South Nation Conservation de la Nation Sud

Prescott Russell

theCounties SDG
Stormont · Dundas · Glengarry

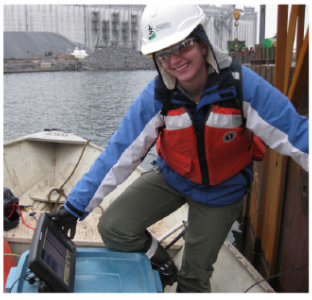
Raisin Region Conservation Authority

Partner Counties Natural Heritage Study
Policy Framework for Consultation

Winter 2021







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County Partnership

The United Counties of Prescott and Russell (UCPR) and the United Counties of Stormont, Dundas and Glengarry (SDG) partnered with South Nation Conservation (SNC) to complete a Natural Heritage Systems planning study on their behalf.

The partnership project includes support from the Raisin Region Conservation Authority whose watershed jurisdictions includes a significant portion of SDG; and Indigenous direction from the Eastern Ontario First Nation's Working Group including the Algonquins of Pikwakanagan and Mohawks of Akwesasne.

The project will update the County Official Plan natural heritage schedules to better define natural linkages based on an updated landscape analysis. The project also includes updates to environmental planning policies to better conserve local natural heritage features and wildlife habitat.

Some existing policies were limited in application, restrictive (in the wrong situations), and not focussed on important areas. Updating these policies will streamline minor development where minimal environmental impact is expected. Conversely, it adds protection to large core areas and encourages public land acquisition and stewardship where it matters most.

Natural Heritage Studies in neighbouring jurisdictions were reviewed to ensure regional consistency, including in the City of Ottawa, the Province of Quebec, Akwesasne, New York State, and the United Counties of Leeds and Grenville.

This policy framework document provides a brief description of how the Natural Heritage System was developed and gives general policy direction for the proposed Official Plan updates.

Natural Heritage Planning

Systems Planning

Natural Heritage System (NHS) planning is about maintaining, restoring, and enhancing landscapes by linking natural core areas like significant woodlands and wetlands. These systems promote wildlife movement, increase biodiversity, reduce habitat fragmentation, and create a landscape resilient to disturbances like development and climate change.

Wildlife movement enhances genetic diversity by allowing new members to exit and enter a population. This can mitigate impacts of climate change and development by enabling species to migrate between core areas as needed. Fishers and moose are two keystone wildlife species identified by the Province for regional scale NHS planning.

Natural systems also provide important habitat for bird, fish, and plant species. For example, local waterway corridors are vital fish spawning areas that support fish populations within larger rivers like the St. Lawrence. Core natural areas also protect drinking water sources for local communities, keeping water clean and plentiful.

NHS planning can also help facilitate restoration and enhancement of critical natural areas. For example, tree planting along watercourse corridors helps to reduce erosion, protect water quality, and increase local forest cover. These efforts enhance the connectivity between water and land.

Healthy Natural Heritage Systems provide ecosystem services that support human well-being and the health, safety, and economic prosperity of our communities. These benefits include lowering flood risk, soil retention, water purification and storage, improved air quality, pollination, and outdoor recreation opportunities that support tourism. When protected, these services can be provided in perpetuity, reducing the need for costly infrastructure solutions.

Provincial and Municipal Planning

The Province requires municipalities to identify and protect Natural Heritage Systems (Provincial Policy Statement, 2020). Municipalities achieve this by including Natural Heritage Systems and policies in their Official Plans.

As primary public agencies for long-term land use planning, municipalities play a key role in managing natural heritage features and areas for the benefit of their communities. County Official Plan policies balance the need for land development, resource use, and protection of ecosystem services for the community while ensuring increased resilience to climate change.

Natural Heritage System Mapping

Scope

The County NHS functions at a regional scale, over a long period of time. These regional scale corridors benefit species like moose who need to migrate between large, forested areas. These connections will enable generations of wildlife populations to migrate and expand their range. The corridors identified in the County NHS will benefit wildlife migration and population movement over an extended period (seasons, years, or generations).

The Counties NHS is consistent with the scope of adjacent studies and meets the requirements of Provincial policy. The Counties Natural Heritage System mapping was prepared using an overlay approach supported by the Ontario Federation of Agriculture (2017, Growth Plan).

Data

The NHS generally includes wetlands; waterways; areas of natural and scientific interest; woodlands; significant wildlife habitat; public land, trails, and greenspaces; and natural hazard areas including floodplains.

The project relied on existing information to generate and evaluate the mapping. Sources of information included provincial agencies, conservation authorities, municipalities, environmental conservation agencies, environmental consultants, and academic institutions.

Public land ownership information was provided by agencies to prioritize core natural areas that include existing conservation lands.

Regional Cores

Regional cores are large areas of mostly natural cover that are intended to remain in a naturalized state for an extended period. They are essential natural areas that protect biodiversity by accommodating functional wildlife populations.

These areas are often regionally and socially significant and include a large proportion of publicly owned lands. Examples of local regional cores include the Larose Forest, Alfred Bog, and Loch Garry Marsh.

These regional core areas act as anchor points for the County natural heritage system. Regional cores were defined through spatial analysis using a Geographic Information System (GIS) and significant wetland and woodland mapping from municipal Official Plans.

The woodland and wetland features were grouped together to form complexes, which were ranked by size and degree of fragmentation to identify the best candidates for regional cores. The largest blocks with the lowest fragmentation were selected.

The resulting areas were reviewed by ecologists, forestry staff, and municipal planners to determine the optimal size for selection of regional cores; this review resulted in the addition of several additional regional cores.

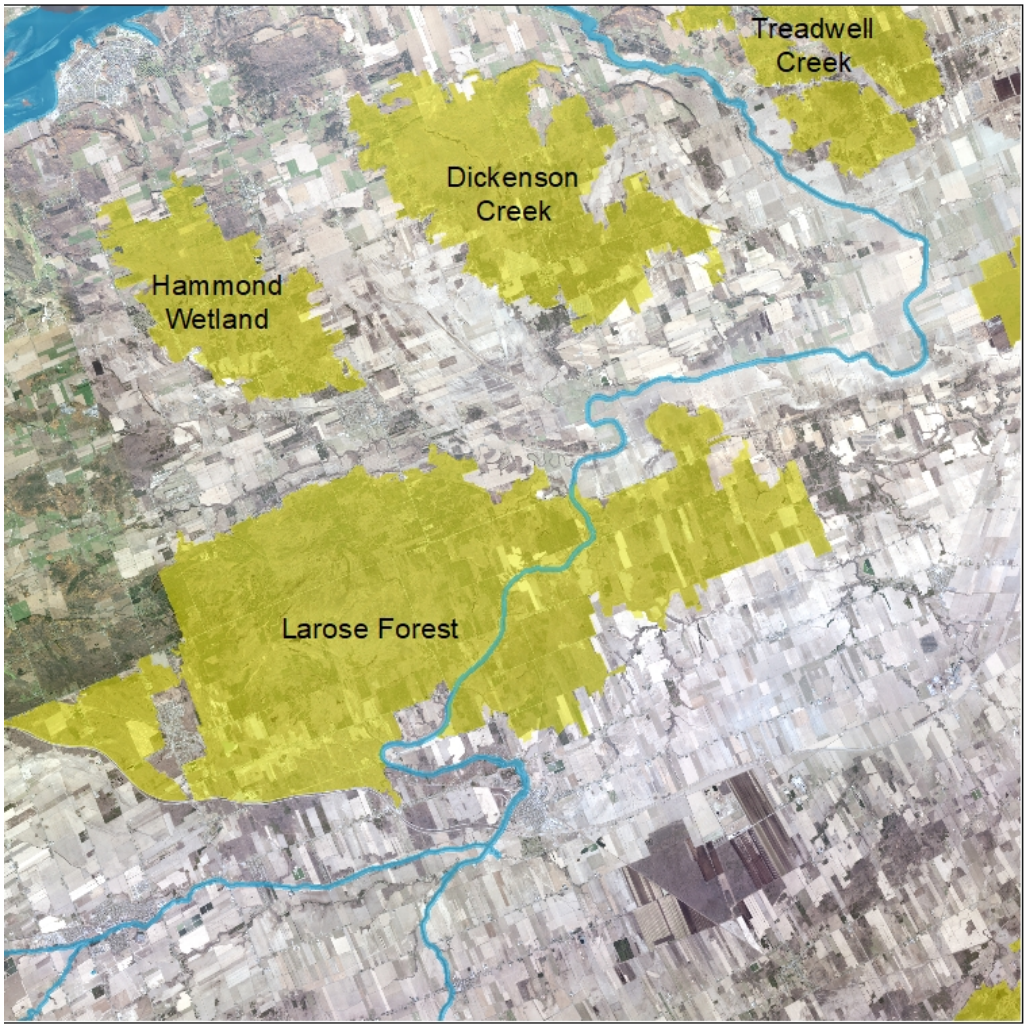

Figure 1. Example of proposed regional cores

Corridors
In the NHS, regional cores are connected by corridors: predominantly natural, semi-natural, or rural areas that provide or have potential to provide ecological connectivity. Corridors include natural heritage features, and rural, agricultural, and other supporting lands.

Without these corridors, wildlife populations in regional cores may not be able to migrate between and are vulnerable to genetic isolation. Moose are a keystone species that rely on forests for shelter, food, mating, and cover from predators. They need to move between different forest areas to best meet these needs; corridors are essential to facilitate this movement.

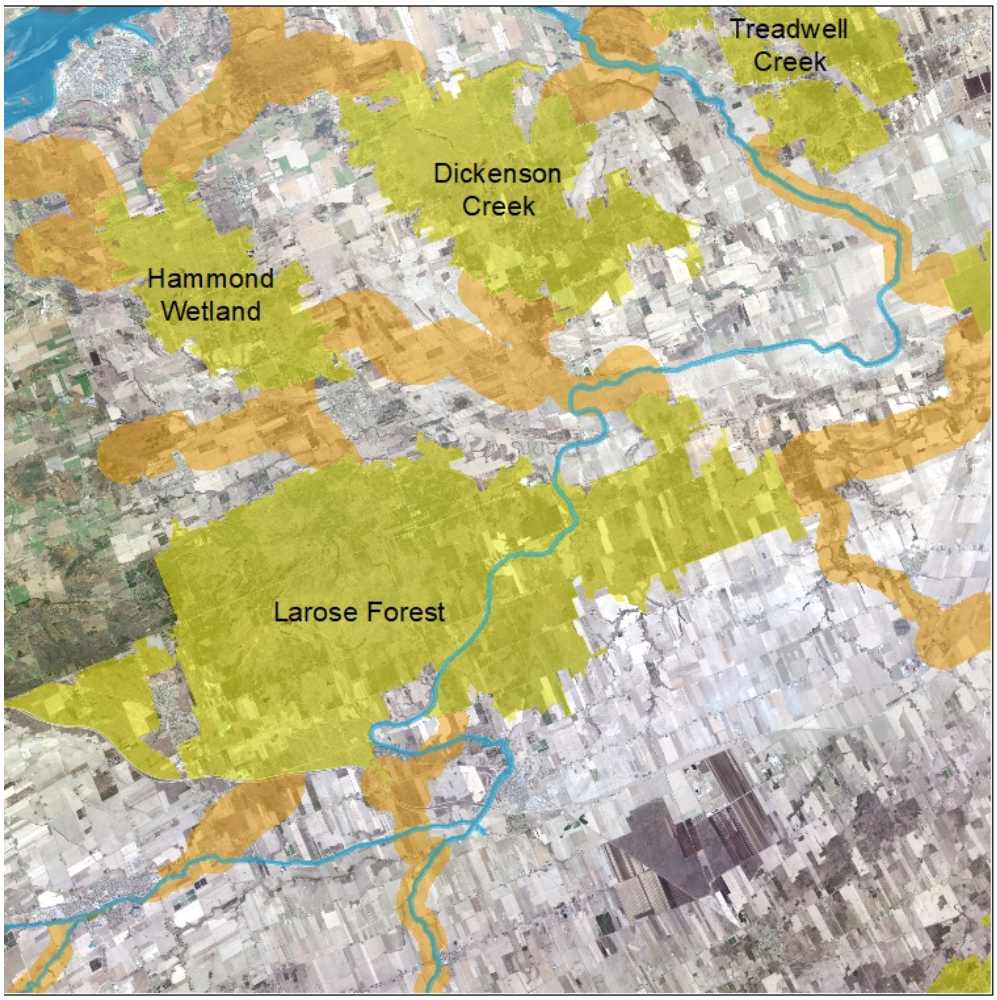

Figure 2. Example of proposed natural linkage corridors

A Least Cost Corridor approach is a common method used to delineate these corridors. Different types of land cover are assigned a score to reflect the ease or danger for wildlife to cross. A digital model is used to map the easiest path across the scored landscape.

Natural cover was assigned a low movement cost score, open water and agricultural areas were assigned medium scores, and urban areas, aggregate extraction sites, and highways were assigned high scores.

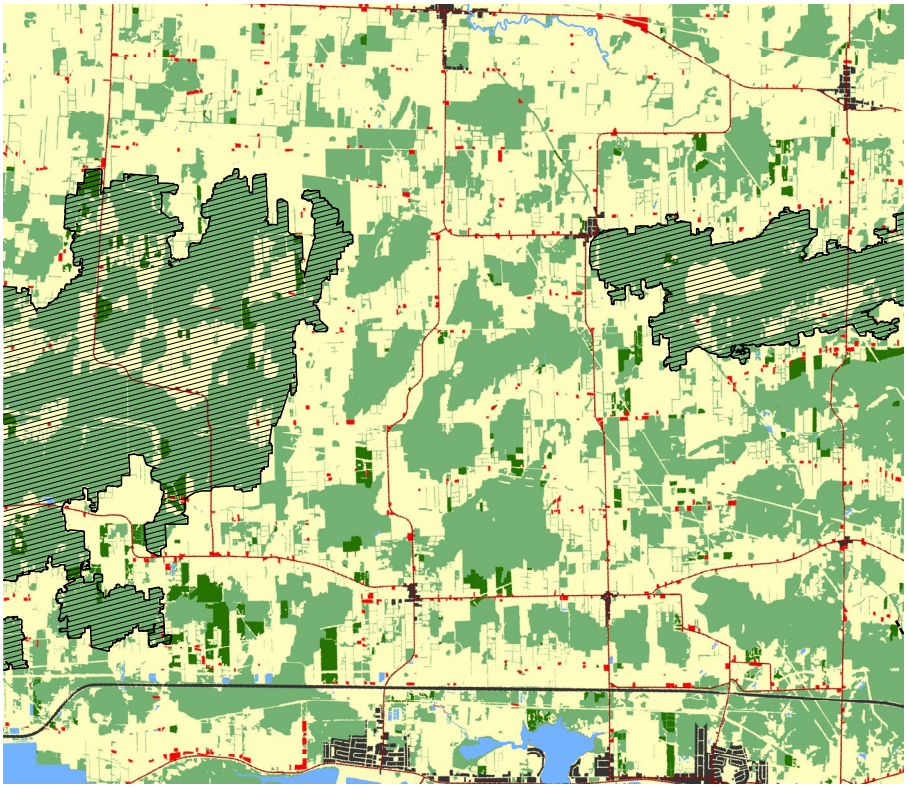

Figure 3. Cost distance map (forests in green, agriculture in yellow, major roads in red)

The movement scores were modified to reflect regional land use planning priorities; scores were increased for urban and prime agricultural areas and reduced for floodplains and vegetated watercourses. The corridors intentionally avoided settlement areas where future urban development will be directed.

Corridors were also created to link to natural heritage systems outside of the Counties. Studies from New York State, Quebec, Leeds and Grenville, and Ottawa were reviewed, and connection points were established. The Least Cost Corridor analysis produced a line between regional cores and regional connection points. The lines were buffered to create a corridor. The corridors tend to follow areas of natural cover and watercourses. Corridor widths are generally two kilometers; but the width was reduced to one kilometer where the corridor follows a watercourse with prime agricultural land on either side.

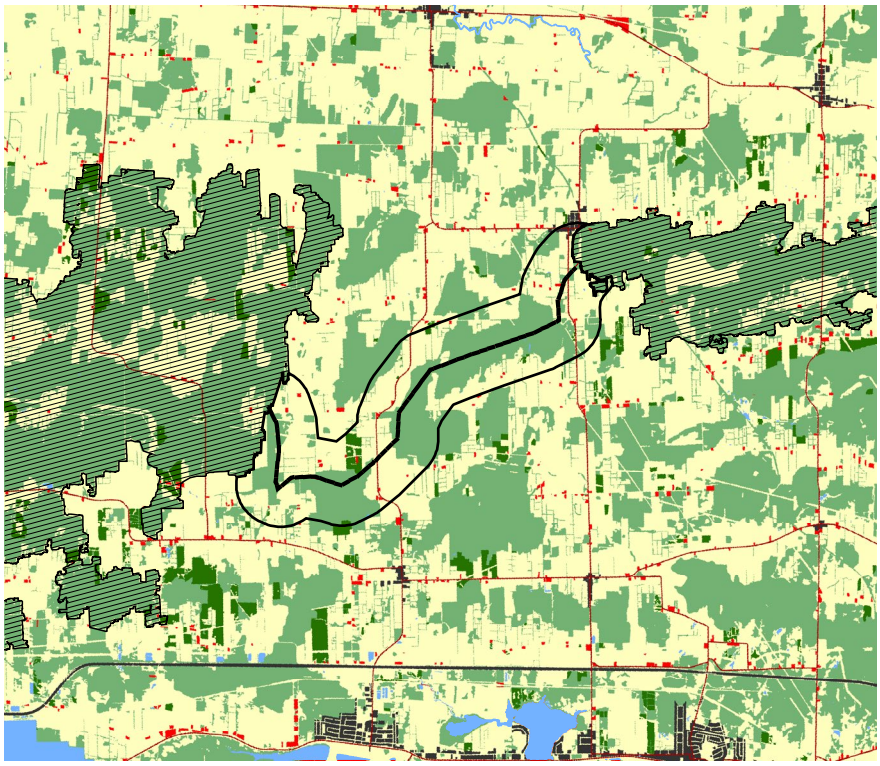

Figure 4. Least cost corridor

Where the corridor is forced through a major settlement area the corridor was reduced to the width of the watercourse plus any adjacent natural cover on either side of the watercourse.

Some of the corridors in rural lands include Enhancement Areas; areas without natural cover that have potential to be restored to a natural state.

Expert Review

The modeled corridors went through several rounds of review by Conservation Authority and municipal technical staff including ecologists, planners, GIS specialists and forestry technicians. This review evaluated the identified corridors against practical conditions on the ground.

Expert technical reviews resulted in changes to movement cost scores, additional connections to neighbouring studies, and modification of corridors to capture more publicly owned conservation lands areas of natural cover.

Other Mapping Updates

Significant Valleylands

Significant valleylands are natural areas in a valley or depression where water flows. These features are extremely important wildlife corridors that allow animals safe areas to move through habitat.

Valleylands also serve as genetic reservoirs and biodiversity hubs due to the difficulty in developing within or around them; meaning they often remain untouched for extended periods. There are many beautiful valleylands found in Larose Forest which are home to unique species based on their geology and proximity to water. As a result, valleylands often contain a historical record of biodiversity in forests.

Although previous natural heritage studies from other agencies included significant valleylands, the Counties had not identified any significant valleylands in their Official Plans. Valleylands in Larose Forest were identified as part of this project using GIS methods and high-definition aerial topographic imagery (LiDAR). These areas will be included on the natural heritage schedules and the methodology will be documented in the Official Plan. Further information on these areas is included as a Memo, available on request.

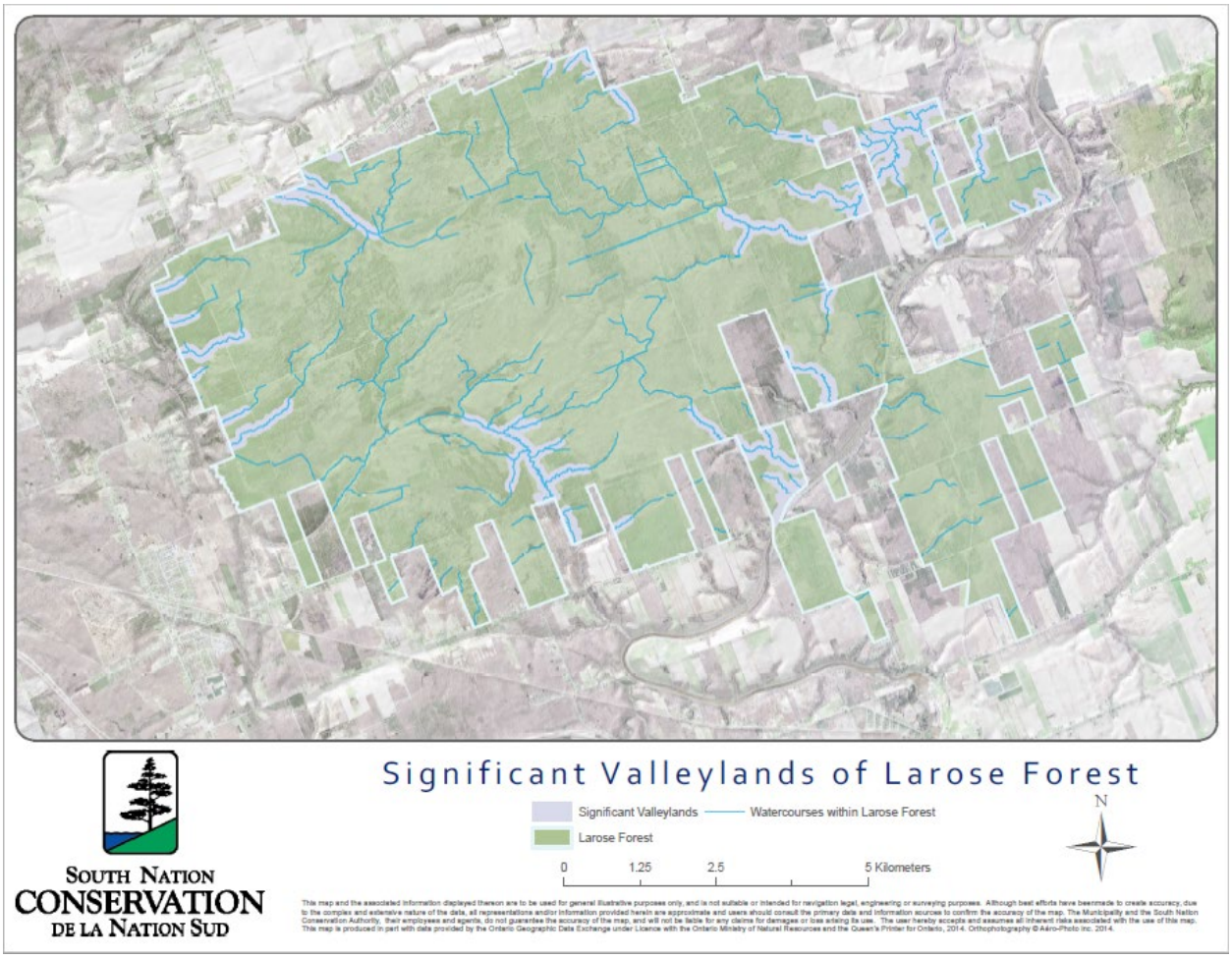

Figure 5. Significant Valleylands of Larose Forest

Coastal Wetlands

Coastal wetlands are defined in the Provincial Policy Statement as any wetland located along the St. Lawrence River, or any other wetland on a tributary 2 kilometres upstream of the 1:100-year flood line.

Section 5.5.6 of the Stormont, Dundas and Glengarry Official Plan includes these wetlands; however, they are not included on the schedules as the mapping was not available from the Ministry of Natural Resources and Forestry (MNRF) at the time of Official Plan adoption.

Staff worked with the MNRF to draft an updated version of the coastal wetland maps that can be used to screen development applications. This mapping will be provided to the County for future adoption into the Official Plan.

Policy Updates

Overview

The Counties have long-standing Official Plan policies that guide development and land use around significant natural features and areas. These policies need to be reviewed and updated as communities grow and as best practices for implementation develop.

The goal is clear, appropriately scoped, streamlined development polices that can be efficiently implemented after approval is granted. When policies are reasonable and clear it strengthens environmental protection while allowing rural development in areas that make sense.

This project recommends key policy updates including modernizing development setbacks, scoping environmental impact studies, and natural system planning policies to improve environmental planning in the region. For example, policies can be scoped differently for single family homes versus large, multi-unit developments.

The policy considerations below are provided for public engagement. These proposed policy directions and public feedback will be used to draft new Official Plan policies. Policy considerations are organized by type and County Official Plan Section references are included at the beginning of each section.

Natural Heritage System Policies

Section 5.3.1 United Counties of Prescott and Russell
Section 5.5.8 United Counties of Stormont, Dundas and Glengarry

Most of the land throughout the United Counties is privately owned. In areas where the natural heritage system crosses privately owned lands, the policies currently promote land donation, biodiversity offsetting, parkland acquisition, and conservation easement programs.

Policy Considerations:

1. These policies should include reference to stewardship and restoration programs including targeted environmental grants.

2. Policies should clarify that impacts on the NHS and its connectivity must be assessed when an Environmental Impact Study is required (i.e., the development is in or near a significant natural feature).

3. Preserving or conserving existing natural cover remains the most effective way to maintain the NHS. The principle of no net loss should be included for the regional cores: if habitat must be removed due to development, the same or greater amount of habitat must be replaced elsewhere.

4. These policies will also be updated to include discussion on the new regional cores and corridors, natural system planning and its benefits, and the regional connections to the broader natural system.

Environmental Impact Studies

Section 5.6 United Counties of Prescott and Russell
Section 5.5.7 United Counties of Stormont, Dundas and Glengarry

The purpose of an Environmental Impact Study (EIS) is twofold: to evaluate and confirm the boundaries of natural heritage features on the site (woodlands, wetlands, watercourses, wildlife habitat, species at risk); and ensure development will not negatively impact these features.

EIS' are completed by qualified professionals and are peer-reviewed by specialists (i.e., Conservation Authority). Often, an EIS sets out a development setback from a natural heritage feature which is agreed upon by technical reviewers, planning staff, and the developer.

EIS' also include mitigation measures to protect natural heritage features from construction impacts (i.e., vegetated buffers next to rivers, timing windows for animal breeding, protection of species at risk habitat) and limits encroachment in natural heritage features (i.e., backyard fencing along a significant woodland).

Municipal and Conservation Authority staff agree that some development proposals warrant a more flexible, 'scoped' approach. Generally, this would apply to minor development like single family homes, single lot severances, and/or proposals where a development impact will take place entirely outside of the natural heritage feature (within 120 meters). In this case, there are standard mitigations that can be applied.

Consistent policies are proposed to allow the municipality, in consultation with a qualified environmental professional (i.e., a biologist from the Conservation Authority), to waive or scope the requirement for an environmental study. This saves applicants time and money and allows municipal planning staff to focus on proposals that have a major potential to impact the environment.

Policy Considerations:

1. The Counties receive numerous applications for a single lot severance within the 120-meter screening area of a significant natural feature. If the proposed severance is separated from the significant feature by a barrier such as a road or existing development, the risk of impacting the significant feature is low and warrants an expedited review.

   Screening area distances can be adjusted by municipalities. Policies will recommend that small-scale development more than 30 meters from a natural heritage feature would be exempt from EIS requirements, and standard mitigation measures can be included in the Environmental review comments. This saves the applicant time and money when experts agree there is no risk to the environment.

2. The Counties note that EIS' submitted by consultants are often vague and do not address the policies of the Official Plan regarding significance and no negative impact. A pre-screening process is recommended. Landowners would work with the municipality or Conservation Authority to review new development applications and assess the requirements for an EIS up front. This includes collaborative site visits when needed.

3. Some applications may be eligible for standard mitigations. This would occur when the municipality and Conservation Authority pre-screen the development application against natural heritage mapping and monitoring data and agree on standard mitigations for the site. If the applicant agrees to the proposed mitigations, a site visit would be completed

to confirm there are no additional natural features or species at risk on site. This would eliminate the requirement for a full EIS.

Adding this flexibility to the County's EIS policies ensures applicants do not pay for unnecessary reports while still ensuring the natural environment is protected and provincial policy requirements are achieved.

4. Both United Counties expressed a strong interest in consistency between Conservation Authorities and municipalities. New EIS guidelines and standard conditions will be prepared by the Conservation Authorities to help municipalities respond to development applications quickly and consistently. The guidelines will also help environmental consultants focus on important criteria and result in higher quality reports.

Development Setbacks, Buffers, and Adjacent Lands

Section 5.5 (generally) United Counties of Prescott and Russell
Sections 3.5.2.9, 5.5.2, and 5.6.2 United Counties of Stormont, Dundas and Glengarry

Setbacks

The Official Plans include policies to establish setbacks from watercourses, woodlands, and wetlands. Setbacks are used to protect fish habitat, water quality, natural hazards, wetland function, and reduce edge impacts by preserving natural transition areas. These areas are also sometimes referred to as buffers.

Official Plans also reference 'Adjacent Lands'. This term comes from the Ministry of Natural Resources and Forestry's Natural Heritage Reference Manual. These Adjacent Lands set the screening area for Environmental Impact Studies.

The purpose and function of setbacks, buffers, and Adjacent Lands are often confused in the complexity of the Official Plan. This confusing terminology leads to errors in implementation.

Policy Considerations:

1. A new section in the Official Plan should be created to describe the function and purpose of setbacks and eliminate confusing terminology. This additional clarity will help consultants, developers, and planners apply the correct setback to protect a natural feature.

2. Both United Counties have low riparian (water's edge) forest cover. This watercourse cover is known to be essential for local water quality, temperature, aquatic habitat, and animal movement. Policy updates are proposed to strengthen the importance of natural shoreline setbacks including tree and vegetation buffers (riparian lands). Restoration policies will be added to encourage tree planting and naturally vegetated setbacks especially where there are natural hazard areas.

Implementation Challenges

Official Plan policies are permissive and often allow setbacks to be reduced (i.e., a 30-meter watercourse setback reduced to 20-meters) where important mitigation requirements are applied. It is extremely important that the mitigation measures be followed during construction. It is also important that these 'no-touch' setbacks be vegetated and not subject to any site alteration or development.

Landowners often purchase property without knowing these setbacks exist. Where private property extends into the setback, local municipalities face challenges trying to control prohibited landscaping and development projects. In the case of setbacks associated with a floodplain or unstable slope, this can be dangerous for the property owner and their neighbours.

Follow-through is an important consideration in planning policy: once the planning process ends, additional tools are needed to ensure setbacks from technical reports are protected and mitigation is completed.

Without tree cutting by-laws or site alteration by-laws, municipal staff are not able to prevent impacts in setback areas or to ensure mitigation measures are implemented. Also, where setbacks serve multiple purposes (e.g., flooding, erosion, and water quality) municipal staff have challenges explaining what is and is not permitted in the setback. The multitude of technical studies are often filed away and are easily be missed when building permits come in.

Policy Considerations:

1. Zoning setback lands is essential to provide notice to landowners. Zoning information is readily available to property owners, real estate agents, lawyers, and municipal staff, and is considered legal notice. Zoning is also enforceable by by-law officers and through the building code. Polices should be added to require setback to be zoned as a condition of development. This could be done on an annual basis to reduce administrative costs.

2. Setback areas are regularly impacted by tree cutting, landscaping, and small-scale development even when zoned restrictively. The most straightforward approach to protecting these areas is often public ownership.

   Policies are proposed to strongly encourage public ownership for larger setback areas, especially where natural hazards are present. In some urban municipalities, developers transfer setback lands to the municipality as part of the development process. These public lands create ecological buffers, keep development out of hazardous areas, and allow passive recreational uses for residents to share and enjoy natural spaces.

Sensitive Groundwater Recharge Areas

UCPR identified a specific policy goal to protect natural areas and features associated with vulnerable aquifers and groundwater recharge areas. Section 5.5.9.2 refers to a specific area of known groundwater vulnerability; however, potential sensitive groundwater recharge areas extend throughout much of the County's geology.

An appropriate scope and scale for sensitive groundwater recharge areas was discussed and proposed mapping incorporates Source Water Protection Assessment Report studies, local geological information, and Provincial Karst mapping. The proposed new mapping would be part of Schedule C. This mapping is available on request.

Policy Considerations:

1. Policies for recharge areas (quantity) versus Karst features (quantity and quality) would be slightly different:

   a. recharge area policies would be triggered by major water taking developments which would divert excessive amounts of water out of the environment. Routine activities that take more than 50,000 L/day (i.e., aggregate dewatering facilities)

would continue to be permitted and monitored through the Provincial Permits to Take Water under the Ontario Water Resources Act.

b. The Karst policies should be updated to include specific reference to development that could impact water quality and expand on the Karst policies in the Official Plan (Section 6.6.1.8). Development shall generally be directed to areas outside of Karst topography; industrial and waste management uses will not be permitted. Site-specific geotechnical studies will be required to establish an appropriate development setback areas of known Karst features.

2. Hydrogeological guidelines should also be finalized to ensure consultant reports provide enough information to make an assessment. These guidelines would also be used for development on private services where groundwater quantity or quality could be an issue.

Agriculture in the Natural Heritage System

Natural systems and agricultural lands function collectively to provide habitat for different species. In Southern and Eastern Ontario, agricultural lands are working landscapes that provide valuable ecosystem services such as pollination, atmospheric regulation, soil retention, and wildlife habitat (MNRF, 2009).

It is important that these working landscapes be included in natural systems planning in Eastern Ontario. Agriculture is the predominant land use on the rural landscape and nearly all the province's prime agricultural lands are located below the Canadian Shield.

As such, the Counties Natural Heritage System mapping was prepared using approaches supported by the Ontario Federation of Agriculture (2017, Growth Plan).

Not all farming practices benefit the environment, some result in habitat loss and fragmentation. However, natural heritage policies recognize and value practices that encourage and foster cooperation with private landowners to protect the environment and improve the quality of natural habitat and linkages.

The importance of financial incentives was identified by the local Agricultural Forest Cover Committee as an important tool for retention of natural cover. The policies for the Counties Natural Heritage System incorporate these important recommendations. The NHS makes it clear to landowners which areas are of vital importance for the region's biodiversity.

This information can be used to prioritize areas for best management practices, grant programs, land donation, or passive restoration. Stewardship projects completed by landowners in these areas will help increase our resilience to climate change and ensure our wildlife populations can continue to exist.

Conclusion

A Natural Heritage System (NHS) is a network of interconnected natural features and areas like forests, lakes, rivers, agricultural lands, and wetlands. The NHS helps conserve biological diversity, maintain ecological functions (e.g., movement corridors for wildlife, endangered species habitat) and sustain ecosystem services that we all depend on (e.g., pollination, clean water, flood damage reduction).

The Province of Ontario requires municipalities to identify Natural Heritage Systems and preserve the diversity and connectivity of these features. This requirement is translated into policies that inform development, stewardship actions, climate change resiliency, environmental studies, and conservation efforts.

This strategic approach to maintaining biodiversity preserves green infrastructure that is resilient to climate change and development pressure.

The new NHS and the proposed policy updates are a positive step forward for environmental planning and stewardship in the Counties.

SNC and the Counties welcome feedback and discussion on the draft maps and policies from stakeholders, including those who live, work, and depend on the landscape. Personal, lived experience, and historical and indigenous perspectives will make the County planning framework stronger and more robust.

More information on the Partner Counties Natural Heritage Study and public consultation can be found at www.nation.on.ca/NHS.