets related to process and outcomes work collaborating together.

A review of the literature and data was used to help revise the targets. The original targets are found within the boxes. The revised targets are below. Specific changes are in bold. The revised targets are to be evaluated and actions and lead organizations for implementation are to be identified by the members of the team.

Terrestrial Team Mission:

To contribute to a culture based on protection and restoration that will support a functioning and profitable natural area system.

Strategic Plan: A Collaborative Plan involving many organizations finding local solutions

Forests play an important ecological and economic role in the watershed. Ecologically they sequester CO₂, moderate weather, lessen erosion and provide important habitat for wildlife. As outlined in the Forest Resource Assessment report, forests in Huron and Perth County generate millions of dollars yearly to landowners. The extent and health of the forests are important for the physical and economic prosperity of the watershed residents.

Prior to European settlement the vegetation type was climax forest covering over 95% of the area. Native species had adapted to the habitat that large tracts of forest provided. Since settlement, the forest cover has been reduced, and the remaining patches are scattered and fragmented throughout the area. Healthy watersheds need at least 30% natural cover. Currently only 18.9% of the watershed is natural cover. Not only is there not a healthy amount of natural cover and forests but the size of the forested fragments are small and provide a minimal amount of interior forest. An assessment of the forest resources could further concluded that more than 50% of the forests are in poor condition.

Revised Target A:

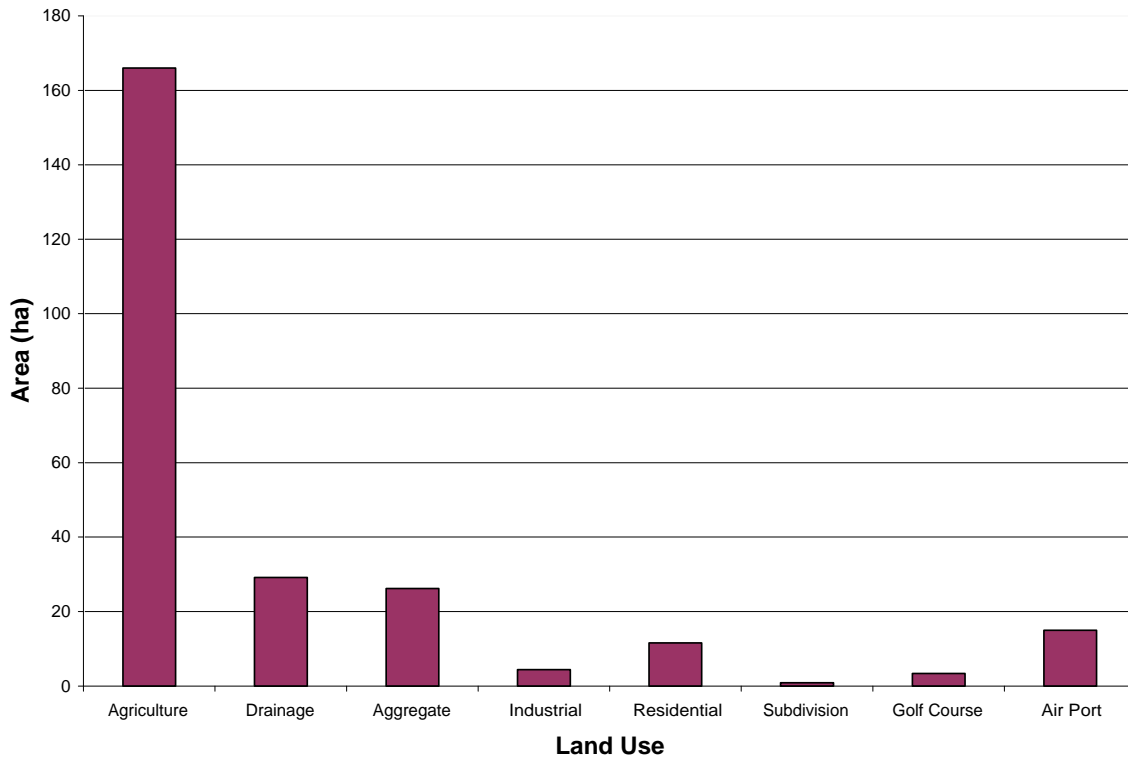
Reduce the absolute loss rate of natural areas by 50% by 2020.

Rationale:

- 243 hectares (600 acres) of natural vegetation has been lost between 1999 and 1985.
- Currently the watershed has 18.9% natural cover. Healthy watersheds have over 30% natural cover
- Healthy fully functioning forests improve social, environmental and economical conditions.

Additional Information:

- Approximately 70,000 trees are planted per year by the MVCA, HSC and Huron Clean Water Project annually. Other organizations and programs also plant trees in the watershed including the Wellington Clean Water Project, National Wild Turkey Federation, Community Fish and Wildlife Improvement Project to name a few. Despite these plantings an overall loss of natural areas is still occurring.
- Based on data collected from 1985-1999 over 75% of the forest cover has been lost due to clearing and drainage for agriculture.



Amount of forest loss (hectares) by land use type.

- Tools to protect forests include:
 - tax incentives;
 - easements;
 - land trusts;
 - land acquisition;
 - significance assessment;
 - land-use planning;
 - tree-cutting by-laws;
 - environmental advisory committees;
 - woodlands advocacy; and
 - existing environmental laws.

- In a rural agricultural watershed, where the vast majority of remaining forest resources are privately held and most losses occur as a result of activities directly related to agricultural land use, the most applicable tools for forest conservation would appear to be woodland advocacy and strong, effectively implemented tree-cutting bylaws.



Forest Loss Between 1985-1999

Revised Target B:

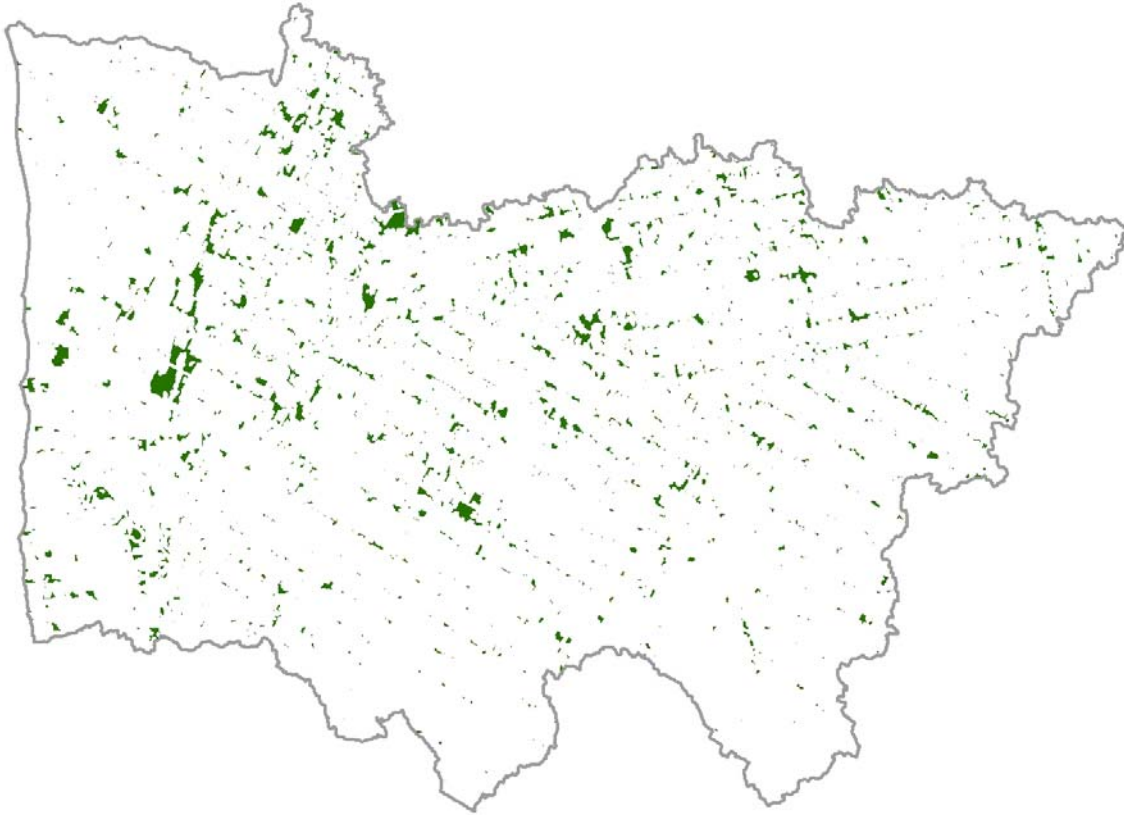
Prevent the net loss of forest interior by 2020

Rationale:

- Interior forest is that portion of the forest that exists 100m (328 feet) from the edge.
- The vast majority of forests are not large enough to support interior conditions which are necessary for biodiversity.

Additional Information:

- Currently there is 3% interior forest while healthy watersheds should have over 8%
- As per the Forest Resource Assessment report a 50m (164 feet) buffer around all forests would increase the amount of interior forest to 255km² (63012 acres) = 8%
- Approximately 136 hectares (336 acres) of interior forest has been lost between 1985 and 1999; a rate of over 9 hectares (22 acres) per year.
- Although data hasn't been analyzed it seems reasonable the losses would be a result of activities that resulted in the overall loss of natural cover and in similar proportions
- Strategies to stop the loss would include tools to protect forests (as described in Target A) modified to specifically address the significance of interior forests.



Location of MVCA Interior Forests

Revised Target C:

Increase the amount of natural connections on the landscape in the MVCA watershed from 87km² (21498 acres) to over 210 km² (51892 acres):

1. Establish buffers along major watercourses
2. Enhance existing riparian buffers
3. Establish other connections and corridors

Rationale:

- Vegetated buffers along watercourses provide many benefits including stabilizing banks, removing sediment, binding nutrients, enhancing aquatic habitats, and providing terrestrial habitats and travel corridors.
- The extent of these benefits is dependant upon the width and composition of the buffers.

Additional Information:

- There are sections of major watercourses that don't have a vegetated buffer
- Other riparian buffers could be enhanced by making them wider.

- In general 5m (16 feet) buffers stabilize the banks, 30m (98 feet) buffers filter sediment and nutrients and improve aquatic habitats, 300m (984 feet) buffers provide habitat for a wide range of wildlife.
- The Forest Resource Assessment report used 30m (98 feet) buffers around watercourses as a restoration strategy. This resulted in 210km² (51892 acres) of riparian buffers to be added.
- At the current reforestation rate it would take over 347 years to meet this target.
- Other natural connections and corridors could be established between woodlots and around fields for windbreaks, living snow fences, property boundaries etc but their exact location is more property specific and thus difficult to quantify.
- Approximately 87km² (21498 acres) (15.9%) of the existing natural areas can be considered “connections” due to their size (less than 20m or 66 feet across at their widest point). This does not take into account if there is actually a connection between natural areas.

Revised Target D:

To increase the percentage of woodlots in good condition from 45% to 60% by 2030 as evaluated in the Forest Resource Assessment report.

Rationale:

- 55% of woodlots are in poor to fair condition as defined in the Forest Resource Assessment report
- Forests in poor to fair condition have reduced economic, social and environmental benefits.

Additional Information:

- Woodlot health in the Forest Resource Assessment was diagnosed through the use of 6 different indicators. These are:
 - Total Basal Area
 - Course Woody Debris
 - Human Disturbance
 - Tree Species Composition
 - Alien Species
 - Mean Conservatism Coefficient
- Many of the MVCA forests are suffering from a lack of species and structural diversity.
- Inappropriate logging practices are a major contributor to the fact that forests are not as healthy as they should be.
- BMP's to promote healthy forests (according to OMNR Extension Notes – Do You Have A Healthy Woodlot) include:
 - Enlarge or connect existing woodlots
 - Maintain and create travel corridors
 - Promote native plants
 - Provide protective wildlife cover
 - Plant mast species for food
 - Protect and naturalize the waters edge
 - Protect snags and cavity trees

- Leave decaying logs and debris
- Protect large canopy and supercanopy trees
- Create natural buffers around forests
- Harvest carefully
- Consider the needs of wildlife before disturbing natural environments
- Keep cattle out
- Leave native plants in the forest
- Stick to the trails
- Restrict pets
- Avoid feeding pest species
- Assessment and implementation of management plans for individual woodlots are key to improving the health of the forests.

Target E:

To increase the total amount of natural cover in the watershed from 18.9% to over 26%.

- Currently there is 618km² (152711 acres) (18.9%) of land in natural cover.
- Healthy watersheds should have over 30% natural cover.
- Natural cover consists of clearings, old fields, plantations and woodlands.
- The restoration strategy outlined in the Forest Resource Assessment report will add interior forests, buffer watercourses and wetlands and protect fragile soil on lands that are old fields and marginal for agriculture.
- Restoration in this manner combined with existing natural cover could increase the amount of natural cover in the watershed to 854km² (211028 acres) (26%)
- Reforestation rates for the MVCA watershed are currently estimated to be 0.35km²/year (87.5 acres/year).
- At the current reforestation rates, and assuming no loss to existing natural cover, it would take over 666 years to reach this target, require 46.6 million seedlings which would cost 39.1 million dollars.



Existing Natural Cover in the MVCA



Restored Natural Cover Combined with Existing Natural Cover for the MVCA

Assumptions and conversions used for calculations

- 1 km² = 100ha = 247.1acres
- 800 trees will reforest 1 acre
- Seedlings cost \$0.84 each
- 70,000 trees are planted annually in the watershed
- No net loss of the existing natural cover

For additional information please contact:

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