

November 2014

## BC INTER-MINISTRY INVASIVE SPECIES WORKING GROUP



## INVASIVE ANT

## WORKSHOP

A summary of the  
Workshop on Invasive Ants  
Held June 9<sup>th</sup>, 2014

Sponsored by the  
BC Inter-Ministry Invasive  
Species Working Group  
Facilitated by the  
Invasive Species Council of BC



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## ACKNOWLEDGEMENTS

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A sincere thank you to the City of Richmond for hosting the event and to all those who expressed interest, attended and participated in the June 2014 Invasive Ant Workshop.

A special thank you to:

Canadian Wildlife Service

City of Chilliwack

City of Coquitlam

City of Mission

City of New Westminister

City of North Vancouver

District of North Vancouver

City of Vancouver

City of Richmond

City of Surrey

Coastal Invasive Species Committee

Corporation of Delta

District of Saanich

Fraser Valley Regional District

Invasive Species Council of British Columbia

Invasive Species Council of Metro Vancouver

Ministry of Environment

Ministry of Forests, Lands and Natural Resource Operations

Thompson Rivers University

VanDusen Botanical Garden

## EXECUTIVE SUMMARY

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On June 9<sup>th</sup>, 2014 the *Invasive Ant Workshop* was held in Richmond, BC. The workshop began with a targeted session for governments, followed by an open session for all stakeholders after lunch. The workshop was a follow-up meeting to the *European Fire Ant in BC: 2012 Field Results and Planning Forward Workshop* that was held in November 2012 and the *European Fire Ant Planning Session for Governments* held in June 2012.

The morning government session reviewed legal responsibilities of local governments regarding invasive ants and confidentiality. The group discussed the main legal issues and developed a set of next steps. After the government session, the workshop opened up to other leaders in affected or threatened regions to join the conversation.

Invasive ant expert Dr. Robert Higgins provided an overview of invasive ants in or close to BC including the tropical stinging ant, Argentine ant, Asian needle ant, *Myrmica specioides* and European fire ant (EFA). Dr. Higgins proceeded to provide insight on his research to date on EFA population distribution and control methods. Research will continue this summer on mapping population distribution of EFA as well as different control techniques.

The group discussed each of their responses and actions to invasive ants to date and reviewed the objectives of the Joint Action Plan for EFA that was created in June 2012. The main topics that were determined in the morning session were used to guide the group in discussion and to collaboratively determine next steps. Based on this discussion, a summary of key actions was created.

### Summary of Workshop Actions

Table 1 - Actions determined during the invasive ant workshop of June 2014

Main Topic	Action	Stakeholder	Additional Comments
Legal	Define due diligence	City of Vancouver	Applied legal definition
	Send resolutions to UBCM for an Invasive Species Act	Local Governments	
	Research municipal composting and soil movement	TBD	
	Create small working group to discuss soil transport	TBD	

Confidentiality	Seek legal counsel related to confidentiality	<b>City of Vancouver</b>	For protecting privacy and surrounding properties
Consistent Messaging	Share existing information for management, control and containment	<b>All groups</b>	
	Facilitate common messaging – create key information hub	<b>ISCBC with IMISWG as support</b>	How: get regional groups and local governments involved What: handouts, presentations, common signage, public outreach, articles/ads, media information
Other	Increase awareness for MVRD related to composting with private contractors; seek landscape soil products	<b>TBD</b>	
	Check First Nations Reserve Lands for presence of invasive ants	<b>TBD</b>	
	Increase field sampling of <i>M. specioides</i>	<b>All groups</b>	
	Develop common name for <i>M. specioides</i>	<b>MOE and Dr. Higgins (TRU)</b>	
	Create photo key for invasive ants; common protocol for density monitoring	<b>Dr. Higgins (TRU)</b>	
	Sharing of inventory protocols	<b>All groups</b>	Based on known locations Random sampling on public lands
	Report an invasive species on the IMISWG site; update EFA factsheet to include IMISWG site	<b>IMISWG</b>	
	Establish a local government contact person for invasive ants	<b>TBD</b>	IMISWG committee
	Identify options for small invasive ant population removal	<b>Dr. Higgins and City of Vancouver</b>	
	Development and testing of treatment methods, applied trials	<b>Local governments</b>	
	Develop a hub or list serve for local government updates on invasive ants	<b>ISCBC</b>	
	Develop protocol for use of successes and circulate	<b>Dr. Higgins (TRU)</b>	Protocol for use of “successes” (see CFIA)

The workshop was a success bringing together provincial and local governments as well as non-profit organizations to discuss the management of invasive ants in BC. The overall outcomes and next steps of the workshop include an agreement to work together as management and research continues, and to hold another invasive ant workshop in October 2014. Next steps also include continuing research on soil management and municipal composting in regards to invasive ants. The group will continue to work together by sharing knowledge and expertise and a commitment to provide education for the BC public.

# SECTION 1 – GOVERNMENT INVASIVE ANT SESSION: LEGAL RESPONSIBILITIES, CONFIDENTIALITY AND CONSISTENT MESSAGING

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## 1.0 PURPOSE

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On Monday June 9<sup>th</sup>, 2014 representatives from regions that are affected or threatened by invasive ants gathered to discuss next steps for governments and progress made since the November 2012 planning session. The first session of the workshop was a targeted meeting for governments, to allow a platform to share common issues, solutions and expertise. Section 1 summarizes the discussions and next steps that were determined collaboratively by the government group.

## 2.0 INTRODUCTION

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A Joint Action Plan was developed in the first European Fire Ant Workshop held in June 2012, and a second workshop in November 2012 provided an opportunity for stakeholders to discuss progress on European fire ant (EFA) management. This third workshop was held to discuss current issues in managing EFA , and to bring in other invasive ants into the discussion. The workshop began with the opportunity to discuss the unique government issues in regards to invasive ants.

The group was asked to list the main topics that they wanted to be addressed during this section of the workshop. The following list emerged:

1. Legal responsibilities
  - Provincial
  - Local and private lands dispersal (including soil management and municipal composting)
2. Confidentiality
3. Consistent Messaging

The three identified topics were used as the structure for the remaining closed session.

## 3.0 LEGAL RESPONSIBILITIES

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There are resources that have been developed and are available: the Invasive Species Strategy for BC, ISCBC Invasive Plant Toolkit and the Invasive Species Toolkit for Local Governments. Each of which are good resources for local governments to develop guidelines and bylaws around invasive species.

## 3.1 Provincial Roles and Responsibilities

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### **Ministry of Forest Lands and Natural Resource Operations (FLNR) - represented by Val Miller:**

In 2012, the provincial government completed a gap analysis of invasive species legislation to flag current gaps in the regulatory framework. The province has legislation for managing some taxonomic groups (e.g. invasive plants or agriculture pests) but significant gaps exist for other groups, including invasive ants. The Plant Protection Act covers invasive species that affect trees or agriculture. Invasive ants confirmed in the province don't directly impact agricultural crops or forest production and therefore, the *Plant Protection Act* does not address ants. The Controlled Alien Species Regulation under the *Wildlife Act* has recently been updated, and now includes some aquatic species, but not invasive insects. It has been suggested that BC needs one overarching *Invasive Species Act* – one piece of legislation to streamline the management of all invasive species. The IMISWG is investigating options for revising the current legislative framework, but there has been no decision on moving forward with a new Act. Some local governments discussed putting a resolution through UBCM to support a new *Invasive Species Act*.

At this point, the provincial government has few regulatory tools to manage invasive ants. The provincial government has assisted with the invasive ant workshops to have a better idea on the status of new invasive ants in the province. The IMISWG initially investigated whether EFA was a candidate for an Early Detection and Rapid Response Plan but it became apparent that the ant was already too well established in BC. The current provincial role is supportive, and the Province was successful in obtaining funding for Dr. Higgins to continue research over the last few years.

The group developed the following list of key actions for provincial and federal governments.

### **Legal Responsibilities: Summary of Key Actions for *Provincial Government***

1. Need to better identify invasive ants as an Agriculture issue
2. Need to increase recognition of EFA as a Health Risk – work with health authority
3. Increase awareness as a pest of economic risk to BC.

## **3.2 LOCAL GOVERNMENT LEGAL RESPONSIBILITIES**

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At the November 2012 meeting, Bill Huot from the Ministry of Community, Sport and Cultural Development presented on legislation for local government action. Bill Huot explained that local governments have many tools in the Community Charter Act. Options for municipalities to build specific bylaws were put forward. Please refer to Joint Action Plan from the meeting for more information. There is a need for local governments to work on a standard approach for a species bylaw and avoid duplicating efforts.

Overall, invasive ants are not addressed specifically within federal and provincial legislations. One option for local governments is create a bylaw, but there are other tools to use. The summary of the discussion is provided below.

### **Legal Responsibilities: Summary of Key Actions for *Local Government***

1. Prepare a Model invasive species bylaw for local government
  - Include recommendations for adapting or creating “soil movement” bylaw
2. Define “due diligence” for invasive ants (liability, etc.)
  - Applied legal definition – City of Vancouver/Surrey to report
  - Work at legal counsel – City of Vancouver to report
3. Local governments to educate public:
  - signage/information; due diligence
4. Create/Use Common Information
  - Signage; standard information; real risk
5. Seek legal counsel towards confidentiality and share with group – City of Vancouver to lead
  - Legally, it is a soil management issue
6. Municipal composting research
7. Include funding for research for invasive ants

8. Provide information to BC Landscapes and Nursery Association
9. Prepare resolutions to UBCM calling for Invasive Species Act
10. Prepare and provide resources to private home owners
11. Compile current research in BC and share it with all of the municipalities

## 4.0 CONFIDENTIALITY

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Confidentiality is a very sensitive issue for landowners. When a new infestation is found, Dr. Higgins asks if he can communicate the location. Some individuals approve of releasing the information, while others do not want to disclose the location. There are some questions as to the implications when an information sign is put up by local governments - acknowledging the infestation could result in a legal responsibility. It is important to show *due diligence*: recognizing that the species is there and informing the public. In addition to information signs, there is a need to convey the real risks of fire ants to the general public. Local governments need to seek legal guidance. A list of key actions was generated from the discussion and is presented below.

### **Confidentiality: Summary of Key Actions**

- Hold open house session (district of north Vancouver)
- Determine the legal responsibilities
  - for protecting privacy; for protecting surrounding properties; for providing information to the public
- Seek legal counsel (City of Vancouver to lead).

## 5.0 CONSISTENT MESSAGING

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The group agreed that consistent messaging is key for informing the public through word-of-mouth, information signs and educational resources. Group discussion resulted in the following key actions.

### **Consistent Messaging: Summary of Key Actions**

- Share existing information for management, control, containment, signage (high priority)
- Broader open house/outreach

- Include municipalities and stakeholders from areas not currently affected by invasive ants
- Need to focus on containment
- Develop consistent messaging around soil management:
  - Moving soil
  - Provide direct communication with infested properties
  - Dealing with developers
  - Dealing with excavation
- Need to let public know that research is underway
- Posting the known information in small public papers
- Shared funding:
  - Provide public information of different ants to municipalities and regional invasive species organizations
  - Develop common presentations
  - Provide information to pest management companies
- Who: have ISCBC to facilitate; seek IMISWG support
- How: get regional groups and local governments involved
- What: public handouts, presentations, common signage, public outreach, articles/ads, media information. Include options for containment, control methods that work and don't work.
- Support for extension materials: local governments, BC Landscape and Nursery Association, Western Canada Turfgrass Association, Investment Agriculture Foundation, WorkSafe BC, IMISWG

## SECTION 2 – OPEN INVASIVE ANT WORKSHOP: JOINT ACTION PLAN, INVASIVE ANT BIOLOGY, LOCAL RESPONSES AND NEXT STEPS

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### 1.0 PURPOSE

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After the morning session, the workshop became open to all stakeholders from regions affected or threatened by invasive ants. The goals of the open workshop were to learn about invasive ant biology, their current distribution in BC, to review strategies in the provincial Joint Action Plan and strengthen provincial partnerships. This section summarizes the presentations, discussions and next steps that determined collaboratively by the group.

## 2.0 REVIEW OF THE PROVINCIAL JOINT ACTION PLAN (PRESENTED BY VAL MILLER)

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Val Miller spoke on behalf of the provincial government. Most of the action items in the Joint Action Plan (page 14 of November 2012 report) have been worked on. It was determined that EFA was not a candidate for Early Detection and Rapid Response as it is too well established and has probably been in BC much longer than originally thought.

### Progress on the Joint Action Plan since the last workshop:

- City of Richmond has created and communicated a standardized EFA sign for local governments
- Research on the EFA and development of control methods is ongoing
- The main media contact for EFA is Dr. Higgins.

The few outstanding items in the plan will be discussed with the IMISWG meeting in mid-June. Outstanding tasks will be addressed by Dominique Sigg upon return from maternity leave in September 2014

## 3.0 INVASIVE ANTS IN BRITISH COLUMBIA: AN EMERGING ISSUE (PRESENTED BY DR. ROBERT HIGGINS, THOMPSON RIVERS UNIVERSITY)

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Myrmecologist, Dr. Robert Higgins explains that invasive ants becoming a much bigger issue in Canada and BC.

1. **Tropical stinging ant:** This ant was the very first invasive ant in BC, which was found in Vancouver in 1926. In 2013, records of this ant have been growing rapidly with populations being found in Duncan, Victoria, Vancouver and Toronto. This ant is rather small and almost entirely subterranean, establishing under pavement or apartment buildings and nesting. If there is a report of a flying, stinging ant, it is most likely the tropical stinging ant. These ants are extremely difficult to eradicate, it is recommended to put out sticky traps in hopes of catching a queen before further spread.
2. **Argentine ant:** this species of ant doesn't sting, doesn't particularly bite, but overwhelms in dramatically large populations – well over a million workers in ten square meters. The Argentine ant causes a big problem in Europe, and it has established in Victoria BC. This ant is very temperature sensitive,

therefore if the habitat temperature can be decreased by a few degrees the ants will perish. The ants often forage with the queens allowing for a large number of queens to be targeted by control. Currently, the best treatment is boric acid baits, although there is some controversy about using baits. A clear plan has not been formed to address this issue. As the climate warms, the Argentine ant may begin to be found in new locations.

3. **Asian needle ant:** this ant is not in BC yet. If there are reports of an ant whose sting is phenomenally painful, immediately report the sighting to Dr. Higgins. This is one type of ant that could be prevented or controlled effectively by early detection and rapid response.
4. ***Myrmica specioides*:** this ant was sent in to Dr. Higgins in 2011 to identify, as it was thought to be EFA, but it wasn't. When the ant was first spotted, there had originally been one or two colonies here and there with no dense population established. Over the last two years, sightings of *M. specioides* have dramatically increased, with one very large and dense population at the Vancouver airport. Last season, ten random samples were taken in North Vancouver, and *M. specioides* was found at all of them. This ant is a relatively aggressive stinging ant, but it is not as aggressive and doesn't form as dense of colonies as EFA. *M. specioides* is an emerging issue because of the density and number of populations that are being found. A problem associated with this ant is that it looks much like EFA. Additionally, there is need to establish a common name.
5. **European fire ant (EFA):** over the last year, the EFA has been found in Courtenay and Naramata. In Naramata, it is likely a unique situation in the grounds of a small seniors complex that is heavily irrigated each night. EFA is able to survive because of the increase in moisture, once the excess water is no longer supplied, EFA should go away. Dr. Higgins usually knows that EFA are present in a location when people say can't use the area. A recent study by the provincial government showed the potential economic impact of EFA could be over \$100,000,000 annually for BC.. Those who have had pest control companies come, generally have heard that the populations go away for a while, but then return.

#### **EFA Treatment and Control:**

Dr. Higgins explained the process to date of lessons learned from different treatment options including: pesticide trials in Maine (none were successful), possibility of using decapitating flies for EFA (very labour intensive for little effectiveness), search for a local *Microspodia* (protist pathogen for EFA), exclusion

fencing to prevent spread and exploiting heuristics. Lastly, Dr. Higgins is continuing his laboratory work and mapping current populations, their natural boundaries and the effect of different concentrations of boric acid baits over this coming field season.

#### **Recommended Actions from Dr. Higgins' Presentation:**

- Increase awareness for Metro Vancouver Regional District (MVRD) related to composting with private contractors
- Check landscape soil products
- Check First Nations reserve lands for invasive ant populations.

## **4.0 ROUNDTABLE – LOCAL RESPONSES AND ACTIONS**

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The group had a roundtable discussion on what their organization/region is doing in regards to invasive ants. The range of activities varied between representatives:

- Establish and put up sign in 'closed areas'
- Hold open house in local area
- Removed and/or controlled ants through the following treatments:
  - Torching/digging (or freezing with liquid nitrogen injected into top 8" of soil)
  - Baiting: paper and apple traps (but Borax can be toxic to small animals/plants);
  - Wasp spray (effective so far in small scale infestations)
  - Hand digging/Balling (ants form balls in cold temperatures – although it's hard to say if all the ants are removed; winter digging is most effective with March being the latest)
  - Soil steaming
  - Flooding with metal/plaster
  - Density monitoring.

## **5.0 NEXT STEPS**

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1. Hold another workshop/session on invasive ants
  - City of Vancouver to host in the Fall/Winter
  - Hold 1-2 sessions per year as needed

2. Hold a special forum on movement of contaminated soil
  - Have small working group on soil, prepare solutions
3. Continue progress towards Key Actions

## 6.0 FOR MORE INFORMATION

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For more information on the European fire ant please visit the following three websites:

1. IMISWG:  
[http://www.for.gov.bc.ca/hra/invasive-species/fire\\_ants.htm](http://www.for.gov.bc.ca/hra/invasive-species/fire_ants.htm)
2. Invasive Species Council of BC (ISCBC):  
<http://www.bcinvases.ca/invasive-species/invasive-organisms/european-fire-ant>
3. Dr. Higgins Website:  
[http://www.tru.ca/faculty/rhiggins/myrmica\\_rubra\\_index.htm](http://www.tru.ca/faculty/rhiggins/myrmica_rubra_index.htm)