

NO: **R216**

COUNCIL DATE: **November 28, 2011**

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## REGULAR COUNCIL

TO: **Mayor & Council** DATE: **November 23, 2011**

FROM: **General Manager, Engineering** FILE: **6440-20 (EMS)**  
**General Manager, Planning & Development**

SUBJECT: **Terms of Reference for the Preparation of a Biodiversity Conservation Strategy**

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## RECOMMENDATION

The Engineering Department and Planning and Development Department recommend that Council:

1. Receive this report as information; and
2. Authorize staff to proceed with development of a Biodiversity Conservation Strategy based on the Terms of Reference that are documented in Appendix I attached to this report.

## INTENT

The purpose of this report is to obtain Council's approval for staff to proceed with the development of a Biodiversity Conservation Strategy (the "Strategy") in follow up to the recommendations of the Ecosystem Management Study (EMS).

## POLICY CONSIDERATIONS

The Strategy will be a framework that will clearly establish biodiversity goals and targets and conservation priorities for the City. It will contain a set of policies and regulatory tools (plans, by-laws and other regulations) that will be used to manage the City of Surrey's biodiversity and will result in information that will assist in the updating of the Official Community Plan, the Sustainability Charter, Neighbourhood Concept Plans, and the Parks, Recreation and Culture Strategic Plan. The Strategy will also include a monitoring component that allows for measurements to demonstrate the efficacy of the Strategy over time.

## **BACKGROUND**

At its Regular meeting on March 31, 2008 Council considered and adopted the recommendations of Corporate Report No. R053;2008, entitled "Update of Environmental Inventory for the Official Community Plan Review", which authorized the development of an EMS for the City. The EMS was focused on:

- meeting the objectives of the City's Sustainability Charter;
- substantially updating Environmentally Sensitive Area (ESA) inventory information and mapping for the City; and
- identifying and mapping a City-wide set of Ecosystem Management Areas based on the ecological inventory.

At its Regular meeting April 4, 2011 Council considered and adopted the recommendations of Corporate Report No. R061; 2011 titled "City of Surrey Ecosystem Management Study" (a copy of that report is attached as Appendix II). In adopting the recommendations of that report, Council approved the Environmental Management Study and its recommendations. One of the recommendations of that report was that staff be authorized to bring forward a Terms of Reference for the development of a Biodiversity Conservation Strategy for the City.

"Biodiversity", as defined by the United Nation's Secretariat of the Convention on Biological Diversity, is the variety of life on the planet and the natural patterns it forms. The working definition of "biodiversity", as defined by Metro Vancouver's Biodiversity Conservation Strategy, is "the variety of plants, animals and microorganisms and the terrestrial, aquatic, and marine ecosystems of which they are a part."

## **DISCUSSION**

Planning for long term growth in Surrey requires comprehensive information on the location and valuation of the City's natural environmental assets. The recently approved EMS provides such an inventory and evaluation.

The proposed Strategy will provide direction for biodiversity management in the City over time. The proposed Strategy will identify and quantify the current biodiversity and wildlife habitat resources within Surrey and establish both short-term and long-term management recommendations and guidelines to assist in ensuring that priority biodiversity across the City is conserved and thrives indefinitely into the future. With the establishment of appropriate biodiversity targets and goals the effectiveness of the Strategy can be monitored over time.

A cross-Departmental team has developed a Terms of Reference (TOR) for the development of the Strategy. The TOR are documented in Appendix I to this report. As noted in the TOR, the Strategy will:

- Identify and quantify current biodiversity and wildlife habitat resources within the City of Surrey;
- Set conservation objectives for species and populations of wildlife and ecosystems (i.e. biodiversity targets) across the City;
- Establish habitat conservation criteria such as corridor widths, sites and hubs in support of maintaining biodiversity and specific ecosystems and wildlife across the City;

- Establish the lands that should be managed to maintain a network of natural areas to ensure that target levels of biodiversity are maintained in perpetuity across the City; and
- Establish indicators and measures that will be monitored over time to assist in measuring progress on and the effectiveness of the Strategy, which will assist in ensuring that amendments are made to the Strategy when necessary.

### **Staff Steering Committee**

A Steering Committee involving senior staff from each of the Planning and Development Department, the Engineering Department and the Parks, Recreation and Culture Department will oversee the work of the consultant that will be responsible for preparing the Strategy.

### **Timeline**

It is expected that development of the draft Strategy will be completed by August 2012 and that the Final and Complete Strategy will be forwarded to Council for consideration in October 2012.

### **Next Steps**

Subject to Council approval of the TOR attached to this report, staff will:

- Initiate a Request for Proposals for the purpose of retaining a suitably qualified consultant to assist staff with the development of the Strategy based on the attached TOR;
- Undertake a comprehensive public consultation process including dialogue with interested members of the public, appropriate community groups, the Environmental Advisory Committee, the Development Advisory Committee and the Parks, Recreation and Culture Committee during the development of the Strategy to ensure that the Strategy is comprehensive; and
- Provide further reports to Council over time on the progress of development of the Strategy.

### **SUSTAINABILITY CONSIDERATIONS**

The proposed Strategy is an integral part of the EMS and will assist in meeting the objectives of the City's Sustainability Charter; more particularly the following:

- EN 12: Enhancement and Protection of Natural areas, fish habitat and wildlife habitat: By undertaking an Ecosystem Management study to update the City's mapping, policies and practices with regard to the identification, protection and management of environmentally sensitive areas using the Ecosystem Management Approach;
- EN9-7: Sustainable Land Use Planning and Development Practices: By formalizing site planning processes that avoid critical habitat and preserve and protect and enhance natural habitat and landscape features;
- EN17: Enhance Biodiversity: By developing practical, effective and equitable approaches to protecting fish habitat and wildlife habitat through the development of a coordinated biodiversity strategy.

## CONCLUSION

Based on the above discussion, it is recommended that Council authorize staff to proceed with development of the Biodiversity Conservation Strategy based on the Terms of Reference that are documented in Appendix I attached to this report.

Jean Lamontagne  
General Manager,  
Planning and Development

Vincent Lalonde, P.Eng.  
General Manager, Engineering

VL/JA/SG/brb

Appendix I - Terms of Reference - City of Surrey Biodiversity Conservation Strategy –  
October 2011

Appendix II - Corporate Report Ro61; 2011

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## Terms of Reference Biodiversity Conservation Strategy October 2011

### A. INTRODUCTION

#### **Purpose**

These Terms of Reference outline the parameters for the development of a Biodiversity Conservation Strategy for the City of Surrey.

The City is focused on ensuring that important elements of the natural ecosystems and wildlife that constitute the City's biodiversity are sustained in perpetuity to contribute to the health and livability of the City. The recently completed Ecosystem Management Study Mapping (EMS) provided the foundation for the development of this Strategy. The Biodiversity Conservation Strategy for ecosystem management in Surrey will include all aspects of the Green Infrastructure Network (GIN) outlined in the EMS mapping, including the network of hubs, sites, corridors and matrix areas.

The Biodiversity Conservation Strategy (the "Strategy") will:

- Identify and quantify current biodiversity and wildlife habitat resources within the City;
- Set conservation objectives for species and populations of wildlife and ecosystems (i.e. biodiversity targets);
- Building upon the EMS mapping, establish habitat criteria such as corridor widths, riparian setbacks and management criteria and identify specific hubs, sites and corridors that are required to maintain biodiversity and specific ecosystems and wildlife;
- Develop management criteria for the Matrix areas;
- Link species and populations to particular habitat types to enable a habitat gap analysis;
- Establish by way of a habitat gap analysis the lands that should be managed to maintain a network of natural areas to ensure that target levels of biodiversity are maintained in perpetuity; and
- Establish habitat and species indicators or measures to be monitored over time to enable reporting on the progress of the Strategy and to inform revisions to the Strategy.

The Strategy will satisfy the Phase II planning objectives outlined in the EMS report.

#### **Background**

The word "biodiversity" is derived from the words 'biological' and 'diversity'. The term refers to the variety of life on the planet and the natural patterns it forms (UN, 2000). The working definition of "biodiversity" from the Metro Vancouver's Biodiversity Conservation Strategy is "the variety of plants, animals and microorganisms and the terrestrial, aquatic, and marine ecosystems of which they are a part" (Axys, 2006).

Globally, biodiversity has been decreasing at an increasing rate over the last century. Loss of habitat and fragmentation of habitat have been identified as two of the greatest threats to biodiversity. Loss of biodiversity can interfere with essential ecological functions and services such as water and nutrient cycling that are provided for free by nature. Some of these services are almost impossible to replace, such as the role that birds and insects play in the pollination of plants (UN, 2000, DSF, 2010).

The City of Surrey has an area of 317 km<sup>2</sup> and has approximately 1130 km of fisheries watercourses and more than 6400 acres of designated parkland of which approximately 4,300 acres (66%) is considered to be natural area. In addition to City parks, within the City of Surrey Metro Vancouver has approximately 1000 acres of parkland and the Province has 267 acres of natural area that it oversees, being the Serpentine Fen Wildlife Management Area.

Approximately one-third of Surrey's land base falls within the provincial Agriculture Land Reserve. The City currently contains a high level of biodiversity; however, targets need to be established for biodiversity conservation and a strategy needs to be developed and employed to achieve those biodiversity targets within the City.

**Figure 1: City of Surrey in the Context of Metro Vancouver**



## **B. STUDY AREA**

This study covers the entire 317 sq km land base within the borders of Surrey. There will be a particular focus on utilizing the Ecosystem Management Study (EMS) mapping as the starting point for identifying a Green Infrastructure Network (GIN) that is critical to biodiversity preservation. Connections and interrelations of the lands in adjacent municipalities that border the City will be considered as part of the work in developing the Strategy.

## **C. OBJECTIVES**

The following will form the basis of the development of the Strategy:

1. Develop a stakeholder map and consultation process to acquire and incorporate community input in the development of the Strategy and to keep stakeholders updated on Strategy development. This will include consultation on conservation targets, indicator species, invasive species management, planning policies, candidate protection measures, etc.
2. Investigate and estimate existing biodiversity within the City.
3. Develop targets for biodiversity for the City as a whole and for appropriate sub-regions within the City as determined through investigation.
4. Analyze, evaluate and develop recommendations in relation to how the EMS hubs, sites and corridors should be managed to conserve the City's biodiversity profile over time including the development of general and specific recommendations and guidelines for the management of specific hubs, sites, corridors and matrices to meet biodiversity targets.
5. Recognize that ecosystem or landscape-level bundling of species for conservation initiatives may not always be sufficient and that supplementary measures for dealing with individual species may still be required, particularly with rare species, those with limited geographic distributions or those with wide-ranging habitat requirements.(e.g. salish sucker, pacific water shrew, etc.).
6. In setting priorities for action to conserve or recover at-risk populations, group species by related habitat needs and ecological relationships, to the extent possible, based on their resident ecosystems.
7. Analyze the existing inventory of parkland/protected areas within the City to determine the current status of biodiversity protection.
8. Based on the analysis of the EMS mapping and existing protected areas network and private lands, as well as input from stakeholders, determine the most valuable corridors where there are currently gaps within the protected area network system.
9. Identify priority private lands that represent habitat reservoir areas.

10. Determine priorities for the construction of infrastructure to facilitate movement of wildlife across roads that currently fragment corridors and hubs.
11. Recommend by-laws, policies and procedures designed to achieve the biodiversity objectives set out in the Strategy.
12. Develop an appropriate annual or biennial monitoring program designed to adequately monitor the progress of the Strategy.
13. Provide input on biodiversity conservation into long range planning, current planning, and parkland acquisition decisions made by the City.

#### **D. STUDY REQUIREMENTS**

To adequately fulfill the above stated study objectives, the Consultant is required to undertake the following tasks:

1. A combination of a desktop review of existing information, aerial photography interpretation, public consultation, field study, data syntheses, and reporting will be required.
2. Propose and develop a stakeholder map and consultation process to acquire and incorporate input in line with the City's public consultation principles. Liaise with City staff, senior government staff, other local government staff, stakeholder groups, the general public (open house) and Council Advisory Committees (Appendix 1). This will include a minimum of 3 consultation workshops to seek input and 2 workshops to provide project status updates. A "shirtsleeve session" with City Council will also be part of the consultation process.
3. Classify the numerous habitat types found in the City into categories based on their unique contributions to the City's biodiversity. These categories should be created using criteria such as presence of indicator species, species guilds, ability to provide habitat for species at risk, and relative rarity within the City, etc. This may include suitability and/or capability modeling as well as appropriate ground-truthing. The categories will then be utilized to determine gaps in the protected areas network in the City.
4. Through the review of existing information, field studies and input from consultation, biodiversity targets and goals should be developed that are clearly articulated.
5. Provide appropriate specific short-term and long-term management objectives and guidelines in relation to specific hubs, sites, corridors and matrix areas with a view to satisfying biodiversity targets and goals. This will include determining appropriate hub and site configuration, size, and location and specific corridor locations, widths and habitat composition to meet biodiversity targets.

6. Review existing protection and planning measures and evaluate how current protection measures are supporting the biodiversity targets. A comprehensive framework of actions involving bylaws, bylaws amendments, policies, procedures and infrastructure requirements will be developed that will ensure that the biodiversity targets are met. Recommendations are also to be provided with a view to improving biodiversity values on private lands in urban, suburban and rural areas of the City. These recommendations could include such things as landscape design guidelines and other stewardship processes to promote the conservation of biodiversity on private property.
7. Priority wildlife corridors and habitat reservoirs (hubs, sites, and corridors) must be identified. It will not be sufficient to simply rate all habitat polygons on a sliding scale.
8. Develop a monitoring protocol that the City can utilize to monitor biodiversity status on an annual or biennial basis. This should include the development of a sampling protocol for biodiversity indicator species.
9. The final report that will emanate from this study is to be provided in both paper and electronic formats.
10. Stakeholder input is to occur during the fall of 2011 through the spring 2012. The completed draft Strategy is to be completed by June 2012 with the Final Biodiversity Strategy to be completed by September 2012.

**Other Relevant Information:**

The City of Surrey, Metro Vancouver, the Province and other organizations have completed numerous studies that are to be reviewed during the development of the Strategy. The following is a sample list of such studies but is not to be viewed as exhaustive:

- Finding the Balance: Environmentally Sensitive Areas in Surrey, City of Surrey, 1990
- Environmentally Sensitive Areas Update and Park Acquisition and Enhancement Strategy, City of Surrey, 1997
- Species at Risk and Local Government: A Primer for British Columbia (found on the Stewardship Centre of BC's website at <http://www.stewardshipcentre.bc.ca>)
- Multi-Species Recovery Implementation Summary for the South Coast of British Columbia, Province of British Columbia (MOE), 2007
- Green Infrastructure and Sensitive Ecosystems By-law Toolkit, Wetland Stewardship Partnership, 2007
- Assessment of Regional Biodiversity and Development of a Spatial Framework for Biodiversity Conservation in the Greater Vancouver Region, GVRD, 2006
- Taking Nature's Pulse – The Status of Biodiversity in BC, Biodiversity BC, 2009
- City of Surrey Ecosystem Management Study, City of Surrey April 2011
- Natural Capital in BC's Lower Mainland, David Suzuki Foundation, Pacific Parklands Foundation, 2010
- City of Surrey – Parks, Recreation and Culture Department – Natural Area Management Plan Update – 2011
- City of Surrey – Parks, Recreation and Culture Department – Natural Areas: Wildlife and Fish Management Strategy - 2011

- Natural Capital Policy Review - A Review of Policy Options to Protect, Enhance and Restore Natural Capital in B.C.'s Urban Areas, September 2011
- TEEB – The Economics of Ecosystems and Biodiversity (2011). TEEB Manual for Cities: Ecosystem Services in Urban Management. [www.teebweb.org](http://www.teebweb.org).

## **E. CONSULTANT'S SUBMISSION REQUIREMENTS**

The proposal shall indicate a clearly defined fee structure for the Strategy, with a task-specific cost breakdown including hours of work by each team member with the charge-out rate documented for each team member. In submitting a proposal to undertake this study, the Consultant is expected to provide as a minimum the following information for consideration by the City:

1. A statement of understanding of the project and project requirements.
2. Clear documentation on the approach that will be undertaken in completing the assignment (Strategy project design, methodology, etc.).
3. A clear and concise timeline for the study including an identification of each significant component and milestone.
4. The proposed deliverables.
5. A listing, experience and qualifications of each member of the consultant team and team leaders for the various components of the project.
6. A list of similar projects the consultant has completed, with a brief description of these projects.
7. A description of how the team will add value to the project beyond simply complying with the Terms of Reference.
8. A detailed project budget, including fees (broken down by individual team member, including time commitment to each task, and the hourly billing rate for each staff), disbursements and expenses (including travel and direct project expenses). In addition to professional fees, a cost schedule of disbursements is to be provided in the proposal. Invoices must itemize disbursements. No markup on disbursements, including sub-consultant fees will be accepted. Non-technical staff time such as clerical assistance is to be included in the technical staff charge-out rates.
9. Any valued-added components beyond the base requirements for the project must be clearly labelled as 'optional' and a fee breakdown for these additional item(s) is to be included separately.

Upon request, City staff will meet with prospective proponents during the week of December 19 to December 23, 2011 to review the terms of reference and answer questions.

## F. CRITERIA FOR CONSULTANT TEAM EVALUATION

Each proposal will be evaluated based on the following criteria:

- Experience and qualifications of the consulting team members;
- Overall budget for the project and “value-for-money” demonstration;
- Ability to complete the project on schedule and within budget based on prior work on similar projects;
- A demonstration of creativity and innovation in relation to the work of the study;
- Familiarity with Surrey standards and procedures;
- Demonstrated ability to communicate and work well with local government staff and other agencies; and
- Consistency with statement of qualifications\expression of interest as previously submitted.

### Project Schedule

The preliminary schedule for this project is as follows:

Consultation with the EAC	February, 2012
Request for Proposal issued	March 5, 2012
Information Meeting (optional)	March 21-28, 2012
Request for Proposal close	March 30, 2012
Contract award	April, 2012
Completion of draft Strategy report	October, 2012
Final Strategy completed	December, 2012

Five (5) copies of the proposal are to be submitted to Stephen Godwin at the City of Surrey Engineering Department Counter on the Second Floor of City Hall by 4:30 p.m. on February 23, 2012.

For further information, please contact: Stephen Godwin  
Environmental Coordinator  
604-591-4691  
Email: sgodwin@surrey.ca

All submissions to the City under this proposal call shall be the property of the City. The City will make a decision on the selection of a consultant for this project at its sole discretion, and reserves the right to cancel this proposal call without making an assignment.

## **G. REFERENCES**

Axys Environmental Consulting Ltd. (2006). Assessment of Regional Biodiversity and Development of a Spatial Framework for Biodiversity Conservation in the Greater Vancouver Region. GVRD Policy and Planning, Burnaby, B.C.

Secretariat of the Convention on Biological Diversity (UN) (2000). Sustaining Life on Earth: How the Convention on Biological Diversity promotes nature and human well-being. [www.biod.org](http://www.biod.org)

Natural Capital in BC's Lower Mainland (2010). Valuing the Benefits from Nature. David Suzuki Foundation, Pacific Parklands Foundation, [www.davidsuzuki.org/publications](http://www.davidsuzuki.org/publications)

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### Appendix 1 - Proposed Biodiversity Conservation Planning Process

