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DATE 8 May 2000

TO/DEST. Co-ordinator
Planning and Environment Committee

FROM/EXP. Planning and Development Approvals Commissioner

SUBJECT/OBJET **UPPER POOLE CREEK SUBWATERSHED STUDY**

DEPARTMENTAL RECOMMENDATION

That the Planning and Environment Committee recommend that Council endorse the Upper Poole Creek Subwatershed Study (April 2000) as the technical document to guide environmental planning and management decisions within the study area.

BACKGROUND

In April of 2000, Marshall Macklin Monaghan Limited completed the Upper Poole Creek Subwatershed Study on behalf of the Region of Ottawa-Carleton and the Township of Goulbourn. The purpose of the study was to develop a comprehensive understanding of the subwatershed and, based on this, prepare a plan which will allow a healthy ecology to be maintained or strengthened while accommodating planned development. The final Subwatershed Plan identifies actions that could be readily implemented, at a relatively low cost, to achieve an appropriate level of protection/remediation of the Upper Poole Creek ecosystem.

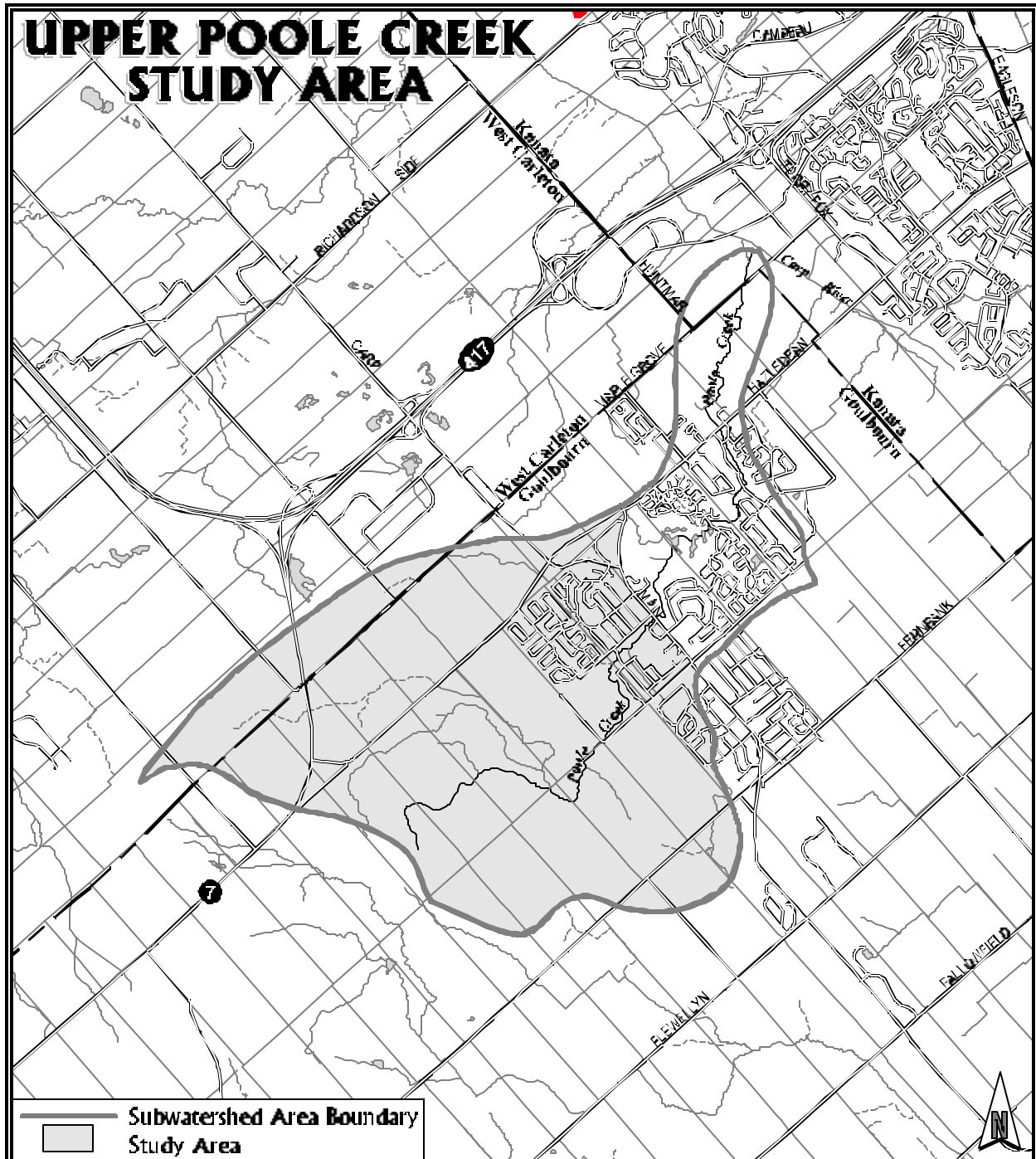
The Subwatershed Study is on file with the Corporate Resource Centre. The Executive Summary has been distributed to Council members.

DISCUSSION

Poole Creek is situated primarily within the Township of Goulbourn (please refer to Figure). Its headwaters originate in a large Provincially Significant Wetland complex to the west of Stittsville and drains north-easterly through the village into the Carp River. The upper portion of Poole Creek, west of Main Street, is a cold or cool-water stream with the remainder of the watercourse considered a warm

water habitat. Because of the unique character, the Creek has become a focus and symbol for the community's concern for the environment and the existing ecology.

The subwatershed study was undertaken to protect the unique character of Poole Creek and to identify environmental constraints and opportunities associated with future development. The study area consists of the Poole Creek drainage area upstream of Main Street. This area includes the principal area designated for future development within Stittsville, the cold-cool water portion of Poole Creek, the provincially significant Upper Poole Creek Wetland to the south, and Fernbank Wetland to the west.



The study process consisted of the following main tasks:

- Background Review
- Field Work and Technical Studies
- Identification of Issues
- Formulation and Evaluation of Alternatives
- Preparation of the Subwatershed Plan and Implementation Strategy

In order to develop a comprehensive understanding of the existing environmental features and functions within the area, a thorough review of background information was conducted. This assisted in identifying information gaps and verifying the field investigation program. An interdisciplinary technical team of professionals conducted the field work which included: land use, aquatic biology, terrestrial biology, hydrogeology, water resources engineering, and stream morphology.

Key Issues in the Subwatershed

The field work and analysis resulted in the identification of the following issues or problems associated with past and current human activities. Future development could contribute to these problems unless appropriate measures are taken.

1. Degraded Fish Habitat

Past urban development has degraded the aquatic habitat of Poole Creek. The two primary constraints on the aquatic system are stream temperature and lack of baseflow.

- Stream Temperature - Based on stream temperature data, it suggests that Upper Poole Creek is a coolwater rather than a cold water habitat. Previous development has modified groundwater flow patterns which have significantly decreased cold water inputs into the creek.
- Lack of Baseflow - Baseflow measurements in Poole Creek indicate that flows are a major constraint on the stream ecosystem. Poole Creek's surface water regime is intermittent in nature. During the summer, the upper portion of the watercourse tends to dry up except after rainfall events. This limits the available cool water summer habitat. Further, the lack of flows tends to "de-couple" the upstream wetlands from the downstream watercourse, leaving two separate ecosystems.

These stressors have impacted the aquatic habitat of Upper Poole Creek to a point where the system can no longer support a self-sustaining population of trout species. However, the presence of other cold-coolwater species such as mottled sculpin were found throughout the creek. These species are less sensitive to temperature change and lower water velocities.

2. Condition of Terrestrial Features

There are a number of provincially and regionally significant natural features within the study area including: the Highway 7 North Natural Area; Rothbourne Road Natural Area; and, Stittsville West Natural Area (which includes the North Goulbourn and Upper Poole Creek Provincially Significant Wetlands). Other features include the Fernbank and Stittsville Wetlands. There are few issues associated with the terrestrial resources outside the urban boundary. These areas are relatively undisturbed, however, two issues were identified: 1) Ice Damage to Vegetation; and, 2) Invasive Species.

3. Potential Encroachment

No encroachment is permitted into provincially significant wetlands. Development proposals on lands adjacent to the wetland (within 120 m) must complete studies, which ensure that the function of the wetland is maintained. Future urbanization will bring development into contact with the Upper Poole Creek wetland and Fernbank wetland. There will be a need for Wetland/Environmental Impact Statements to ensure that alterations to the adjacent lands do not negatively impact the wetland function.

4. Public Access and Linkages

The natural areas and associated wetlands are valuable resources to the community as well as naturalists clubs. The public identified the need to investigate opportunities to have greater access to these areas. There is presently a lack of trail systems connecting the Poole Creek corridor with the upstream terrestrial features.

5. Change in Wetland Status for Fernbank Wetland

During the course of the study, the Ministry of Natural Resources reassessed the wetland status of the Upper Poole and Fernbank Wetlands which was based on the 3rd Edition of the Southern Ontario Wetland Evaluation manual. The reassessment resulted in a classification change from provincially significant to locally significant for the Fernbank Wetland. This wetland is, therefore, no longer protected under the provisions of the “Significant Wetlands South and East of the Canadian Shield” policy of the Planning Act.

Goals and Objectives

Although Poole Creek is not a sports fishery, it does represent a clean and healthy environment that is highly valued by the community. Based on consultation with the public and Steering Committee, the following goals for the subwatershed plan were established.

1. Seek to maintain a cold to coolwater aquatic habitat.
2. Seek to extend the existing pathways to make pedestrian connection between Poole Creek and the upstream provincially significant wetlands.

Subwatershed Management Strategy

A number of alternatives were identified and evaluated using criteria based on the above goal statements. This resulted in a number of actions being recommended that would achieve a reasonable level of protection/remediation of the Upper Poole Creek ecosystem. These recommendations have been grouped into the following strategies: development guidelines, aquatic, terrestrial, and monitoring.

Development Guidelines

Development guidelines were prepared to govern future development by ensuring that current constraints on the environment are not exacerbated. The guidelines included the following measures:

Stormwater Management

- level 1 water quality protection
- water quantity control
- temperature sensitive measures (e.g. infiltration techniques) that help to reduce thermal impacts to the creek from urban runoff
- sediment and erosion plans

Wetlands

- updated boundary delineation
- Wetland and Environmental Impact Statement guidelines

Poole Creek Corridor

- 30 metre setback from watercourse

Monitoring and Inspection

- construction guidelines
- stormwater management monitoring
- vegetation monitoring

Aquatic Strategy

The aquatic strategy involves actions to strengthen and improve the aquatic habitat of Poole Creek. It supplements the development controls, which are aimed at mitigating the impacts of development. The strategy focuses on low cost actions which include:

- Buffer and Riparian Plantings
- Addition of In-stream Structures
- Remediation of Existing In-stream Structures

Terrestrial Strategy

The terrestrial strategy involves actions to improve and enhance the existing natural areas within the subwatershed while providing for public access and education opportunities. The strategy includes actions pertaining to the following:

- Trail System and Components
- Invasive Species Program
- Wildlife Management (beavers)

Monitoring Strategy

The purpose of the monitoring strategy is to collect information that will allow the ecological health of the Upper Poole Creek to be assessed and tracked over time. The program includes the following components:

- Indicator Species (mottled sculpin)
- Fish Community
- Benthic Community
- Water Quality and Temperature

Implementation Strategy

An implementation strategy was prepared which identifies the roles, responsibilities, and timelines associated with each of the recommended actions. The implementation of the subwatershed plan will be the joint responsibility of the regional and local municipalities, the conservation authority, the private sector, and the public. It is recognized that not all of the policy, protection, management, and restoration initiatives recommended in the plan can be achieved simultaneously.

The development guidelines will be implemented through the planning approval process and proceed in the short term. The Region's Official Plan will have to be amended as directed under policy 5.5.1.3, Policies for Significant Wetlands South and East of the Canadian Shield, which states that "... *changes in classification which result in the removal of the designation "Significant Wetlands south and east of the Canadian Shield" will require an amendment to this plan*". This process is anticipated to be initiated by staff this year.

Other recommendations will need to be examined in more detail in order to determine priorities, funding sources, and verify partnerships. The Steering Committee will continue to meet to co-ordinate implementation of the Plan and monitor progress.

CONSULTATION

Public consultation was a major component of the study as Poole Creek is a valued resource in the community. A Steering Committee comprised of the Region, the Township of Goulbourn, the public, the development sector, the Ministry of Natural Resources and the Mississippi Valley Conservation Authority was established to help guide the development of the subwatershed plan. The Steering Committee met several times throughout the course of the study to review study findings and provide advice on study direction.

Two public open houses were held at the following key decision making points in the study: 1) Identification of Issues and Formulation of Goals & Objectives; and, 2) Evaluation of Alternatives. The general public, landowners, the development community, and the Township's Environmental Advisory Committee (GEAC) attended the meetings. The public assisted in selecting the target to maintain a cool/coldwater system. As well, they helped to elevate the attention given to the terrestrial features within the study area. The public also assisted in selecting the preferred management strategy. The public concurred with eliminating highly intrusive/manipulative measures.

On 9 May 2000, the Township of Goulbourn Council tabled the subwatershed study. Overall, Council endorses the principles and recommendations of the report. Council will formally adopt the Upper Poole Creek Subwatershed Study at their 23 May 2000 meeting after allowing for further public review.

COMPATIBILITY WITH THE REGIONAL OFFICIAL PLAN

The Regional Official Plan, specifically section 5.4, supports and provides policy context for the preparation and implementation of watershed and subwatershed plans. This study will assist in executing several policies of the Official Plan in order to ensure sound environmental planning and management of the water and land resources within the subwatershed. Specifically, the subwatershed study provides direction and guidance in executing the following section and/or policies of the Official Plan: Section 3 - Community and Built Environment (Policies 3.2.10 and 3.2.13 in particular), Section 5 - Natural Environment (Objectives 5.1 and Policies 5.2, 5.3, 5.4, and 5.5), Section 6 - Regional Open Space and Cultural Heritage (policy 6.7), Section 10 - Environmental Services (Policy 10.3 in particular), and Section 11 - Environmental Constraints (particularly 11.2).

In addition, the plan supports and will help achieve the following goals of the Regional Official Plan:

Goal 2 - maintain the desirable characteristics and integrity of established communities in the urban and rural areas of Ottawa-Carleton.

Goal 7 - support a high quality of public open space and natural environment to bolster economic, cultural and political activities.

Goal 8 - preserve the integrity of natural systems by directing land use and development in a way that maintains ecosystem functions over time.

FINANCIAL IMPLICATIONS

The endorsement of the subwatershed plan for Upper Poole Creek does not have any financial implications for the Region at this time. Any funding requirements associated with implementation will be brought forward for Council's consideration through the appropriate process.

*Approved by
Nick Tunnacliffe, MCIP, RPP*

JP/sm