



Parks and Road Services



Edmonton

Aerial Mosquito Program Additional Information

March 21, 2022
Community and Public Services Committee

Introduction



Public Support for Mosquito Control - 2018 IPM Survey

How supportive are you of the city's current approach to manage...

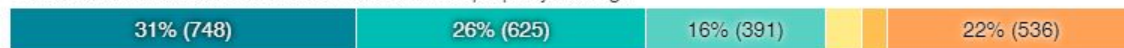
Total responses: 2431

● 5 Very supportive ● 4 Somewhat supportive ● 3 Neither supportive nor opposed
● 2 Somewhat opposed ● 1 Very opposed ● I don't know

Mosquitos



Pests that threaten the life of the trees and cause property damage



Weeds in public spaces/parks/roadways



Weeds on sports fields



Use of animals or insects to control weeds (e.g. use of goats in Rundle Park)



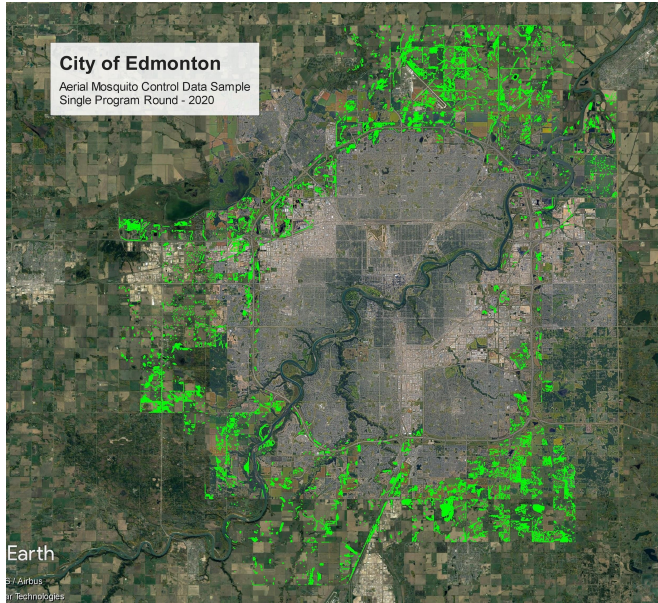
Overview



Backpack and roadside ditch applications of mosquito larvicide from ground & ditch programs.

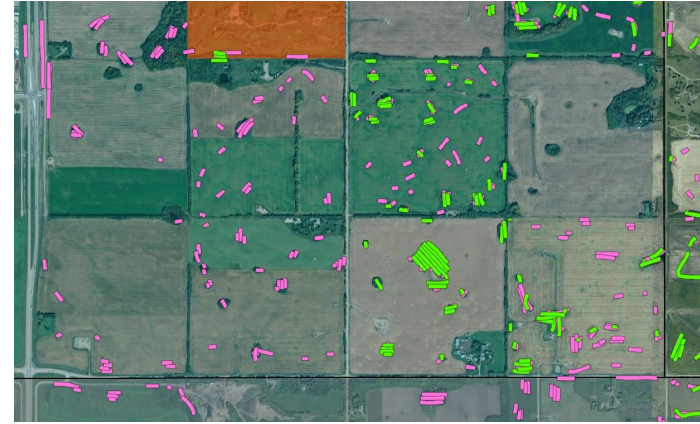
Targeted aerial application of larvicide to a typical mosquito development site. Altitude is 15-20m and swath width is about 20m.

Treatment Approach & Aerial Program Locations



Treatment sites from one round of helicopter larvicide application, 2020.

Typical mosquito development site in an open field.
Even a small pool can support 10-100K larvae per m².



Satellite imagery of 8 quarter sections of rural area, showing overlay of GPS treatment swaths.



Pesticides Used & Aerial Method



Hiller helicopters (as currently used in the aerial program) sitting on pad, and at typical altitude for application.



Appearance of granular larvicide used in the aerial helicopter mosquito program.

Aerial Program Service Level & Cost

Task/Item	2020 Budget (and prior decade)	2020 Costs (wet year; additional funds from Council)	2021 Budget (approved one-time)	2021 Costs (driest year on record)	Ongoing Budget (Council motion)
Helicopter contract*	\$287,000	\$380,000	\$287,000	\$257,000	\$287,000
Larvicides**	\$195,000	\$500,000	\$195,000	\$240,000 (significant unused inventory for 2022)	\$195,000
Flight fuels**	\$25,000	\$25,000	\$25,000	\$0 (used only stored fuel)	\$25,000
TOTAL	\$507,000	\$905,000	\$507,000	\$497,000	\$507,000
Campaign (Applications)	3-4 (historical average)	4	2	1	2
Hectares	7000 (historical average)	8,250	1,895	1,006	1,846

*Helicopter contract prices since about 2019 are minimum 200 base rate hours (\$1285/hr) plus overage hours (\$1270/hr). So minimum cost is 200 hours or \$257,000.

**Larvicides and fuels are normally purchased in bulk based on budget and stored. Annual purchase volumes are not necessarily what is used. Any surplus stock is carried over for future years.

Summary

- The aerial program is a critical part of Edmonton's mosquito control.
- Treatments are focused on control of mosquito larvae (instead of adults) as this is the safest, most effective and environmentally friendly strategy with Edmonton's climate and with available pest control products.
- Without the aerial program, mosquito populations would increase in the city due to migration.
- The aerial program has been funded at \$507,000 per year for approximately a decade, for helicopters, fuel and pesticides.
- \$507,000 budget would provide for two aerial campaigns at current pricing levels, but three to four campaigns are ideal.
- The City uses two products that utilize proteins from a selective bacteria which are highly effective at killing mosquito larvae, are non-toxic to almost all other aquatic species and do not impact human health.



Thank you



Edmonton