



**CITY OF WEST KELOWNA
COMMITTEE OF THE WHOLE AGENDA**

Tuesday, March 16, 2021, 2:30 P.M.

COUNCIL CHAMBERS

2760 CAMERON ROAD, WEST KELOWNA, BC

Pages

1. CALL THE COMMITTEE OF THE WHOLE TO ORDER

It is acknowledged that this meeting is being held on the traditional territory of the Syilx/Okanagan Peoples.

In accordance with the most recent Provincial Health Officer Order regarding gatherings and events, the public is currently not permitted to attend Committee of the Whole meetings in person. As an open meeting, it will be webcast live and will be archived on the City's website.

2. INTRODUCTION OF LATE ITEMS

3. ADOPTION OF AGENDA

4. ADOPTION OF MINUTES

- 4.1. Minutes of the Committee of the Whole Meeting held Tuesday,
November 17, 2020 in the City of West Kelowna Council Chambers**

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5. MAYOR AND COUNCILLOR'S REPORTS

5.1. Mayor Milsom

- 5.1.1. Regional District of Central Okanagan Highlights from the
February 22, 2021 Regional Board Meeting**

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- 5.1.2. Regional District of Central Okanagan Highlights from the
March 11, 2021 Regional Board Meeting**

8

6. PRESENTATIONS

- 6.1. Neil Lilley, Senior Executive Director, and Joe Puskaric, District Manager,
Patient Care Delivery, BC Ambulance Service**

Clinical Response Model

- 6.2. **Travis Kendel, Manager, Engineering Services, Michael Noga, Engineering Technologist II, Regional District of Central Okanagan, and Curtis Fediuk, President, Duka Environmental Services Ltd.**

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Regional Mosquito Control Program

- 6.3. **Bruce Dalrymple, President, Gellatly Bay Trails and Parks Society, and Janice Liebe, President of the Trail of the Okanagan**

Westside Trail and the Trail of the Okanagan

- 6.4. **Melissa Tesche, General Manager, Okanagan-Kootenay Sterile Insect Release Program**

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2020 Okanagan SIR Update

7. UNFINISHED BUSINESS

8. DIVISION REPORTS

8.1. CHIEF ADMINISTRATIVE OFFICER

8.2. DEVELOPMENT SERVICES

8.3. ENGINEERING / PUBLIC WORKS / PARKS

8.4. FIRE RESCUE SERVICES

8.5. CORPORATE INITIATIVES

8.6. FINANCIAL SERVICES / RECREATION AND CULTURE

9. CORRESPONDENCE AND INFORMATION ITEMS

10. NOTICE OF MOTION

11. ADJOURNMENT OF THE COMMITTEE OF THE WHOLE

The next Council meeting is scheduled for Tuesday, March 23, 2021.



CITY OF WEST KELOWNA
MINUTES OF THE COMMITTEE OF THE WHOLE

Tuesday, November 17, 2020
COUNCIL CHAMBERS
2760 CAMERON ROAD, WEST KELOWNA, BC

MEMBERS PRESENT: Mayor Gord Milsom
Councillor Rick de Jong (Acting Mayor)
Councillor Doug Findlater
Councillor Jason Friesen
Councillor Stephen Johnston
Councillor Carol Zanon
Councillor Jayson Zilkie

Staff Present: Paul Gipps, CAO
Allen Fillion, Director of Engineering / Public Works
Warren Everton, Director of Finance / CFO
Jason Brolund, Fire Chief
Sandy Webster, Director of Corporate Initiatives
Mark Koch, Director of Development Services
Rob Hillis, Engineering Manager
Shelley Schnitzler, Legislative Services Manager/Corporate Officer
Stacey Harding, Parks and Fleet Operations Manager
Nilton Practicante, Engineering Supervisor
Rebecca Narinesingh, Corporate Records Coordinator

1. CALL THE COMMITTEE OF THE WHOLE TO ORDER

The meeting was called to order at 3:17 p.m.

It was acknowledged that this meeting was held on the traditional territory of the Syilx/Okanagan Peoples.

This meeting was open to the public. In accordance with COVID-19 protocols, a viewing area that could accommodate three members of the public was available. All representations to Council form part of the public record. This meeting was webcast live and is archived on the City's website.

2. INTRODUCTION OF LATE ITEMS

3. ADOPTION OF AGENDA

It was moved and seconded

Resolution No. COW004-20

THAT the agenda be adopted as presented.

CARRIED UNANIMOUSLY

4. ADOPTION OF MINUTES

4.1 Minutes of the Committee of the Whole Meeting held June 16, 2020 in the City of West Kelowna Council Chambers

It was moved and seconded

Resolution No. COW005-20

THAT the minutes of the Committee of the Whole Meeting held June 16, 2020 in the City of West Kelowna Council Chambers be adopted.

CARRIED UNANIMOUSLY

5. MAYOR AND COUNCILLOR'S REPORTS

6. PRESENTATIONS:

6.1 Mariah VanZerr, Strategic Transportation Planning Manager, City of Kelowna, Rafael Villarreal, Administrator/Department Manager, City of Kelowna, and Stephen Power, Lead Consultant Regional Transportation Plan, HDR

Mariah VanZerr, Rafael Villarreal and Stephen Power presented the Final Regional Transportation Plan.

It was moved and seconded

Resolution No. COW006-20

THAT Council endorse the Final Regional Transportation Plan as presented.

CARRIED; Councillors de Jong and Findlater opposed

6.2 Meg Bjordal, WildSafeBC

Meg Bjordal presented the WildSafeBC Okanagan Westside 2020 Program Summary.

The meeting recessed at 4:32 p.m.

The meeting reconvened at 4:42 p.m.

7. UNFINISHED BUSINESS

8. DIVISION REPORTS

8.1 CHIEF ADMINISTRATIVE OFFICER

8.2 DEVELOPMENT SERVICES

8.3 ENGINEERING / PUBLIC WORKS / PARKS

8.3.1 Road DCC and Pedestrian Improvement Program Update

The Director of Engineering and Public Works and the Design and Inspection Technician provided an update on the Road DCC and Pedestrian Improvement Program.

8.4 FIRE RESCUE SERVICES

8.5 CORPORATE INITIATIVES

8.6 FINANCIAL SERVICES / RECREATION AND CULTURE

It was moved and seconded

Resolution No. COW007-20

THAT the meeting be extended to 6:00 p.m.

CARRIED UNANIMOUSLY

8.6.1 COVID-19 Update – Recreational Facilities

The Facilities and Recreation Manager provided a COVID-19 update.

9. CORRESPONDENCE AND INFORMATION ITEMS

10. NOTICE OF MOTION

11. ADJOURNMENT OF THE COMMITTEE OF THE WHOLE

The meeting adjourned at 5:51 p.m.

ACTING MAYOR

LEGISLATIVE SERVICES MANAGER/CORPORATE OFFICER

Highlights of the Regional Board Meeting – February 22, 2021

Updated Board Strategic Priorities Plan

The Regional Board has approved an update to its 2019 – 2022 Strategic Priorities Plan. As many of the initial work priorities from 2019 have been accomplished, the revised document adds new measures of success and work to be completed before 2022. The plan outlines Board priorities in four key areas:

- Environment
- Economic Development
- Sustainable Communities
- Transportation and Mobility

Regional Parks Partnership Program

The Regional Board has approved the introduction of a formalized Friends of the RDCO Regional Parks Partnership program. While Parks Services has had a long-standing successful history of working with Friends of Regional Parks groups and community partners, this new program creates a formal framework for working relationships with these groups. As well, it includes implementing an annual Friends of RDCO Regional Parks Capacity Building Grant program.

Water Program Grant Application

The Regional Board has approved sending an application to the Okanagan Basin Water Board Water Conservation and Quality Improvement program. The grant request of \$30,000 is on behalf of the Okanagan Collaborative Conservation Program and Okanagan Nation Alliance for the Okanagan Lake Responsibility Planning Initiative. It's envisioned that the project would create new ways for the Syilx and non-Syilx partners to work together for greater environmental protection of Okanagan Lake and its watershed.

Parks Crown Land Lease Renewals

The Regional Board has approved renewing Crown Land Leases for [Mission Creek](#) and [Rose Valley](#) Regional Parks. Each lease renewal is for 30-years with the same terms and conditions as the previous leases.

Streambank Repair Grant Application

The Regional Board has directed staff to submit an application for Federal/Provincial funding to complete repairs to the bank of Mission Creek upstream of the Cedars Bridge to protect the bridge abutment. Funding for the estimated \$247,825 project will be sought through the Investing in Canada Infrastructure Program – COVID Resilience Infrastructure Stream-Adaptation, Resilience & Disaster Mitigation program.

Okanagan Regional Library Branch Funding

The Regional Board has received a presentation from the Okanagan Regional Library (ORL) regarding funding for a new branch for the City of West Kelowna. The ORL and city have a formal partnership to construct a new facility, replacing the current older branch. RDCO staff will work with the Library to draft required borrowing bylaws and use of the Alternative Approval Process to confirm elector support for proposed long-term funding through the Municipal Finance Authority.

Foreshore Crown Licenses of Occupation

The Regional Board has approved renewing Provincial Foreshore Crown Licenses of Occupation seven RDCO waterfront parks. Each foreshore license is for 30-years under the same terms and conditions for the following parks:

- [Pine Point](#), [Cinnabar Creek](#) and [Fintry](#) Community Parks
- [Kaloya](#), [Kopje](#), [Raymer Bay](#) and [Traders Cove](#) Regional Parks

Regional Board Meetings

Regional District office – 1450 KLO Road, Kelowna (Woodhaven Boardroom) – No public attendance allowed with health orders on public gatherings

- **Thursday, February 25** – 8:30 am rescheduled Preliminary Review 2021-2025 Budget & Financial Plan
- **Thursday, March 11** – following 8:30 am Governance & Services Committee
- **Thursday, March 18** – 8:30 am rescheduled review 2021–2025 Budget & Financial Plan

Live/Recorded Meeting Video

When a meeting begins, a Live Stream Video link will be available for that meeting in the Upcoming Meeting agenda section of the rdco.com website. When available, a link to the Video recording will be posted in the Past Meetings section for the individual meeting date. Links at rdco.com/agenda

- **Feb. 22 Regional Board Meeting**

Regional District Financial Plan



Let's Hear from You

The Regional District of Central Okanagan is preparing its 2021 – 2025 Financial Plan.

You have several opportunities to learn about and comment by email on the budget priorities. When available, detailed budget documents, presentations and feedback can be found on the Regional District website - rdco.com/budgets.

As Health Orders prohibit public meetings, in-person opportunities to address the Regional Board are not currently available.

Residents are encouraged to provide comments, feedback or questions by email or regular mail about the proposed Financial Plan priorities.

In addition, budget meetings are livestreamed so that residents may watch the Regional Board budget discussions. Each meeting is recorded and also available online at rdco.com/agenda.

RDCO Budget Meetings (rescheduled dates)

Thursday, February 25
8:30 am

Thursday, March 18
8:30 am

Information about the
RDCO budget and
Financial Plan is available at
rdco.com/budgets

That's also where you may
provide feedback and
comments on the budget.

Yard Waste Collection is back on!



Please check your cart to ensure it's only yard waste, no plastic or foreign matter.

Accepted Items:

Leaves
Branches
Prunings
Needles
Grass Clippings
Fruit Droppings
Size limitations apply

The Board Report is published monthly after each regular meeting of the Board of the Regional District of Central Okanagan. The Regional Board meets twice a month in regular session in the Woodhaven Boardroom at the Regional District office, 1450 KLO Road. The public is welcome to attend.

Highlights of the Regional Board meeting – March 11, 2021

Regional Board observances

The Regional Board recognized the National Day of Observance to remember the lives lost in the past year to the COVID pandemic and grieving family and friends. Chair Given also thanked essential service workers for their efforts and encouraged all Central Okanagan residents to continue to follow health and safety guidelines.

The Board also provided its condolences to the family of former School District 23 Board Chair and Trustee Rolli Cacchioni on his recent passing. As a long-time educator and community leader, he touched so many lives.

Scenic Canyon Parkland Exchange Bylaw

The Regional Board has adopted the Scenic Canyon Parkland Exchange Bylaw No. 1473 following a successful [Alternative Approval Process](#). The bylaw outlines the terms of an exchange of land between the Regional District and a private property owner affecting the Regional Park. The RDCO will acquire approximately ten hectares of new park land and a .86-hectare Statutory Right of Way to provide for future trail and park connections between Scenic Canyon, the Mission Creek Greenway and City of Kelowna parks and trails. In addition, the Regional District will receive approximately \$454,000 in net compensation for the difference in the land valuation. In exchange, the Regional District will transfer 8.67-hectares of land in the park to the property owner. The Alternative Approval Process required 20,598 electors to submit response forms to prevent the bylaw from being adopted without first holding a referendum. Two electors submitted forms in opposition.

Regional Parks conservation covenant

The Regional Board has authorized approval of a covenant for just over 125-hectares in Black Mountain - sntsk'il'ntən Regional Park. The covenant with the Central Okanagan Land Trust will strengthen the long-standing partnership with the RDCO and allow the organization to contribute \$15,000 towards the original purchase of two properties within the Regional Park. The Board agreed to proceed with the covenant after consulting with Westbank First Nation.

North Westside Restructure Committee

The Regional Board has approved a unanimous recommendation from the North Westside Provincial Restructure Planning Grant Standing Committee to request funding and support from the Ministry of Municipal Affairs for a governance and services study. If funding is approved by the Province, a consultant would be engaged to document the current state of local governance and service delivery within the North Westside Fire Service Area; understand the concerns and interests of area residents and identify and assess future governance and service delivery.

Financial Plan budget update

The Regional Board has approved including two additional funding requests in the proposed 2021-2025 Financial Plan. The first adds \$40,000 to the [Regional Air Quality Program](#) budget in order to better serve orchardists and significantly reduce the Agricultural Wood Chipping Program backlog. The second addition will see \$50,000 allocated from the RDCO feasibility service fund for a study to consider establishing a [Regional First Nations Engagement Service](#). It's envisioned this would further reconciliation efforts while enhancing and building on the RDCO's strong working relationships with First Nations in the Okanagan.

Regional Board meetings

Regional District office – 1450 KLO Road, Kelowna (Woodhaven Boardroom) – No public attendance allowed with health orders on public gatherings

- **Thursday, March 18** – 8:30 a.m. second review 2021–2025 Budget & Financial Plan
 - **Monday, March 29** – 7:00 p.m. Final adoption of 2021-2025 Financial Plan
-

Live/Recorded meeting video

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Regional District Financial Plan



Let's Hear from You

The Regional District of Central Okanagan is finalizing its 2021 – 2025 Financial Plan.

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In addition, budget meetings are livestreamed so you may watch the Regional Board budget discussions. Each meeting is recorded and is also available online at rdco.com/agenda.

Upcoming RDCO Budget Meetings

Thursday, March 18
8:30 a.m.

Monday, March 29
7:00 p.m.
Final adoption

Information about the RDCO budget and Financial Plan is available at rdco.com/budgets

That's also where you may provide feedback and comments on the budget.

Composter & Rain Barrel Sale





Composter only \$37 (\$80 Value)

Backyard Composter (\$37)

- Only 300 available
- Make your own great soil
- Reduce your waste

Rain Barrels (\$80)

- Only 200 available
- Limit two per household
- Collect naturally soft rain water for use in your garden

Green Cone Food Digester (\$128)

- Limited 75 available
- Handles all kitchen and food waste, pet waste too!

The Board Report is published monthly after each regular meeting of the Board of the Regional District of Central Okanagan. The Regional Board meets twice a month in regular session in the Woodhaven Boardroom at the Regional District office, 1450 KLO Road. The public is welcome to attend.

Regional Mosquito Control Program

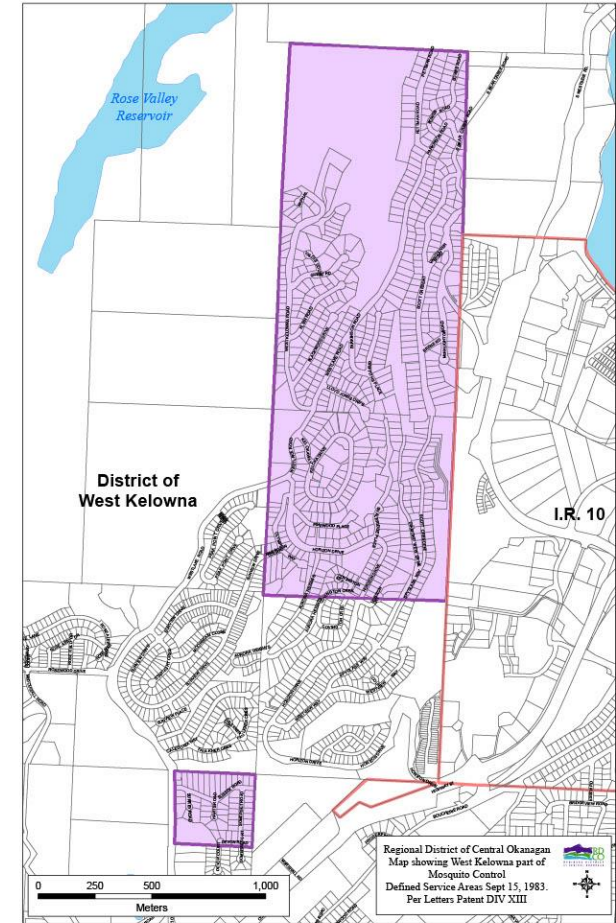
Proposed for the City of West Kelowna

March 16, 2021

1450 K.L.O. Road
Kelowna, BC, V1W 3Z4
rdco.com

Regional Mosquito Control Program

- Program operating for over 45 years
 - Previously supported through BC grants, discontinued in 2012
 - Now funded by Local Governments and First Nations
 - Similar programs in place in CSRD, RDOS, and TNRD
- Current Program serves all Central Okanagan municipalities and electoral areas
 - Only a small portion of West Kelowna is currently in the program



Regional Mosquito Control Program

- **Regional Mosquito Control Program includes:**
 - Administration, Program Management, and Regulatory reporting
 - Monitoring, Sampling and Analysis
 - Mosquito Control Treatments (Larvicide)
 - 3651 Catch Basins
 - 38 potentially significant locations (surface water bodies, wetlands, etc.)
 - Habitat Modification and Public Outreach

Estimated Program Expense (City of West Kelowna): \$57,000 / year

- **Service delivered through Duka Environmental Services Ltd.**
 - Held previous contract from 2016 through to 2021
 - New 5 year contract starting in 2021

Why Mosquito Control?

- An effective mosquito control program won't necessarily be obvious or acknowledged by the great majority of residents or businesses, but adult mosquito nuisance seldom goes unnoticed and is usually reported.
- Mosquito control programs are typically created and provided because there is noticeable, and reportable adult mosquito nuisance and annoyance which affects quality of life and business operations.
- Enjoyment or participation in organized or recreational sports is diminished, use of passive parks for picnics and fairs, patio use at restaurants, pubs and vineyards is similarly reduced. Field workers efficiency is affected, they are uncomfortable, or unable to harvest crops. Outdoor workers (construction, equipment operators) may be distracted enough by mosquito nuisance to create a potential workplace hazard. Some individuals are also highly sensitive to mosquito bites and secondary infections for others are possible.
- Most mosquito control programs are initiated by Mayor and Council, along with administration staff, in response to resident and business reports of adult nuisance affecting their quality of life, operations or livelihood

Mosquito Facts



- Over 60 species found in B.C.
- 25 species found in RDCO / Kelowna area.
- Over 40% of mosquitos collected in Kelowna are capable WNV vectors.
- 1 larvae/350ml dip sample in a pond the size of a backyard pool would contain 21,429 larvae.
- A 1 Hectare site (~2 Football Fields in size) would produce 4,285,174 larvae.
- If birds or bats eat 300 mosquitos/day, it would take a total of 14,283 birds/bats to consume them all. Over three weeks, it would require 680 birds/bats.
- Average # of larvae per dip in RDCO/Kelowna, where the control program has suppressed populations are 10–15 larvae/dip.
- 1 hectare with 15 larvae/dip would result in 64,277,610 mosquitos. Birds or bats eating 300 mosquitos per day for 21 days, would need 10,202 birds/bats.
- West Kelowna has ~24.3 hectares of potential larval habitat identified.

Three Phases of Mosquito Control

- Phase I: Development Site Survey
- Phase II: Pest Management Plan (PMP) acquisition
- Phase III: Operational Mosquito Control Program

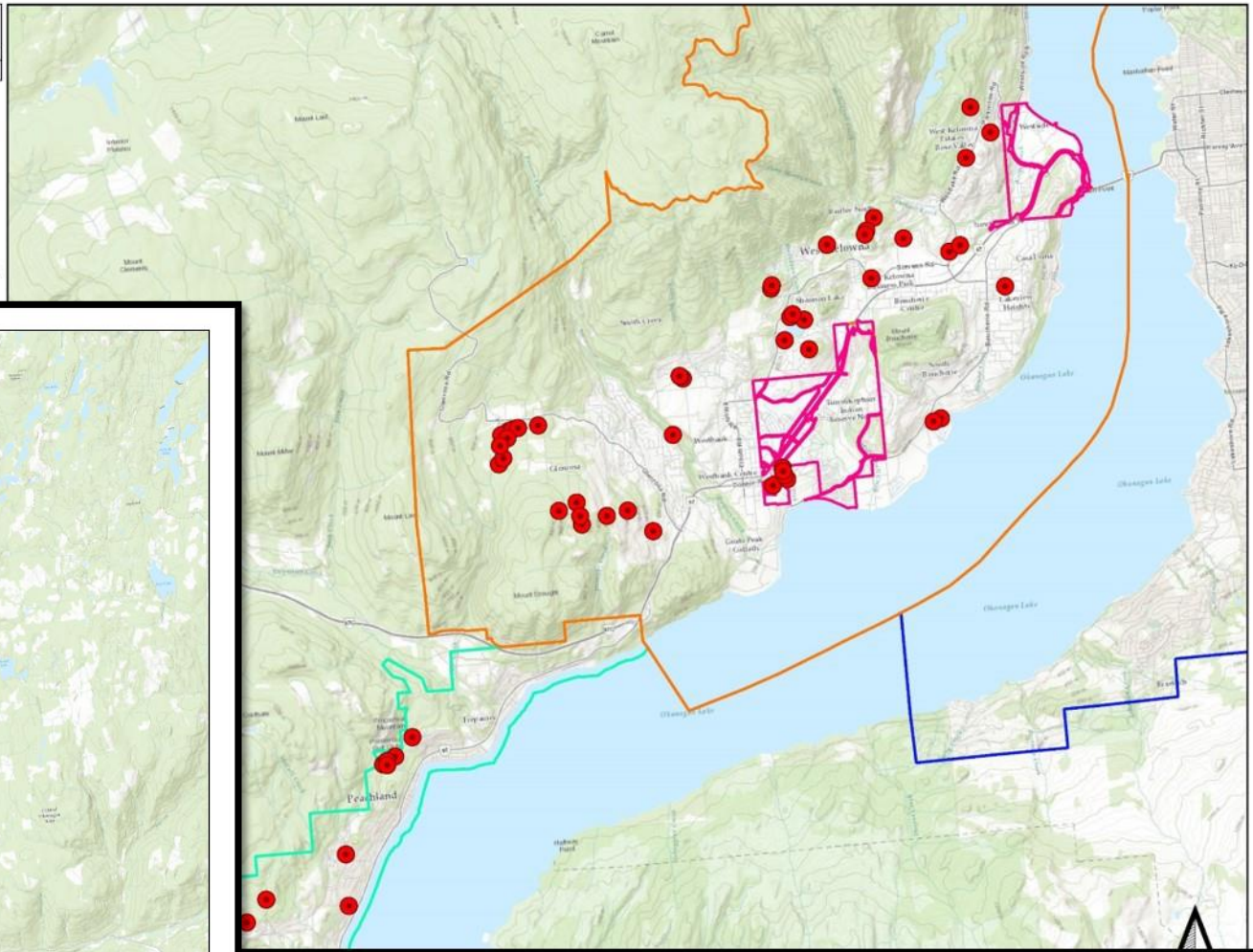
Phase 1 - Development Site Survey

- Public and administration staff input is used to help identify and confirm areas where adult mosquito nuisance is extreme or protracted.
- Larval surveys to identify open water habitats are focused on the areas of reportable adult nuisance and through aerial, ground-based and map (ie. Google Earth™) surveys.
- Potential sites are mapped. Larval and adult specimens are collected for species identification.
- Mosquito species composition, distribution and the onset of development is correlated with temporal factors (ie. river levels, snowpack, precipitation etc) and is used to identify predictive thresholds for larval development.
- A report is generated summarizing study findings. A potential scope for operations and estimated costs are provided.

Mosquito Control Program 2021

Figure 2

Potential Development Site Map
West Kelowna & Peachland



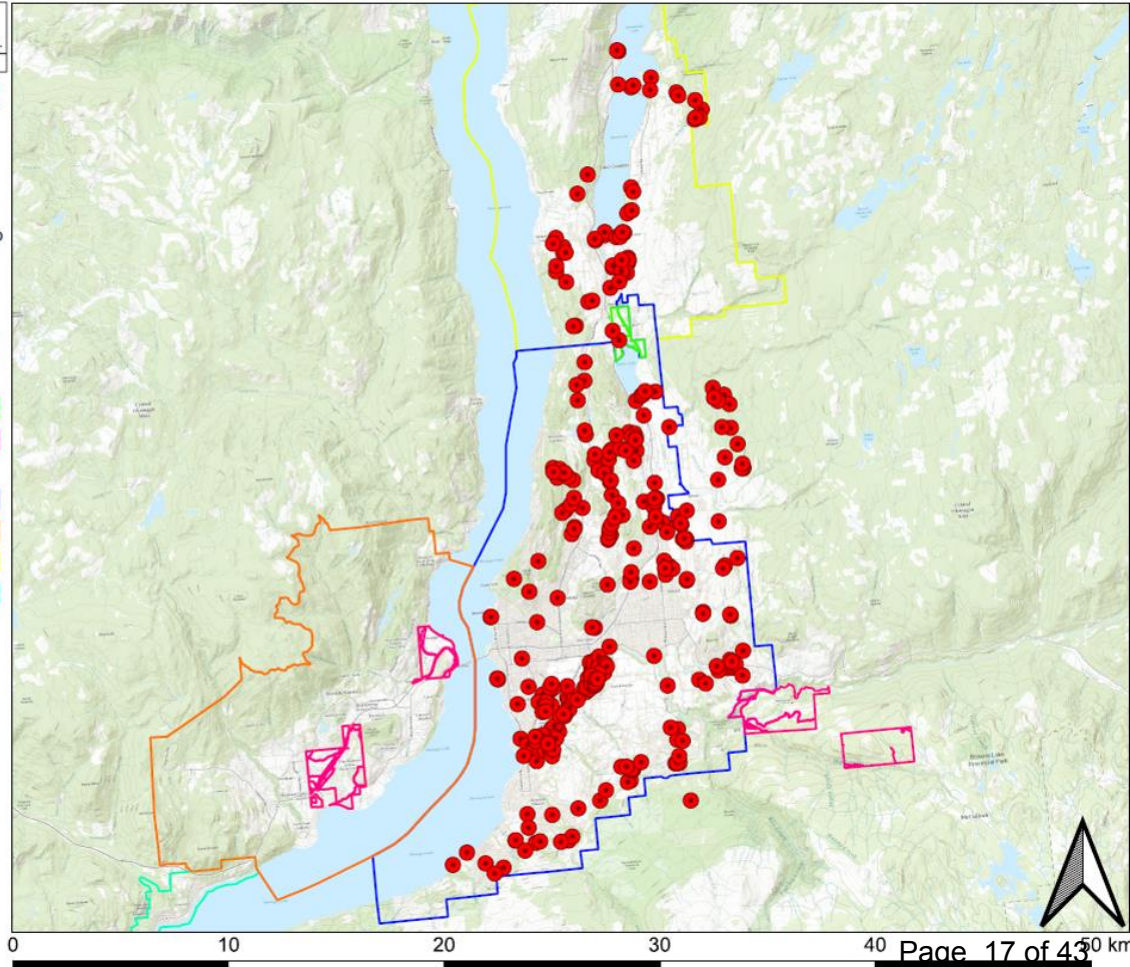
Mosquito Control Program 2021

Figure 1

Potential Development Site Map
City of Kelowna and
District of Lake Country

Legend

- Potential Development Sites ●
- Okanagan Indian Band □
- Westbank First Nation □
- City of Kelowna □
- City of West Kelowna □
- Lake Country □
- Peachland □



Phase 2 - Plan Preparation and Development

- A Pest Management Plan (PMP) is developed and prepared using information from the Phase I report. Program to be based on an Integrated Pest Management (IPM) approach.
- BCMOE requisite advertising for public and First Nation consultations, input, comments etc. are collected and incorporated into the PMP, and the proposed program, where appropriate. This can take a minimum of 45 days.
- The PMP is finalized with any such input and forwarded to BCMOE for review and acceptance /confirmation to proceed. This requires 30-51 days.
- 2021 – 2026 PMP for the RDCO has been completed and submitted. West Kelowna and Peachland were included.

Phase 3 – Mosquito Control

Once a PMP is approved. An operational mosquito control program can proceed. Five components to an Integrated Pest Management approach to control include:

- Public Education
- Surveillance and identification of mosquito species and their distribution
- Timely implementation of mosquito controls and preventative measures
- Ongoing assessment of efforts/success and adaptive management during a season
- End of season program reporting and evaluation to ensure sustainable and effective controls have been achieved

Public Education and Outreach

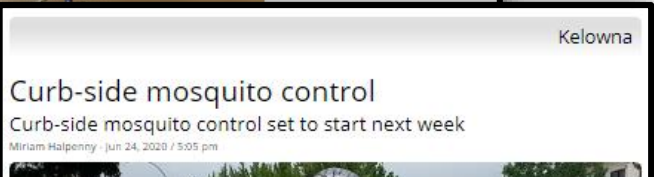
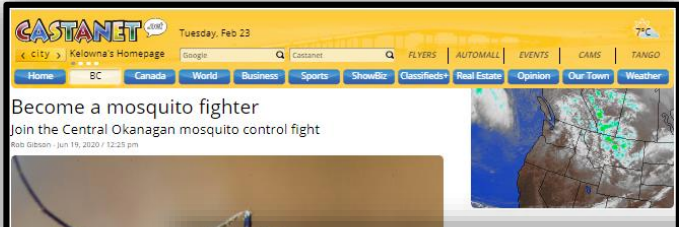


Photo: Contributed

Many Central Okanagan neighbourhoods can expect at roadside catch basins next week.

Between Monday, June 29 and Friday, July 3, weather visibility vests as they drive scooters or a white Ford.

The crew will be stopping throughout Kelowna, communities in West Kelowna to drop water s

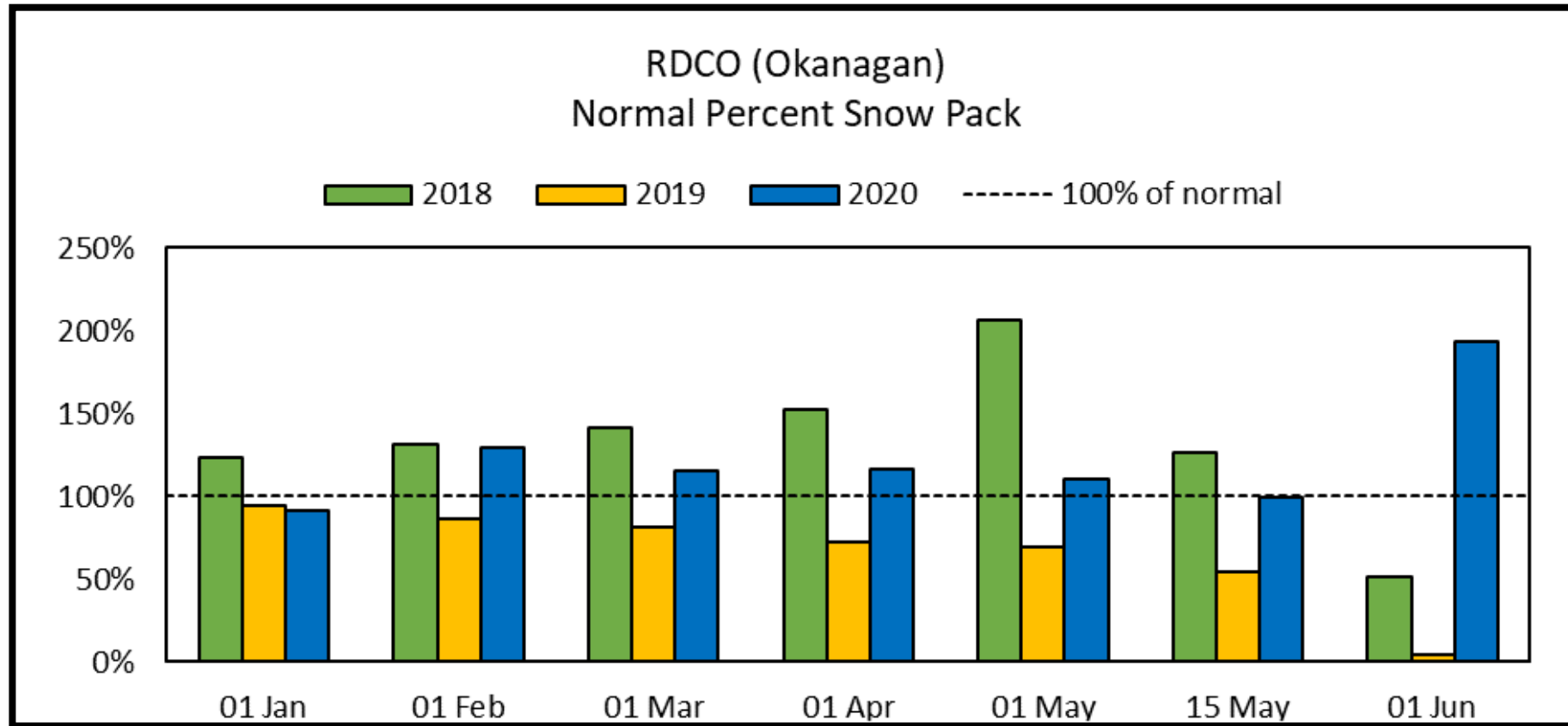
A screenshot of a "Mosquito Service Request Form" from DUKA ENVIRONMENTAL SERVICES LTD. The form includes fields for "First", "Last", "Address", "City", "Postal / Zip Code", "Daytime Contact Number", and "Email". It also has a section for "Larval Development Site Type" with options: "Pond/Marsh", "Drain", and "Food Water (River, Stream)". There is a section for "Approximate Size" with options: "0-100 sq ft" and "100-500 sq ft".

An infographic titled "Mosquito Life Cycle" showing the stages of a mosquito's life: Egg, Larva, Pupa, and Adult. It includes a list of "Breaking the Mosquito Life Cycle in your Community" with tips like "Remove any standing water", "Cover rain barrels with a screen", and "Aerate water in ponds or add fish". It also has a section for "Protecting Yourself from Adult Mosquitoes" with tips like "Use repellent", "Wear long sleeves and pants", and "Use mosquito nets".

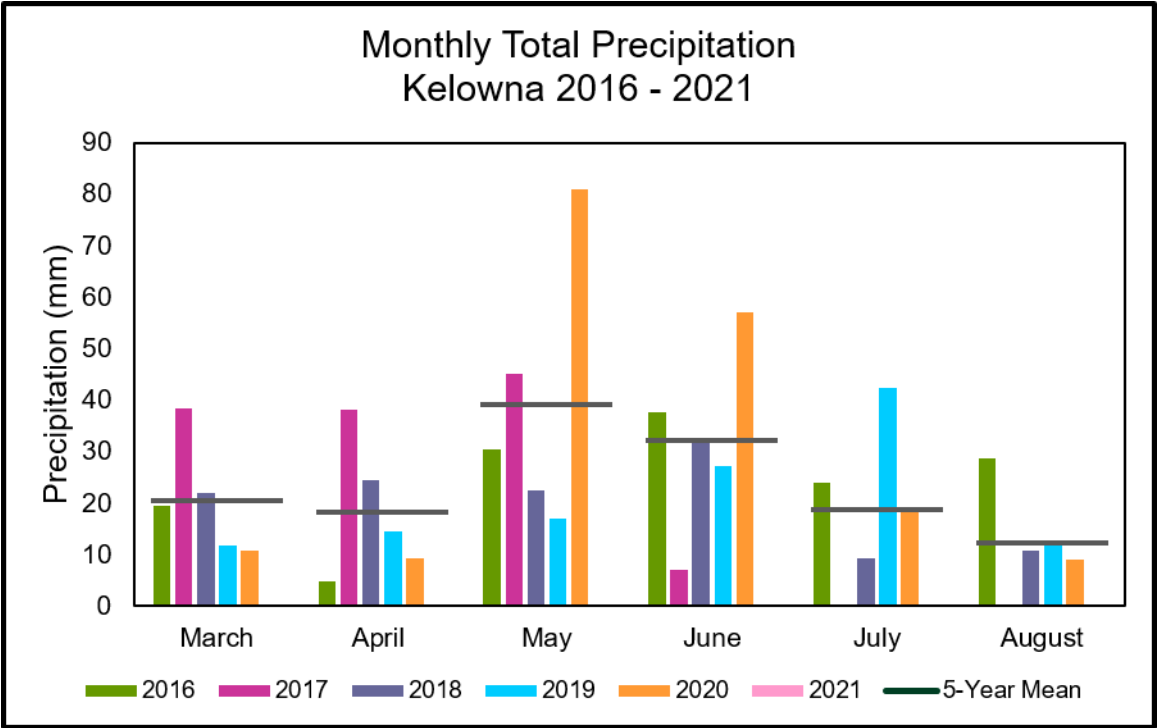
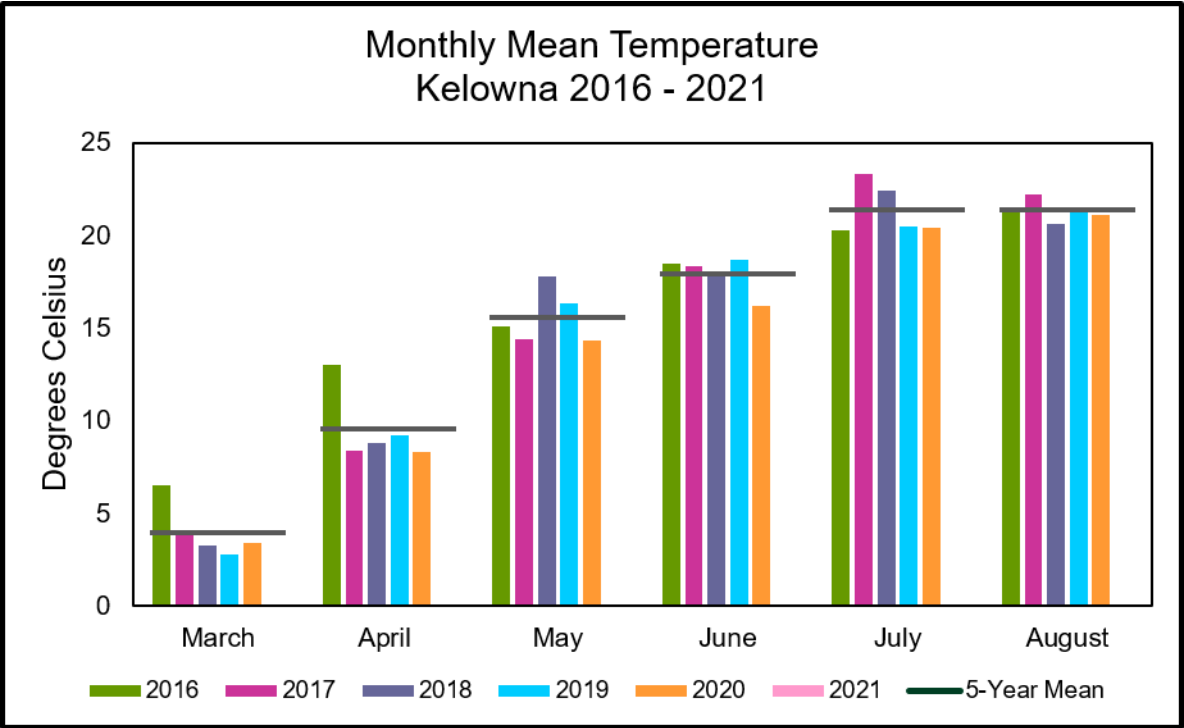
Surveillance / Data Collection



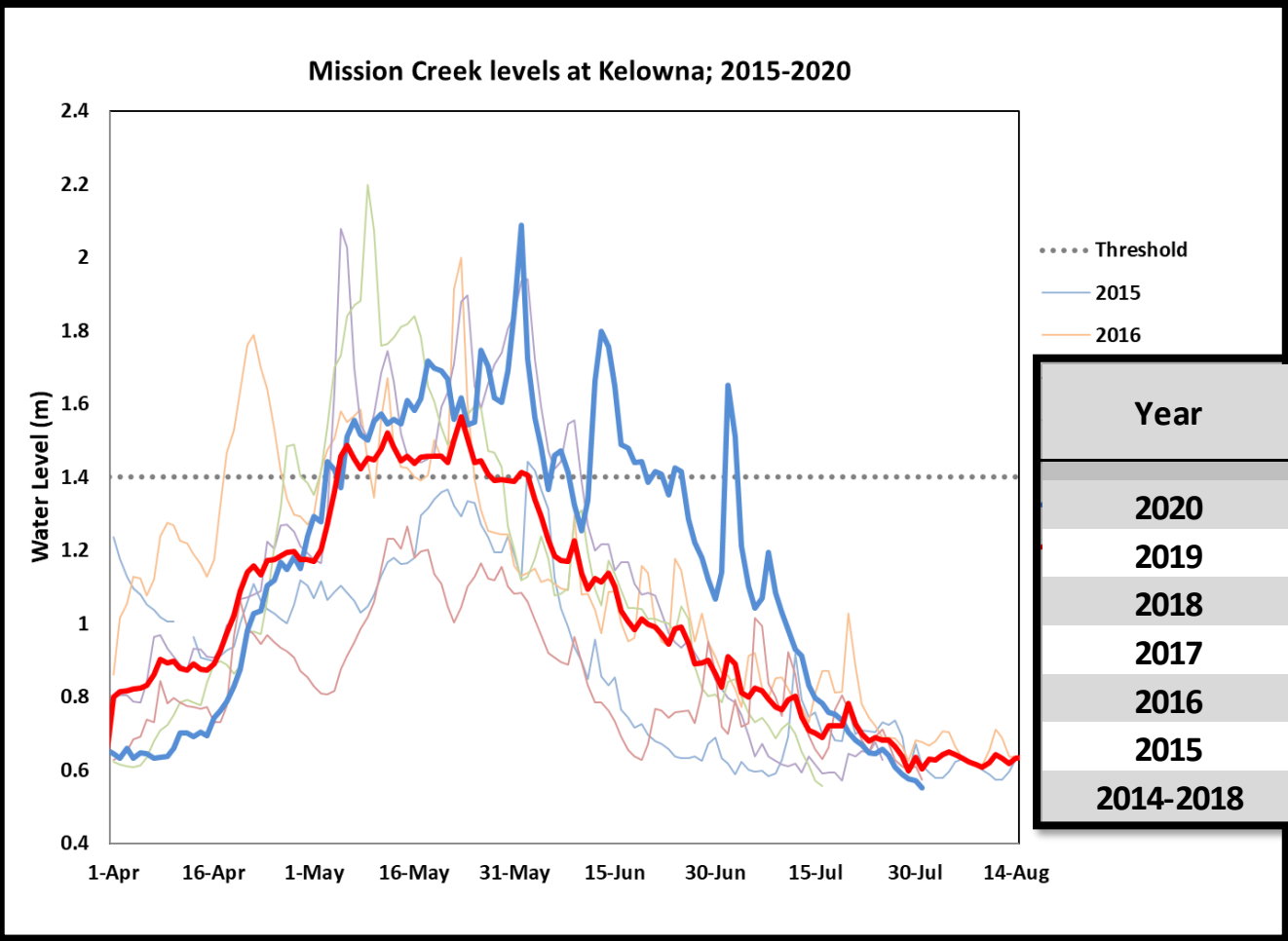
Predictive Modeling - Snowpack



Predictive Modeling – Temperature and Precipitation



Predictive Modeling – Lake Levels



Year	Freshet Duration	1.4m Days+	1.8m Days+	Peak River Level (m)	Date
2020	03 May - 25 June	45	1	2.09	01-Jun
2019	N/A	0	0	1.26	15-May
2018	27 April - 29 May	30	8	2.2	09-May
2017	04 May - 10 June	38	8	2.1	05-May
2016	18 April - 24 May	30	2	2	23-Jun
2015	02 June - 03 June	2	0	1.4	02-Jun
2014-2018	N/A	25	4	1.8	N/A

Population Sampling

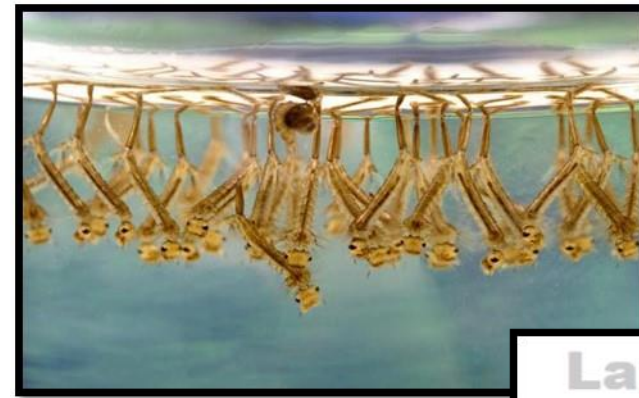


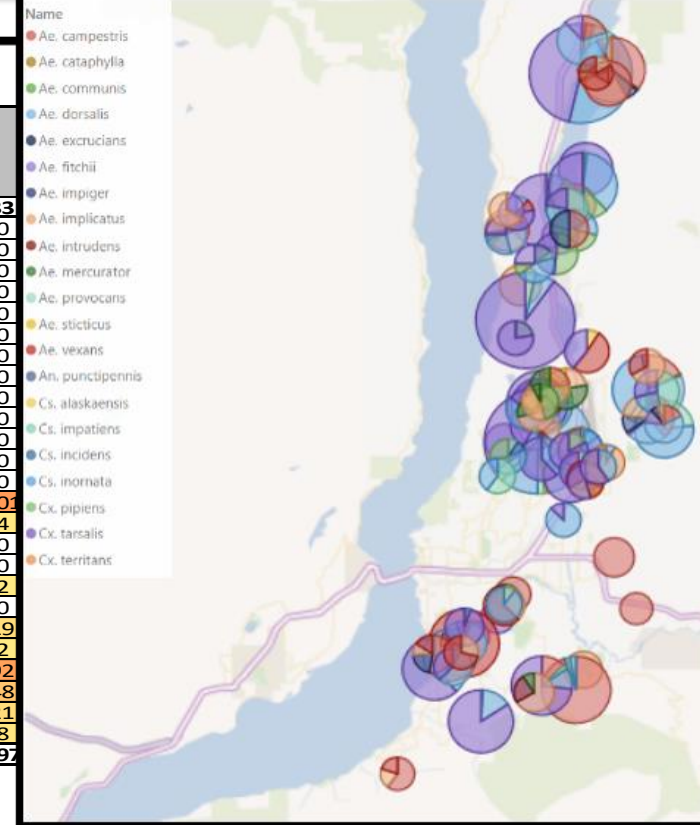
Table 1: Regional District of Central Okanagan; Larval Mosquito Temporal Distribution and Occurrence by Species - 2020

Species	WNv competence	Species Occurrence # of Samples	Total # of Individuals	% occurrence	April				May				June				July				August			
Week # →					14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33
<i>Ae. campestris</i>	0	28	388	10.7%	0	0	0	6	295	65	22	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Ae. cataphylla</i>	0	2	2	0.1%	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
<i>Ae. communis</i>	0	3	10	0.3%	0	0	0	0	9	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Ae. dorsalis</i>	+++	16	237	6.5%	0	0	0	0	17	109	19	0	0	0	10	27	22	1	13	19	0	0	0	0
<i>Ae. excrucians</i>	0	1	6	0.2%	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Ae. fitchii</i>	0?	11	29	0.8%	0	1	0	0	8	18	2	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Ae. impiger</i>	0	9	36	1.0%	0	0	0	8	1	1	20	0	0	6	0	0	0	0	0	0	0	0	0	0
<i>Ae. implicatus</i>	0	34	166	4.6%	0	13	0	10	46	43	44	5	0	5	0	0	0	0	0	0	0	0	0	0
<i>Ae. intrudens</i>	0	5	14	0.4%	0	0	0	0	13	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Ae. mercurator</i>	0	14	59	1.6%	0	2	0	7	34	11	5	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Ae. provocans</i>	0?	1	1	0.0%	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Ae. spp</i>	N/A	13	161	4.4%	0	0	0	0	21	91	5	3	0	0	0	0	1	0	39	0	0	0	1	0
<i>Ae. sticticus</i>	+	8	22	0.6%	0	0	0	0	8	0	7	2	0	0	3	0	0	0	0	0	2	0	0	0
<i>Ae. vexans</i>	++	19	198	5.5%	0	2	0	0	6	10	52	5	0	0	17	0	4	1	0	0	0	0	0	10
<i>An. punctipennis</i>	+	7	16	0.4%	0	0	0	0	0	0	6	1	0	0	0	0	0	0	2	0	0	3	0	4
<i>An. spp</i>	N/A	2	9	0.2%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	8	0	0	
<i>Cs. alaskaensis</i>	0	1	1	0.0%	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Cs. impatiens</i>	0?	31	125	3.4%	0	0	0	0	0	0	1	11	6	9	5	0	3	0	33	35	0	18	2	2
<i>Cs. incidens</i>	++?	1	1	0.0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
<i>Cs. inornata</i>	+++	57	549	15.1%	0	0	0	0	0	0	11	16	30	43	61	17	20	0	106	127	35	55	9	19
<i>Cs. spp</i>	N/A	6	95	2.6%	0	0	0	0	1	41	0	0	0	0	0	0	5	0	39	7	0	0	0	2
<i>Cx. pipiens</i>	+++	9	106	2.9%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	92	92
<i>Cx. spp</i>	N/A	9	90	2.5%	0	0	0	0	0	0	0	0	0	9	0	0	13	0	0	0	0	6	14	48
<i>Cx. tarsalis</i>	++++	83	1236	34.1%	0	0	0	0	0	0	11	33	25	13	88	66	98	20	250	211	108	125	167	21
<i>Cx. territans</i>	0?	8	67	1.8%	0	0	0	0	0	0	13	3	0	0	0	0	25	0	12	0	1	5	0	8
Larval Total		378	3624	100%	0	18	0	37	459	392	220	80	70	76	184	110	191	22	494	399	147	220	208	297

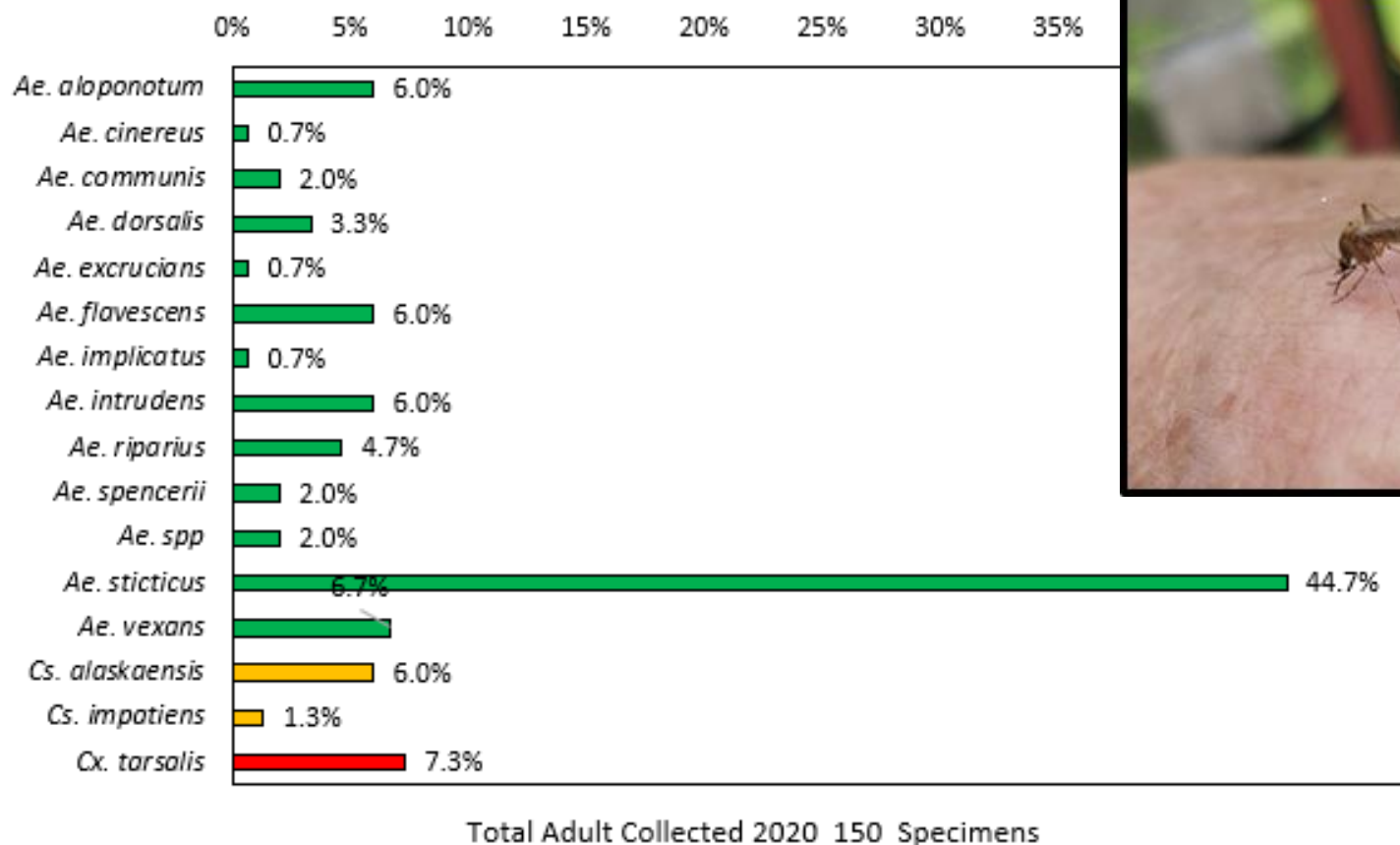
Notes:

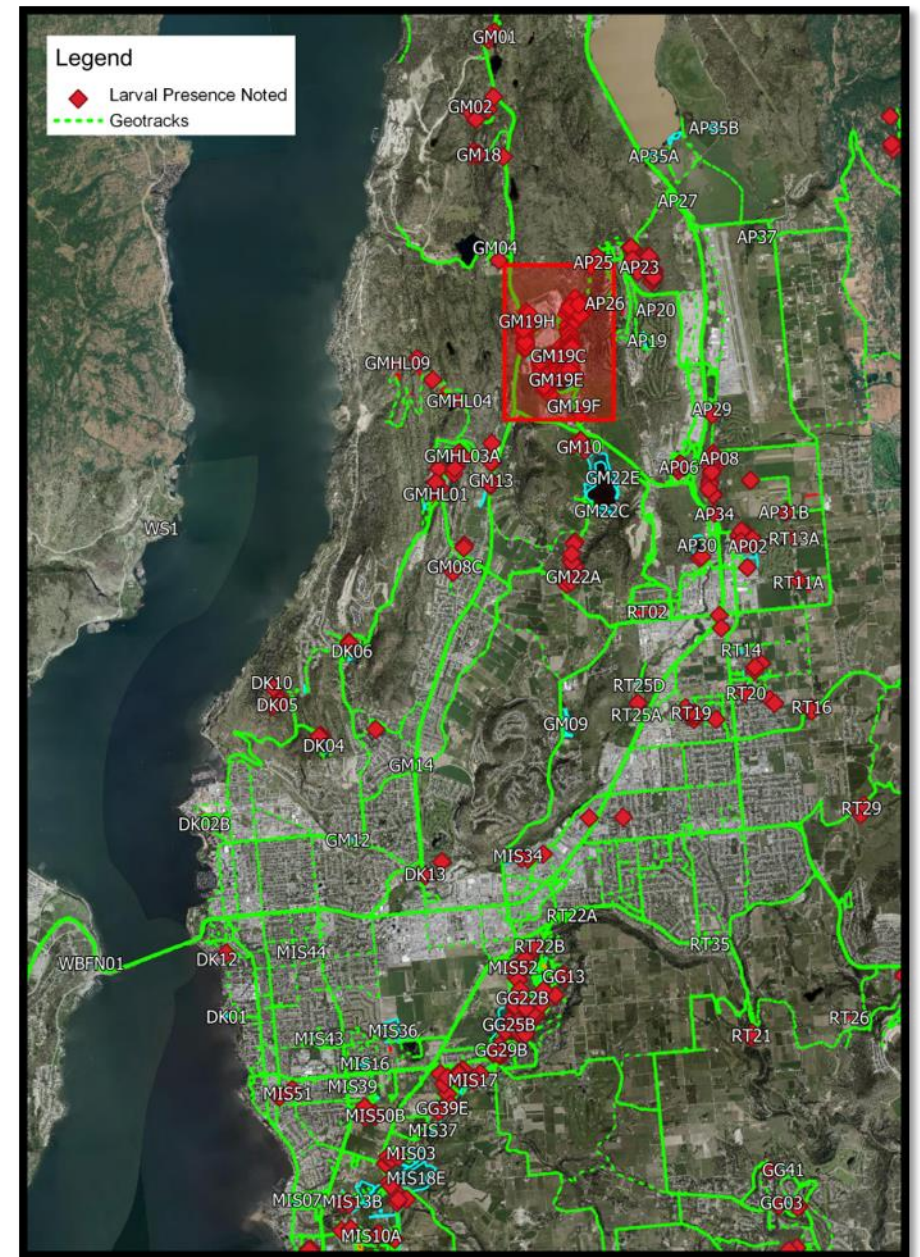
- **Species Occurrence:** Lowest Value Highest Value
- West Nile Virus (WNV) competency was ranked by the BC Centres for Disease Control (2005) and Belton (2015). Mosquito species were ranked from (0), or no potential to transmit the disease, to (++++), or the ability to readily, and effectively transmit the disease.

Larval Species Data

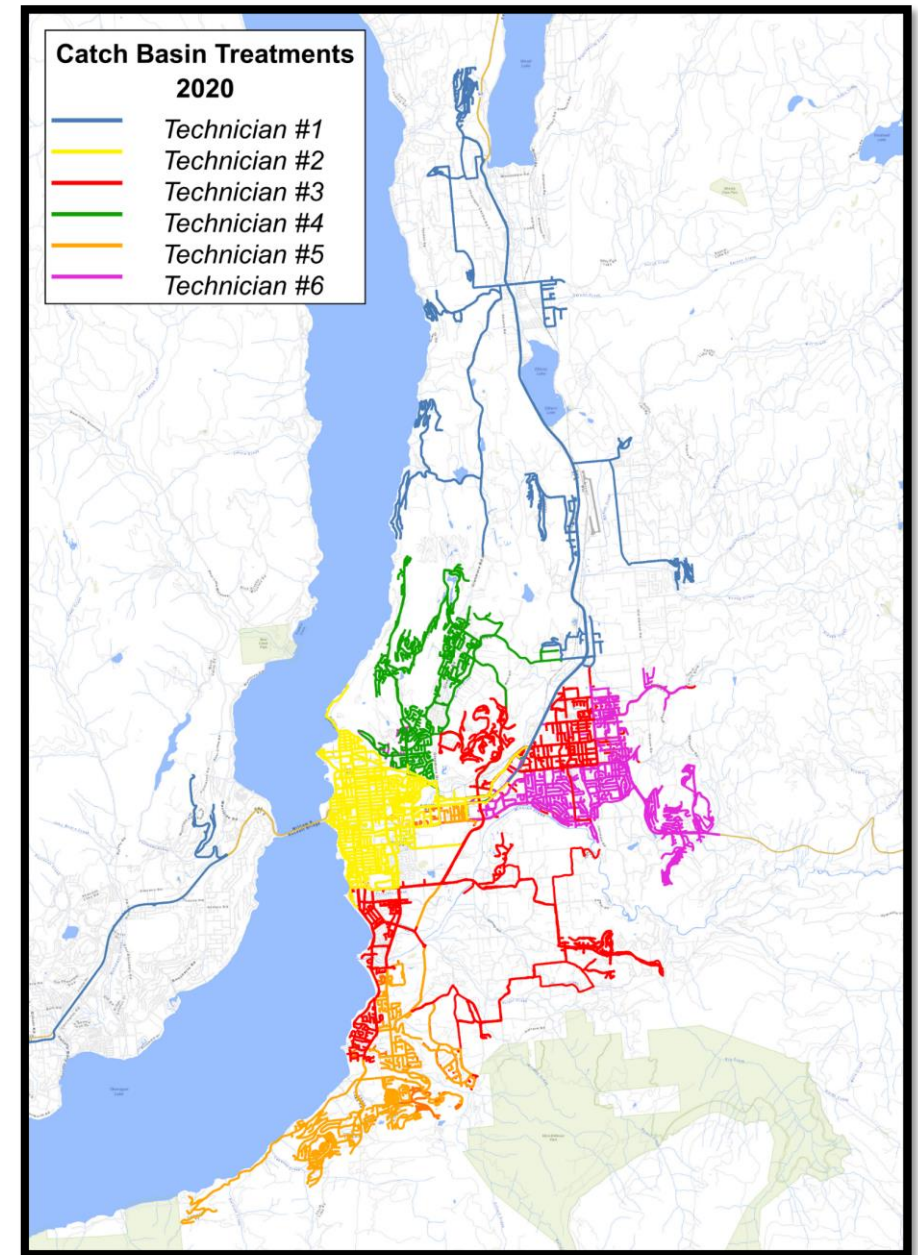
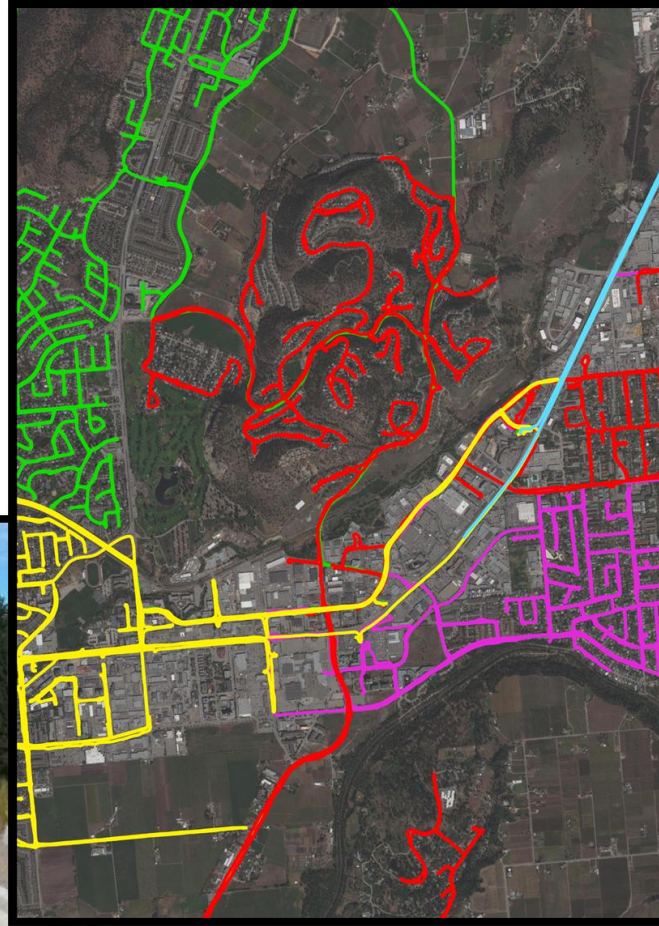
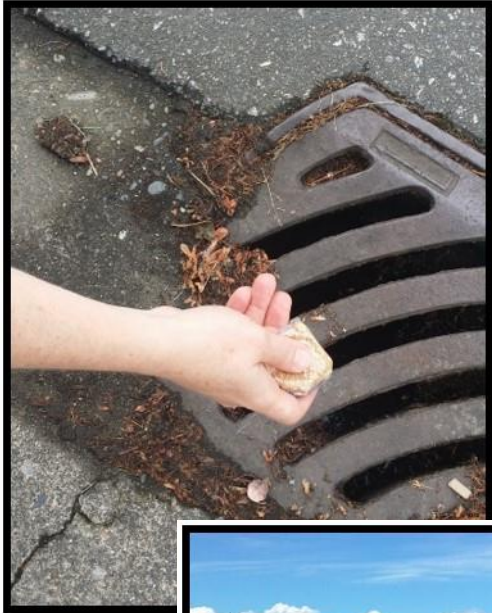


Sampling





Mapping - Catchbasins



Data Management

Site #	Date Last Visited	Days Since Last Visited
--------	-------------------	-------------------------

MIS3	August 12, 2020	
MIS7	August 7, 2020	
MIS11	August 7, 2020	
MIS12	July 29, 2020	
MIS13A	August 6, 2020	
MIS13B	August 6, 2020	
MIS13C	August 6, 2020	
MIS15A	August 12, 2020	
MIS15B	August 12, 2020	
MIS18A	August 13, 2020	
MIS18B	August 13, 2020	
MIS18C	August 13, 2020	
MIS18D	August 13, 2020	
MIS18E	August 13, 2020	
MIS21A	August 13, 2020	
MIS21B	August 13, 2020	
MIS23	August 12, 2020	
MIS25	August 7, 2020	
MIS26	August 7, 2020	
MIS32	August 7, 2020	
MIS35	August 12, 2020	
MIS36	August 12, 2020	
MIS38	August 7, 2020	
MIS43	August 13, 2020	
MIS49A	August 7, 2020	
MIS49B	August 7, 2020	
MIS50A	August 12, 2020	
MIS50B	August 12, 2020	
MIS51	August 13, 2020	
MIS53	August 13, 2020	

MISSION RDCO DEVELOPMENT SITE DATABASE						
Site Number:	MIS13A		Latitude: 119 24.268		Longitude: 49 55.164	
Site Type:	Floodwater	Level	Class	Ground	Hectares	Active
Site Description:	Flooding In Fields					Site Details: **Always Get Permission Each Year** Flooding Fields Behind Kelowna Riding Club On Mission Creek Ranch. A: Pond Near Middle Of Property; In Heavy Rainfall Years Can Overflow To Flood Fields North Of Pond.
Site Address:	3885 Gordon Drive					
Site Owner:	Mission Creek Ranch					
Contacts:		E-mail		Year		
	Name		E-mail		Year	
	Name	Phone	E-mail		Year	
	Name	Phone	E-mail		Year	
	Name	Phone	E-mail		Year	
<u>Index</u>	Site Map: MIS13A					
Larval Monitoring/Treatment Results						
Date (D/M/Y)	Larvae/Dip	Instar	Area (ha)	Rate (kg/ha)	VectoBac (kg)	Notes/Comments/Species:
08-Jul-2019	0-2	3-4	0.227	7.5	1.70	Found larvae in a few sections in A, duckweed is still on surface, patchy. Light trap collected 1 <i>Ae alopontum</i>
11-Jul-2019	0	0	0.067	7.5	0.50	Adults present, still lots of duckweed. Set up trap collected 1 <i>Ae alopontum</i>
18-Jul-2019	0	0	0.093	7.5	0.70	Adults present, still lots of duckweed. Light trap collected 1 <i>cx territans</i> , 1 <i>cx tarsalis</i> , 1 <i>Ae alopontum</i>
30-Jul-2019	0	0	0.067	7.5	0.50	Adults present, still lots of duckweed.
14-Aug-2019	0	0	0.053	7.5	0.40	Adults present, still lots of duckweed. Vegetation very overgrown along pond. Light trap did not collect any samples.
29-Apr-2020	0	0	0.000	7.5	0.00	no larvae in dippable spots
07-May-2020	0-2	2-3	0.027	7.5	0.20	Pond is relatively clear of larvae. Recent rainfall has created puddles lining the outside of the pond - many larvae present in puddles
15-May-2020	0	0	0.000	7.5	0.00	Pond remains clear of larvae. Wood ducks and Northern Shovelers present
26-May-2020	0-2	2-3	0.093	7.5	0.70	Heavy rainfall has caused new flooded areas around manure piles
10-Jun-2020	5-10	1-3	0.200	7.5	1.50	Many adult mosquitos present in the shaded areas underneath deadfall. Adults collected 8 <i>Ae sticticus</i>

Kilograms Applied							
Site #	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	DB Total
Monthly Totals	0.00	1.75	30.40	91.05	112.90	21.35	257.45
AP1	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AP2	0.00	0.00	8.80	9.80	4.80	4.90	28.30
AP3	0.00	0.00	0.00	0.00	3.20	1.40	4.60
AP4	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AP5	0.00	0.00	0.80	1.10	0.70	0.50	3.10
AP6	0.00	0.00	0.40	0.00	0.80	1.45	2.65
AP7A	0.00	0.40	0.55	1.30	3.70	0.30	6.25
AP7B	0.00	0.00	0.60	1.30	1.10	0.40	3.40
AP7C	0.00	0.00	2.70	6.20	6.20	1.60	16.70
			0.10	0.20	1.30	0.00	1.60
Active			0.00	0.00	0.00	0.00	0.00
			3.50	2.50	1.00	0.00	7.00
			0.00	1.00	4.80	0.00	5.80
			1.80	0.50	1.00	0.00	3.30
Mission Each Year**			0.00	0.00	0.00	0.00	0.00
Behind Kelowna Riding Club On Mission			0.00	0.00	0.80	0.00	0.80
			0.25	1.00	1.40	0.00	2.65
Edge Of Property; In Heavy Rainfall Years			0.30	0.90	1.00	0.00	2.20
Flooded Fields North Of Pond.			1.70	6.10	7.60	0.00	15.40
			0.00	0.90	1.40	0.00	2.30
			0.35	0.40	0.80	0.30	1.85
			0.00	0.00	0.00	0.00	0.00
			0.50	2.40	0.90	0.00	3.80
Notes/Comments/Species:			0.70	1.80	1.20	0.00	3.70
new sections in A, duckweed is still on			0.50	2.60	3.00	0.00	6.10
light trap collected 1 <i>Ae aloponotum</i>			0.35	3.90	6.20	1.40	11.85
lots of duckweed. Set up trap collected 1			0.10	3.90	6.80	2.00	12.80
			1.70	9.80	8.00	2.30	22.55
lots of duckweed. Light trap collected 1			0.50	3.70	3.90	1.90	10.00
<i>arsalis, 1 ae aloponotum</i>			0.00	0.00	0.00	0.00	0.00
lots of duckweed.			0.80	3.50	1.60	0.00	6.20
lots of duckweed. Vegetation very			0.00	0.00	0.40	0.40	1.10
pond. Light trap did not collect any			0.40	0.30	0.80	1.20	2.70
			0.00	0.10	0.90	0.70	1.70
le spots			0.00	0.00	0.00	0.00	0.00
near of larvae. Recent rainfall has created			3.00	4.10	5.20	0.00	12.30
outside of the pond - many larvae present			0.00	0.25	0.20	0.00	0.45
			0.00	10.50	13.70	0.00	24.20
of larvae. Wood ducks and Northern			0.00	8.20	5.10	0.00	13.30
caused new flooded areas around manure			0.00	0.00	0.00	0.00	0.00
			0.00	2.80	13.40	0.60	16.80

Data Management

Month	# of Sites Treated	# of Treatments	ha Treated	Kg Applied
March	0	0	0.000	0.00
April	21	21	1.413	10.60
May	61	101	5.893	44.20
June	70	109	16.320	122.90
July	36	53		
August	12	12		
Total	95	296		

Area	# of Sites Treated	# of Treatments
GG	36	103
MIS	35	133
RT	24	60
WS	0	0
NSN	0	0
Total	95	296

Kilograms applied (GOTR page)							
	March Total	April Total	May Total	June Total	July Total	August Total	Total
	0.00	2.30	13.20	28.40	30.00		
Site #	March	April	May	June	July	August	Total
GG01	0.00	0.00	0.30	1.00	4.00		
GG02	0.00	0.00	0.00	0.00	0.00		
GG03	0.00	0.00	0.00	0.00	0.00		
GG04	0.00	0.10	0.00	0.00	0.00		
GG05	0.00	0.00	1.10	1.50	0.00		
GG06	0.00	0.00	0.20	0.50	3.00		
GG07	0.00	0.00	1.90	0.50	4.50		
GG08	0.00	0.00	0.00	0.00	0.00		
GG09	0.00	0.00	0.00	0.00	0.00		
GG10A	0.00	0.00	0.00	0.70	0.00		
GG10B	0.00	0.00	0.00	0.50	0.00		
GG10C	0.00	0.00	0.20	0.00	0.00		
GG11	0.00	0.00	0.00	0.00	0.00		
GG12	0.00	0.00	0.00	0.00	0.00		
GG13	0.00	0.00	0.20	0.00	0.00		
GG14	0.00	0.00	0.00	0.00	0.00		
GG15	0.00	0.00	0.00	0.00	0.00		
GG16	0.00	0.00	0.00	0.00	0.00		
GG17	0.00	0.60	1.00	0.50	1.50		
GG18	0.00	0.00	0.00	0.00	0.00		

Number of Treatments (GOTR page)							
	March Total	April Total	May Total	June Total	July Total	August Total	Total
	0	21	101	109	53	12	296
Site #	March	April	May	June	July	August	Total
GG01	0	0	2	2	1	0	5
GG02	0	0	0	0	0	0	0
GG03	0	0	0	0	0	0	0
GG04	0	1	0	0	0	0	1
GG05	0	0	3	2	0	0	5
GG06	0	0	1	1	1	0	3
GG07	0	0	2	1	2	0	5
GG08	0	0	0	0	0	0	0
GG09	0	0	0	0	0	0	0
GG10A	0	0	0	1	0	0	1
GG10B	0	0	0	1	0	0	1
GG10C	0	0	1	0	0	0	1
GG11	0	0	0	0	0	0	0
GG12	0	0	0	0	0	0	0
GG13	0	0	1	0	0	0	1
GG14	0	0	0	0	0	0	0
GG15	0	0	0	0	0	0	0
GG16	0	0	0	0	0	0	0
GG17	0	1	3	1	1	0	6
GG18	0	0	0	0	0	0	0

Ground Applications

2020

10 130.32 Hectares
10 209 Sites
10 919 Applications

2019

10 166.37 Hectares
10 190 Sites
10 816 Applications

2018

10 157.34 Hectares
10 231 Sites
10 877 Applications

Catch Basin Treatments (2) - Totals

2020

• 19,799

2019

• 19,806

2018

• 19,395

Tire Round-Up

Years	Total	RDCO	West Kelowna	%
2019	1458	1280	178	12.2
2018	1189	1069	120	10.1
2017	1081	1081	132	12.2
2016	1171	997	174	14.9



Assessment

West Kelowna has 38 potential sites identified:

- 38 sites totalling ~24.3 hectares
- Routine surveillance every 6-8 days
- Anticipate 160 -180 treatments
- Estimated 3651 catch basins with two treatments each
- Tire round-up x1
- Public Education Booths x2



2020 OKSIR Update

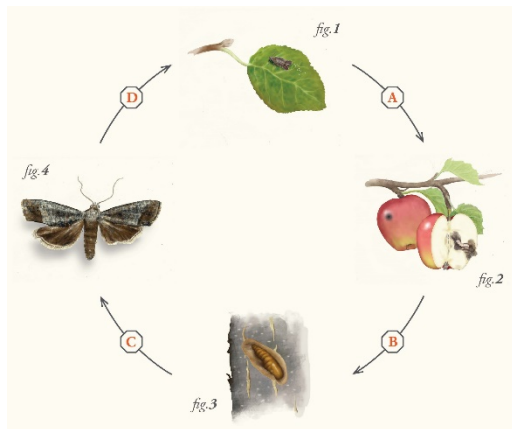
For City of West Kelowna, March 16, 2021

Melissa Tesche, M.Sc., General Manager

Page 34 of 43
mtesche@oksir.org | 250-469-6182



Services Provided



Monitoring

Every orchard checked weekly
Urban sites also monitored

Control

Sterile Insect Technique
Mating Disruption

Enforcement

Can require tree/orchard
removal where necessary

Education and Outreach



30+ Years and Still Relevant

Residents and Tourists

↑ Population & Development
(desire for 'pastoral' lifestyle)

↑ Environmental Awareness
(local/provincial pesticide bans)

Changing Consumer Demands
(local and sustainable/low-input/organic)

Local Food Security

**People Want Healthy
Communities with a
Tradition of Agriculture**

Orchardists

Changing Climate
(timing and monitoring more important)

Changing Pests
(early surveillance is key)

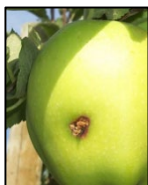
Changing Pesticide Rules
(can chemicals keep pace?)

**Agricultural Pests are a
Regional Problem that need
Area-Wide Control**

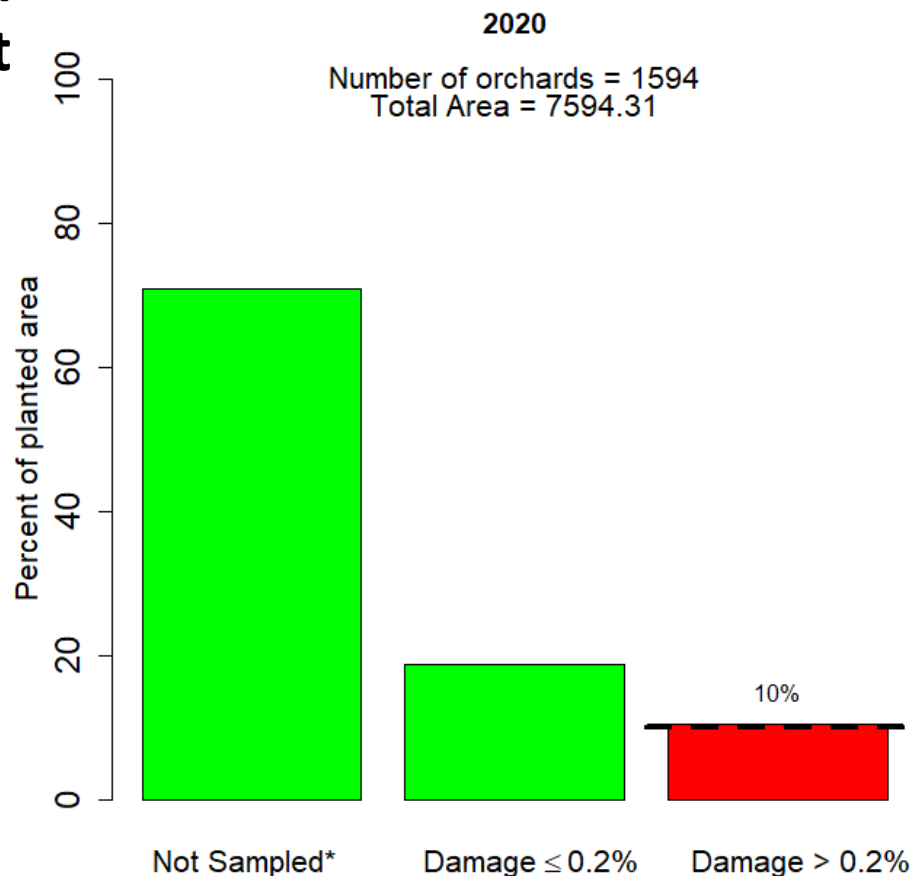


Operational Target Met in 22020

**Goal: 90% of acreage with
0.2% or less damaged fruit**



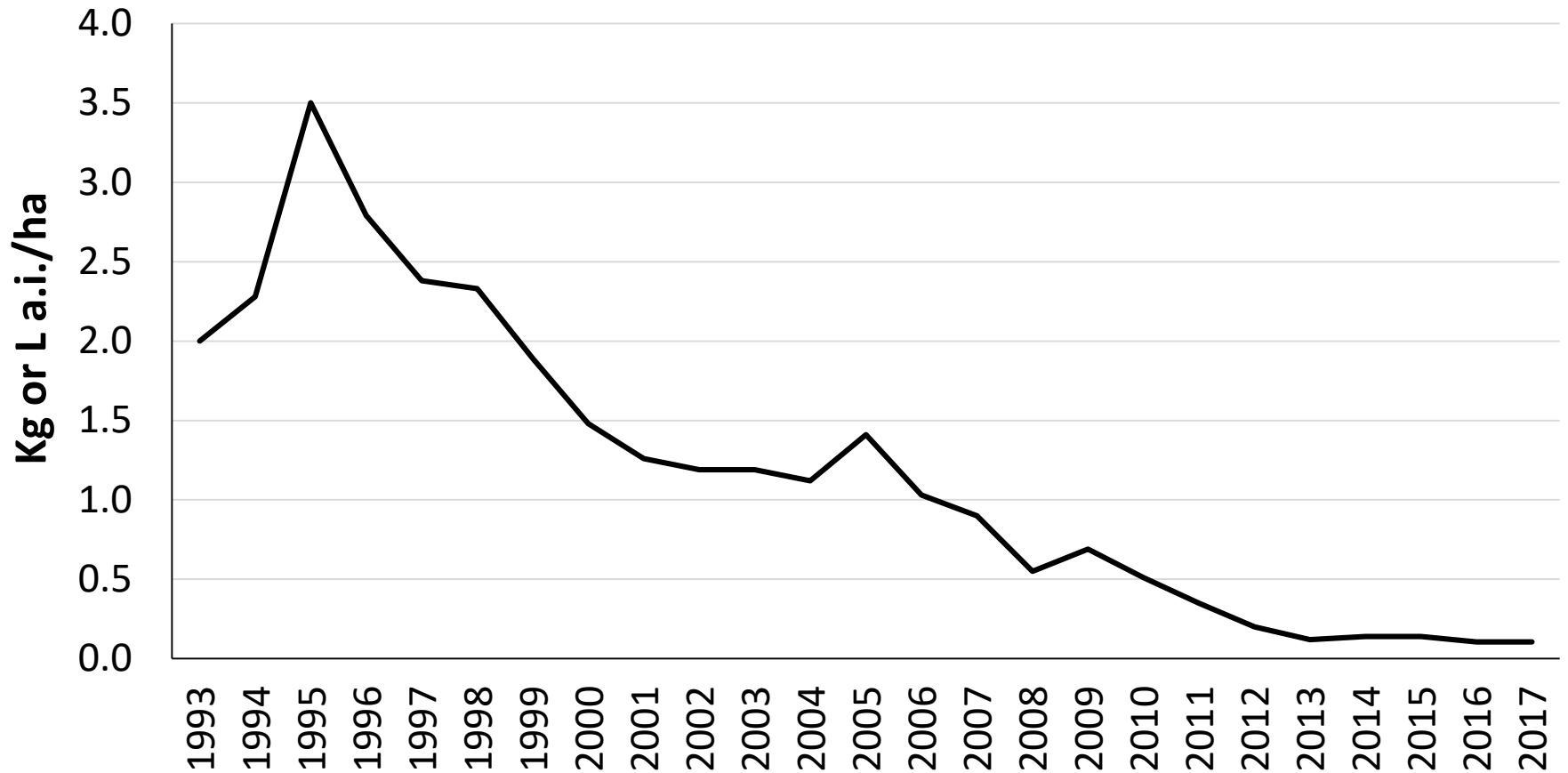
0.2% or 1 in 500 Fruit





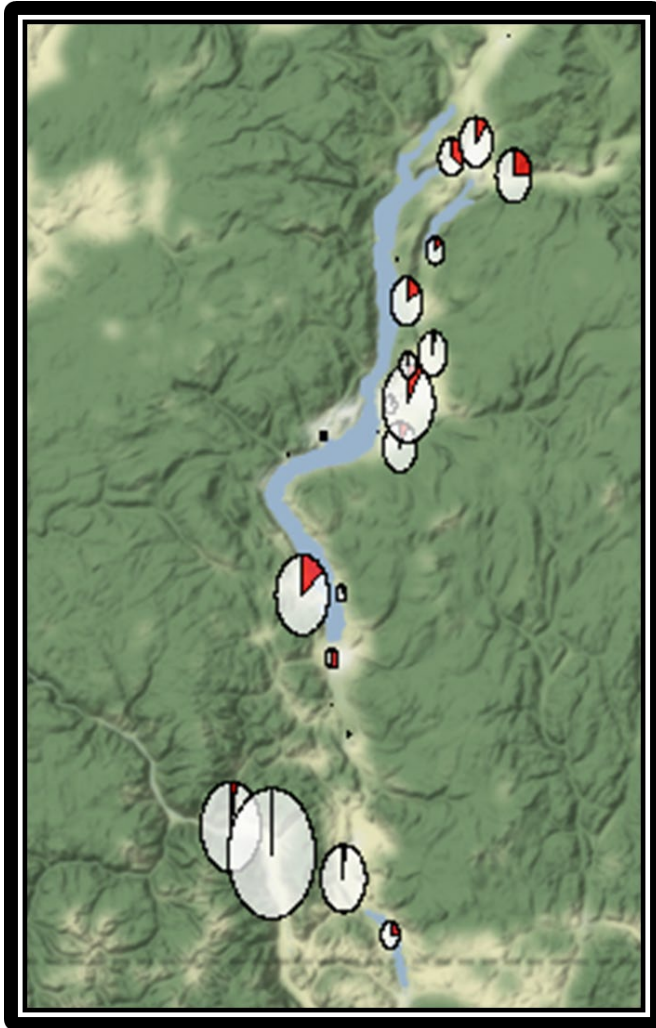
Big Decrease in Pesticides

Estimated Annual Sales of Pesticides (kg active ingredient/ha) for Codling Moth Control, OKSIR Program Area, 1991-2017





Communities, Farms, Economies



Working together to protect our common resources
One Valley, One Water

www.obwb.ca

Valley-wide Program

Share our air and water sheds

Benefit-Cost Analysis

(L. Cartier, Okanagan College, 2014)

250% ROI (employment and producer benefits)



2020 Financials

No tax increase since 2010

\$3.9M Operating, \$1.7M from RDs

Doing more with less, innovating for savings

Investment paying dividends

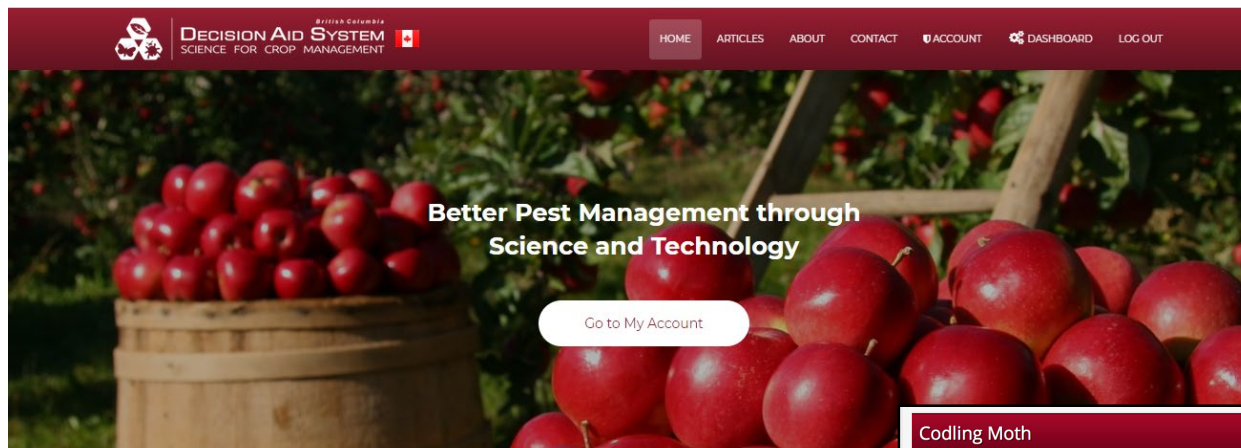
Envy of apple growing regions around the world

\$686k in sales for 2020





OKSIR: Adding Value



How to Use the BC DAS System

Saturday Aug 08, 2020

How to Use the BC DAS System Interested in using the BC DAS System and with this informational set by step video, outlining how to navigate the BC D



How to Create a DAS User Account

Saturday Aug 08, 2020

How to Create a DAS User Account Interested in using the BC DAS System b account? Here we take interested DAS users on a step by step video, showing

BC Decision Aid System

Helping improve timing and reduce sprays for CM and other pests and diseases

Codling Moth

Conditions	Charts	Data Table	Spray guide & MRL	Weather Forecast	Comparison to Last Year
------------	--------	------------	-------------------	------------------	-------------------------

Last Updated: 10/27/2015
Degree days since January 1st. = 3531
(old: after biofix = 3356 DD)

Current Conditions:
26% of the 3rd summer generation adults have emerged. 5% of the 4th summer generation eggs should have hatched. Fruit should be checked carefully for damage, especially if export markets are the target.

Conventional Management:
If using MD, no additional sprays may be needed, depending on whether trap capture exceeds treatment thresholds. This year the number of generations is extraordinary, but populations should be low in this generation because all larvae after 18 August have entered diapause. However, the portion of the population that escaped diapause can still damage the crop. Eggs of the 4th summer generation should start hatching at 3435 DD. In the unlikely event that this needs to be treated, an oil spray should be applied at 3495 DD, and followed at 3655 DD by a larvicide. If using the Taiwan protocol, it needs to be implemented within 2 weeks of harvest.

Projected Forecast:
+15 days Thu Nov 12, 2015 : 3550 DD

Conditions:
29% of the 3rd summer generation adults have emerged. 7% of the 4th summer generation eggs should have hatched. Fruit should be checked carefully for damage, especially if export markets are the target.

Conventional Management:
If using MD, no additional sprays may be needed, depending on whether trap capture exceeds treatment thresholds. This year the number of generations is extraordinary, but populations should be low in this generation because all larvae after 18 August have entered diapause. However, the portion of the population that escaped diapause can still damage the crop. Eggs of the 4th summer generation should start hatching at 3435 DD. In the unlikely event that this needs to be treated, an oil spray should be applied at 3495 DD, and followed at 3655 DD by a larvicide. If using the Taiwan protocol, it needs to be implemented within 2 weeks of harvest.



OKSIR: 2021 and Beyond



Drone Program Launch

Growing Sales, Increasing Returns

Keeping Codling Moth at Bay

Apple Industry in Crisis





www.oksir.org

SIR: Good for our Communities, Good for our Environment, Good for our Economy.

The screenshot shows the OKSIR website homepage in a web browser. The browser's address bar displays 'www.oksir.org'. The website features a green header with the 'SIR' logo (a red apple with a green leaf) on the left and a navigation menu with the following items: 'THE PROGRAM', 'THE PESTS', 'BACKYARD TREE CARE', 'ORCHARD INFORMATION', 'PROGRAM ADMINISTRATION', and 'MEET THE TEAM'. Below the header is a large green banner with the text 'WELCOME TO OUR NEW WEBSITE!' and a sub-message: 'Check it out and click around! Contact us for feedback or questions.' A 'CONTACT US >' button is located at the bottom right of the banner. To the right of the banner is a photograph of a tree-lined path leading towards mountains. At the bottom of the page, there are four orange icons: a moth, a thermometer, a leaf, and an apple. Below each icon is a text label: 'TRAP DATA', 'DEGREE DAYS', 'BACKYARD TREE CARE', and 'JOB OPPORTUNITIES' respectively. The browser's status bar at the bottom indicates 'Page 43 of 43'.