

2022

HKCSI & Part 8 Annual Report

FEBRUARY 6, 2023



Agenda



Part 8 Review



HKCSI Annual Report



Program Value

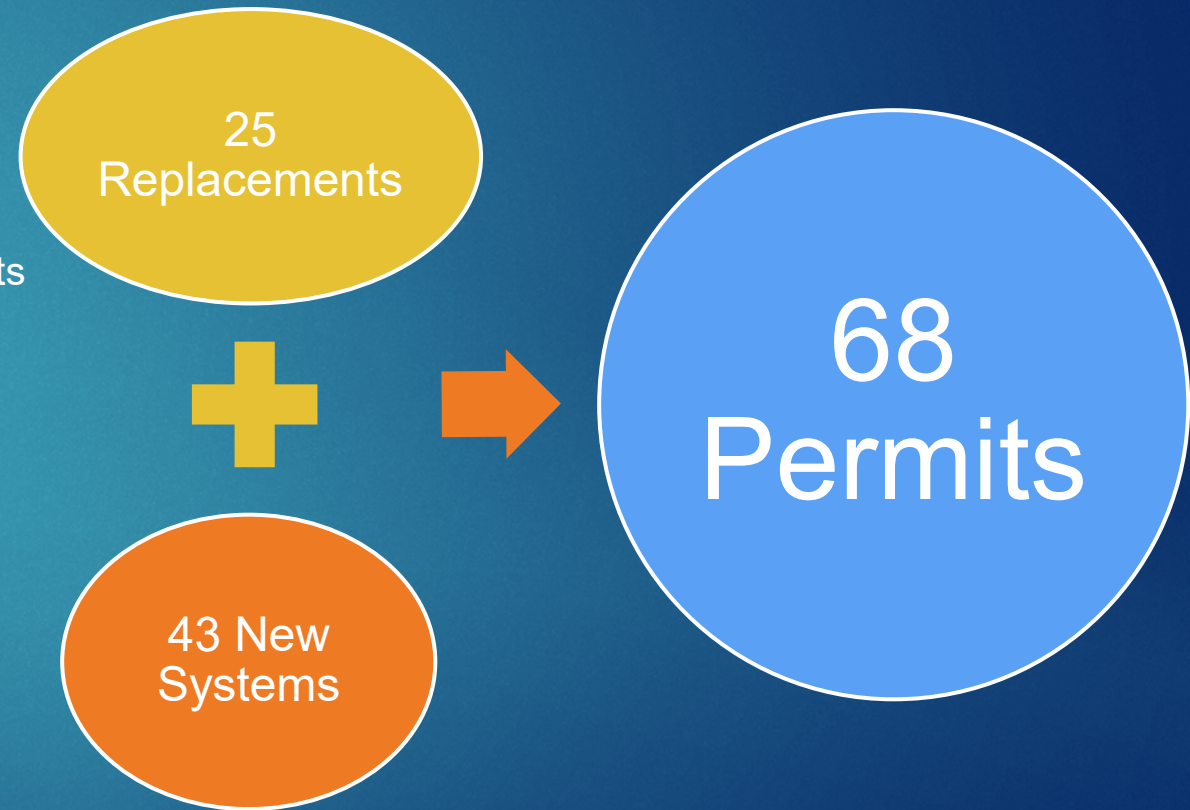


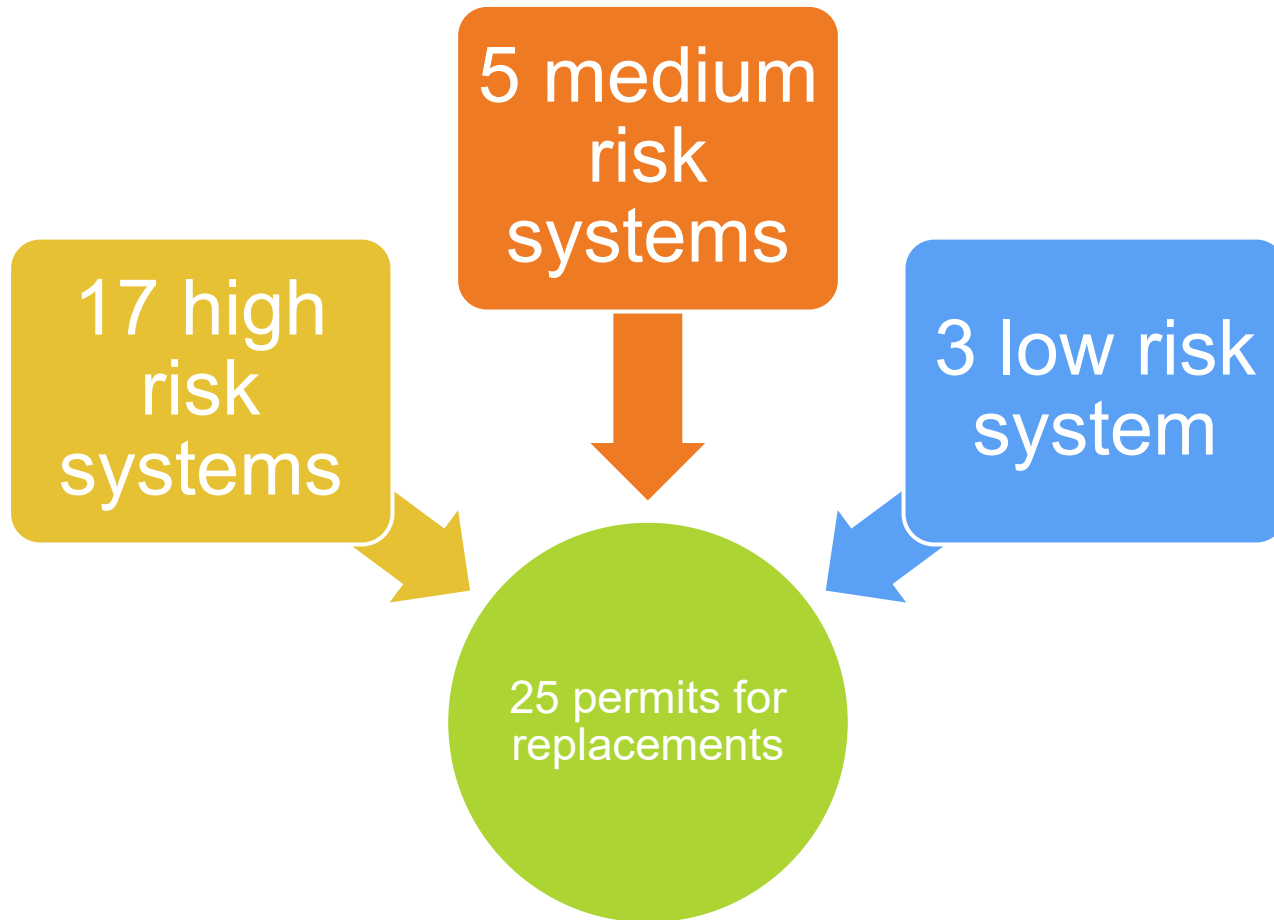
Future Planning - Cycle 3

PART 8

New and Replacement Septic Systems

- ▶ **68 permits taken out in 2022**
- ▶ 72 systems installed in 2022
 - ▶ 41 permits from 2022: 22 new systems, 19 replacements
 - ▶ 31 permits from 2021: 21 new, 10 replacements
- ▶ 15 permits taken out for advanced treatment units in 2022
 - ▶ 14 installed in 2022, 5 from 2022 permits + 9 from 2021
 - ▶ Expect significant number more over next few years as Crimson Oak subdivision builds out.
- ▶ 2021 – 83 permits issued, 76 systems installed





Permits for Replacement Systems

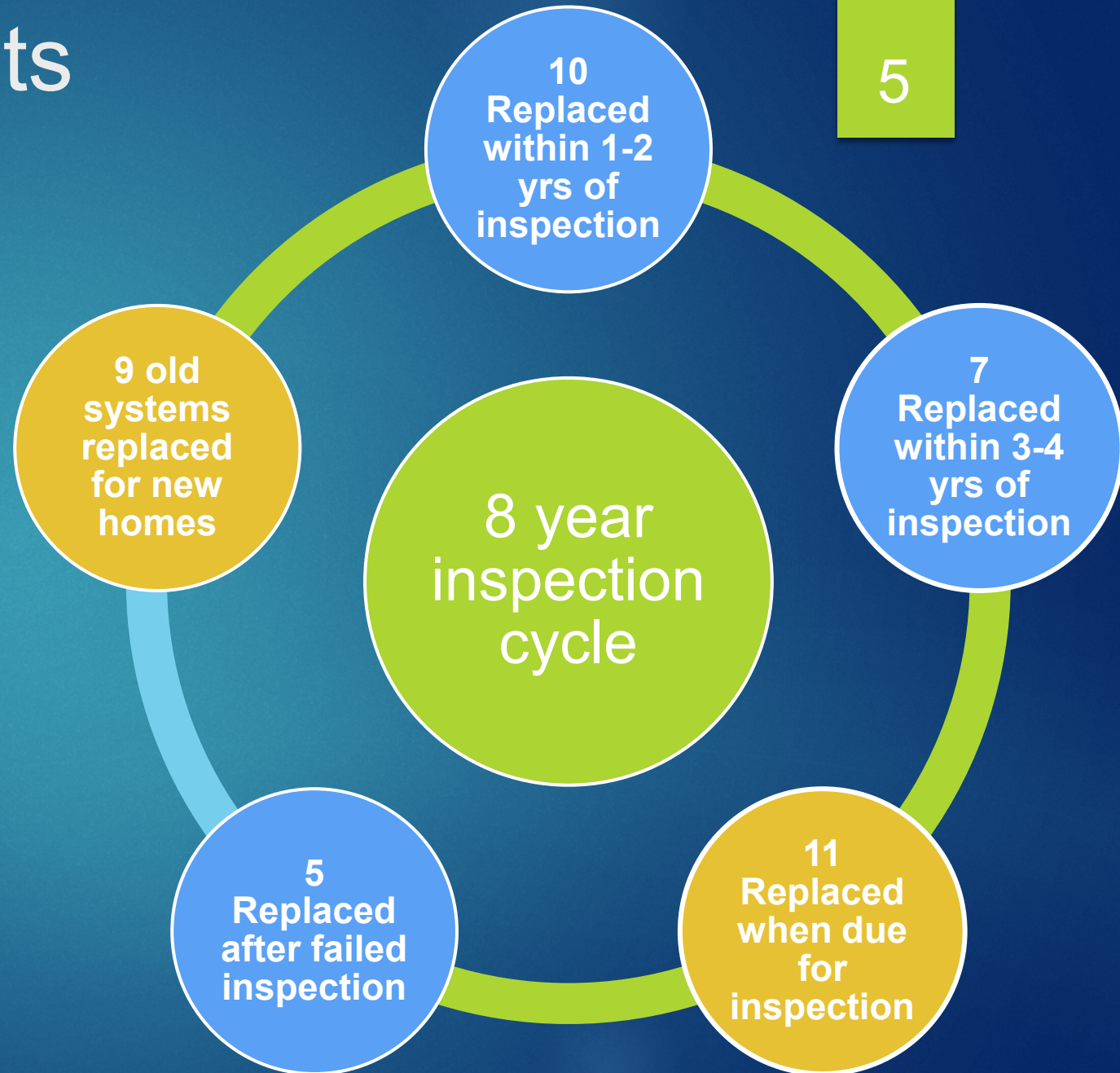
- ▶ Systems that assessed a 'high' risk rating are being replaced.
- ▶ Seeing medium risk systems (based on: age 25-40 years old, minor repairs) needing to be replaced

From the inspection data we know that age is the most common reason for systems needing replacement.

Timing of Replacements 2021 and 2022

- ▶ **Most replacements are made when a system is due for an inspection**
 - ▶ Most are High Age
 - ▶ Suggests owners suspect systems are failing and replace them because someone will be looking at it.
- ▶ The second-most common time systems are replaced is within 1-2 years of the inspection.
 - ▶ Typically when major problems are identified during the inspection.
- ▶ Also seeing old systems replaced for new houses

Would these replacements happen without inspections?



HKCSI - Year in Review

Year 8 of Cycle 2



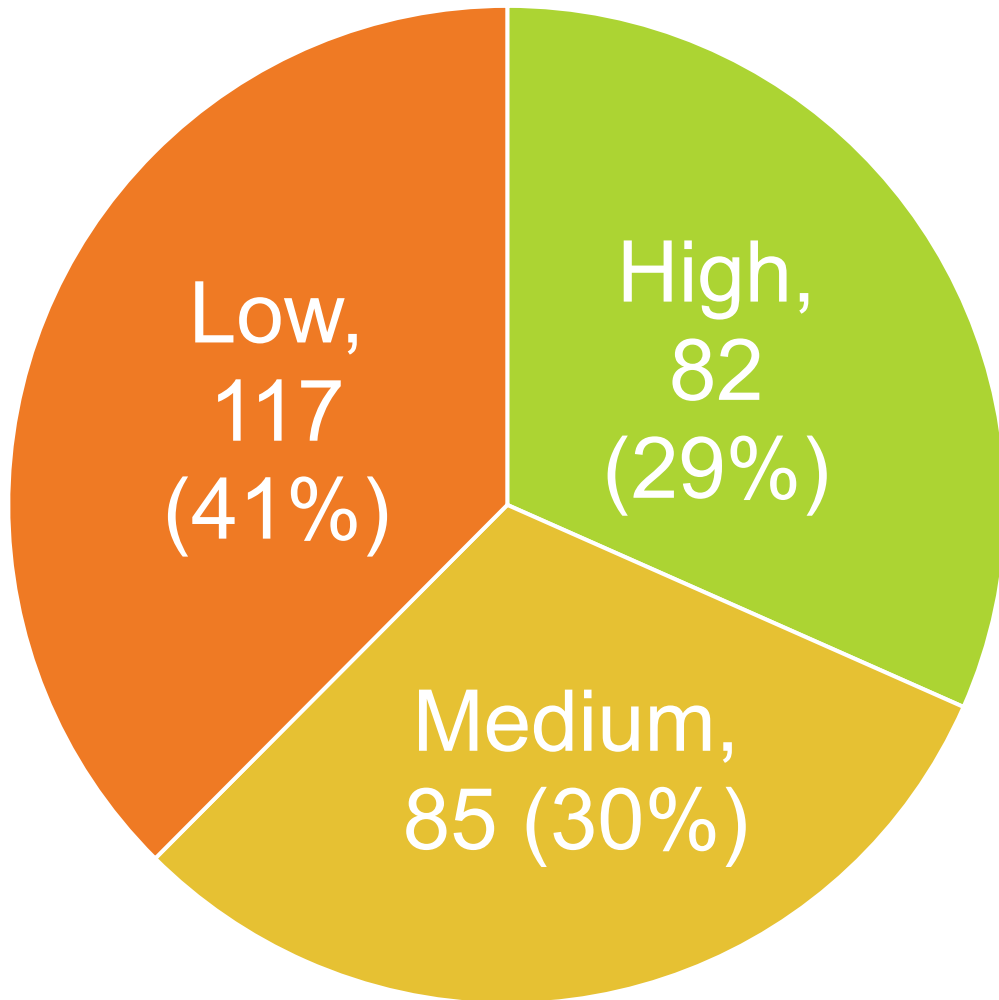
Target was 318 properties:
207 due in 2022
104 past due
7 WHPA



284 inspections completed
(including 72 inspections for new
properties/replacement systems)

Risk Assessments

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High Risk Rating – includes Age (40+ years), environmental hazard or structural hazard

Medium Risk Rating – Age (25-40 years), minor repairs required (pumping required, baffle repair etc), and non-conforming systems

Low Risk – less than 25 years old

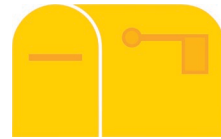
% of Risk Rating Assigned

	2022	2021	2020	2019	2018	2017	2016	Average
High	29	32	35	38	29	30	30	31.9
Medium	30	31	28	34	38	25	25	30.1
Low	41	37	37	28	32	45	44	37.7
No System		0	0.3	0.4	0.2	0	0	0.1

Staying in Contact

- ▶ 530 letters sent out
- ▶ Over 225 telephone calls made & emails sent
- ▶ 90 properties door-knocked (60% booked inspections)
- ▶ 54% of properties due in 2022, were booked by the end of August
- ▶ 79% were booked by October (does not include 2023 early inspections)

In 2022, we made over 800 attempts to connect with property owners between May and October



Letters



Telephone
Calls



Emails



Doorknocking

That's an average of 6 contacts per day.

Source Water Protection



3 WPHAs in Huron-Kinloss with septic systems: Blairs Grove, Murdoch Glen, Point Clark and Whitechurch



4 properties inspected in 2022 (6 due)



6 require inspection in 2023 (including 3 overdue)

Advanced Treatment Units (Tertiary Treatment)

- ▶ 79 Advanced Treatment Units in Huron-Kinloss (up from 64 in 2021)
 - ▶ 33 have submitted record of annual reports or contracts
 - ▶ 16 have never submitted any records (6 are 2021 installs)
 - ▶ 16 have become delinquent in submitting records
 - ▶ 13 new tertiary systems installed in 2022
 - ▶ 1 property is under reconstruction and not in use
 - ▶ 1 failed bed reported during fall maintenance visit
- ▶ Properties owners are sent letters outlining the **requirement under the Building Code to have a service contract in place and annual maintenance inspection**. Letters are sent out annually in February asking for documentation confirming this requirement.
- ▶ With new development & the common occurrence of properties changing hands, we are meeting retirees and cottagers from urban areas who have never had a septic system. Following up with new property owners is an opportunity to inform them of the requirements, answer questions and provide education regarding the systems (& maintenance) at their new residence.

Why Include Advanced Treatment Systems in the HKCSI Program?

- ▶ These systems are installed where:
 - ▶ Soil conditions are not suitable for a conventional system
 - ▶ Where there are space constraints
- ▶ Because these systems are installed where a higher level of treatment is required, it is important to make sure these systems are being maintained – including having a service contract in place and having annual maintenance inspections done.
- ▶ We reach out to these property owners **every year** (+ follow ups) and maintain a database of contracts and maintenance records
- ▶ More and more of these systems being installed in the Township – the entire Crimson Oak subdivision will have advanced treatment units.

Program Value for Property Owners

- ▶ Find the fixable problems before they become big, expensive problems
 - ▶ Help property owners keep their systems up and running as long as they can
- ▶ Education (new and experienced owners)
- ▶ Resource for new owners
 - ▶ Able to assist in identifying where tank lids are (if they don't have risers)
 - ▶ Advanced Treatment Units

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Program Value – Maintenance

- ▶ Encourage regular maintenance
 - ▶ Cleaning effluent filters annually
 - ▶ Advice on pumping schedules
- ▶ What can be done to make maintenance easier
 - ▶ Risers
- ▶ Keeping trees, cars, decks off septic systems.
- ▶ Identifying potential usage issues
 - ▶ What does and doesn't go in a septic system

Large amount of hand wipes or baby wipes in the tank crust. A reminder to flush toilet paper only.

A few trees on the bed area should be removed to avoid possible blockages by roots.

High levels in the tank, caused by a clogged effluent filter. The filter was cleaned and levels returned to normal. Reminder to clean filter annually.

Thick amount of toilet paper in the crust. Recommend switching to a lighter paper.

System used very lightly over the years. Recommend clearing cedar roots getting in around the tank top and sealing with contact cement.



← Roots in the tank



Tank overflowing →

Program Value – Environmental Concerns

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- ▶ Finding and fixing systems that pose an environmental hazard fixed.
- ▶ Identify beds with blow outs, leaking septic tanks
- ▶ Finding and fixing these is important to protect the environment and local waterways, including the Lake.
- ▶ 16 years in and we still find these issues
 - ▶ Systems continue to age, concrete corrodes, and beds can get blockages
 - ▶ Systems can be abused



2022 inspection
– sewage
leaking out of
tank

Program Value - Safety

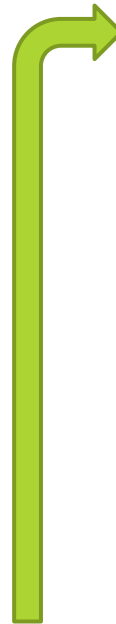
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- ▶ Find safety issues – cracked or collapsing lids



Program Value - Knowledge

- ▶ We know where all the septic systems are, what condition they are in, and how, when and why they get replaced.
 - ▶ Think of it as having over 3,109 individual wastewater treatment plants in 440 square kilometers
 - ▶ With over 2,100 along the Lakeshore alone
 - ▶ When continued development along the shoreline is questioned from a wastewater perspective, the program demonstrates active management of these systems.
 - ▶ There are more properties/people along the lakeshore than in Ripley and Lucknow combined.
 - ▶ Demonstrates stewardship on a Township-wide level – **septic systems are not being installed and forgotten.**
- ▶ Huron-Kinloss has already figured out what many municipalities now are just starting to realize



Overall Lessons Learned:

Education is key to a successful municipal re-inspection program.

Volunteer programs are unlikely to reach the systems most in need of re-inspection!

Residents may fear the cost of needed repair will be overwhelming.

Many older systems are not itemized in municipal records.

There will always be some residents in favour of re-inspection programs, and other residents opposed.

Septic re-inspection programs only find failures or deficiencies that already exist.

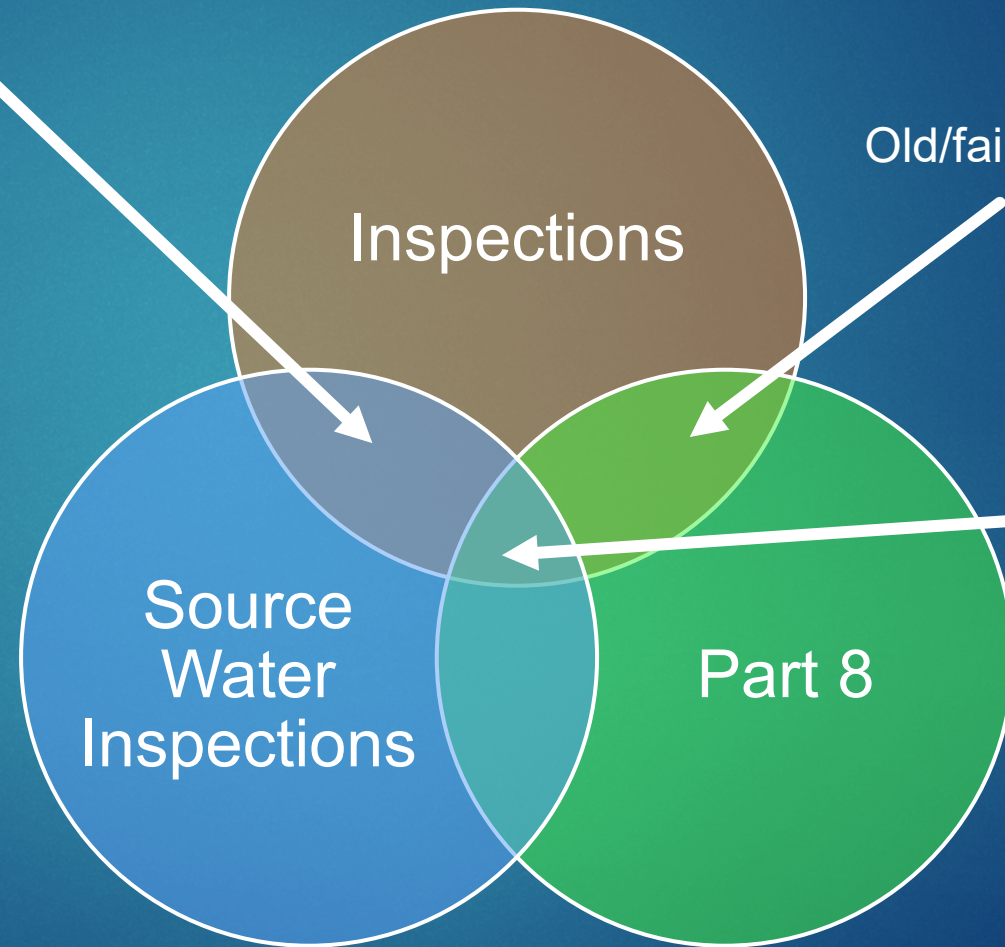
Municipalities considering a re-inspection program do not need to reinvent the wheel.

<find additional "Notes & Lessons Learned" from the case studies, on page 18>

Program Value – Tying It All Together

SWP requirements tied into HKCSI program

- HKCSI program integrates requirements for Source Water mandatory inspections
- Info from HKCSI assists with providing comments for consents, severances, etc.
- When a new system is installed, inspection data is updated and system information is added to the database
- Linkage with Part 8 has been beneficial for tracking replacements, repairs/replacements



Old/failed systems getting replaced

Planning comments

Program Value

- ▶ The complaints:
 - ▶ Program is too expensive
 - ▶ No benefit for the costs
 - ▶ No need for the program
- ▶ Benefits may not be understood. Property owners only know about what happens on their property.
- ▶ Maintenance and replacement of septic systems generally does not have obvious, visible benefits. Hard to 'see' improvements to water quality, especially in last few years with high water levels.
- ▶ Don't see the team and time behind the scenes
 - ▶ Significant effort in contacting property owners
 - ▶ Value in having an experienced septic inspector
 - ▶ Massive database built and maintained
 - ▶ Program runs smoothly – thanks to experienced staff and appropriate resources

Cycle 2 Stats

- ▶ 3243 inspections completed.
 - ▶ 31% High Risk
 - ▶ 31% Medium Risk
 - ▶ 38% Low Risk
- ▶ 8 refusals to participate (5 new refusals + 3 from Cycle 1)
- ▶ 360 systems required repair of some type (11%)
 - ▶ 74% notified us the required repairs were completed, compared to 55% in Cycle 1
- ▶ Approximate average age of system: 33 years old

Cycle 2 Stats (continued)

Number of systems requiring repairs

Area	# of systems requiring repair
Point Clark	136
Huron	54
Heritage Heights	37
Bruce Beach	34
Blairs Grove	33
Kinloss	26
Boiler Beach	18
Lurgan Beach	15
Whitechurch	6
Kinlough	1

Number of systems given high risk rating

Area	High - Age	High - Enviro Hazard	High - Structurally Unsafe
Point Clark	327	25	15
Huron	182	14	2
Kinloss	149	9	0
Bruce Beach	87	6	3
Boiler Beach	42	2	4
Lurgan Beach	33	3	0
Blairs Grove	27	4	1
Kinlough	20	1	0
Whitechurch	20	3	0
Heritage Heights	9	7	4

Cycle 1 and 2 Comparison

Risk Ratings	Cycle 1 (% of total)	Cycle 2 (% of total)
High – Environmental Hazard	2.24%	2.28%
High – Structurally Unsafe	2.38%	0.96%
Medium – Minor Repairs	12.48%	7.46%
Medium – Non-conforming	5.75%	0.74%
Medium Age	24.7%	23.2%
Low	52%	38%

- At the end of Cycle 1 – 48% of systems were more than 25 years old
- At the end of Cycle 2 – 60% of systems are more than 25 years old.

Ownership Changes

- ▶ Approximately 246 new properties added between Cycle 1 and 2
- ▶ Approximately 26% of properties have changed ownership between Cycle 1 and Cycle 2

Looking forward to Cycle 3

337 inspections due in 2023

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graph TD; A[337 inspections due in 2023] --> B[+ 66 past dues from 2015-2022]; B --> C[+ 6 WHPA inspections]; C --> D[409 inspections];
```

+ 66 past dues from 2015-2022

+ 6 WHPA inspections

409 inspections



Questions?