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sent via email to:
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October 4, 2017

Dear Ms Boyd:

RE: EBR Registry No. 013-1014 – Criteria, methods, and mapping of the proposed Natural Heritage System for the Growth Plan for the Greater Golden Horseshoe

Thank you for the opportunity to comment on this EBR posting entitled *Criteria, methods, and mapping of the proposed Natural Heritage System for the Growth Plan for the Greater Golden Horseshoe*. The Oak Ridges Moraine (ORM) Partnership is comprised of EcoSpark, Ontario Nature, Save the Oak Ridges Moraine Coalition (STORM) and Earthroots - four committed environmental non-government organizations that have collaborated successfully since 1991 for long-term protection of the Oak Ridges Moraine.

The ORM Partnership has been actively involved in all stages of the Coordinated Land Use Planning Review and is actively engaged in the implementation of its plans. Overall, we are pleased to see the Province taking leadership in identifying and mapping a Natural Heritage System (NHS) for the Greater Golden Horseshoe (GGH). However, there are keys areas that need to be addressed to ensure that the regional NHS addresses biodiversity loss, land use changes and the uncertainties of climate change so we have clean air, clean water and a rich diversity of plant and animal live to sustain present and future generations.

Key areas that need to be addressed include improving mapping criteria and further integrating important regional variations, improving opportunities for community involvement, improving objectives and targets, adapting linkage widths to best achieve connectivity and regional variations, providing Provincial oversight and guidance with implementation, and developing an enhancement strategy for the regional NHS.

Please find attached our 16 recommendations on the criteria, methods, and mapping of the proposed NHS for the Growth Plan for the GGH including a summary of our key recommendations on the first page.

We look forward to discussing our recommendations with you. Please contact Joyce Chau at 647-258-3280 x 2005 or joyce@ecospark.ca on behalf of the ORM Partnership if you have any questions.

Sincerely,

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 EcoSpark

Debbe Crandall
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Amber Ellis
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Natural Heritage System for the Greater Golden Horseshoe

Key recommendations for “Criteria, methods and mapping of the proposed regional Natural Heritage System for the Growth Plan for the Greater Golden Horseshoe”

EBR Posting # 013-1014

Prepared by the Oak Ridges Moraine Partnership

Summary of key recommendations:

- 1) **Improve mapping criteria and further integrate important regional variations**
 - a) **Integrate other identified natural heritage systems:** The Ministry of Natural Resources and Forestry (MNR) should integrate natural heritage systems mapping that is included in municipal official plans and incorporate conservation authority data layers into the final provincial map of the Greater Golden Horseshoe’s (GGH) Natural Heritage System.
 - b) **Define smaller core natural areas in watersheds with high fragmentation and low natural cover:** Smaller core sizes are needed in areas with high habitat fragmentation and where few intact Core Areas remain that meet the proposed minimum of 100 hectares. In areas with low natural cover, even smaller features have a high biodiversity value.
 - c) **Include all identified valley corridors:** All valley corridors should be identified in this regional system with appropriate buffers based on defined valleys and adjacent natural features. Valley lands should be wide enough to protect water and riverbank habitats and function as wildlife corridors.
- 2) **Improve opportunities for community involvement:** Inclusion of a diversity of perspectives and expertise will ensure a more accurate representation of community values in the regional Natural Heritage System. It will also help develop consensus around the vision, objectives and targets, an important consideration in terms of implementation. Unfortunately, community involvement was largely neglected during the development of the draft.
- 3) **Improve objectives and targets:** Biodiversity conservation and recovery as well as climate change mitigation and adaptation must be included as primary objectives of the GGH’s Natural Heritage System. These objectives should be complemented by a target to include at least 50% of the landscape within the Natural Heritage System on a watershed basis.
- 4) **Adapt linkage width to best achieve connectivity while reflecting regional variation:** Linkages should reflect the existing and potential connectivity between Core Areas. Most linkages will overlap with agricultural lands, where all farming activities are permitted, and will include some natural areas. These areas must receive elevated protection in policy to ensure they remain as farmland or natural cover.
- 5) **Provide Provincial oversight and guidance:** Close oversight and a provincial guidance document are needed from the Province to ensure the objectives and targets set out in the GGH’s Natural Heritage System are properly adhered to as municipalities incorporate the Natural Heritage System into their official plans.
- 6) **Develop a natural heritage system enhancement strategy:** Alongside the improved policy in the Growth Plan and finalized mapping, an enhancement strategy with dedicated funding is necessary to achieve the objectives of the GGH’s Natural Heritage System.



The Ministry of Natural Resources and Forestry (MNRF) is seeking input on the criteria, methods and mapping of the proposed regional Natural Heritage System for the Growth Plan for the Greater Golden Horseshoe. The following 16 recommendations were developed by the Oak Ridges Moraine Partnership.

RECOMMENDATIONS

1) **Improve mapping criteria and further integrate important regional variations**

The Greater Golden Horseshoe (GGH) is a region of more than three million hectares with a wide range of different landscape conditions throughout. The draft Natural Heritage System for the GGH does not adequately acknowledge these regional variations in the methodology used to select Core Areas; using this methodology would result in the exclusion of many important natural features from the Natural Heritage System. We have identified three interventions to better capture significant natural features in the more heavily fragmented natural areas of the GGH. These are: a) integrate other identified natural heritage systems into the Province's map (i.e., those of municipalities and conservation authorities); b) define smaller core natural areas in watersheds where fragmentation is high; and c) include all conservation authority identified valley lands in the Province's map.

a) **Integrate other identified natural heritage systems**

The MNRF should integrate natural heritage systems mapping that has been included in municipal official plans as well as conservation authority data layers into the final provincial map of the GGH's Natural Heritage System. Many municipalities, often with the support of conservation authorities and with community consultation, have developed natural heritage systems that have been approved by local councils consistent with provincially-approved upper-tier official plans. Where this type of mapping is completed and available, it should be added. This approach would be consistent with Recommendation 43 from the Advisory Panel Report for the Coordinated Review, which proposes that the Province work "in collaboration with conservation authorities, municipalities and other partners" to develop "a Provincially led, large scale map of natural heritage systems."

Integrating municipal natural heritage systems into the GGH's Natural Heritage System will also provide consistency, avoiding the confusion of having two different maps in official plans (i.e., the GGH's Natural Heritage System incorporated at the municipal level vs. a municipality's existing natural heritage system). Furthermore, it proactively avoids a "lowest-common-denominator" approach whereby the Province's map automatically prevails at the expense of the municipally-approved system, which might well include natural features or areas identified by and of value to the community.

Integrating local mapping would also be consistent with the methodology used by the Ministry of Agriculture, Food and Rural Affairs (OMAFRA) in its identification of the Agricultural Land Base. OMAFRA has identified as core elements existing prime agricultural areas, rural areas

(including upper and single tier municipally identified prime agricultural areas), as well as the Provincially-led LEAR mapping (see draft map presented in [EBR 013-0968](#)). In addition, OMAFRA has established a process whereby candidate lands may be further added to the agricultural land base during municipal implementation. This approach could be used by MNR in order to ensure that municipally identified natural heritage systems are integrated into the mapping led by MNR and that a consistent approach to mapping is used across the GGH.

Recommendation 1: The final Natural Heritage System for the GGH should integrate existing natural heritage systems identified by upper and single tier municipalities to better reflect regional variations.

Recommendation 2: The final Natural Heritage System for the GGH should include data layers developed by conservation authorities where available to better inform the identification of Core Areas.

b) Define smaller core natural areas in watersheds with high fragmentation and low natural cover

Currently, the draft Natural Heritage System has a minimum Core Area of 500 hectares in the north and east, and 100 hectares in the south and west portions of the GGH. This coarse-scale differentiation is insufficient to deal with regional diversity and variations in natural cover across the GGH. Smaller Core Area sizes are needed for watersheds and municipalities where natural cover is low and habitat fragmentation is high, and where smaller features provide high value for preserving biodiversity. In these areas there may be very few 100 hectare sites that could qualify as Core Areas, so a smaller size must be defined. Smaller minimum Core Area sizes (i.e., less than 100 hectares) would benefit south Simcoe, Dufferin, Wellington, Waterloo, Brant and western Haldimand Counties (See Figure 1: Percentage of natural cover by subwatersheds in the GGH).¹

Many of the criteria used by the MNR are adequate and defensible, such as the functional clustering of multiple natural features into large Core Areas and the minimum percentage natural cover for a Core Area. However, more must be done to protect biodiversity and enable its recovery, and to increase community resilience to the impacts of climate change through the enhancement of ecosystem services.

Recommendation 3: The Province should identify small Core Area sizes (smaller than a minimum of 100 hectares) in areas with high fragmentation and low natural cover on a watershed basis, particularly in south Simcoe, Dufferin, Wellington, Waterloo, Brant and western Haldimand Counties.

¹ The Advisory Panel to the Ministers for the Coordinated Review, *Planning for Health, Prosperity and Growth in the Greater Golden Horseshoe: 2015 – 2041*. The Advisory Panel to the Ministers for the Coordinated Review. <http://www.mah.gov.on.ca/AssetFactory.aspx?did=11110>

Recommendation 4: The Province should work with community members and local experts, including conservation authority staff, to determine Core Area size criteria at a watershed level.

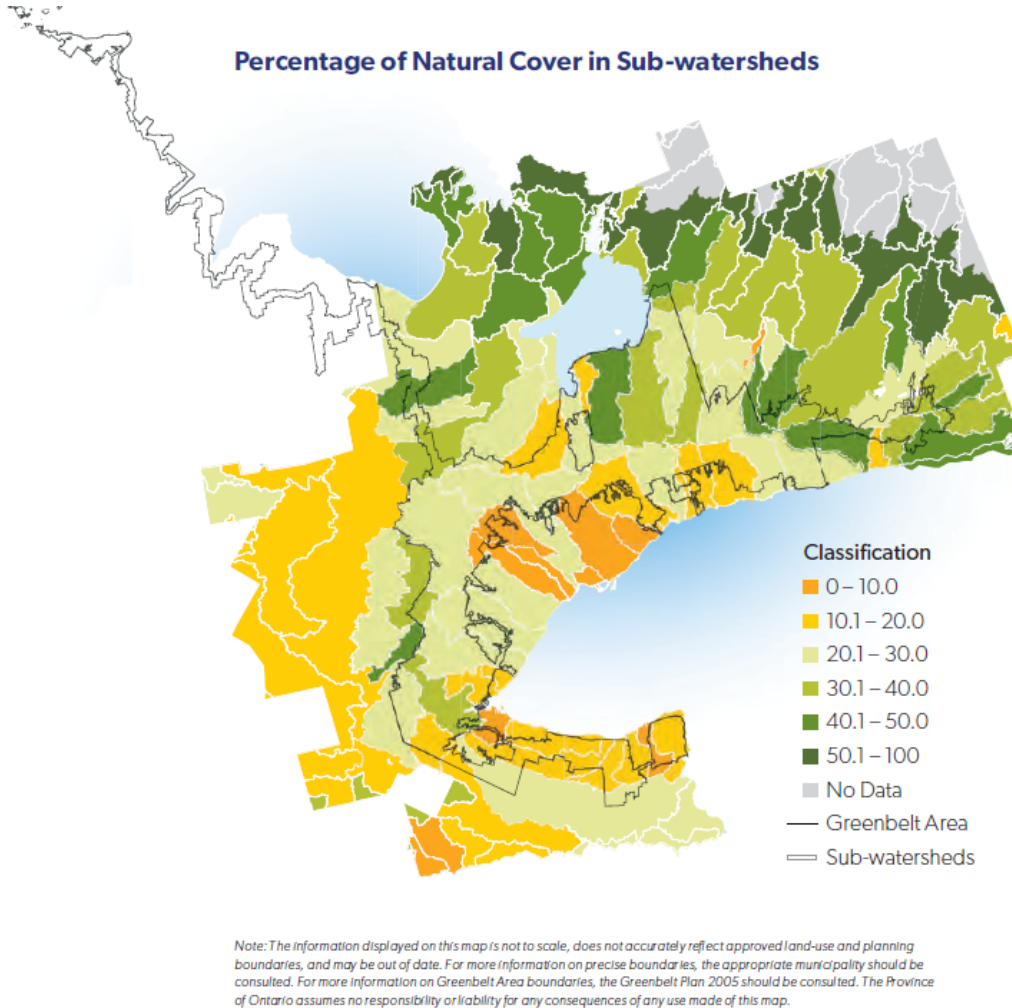


Figure 1: Percentage Natural cover by sub-watersheds in the GGH

c) Include all identified valley corridors

All valley corridors should be identified in the final GGH Natural Heritage System, to maintain consistency with the Greenbelt’s Natural Heritage System. Valley lands should be mapped with buffers wide enough to protect water and riverbank habitats and accommodate wildlife movement. Where an undefined (or less well-defined) valley exists, the corridor width should be established so as to provide the same level of function as defined valleys. By including all valley corridors, more functional linkages would be established with the Greenbelt and Oak Ridges Moraine Conservation Plan Areas as well as with lakes within the GGH (e.g., Lake Ontario, Lake Simcoe, and Rice Lake). Wider valley corridors should be established for significant streams (e.g., where a width has already been municipally established, where the valley corridor

provides an important ecological and hydrological connection at a regional or provincial scale, or where the valley corridor is under threat due to urbanization).

Recommendation 5: The Province should identify all valley corridors in the GGH's Natural Heritage System with widths that are wide enough to protect water and riverbank habitats, and provide for the free movement of plants and animals.

Recommendation 6: The Province should identify and include functionally significant valley corridors at a regional and provincial scale as linkage areas in the GGH's Natural Heritage System with wider widths for increased protection from urbanization.

2) Improve the opportunities for community involvement

The integration of community voices into the process of developing the GGH's Natural Heritage System will enhance outcomes. Natural heritage systems design and mapping should involve representation from Indigenous communities, municipalities, conservation authorities, local naturalist groups, community organizations, farmers and business leaders. A diversity of perspectives and expertise helps to articulate community values, build consensus around the vision and objectives of the natural heritage system, and engender a sense of ownership over the outcomes.

To date, unfortunately, the Province has provided limited opportunity for meaningful community involvement in the development of the GGH's Natural Heritage System. It has consisted of only three 2.5-hour technical sessions (by invitation only) followed by three evening public houses (in Guelph, Mount Albert and Peterborough) for the entire GGH.

Recommendation 7: The MNRF should arrange additional community consultations that are geographically representative of the GGH to invite broader participation.

Recommendation 8: The MNRF must ensure that the feedback received from communities across the GGH helps to guide the objectives and targets for the GGH's Natural Heritage System.

3) Improve the objectives and targets

Biodiversity conservation and recovery as well as climate change mitigation and adaptation must be included as primary objectives of the GGH's Natural Heritage System. To support these objectives there should be a target to include at least 50% of the landscape within the Natural Heritage System on a watershed basis. A 50% minimum target would be consistent with Environment Canada's *How Much Habitat is Enough, Third Edition* (2013). It would also be consistent with the Greenbelt Plan, which includes 50% of the Protected Countryside within the Natural Heritage System, and with the Oak Ridges Moraine Conservation Plan, which includes 62% of the landscape within either Natural Core or Linkage Areas.

Unfortunately, the proposed Natural Heritage System for the GGH falls short of this target, covering 1.18 million hectares or only 45% of the region, with a disproportionate amount located in the northeast.

Additional percentage targets should be defined for the inclusion of existing natural features (e.g., forest, wetland, endangered and threatened species habitat) at the regional and watershed scale.

Recommendation 9: The objectives for the GGH's Natural Heritage System should include protection and recovery of biodiversity as well as climate change mitigation and adaptation.

Recommendation 10: The MNRF should establish a target to include at least 50% of the region in the Natural Heritage System, on a watershed basis, as well as additional targets for natural features at a watershed and regional scale.

4) **Adapt linkage width to best achieve connectivity while reflecting regional variation**

As outlined in the *Development of the Proposed Regional Natural Heritage System for the Growth Plan for the Greater Golden Horseshoe – Summary of Criteria and Methods*, linkages “provide corridors and functional routes for the movement and survival of populations of plant and animal species” and “enable ecological processes to continue across a landscape by reducing habitat fragmentation and isolation.” Such natural connections are critical in an era of climate change when wild species are experiencing/will experience dramatic range shifts.

As with the size of Core Areas, linkage width should also reflect regional variations across the GGH to promote ecosystem health and function and enable wildlife movement. Linkages intended to support connectivity at the broader landscape level among Core Areas or beyond the GGH (e.g., Kawartha Highlands and Great Lakes coast) should be a minimum width of two kilometres. MNRF can identify priority linkages that should be supported by wider widths using the Centrality Mapper module in Linkage Mapper. Note that the Oak Ridges Moraine's east-west Natural Linkage Areas are about two kilometres wide. In some cases, however, linkages narrower than the proposed 500 metres may be needed at the site level to increase the number of linkages included and build an extra layer of protection into the system, especially in areas of high habitat fragmentation.

Most linkages will overlap with agricultural lands and will include some natural areas. It is important to note that all farming activities (including agricultural uses, agriculturally-related uses and on-farm diversified uses) would be permitted in the Natural Heritage System. In other words, there would be virtually no impact on farming activity, except for a requirement for natural heritage or hydrologic evaluations for new farm buildings or structures proposed within a 30-metre buffer from a Key Hydrologic and Key Natural Heritage Feature. Restrictions within the linkage areas would apply only to non-farming development and site alterations to maintain connectivity within the system.

Linkages must also reflect the realities of climate change. While MNR used the GIS tool Linkage Mapper to identify linkages, it did not take into account the impacts associated with climate change. Linkage Mapper has a module called Climate Linkage Mapper which maps corridors along climate gradients. This module should be applied in the identification of linkages to ensure that an extra layer of protection is built into the system.

Recommendation 11: The Province should ensure that linkages reflect regional variations across the GGH to promote connectivity and ecosystem function and enable wildlife movement. Linkages intended to support connectivity at the broader landscape level should be a minimum width of two kilometres. To increase the number of linkages and build an extra layer of protection into the system, more narrow linkages should be allowed in highly fragmented areas.

Recommendation 12: The Province should apply the Climate Linkage Mapper module in Linkage Mapper to address climate change impacts.

5) Provide Provincial oversight and guidance

The Province should closely oversee municipalities as they incorporate the Natural Heritage System into their official plans to ensure that provincial objectives and targets are met. Provincial guidance is needed to assist municipalities as they incorporate the regional Natural Heritage System into their official plans. There were significant variations between Schedule 4: Natural Heritage System in the Greenbelt Plan (2005) and the natural heritage map in some lower-tier municipal official plans for example.

A provincial guidance document should be developed that includes information on how to include additional features or how to proceed with refinement to the system through a municipal comprehensive review (Growth Plan section 4.2.2 (5)) of the Growth Plan (2017). Provincial oversight and guidance will also be needed to ensure that appropriate policies are applied to “maintain, restore or enhance the diversity and connectivity of the system and the long-term ecological or *hydrologic functions* of the features and areas” (Growth Plan policy 4.2.2(2)). Since Growth Plan policies 5.2.6 (2) and (3) require municipalities to monitor and report on implementation and to provide data to the Minister, it is important that the Province establish a monitoring framework and indicators, based on the objectives and targets of the Natural Heritage System.

As well, there appears to be widely divergent interpretations of the relationship between the Natural Heritage “overlay” and the Agricultural “designation” as they relate to municipal implementation. In particular, the agricultural community has expressed concern about the impact that a Natural Heritage System overlay may have on their agricultural operations and long-term viability. It is the Partnership’s understanding that these fears are unfounded, given the direction provided by Growth Plan policies. Therefore, it is imperative that the Province provide immediate clarification around municipal implementation of the Natural Heritage System

“overlay” and the Agricultural System “designation” to help foster greater understanding of on-the-ground implications.

Creating a publically-accessible portal for the GGH’s Natural Heritage System map would provide a tool for long-term monitoring and tracking. We are encouraged that on August 31, 2017, the Ministry included a link to a map viewer that displays the Proposed Natural Heritage System map. However it remains embedded in the original EBR posting and is not available through the MNRF’s website. Furthermore, the online map is for illustrative purposes only and will be accessible only until October 4, 2017. OMAFRA has taken a superior approach with its interactive, online draft Agricultural System Portal which includes 60 mapping layers of the agri-food sector in the GGH (see draft Agricultural System Portal presented in EBR 013-0968).

Given the considerable overlap between the Natural Heritage and Agricultural Systems, the Province should make the regional Natural Heritage System for the GGH available for public viewing and access on the Agricultural System Portal. This enhanced mapping tool would serve a dual purpose of providing a baseline layer to help track changes over time and fostering greater public understanding of, and engagement in efforts to protect natural heritage and agriculture in the GGH.

The MNRF already has an online mapping system - “Make A Map: Natural Heritage Areas” (http://www.gisapplication.lrc.gov.on.ca/mamnh/Index.html?site=MNR_NHLUPS_NaturalHeritage&viewer=NaturalHeritage&locale=en-US). There are similar layers used in this online portal as those in the draft GGH’s Natural Heritage System, i.e., Areas of Natural and Scientific Interest, Provincially Significant Wetlands, woodlands, the Greenbelt’s natural heritage system, provincial parks and conservation reserves. Public access to an online map of the regional Natural Heritage System would support the engagement of stakeholders and mapping refinements as well as provide a baseline to assist in long-term monitoring of and tracking the state of the GGH’s Natural Heritage System.

Recommendation 13: The Province should closely oversee and provide guidance on the implementation of the regional Natural Heritage System in municipal official plans including the development of a provincial guidance document.

Recommendation 14: The Province should provide immediate clarification of the relationship between the Natural Heritage System “overlay” and the Agricultural System “designation” to help foster greater understanding of on-the-ground implications and how these systems are to be implemented by municipalities.

Recommendation 15: The Province should make the Natural Heritage System and Agricultural System mapping publicly available on the same online portal to enable better planning and monitoring by a broad range of users. This is particularly important for integrated land use planning given the considerable overlap of the two systems

6) Develop a natural heritage system enhancement strategy

Alongside the finalized Natural Heritage System mapping, an enhancement strategy with dedicated funding is needed. Complementary activities such as land securement, stewardship, restoration and enhancement are needed to ensure that the GGH's Natural Heritage System will achieve its stated objectives. Such a strategy would be consistent with Recommendation 44 in the Advisory Panel Report for the Coordinated Review:

Strengthen protection of natural heritage systems by:

- Developing a natural heritage system enhancement strategy for the area of the four plans, including priorities and resources to implement securement, stewardship, restoration and enhancement of natural heritage features, linkages and functions.

Linkages identified in areas with high fragmentation (e.g., patchy natural cover between Core Areas) are priority areas for restoration to help contribute to a stronger and more resilient Natural Heritage System. Such an approach is recommended, for example, in the MNR's Natural Heritage Reference Manual:

Where few natural areas remain, identifying a connected natural heritage system may not be possible except where efforts are made to encourage restoration or rehabilitation. In such parts of the province, the emphasis should be on protecting most of the remaining natural area and lands surrounding it where natural cover can be improved or restored (page 160).

The Province should support the active engagement of community members and relevant organizations in the development and implementation of a natural heritage system enhancement strategy, including education, stewardship, restoration and land securement efforts. Such an approach would be consistent with Complementary Recommendation 45 in the Advisory Panel Report for the Coordinated Review:

Support involvement by farmers, other landowners, community groups and the public in protection, stewardship, restoration and enhancement of natural heritage systems by:

- Increasing access to education and incentives to encourage landowners to protect natural heritage systems and maintain ecosystem services
- Supporting and promoting sustainable forest and woodlot management
- Supporting and promoting community-led protection and stewardship initiatives

Recommendation 16: The Province should develop, in consultation with Indigenous communities and stakeholders, a natural heritage enhancement strategy for the GGH with dedicated funding to support education, stewardship, restoration and land securement efforts.