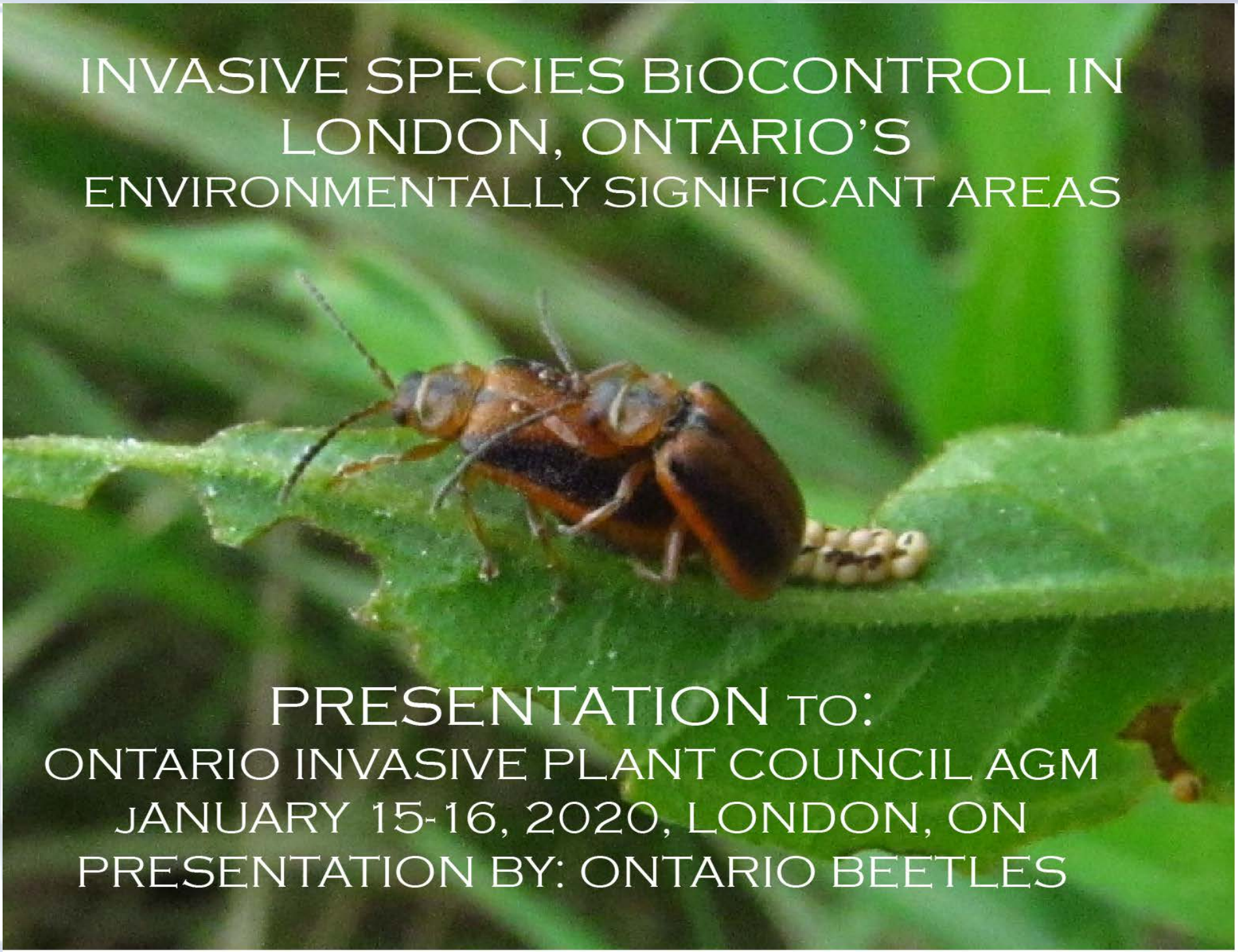

INVASIVE SPECIES BIOCONTROL IN LONDON, ONTARIO'S ENVIRONMENTALLY SIGNIFICANT AREAS

PRESENTATION TO:

ONTARIO INVASIVE PLANT COUNCIL AGM

JANUARY 15-16, 2020, LONDON, ON

PRESENTATION BY: ONTARIO BEETLES

TRADITIONALLY.....

Classical Biocontrol

The use of host specific specialists to supress or control populations

TODAY.....

Classical biocontrol...

for the protection of natural ecosystems

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Review

Classical biological control for the protection of natural ecosystems ☆

R.G. Van Driesche [a,*,1], R.I. Carruthers [b,1], T. Center [c,1], M.S. Hoddle [d,1], J. Hough-Goldstein [e,1], L. Morin [f,1], L. Smith [b,1], D.L. Wagner [g,1], B. Blossey [h], V. Brancatini [i], R. Casagrande [j], C.E. Causton [k], J.A. Coetzee [l], J. Cuda [m], J. Ding [n], S.V. Fowler [o], J.H. Frank [m], R. Fuester [p], J. Goolsby [q], M. Grodowitz [r], T.A. Heard [i], M.P. Hill [l], J.H. Hoffmann [s], J. Huber [t], M. Julien [i], M.T.K. Kairo [u], M. Kenis [v], P. Mason [w], J. Medal [m], R. Messing [x], R. Miller [y], A. Moore [y], P. Neuenschwander [z], R. Newman [aa], H. Norambuena [ab], W.A. Palmer [ac], R. Pemberton [c], A. Perez Panduro [ad], P.D. Pratt [c], M. Rayamajhi [c], S. Salom [ae], D. Sands [i], S. Schooler [i], M. Schwarzländer [ag], A. Sheppard [f], R. Shaw [af], P.W. Tipping [c], R.D. van Klinken [i]

[a] PSIS/Entomology, University of Massachusetts, Fernald Hall, Amherst, MA 01003, USA
[b] USDA-ARS, Exotic and Invasive Weeds Research Unit, Albany, CA 94710, USA
[c] Invasive Plant Research Laboratory, ARS, USDA, 3225 College Avenue, Fort Lauderdale, FL 33314, USA
[d] Department of Entomology, University of California, Riverside, CA 92521, USA
[e] Entomology & Wildlife Ecology, University of Delaware, Newark, DE 19716, USA
[f] CSIRO Entomology, G.P.O. Box 1700, Canberra, ACT 2601, Australia
[g] Center for Conservation and Biodiversity, University of Connecticut, Storrs, CT 06269-3043, USA
[h] Department of Natural Resources, Fernow Hall, Cornell University, Ithaca, NY 14853, USA
[i] CSIRO Entomology, 120 Meiers Road, Indooroopilly, Qld 4068, Australia
[j] Department of Plant Sciences, University of Rhode Island, Kingston, RI 02881, USA
[k] Fundación Charles Darwin, Puerto Ayora, Santa Cruz, Galapagos Islands, Ecuador
[l] Department of Zoology and Entomology, Rhodes University, P.O. Box 94, Grahamstown 6140, South Africa
[m] Department of Entomology & Nematology, University of Florida, Gainesville, FL 32611-0620, USA
[n] Invasion Ecology and Biocontrol Lab, Wuhan Botanical Garden/Institute, Chinese Academy of Sciences, Moshan, Wuhan, Hubei Province 430074, China
[o] Landcare Research, P.O. Box 40, Lincoln 7640, New Zealand
[p] USDA-ARS, Beneficial Insects Introduction Res., 501 S. Chapel St., Newark, DE 19713, USA
[q] USDA-ARS, Beneficial Insects Res. Unit, 2413 E. Hwy. 83, Weslaco, TX 78596, USA
[r] US Army Engineer Research and Development Center, Vicksburg, MS 39180, USA
[s] Zoology Department, University of Cape Town, Rondebosch 7700, South Africa
[t] Natural Resources Canada, c/o AAFC, K.W. Neatby Building, 960 Carling Avenue, Ottawa, Ont., Canada K1A 0C6
[u] Center for Biological Control, CESTA, Florida A&M University, Tallahassee, FL 32307, USA
[v] CABI Europe-Switzerland, 1, Rue des Grillons, 2800 Delémont, Switzerland
[w] Agriculture and Agri-Food Canada, Research Centre, K.W. Neatby Building, 960 Carling Avenue, Ottawa, Ont., Canada K1A 0C6
[x] University of Hawaii at Manoa, Kauai Agricultural Research Center, 7370 Kuamoo Road, Kapaa, HI 96746, USA
[y] Western Pacific Tropical Research Center, University of Guam, Mangilao, GU, USA
[z] International Institute of Tropical Agriculture, IITA-Benin 08 BP 0932 Cotonou, Benin
[aa] Fisheries, Wildlife, and Conservation Biology, University of Minnesota, St. Paul, MN 55108, USA
[ab] Instituto de Investigaciones Agropecuarias, INIA Carillanca, Camino, Cajón-Vilcún, Km 10, Casilla 58-D, Temuco, Chile
[ac] Biosecurity Queensland, Department of Employment, Economic Development & Innovation, Alan Fletcher Research Station, P.O. Box 36, Sherwood, Qld 4075, Australia
[ad] Colegio de Postgraduados, Carr. México – Texcoco Km 36.5, 56230 Montecillo, Edo de México, Mexico
[ae] Department of Entomology, Virginia Tech, Blacksburg, VA 24061-0319, USA
[af] CABI E-UK, Bakeham Lane, Egham, Surrey TW20 9TY, England, UK
[ag] Department of Plant, Soil and Entomological Sciences, University of Idaho, Moscow, ID 83844, USA

City of London
Leaders in Early Detection Rapid Response

2017 London Invasive Plant Management Strategy.
London is the first city in Ontario to adopt a municipal invasive plant management strategy

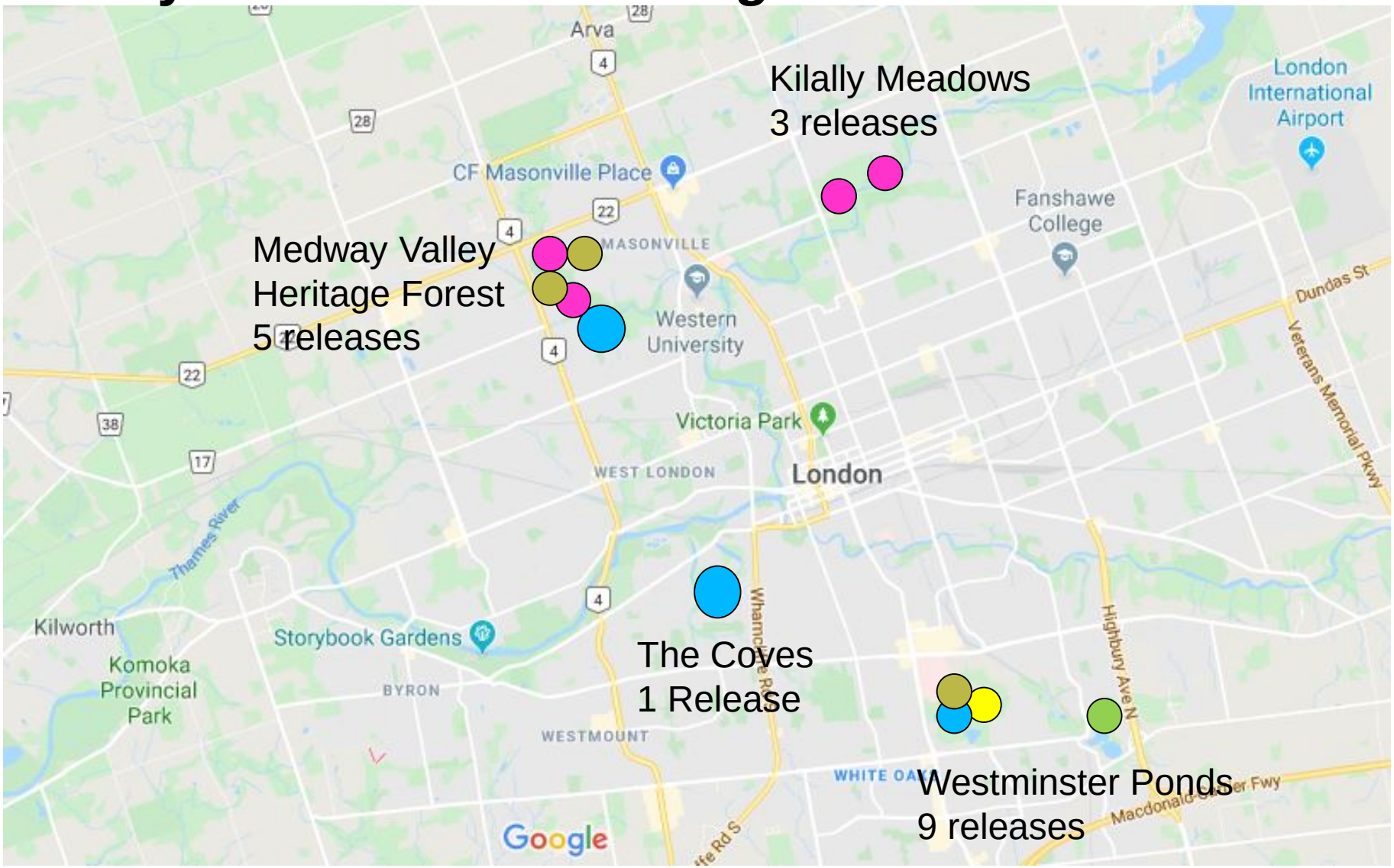

Neogalerucella spp.
Host-specific Herbivores
MATING ADULTS LAYING EGGS
Cambridge, ON, July 2013


Larval Life Stage
-Windowing
Cambridge, ON, July 2013

PROCESS...

-Began in **2015** - In accord with **EDRR**
-review historical information – status of loosestrife and biocontrol agents at 2 **historic** sites
-establish the **scope** of the project – identify plants and populations as they are found- ongoing
-release of *Neogalerucella* (educational, community involvement)
-confirm **establishment** of biocontrol agents at new release sites
-continue to **monitor** and report on newly discovered plants and populations
-reintroduce biocontrol agents as needed

City of London ESA *Neogalerucella* Releases



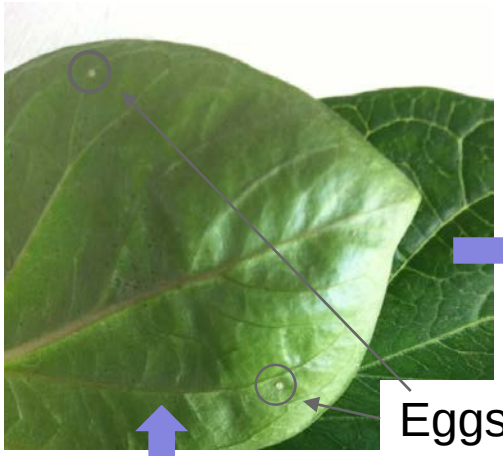
90,000 LARVAE, 4 ESAs, 18 locations

Project Features: Loosestrife growing away from flowing water – population isolation – low connectivity – goal "conservation corridors"

RELEASE SUMMARY

RELEASE YEAR	ESA	Release Site Name	Release Partner(s)	Biocontrol Agents Established?
2000	Westminster Ponds (Tumbleson Pond)	Tumbleson Pond 1	Western Ontario Fish and Game Protective Association	Yes
	Westminster Ponds (Tumbleson Pond)	Tumbleson Pond 2	As above	
2015	Westminster Ponds (Worthington Access)	Worthington Access 1	UTRCA	
	Westminster Ponds (Worthington Access)	Worthington Access 2	UTRCA	
2017	Medway Valley Heritage Forest	Medway 1 – Access 18	City of London	
	The Coves	Coves 1		
	Westminster Ponds	Saunders Pond Info Centre		
	Westminster Ponds	Saunders Pond Point		
	Westminster Ponds	East Westminster Ponds 1		
	Westminster Ponds	East Westminster Ponds 1		
2018	Kilally Meadows	Lowland Meadow	City of London	
	Kilally Meadows	Meander Creek Mouth		No
	Kilally Meadows	Meander Creek Riparian		Yes
	Medway Valley Heritage Forest	Medway North		
	Medway Valley Heritage Forest	Medway South		
2019	Medway Valley Heritage Forest	Medway Central 1	City of London	TBD in 2020
	Medway Valley Heritage Forest	Medway Central 2		
	Westminster Ponds	Saunders Pond Point 2		

Hypena opulenta
Dog Strangling Vine Biocontrol



Eggs

Young larvae

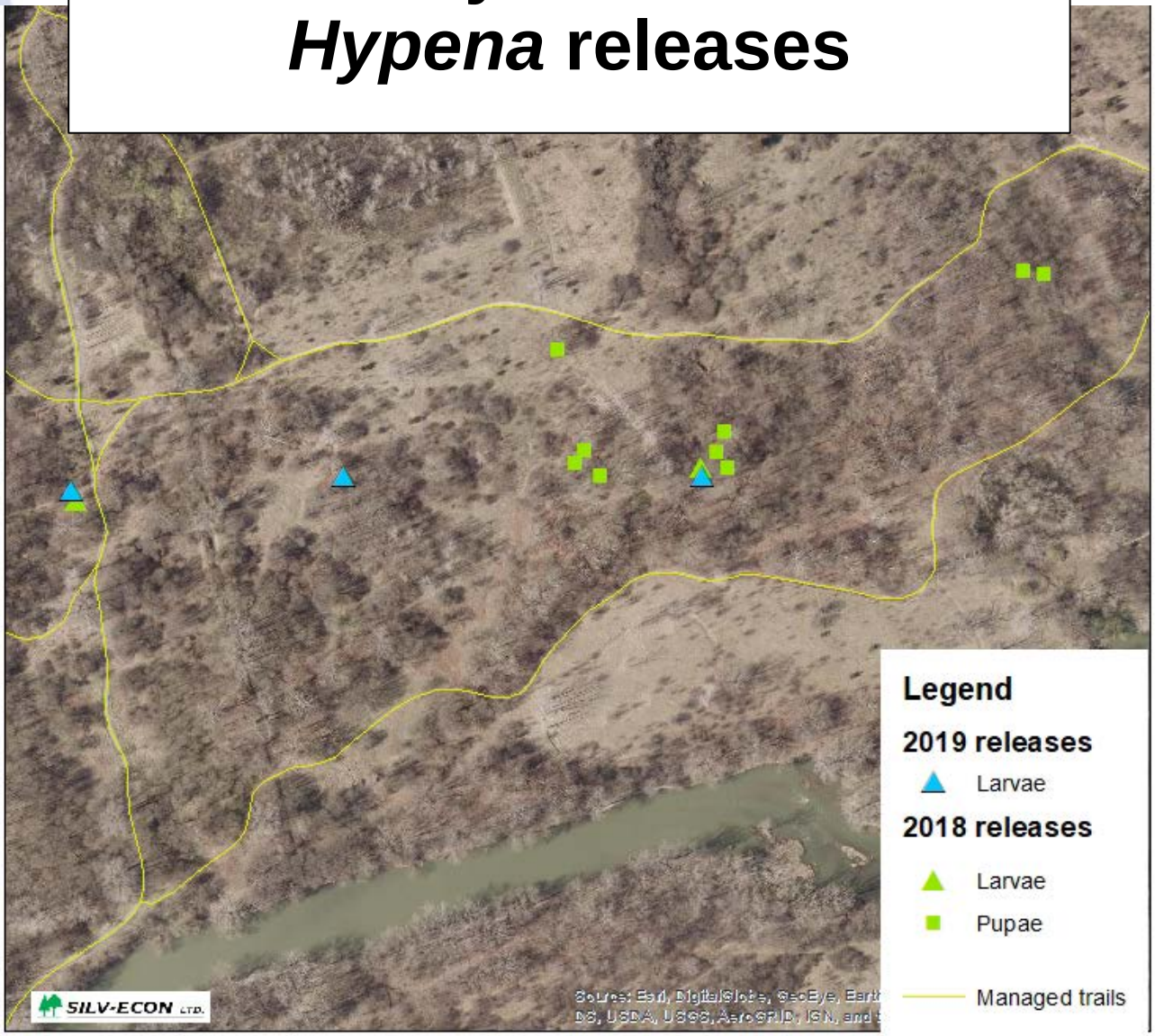
Older larvae

Pupae

Adult

Jeem123, Wikimedia Commons

Kilally Meadows
Hypena releases



Pupal release device

Hypena larvae

Agriculture and agri-food Canada.....

Stages of Weed Biocontrol Programme

10 yr

1. Species interactions in Canada
2. Overseas exploration – Country of origin
3. Biology/host range studies
4. Petition for agent release
5. Rearing /field release
6. Establishment & impact assessment
7. Redistribution & long-term assessment

Hypena took 7 years - 2006 to 2013