

# MEMO



**TO:** Linda McDougall, Ecologist, City of London  
**FROM:** Jennifer Petruniak, Biologist, Project Manager - Dillon Consulting Limited  
**DATE:** January 6, 2017  
**SUBJECT:** False Rue-anemone and Green Dragon, Medway Valley Heritage Forest ESA  
**OUR FILE:** N/A

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The Environmental and Ecological Planning Advisory Committee (EEPAC) recently requested that the City of London report on the abundance (i.e., stem count) of False Rue-anemone (*Enemion biternatum*) and Green Dragon (*Arisaema dracontium*) colonies in the Medway Valley Heritage Forest (MVHF) Environmentally Significant Area (ESA) in comparison with past data. In response to this, the following documents were reviewed:

- COSEWIC Assessment and Update Status Report on the False Rue-anemone (*Enemion biternatum*) in Canada (2005);
- [Proposed] Recovery Strategy for the False Rue-anemone (*Enemion biternatum*) in Canada (2016); and,
- Management Plan for the Green Dragon (*Arisaema dracontium*) in Ontario (Ministry of Natural Resources and Forestry, June 2013).

In addition to these government sources, Dillon Consulting Limited (Dillon) has relied on studies completed by Dillon biologists from 2013 through 2016 as part of the MVHF ESA Natural Heritage Inventory and Evaluation as well as work completed under the False Rue-anemone mitigation plan and the MVHF ESA Invasive Species Management Plan.

## False Rue-anemone

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Accurately quantifying the number of stems in a False Rue-anemone sub-population can be difficult as this species can occur in large, dense patches of hundreds, or even thousands, of stems.

In the 2005 COSEWIC Assessment and Status Report on the species, an Ontario population summary was provided for sub-populations known to occur at that time. The Medway Creek Element Occurrences (identified as 2a to 2i) were described according to the reference (author) supplying the data and generally provided both the number of observed colonies as well as the number of plants. The majority of observations were made by M.Austen in 1989. Efforts to resurvey the sub-populations

in 2003/2004 by M.J. Thompson resulted in many of the sub-populations not found as previously described.

The table below provides a summary of that data and equates it to the sub-populations/colonies described by Dillon from 2013 to 2016. Please note, that Dillon did not complete stem counts within the sub-populations due to the density of the patches; Dillon is of the opinion that the risk to the species to obtain accurate stem counts outweighs the benefit of this data.

<b>Colony ID (COSEWIC)</b>	<b>Description of Location in Medway* (COSEWIC)</b>	<b>1989 Past Number of Colonies Reported (COSEWIC)</b>	<b>1989 Past Abundance Reported (COSEWIC)</b>	<b>2003/2004 Update (COSEWIC)</b>	<b>2013-2016 Approximate Current Abundance (Dillon/ UTRCA)</b>
2a	University of Western Ontario (UWO) Campus (7 m from well-used trail)	1	200	Not found	Not determined due to access restrictions.
2b	Arva area	4	Not estimated	Not found	Not in study area.
2c	South of Arva	Not provided	<500	Not found	Not in study area.
2d	Medway Heights	Not estimated	Not estimated	Not found	One large colony and 10 sub-colonies mapped; shared location with 2i
2e	Huron College, UWO	1	2500	Not found	Not determined due to access restrictions.
2f	Medway Creek, north of Snake Creek	3	12,500	Not searched	False rue observed in 2013 surveys, not quantified.
2g	Medway Creek, south of Snake Creek	4	1,750	Not found	False rue observed in 2013 surveys, not quantified.
2h	West side of Medway Creek	Not provided	15,000-20,000	35,000	Located on the west side of Medway Creek, north of the Metamora Crescent access zone; not quantified.

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2i	East of Medway Creek, near confluence with Snake Creek	1	500,000-700,000	May contain 500,000-700,000 based on colony size (25m <sup>2</sup> )	One large colony and 10 sub-colonies mapped; shared location with 2d. Number of stems anticipated to be greater than 2003/2004 estimates as the area covered by the main colony was estimated to have doubled in size.
2j	East of Medway Creek, south of its confluence with Snake Creek	1	50-75	Not found	Main study area – one large colony and 10 sub-colonies mapped; shared with 2d and 2i; may refer specifically to sub-colony 9 that had approx. 75 stems.
New locations	---	---	---	---	Small colonies were located to the east and west of Medway Creek in the portion of the ESA north of Fanshawe Park Road West. (3 colonies of 5-10 plants in 2013)

\*Confidential site information provided by M.J. Thompson to the City

Based on the information above for those sub-populations where Dillon was granted access, the populations were observed in 2013 (even where they were not observed in 2003/2004) and continued to persist through 2016. As cited in the 2016 COSEWIC recovery strategy for this species, the largest sub-populations of False Rue-anemone in Canada are found with the MVHF ESA in the City of London. Further, the City has taken proactive and successful steps to protect and restore this species in the MVHF ESA in

advance of the federal Recovery Strategy identifying that controlling invasive species to recover the species is a high priority.

## Green Dragon

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In the Management Plan for Green Dragon published by the Ministry of Natural Resources and Forestry in June 2013, there were a few known occurrences in Middlesex County. It was also noted that pending studies in the City ESAs were anticipated to document additional occurrences.

Following Dillon's surveys in 2013, the following was observed:

- Seven colonies ranging from 5-12 stems in the MVHF north ESA, primarily on the east side of Medway Creek; and,
- Ten colonies ranging from 2-12 stems in the MVHF south ESA, primarily on the east side of Medway Creek;

As outlined in the MNRF Management Plan, invasive species management has been identified as an important aspect to promote the persistence of Green Dragon. The City is currently working to control both Japanese Knotweed (*Fallopia japonica*) and Goutweed (*Aegopodium podagraria*) where it occurs in association with Green Dragon. Monitoring in 2016 has documented a marked reduction in Japanese Knotweed, which is now listed as a restricted species under the Ontario *Invasive Species Act*.

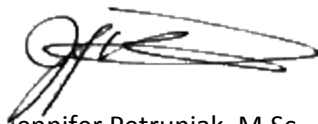
## Closing

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This memo has been provided to the City to summarize the populations of False Rue-anemone and Green Dragon in the MVHF ESA. To date, the work commissioned by the City has shown that the MVHF ESA continues to support the largest population of False Rue-anemone in Canada and that the sub-populations previously described in 1989 have persisted in the Medway Creek floodplain despite their non-detection by M.J. Thompson in 2003/2004. Further, several occurrences of Green Dragon have been identified in the MVHF ESA. The City has taken ongoing steps to promote the persistence of these species by controlling invasive species. This aligns with the management plan approaches identified by the MNRF.

Yours sincerely,

**DILLON CONSULTING LIMITED**



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