Hydrologic Function

Surface Water – Largest Patch
Target –Hydrologic Function

This value is related to the size of the forested patches in the study area.

The purpose of setting a target on this value is to ensure that the preferred scenario includes the largest contiguous areas of natural cover, well distributed (at the Watershed Planning Area scale) to mitigate peak flow and run-off, and maintain good water quality and quantity.

The literature related to forest patch size indicates that larger patches of forest contain more area to act as a sponge in the system to aid in the attenuation of water and increase base flow to streams by releasing smaller quantities of water over a longer period of time. Larger patches of forest and wetland can also filter water and run off to help improve water quality.

Datasets
The following datasets were considered as potential sources with which to facilitate potential target development for this ecological objective:

1. NPCA NAI ELC Community Series Mapping

Forest cover is determined by combining all of the mature wooded area community types from the ELC mapping. This means that most mature tree dominated communities like Woodlands, Savannahs and Plantations are included with the ELC 'Forest' community and considered part of the broader and more general concept of 'forest cover' as it pertains to habitat.

Forest patches were derived by dissolving the mature wooded ELC communities isolated as forest cover habitat into individual mapping units. A derivative patch is a polygon of forest cover that does not share a border with another patch, there needs to be a separation by non natural cover in between.

Across the study area there are a total of 15647 patches generally averaging 2.9 hectares in size (std. dev 18.2ha) with the largest being 1485 hectares.

Discussion
The discussion around this target focused on whether-or-not there are hydrologic benefits to having the largest contiguous patches of cover occurring higher up in the system (headwater areas). The group decided on the recommendation of Jayme Campbell, Hydrogeologist/Engineer for the Niagara Peninsula Conservation Authority that this was best dealt with under the targets related to Headwater Catchments.

Data Gap
None noted.

Decision
Date: April 7, 2011

No target set on this value.

Representation in the Learning Scenarios
Due to the fact that no target was set for this value, there is nothing to report in relation to their performance in the scenarios.

Representation in the Final Scenarios
Due to the fact that no target was set for this value, there is nothing to report in relation to their performance in the scenarios.

Recommendations
None noted.