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and Rural Development

Gypsy Moth Eradication in Urban British Columbia – How did they do it (and survive)?

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Outline

- Background
 - GM in Canada
 - Managing GM in BC
 - Treatment campaigns & what we learned
- Maintaining our Social License to aerially spray
- Words of Wisdom



The Gypsy Moth Threat in NA

- NA (European) is well-established in Eastern Canada and US since introduced to Medford, Massachusetts in 1869

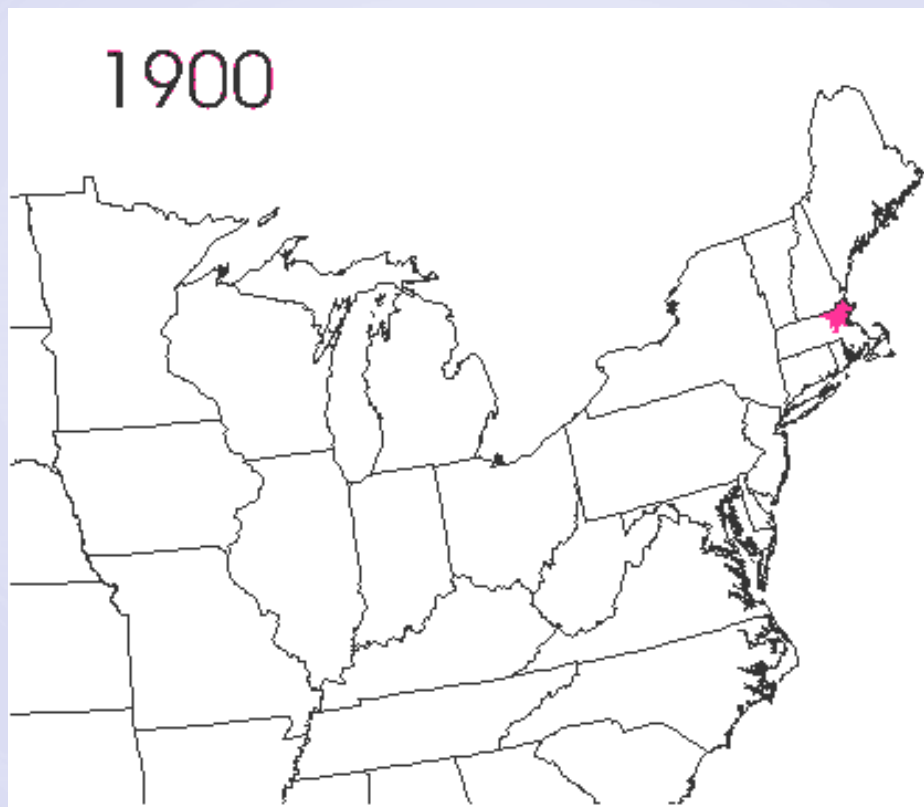


Leopold Trouvelot



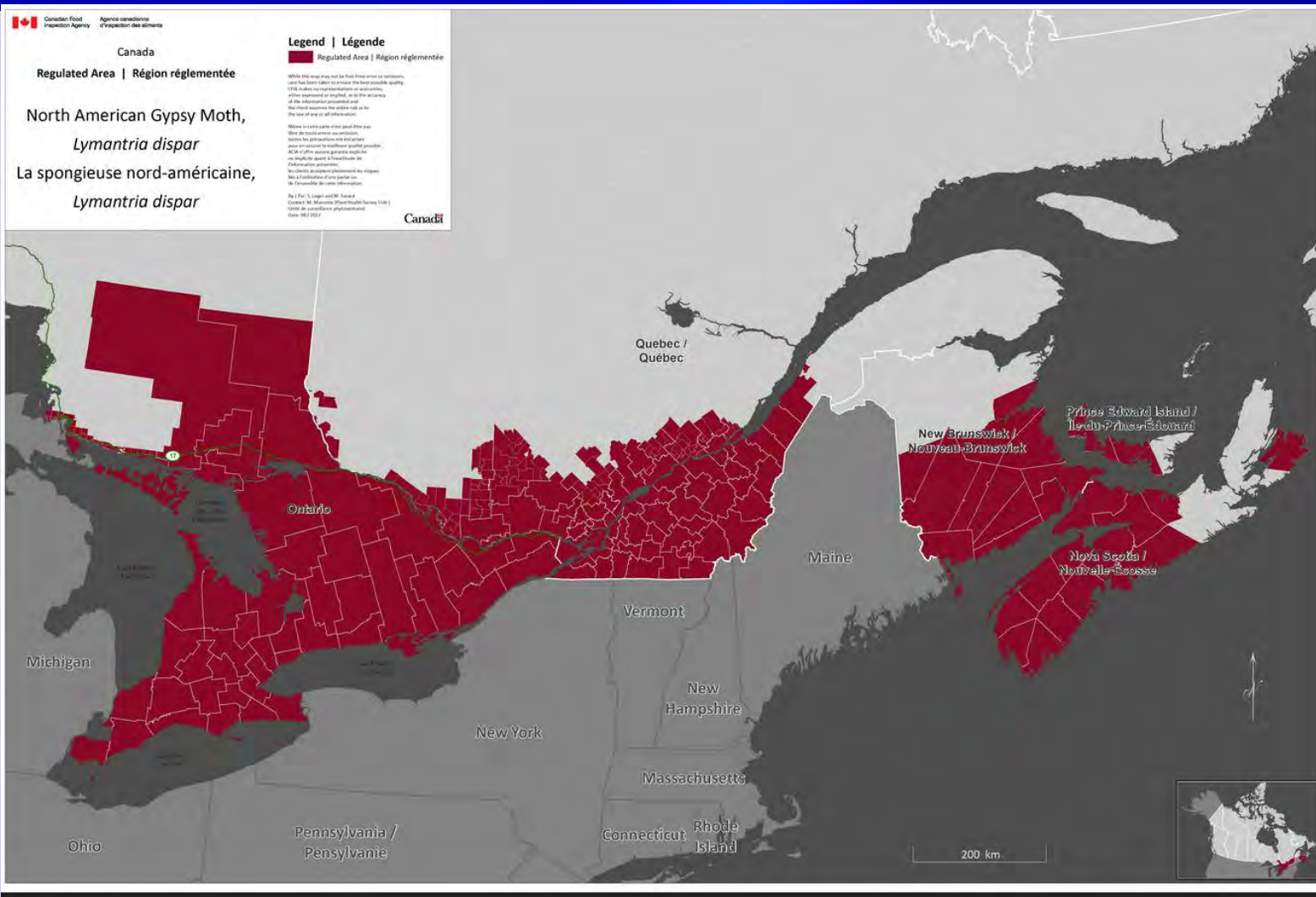


European Gypsy Moth Spread 1900 to 2007





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Regulated Areas for Gypsy Moth in Canada



Asian Gypsy Moth

Vancouver

1992

18,000 ha

**Treated with
DC-6s and Bell
212s**

**AGM detected in 2017, 2015, 1995, 1993, 1992
– no treatments**



Pathways

- NAGM - movement of outdoor household articles
- Moving industry not regulated (US is better)
- Often associated with movement of military personnel
- Source of other introductions are a mystery
- AGM nearly all associated with ships from high risk ports



Political Support

- Because of international trade and economic impacts, all political parties support eradication efforts
- Ecological grounds – many eastern Canadians have experience with GM outbreaks
- Has not become a political issue – local MLAs briefed
- Legislation supports actions – Federal and Provincial *Plant Protection Acts*
- Plant health emergency = Full Funding



Managing Gypsy Moth in B.C.



GM Management in BC = Entomological “Whack-a-Mole”

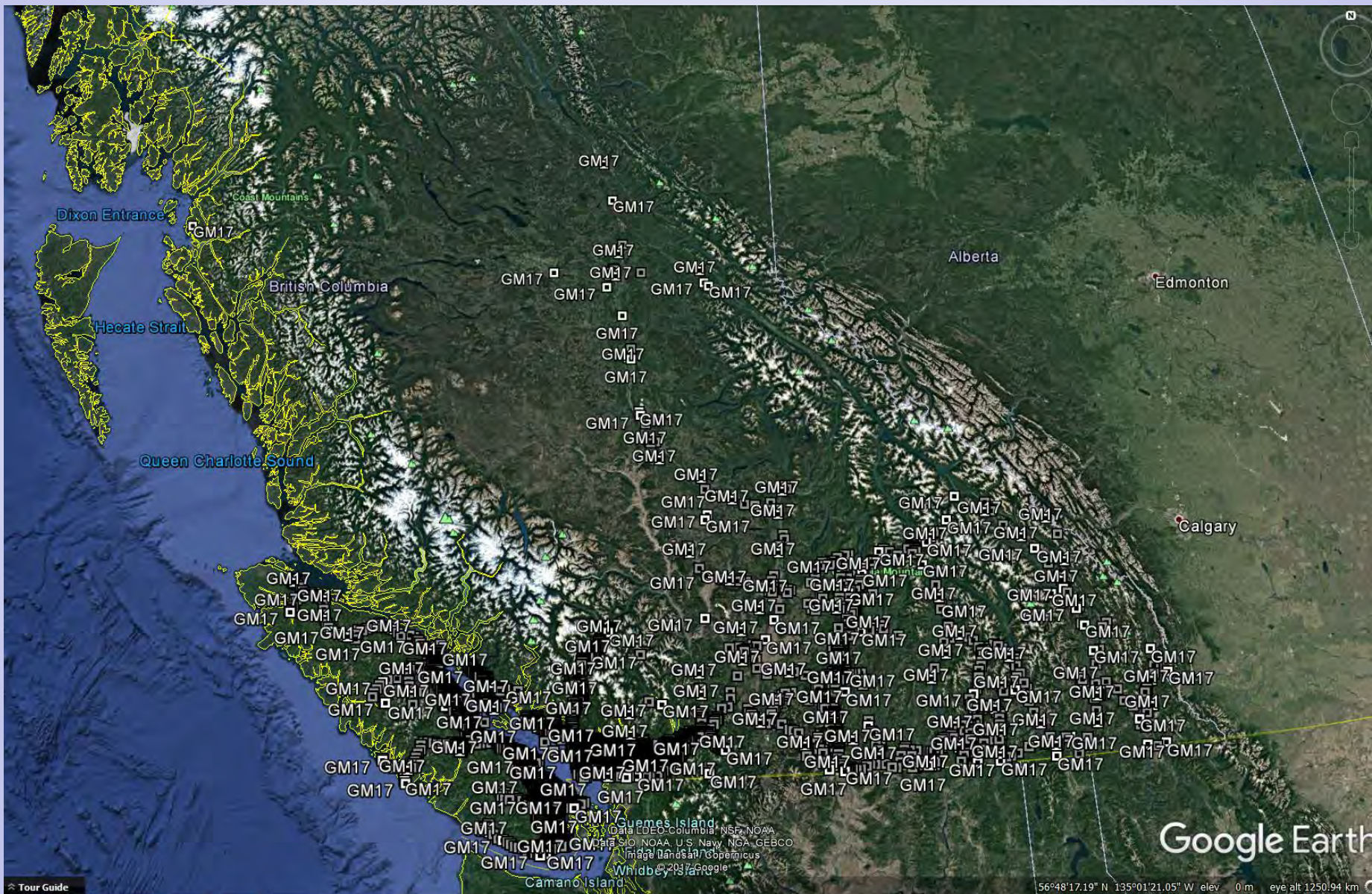


Managing Gypsy Moth in B.C.

- SUMMER - Annual monitoring
- FALL
 - Identification of potentially establishing populations
 - Treatment recommendations made
- WINTER – Preparation for treatments – permit, outreach, budgets, etc.
- SPRING – Treatments (mid-April to early June)
-repeat



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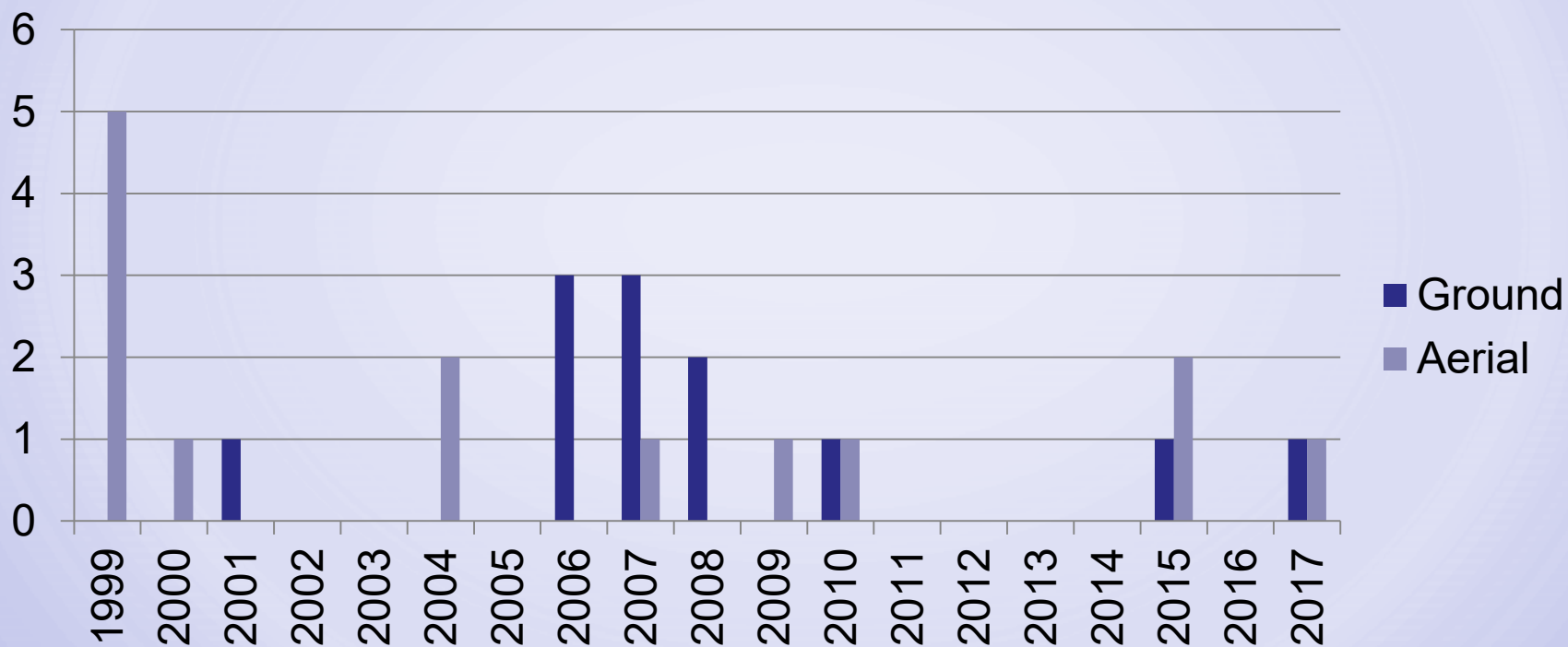


Treatment Stats

- AGM – 1992 – 18,000 ha Vancouver Harbour
- Since 1999, 20,824 ha treated (11 /19 yrs treated)
 - Aerial 13 different sites/ 20,588 ha (23 to 12,203 ha)
 - Ground 14 different sites / 235 ha (7 to 62 ha)
- Rarely treat same area

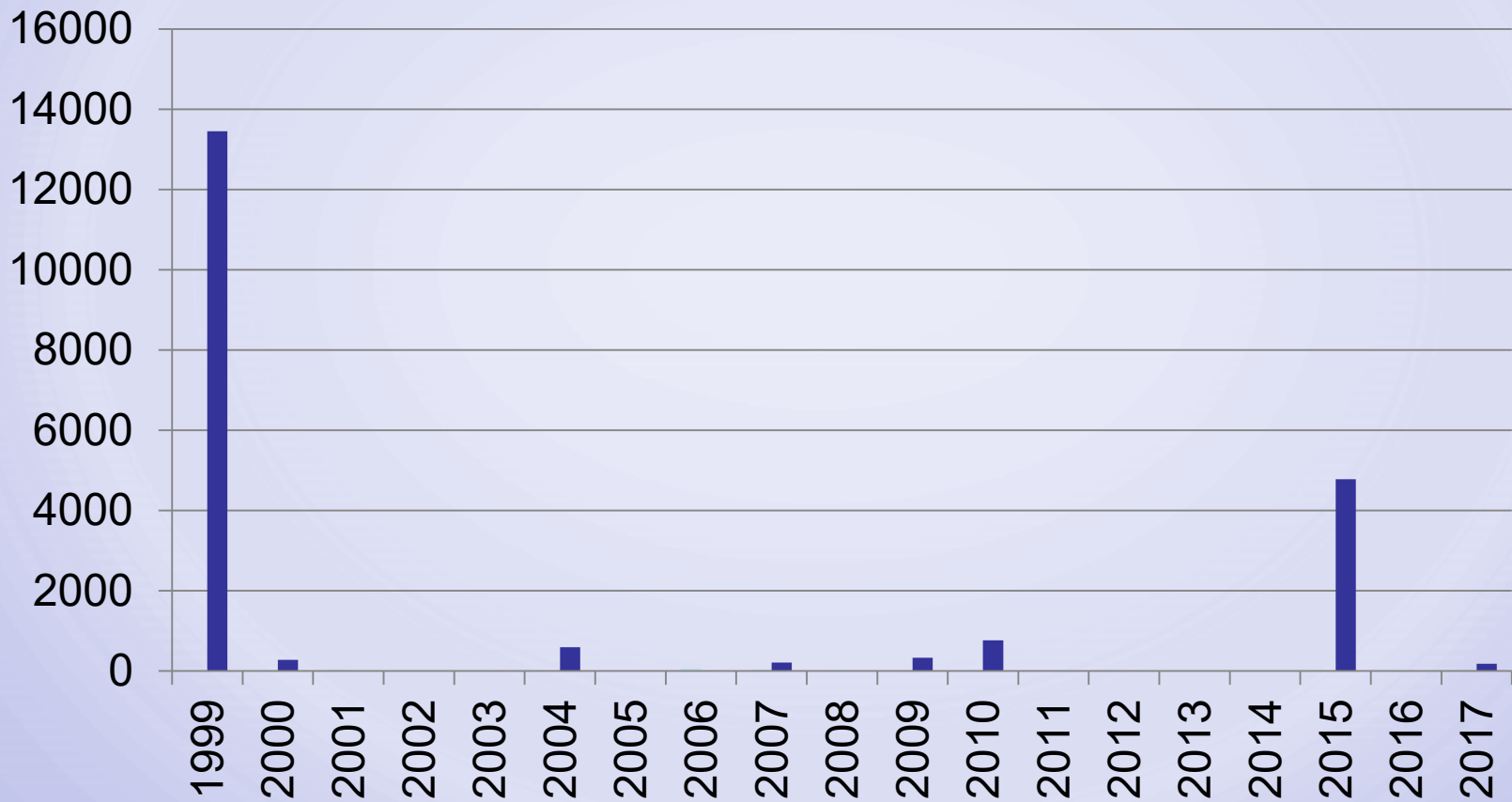


No. of Treatment Sites





Aerial Treatments (ha)



Ground trts = 14 different sites / 235 ha (7 to 62 ha)



Treatment Take Home Message

- In BC, most treatments are:
 - Small
 - Ground applications
 - Rarely repeated in the same sites (high success rate)
 - Infrequent
- Consequences:
 - Lack of public experience
 - Short memories but only remember the bad things
 - Little media interest

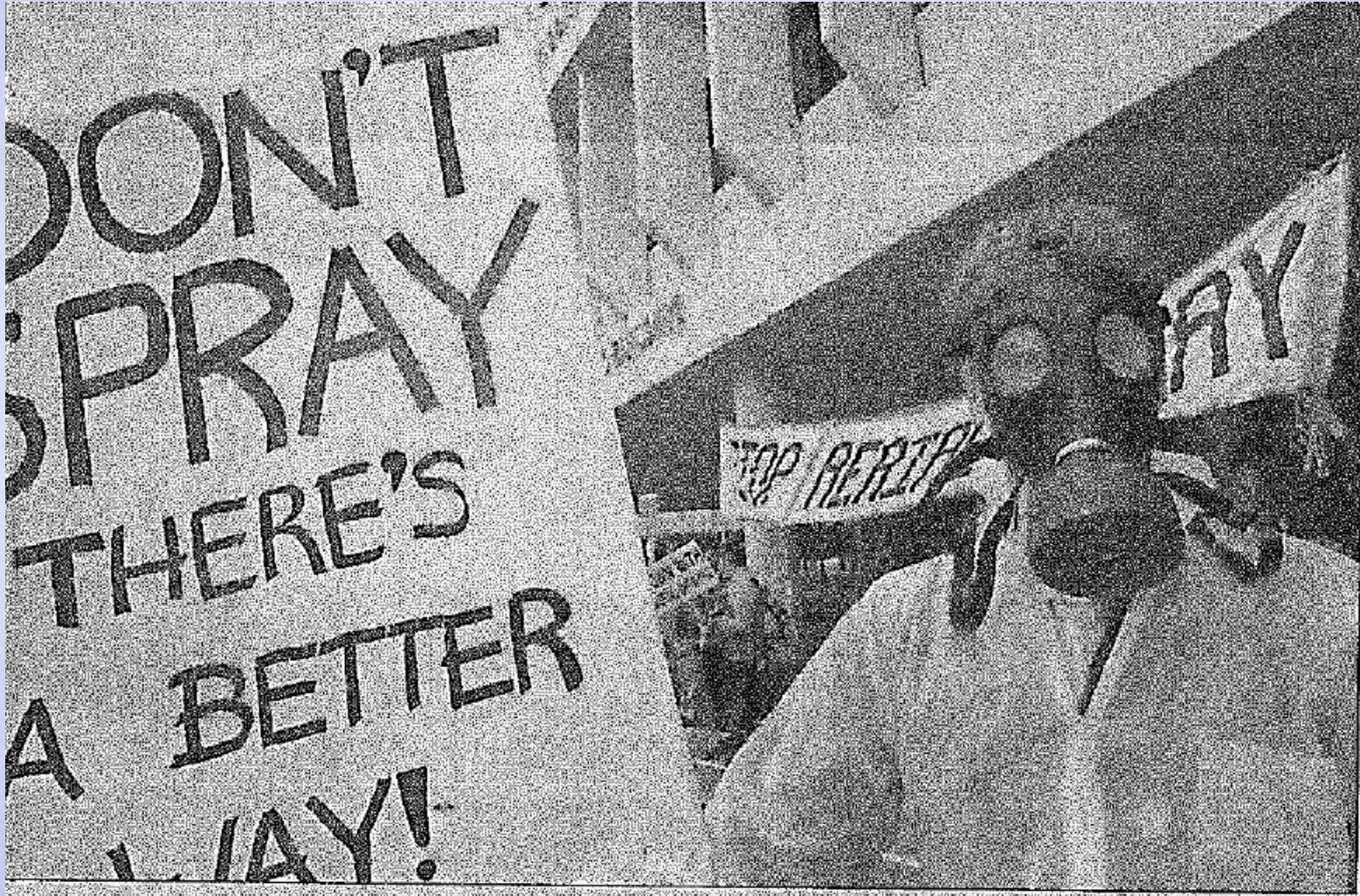


How many people were “affected”?

- Vancouver 1992 = ~120,000 people
- Victoria 1999 = ~85,000;
- Surrey 2015 = ~65,000
- All other aerial and ground sprays = ~100,000 people
-and many, many more who lived adjacent or commuted through the spray blocks.
- Did they like it?



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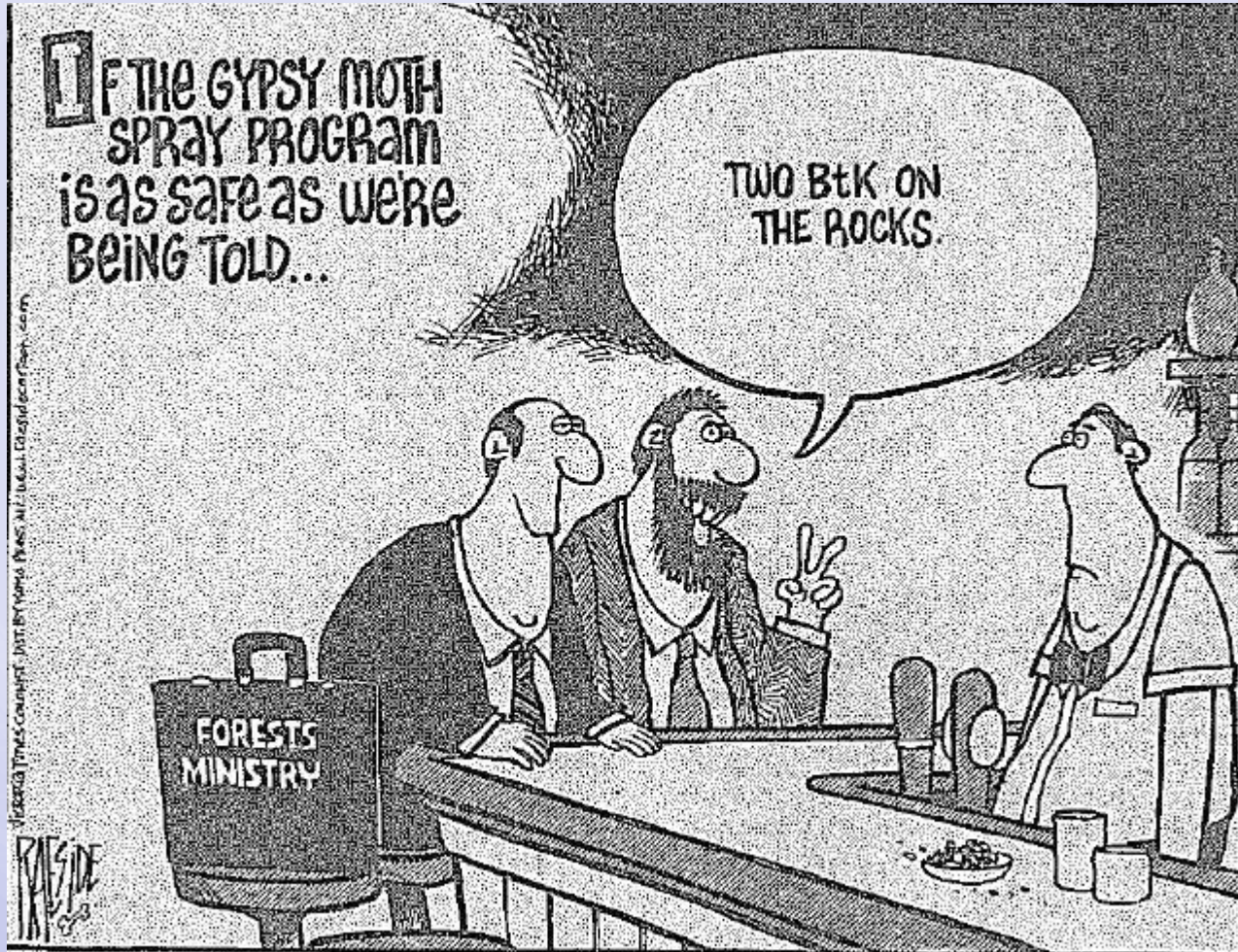


1998 protest in front of the BC Ministry of Health Office



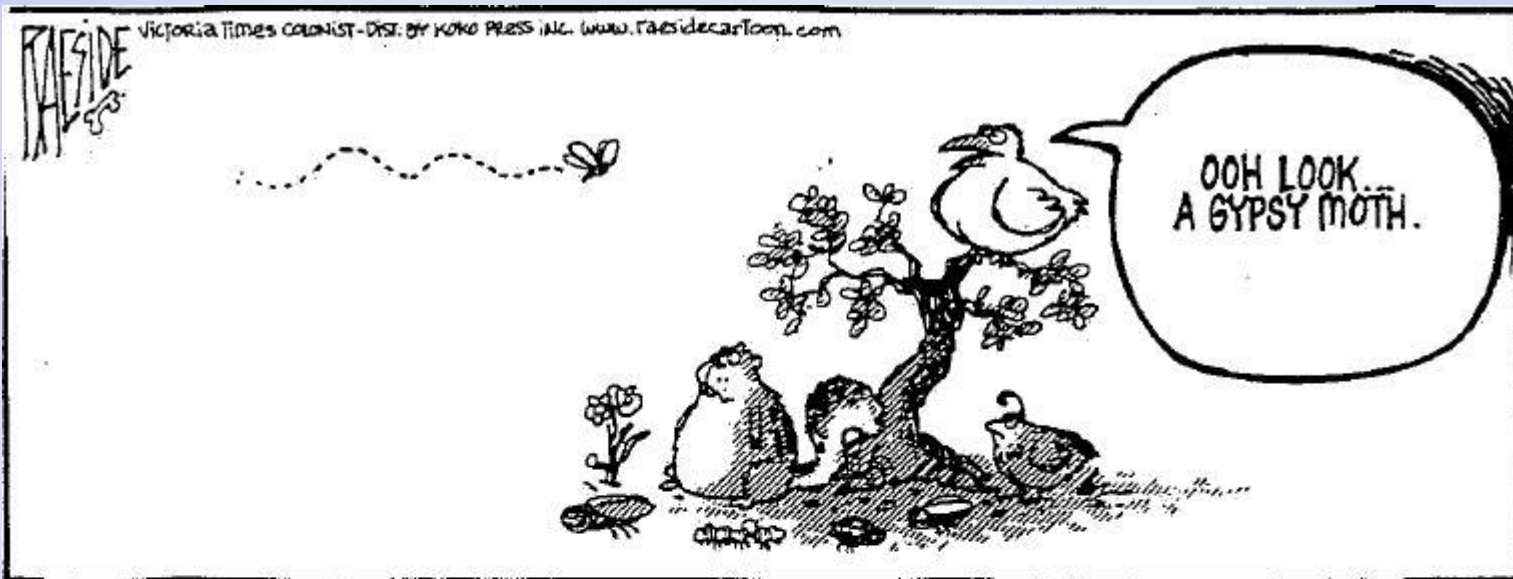
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Fodder for political cartoonists...





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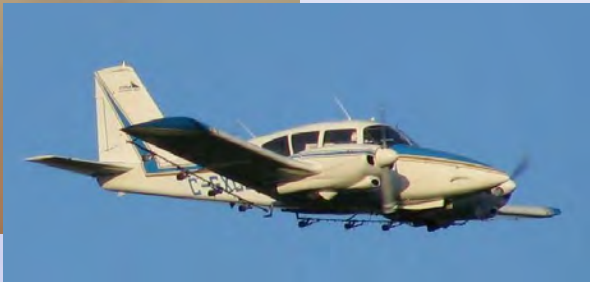


What we learned

1. No one pays attention
 - a) Traditional Media is marginal
 - b) Social Media is “too filtered”
 - c) Local officials are the first to be contacted – sometimes just as clueless



2. Aerial versus Ground



Evil!

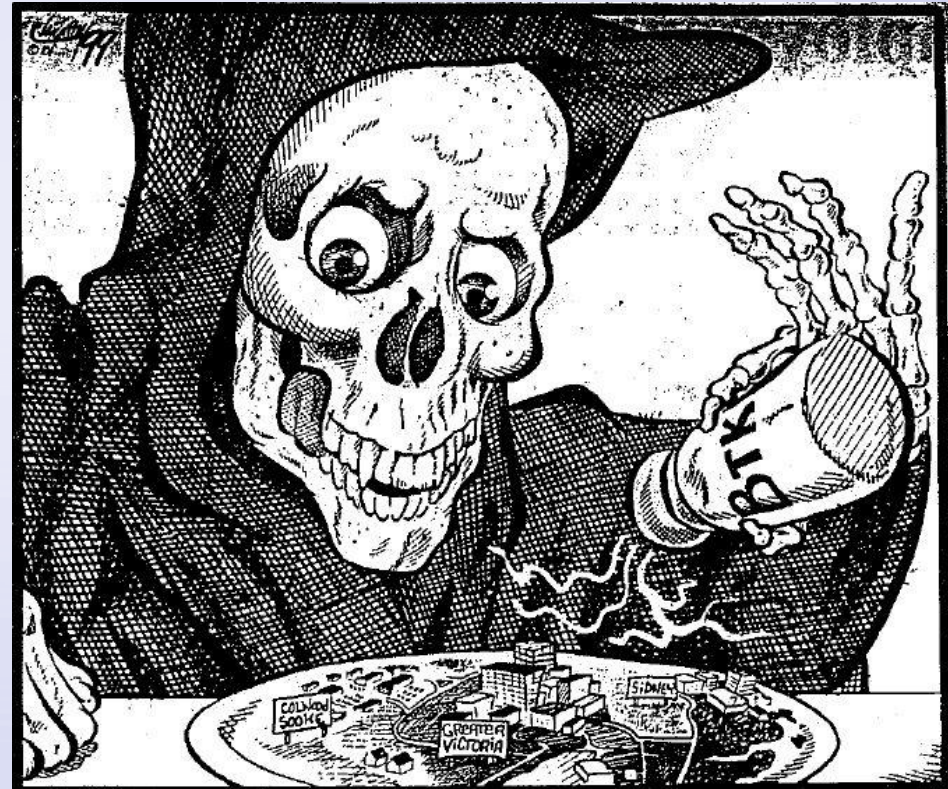


“Meh”



3. Health Issues are “complicated”

- Don't trust government
- Don't trust industry
- Don't like “chemicals”
- Proprietary Ingredients
- Minor adverse health effects
= major to some people
- Misinformation on the
internet





4. Non-target leps are an issue

- Btk is great but still affects other leps
- In some locations, this could be a “show stopper”



Propertius Duskywing
(Erynnis propertius)



Moss's Elfin (*Callophrys*
[Incisalia] mossii)



5. Early Engagement

- Extra effort pays off but....
- See point #1



Maintaining our “Social License”

- Addressing vulnerabilities:
 - Lack of adequate notification
 - Health
 - Impact on non-target organisms
 - Noise / Residues
 - Rationale for treatment
 - Certified organic farms



Our Response – Improve Outreach

- Mandatory advertising
- Official government news releases to media
- Media Interviews – radio/TV/Print
- *Open houses / public presentations*
- *Mail drops*
- *Road signs*
- *Web site*
- *24 hour information line – dedicated informed staff*
- *Listserv / Text Messages*
- *Social media*



Our Response - Health

- Rigorous pesticide registration process
- Support from local Medical Health Officers
- 1999 Human health surveillance study – no impact (NZ studies – similar results)
- 1999 Monitoring of Asthmatic children – no impact
- Upfront recognition of minor health impacts
- Duty to report adverse health effects to regulator
- Used in organic food production
- No compensation for accommodation



Our Response – non-targets

- 1999 to 2003 – study on impacts of non-target leps
- Concluded that after initial (and expected) decline – populations rebound
- Still have concerns for rare and endangered leps
- Consult MoE's Conservation Data Centre
- “Operation Butterfly Rescue”
- Supporting butterfly surveys in potential treatment areas
- Lep feeding songbird study (1999) – no significant impacts on bird abundance or fecundity



“Operation Butterfly Rescue”



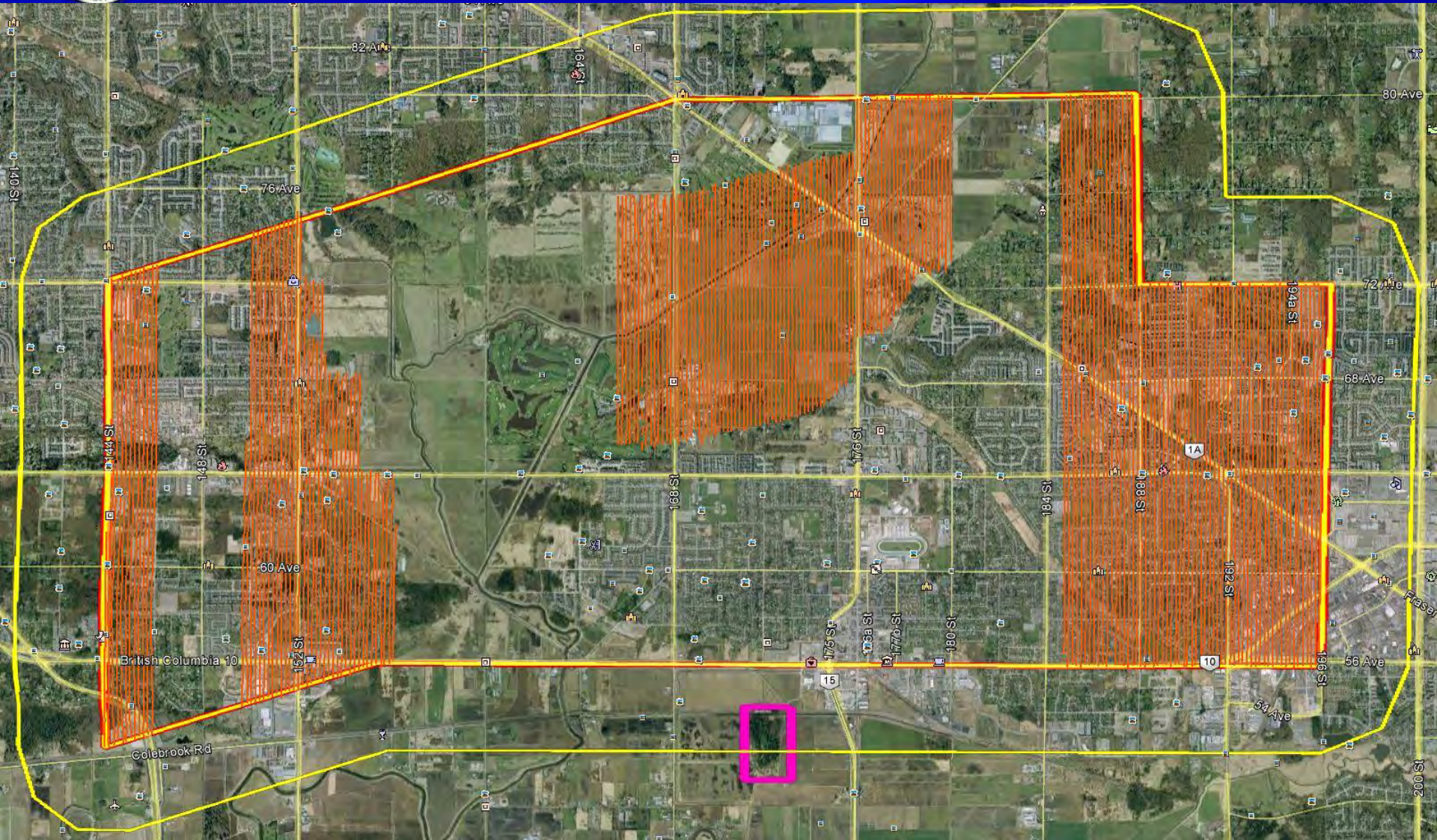


Our Response - Noise

- Complaints vary by location and type of aircraft
- Not just spray block affected
- Can't do much about it
- Complaints can't be avoided
- Communicating an up-to-date schedule helps



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2015 Surrey aerial spray – Daily progress tracking



Our Response - Residue

- No compensation for car washes, window cleaning, etc.
- State that it doesn't affect car finishes; residue is harmless
- Will weather on its own
- Cleaning with soap, water and a bit of scrubbing



Our Response - Rationale

- Clear and consistent messaging
- Protection of economy and environment
- Past pressure by US State and Federal agencies
- CFIA inspection costs
- Major threat to endangered Garry oak ecosystems
- Increase in overall pesticide use by residents



Our Response – Organic Farms

- Foray 48B is suitable for use on Certified Organic farms in the US
- Canadian status is “tentative”
- Holdup for harmonization is due to administration, not science
- Communications “limbo land”
- Resolution “shortly”????



Outreach Resources

- Gov't Communications support:
 - News releases / public information handouts
 - Advertising
 - Web site / **Social Media**
- Information Line personnel – basic questions
- Technical Specialists – for the hard questions
 - Briefings to local mayors and councils / politicians
 - Open houses
 - Media Interviews
- Size & Scope of project dictates resource needs



How are we doing?

- Health still a concern – but less than before
- Notification much better – fewer complaints about noise/
advance warning to avoid exposure
- Organic status seems to demonstrate that ingredients
are “safe”
- Public awareness of “invasive species” threat seems to
be working
- Addressing known rare and endangered leps shows we
care about minimizing impacts
- More people experienced – realize we are telling the
truth!



Words of Wisdom

- Communication is key
- Avoid using “talking heads”; use technical spokespeople
- Do your homework
- Make it easy for the public to stay informed
- Be honest and sincere
- Spend time talking to people who are concerned
- Remember “You can’t win ‘em all”
- Stop potential viral social media posts early
- Don’t be afraid – world-wide evidence supports Btk’s use over populated areas (30+ yrs; millions of people exposed = 0 significant health impacts)



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Questions?

www.gov.bc.ca/gypsymoth

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