



***Office of the Auditor General***

**Audit of Species at Risk**

**Tabled at Audit Committee – November 26, 2015**



## Table of Contents

Executive Summary .....	1
Introduction .....	1
Background.....	1
Audit Objectives and Scope .....	5
Summary of Key Findings.....	5
Potential Savings .....	11
Conclusion .....	12
Acknowledgement.....	13
Detailed Audit Report .....	15
Introduction .....	15
Background.....	15
Audit Objectives .....	20
Audit Scope.....	21
Approach.....	21
Detailed Findings, Observations and Recommendations .....	22
Potential Savings .....	40
Conclusion .....	40
Acknowledgement.....	41



## ***Executive Summary***

### **Introduction**

The Audit of Species at Risk was included in the Office of the Auditor General's 2014 Audit Plan, approved by Council in March 2014.

### **Background**

Although the City of Ottawa (hereafter the "City") is Canada's fourth largest city by population (data of 2011), it has the largest land area among Canada's major cities. More than a third of this area is forested and includes wetland. Agricultural lands make up another third of the area. The urban part of the City is therefore surrounded by natural habitats, which contain species that are considered as being at risk. From 2006 to 2011, the population in Ottawa increased by 9%, stressing the existing infrastructure and calling for an extension of the urban area. Urban development of the city, both by the City (road infrastructure, water drainage, etc.) and private proponents, may impact these natural habitats and the species living there. It is therefore important for the City, in planning its development, to take into consideration the protection of species at risk (SAR). The protection of SAR is also an issue in urban area where many species such as the Chimney Swift and the Barn Swallow live.

In Ontario, SAR are protected either at the provincial or the federal level and the City must ensure compliance with regulations at both levels.

### ***Regulation for the Protection of Species at Risk in Canada***

In Canada, the *Species at Risk Act* (SARA) prohibits any person from killing, harassing, capturing or taking an individual of a wildlife species that is listed as an extirpated species, an endangered species or a threatened species. No person can either damage or destroy the residence of one or more individuals of a wildlife species that is listed as an endangered or threatened species or that is listed as an extirpated species if a recovery strategy has recommended that the species be reintroduced into the wild in Canada.

These restrictions only apply in federal lands unless the Minister of the Environment of Canada recommends application on provincial lands. However, for aquatic species and birds that are migratory, these restrictions apply all across Canada.

The SARA recognizes that species not considered as being at risk at the federal level might be protected under provincial legislation. It is therefore important to have access to both provincial and federal SAR lists.

## ***Regulations for the Protection of Species at Risk in Ontario***

### ***Endangered Species Act, 2007***

At the provincial level, species at risk are protected by the *Endangered Species Act, 2007* (ESA). This Act is administered by the Minister of Natural Resources and Forestry (MNR). This Act, classifies species that are considered at risk into one of four categories:

- Extirpated: the species is still alive, lived at one time in the wild in Ontario, but no longer lives in the wild in Ontario;
- Endangered: the species lives in the wild in Ontario, but its extinction or extirpation is imminent;
- Threatened: while the species that lives in the wild in Ontario is not endangered, there are reasons to believe that if steps are not taken it might become endangered in the future;
- Special concern: the species lives in the wild in Ontario and may become either endangered or threatened in the future due to a combination of biological characteristics and identified threats.

Approved changes to the lists are published online in Ontario's Environmental Registry (hereafter the "EBR"). The ESA prohibits any person from killing, harming, capturing or taking a living member of a species that is listed on the Species at Risk in Ontario List as an extirpated, endangered or threatened species. Additionally, no person can either damage or destroy the habitat of a species that is listed on the Species at Risk in Ontario List as an endangered or threatened species.

### ***Regulatory Exemptions***

In some circumstances, the Minister may authorize a specific activity that would otherwise be prohibited under the Act. In the municipal context, activities that can receive such an exemption from the Minister are classified into two groups: development and infrastructure projects, and ditch and drainage work.

#### **Exemption Process for Development and Infrastructure Projects**

In order to receive authorization, a municipality must register the activity and the species that would potentially be impacted with the MNR before the activity starts, take steps to minimize the negative impacts, create and implement a mitigation plan, report sightings of rare species, monitor and report on the effectiveness of the mitigation measures and report annually to the MNR on these measures.

### **Exemption Process for Drainage Activities**

For drainage work, the *Drainage Act* gives municipalities the responsibility of realizing drainage work when it is needed and requested by landowners. Municipalities are also responsible for maintaining and repairing existing drains. The costs of these activities are the responsibility of landowners.

In order to minimize maintenance and repair activities on a drain, Ontario Regulation 242/08 provides for an exemption from the ESA, if the following conditions are respected:

- The municipality must, before doing any maintenance work, submit a notice of drainage to the MNRF;
- The municipality must prepare a mitigation plan;
- The mitigation plan must be updated at least every five years;
- The municipality must prepare an annual report that presents the steps taken to minimize the adverse effects of drainage work.

In order to further ease the impact of the *Drainage Act* without placing a municipality in conflict with the ESA, the MNRF entered into an agreement with municipalities, including the City of Ottawa. This agreement removes the obligation to comply with the applicable clauses of the ESA, 2007. It lists the drains where species at risk could be found and contains a mitigation plan for these species. Therefore, under this agreement, the City could simply report annually to the MNRF when drainage works are realized on one of these sensitive drains. In Ottawa, this agreement started on June 29, 2010 and ended on June 30, 2015.

Since July 1, 2015, the City continues to be exempted from the applicable clauses of the ESA. However, in comparison with the approach followed in the previous Agreement where the City had to notify the MNRF before beginning any drainage work, the City was provided an opportunity to register all drains and all potential species at risk in a one-time registry process.

### ***Provincial Policy Statement***

The Provincial Policy Statement (PPS) is a general document that "sets the policy foundation for regulating the development and use of land and provides for appropriate development while protecting resources of provincial interest, public health and safety, and the quality of the natural and built environment". The PPS recognizes that natural heritage shall be protected and that development or site alteration shall not be permitted

in defined areas such as significant wetlands and the habitat of endangered and threatened species.

Despite these restrictions, development can be authorized if it is shown that ecological functions in these areas will not be negatively impacted by the project. PPS application at the city's level is made under the City of Ottawa Official Plan that is described later. The requirements for demonstrating that there is no negative impact on a habitat are described in the Plan.

### ***Protection of Species at Risk in Ottawa***

The City of Ottawa Official Plan serves as a framework for the city's development through 2031. It is a legal document that addresses the requirements found in the PPS under the Ontario *Planning Act*. It includes sections on environmental integrity and the protection of species at risk.

For projects where the City is the proponent, based on the size of the project, the City may have to perform an Environmental Assessment (EA) process following either a streamlined approach, for projects pre-approved by the Ontario Ministry of the Environment, or an individual EA. Most of the time, the City will receive support from an external consultant to perform the EA. The EA process requires the City to assess whether or not the project is located in the habitat of species at risk and if such species have been observed in the area.

External proponents for development projects must demonstrate in an Environmental Impact Statement (EIS) that their projects will not have significant negative impacts on the environment, including on the species at risk and their habitats. If the project is located in an area where species at risk may live, the proponent must propose mitigation measures. The City analyzes the EIS prior to authorizing the project and may ask for project changes if deemed necessary.

While protecting species at risk is a legal obligation, the City is also deeply committed to doing so. In 2003, the City adopted an environmental strategy to protect and strengthen local ecological features, including habitats and biodiversity. The City defined its roles and mandates with respect to biodiversity as protecting the habitat through environmental designations, monitoring and assessing biodiversity, preparing species status lists for the City and educating the population. The City also pledged to prepare a biodiversity strategy (later called the wildlife strategy).

Finally, activities performed on a daily basis by the City (such as maintenance work, mowing, upgrading gravel roads, renewing bridges, replacing culverts) may impact species at risk. Staff working in these areas need to adopt adequate practices to comply with the SARA and the ESA.

## **Audit Objectives and Scope**

The objectives of the audit were to:

1. Assess whether the City of Ottawa has a clear understanding of the regulatory requirements related to the protection of species at risk;
2. Assess whether the City adequately manages information and complies with regulations related to the protection of species at risk and their natural habitats.

The audit scope includes the policies, guidelines, frameworks and regulations that have been adopted by the City since 2012.

## **Summary of Key Findings**

### City Protocols and Guidelines

1. The City has different protocols and guidelines concerning the protection of species at risk (Protocol for Wildlife Protection during Construction; City of Ottawa Official Plan; Environmental Impact Statement Guidelines; Best Management Practices for Municipal Drainage Activities; Wildlife Protocol for Road Construction/Rehabilitation Projects).
2. These protocols and guidelines comply with the regulations as they refer to legal documents such as the ESA and the SARA.
3. These protocols and guidelines do not provide a complete list of species at risk, rather they refer to different external sources for species identification. One of these sources is a document maintained by the Ottawa Stewardship Council, a volunteer organization, which is incomplete and not up-to-date.
4. Protocols or “best management practices” for City maintenance activities are missing.

### Locating Natural Habitats to Avoid Impacts

5. The City complies with the PPS by identifying the natural heritage system in Ottawa and with the MNRF by not disclosing the most expected locations of species at risk as this is considered sensitive information.

### Protection of Species at Risk in Infrastructure Renewal Projects

6. For infrastructure renewal projects, such as upgrading gravel roads, renewing bridges, resurfacing roads and replacing culverts, the City does not have to conduct an EA, but must comply with both SARA and ESA. Therefore, since 2013, the Infrastructure Services department performs an annual screening of the projects for the next two years that are included in its renewal program. The objective of this screening is to identify projects that might impact species at risk. The methodology

for this screening approach was developed by the City in collaboration with a consultant and submitted for comments to the MNRF. For each project where a risk is assessed, a report provides mitigation measures.

#### Protection of Species at Risk in Major Projects

7. For major infrastructure projects, the City must perform an EA (or a streamlined EA) to demonstrate that the project will not impact the environmental characteristics (such as species at risk and their habitats) or that mitigation measures will be implemented to minimize such impacts. In the time between the completion of the EA and beginning the project, changes could occur in the environment or the legislation, which would make the EA conclusions outdated. The City does not have a protocol to review a project's environmental context prior to its realization to ensure there have been no changes. Without such a protocol, the City may not identify major projects for which additional mitigation measures are required due to changes in environmental regulations.

#### Protection of Species at Risk in PWD Maintenance Activities

8. For maintenance activities related to roads, parks, buildings and forestry, the Public Works department (PWD) believes that it is not possible to have a species at risk in a non-sensitive area, and therefore no special mitigation measures are undertaken. However, the City's Land Use and Natural Systems (LUNS) unit believes that species at risk may be located throughout Ottawa, not only in sensitive areas. Therefore, there is a possibility that PWD maintenance activities in non-sensitive areas will hurt a species at risk or impact their habitats.
9. In sensitive areas, PWD follows the mitigation measures provided in the Wildlife Protocol for Road and Construction/Rehabilitation Projects. However, these mitigation measures are specific to construction work, and do not apply to maintenance activities such as grading or roadside brushing or mowing.

#### Protection of Species at Risk in Drainage Maintenance Activities

10. In the application of the 2010 Agreement with MNRF, the City went beyond its requirements. The Municipal Drainage unit (MDU) notifies the MNRF of the scheduled maintenance work on any drains, rather than only for those drains identified by the MNRF as being in a sensitive area and occurring during a sensitive period, as described in the Agreement. Even if such a notification can be resource intensive, depending on the complexity of the project, the MDU preferred to ensure that the City complied with the ESA and the exemption for drainage work.
11. The 2010 Agreement with MNRF for drainage work ended on June 30, 2015, but the exemption from the applicable clauses of the ESA is still possible. To do so, municipalities needed to register all the drains for which they wanted to maintain this

exemption. The City registered all the drains for the Ottawa area (there are over 700 drains) using this single registration process. The City also increased the number of species at risk that might be found around these drains from three to fourteen. Therefore, the City will not have to notify the MNRF each time drain maintenance is required.

12. In addition to this one time registration, in order to comply with the regulation and to be exempted for drainage work from the ESA, the City must have a mitigation plan. The Drainage Superintendents Association of Ontario (DSAO) has produced a standardized mitigation plan, which has been approved by the MNRF. The City must now adapt that plan with actions that are specific to registered species at risk.

#### Access to Species at Risk Training

13. The LUNS unit, the City's key resource for species at risk, gave seven external conferences, in-house ad hoc presentations and on-demand introductory sessions on the changes in legislation on species at risk and on how the City's activities comply. As well, in 2013, LUNS unit staff members, with environmental planners from the Development Review Rural Services branch, attended training given by the MNRF about improvements in the implementation of the ESA. However, other than these ad hoc presentations, the City does not have a mandatory protection of species training program for regular or temporary new employees.

#### Roles and Responsibilities

14. The LUNS unit is responsible for policy development, but not the City's compliance with the regulations. Each department is responsible for their own compliance. Therefore, the City does not have any resource responsible for controlling the application of protocols and guidelines related to the protection of species at risk. In order to complete the management of species at risk process, operational staff should work in collaboration with the staff responsible for species at risk policy development.
15. In the City's wildlife strategy, the Planning and Growth Management department (PGMD) recommended the creation of a Wildlife Resource Officer position. The officer would be responsible to develop and implement policies and procedures to ensure compliance with the ESA in the City's operations and maintenance and in working with the LUNS unit to implement species at risk planning and policies. At that time, the analysis for creating this position was postponed until the 2015-2018 term of Council, when the staff reviewed the business case for this position.

#### List of Species at Risk in Ottawa

16. The City's main tool for managing species at risk is its list of species that are considered as being at risk in Ottawa. There is no obligation for the City to have such a list, but the LUNS unit took the responsibility of creating and keeping it up to date, and informing specific internal and external resources about any changes to this list. The main reason for having this list is the delay between the MNR's announcement on the EBR of a change in the Ontario list and the update of that list on the MNR website. However, the City's list is not available to all City staff working with SAR.
17. In addition to the LUNS unit's list, other lists are available to City staff. These are the list of species on the City's website (which contains more than just SAR); the list made by the LUNS unit but without species considered as of special concern; the OSC Handbook; the MNR website; and the SARA Schedule 1 at the federal level. These lists do not provide similar information. Therefore, staff may make a wrong decision regarding the need for a mitigation measure or present an incomplete request to the MNR if they use the wrong list.
18. From a compliance point of view, the City must take every decision related to the protection of species at risk based on the information provided or at least validated by MNR and Environment Canada. The internal list made by the LUNS unit should be seen as a tool that centralizes the information from different sources (provincial and federal requirement) and gives an overview of upcoming modifications to official documents.
19. There is no documentation for the process to maintain the LUNS unit's list. Currently, one employee is responsible for updating it based on the notifications posted by the MNR on the EBR and to communicate these changes to selected City staff and external resources. However, if this individual leaves this position there is a risk that the City would not be able to update its list more quickly than the MNR updates its own.

#### Wildlife Strategy Action Plan

20. Since its adoption in 2013, much work has been done on the action plan in the City's Wildlife Strategy. The construction protocol has been updated. The PGMD hosted five sessions to inform residents about wildlife and worked with the "Let's Talk Science" program to develop a backyard wildlife education kit for use in schools, and the City's website section on wildlife has been updated. The last three recommendations in this strategy, including the creation of a Wildlife Resource Officer position, were all deferred until the next Council mandate (2015-2018). However, this mandate has now started and there has been no further action on these recommendations.
21. From an operational standpoint, we found that the PGMD has demonstrated the need for this new resource. However, the department has not demonstrated the

financial benefits associated with such a position. The only benefits currently identified for this position relate to reducing the costs of repairing damage to road culverts and road beds caused by beavers. This is an issue in Ottawa from a wildlife strategy standpoint and is not related to a species at risk.

## **Recommendations and Management Responses**

### **Recommendation 1**

**That the City only refer to legislative bodies for the identification of species at risk in its area in compliance with the ESA, 2007, and the SARA.**

#### **Management Response:**

Management agrees with this recommendation.

Departments will ensure that City documents refer to the appropriate legislative bodies (ESA 2007 and SARA) for the identification of SAR. This applies to documents that reside in Planning and Growth Management, Public Works, Infrastructure Services, and Environmental Services.

Stakeholders will be directed to MNRF as the final authority for the identification of SAR at any given time.

Existing documents and web page references will be updated by Q2 2016.

### **Recommendation 2**

**That the City develop an approach to review the environmental context and the appropriate regulations of major infrastructure projects before they are realized to ensure compliance with the requirements regarding protection of species at risk and their habitats.**

#### **Management Response:**

Management agrees with this recommendation.

The City will develop an approach to review the environmental context and appropriate regulations for major infrastructure projects prior to commencement of the project in order to ensure compliance with current requirements regarding protection of species at risk and their habitats. This approach will be developed by Q3 2016.

### **Recommendation 3**

**That the City adopt BMPs for maintenance activities in both sensitive and non-sensitive areas in order to protect the species at risk and their habitats.**

#### **Management Response:**

Management agrees with this recommendation.

Public Works will develop appropriate BMPs for roads maintenance, parks, buildings and forestry activities covering both sensitive and non-sensitive areas by Q2 2016.

#### **Recommendation 4**

**That the City develop its own mitigation plan with respect to the species at risk that might be found around the drains located all across the Ottawa area.**

#### **Management Response:**

Management agrees with this recommendation and it has already been implemented. When preparing to do drainage work Environmental Services (Municipal Drain unit) reviews the Ministry of Natural Resources and Forestry (MNR) website immediately prior to planned works to determine the most up to date species at risk (SAR) in the general area of the municipal drain.

As noted in the Audit, on June 30, 2015, the Agreement, based on Regulation 242/08, with the MNR ended. Under new procedures, Environmental Services has registered over 700 drains using the single registration process; as part of the registration process the City increased the number of species at risk that might be found around City drains from three to fourteen. In the now expired Agreement, the Ministry provided a mitigation plan, however, moving forward, under the new process, the Municipal Drainage unit will be following approved mitigation plans agreed to by MNR, Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) and the Drainage Superintendents Association of Ontario (DSAO). Immediately prior to beginning each project ESD will refer to the MNR SAR registry to determine which species are at risk.

#### **Recommendation 5**

**That the City provide all new staff members who may encounter species at risk with a short training session that provides basic information on the species at risk in Ottawa, what to do when a species is encountered and the available City resources for additional information.**

#### **Management Response:**

Management agrees with this recommendation.

The responsibility for providing training and ensuring that all new staff are trained will be considered within the organizational review to be completed as part of Recommendation 6. This review will be completed by Q3 2016.

#### **Recommendation 6**

**That the City review its organizational structure in order to be able to provide a complete internal service for protection of species at risk in compliance with legislation by providing services in policy development, policy implementation and policy application control.**

**Management Response:**

Management agrees with this recommendation.

The City will undertake a review of the resources currently involved in policy development, implementation and compliance as it relates to SAR to determine whether the risk of non-compliance currently exists and whether a centralized service delivery model would be beneficial. This review will be completed by Q3 2016.

**Recommendation 7**

**That the City improve communication between the different services and units having to comply with the regulations related to species at risk to ensure all of them have access to the most relevant and up-to-date list of species at risk in Ottawa.**

**Management Response:**

Management agrees with this recommendation.

The City will include a review of internal communication as part of the study referred to in Recommendation 6. This review will be completed by Q3 2016.

**Recommendation 8**

**That the City develop a process for updating the Ottawa SAR List.**

**Management Response:**

Management agrees with this recommendation.

As part of the review referenced in Recommendation 6, Management will look at all processes required to ensure that staff have access to the most up to date information related to species at risk. This review will be completed by Q3 2016.

**Potential Savings**

The potential savings for the City of Ottawa in the management of species at risk are minimal. To date, on technical aspects, the City has overly exceeded its obligations. For example, it is not mandatory for the City to have its own species at risk list. But it has been demonstrated that by investing in this additional task, the City has a good tool for identifying the species that are protected under the ESA, 2007, and the SARA, even better than the information available on the MNRF website. By working only with the publicly available list of species at risk, which is not up to date, the City could unintentionally omit the development of mitigation measures for a species at risk that is not listed. And then, the MNRF could refuse to authorize or register a project due to the lack of mitigation measures. Such a situation would cost time and money for the City

who would have to resubmit the request or could lead to legal infractions if SAR are harmed. Therefore, by exceeding its obligations, the City avoids costs and delays. However, it is not possible to assess the real current saving of this as the cost of the extra work for the creation of the Ottawa SAR List is unknown as well as the amount of time the MNRF could refuse a project. In such context, it is not recommended that the City stop doing the extra work.

By implementing a review process before starting an infrastructure project for which an EA was produced some time previously, the City could avoid delays if the environmental conditions or legislation context have changed. However, the size of such savings in avoiding delays and the risk of legal infractions (fines) depends, among other elements, on the type of project and the time of the year the project was supposed to start. However, it is clear that delaying a major construction project for several weeks may cost the City thousands of dollars. And to have an efficient review process, the City must use the most up to date information related to species at risk. Again, this justifies the creation of the Ottawa SAR List.

## **Conclusion**

Overall, the City has a good understanding of the requirements that must be fulfilled to comply with the regulations on the protection of species at risk. The City has a team with experience and knowledge that is recognized and shared by almost all staff members that have to deal with these requirements. The City is aware of both provincial and federal restrictions for protecting species at risk. More importantly, the City understands the exemptions to these restrictions and uses these exemptions to facilitate its day-to-day activities in the maintenance of drains.

The PGMD has produced, in recent years, several protocols and official documents to guide the City in complying with these regulations. However, the management of species at risk still needs operational improvements. The mitigation measures that are followed by the PWD are not specific enough for the maintenance activities the department undertakes.

No standard control is performed to make sure the mitigation measures are adequately applied by the different departments or even contractors. For major infrastructure projects, there is no protocol to review the environmental and legislative contexts of a project before starting the work on site. In the past, this has caused delays in the realization of a project due to a change in the legislation related to species at risk.

For smaller infrastructure renewal projects, the City screens all the projects that will be undertaken in the following months to identify those for which an issue with species at risk may occur. Such an approach could be used for larger infrastructure projects.

Finally, the communication process should be reviewed to make sure all departments and units having to deal with species at risk have the most relevant and appropriate information to make informed decisions. The City has an excellent up-to-date list of species at risk in the Ottawa area, but it is not available to all staff members having to deal with such species. The City should improve the sharing of this information and use it as a reference for identifying species at risk in Ottawa instead of referring to several sources. Another good communication tool is training. However, there is no official and mandatory training at the City on the topic of species at risk. There are training sessions, but they are provided on an ad hoc basis, when requested by a department or a unit, and there is no training or information sessions for new employees who may encounter species at risk during their employment.

A municipality cannot act efficiently to protect species at risk without a good understanding of the requirements and appropriate policies. On the other hand, a municipality cannot be sure to fully comply with the regulations by having only a good knowledge of the topic, complete policies and appropriate tools. Staff members in the field need support to implement these policies and tools. Based on our observations, we believe this is what the City should work on now.

## **Acknowledgement**

We wish to acknowledge our appreciation for the cooperation and assistance afforded to the audit team by management.



## **Detailed Audit Report**

### **Introduction**

The Audit of Species at Risk was included in the Office of the Auditor General's 2014 Audit Plan, approved by Council in March 2014.

### **Background**

Although the City of Ottawa (hereafter the "City") is Canada's fourth largest city by population (2011 data), it has the largest land area among the top 10 by population cities. More than a third of this area is forested and includes wetland. Agricultural lands make up another third of the area. The urban part of the City is therefore surrounded by natural habitats, which are rich in terms of biodiversity and contain species that are considered as being at risk. From 2006 to 2011, the population in Ottawa increased by 8.8%, putting a stress on infrastructures and calling for an extension of the urban area. The urban development of the City, both by the City (road infrastructure, water drainage, etc.) and private proponents, might impact these natural habitats and the species living there. It is therefore important for the City, in planning its development, to take into consideration the protection of species at risk (SAR) that live in these natural habitats. The protection of SAR is also an issue in urban areas where many species live such as the Chimney Swift and the Barn Swallow to name only a few.

In Ontario, species at risk are protected either at the provincial or the federal level and the City must ensure its policies and activities comply with these regulations.

### **Regulation for the Protection of Species at Risk in Canada**

All across Canada, the *Species at Risk Act* (SARA) prohibits any person from killing, harassing, capturing or taking an individual of a wildlife species that is listed as an extirpated species, an endangered species or a threatened species. No person can either damage or destroy the residence of one or more individuals of a wildlife species that is listed as an endangered or threatened species or that is listed as an extirpated species if a recovery strategy has recommended the species' reintroduction into the wild in Canada.

These restrictions only apply in federal lands unless the Minister of the Environment of Canada recommends application on provincial lands. However, for aquatic species and species of birds that are migratory birds protected by the *Migratory Birds Convention Act, 1994*, these restrictions apply all across Canada.

The SARA recognizes that species not considered as being at risk at the federal level might be protected under provincial legislation. It is therefore important to have access

to species at risk lists at both provincial and federal levels for a complete overview of the protected species in a given area.

The Committee on the Status of Endangered Wildlife in Canada (COSEWIC) assesses the status of each wildlife species and classifies the species as being extinct, extirpated, endangered, threatened, of special concern or not at risk. COSEWIC also determines when a species is to be assessed and when the assessment needs to be reviewed. Each species must be reviewed at least every ten years. After having received the assessment with changes to make to the species at risk list, the Minister of the Environment of Canada recommends amendments to the list to the Governor in Council. The latter may amend the federal species at risk list by adding, reclassifying or removing a wildlife species within the next nine months. The Governor in Council could also decide not to add a species to the list or refer the matter back to the COSEWIC for additional consideration. In such a case, the Minister of the Environment shall include a statement in the public registry setting out the reasons given by the Governor in Council. Finally, if the Governor in Council has not taken a course of action within this period of nine months, the Minister of the Environment will, by order, amend the list of species at risk in accordance with COSEWIC's assessment.

## ***Regulations for the Protection of Species at Risk in Ontario***

### ***Endangered Species Act, 2007***

At the provincial level, species at risk are protected by the *Endangered Species Act, 2007* (ESA). This Act is administered by the Minister of Natural Resources and Forestry (hereafter the "Minister" or the "MNR" when referring to its ministry). Based on this Act, species that are considered at risk are classified within one of the four following categories:

- Extirpated: the species is still alive, lived at one time in the wild in Ontario, but no longer lives in the wild in Ontario;
- Endangered: the species lives in the wild in Ontario, but its extinction or extirpation is imminent;
- Threatened: while the species that lives in the wild in Ontario is not endangered, there are reasons to believe that if steps are not taken it might become endangered in the future;
- Special concern: the species lives in the wild in Ontario and may become either endangered or threatened in the future due to a combination of biological characteristics and identified threats.

Classification of species into one of these categories is approved by the Minister based on recommendations made by the Committee on the Status of Species at Risk in Ontario (COSSARO), which is composed of experts named by the Lieutenant Governor in Council. COSSARO classifies species that are not yet on the Species at Risk in Ontario List, and reviews and reclassifies species that are on the list. The different species to be considered by COSSARO in future periods are listed publicly. Therefore, the City can determine if a species might be added to the list, reclassified or removed. Approved changes to the list are published online in Ontario's Environmental Registry (hereafter the "EBR").

The ESA, 2007, prohibits any person from killing, harming, capturing or taking a living member of a species that is listed on the Species at Risk in Ontario List as an extirpated, endangered or threatened species (clause 9(1)(a)). Additionally, no person can either damage or destroy the habitat of a species that is listed on the Species at Risk in Ontario List as an endangered or threatened species (clause 10(1)).

### ***Regulatory Exemptions***

In some circumstances, the Minister may authorize, by an agreement or a permit, a specific activity that would otherwise be prohibited under the Act. In the municipal context, activities that can receive such an exemption from the Minister can be classified into two groups: development and infrastructure projects, and ditch and drainage work.

#### **Exemption Process for Development and Infrastructure Projects**

In order to receive authorization, a municipality when acting as a proponent must register the activity and the species that would potentially be impacted with the MNRF before the activity starts, take steps to minimize the negative impacts on species or their habitats, create and implement a mitigation plan for each species, report sightings of rare species, monitor and report on the effectiveness of the mitigation measures and report annually to the MNRF on these measures.

#### **Exemption Process for Drainage Activities**

For drainage work, the *Drainage Act* gives municipalities the responsibility of realizing drainage work when it is needed and requested by landowners. Municipalities are also responsible for maintaining and repairing existing drains. The costs of these activities, including the cost of creating a new drain to correct a situation reported by landowners, are the responsibility of landowners.

In order to minimize maintenance and repair activities on a drain, Ontario Regulation 242/08 provides for an exemption from clauses 9(1)(a) and 10(1) of the ESA, 2007, if the following conditions are respected:

- The municipality must, before doing any maintenance work, submit a notice of drainage to the MNRF that clearly identifies the person responsible for the work and describes the work potentially impacting one or more endangered or threatened species on the Species at Risk in Ontario List;
- The municipality must prepare a mitigation plan with the name of the person responsible for the work, a description of the area where drainage work will be performed, a description of the mitigation measures that will be followed to minimize impact on the species identified in the notice of drainage, including the date(s) when the species is likely to be carrying out a life process, and a description of any measures that will be implemented to restore or enhance the habitat;
- The mitigation plan must be updated at least every five years;
- The municipality must prepare an annual report that presents the steps taken to minimize the adverse effects of drainage work on the species identified in the notice of drainage and any details concerning observation of a species identified in the notice of drainage made while doing the work.

In order to further ease the impact of the *Drainage Act* without placing a municipality in conflict with the ESA, 2007, the MNRF entered into an agreement with some municipalities, including the City of Ottawa. This agreement, made under Section 23 of Regulation 242/08 and under the ESA, 2007 (hereafter the "Agreement"), removes the obligation to comply with clauses 9(1)(a) and 10(1) of the ESA, 2007. It lists the drains where species at risk could be found and contains a mitigation plan for these species. Therefore, under this Agreement, the City could simply report annually to the MNRF when drainage works are realized on one of these sensitive drains. In Ottawa, this Agreement started on June 29, 2010 and ended on June 30, 2015.

Since July 1, 2015, the City is still exempted from clauses 9(1)(a) and 10(1) of the ESA, 2007. The idea of this exemption is to make sure the compliance with ESA, 2007, does not pose an unreasonable barrier at the operations level for a municipality. However, in comparison with the approach followed in the previous Agreement where the City had to notify the MNRF before beginning any drainage work, the City was provided an opportunity to register all drains and all potential species at risk, in a one-time registry process.

### ***Provincial Policy Statement***

The Provincial Policy Statement (PPS) is a general document that gives an overview of land use planning and development that is expected by the provincial government. The PPS states that it "sets the policy foundation for regulating the development and use of land ... and provides for appropriate development while protecting resources of

## Audit of Species at Risk

provincial interest, public health and safety, and the quality of the natural and built environment". The PPS recognizes that natural heritage shall be protected and that any development or site alteration shall not be permitted in:

- Significant wetlands in ecoregions 5E, 6E (in which the City is located) and 7E and in coastal wetlands;
- Significant woodlands and valleylands in ecoregions 6E and 7E;
- Significant wildlife habitat;
- Significant areas of natural and scientific interest; and
- Habitat of endangered species and threatened species (unless authorized under provincial or federal regulation).

Despite these restrictions, development can be authorized if it is demonstrated that ecological functions in these areas will not be negatively impacted by the project. PPS application at the City's level is made under the City of Ottawa Official Plan that is described later. The requirements for demonstrating that there is no negative impact on a habitat are described in the Plan.

### ***Protection of Species at Risk in Ottawa***

The City of Ottawa Official Plan serves as a framework for the City's development through 2031. It is a legal document that addresses the requirements found in the PPS under the Ontario *Planning Act*. It includes sections on environmental integrity and the protection of species at risk.

For projects where the City is the proponent, based on the size of the project, its nature, and its costs, the City may have to perform an Environmental Assessment (EA) process following either a streamlined approach for projects pre-approved by the Ontario Ministry of the Environment or an individual EA. Most of the time, the City will receive support from an external consultant to perform the EA requested. For an EA, the process requires the City to assess whether or not the project is located in the habitat of species at risk and if such species have been observed in the area.

External proponents for development projects must demonstrate in an Environmental Impact Statement (EIS) that their projects will not have significant negative impacts on the environment, including on the species at risk and their habitats. If the EIS analysis reveals, among other elements considered, that the project is located in an area where species at risk may live, the proponent must propose mitigation measures in the EIS to minimize these impacts. The City analyzes the EIS prior to authorizing the project and may ask for project changes if deemed necessary.

While protecting species at risk is a legal obligation, the City is also deeply committed to doing so. In 2003, the City adopted an environmental strategy that addresses the need to protect and strengthen local ecological features, including habitats and biodiversity. The City defined its roles and mandates with respect to biodiversity as to protect the habitat through environmental designations, to monitor and assess biodiversity, to prepare species status lists for the City and to educate the population. The City also pledged to prepare a biodiversity strategy (later called the wildlife strategy).

Finally, activities performed on a daily basis by the City (such as maintenance work, mowing, upgrading gravel roads, renewing bridges, replacing culverts) may impact species at risk. Staff must therefore understand the importance of protecting species at risk and adopt adequate practices to comply with the ESA, 2007, and the SARA.

## **Audit Objectives**

The objectives of the audit were to do the following:

### ***Audit Objective No. 1:***

Assess whether the City of Ottawa has a clear understanding of the regulatory requirements related to the protection of species at risk.

#### ***Criteria:***

- Determine if the protocols and guidelines developed by the City for internal or external use and related to work potentially impacting natural habitat comply with the regulations and are up to date;
- Determine if the City fulfils the requirements related to the regulations for the protection of species at risk. Among these requirements listed, which are not all-inclusive, the City has to:
  - Identify natural habitats within municipal areas;
  - Review the impact a project may have on a natural habitat if a significant delay has occurred between the initial assessment and the realization of the project or if new species are listed or if regulations are modified;
  - Comply with the specific agreement for building, improving, maintaining or repairing drainage works;
  - Protect and preserve natural habitats, since no person shall damage or destroy the habitat of a species listed on the ESA, 2007, and the SARA as endangered or threatened. This requirement applies to new development and routine maintenance done by the City;
- Determine if City staff has access to a training program to understand the requirements related to the regulations for the protection of species at risk.

## **Audit Objective No. 2:**

Assess whether the City adequately manages information and complies with regulations related to the protection of species at risk and their natural habitats.

### ***Criteria:***

- Determine if the roles and responsibilities for the protection of species at risk and their natural habitats are clear and known by each resource and are communicated to the appropriate staff members;
- Determine if the City has the appropriate tools to protect the species at risk and their natural habitats in compliance with the regulation and any other municipal commitment. Among these tools, the City has:
  - An official list of species at risk that might be found within the City area;
  - A process to keep this list updated;
  - A process to communicate clear and relevant information concerning species at risk to an external party to assess whether or not this party's project may impact a species or its natural habitat;
  - A process to ensure the species and their habitats are adequately protected.
- Determine if the City has developed and applied an action plan to comply with the recommendations listed in the wildlife strategy and if it reports the progress related to this plan on a current basis.

## **Audit Scope**

The audit scope includes the policies, guidelines, framework and regulations that have been adopted by the City since 2012.

## **Approach**

The audit was comprised of a review of the processes and protocols followed by the Planning and Growth Management department (PGMD), the Public Works department (PWD), the Environmental Services department (ESD) and the Infrastructure Services department (ISD) to ensure the City complies with both the ESA, 2007, and the SARA in its daily operations and realizations of major infrastructure projects. The audit also included a review of the communication processes used by the City to ensure that the information related to species at risk, in both policy development and daily operations, is adequate and up to date, and communicated to all concerned departments and third parties.

## Detailed Findings, Observations and Recommendations

### ***Assess whether the City of Ottawa has a clear understanding of the regulatory requirements related to the protection of species at risk.***

**Criteria:** Determine if the protocols and guidelines developed by the City for internal or external use and related to work potentially impacting natural habitat comply with the regulations and are up to date.

The City has different protocols and guidelines concerning the protection of species at risk. Some of these documents concern not only protection of species at risk but, more generally, protection of the wildlife that can be found within the City area. Other documents are even more general, such as guidelines for preparing an EIS, but include sections concerning protection of species at risk. The following official City documents address protection of species at risk:

- **Protocol for Wildlife Protection during Construction:** This document was approved by Council on October 14, 2015, as part of a continuation of the wildlife strategy. The protocol's objective is to guide external developers on City expectations for protecting Ottawa's wildlife. The protocol clearly refers to the ESA, 2007, and the SARA. The protocol clearly states that it is the property owner's and the agent's responsibility to ensure the actions performed to realize the project comply with regulations by producing a mitigation plan demonstrating how the requirements of the protocol will be met and how the species at risk and their habitats will be protected. The protocol provides an overview of the most common species at risk that can be found in the City (a few photos of turtles, swallows and butternut as an example), but refers the reader to external sources for additional information.
- **City of Ottawa Official Plan:** Two sections of this document are directly related to the protection of species at risk. First, Section 2.4, Maintaining Environmental Integrity, states that the natural heritage system is protected by ensuring that land is developed in a manner that is environmentally-sensitive through the development review process by taking into consideration, among other topics, the protection of significant habitats for endangered and threatened species. Then, Section 4.7.4, Protection of Endangered and Threatened Species, reiterates that no development or site alteration is permitted in significant habitat of endangered and threatened species and that no development and site alteration is permitted within 120 meters of the boundary of identified significant habitat of endangered or threatened species unless the ecological function of the adjacent lands has been evaluated and the EIS demonstrates that there will be no negative impacts on the ecological functions of the habitat.

- **Environmental Impact Statement Guidelines:** This document was produced in 2012 by the Land Use and Natural Systems unit (hereafter “LUNS unit”) under the Policy Development and Urban Design Branch at the PGMD “to provide direction on the implementation of the policies and requirements of the Official Plan and the Provincial Policy Statement (PPS)”. These guidelines mention that species at risk must be considered in the EIS. To determine if any species at risk could be found within or near the project area, the City screens available information to identify whether or not there is a potential for any species at risk for the proponent. However, even if the City does this screening, the guidelines reiterate that it is the proponent’s responsibility to have the information validated by the MNRF.
- **Best Management Practices (BMP) for municipal drainage activities:** The regional MNRF office in Kemptville provided a document in 2012 that provides general mitigation measures to be implemented when drainage activities are performed. This document refers to the Agreement entered into between the MNRF and the City for the City’s exemption from clauses 9(1)(a) and 10(1) of the ESA, 2007, insofar as the mitigation measures are followed. The document focuses on the protection of Barn Swallow and turtles, specifying the timing restrictions for drainage work to avoid impact on turtles. For all other species, the document recommends referring to the MNRF.
- **Wildlife Protocol for Road Construction/Rehabilitation Projects:** This protocol provides general provisions for City contractors concerning the protection of natural habitats during their work. The protocol refers to the ESA, 2007, and mentions that if turtles (Blanding’s, Spiny Softshell and Spotted turtles) or Bank Swallows, Barn Swallows and some bats are observed near the work site, the work must be stopped immediately, and the MNRF must be contacted as well as the City Project Manager. The document includes a few photos of turtles, swallows and the Butternut. These species are those most commonly encountered during this type of work, but this list is far from exhaustive when compared to Ontario’s list of SAR available on the MNRF website. The document references the *Ottawa Stewardship Council’s (OSC) Handbook* for additional information on Ottawa’s species at risk (comments on the handbook are provided later in this report).

These protocols and guidelines produced by the City comply with the regulations as they refer to legal documents such as the ESA, 2007, or the SARA. Except for the BMP for municipal drainage activities document, which refers to the Agreement that ended on June 30, 2015, the other documents are up to date.

Except the BMP for municipal drainage activities, most documents are produced by the City for use by contractors or private proponents of development projects. Similar

protocols or BMPs for regular maintenance activities performed by the City on its own sites are missing. This point is addressed in the next audit criterion.

None of these documents provides a complete list of species at risk, only offering a few examples. There is no major risk these documents would become outdated in the near future by providing such examples. The City refers the reader to external sources for identifying all the species at risk. However, these sources differ from one protocol to the next. For example, the BMP for municipal drainage activities references the regional MNRF office in Kemptville for any additional information while both the Protocol for Wildlife Protection during Construction and the Wildlife Protocol for Road Construction/Rehabilitation Projects reference the *OSC Handbook*. However, the OSC is not an official organization responsible for ESA, 2007, application, it is a volunteer organization. Moreover, since the July 2014 publication of the handbook, the MNRF has already announced that species have been reclassified (such as the Grasshopper Sparrow which has been classified as of special concern since March 2015 or the Flooded Jellyskin which, as of March 2015, is no longer classified as a species at risk). Therefore, the City refers external third parties to an outdated reference in these two protocols.

### **Recommendation 1**

**That the City only refer to legislative bodies for the identification of species at risk in its area in compliance with the ESA, 2007, and the SARA.**

### **Management Response:**

Management agrees with this recommendation.

Departments will ensure that City documents refer to the appropriate legislative bodies (ESA 2007 and SARA) for the identification of SAR. This applies to documents that reside in Planning and Growth Management, Public Works, Infrastructure Services, and Environmental Services.

Stakeholders will be directed to MNRF as the final authority for the identification of SAR at any given time.

Existing documents and web page references will be updated by Q2 2016.

***Criteria:* Determine if the City fulfils the requirements related to the regulations for the protection of species at risk.**

The regulations, on both provincial and federal levels, generally prohibit anyone from negatively impacting a species at risk or its habitat. Accordingly, one of the keys in

complying with regulations is being able to identify a species at risk in its natural habitat, in an urban area, in uncommon places or to locate its habitat. To do so, two approaches can be taken: locate all the natural habitats in the Ottawa area or identify whether or not a species may be found near a project area for each project.

### ***Locating Natural Habitats to Avoid Any Impact***

Since it is located in ecoregion 6E, and as required in the PPS, the City has a map locating the natural heritage systems such as significant wetlands, valleylands and woodlands, as well as areas with urban natural features, floodplains and the Greenbelt. Although the City considers the significant habitats for endangered and threatened species as being part of the natural system heritage, such habitats are not located on the map. The City considers that most significant wildlife habitats which include the habitats of species at risk cannot be confirmed and mapped remotely, and must be identified during a field visit. Additionally, the MNRF considers that the delineated habitat of endangered and threatened species is sensitive information and that exact locations of these species should not be identified in planning documents. Therefore, the City complies with the PPS by identifying the natural heritage system in Ottawa and with the MNRF by not giving the most expected locations of species at risk. However, since this means that the information provided is insufficient to ensure a specific project will not impact a species, field investigation is necessary.

### ***Locating Species at Risk before Undertaking a Project or an Activity***

In order to protect a species at risk, the PPS requires that it be demonstrated that no negative impact will result from an activity to either species at risk or their habitats. The activities undertaken by the City that may have an impact on a species can be classified into four categories: 1) infrastructure renewal projects; 2) major projects for which an EA is required by the Ministry of the Environment of Ontario; 3) maintenance activities under the responsibility of the PWD; and 4) drain maintenance.

### **Protection of Species at Risk in Infrastructure Renewal Projects**

For infrastructure renewal projects, such as upgrading gravel roads, renewing bridges, resurfacing roads and replacing culverts, the City does not have to produce an EA. Such work is pre-authorized by the Ministry of the Environment of Ontario. However, that does not mean species at risk cannot be found at the work sites.

Since 2013, the ISD performs an annual screening of the projects for the next two years that figure in its renewal program. The objective of this screening is to identify projects that might impact species at risk. The methodology for this screening approach was developed by the City in collaboration with a consultant and submitted for comments to the MNRF. It includes a desktop review and a field investigation. Based on the information collected, a risk assessment is performed for each project in order to have it

classified as having either no, low, moderate or high risk on a species at risk or its habitat. For each project where a risk is assessed, a report provides mitigation measures for minimizing the risk. These mitigation measures are also reviewed by the MNRF. Finally, the mitigation measures are reproduced in the scoping document used by the Asset Management branch (AMB) to define the work to be done, set the schedule and the budget. Therefore, the team responsible for realizing the project is clearly notified that specific mitigation measures must be implemented as species at risk potentially live in the work area.

Since such a screening approach has been followed the last three years, we consider that the City has an adequate approach to fulfilling the protection of species at risk requirements in the realization of infrastructure renewal projects.

### **Protection of Species at Risk in Major Projects**

When the City has to realize a major infrastructure project, in compliance with the *Environmental Assessment Act*, the City must perform an EA or a streamlined EA to demonstrate that the project will not impact the environmental characteristics (such as species at risk and their habitats) or that mitigation measures will be implemented to minimize such impacts. Projects that are already preapproved, and for which an environmental study report is not required (projects following the streamlined EA schedule A or A+ of the Municipal Class EA), must still comply with SARA and ESA, 2007. It could take many months, if not years, to complete an EA study and realize the project, during which time, changes in the environment could occur (e.g. a protected bird may choose to build a nest on a structure considered in the project) or the legislation may be modified (e.g. a new species added to the species at risk list).

The City does not currently have a protocol to review a project's environmental context prior to its realization to ensure there are no changes when compared with the initial context considered in the EA. A well-known example illustrating changes in the environmental context occurring between the end of the EA and project realization is the 2013 reconstruction of the Jockvale Bridge that had been suspended after nests of Barn Swallows were found under the old bridge. In this specific case, the problem was not that the 2007-2008 EA had not identified any issue related to the species at risk, but that the Barn Swallow was added to the species at risk list in 2012, after the EA, before the project was realized.

Without a systematic review of upcoming projects in place, similar to infrastructure renewal projects, the City cannot identify major projects for which additional mitigation measures are required due to changes in the environmental context or regulations.

### **Recommendation 2**

**That the City develop an approach to review the environmental context and the appropriate regulations of major infrastructure projects before they are realized**

**to ensure compliance with the requirements regarding protection of species at risk and their habitats.**

**Management Response:**

Management agrees with this recommendation.

The City will develop an approach to review the environmental context and appropriate regulations for major infrastructure projects prior to commencement of the project in order to ensure compliance with current requirements regarding protection of species at risk and their habitats. This approach will be developed by Q3 2016.

In addition to major projects and infrastructure renewal projects, the City's maintenance activities may also impact species at risk. Two different groups of activities have been considered in this audit: 1) maintenance performed by the PWD (maintenance activities related to road, parks, buildings and forestry); and 2) drain maintenance done based on the responsibilities given to the City under the *Drainage Act*.

**Protection of Species at Risk in PWD Maintenance Activities**

For compliance to the ESA, 2007, and the SARA the PWD distinguishes activities that are done in a sensitive area (wetland or significant woodlands) from those done in a non-sensitive area. The distinction between both types of areas is readily available to staff using the geographic information system (GIS) tool. The PWD considers that it is not possible to have a species at risk in a non-sensitive area, and therefore, no mitigation measure or specific protection is undertaken.

However, the Wildlife Protocol for Road Construction/Rehabilitation Projects, developed by the LUNS unit and followed by the PWD for maintenance activities in sensitive areas mentions that many turtles use the soft shoulders of roads for nesting, burying their eggs in the gravel, and that snakes may also be found on or adjacent to roads. Additionally, the LUNS unit considers that species at risk may be located all over the Ottawa area, not only in sensitive areas. Therefore, there is a possibility that species at risk might be found outside sensitive areas and since no special measures are taken during maintenance activities, there is a risk of hurting a species at risk or impacting their habitats.

Some other organizations, in Ontario and elsewhere in Canada, have adopted BMPs for maintenance activities in order to comply with the regulation on the protection of species at risk. For example, the Ministry of Transportation and Infrastructure of British Columbia has environmental best practices for highway maintenance activities. They provide recommendations on how to perform maintenance activities such as a minimum

height for mowing and the creation of a buffer zone between the roadside and a watercourse.

In sensitive areas, maintenance is done only where there are City infrastructures. The PWD follows the mitigation measures provided in the Wildlife Protocol for Road and Construction/Rehabilitation Projects and those figuring in the scoping document prepared by the AMB based on the previously described screening approach. However, these mitigation measures are specific to construction work (e.g., installation of silt fencing to prevent turtles from entering the work zone), and do not apply to maintenance activities such as grading or roadside brushing or mowing. Therefore, we again consider that there is a risk related to compliance with clauses 9(1)(a) and 10(1) of the ESA, 2007, for maintenance activities performed by the PWD in sensitive areas.

The only specific approach developed by the PWD with respect to protection of species at risk is a map of areas where contractors cannot apply herbicides due to the occurrence of sensitive natural heritage features. The LUNS unit and the MNRF supported the PWD in developing this approach.

### **Recommendation 3**

**That the City adopt BMPs for maintenance activities in both sensitive and non-sensitive areas in order to protect the species at risk and their habitats.**

### **Management Response:**

Management agrees with this recommendation.

Public Works will develop appropriate BMPs for roads maintenance, parks, buildings and forestry activities covering both sensitive and non-sensitive areas by Q2 2016.

### **Protection of Species at Risk in Drainage Maintenance Activities**

Drainage maintenance work is under the responsibility of the Municipal Drainage Unit (MDU), which is part of the Surface Water Management Services branch in the Environmental Services department. As presented in the background section, the City came to an agreement with the MNRF based on Ontario Regulation 242/08 that provides for an exemption from clauses 9(1)(a) and 10(1) of the ESA, 2007, for maintenance activities in drains located in sensitive areas that have been identified in the Agreement so long as the City fulfils the requirements of applying a mitigation plan and reporting the activities done yearly to the MNRF.

In the application of the Agreement, the City went above the requirements. MDU has notified to the MNRF the scheduled maintenance work to be undertaken on any drains, rather than only providing notification for those identified by the MNRF as being in a sensitive area and occurring during a sensitive period, as described in the process chart included in the Agreement. To complete such a notification, the City provided

information related to the proposed work dates, the proposed activities, whether species at risk were expected to be present, the type of sediment and erosion control measures to be used. Depending on the complexity of the project (number of species at risk located in the area, extent of work to perform), the notification process could be resource intensive for the MDU. However, the MDU has preferred to invest in this notification process to make sure the City complied with the ESA, 2007 and the exemption for drainage work.

The Agreement mentions that the City must annually submit a monitoring and reporting form containing the information collected during the inspection of the undertaken activities for the work done on drains identified as being in sensitive locations. The City never provided such a report to the MNRF since no maintenance was required on any of the fourteen drains listed in the Agreement between 2010 and 2015. In 2012, the City sent an email to the MNRF about this situation for 2011, informing the MNRF that such notification should be considered as a report. The MNRF did not ask for additional details. Since then, the City has not provided any reports to the MNRF.

On June 30, 2015, the Agreement with the MNRF ended. However, exemption from clauses 9(1)(a) and 10(1) of the ESA, 2007, is still possible as the compliance with the ESA, 2007, for drainage work is made in a way that does not pose an unreasonable barrier at the operations level for a municipality. Therefore, the MNRF has facilitated the process for municipalities to fulfil exemption requirements. The City has been informed by both the MNRF and the Drainage Superintendents Association of Ontario (DSAO) about the process changes.

A municipality can now register the drains for which the exemption is requested with a single registration form for all drains. On June 30, 2015, the City registered all the drains for the Ottawa area (there are over 700 drains) using this single registration process. The City also increased the number of species at risk that might be found around these drains from three to fourteen. Having done this global registration, the City will not have to notify the MNRF each time drain maintenance or repairs are required. Accordingly, the extra work done by the City to register each drain will not be done again.

To be exempted from the two clauses of the ESA, 2007, the City still has to follow a mitigation plan to minimize the risk of impacting species living around a drain. In the Agreement, such a mitigation plan was provided by the MNRF. Now the City has to update this mitigation plan to take into consideration the new species at risk that the City registered on June 30, 2015. This requirement was clearly communicated to the City by the MNRF in January 2015. With many more species at risk registered now than at the time of the Agreement, the City needs to update the mitigation plan. The DSAO has started work on a standardized mitigation plan to be used province-wide, based on the one in the Agreement and approved by the MNRF. However, the mitigation measures considered in this standardized plan do not cover all the species registered

by the City. Therefore, in order to comply with the regulation and to be exempted from clauses 9(1)(a) and 10(1) of the ESA, 2007, the City should adapt the standardized mitigation plan made by DSAO with actions that are specific to registered species at risk.

**Recommendation 4**

**That the City develop its own mitigation plan with respect to the species at risk that might be found around the drains located all across the Ottawa area.**

**Management Response:**

Management agrees with this recommendation and it has already been implemented.

When preparing to do drainage work Environmental Services (Municipal Drain Unit) reviews the Ministry of Natural Resources and Forestry (MNRF) website immediately prior to planned works to determine the most up to date species at risk (SAR) in the general area of the municipal drain.

As noted in the Audit, on June 30, 2015, the Agreement, based on Regulation 242/08, with the MNRF ended. Under new procedures, Environmental Services has registered over 700 drains using the single registration process; as part of the registration process the City increased the number of species at risk that might be found around City drains from three to fourteen. In the now expired Agreement, the Ministry provided a mitigation plan, however, moving forward, under the new process, the Municipal Drainage unit will be following approved mitigation plans agreed to by MNRF, Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) and the Drainage Superintendents Association of Ontario (DSAO). Immediately prior to beginning each project ESD will refer to the MNRF SAR registry to determine which species are at risk.

***Criteria: Determine if City staff has access to a training program to understand the requirements related to the regulations for the protection of species at risk***

From 2012 to 2015, the LUNS unit, the City's key resource for providing information related to the protection of species at risk, gave seven external conferences, in-house ad hoc presentations and on-demand introductory sessions on the changes in legislation on species at risk and on how the City's activities comply thereto. Staff from the Real Estate Partnership and Development Office, Asset Management branch, Policy Development and Urban Design branch, and Housing Services branch requested such a specific presentation from the LUNS unit or attended an event where the LUNS unit did a presentation on species at risk. One of the external conferences was given in 2014 to the National Capital Heavy Construction Association (NCHCA), which staff from the Environmental Services department and ISD also attended.

## Audit of Species at Risk

With an external consultant in 2013, the LUNS unit also organized a meeting mostly including staff members from the ISD and a few from the PGMD and the PWD on the review of requirements for species at risk. The LUNS unit presented the City's responsibilities under the ESA, 2007, the Wildlife Protocol for Road Construction and Rehabilitation Projects, the Agreement related to the *Drainage Act*, the BMP for municipal drainage activities, and a draft of the procedure for screening the projects that may impact species at risk (the screening approach used by the ISD as presented previously).

In 2013, LUNS unit staff members, with Environmental Planners from the Development Review Rural Services branch, attended training given by the MNRF about the improvement of the implementation of the ESA, 2007.

The MDU, which works more closely with the MNRF than with the LUNS unit, asked the MNRF to give a training session on the protection of species at risk and on Butternut identification. PWD staff members also attended this session.

Besides these ad hoc presentations, the City does not have a mandatory protection of species training program. New regular or temporary (such as summer jobs) employees who have to work outside do not have access to an information session on how their work may impact species at risk and what to do if a species is observed.

### **Recommendation 5**

**That the City provide all new staff members who may encounter species at risk with a short training session that provides basic information on the species at risk in Ottawa, what to do when a species is encountered and the available City resources for additional information.**

### **Management Response:**

Management agrees with this recommendation.

The responsibility for providing training and ensuring that all new staff are trained will be considered within the organizational review to be completed as part of Recommendation 6. This review will be completed by Q3 2016.

***Assess whether the City adequately manages information and complies with regulations related to the protection of species at risk and their natural habitats***

**Criteria: Determine if the roles and responsibilities for the protection of species at risk and their natural habitats are clear and known by each resource and are communicated to the appropriate staff members**

Even if the departments that are involved in the protection of species at risk acknowledge that the most relevant resources for this subject are found within the LUNS unit, this unit is not responsible for the City's compliance with the regulation concerning the protection of species at risk and their habitats. Each department is responsible for their own activity. In the case of the MDU, the situation is different. The MDU recognizes the expertise on species at risk of the LUNS unit, but works mainly with resources at the MNRF as this unit has received, like other municipalities, specific direction and training from the MNRF. Official key duties for the LUNS unit's staff are related to policy development, but a part of the work also includes support for other departments and implementation of the policies developed, such as to:

- Identify and protect the natural environment through the preparation of sub-watershed studies and other environmental plans and guidelines prior to development;
- Analyze, formulate, implement and defend complex natural environment policies and strategies;
- Ensure the compliant and consistent interpretation and application of relevant provincial legislation, regulations and policies, the City's Official Plan, zoning by-laws and departmental processes and procedures, and prepare planning reports; and
- Provide advice to other departmental staff on planning policy changes identified, as required through the development review process.

In addition to these mandatory tasks, the LUNS unit also took over responsibilities to develop a species at risk list specific to the Ottawa area, to keep it up to date and to inform the City's staff about any changes to this list. The responsibilities related to the list extend beyond policy development and are part of the support for the implementation of any measures for legislation compliance.

We consider that the roles and responsibilities for the protection of species at risk are understood by the LUNS unit in the development of policies. However, if protocols or guidelines are developed for the identification of mitigation measures to protect them, the City does not have any resource responsible for controlling their application. Once the mitigation measures have been identified, the general approach seems to rely on employee and contractor professionalism for their application.

In order to complete the management of species at risk process, the City should have a resource at the operational level working in collaboration with the staff responsible for species at risk policy development. As presented later in this report, in 2013, the PGMD developed the City's wildlife strategy. This document recommended the creation of a Wildlife Resource Officer that would have, among other tasks, the responsibility of

developing and implementing policies and procedures to ensure compliance with the ESA, 2007, in the City's operations and maintenance and in working with the LUNS unit to implement species at risk planning and policies. At that time, the analysis of the creation of this position was postponed until the next City Council term that is 2015-2019, when the staff reviewed the business case for this position. The financial implications of this new position would also be included in the business case. In 2014, the PGMD produced the business case in preparation for the corporate priority setting and budget. However, in the end, this position was not considered a priority, and no additional analysis of such a new position was made.

Without having someone responsible for controlling implementation of the mitigation measures and the best practices in maintenance activities, the City cannot ensure compliance with the ESA, 2007, and the SARA from policy development through to their day-to-day applications.

### **Recommendation 6**

**That the City review its organizational structure in order to be able to provide a complete internal service for protection of species at risk in compliance with legislation by providing services in policy development, policy implementation and policy application control.**

### **Management Response:**

Management agrees with this recommendation.

The City will undertake a review of the resources currently involved in policy development, implementation and compliance as it relates to SAR to determine whether the risk of non-compliance currently exists and whether a centralized service delivery model would be beneficial. This review will be completed by Q3 2016.

**Criteria: Determine if the City has the appropriate tools to protect the species at risk and their natural habitats in compliance with the regulation and any other municipal commitment**

### ***List of Species at Risk in Ottawa***

The main tool the City has for managing species at risk is a list of species that are considered as being at risk in Ottawa. There is no obligation for the City to have such a list, but the LUNS unit took the responsibility of creating this list, keeping it up to date, and informing specific internal and external resources about any changes to this list in 2007, after the adoption of the ESA, 2007.

The main reason given by the LUNS unit for having such a specific list for the City is the delay between the MNR's announcement on the EBR of a change in the official species at risk in Ontario list and the update of that list on the MNR website, which is

the main resource most organizations in Ontario use to identify species that are at risk. For example, in June 2014, the MNRF announced that the Eastern Musk Turtle was being down listed from threatened to special concern status. More than a year later, depending on how searches are done on the MNRF website, this species is listed as of special concern or still as being threatened. And if the search is done specifically for the Ottawa area, this turtle is still listed as being threatened. More recent changes made in March 2015 to the MNRF list are still not translated on the Ministry website. Perhaps these are oversights on behalf of the MNRF, but the LUNS unit considers that the internal list, which implies a regular follow-up of any announcements on the EBR related to species at risk, is a much more relevant tool to use than the MNRF website. However, from a compliance point of view, the City must take every decision related to the protection of species at risk based on the information provided by the MNRF and Environment Canada, or at least validated by these legislated bodies. The internal list made by the LUNS unit must be seen as a tool that: 1) centralizes the information from different sources (provincial and federal requirement) and 2) gives an overview of upcoming modifications to official documents.

Instead of one single official list, there are a total of six different sources that can be used or that are recommended by the City to identify whether or not a species is considered at risk. These are the different lists available:

- List of species that is available on the City's website, in the section dedicated to wildlife. This list does not just contain species at risk, but all different species that might be found in the Ottawa area. The status of the species is given when it is protected under the ESA, 2007, or the SARA;
- Species at risk list in Ottawa that is kept up to date by the LUNS unit. This list contains only species that are endangered, threatened or of special concern based on the ESA, 2007, and the species that are endangered, threatened, of special concern or under consideration based on the SARA (this list is hereafter named "Ottawa SAR list w/ SpCons");
- Species at risk in Ottawa, same as previous, but without the species having a status of special concern (this list is hereafter named "Ottawa SAR list w/o SpCons");
- *OSC Handbook*, a document produced by the Ottawa Stewardship Council in 2014 that details the species that are at risk in the Ottawa area (effectively a field guide). On the City's website, the public is invited to refer to this document for more information about species at risk in Ottawa;

## Audit of Species at Risk

- The MNRF website that lists the species at risk in Ontario, with the capability to screen only those in the Ottawa area (but with significant lack of accuracy with regard to species really found in Ottawa - demonstration is made below);
- SARA Schedule 1, available on the Environment Canada website, that lists the species at risk in Canada with no distinction related to geographic area.

As presented below, with the exception of the publicly available lists, none of the others are available to all City staff members. The Ottawa SAR list w/o SpCons is available on the intranet but not to all staff members that would need to consult this list. For example, the MDU does not have access to this list on the intranet. The Ottawa SAR list w/ SpCons is sent by the LUNS unit, each time it is updated, to different staff members from the ISD, the PGMD, the Real Estate Partnership and Development Office, the PWD and the Water Environmental Protection unit. The MDU, which is responsible for the application of the *Drainage Act*, does not receive this list. The list is also sent to an external group by the LUNS unit. Some consultants who often work with private proponents receive this list. Even if the list is not publicly available, the 2013 version has been found on the Internet. It was a version related to the presentation made by the LUNS unit at a previous NCHCA event.

**Table 1: Availability of the different sources of species at risk recommended or used by the City**

List	Public	External parties	All City staff	Limited internal staff	LUNS unit
City's website	X	X	X	X	X
Ottawa SAR List w/ SpCons	Outdated (2013)	X		X	X
Ottawa SAR List w/o SpCons				X	X
<i>OSC Handbook</i>	X	X	X	X	X
MNRF – general	X	X	X	X	X
MNRF – Ottawa	X	X	X	X	X
SARA Sch. 1	X	X	X	X	X

Having different sources for consultation to determine whether a species is at risk is not problematic in of itself if all of these lists were equivalent and provided the same information. However, comparing the lists' content has revealed many differences. The following table presents, for the species protected under the ESA, 2007, a few groups of species for which the differences are significant. It is normal in this comparison to observe less species with a status of special concern in the Ottawa SAR List w/o

SpCons than on those with SpCons. The species having such a status that appear on the list where no special concern status is considered are those which are also considered at risk under federal legislation and therefore have not been removed from this list. This comparison clearly demonstrates that the *Ottawa Stewardship Council's Handbook* produced in 2014 is not a complete document, mainly due to errors in the identification of endangered species and of special concern. Even if the list on the City's website has been updated recently, the information provided is minimalist and many species at risk are not identified as such (especially for endangered species) when compared with the Ottawa SAR List. Even if the list on the City's website has been updated recently, the City's website should explain any exclusion of species at risk. Clearly, the list of species screened for the Ottawa area on the website of the MNRF is missing a significant number of species, while the list for Ontario does not reflect the latest changes approved by the Minister.

**Table 2: Difference in the number of species by status in the different sources recommended or used by the City, for some species groups**

Species groups	Status	City's website	Ottawa SAR List		OSC Handbook	MNRF	
			w/ SpCons	w/o SpCons		Ottawa	Ontario
Birds	Special concern	13	14	4	10	4	13
	Threatened	8	8	8	8	6	8
	Endangered	2	4	4	1	2	4
Reptiles	Special concern	5	5	1	5	4	4
	Threatened	2	2	2	2	2	3
	Endangered	2	2	2	1	0	2
Insects	Special concern	2	2	0	1	0	2
	Threatened	0	0	0	0	0	0
	Endangered	2	5	5	2	2	4

Errors on the MNRF website are out of the City's control. However, even if the City is aware of these differences, the PGMD did not ensure that the Ottawa SAR List w/ SpCons was distributed to all staff members having to deal with species at risk. The MDU does not receive the Ottawa SAR List (either the w/ SpCons or the w/o SpCons).

## Audit of Species at Risk

In June 2015, a list of species at risk (endangered and threatened) was provided to the MNRF for the one-time registration process for all drains. The MDU filled out the registration form based on the information available on the MNRF website for the Ottawa area. As presented before, the MNRF website does not reflect the latest changes made to the Species at Risk in Ontario List. This is why, when the MNRF returned the approved registration form, the Ministry had not considered one of the three plants and one of the two reptiles figuring on the MDU form at risk. Indeed, in March 2015, the MNRF removed the Flooded Jellyskin from the Species at Risk in Ontario List, which was a threatened plant, but had not updated the information on the website in June 2015 when MDU filled out the form. This is also the case for a reptile that has been considered, since March 2015, as of special concern but is still listed as threatened on the MNRF website.

Most importantly, many species at risk are missing from the registration done by the MDU when compared to the LUNS unit list. If it is possible for the MDU to ask for a change in the registration of the drains in order to add new species at risk, this situation clearly demonstrates that there is a gap in the communication process among the different services and units having to comply with the regulations related to species at risk.

In the case of the activities performed by the MDU, to comply with the regulation and to be exempted from clauses 9(1)(a) and 10(1) of the ESA, 2007, specific species must have been declared to the MNRF in the registration of the drains for which the exemption is requested. And in order to be able to declare these species, the MDU must be aware that they are considered at risk.

**Table 3: Difference in the number of species at risk (endangered and threatened) recognized by the MDU, the MNRF and the LUNS unit**

Species groups	MDU registration sent to MNRF	MNRF registration approval of those requested	Ottawa SAR List
Birds	8	8	12
Insects	1	1	5
Plants, moss, lichen	3	2	5
Reptiles (snakes, turtles)	2	1	4

### **Recommendation 7**

**That the City improve communication between the different services and units having to comply with the regulations related to species at risk to ensure all of them have access to the most relevant and up-to-date list of species at risk in Ottawa.**

**Management Response:**

Management agrees with this recommendation.

The City will include a review of internal communication as part of the study referred to in Recommendation 6. This review will be completed by Q3 2016.

***The Process to Update the List of Species at Risk in Ottawa***

The Ottawa SAR List w/ SpCons is therefore the most up-to-date list of species that the City may have. As mentioned previously, the responsibility of creating this list and keeping it updated has been undertaken by LUNS unit staff members. One employee is in charge of doing the update based on the notifications posted by the MNRF on the EBR and communicating these changes and the updated list to some City staff members and external resources. The new list is also communicated by the PGMD General Manager to other departments. However, there is no specific and written protocol to do this update. Therefore, there is a risk that the City is not able to update its list faster than the MNRF updates its own.

**Recommendation 8**

**That the City develop a process for updating the Ottawa SAR List.**

**Management Response:**

Management agrees with this recommendation.

As part of the review referenced in Recommendation 6, Management will look at all processes required to ensure that staff have access to the most up to date information related to species at risk. This review will be completed by Q3 2016.

**Criteria: Determine if the City has developed and applied an action plan to comply with the recommendations listed in the wildlife strategy and if it reports the progress related to this plan on a current basis**

As mentioned in the section about the roles and responsibilities, in 2010, City Council directed staff to develop a comprehensive and integrated wildlife strategy centered on wildlife-sensitive planning, with a focus on public education and awareness programs. In June 2013, the PGMD came out with a document entitled *Wildlife Strategy – City of Ottawa, Report and Recommendations*. This wildlife strategy goes beyond the concept of species at risk. It covers many other topics related to the wildlife in Ottawa and cohabitation between humans and animals. Nine recommendations were linked to this strategy. Two were about the update of the construction protocol to take into consideration the Official Plan, the by-laws and new urban wildlife issues. Four recommendations were on public education and outreach. The idea was for the City to better communicate about urban wildlife species and best practices for prevention of

## Audit of Species at Risk

conflict between wildlife and humans. Two other recommendations were about beaver and coyote management (which are not considered as species at risk in Ottawa). The last recommendation was about the creation of a new Wildlife Resource Officer position, which includes, among other responsibilities, working on implementation of the policies for the protection of species at risk. Such a new resource would facilitate compliance with the ESA, 2007, in the City's operations.

In June 2013, the PGMD recommended to the Agriculture and Rural Affairs Committee approval of the wildlife strategy as well as its implementation plan. In July 2013, the Committee recommended the adoption of the document and the plan by the City Council.

Since its adoption in 2013, much work has been done on the plan. The construction protocol has been updated, the PGMD hosted five sessions to inform residents about wildlife, worked with the "Let's Talk Science" program to develop a backyard wildlife education kit for use in schools, and the City's website section on wildlife has also been updated. All of these actions were in line with the Strategy's first six recommendations.

The last three recommendations, including the creation of a Wildlife Resource Officer position, were all postponed until the next City Council mandate (2015-2019). But now that this mandate has started, there is no additional approach for undertaking the three remaining recommendations.

As mentioned previously, the operational control for the protection of species at risk is missing in order for the City to fully manage compliance related to the protection of species at risk. The LUNS unit primarily works on policy development and provides support to other departments and units for the understanding of the requirements related to the protection of species at risk. But support for applying and controlling mitigation measures is missing. Based on the recommendations in the wildlife strategy, one of the Wildlife Resource Officer's responsibilities would have been to develop and implement policies and procedures to ensure compliance with the ESA, 2007 for City operations and maintenance.

From an operational standpoint, the PGMD has demonstrated the need for this new resource. However, the department has not yet demonstrated the financial mid-term benefits associated with such a position. The only benefits currently identified for this position are related to a decrease in the costs for repairing damage to road culverts and road beds caused by beavers, which is an issue in Ottawa from a wildlife strategy standpoint, not related to a species at risk.

We previously mentioned the need to control the application of mitigation measures and have support in the implementation of policies related to the protection of species at risk, mainly for maintenance activities. Without such support for application of the regulations related to species at risk, the City does not have a complete species at risk

management program. Therefore, the City should consider the recommendation made in the Wildlife Strategy for the creation of a Wildlife Resource Officer position. This suggestion is related to Recommendation 6.

## Potential Savings

The potential savings for the City of Ottawa in the management of species at risk are minimal. To date, on technical aspects, the City has overly exceeded its obligations. For example, it is not mandatory for the City to have its own species at risk list. But it has been demonstrated that by investing in this additional task, the City has a good tool for identifying the species that are protected under the ESA, 2007, and the SARA, even better than the information available on the MNR website. By working only with the publicly available list of species at risk, which is not up to date, the City could unintentionally omit the development of mitigation measures for a species at risk that is not listed. And then, the MNR could refuse to authorize or register a project due to the lack of mitigation measures. Such a situation would cost time and money for the City who would have to resubmit the request or could lead to legal infractions if SAR are harmed. Therefore, by exceeding its obligations, the City avoids costs and delays. However, it is not possible to assess the real current saving of this as the cost of the extra work for the creation of the Ottawa SAR List is unknown as well as the amount of time the MNR could refuse a project. In such context, it is not recommended that the City stop doing the extra work.

By implementing a review process before starting an infrastructure project for which an EA was produced some time previously, the City could avoid delays if the environmental conditions or legislation context have changed. However, the size of such savings in avoiding delays and the risk of legal infractions (fines) depends, among other elements, on the type of project and the time of the year the project was supposed to start. However, it is clear that delaying a major construction project for several weeks may cost the City thousands of dollars. And to have an efficient review process, the City must use the most up to date information related to species at risk. Again, this justifies the creation of the Ottawa SAR List.

## Conclusion

Overall, the City has a good understanding of the requirements that must be fulfilled to comply with the regulations on the protection of species at risk. The City has a team with experience and knowledge that is recognized and shared by almost all staff members that have to deal with these requirements. The City is aware of both provincial and federal restrictions for protecting species at risk. More importantly, the City understands the exemptions to these restrictions and uses these exemptions to facilitate its day-to-day activities in the maintenance of drains.

## Audit of Species at Risk

The PGMD has produced, in recent years, several protocols and official documents to guide the City in complying with these regulations. However, the management of species at risk still needs operational improvements. The mitigation measures that are followed by the PWD are not specific enough for the maintenance activities the department undertakes.

No standard control is performed to make sure the mitigation measures are adequately applied by the different departments or even contractors. For major infrastructure projects, there is no protocol to review the environmental and legislative contexts of a project before starting the work on site. In the past, this has caused delays in the realization of a project due to a change in the legislation related to species at risk.

For smaller infrastructure renewal projects, the City screens all the projects that will be undertaken in the following months to identify those for which an issue with species at risk may occur. Such an approach could be used for larger infrastructure projects.

Finally, the communication process should be reviewed to make sure all departments and units having to deal with species at risk have the most relevant and appropriate information to make informed decisions. The City has an excellent up-to-date list of species at risk in the Ottawa area, but it is not available to all staff members having to deal with such species. The City should improve the sharing of this information and use it as a reference for identifying species at risk in Ottawa instead of referring to several sources. Another good communication tool is training. However, there is no official and mandatory training at the City on the topic of species at risk. There are training sessions, but they are provided on an ad hoc basis, when requested by a department or a unit, and there is no training or information sessions for new employees who may encounter species at risk during their employment.

A municipality cannot act efficiently to protect species at risk without a good understanding of the requirements and appropriate policies. On the other hand, a municipality cannot be sure to fully comply with the regulations by having only a good knowledge of the topic, complete policies and appropriate tools. Staff members in the field need support to implement these policies and tools. Based on our observations, we believe this is what the City should work on now.

## **Acknowledgement**

We wish to acknowledge our appreciation for the cooperation and assistance afforded to the audit team by management.