Unintended Consequences

The Kanata North "Nuisance" Mosquito Program

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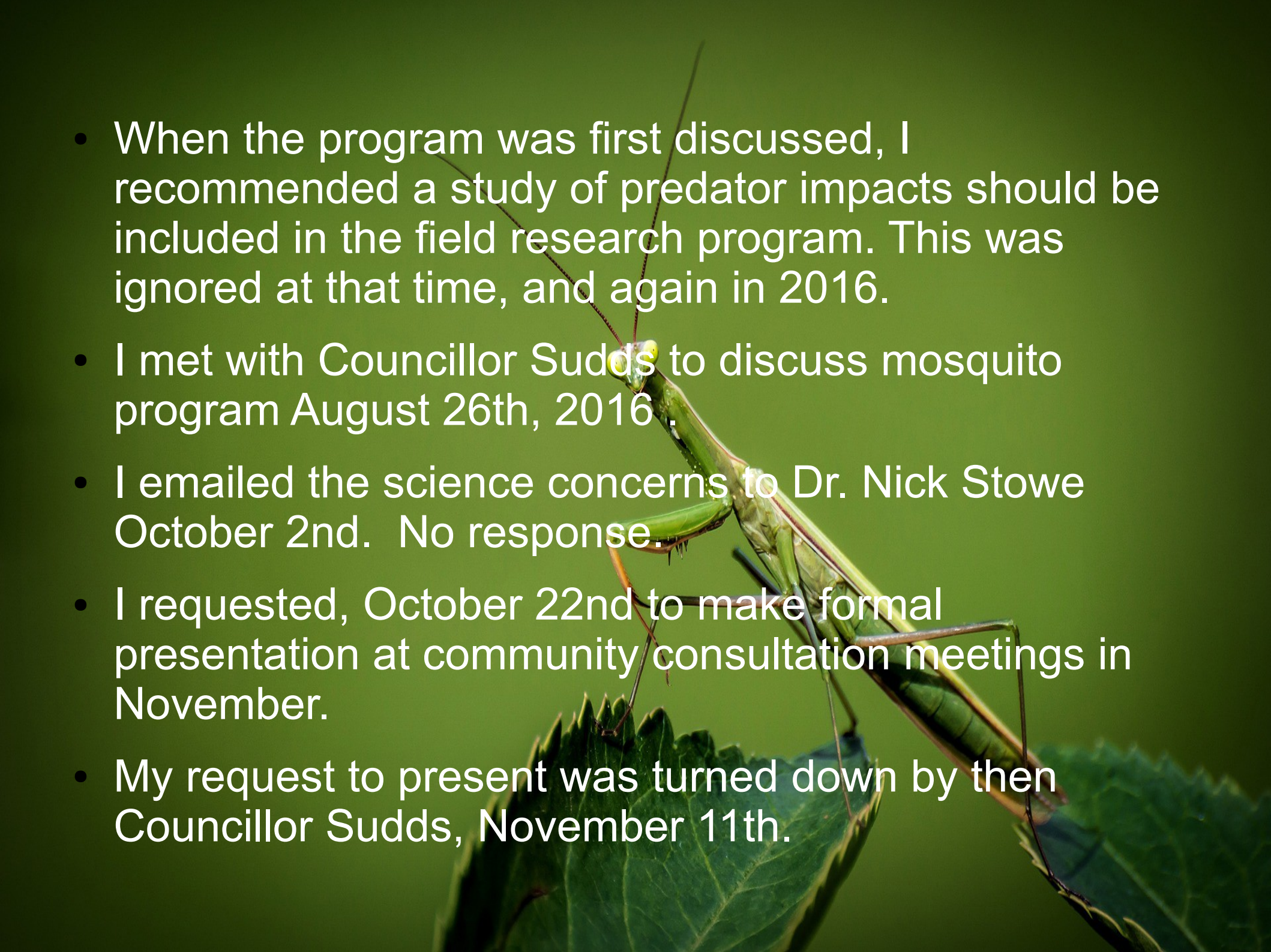
- Environmentalist
- Systems Thinker
- Kanata Resident and Business Owner 28+ years
- Founder of "Scientists Concerned and Informed on the Environment Speak Out"

Why I will vote NO to continuation of the Kanata North "Nuisance" Mosquito Program and believe it is in your long term best interest to do the same.

Why am I concerned

(And is it negatively affecting YOU in the long term!)

- I firmly believe the program is actually making the overall problem worse.
- I firmly believe that residents of Kanata were ill informed and misinformed prior to every vote.
- Neither mosquitos nor mosquito predators respect Ward Boundaries.
- This is a City issue, not just a Kanata Issue.
- A small levy of $16/yr is not the question!



- When the program was first discussed, I recommended a study of predator impacts should be included in the field research program. This was ignored at that time, and again in 2016.
- I met with Councillor Sudds to discuss mosquito program August 26th, 2016 .
- I emailed the science concerns to Dr. Nick Stowe October 2nd. No response.
- I requested, October 22nd to make formal presentation at community consultation meetings in November.
- My request to present was turned down by then Councillor Sudds, November 11th.

Timelines

-

"...we have a solid agenda and plan in place to **present** the **facts** to the community." (Jenna Sudds)

November 12th, almost a month later received a short note from Dr. Stowe.

He dismissed my concerns, and

suggested I was "deliberately misleading".

How does this affect you?

- Do you like mosquitos?
- No, neither do I. **(understatement)**
- What if you are paying money and trusting the City and their contractor, but the problem is actually **getting worse** with more species, a longer season, and fewer predators?
- Can you trust "*the science"* when there is money being made, and no attempt at true dialog on safety?
- Are you being exploited so a contractor can make money, and the city can avoid fixing infrastructure or properly regulating developers?

Proponent and City World View

This is the Contractors position, echoed by the City at every turn:

- **The role of predators in mosquito control is minimal;**
- **The mode of action of BTi (the toxin used) is fully understood, highly selective, and has no effect on non-target species;**
- **Approval by regulatory agencies is rigorous, based on the best science, and serves as adequate assurance of safety.**

An Alternate World View

- In multiple situations, it has been demonstrated that loss of predators results in prey population growth, and a degraded environment.
- Specifically, with reference to mosquitoes, Medlock and Snow (2008) stated: "Removal of predators from habitats could exacerbate a mosquito nuisance biting problem."
- Bank swallows have declined amounting to a loss of 98% of the Canadian population over the last 40 years. Why?

An Alternate World View

"**Selectivity**" assumes precise knowledge of how BTi acts on the target organism. That is **not nearly as well understood as portrayed** by proponents. BTi creates a crystal protein (Cry protein) which attacks the mosquito gut.

- Hilbert and Otto (2015)

"… it is clear that the **CLAIM of no reported adverse effects** of single Cry toxins on cross-order non-target organisms **IS NOT SUPPORTED** by the scientific evidence in the scientific literature. "

How does this scientific statement compare with the City/Proponent view? TOTAL CONTRADICTION!!!!

Dead Baby Swallows NB 2021

Cause ... *Unknown*

Just maybe ....

"Contaminants can **bioaccumulate** in insects exposed to pesticides or polluted aquatic systems, and these contaminants can be transported up the food web to insectivorous birds."
(Spiller and Dettmers 2019)

Hundreds of dead young tree swallows raise concerns in southeast N.B.
(CBC News · Posted: Oct 24, 2021)

IN FACT:

A comparative study actually carried out in New Brunswick earlier had identified that areas sprayed with BT toxin for mosquitos showed about 1/2 as many swallow offspring as comparable areas that were not sprayed.

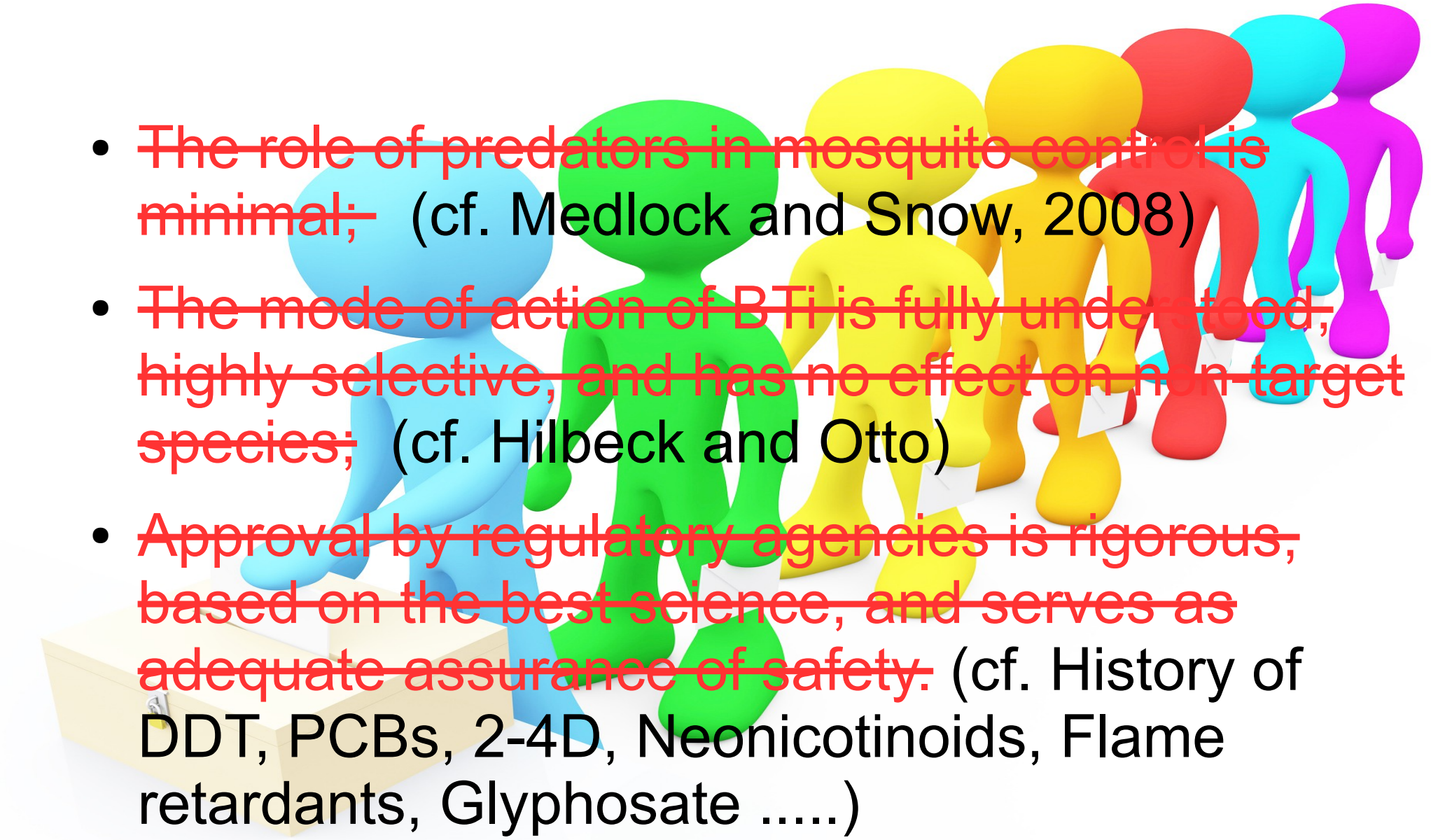
Yes - it kills swallows. My personal observation is that the storm water ponds along March used to regularly have overflying swallows, and there were nests under house eves in Morgan's Grant. Those are ALL gone from that area.

Regulatory Agencies

Every single pesticide, herbicide, transformer coolant (PCBs), and flame retardant was at one time "APPROVED" for widespread use by a Regulatory Agency ...

... until HUGE amounts of evidence of damage amassed to cause their withdrawal.

"Fake News" Was Presented to Voters

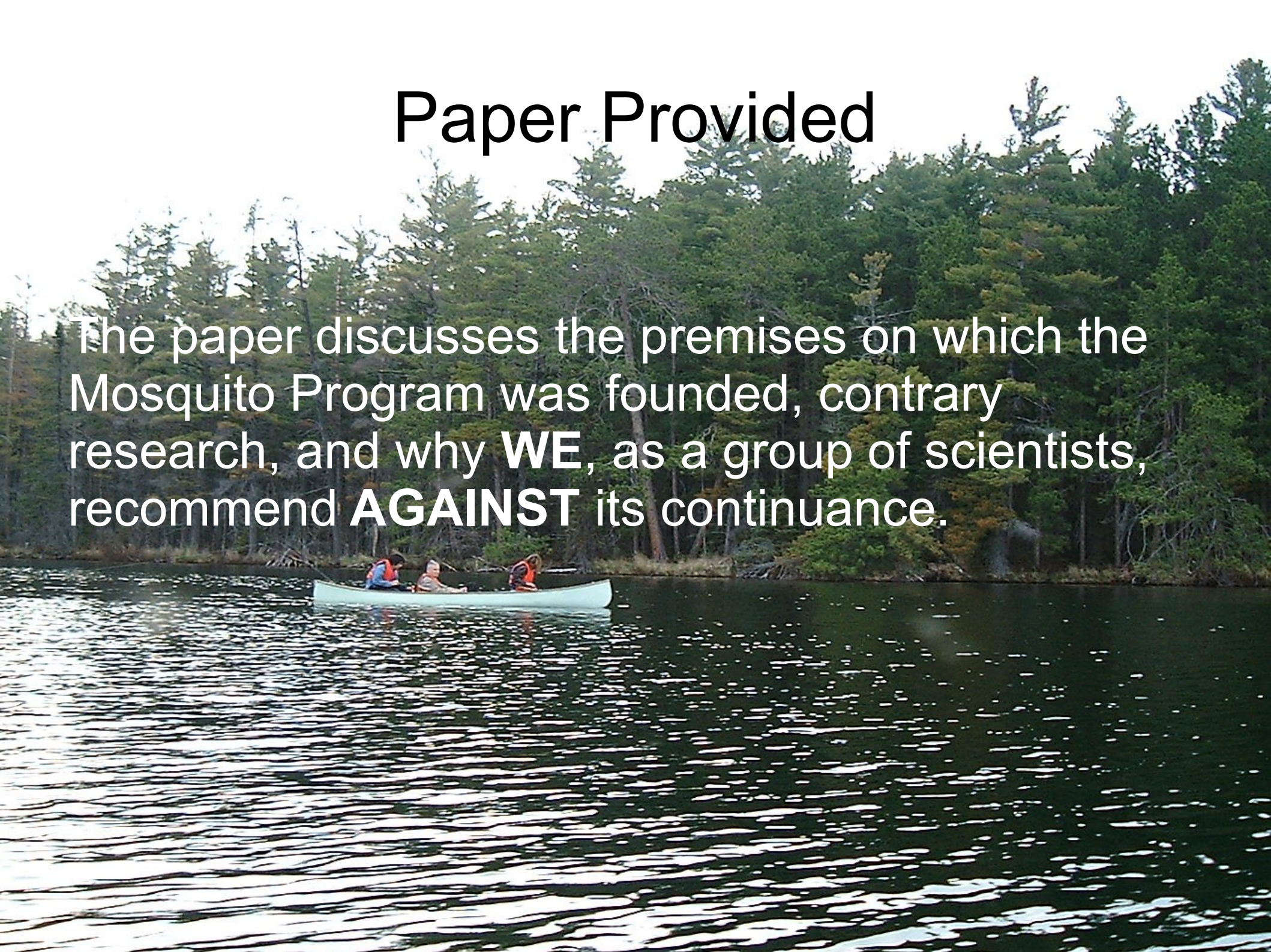


- ~~The role of predators in mosquito control is minimal;~~ (cf. Medlock and Snow, 2008)
- ~~The mode of action of BTi is fully understood, highly selective, and has no effect on non target species;~~ (cf. Hilbeck and Otto)
- ~~Approval by regulatory agencies is rigorous, based on the best science, and serves as adequate assurance of safety.~~ (cf. History of DDT, PCBs, 2-4D, Neonicotinoids, Flame retardants, Glyphosate .....)

Paper delivered to City 2016

- I prepare a paper on the topic with multiple science citations.
- I shared that paper with a group of environmental scientists worldwide to whom I am known and connected.
- The names and qualifications of the respondents who supported the paper follows.

Paper Provided



The paper discusses the premises on which the Mosquito Program was founded, contrary research, and why **WE**, as a group of scientists, recommend **AGAINST** its continuance.

Signing Scientists

Michael White, Ph.D. (Marine Zoology), M.Sc. (Marine Environmental Protection). President Hakono Hararanga Inc, Tongareva Atoll, Oceania; Principal Investigator for Sea Turtles, Cook Islands.

David Loubser, M.Sc., B.Sc., Managing Director, Ecosystem Services Ltd., Wellington NZ; 30 years in Environmental and Environmental Information arena in Africa, New Zealand, Pacific and Middle East

Stephanie Seneff, Ph.D., Senior Research Scientist, MIT; worked (with others) on extensive analysis of the relationship between chemical pesticide exposure and a wide range of chronic diseases.

Venkatasamy Ramakrishna, Ph.D., M.Sc. B.Sc., Director & Consultant at Enviro Solutions Ltd., Mauritius; active in international environmental law.

Yomi Taiwo, Ph.D., Chemist in Sustainable (Green) entrepreneurship development / Food QC&A / Energy at Moshood Abiola Polytechnic, Nigeria

Signing Scientists

Emmanuel G. Moutondo, M.Sc., Operations Manager, Africa Global Vision (AGV); 8 years a staff member of UNEP's Division of Environmental Law and Policy in Nairobi.

Sarel Van Der Merwe, M.Sc., wildlife and biodiversity specialist; Chairman of the African Lion Working Group (20 years).

Ila France Porcher, B.Sc., "Shark Behaviour Specialist Advisor" at Shark Research Institute, author, artist; focus: behaviour of wild animals & marine life; direct experience swimming with wild sharks in Tahiti.

Judy Hoy, B.Sc., biologist, wildlife rehabber, author, Stevensville, Montana; 23 years in wildlife rehab, documenting and writing extensively on birth deformities in wildlife, including potential pesticide interactions.

Paul Renaud, B.Sc., Executive Advisor; former Ottawa resident; active on local environmental issues, including the SMH.

Sheryl McCumsey, formerly with Pesticide Free Alberta. Medical lab technologist for 13 years; spent most of the last five years studying pesticide issues and related research.